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# FIELD IDENTIFICATION GUIDE TO THE LIVING MARINE RESOURCES OF MYANMAR



# FIELD IDENTIFICATION GUIDE TO THE LIVING MARINE RESOURCES OF MYANMAR

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# PREPARATION OF THIS DOCUMENT

This field guide was prepared under the direction of the EAF-Nansen Programme and in close coordination with the FishFinder Programme (former Species Identification and Data Programme), Marine and Inland Fisheries Branch (FIAF) of the Food and Agriculture Organization of the United Nations (FAO). Preparation was supported by FIAF and the Nansen Programme (FAO GCP/INT/003/NOR EAF-Nansen Project "*Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Coutries*" and FAO GCP/GLO/690/NOR EAF-Nansen Programme "*Supporting the Application of the Ecosystem Approach to Fisheries Management considering Climate and Pollution Impacts*"). This volume is the first FAO species identification field guide to the marine living resources of Myanmar. The guide is based principally on data obtained from three trawl surveys (2013, 2015 and 2018) by the R/V *Dr. Fridtjof Nansen* covering the Exclusive Economic Zone (EEZ) of Myanmar. Additional data was obtained through extensive field work conducted, especially by the second and fourth authors at landing sites along Myanmar's coastline. A fortunate coincidence was the concomitant underwater survey on coral reef fishes of the Myeik Archipelago commissioned by Fauna & Flora International (FFI) and the Myanmar Forest and Fisheries Departments to Barry Russell, who was asked to join forces and contribute to the guide, especially with regard to representative species of coral reefs, not explorable by the Nansen surveys. As part of the scientific work carried out during the surveys with the R/V *Dr. Fridtjof Nansen*, a number of specimens were collected to verify their taxonomic status when identification appeared to be problematic with available identification keys. Specimens belonging to "problematic" taxa were photographed, tissue sampled, fixed in formalin and sent to specialists around the world for more detailed examination. The inclusion of many new species (including some yet to be described) and new geographical records for Myanmar's waters was possible thanks to the generous collaboration of many internationally recognized taxonomists (see acknowledgement section) who provided their time and expertise to resolve these unidentified genus-level taxa. Local names and fishing methods were included on the basis of information provided especially by the fourth author, who has long experience with fisheries in Myanmar. The species accounts presented in this guide were mostly sourced from previously published FAO publications such as the FAO Species identification Guide for the Western Central Pacific (Carpenter and Niem eds, 1999–2001), FAO World Species Catalogues and important non-FAO publications for the region (e.g. "Fishes of the Andaman Sea, west coast of southern Thailand" Kimura, Satapoomin and Matsuura eds, 2009; "Reef Fishes of the East Indies" Allen and Erdmann, 2012). The "FAO identification guide to the proposed marine fishery statistical units of Myanmar" (unpublished draft prepared by Kent Carpenter in 1998), the illustrated book "Marine Fishes of Myanmar" authored by Mya Than Tun published in 2001, as well as the checklists of marine species published in the "BOBLME National Report of Myanmar" (Myint Pe, 2002) and "Marine Conservation in Myanmar" (Holmes *et al*., 2014), were all particularly useful for the purpose of the guide and served as baseline data which were scrutinized, refined and expanded as new information became available from the Nansen surveys and the field trips. This guide is not meant to be considered a complete checklist but a comprehensive list of marine and brackish-water commercial fish species that occur in Myanmar's waters. It is aimed at being a reference guide for fishery officers, fishers and local scientists who face the daily task of collecting fishery data by species. This guide is also expected to generate a greater level of engagement in taxonomy across the country and produce a step change in a better understanding of the marine ecosystem, so important to ensuring a productive and sustainable future for fishery resources.

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**ABSTRACT**

This field guide covers the major resource groups likely to be encountered in the fisheries of Myanmar. This includes stomatopods, shrimps, lobsters, crabs, bivalves, gastropods, brachiopods, sea cucumbers, cephalopods, sharks, batoids and bony fishes. Each resource group is introduced by a general section on technical terms and measurements pertinent to that group and an illustrated guide to orders and families of the group. The more important species are treated in detail with accounts providing scientific nomenclature, FAO names in English and French (where available), local names used in Myanmar, diagnostic features, one or more illustrations, maximum size, and notes on fisheries and habitat. Colour plates for a large number of the species are included. The guide is fully indexed and a list of further literature is appended.

# FOREWORD

Myanmar is a great fisheries nation with long and proud fishing tradition, that provides food security and income for our coastal population. Our ocean is truly beautiful and also very diverse, consisting of mangrove areas, seagrass beds, tropical and deep-water coral reefs, and a number of other unique habitats. These habitats are home to a very high biodiversity with a number of unique species, not found anywhere else in the world. This gives us a special responsibility to take care of our ecosystem.

Myanmar's current pattern of economic growth is placing huge pressure on our environment and, if continues this way, it will be unsustainable, given the country's constant population growth, expected rapid industrialization, enlarged consumption of, and demand for natural resources for food production and trade, and increased energy consumption.

Marine fishery resources in Myanmar waters are typical of Southeast Asia, with a large quantity of fish and shrimps in the country's Exclusive Economic Zone (EEZ). However, studies on marine wildlife in their natural habitats in terms of population's size, distribution, migratory patterns, threats and conservation status are still rather limited. Yet, we know that Myanmar species diversity is especially large in a regional context. For such studies, species identification and taxonomic guides are fundamental. It is also necessary to have a good understanding of species taxonomy. For example, when recording fisheries statistics or other biological data, when implementing fisheries management plans or other conservation measures, or when evaluating such conservation measures by monitoring trends of changing species composition, or loss of species due to changes in the environment, such as pollution, overfishing or climate change. Conversely, species misidentification can have serious negative impacts on the fisheries sector, in particular to calculate the biological parameters and effort data.

I would like to thank the Food and Agriculture Organisation of the United Nations (FAO), for leading successful efforts on the EAF-Nansen Programme, in close collaboration with, the Norwegian Agency for Development Cooperation (Norad) and the Institute of Marine Research (IMR). It is worth mentioning here that a large part of the material collected in this book comes from the Programme's surveys conducted on board the research vessel *Dr. Fridtjof Nansen*. I would also like to thank all of the officers in my Department of Fisheries, and others who have been involved in collecting data and local names of the marine species in Myanmar, and who contributed to the creation of this species identification guide. This is the most comprehensive marine species guide ever created for Myanmar, and we are proud that our country's scientists have been instrumental in its development. The guide will be used by fisheries officers working in the field to collect fisheries statistical data, by fisheries biologists, and other scientists that need to identify marine species, but also by university students and others that have an interest in learning more about the marine biodiversity in Myanmar and the the Bay of Bengal Large Marine Ecosystem (BOBLME) region. We hope the guide will be a source of inspiration and create an even greater interest in our sea, and all the species living in it.



Dr. Aung Thu

Union Minister, Ministry of Agriculture, Livestock and Irrigation

Republic of the Union of Myanmar

# FOREWORD

Myanmar boasts of a long fishing tradition, and the fishing sector plays a crucial role in securing food, and livelihoods for its coastal population. But, our marine ecosystem is facing serious challenges due to population growth, urbanization and industrialization along the coast. Our seas are highly susceptible to land-based pollution, and at the same time, we need to pay great attention to prevent from over-exploitation of our marine living resources.

Taxonomy and biodiversity are somewhat interrelated, given that accurate taxonomic knowledge can help advance discovery of new species. This FAO species identification guide contains information on species that inhabit major offshore, inshore, and brackish waters of Myanmar. It is the country's most comprehensive publication, a tool kit for fishermen, students, environmentalists, etc. on how to identify correctly marine fish and macroinvertebrates within the Bay of Bengal Large Marine Ecosystem (BOBLME) region.

A lot of the data used in this guide were collected during marine surveys in 2013, 2015, and in 2018 in Myanmar waters, on board the research vessel *Dr. Fridtjof Nansen*. Contributions of large numbers of taxonomy experts from several marine science institutions, both nationally and internationally, are also highly recognised and applauded. Furthermore, the EAF-Nansen Programme and its core partners Norad and IMR, working with the Department of Fisheries of Myanmar, have been instrumental in both, funding and in providing their expertise to create this guide. The guide came out at a very important and challenging time for our oceans. On one hand, there is clearly a sudden interest and increased recognition of the value of our oceans. On the other hand, with an upsurge in ecotourism, marine aquaculture, fisheries, international ocean trade, oil and gas industry compounded by global warming, the pressure on the marine resources is increasing. Therefore, a species identification guide is a useful tool when we are monitoring potential changes in our marine ecosystems. I would like to send a very special thanks to IMR and local scientists, as well as the crew onboard the research vessel *Dr. Fridtjof Nansen*. My special recognition goes to Dr. Peter Psomadakis from FAO, who has worked tirelessly for a long time to see this publication come to end. I am truly proud of the result, and I hope that this book will be used extensively by the generations to come.



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# CONTRIBUTORS

Numerous internationally recognized taxonomists contributed to our knowledge of the Myanmar fauna either through their publications or through assistance with identification and provision of morphological details of problematic specimens collected during the Nansen surveys.
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# CONTENTS

**INTRODUCTION** . . . 1
**STOMATOPODS** . . . 11
TECHNICAL TERMS AND MEASUREMENTS . . . 11
GUIDE TO FAMILIES . . . 13
Odontodactylidae . . . 14
Lysiosquillidae . . . 15
Squillidae . . . 16

**SHRIMPS AND PRAWNS** . . . 23
TECHNICAL TERMS AND MEASUREMENTS . . . 23
GUIDE TO SUBORDERS AND FAMILIES . . . 25
Aristeidae . . . 29
Penaeidae . . . 31
Sicyonidae . . . 46
Solenoceridae . . . 47
Sergestidae . . . 49
Pasiphaeidae . . . 50
Acanthephyridae . . . 50
Palaemonidae . . . 51
Pandalidae . . . 53

**LOBSTERS** . . . 55
TECHNICAL TERMS AND MEASUREMENTS . . . 55
GUIDE TO FAMILIES . . . 56
Nephropidae . . . 57
Palinuridae . . . 58
Scyllaridae . . . 63

**CRABS** . . . 65
TECHNICAL TERMS AND MEASUREMENTS . . . 65
GUIDE TO FAMILIES . . . 66
Raninidae . . . 70
Calappidae . . . 70
Matutidae . . . 73
Carpiliidae . . . 74
Inachidae . . . 75
Majidae . . . 76
Oregoniidae . . . 76
Pilumnidae . . . 77
Portunidae . . . 77
Grapsidae . . . 84
Sesarmidae . . . 85
Varunidae . . . 86

**BIVALVES** . . . 87
TECHNICAL TERMS AND MEASUREMENTS . . . 87
GUIDE TO FAMILIES . . . 88
Arcidae . . . 91
Mytilidae . . . 92

Pteriidae . . . 92
Malleidae . . . 94
Ostreidae . . . 96
Lucinidae . . . 97
Cardiidae . . . 98
Cyrenidae . . . 100
Veneridae . . . 101

**GASTROPODS** . . . 103
TECHNICAL TERMS AND MEASUREMENTS . . . 103
GUIDE TO FAMILIES . . . 104
Trochidae . . . 107
Turbinidae . . . 108
Potamididae . . . 109
Strombidae . . . 110
Cypraeidae . . . 112
Muricidae . . . 114
Babyloniidae . . . 117
Melongenidae . . . 117

**CEPHALOPODS** . . . 118
TECHNICAL TERMS AND MEASUREMENTS AND GUIDE TO ORDERS . . . 118
Nautilidae . . . 120
Sepiidae . . . 120
Sepiolidae . . . 125
Sepiadariidae . . . 126
Loliginidae . . . 126
Ancistrocheiridae . . . 131
Chiroteuthidae . . . 131
Chtenopterygidae . . . 132
Cranchiidae . . . 133
Histioteuthidae . . . 133
Octopoteuthidae . . . 134
Ommastrephidae . . . 134
Onychoteuthidae . . . 136
Thysanoteuthidae . . . 136
Octopodidae . . . 137
Argonautidae . . . 141

**BRACHIOPODS** . . . 143
TECHNICAL TERMS AND MEASUREMENTS . . . 143
GUIDE TO FAMILIES . . . 144
Lingulidae . . . 145

**SEA CUCUMBERS** . . . 146
TECHNICAL TERMS AND GENERAL REMARKS . . . 146
Holothuriidae . . . 149

**SHARKS** . . . 154
TECHNICAL TERMS AND MEASUREMENTS . . . 154
GUIDE TO ORDERS AND FAMILIES . . . 155
Hexanchiidae . . . 160

Echinorhinidae . . . 160
Squalidae . . . 161
Centrophoridae . . . 161
Etmopteridae . . . 162
Somniosidae . . . 163
Pseudocarchariidae . . . 163
Odontaspididae . . . 163
Alopiidae . . . 164
Lamnidae . . . 164
Hemiscylliidae . . . 165
Stegostomatidae . . . 166
Ginglymostomatidae . . . 167
Rhincodontidae . . . 167
Scyliorhinidae . . . 167
Proscylliidae . . . 169
Triakidae . . . 170
Hemigaleidae . . . 172
Carcharhinidae . . . 173
Sphyrnidae . . . 182

**BATOID FISHES** . . . 184
TECHNICAL TERMS AND MEASUREMENTS . . . 184
GUIDE TO ORDERS AND FAMILIES . . . 186
Pristidae . . . 193
Rhinidae . . . 194
Rhinobatidae . . . 195
Glaucostegidae . . . 196
Platyrhinidae . . . 197
Narcinidae . . . 198
Narkidae . . . 200
Torpedinidae . . . 201
Rajidae . . . 201
Gurgesiellidae . . . 203
Anacanthobatidae . . . 203
Hexatrygonidae . . . 203
Gymnuridae . . . 204
Dasyatidae . . . 204
Plesiobatidae . . . 211
Myliobatidae . . . 212
Aetobatidae . . . 213
Rhinopteridae . . . 213
Mobulidae . . . 214

**CHIMAERAS** . . . 217
TECHNICAL TERMS AND MEASUREMENTS AND GUIDE TO ORDERS AND FAMILIES . . . 217
Chimaeridae . . . 218
Rhinochimaeridae . . . 218

**BONY FISHES** . . . 219
TECHNICAL TERMS AND MEASUREMENTS . . . 219
GUIDE TO ORDERS AND FAMILIES . . . 222
Elopidae . . . 270

Megalopidae . . . 270
Albulidae . . . 270
Synaphobranchidae . . . 271
Muraenidae . . . 272
Colocongridae . . . 276
Ophichthidae . . . 276
Muraenesocidae . . . 279
Nettastomatidae . . . 281
Congridae . . . 282
Moringuidae . . . 286
Nemichthyidae . . . 286
Anguillidae . . . 287
Clupeidae . . . 288
Dussumieriidae . . . 294
Engraulidae . . . 295
Chirocentridae . . . 302
Pristigasteridae . . . 303
Chanidae . . . 304
Plotosidae . . . 305
Pangasiidae . . . 305
Ariidae . . . 306
Argentinidae . . . 311
Ateleopodidae . . . 311
Chlorophthalmidae . . . 312
Synodontidae . . . 312
Neoscopelidae . . . 317
Myctophidae . . . 317
Trachipteridae . . . 319
Polymixiidae . . . 320
Bregmacerotidae . . . 320
Macrouridae . . . 320
Moridae . . . 322
Ophidiidae . . . 322
Carapidae . . . 327
Batrachoididae . . . 328
Lophiidae . . . 329
Antennariidae . . . 330
Chaunacidae . . . 330
Ogcocephalidae . . . 331
Atherinidae . . . 334
Belonidae . . . 335
Hemiramphidae . . . 337
Exocoetidae . . . 341
Monocentridae . . . 347
Trachichthyidae . . . 347
Diretmidae . . . 348
Berycidae . . . 349
Holocentridae . . . 349
Zeidae . . . 354
Pegasidae . . . 355
Aulostomidae . . . 355
Fistulariidae . . . 356

Centriscidae . . . 356
Syngnathidae . . . 357
Setarchidae . . . 357
Scorpaenidae . . . 358
Apistidae . . . 362
Tetrarogidae . . . 363
Synanceiidae . . . 364
Aploactinidae . . . 366
Dactylopteridae . . . 366
Plectrogeniidae . . . 367
Bembridae . . . 367
Triglidae . . . 368
Peristediidae . . . 370
Hoplichthyidae . . . 372
Platycephalidae . . . 373
Howellidae . . . 379
Latidae . . . 379
Acropomatidae . . . 380
Serranidae . . . 381
Ostracoberycidae . . . 398
Symphysanodontidae . . . 398
Callanthiidae . . . 399
Opistognathidae . . . 400
Terapontidae . . . 400
Priacanthidae . . . 401
Apogonidae . . . 404
Epigonidae . . . 411
Sillaginidae . . . 411
Malacanthidae . . . 413
Lactariidae . . . 414
Pomatomidae . . . 414
Rachycentridae . . . 414
Echeneidae . . . 415
Carangidae . . . 415
Coryphaenidae . . . 435
Menidae . . . 435
Leiognathidae . . . 436
Bramidae . . . 442
Emmelichthyidae . . . 444
Lutjanidae . . . 444
Caesionidae . . . 458
Lobotidae . . . 462
Gerreidae . . . 463
Haemulidae . . . 465
Sparidae . . . 473
Lethrinidae . . . 474
Nemipteridae . . . 480
Sciaenidae . . . 487
Polynemidae . . . 496
Mullidae . . . 500
Pempheridae . . . 507
Bathyclupeidae . . . 508

Kyphosidae . . . 509
Drepaneidae . . . 510
Monodactylidae . . . 511
Chaetodontidae . . . 511
Pomacanthidae . . . 513
Pentacerotidae . . . 515
Cepolidae . . . 515
Mugilidae . . . 516
Pomacentridae . . . 521
Labridae . . . 522
Scaridae . . . 528
Champsodontidae . . . 533
Ammodytidae . . . 533
Uranoscopidae . . . 534
Trichonotidae . . . 536
Percophidae . . . 537
Pinguipedidae . . . 539
Blenniidae . . . 543
Callionymidae . . . 544
Draconettidae . . . 546
Eleotridae . . . 546
Gobiidae . . . 546
Kurtidae . . . 552
Ephippidae . . . 552
Scatophagidae . . . 553
Siganidae . . . 553
Zanclidae . . . 557
Acanthuridae . . . 558
Scombrolabracidae . . . 563
Sphyraenidae . . . 563
Gempylidae . . . 566
Trichiuridae . . . 567
Scombridae . . . 569
Xiphiidae . . . 575
Istiophoridae . . . 575
Centrolophidae . . . 577
Nomeidae . . . 578
Ariommatidae . . . 580
Stromateidae . . . 580
Caproidae . . . 581
Psettodidae . . . 582
Citharidae . . . 582
Paralichthyidae . . . 583
Bothidae . . . 587
Poecilopsettidae . . . 593
Samaridae . . . 593
Soleidae . . . 595
Cynoglossidae . . . 598
Triacanthodidae . . . 602
Triacanthidae . . . 604
Balistidae . . . 605
Monacanthidae . . . 610

Ostraciidae . . . . . 614
Tetraodontidae . . . . . 616
Diodontidae . . . . . 625
Molidae . . . . . 628

**BIBLIOGRAPHY** . . . . . 631
**INDEX OF FAMILIES AND HIGHER TAXA** . . . . . 637
**INDEX OF SCIENTIFIC NAMES** . . . . . 641
**INDEX OF FAO ENGLISH AND FRENCH COMMON NAMES** . . . . . 654
**INDEX OF LOCAL NAMES** . . . . . 672
**APPENDIX 1** . . . . . 684
**APPENDIX 2** . . . . . 685
**LIST OF COLOUR PLATES** . . . . . 689
**COLOUR PLATES** . . . . . 695

# INTRODUCTION

Myanmar is the largest country in mainland Southeast Asia, geographically located between 9° 32' and 28°31' N latitude and 92° 10' and 101° 11' E longitude, stretching over 2 280 km and consisting of a land area of over 676 577 km$^2$. In the north west, Myanmar is bounded by the Bay of Bengal, and Bangladesh and to the South by the Andaman Sea and Thailand (Figure 1). Myanmar's continental shelf covers approximately 230 000 km$^2$, with a relatively wider portion in the central and southern parts. The Exclusive Economic Zone (EEZ) is about 486 000 km$^2$. The coastal zones of Myanmar can be subdivided into three main areas, namely the Rakhine Coast, Ayeyarwady Delta, and Tanintharyi Coast. Many rivers flow into the coastal zones, including the Mayu and Kaladan rivers in the Rakhine coastal area; the Ayeyarwady, Sittaung and Thanlwin (Salween) rivers in Ayeyarwady Delta coastal area; and the Ye, Dawai, Tanintharyi and Lenya rivers in the Tanintharyi coastal area. The Rakhine Coast stretches 740 km from the Naff River at the border with Bangladesh to Mawtin Point and is bounded by the Bay of Bengal in the west. The Ayeyarwady Delta coastal zone consists of the entire river mouth areas of three major rivers, the Ayeyarwady, Sittaung and Thanlwin. Administratively, this coastal zone lies within the Ayeyarwady Division, Yangon Division and Mon State. Apart from the western part of the zone, which is adjacent to the Rakhine Yoma mountain range, the region is a flat alluvial plain with a network of tributaries of the Ayeyarwady River. These tributary rivers, together with the Sittaung and Thanlwin, deposit enormous quantities of sediment. The annual sediment discharge of the Ayeyarwady River has been estimated at 250 million tonnes. The delta is enlarging seaward at the rate of 5 km every hundred years and the seaward advance of the Gulf of Mottama at its 40 m depth contour is estimated at 55 km every hundred years. For this reason, the continental shelf in this area is very wide. The Thanlwin River, originating in China , opens into the Gulf in Mon State and Balu-Kyune (Giant Island) lies at its mouth. The Tanintharyi coastal area is the longest coastal zone of Myanmar and is bounded in the west by the Andaman Sea. This coastal zone extends south of the Gulf of Mottama to the mouth of the Pakchan River and includes the Myeik Archipelago and Andaman Sea. The Myeik Archipelago extends from Mali Island (Myanmar) to Similan Island (Thailand) and contains a network of more than 800 islands covering an area of about 34 340 km$^2$ and extends up to 140 km offshore. Coral reefs surround the outer islands, while mangroves cover much of the inner islands. The coastal plain is narrow and gradually rises towards the east to become the Taninthayi Yoma, with 2 073 m high Myint Moe Let Khat Taung as the highest peak (Myint Pe, 2002).

## Oceanography

Myanmar's marine environment is heavily influenced by a monsoonal weather pattern. The Southwest Monsoon is divided into four parts, premonsoon (mid-April to date of onset, early monsoon (June), mid or peak monsoon




**Figure 1 - Map of Myanmar showing the three coastal zones**

(July-August), late monsoon (September to withdrawl date) and post monsoon (October-November) (Lai Lai Aung *et al*., 2017). During the rainy season (June-September), low saline surface water with salinities less than 20 ppt can be observed over large areas in the Delta region and northward along the Rakhine Coast, indicating a west- and northward transport of the coastal water masses. During spring (dry season), when river runoff is at a minimum, conditions are quite different. The highest surface layer salinities (>33 ppt) are observed near shore just off the Thanlwin River delta (Mawlamyine). This large seasonal variation of salinity

depends on the freshwater inflows to the Delta region. Significant changes in the hydrographic conditions of intermediate and deeper water masses from autumn to spring are also observed along the Myanmar coast. The main features of these appear to be similar for all three coastal zones: in autumn the transition layer between the upper homogeneous water masses in deep water is found at depths between 70–150 m, while in spring the transition layer occurs closer to the surface at depths from 20–100 m all along the coast. Large areas of the shelf, which in autumn typically show a layer of temperature (>26°C) and oxygen (>3 ml/l) at the bottom, during spring have lower temperatures (<23°C) and oxygen content (<2 ml/l). The slopes of the iso-lines may indicate a shoreward movement of the bottom waters on the shelf, with corresponding upwelling in nearshore areas during spring. This phenomenon seems to be particularly pronounced off the Rakhine and Delta regions. The surface waters off the Ayeyarwady Delta and Rakhine coasts are usually extensively mixed with freshwater originating from runoffs of the large rivers (Ayeyarwady and Thanlwin) after the rainy season (October), and corresponding with the yearly runoff. In deeper waters, at depths greater than 150–200 m below the transition layer zone, hydrographic conditions are more stable. However, oxygen content of the deep water is lower in the Bay of Bengal (Rakhine) (<0.2 ml/l), than in the Andaman Sea (Delta and Tanintharyi) (>0.8 ml/l) (Myint Pe, 2002). Indications of local wind-driven upwelling are frequently recorded near Mun Aung Island during the Northeast Winds, and organic production (including fish) is relatively higher during this upwelling period (Myint Pe, 2002). Although not yet well studied, other local upwelling processes are known to occur along the southern coast of Myanmar.

## Coastal habitats

Coastal and marine ecosystems, such as mangroves, coral reefs, seagrass beds, estuaries, upwelling areas, and migratory route areas for marine organisms play a prominent role in the productivity of coastal and marine waters, biogeochemical cycling, and geomorphological stability of the coastal zone. More than 2 000 km of the southwestern land boundary of Myanmar interacts with seas and thereby creates very complex ecological and socio-economic systems, which make administration and resource management relatively more difficult than in mainland areas. Coral reefs, seagrass beds and mangroves flourish mainly along the sheltered coasts in the Rakhine and Tanintharyi regions. Estuaries and mud flats are common in the Ayeyarwady Delta, while beach and dunes occur throughout the whole coastline (Myint Pe, 2002).

### Mangrove forests

Mangrove forests are most extensive and occur mainly in the southernmost portions of the Ayeyarwady Delta. The original area of mangrove forest in Myanmar was 659 034 ha in early 1900. In the Rakhine Coast, the original mangrove forest was 167 483 ha; in 2010, 97 519 ha; so a decrease of 42% has been recorded. In the Ayeyarwady Delta, the original mangrove forest was 296 448; in 2010, 24 848 ha; so a striking decrease of 92% has been recorded. In the Tanintharyi coastal region, mangrove forests have changed much less: in early 1900 there were 195 103 ha; in 2010, 190 077; so a decrease of only 2.5% has been recorded. Total mangrove forest cover in Myanmar as of 2010 is 312 444 ha (Kyaw Tint *et al*., 2012; Maung Maung Kyaw, 2012). Mangroves play a particularly significant role in the marine environment as a habitat for wildlife and fishes and are important biological and fishery resources for local and foreign exchange earnings. Mangroves provide important ecosystem processes and services such as: 1) nursery areas for numerous fish and crustacean species, 2) natural protection against storm surge, 3) wood supply, especially fuel wood and poles, and 4) serve as an important carbon dioxide sink. Some 41 species of mangrove trees have been confirmed from the Myanmar coastline (Holmes *et al*., 2012), of which *Rhizophora*, *Sonneratia*, *Avicennia*, *Bruguiera* and *Xylocarpus* species are dominant in the so-called mangrove *Rhizophora* forest (Myint Pe, 2002). Based on a study by Htay Aung (1982) at Thanlwin river mouth, common brackish water animals associated with mangroves and mangrove waterways, include a diverse fauna composed of a variety of different species of fish, molluscs, crustaceans and arthropods, including one xiphosuran or horseshoe crab. Some seaweeds, *Catenella*, *Gracilaria*, *Ulva*, and *Entermopha* also commonly occur in association with mangrove habitats. Mangrove forest ecosystems contribute a wide range of goods and services from which local people have benefited from immemorial time. Firewood and charcoal are the main products extracted from the mangrove forest ecosystem in Myanmar, as well as timber for construction and fishing, and this has led to the depletion of mangrove in some areas. According to Richards and Friess (2016) rice agriculture was the major driver of mangrove loss in Myanmar from 2000 to 2012, accounting for 87% of mangrove deforestation. Regardless of the drivers, mangrove degradation has likely contributed to the declines in coastal fisheries resources and shrimp aquaculture production, as naturally occurring shrimp post larvae and juveniles of many commercial species are largely dependent on mangrove environments (World Bank, 2019). In some areas of Ayeyarwady and Rakhine coasts, mangrove cover has been improved to some extent by the Forest Department's rehabilitation programs, including the establishment of department plantations, implementation of regeneration improvement felling, and introduction of community forestry and protection of natural mangrove forests. In addition, rural development for poor communities and establishing plantations with UNDP programs and other initiatives such as the "Integrated Mangrove Rehabilitation Project through Community Participation and the "Sustainable Community-based Mangrove Management in Wunbaik Reserve Forest" in cooperation with the Japan International Cooperation Agency (JICA) and FAO, respectively, have encouraged mangrove forest rehabilitation throughout Myanmar's coastline (Myint Pe, 2002; Kyaw Tint *et al*., 2012; Ei Thandar Bol, 2013).

## Coral reefs

Coral reefs are among the world's most diverse natural ecosystems and provide a wide variety of food and habitats for a great number of species such as plants, fish and other animals. Globally, there are about 284 300 km$^2$ of coral reefs; 14.1% are distributed in the Indian Ocean (Spalding *et al.*, 2001). In Myanmar, the Rakhine, and Tanintharyi coastal areas are favourable environments for both hard and soft corals. In contrast, coral reef formation in the Ayeyarwady coastal zone is restricted to Coco and Preparis islands, which lie far away from the influence of river runoff. The offshore islands of the Myeik Archipelago of the Tanintharyi coastal area have the most abundant and diverse coral communities. Surveys of the Myiek Archipelago show high levels of hard coral diversity, with 288 species observed, in 68 genera and 17 families, and species accumulation curves predict that a total of >300 species are likely (Howard, 2018). The status of hard coral cover varies greatly across the archipelago from 0% to 92% with an average of 48.9% (Howard, 2018). Coral communities are clearly structured by three main reef types: a) fringing reefs on relatively exposed boulder slopes of outer islands, from the surface to about 15 m depth where the boulders transition into sandy slopes; b) fringing reefs on relatively sheltered slopes of the inner islands with high turbidity and strong currents; and c) steeply sloping/vertical rock walls on small isolated rocks or outer island cliff faces, extending into deeper water over 20–30 m deep. Coral reefs are a resource of immense importance for the local people. They provide many benefits, including food and recreation, and healthy coral reefs are vitally important to the sustainability of both fisheries and tourism. All island reefs are of the fringing type and remain much the same today as they were hundreds of years ago due to isolation and difficult access by the coastal people. With their largely untouched isolation and rich cultural heritage of sea gypsy (Moken) population, coral reef and wildlife based eco-tourism is one of the main economic potential in this region. There are settlements of fishing villages on some islands, and some fishers who are dependent on coral-associated invertebrates, inhabit the offshore islands on a seasonal basis. One island, Lampi, has already been declared as a marine park in this region and represents a potential site for ecotourism development. However, coral reef ecosystems are at risk due to a number of threats, including destructive fishing practices that range from illegal trawling to blast fishing (using dynamite to kill and collect fish). Recent studies have reported trawlers illegally entering the inshore area of 10 nautical miles, trawling over reefs and seagrass beds, causing severe biological and structural damage to these habitats (Aung Hlaing Win and Maung Maung Lwin, 2011). Video transects carried out during the Nansen habitat survey of the Myeik Archipelago in 2015 confirmed a significant erosion of the reefs due to human impact in the shallow areas (Serigstad *et al.*, 2016); gillnets and other fishing gear were found on most of the coral reefs in the protected area around Lampi Island. Widespread dynamite fishing, with recent fish kills on the water surface, was observed during a recent underwater survey of coral reef fishes of the Myeik Archipelago (Russell, 2016). This fishing practice destroys the framework of the reef, the structure of which may take decades to recover (Allen and Erdman, 2012). Myanmar's reefs are also threatened by coral bleaching, which occurs when environmental stressors (increased water temperatures, pollution, etc.) cause corals to eject the symbiotic algae living in their tissues and die. The degree and distribution of bleaching appears to be widespread and a very concerning issue facing the reefs of southern Myanmar (Holmes *et al.*, 2014).

## Deep coral reefs

Mesophotic coral ecosystems (MCEs) are characterized by the presence of light-dependent corals and associated communities that are typically found at depths ranging from 30 to 40 m and extending to over 150 m in tropical and subtropical regions. The dominant communities providing structural habitat in the mesophotic zone can be comprised of coral, sponge, and algal species (Hinderstein *et al.*, 2010). In Myanmar, studies of these ecosystems in terms of diversity, threats and conservation status are rather limited. Video transects carried out during the Nansen habitat survey of the Myeik Archipelago, revealed large deep coral reefs areas (below 40–50 m) with high abundance and diversity of fish, especially on the western side of Lampi Island (Serigstad *et al.*, 2016). Most of these areas were found to be heavily impacted by loss of fishing gear (mostly gillnets). Sediment analysis revealed that Barium (the main component in the drilling fluid used for oil drilling) was found in high concentrations in the deeper part of the northernmost transect (Serigstad *et al.*, 2016). It is crucial to understand the value and role of MCEs, as these ecosystems are facing increasing environmental change and human impacts.

## Seagrass beds

Seagrass beds are diverse and productive habitats and form important nursery grounds for several species of fishes and invertebrates that shift to coral reefs and other marine habitats as they mature. The beds are also important feeding ground for herbivorous grazers such as invertebrates, marine turtles and the sea cow *Dugong dugon*. Based on data prepared by Soe Htun *et al.* (2001), Myanmar has 9 species of seagrass belonging to 5 genera from 2 families. These are: *Cymodocea rotundata*, *C. serrulata*, *Halodule pinifolia*, *H. uninervis*, *Syringodium isotoefolium*, *Enhalus acoroides*, *Halophila beccarii*, *H. decipiens*, and *H. ovalis*. Of these, *Cymodocea rotundata*, *C. serrulata* and *Enhalus acoroides* are dominant in seagrass beds. Despite few large seagrass beds occur along the Myanmar coast, seagrass beds found in Gwa and Maung-Shwe-Lay-Gyaing in Rakhine and Pyinsabu Island in the Myeik Archipelago are sizable and dense and support large numbers of marine fish and shrimp larvae, especially the post larvae of *Penaeus semisulcatus* (Myint Pe, 2002). No seagrasses are present in the Ayeyarwady Delta and Mon State coastal zone due to estuarine and brackish condition of the coastal waters which are influenced by large volumes of freshwater runoff. The family Hydrocharitaceae represents the most dominant

taxa of seagrass in both the Rakhine and the Tanintharyi coastal regions. Seagrasses of the family Cymodoceaceae occur mainly in the Rakhine coastal region, except for *Cymodocea rotundata*, which is unique to the Tanintharyi coast (Myint Pe, 2002). A total of eight species belonging to 2 families and 6 genera have been identified in the Myeik Archipelago. They include: *Syringodium isotoefolium, Cymodocea rotundata, Enhalus acoroides, Thalassia hemprichii, Halodule uninervis, H. pinifolia, Halophila ovalis,* and *H. minor*. The islands on which one or more of these species occur include: Buda, Lampi, Anne, Bushby, Kyun Pila, and Russell Island. No seagrasses occur on Bentinck, Thompson, Ross, Courts, Jack, and Letsok-aw islands. There is little information on the status of seagrass beds in Myanmar. Some studies (Soe Htun *et al*., 2009) have reported that much of seagrass areas have remained in near-pristine, climax condition. In contrast, some other local experts have reported that seagrass beds have been severely disturbed along Myanmar's coast by the increasing level of illegal fishing operations by "baby" trawlers in recent years (see Holmes *et al*., 2014).

## Rocky shores

Rocky shores are mainly located along the Rakhine and Tanintharyi Coasts and provide subsistence fisheries for local communities. In these harder bottom areas there is a large variety of species, dominated by sharks, snappers, groupers, grunts, sweetlips and lobsters. Other important resources such as octopuses, oysters, seashells and chitons are collected from tide pools and rock faces (Holmes *et al*., 2014). Studies on marine wildlife occurring in these habitats in terms of diversity, threats and conservation status are rather limited.

## Soft sediment habitats

Soft sediment habitats such as mud flats and sand flats represent important habitat types and are most extensive along the Ayeyarwady Deltaic coastal region. This coastal region (up to the Gulf of Mottama) is home to many river mouths of important rivers such as the Ayeyarwady, Sittaung and Thanlwin, and is characterized by an extensive continental shelf. Mudflats are mostly found in quiet-water marine habitats and are usually associated with mangrove stands. These habitats support a rich assemblage of marine infaunal (burrowing) invertebrates, including polychaetes (Si Thu Hein, 2011), which form the prey base for several species of migratory shorebirds. In areas with stronger hydrodynamism, such as the Gulf of Mottama, turbulence and turbidity create areas of shifting sand and mud flats where mangroves are unable to take root (Holmes e*t al.*, 2014).

## Pelagic habitats

There are three distinct pelagic habitats in Myanmar's waters. Beyond the continental shelf is the largest pelagic zone, extending to the limit of the EEZ of Myanmar and beyond. This habitat is dominated by the Oxygen Minimum Zone (OMZ) for most of the year. Oxygen levels in this zone can be as low as 0.5 mg/l from about 80 to more than 500 m (Krakstad *et al*., 2014, 2016). This low oxygen zone contains unique fauna, predominantly consisting of lanternfish (Myctophidae). Lanternfish exhibit diurnal vertical migration to feed on zooplankton (euphausiids, copepods, etc.) and, in turn, represent a major food resource for many deep water and large pelagic predators (i.e. squids, hairtails, tunas, billfishes), thus acting as an important link between secondary producers and upper trophic levels. The pelagic zone on the continental shelf is the second pelagic habitat and is known to have a rich fish fauna dominated by sardinellas, anchovies, pomfrets, hairtails, carangids and small tunas. The fishing grounds of pelagic fish species are generally of muddy-sandy bottoms and are associated with rich biomass of plankton. The coastal small pelagic species frequently inhabit the nutrient-rich inshore neritic waters, while the large pelagic species such as the swordfish, yellowfin tuna and Indo-Pacific sailfish inhabit mainly offshore neritic and nutrient-poor oceanic waters. The shallow water fishing grounds are highly productive and account for much of the total pelagic catch. The commercially important pelagics classified by the Myanmar Department of Fisheries, include 28 species of Carangidae, 15 species of Clupeidae, 12 species of Scombridae and 12 species of Engraulidae (Resources Survey Group, 1994). A considerable resource of pelagic fish, such as sardinellas, Indian mackerel, Spanish mackerel and anchovies in the Rakhine coast, Hilsa shad in Ayeyarwady Delta area and Indian mackerel, anchovies and small tunas in the Tanintharyi area are known to local fishermen and are exploited mostly with shallow water purse seines, surface and mid-water gillnets and other surrounding gill nets.

## Demersal habitats

Demersal habitats on the continental shelf are characterized by soft sediments (sands and muds) in the Ayeyarwady Deltaic coastal region to the Gulf of Mottama, whereas hard bottoms (rocks and coral reefs) interspersed with sandy areas dominate in the Rakhine and Tanintharyi region. Both habitat types support a wide variety of fish and macroinvertebrate species. In the shallow soft bottom habitat, shrimps, croakers, flatfishes, threadfin breams and sea catfishes are dominant. In harder bottom areas and in deeper demersal habitats of both types, there is a large variety of fish species including barracudas, pomfrets, eels, hairtails, threadfin breams, large croakers, snappers, groupers, haemulids, flatfishes, sharks and rays. Demersal fishes are caught mostly by bottom trawls, bottom set nets, bottom gillnets and longlines.

# Marine protected areas

Marine protected areas (MPA) have been established all over the world to protect and maintain biodiversity and critical habitats through legal or other effective means. They can assist in restoring the productivity of the oceans and avoid further degradation. MPAs are also sites for scientific study and can generate income through tourism and sustainable fishing (Commonwealth Department of Environment and Heritage, 2003). In Myanmar there are four marine protected areas, two (Meinmahla Wildlife Sanctuary, Thamihla Kyun Wildlife Sanctuary) on the Ayeyarwady

Coast, and two (Moscos Islands Wildlife Sanctuary, Lampi Marine National Park) off the Tanintharyi Coast. However, these areas have few, if any, protection measures in place to make any impact on conservation of critical habitats such as coral reefs, seagrass beds and mangroves (Holmes *et al*., 2014). Additionally, two Shark Protected Areas in the Myeik Archipelago were established in 2004 as a means to address the threat of overfishing of sharks which had resulted in diminishing stocks. Also these areas have no effective protection measures in place to make any impact on shark conservation (DoF/FFI/BOBLME, 2015).

## Aquaculture

According to FAO statistics for 2015, Myanmar resulted the world's eighth largest aquaculture producer (excluding aquatic plants and non-food products), producing an estimated 1 million tonnes annually. Shrimp farming started in Myanmar in the mid-1970s with traditional methods (i.e. people would trap and hold juvenile shrimps in large intertidal areas). In the year 2000, Ministry of Livestock and Fisheries with support of FAO and other UN agencies, gave technical assistance to potential investors to get involved in shrimp culture. Since then, there has been a nearly ten-fold increase in shrimp production from 5 473 tonnes in 2001 to 51 207 tonnes ten years later (FAO, 2019a). More than two-thirds of Myanmar's shrimp farms are in central Rakhine State, with the remainder found primarily in the Ayeyarwady region (World Bank, 2019). Shrimp farm productivity has declined drammatically following damage caused to ponds by cyclones since the mid-2000s. Declining abundance of wild post larvae is most probably linked to mangrove degradation, overfishing of brood shrimp at sea and increasing incidence of shrimp disease (World Bank, 2019). The policy of Fisheries Department of Myanmar on shrimp aquaculture in the mangrove area is: 1) primary mangrove forest should be reserved for sanctuary and not allowed to use for shrimp aquaculture; 2) secondary mangrove forest or tidal marshland can be used in some areas in which few shrubs are grown, and in few area be allowed for extensive or improved extensive type of shrimp farming with leaving buffer area (Myint Pe, 2002).

Net cage culture of marine finfish is very limited in Myanmar. There is one large company involved in farming barramundi *Lates calcarifer* in cages in Tanintharyi where it operates in farms in three sites, along with its own hatchery (World Bank, 2019).

As per 2016–2017, crabs are one of the three main aquaculture exports of Myanmar together with Rohu *Labeo rohita* and live eels (World Bank, 2019). Mud crabs, *Scylla* spp. are caught in the wild and cultured in mangroves and mud flats throughout the country's coastal areas. They are kept in containers held on rafts in brackish water and monitored until they moult, at which time they are transferred to fresh water to prevent their shells from hardening. These "soft-shelled" crabs are exported live mainly to Japan and Malaysia (FAO, 2003).

Pearl oyster farming started in Myanmar in 1954 through a Japanese-Myanmar private joint venture. The farm was initially installed at Domel Kyun in the Myeik Archipelago with the goal to produce South Sea pearls from the Gold-lip pearl oyster, *Pinctada maxima*, which is a very common species in southern Myanmar. After relocation at Pearl Island (Pale Kyun) in 1956, the farm was nationalised in 1963 and after 1988 it became the Myanmar Pearl Enterprise under the Ministry of Mines (Holmes *et al*., 2014). The peak of the market was in 1990 when proceeds from the pearl sales were estimated at more than 5 million USD (Tint Tun, 1998). Currently there are both local and foreign joint pearl ventures in Myanmar (Kay Thwe Htwe, 2006).

## Fisheries

The fisheries sector is a very important component of Myanmar's economy, as fish constitute a major source of animal protein in the diet of the Myanmar people, who are largely consumers of rice and fish in their daily life. According to the Myanmar Country Environmental Analysis Report (World Bank, 2019), the fisheries sector contributes roughly 2% of Myanmar's gross domestic product (GDP), 50% of animal protein consumption, 6% of employment, rising to as high as 34% in some coastal areas, and up to 56% of state/regional government revenue. Over 3.2 million people are employed in the fisheries sector, 800 000 full-time and 2.4 million part-time, amounting to 6% of Myanmar's population (World Fish, 2017). Total marine catches are uncertain, but landings reported to FAO indicate that average marine capture fisheries production was around 1.3 million tonnes in 2017 (FAO, 2018). The vision of the Fisheries Department of Myanmar is to *"Ensure a sufficiency of fish supplies not only for the present entire national people, but also for future generations by ensuring sustainable fisheries"*

Myanmar's fishing fleet is composed of both small scale inshore fishing boats as well as larger offshore commercial fishing boats. Inshore fishery targets areas that are within ten nautical miles from shore and is reserved for boats under 9.1 m and 25 horsepower. Licences were issued for 16 012 motorized and 10 704 non-motorized inshore fishing boats in 2016–2017 (DOF, 2017a). The offshore fishery operates from the inshore limits (10 nautical miles) out to the edge of Myanmar's Exclusive Economic Zone (EEZ), which is 200 nautical miles from shore. These fishers use larger boats (>9.1 m and >25 horsepower) and gear including bottom trawls, purse seines, surrounding nets, drift nets and longlines (Holmes *et al*., 2014). Licences were issued for 3 216 offshore fishing boats in 2016–2017 of which 3 168 are national and 48 international (DOF, 2017a). The main fish landing sites in Myanmar are: Thandwe (Rakhine Coast); Pazuntaugh, Nyaungdan and Annawa (Ayeyarwady Delta) and Mawlamyine, Myeik and Kawthoung (Tanintharyi Coast). However, many other smaller landing sites occur throughout the country. Fish and fishery product exports in 2016–2017 totalled 438 710 metric tons, generating over USD 600 million in value (DOF, 2017b). It is widely believed that there are substantial informal and undeclared exports to Thailand by transshipping. Hilsa shad *Tenualosa*

*ilisha* is among the top 10 fishery exports in Myanmar. The species is particularly valued by local people and is caught as adult from the marine environment (also when when returning to river for spawning) as well as juvenile during its migration from the rivers to the sea. The decrease in the catches (from 17 006 tonnes in 2009–2010 to 10 968 tonnes in 2010–2011) and the reduction of average size, may indicate that the stock is overfished (Holmes *et al.,* 2014). Sardines and anchovies are important resources in neritic offshore waters. They are commonly fished at night by large purse seiners (up to 15.24 m long) and supporting smaller boat equipped with luring lights. The catches are dominated by anchovies (50–70%) followed by sardines (30–50%) with composition of the catches changing over the season (Holmes e*t al.*, 2014). Pomfrets *Pampus* spp., tigertooth croaker *Otolithes ruber*, Indian mackerel *Rastrellinger kanagurta* and hairtails *Lepturacanthus savala* and *Trichiurus lepturus*, tonguesoles (*Cynoglossus* spp.), Indian threadfin *Leptomelanosoma indicum* are also important marine fishery resources for Myanmar (Myint Pe, 2002). Shrimps are a very important fishery resource in Myanmar. They are targeted by inshore fishermen by using shrimp gill nets, push nets, tidal set bag nets, stake nets and traps, while commercial offshore fisheries use otter bottom trawlers that target primarily shrimp (Htay Aung, 2004). Hand operated push nets and tidal set bag nets are used along the coast to catch shrimps of the genus *Acetes* which are used to make "Ngapi", the beloved Myanmar fish paste. However, push nets are illegal under the national fisheries laws since they damage benthic habitats and catch the juveniles of commercially important shrimp species. Spiny lobsters of the genera *Palinurus* and *Thenus* are caught mainly by traps and bottom set gill nets as well as by free-diving They are bought by trading companies and held in pens and then are exported live to overseas markets. Swimming crabs of the genera *Portunus* and *Charybdis* are caught by fishers in Myeik by tidal set bag nets, while the spanner crab *Ranina ranina* is captured on sandy bottoms using gill nets fixed to a frame (Holmes e*t al.*, 2014). Squids are also a very important fishery resource in Myanmar. They are commonly fished at night with the aid of luring lights either by the Moken people from their small dugout canoes, or by the larger commercial fishing boats operating in offshore waters. According to Thapanand Chaidaee *et al*. (2010), squids were the second-most common catch by weight after a non-target species of lizardfish and made up nearly 50% of the invertebrate catch by weight in a study on bottom trawls catch composition. While octopuses are collected by local people for food and sometimes sold to local restaurants and hotels, cuttlefishes are apparently not a targeted fishery (Holmes e*t al.,* 2014). Shellfish are gleaned from rocks and shallow reefs and collected opportunistically by free divers targeting lobsters and other species. They are sold to tourists, either as simple, cleaned shells or modified into crafts and souvenirs. This "curious" trade is well-developed in Myanmar with a complex chain of suppliers, buyers, artists and sellers (Holmes e*t al.,* 2014). Sea cucumbers are most commonly found in the Myeik Archipelago were they are collected by free divers or divers using compressed air in nearshore waters during the dry season from October to April. They are boiled, dried (by sun or smoke) and exported to major markets in Japan, Korea, China and Singapore. The species range in value with the highest-valued species (*Holothuria scabra* and *H. lessoni* fetching as much as USD 100 per kg dry weight (Holmes e*t al.,* 2014).

Lamp shells *Lingula anatina* appear to be a delicacy in Myanmar and are actively collected by the local people from fine sand habitats in coastal waters either by hand or rake. The long pedicle, which is the edible part of the animal is eaten under the name of "sea bamboo shoots".

Despite the establishment in 2004 of two shark reserves within the Myeik Archipelago and the introduction in 2009 of a nationwide ban on shark fishing, a recent assessment on status and catches by Howard *et al*. (2015) revealed shark and ray populations are in decline. These authors revealed that even with a ban in place for sharks there is still an active fishery within Myanmar and willing markets both in-country and abroad are an incentive to this fishery. According to Howard *et al*. (2015), some of the main threats contributing to this decline are:

- Continued targeting of sharks by **longline fishers**. The number of fishers has apparently decreased since the ban, however shark populations are diminishing and as such any level of shark fishing which targets the mature adults will have serious consequences.
- Large numbers of sharks being caught and sold as by-catch which is compounded by an **over capacity** of Myanmar's fishing fleet. According to Department of Fisheries there are 968 offshore and 2 389 inshore fishing vessels in Tanintharyi alone as for 2014–2015 (Myint Shwe, 2014). With minimal regulation of gear types such as mesh size and fishing areas, shark and rays will continue to be caught in high numbers as by-catch even without those specifically targeting sharks.
- Catches dominated by **juveniles** with some observed at markets only 1–2 weeks old. This severe case of recruitment overfishing will limit population's ability to recover.
- There is very **little enforcement** of the current rules prohibiting shark fishing. DoF has no vessels to patrol and market places and landing sites appears to be able to freely trade shark products.
- The use of **dynamite** to lure sharks into an area around coral reefs is not only threatening the shark populations but also degrading the habitat in which some shark species rely on as both nursery and feeding grounds.
- **Export demand** from East Asian markets for gill rakers has driven an offshore gillnet fishery for devil rays (*Mobula* spp.) in Ayeyarwady Region.

To address the above threats Myanmar is redrafting its National Plan of Action (NPOA) on sharks and using the assessment by Howard *et al*. (2015) to guide the NPOA and develop a set of recommendations and required actions to combat the decline in both shark and ray populations. One such recommendation will be the strengthening of the laws surrounding shark fishing and

trading. The whale shark, *Rhincodon typus* is known to occur in the waters near Negapali (Rakhine Coast) and near Thamihla Kyun in the Myeik Archipelago (Holmes *et al*., 2014). This shark is an increasingly popular subject of ecotouristic shark diving worldwide because it migrates close in shore, concentrates off reefs to feed during part of the year, is spectacular, and is readily accessible to divers and relatively tolerant of their presence.

## Nansen surveys

Surveys carried out on board the R/V *Dr Fridtjof Nansen* are an integral part of the EAF-Nansen Programme (formerly EAF-Nansen Project) which has been operating since 1975 to support developing countries with marine resources assessment and management (FAO, 2019b). The first assessments of the state of the fishery resources of Myanmar were conducted through two survey periods between 1979–1980 with the use of the R/V. *Dr. Fridtjof Nansen.* The R/V *Dr. Fridtjof Nansen* returned to Myanmar to conduct three new surveys in 2013, 2015 and 2018 (FAO, 2019b). The surveys were planned and executed in close collaboration with the Directorate of Fisheries in Myanmar and with other partners such as the Bay of Bengal Large Marine Ecosystem Project (BOBLME) for the 2013 survey. Several universities in Myanmar e.g. Mawlamyine, Myeik and Pathein, and local NGOs (e.g. Wildlife Conservation Society) have also participated in survey planning and execution (FAO, 2019b). Both the 1979–1980 and 2013–2018 surveys covered the pre-monsoon, monsoon and post-monsoon seasons to ensure that possible seasonal variations could be captured and analized. The 1979–1980 surveys aimed at obtaining an estimate of the marine standing stock biomass in Myanmar's waters, as the basis to assess Maximum Sustainable Yield (MSY) (FAO, 2019b). For the 2013 and 2015 surveys, the objectives were expanded to include more comprehensive ecosystem-related data. These included:

- Distribution, abundance, composition of species (pelagic and demersal).
- Size distribution, further biological information, and genetic samples from selected species.
- Distribution, abundance and composition of phyto- and zooplankton, fish eggs and larvae.
- Environmental conditions in the survey area (temperature, salinity, oxygen, chlorophyll, nutrients and sediments).
- Bathymetric mapping.

The 2018 survey formed part of the new phase of the EAF-Nansen Programme, with the focus on *"Supporting the Application of the Ecosystem Approach to Fisheries Management considering Climate and Pollution Impact".* Hence, sampling was further expanded to include marine debris and microplastics, ocean acidification and food safety, and nutrition (FAO, 2019b). The study of egg and larvae was a priority in 2018. The most striking feature when comparing the different estimates over time is the major drop in fish biomass visible in the most recent surveys, as compared to those carried out in 1979–1980 (FAO, 2019b). The observed biomass reduction (up to 80% for pelagic resources and up to 60% for demersal resources) is mostly due to overfishing, destructive fishing methods and loss of critical habitats such as reefs, seagrass and mangroves over the past 30 years (Krakstad *et al*., 2014, 2016; Michalsen *et al*., 2019; FAO, 2019b). Survey results and the composition of catches also showed strong impacts especially on longer lived, demersal fish species of higher value and an increase in some shorter lived fast growing species (Krakstad *et al*., 2014, 2016; Michalsen *et al*., 2019; FAO, 2019b). The notable absence of sharks and rays as well as the general absence of larger individuals of predatory species such as groupers (*Epinephelus*, *Plectropomus*), snappers (*Lutjanus*) and emperors (*Lethrinus*) was recorded also during a recent underwater survey of coral reef fishes of the Myeik Archipelago (Russell, 2016). This is a typical response in overfished ecosystems when larger predator species are reduced. Important seasonal variations were also observed, possibly due to the changing hydrographic conditions linked to the annual monsoon cycles. These affect fish distribution patterns and such changes are well-known to the fisheries (FAO, 2019b). The surveys carried out in the post-monsoon (2013) and monsoon (2018) seasons showed lower biomass and fewer large fish in the catches compared with the pre-monsoon survey (2015). This might be a seasonal signal indicating that large pelagic fishes move out of the surveyed area when the salinity decreases during the monsoon and post- monsoon due to heavy rain (Krakstad *et al*., 2016). Hypoxic water conditions (~0.5 ml/l) were observed over large areas below 150 m depth off the Rakhine and Ayeyarwady Coasts during all surveys, but these water masses intruded on the shelf only during the pre-monsoon survey displacing fish inshore. In addition, large quantities of jellyfish were observed in the Tanintharyi coastal region during the pre-monsoon survey (Krakstad *et al*., 2016). The surveys carried out with the R/V *Dr. Fridtjof Nansen* have provided up to date data on fish distribution, their population size and oceanography. This information has been applied in sustainable planning, management and development in relation to coastal and marine ecosystems. As a direct consequence, Myanmar has now greater attention on fisheries resources, conservation and sustainable development. Management measures put in place by the government since 2013 include a closed season for all fishing gears for all marine waters in Myanmar, reduction in the numbers of fishing rafts in the Delta region, banning of foreign fishing vessels and prohibition in respect to construction of local fishing vessels. The purpose of these measures has been to reduce the fishing pressure. The cause of loss and unattainable use of coastal and marine fisheries resources in Myanmar are correlated with a number of different aspects involving limited knowledge and understanding of different stake holders; capacity constraints; lack of environmental safeguards; undervaluation of resources; lack of comprehensive land-use policies and plans; gaps in legislation and weak enforcement; poverty and subsistence needs; lack of grassroots support for conservation; and global climate change. Myanmar does not already have a coastguard or similar force and responsibility for maritime security is currently shared between the Myanmar Navy and the Maritime Police. However, they cannot meet all the

demands being made upon them, including patrolling for illegal fishers in protected (e.g. marine parks) inshore and offshore areas. Hence, all stakeholders involved in managing coastal ecosystems are important, and networks of researchers, managers and clear legislation identifying the governing authority responsible for managing coastal and marine resources will be essential in the development and sustainable management of Myanmar's fisheries resources.

## Species included in this guide

This guide is designed as a practical tool for all fisheries workers within Myanmar, particularly those facing the daily task of collecting fisheries statistics and other data by species on landing points, fish markets, fish in transit, and on board commercial and research vessels. It is also aimed at creating taxonomic interest among fisheries students so as to improve the number of taxonomists in the country.

The guide is based principally on original data collected from three trawl surveys (2013, 2015 and 2018) by the R/V. *Dr. Fridtjof Nansen* covering EEZ of Myanmar and includes those marine and brackish-water species of stomatopods, shrimps, lobsters, crabs, bivalves, gastropods, brachiopods, sea cucumbers, cephalopods, sharks, batoids and bony fishes considered to be regular components (with few exceptions) of the catches along Myanmar's coast. The guide well covers species occurring on trawling grounds of the continental shelf and upper slope down to about 500 m depth. The coverage of species occurring in shallow water habitats (mangroves, coral reefs, seagrass beds, mud- and sandflats) and coral reef fishes is more limited and the reader is referred to Holmes *et al*., 2014, Allen and Erdman (2012) and Russell (2016) for a more exhaustive treatment of the species occurring in these habitats.

Included in the guide are 15 fish species new to science (see Appendix 1) discovered on the 2015 Myanmar survey as well as a number of first geographical records of fish and macroinvertebrate species for the Myanmar waters, for the Eastern Indian Ocean (e.g. *Penaeus pulchricaudatus, Uroteuthis machelae, Hoplostethus druzhinini*, *Lepidotrigla omanensis*, *Nuchequula longicornis*) and for the Indian Ocean as a whole (e.g. *Chrionema chryseres, Decodon pacificus*). A number of undescribed and possibly undescribed fish species (see Appendix 2) collected during the surveys (2015 and 2018) are included in the guide with an asterisk (*) following the scientific name. Given the uncertain taxonomy of the fish fauna in the region, some species (e.g. *Echinorhinus brucus, Benthobatis yangi, Hydrolagus africanus, Scoliodon laticaudus, Neoscopelus microchir, Synodus randalli, Erisphex aniarus*) are included with the qualifier "cf" preceding the specific name. Those species included in the guide on the basis of photographic record (e.g. *Cephaloscyllium silasi, Mustelus mosis, Paranibea semiluctuosa, Ammodytoides xanthops, Trichonotus setiger*) also have a "cf" qualifier preceding the specific name. Some fish species such as *Pogonoperca punctata* (Serranidae), *Apogon hyalosoma* (Apogonidae) *Apogonichthyoides miniatus* (Apogonidae), *Rhabdamia gracilis* (Apogonidae) *Siphamia tubifer* (Apogonidae), *Pomadasys guoraca* (Haemulidae) *Rhinomugil corsula* (Mugilidae), *Brachirus orientalis* (Soleidae), *Stolephorus baweanensis* (Engraulidae), *Laeops clarus* (Bothidae) were not included because they were recorded when the formatting of the guide was already in its final phase.

The discovery of so many new species and putative new species is not surprising giving the limited knowledge of the marine fish fauna in Myanmar and the uncertain taxonomy of many groups in the region. It is interesting to note that many new and possibly undescribed species were found nearby mesophotic coral ecosystems (30–150 m depth), which are poorly-known deeper extensions of coral-reefs.

If a species not included in the guide is found, the user can follow the instructions here provided regarding its fixation and storage and/or contact the EAF-Nansen and/or FishFinder Programmes.

## Open nomenclature

A range of open nomenclature qualifiers were adopted in this guide in order to include numerous taxa (including undescribed and possibly undescribed species) that could not be securely identified. The meaning of the qualifiers used in this guide are as follows: **aff.** between the generic name and species name indicates that the specimen is thought to belong to a distinct species closely related to the named species; while **cf.** in the same position means "compare to" and indicates that the identity of the specimen is uncertain but it possibly corresponds to the named species. The qualifier **sp.** following a generic name indicates that the specimen belongs to the indicated genus but (to the best of the author/s knowledge) it does not conform to any available valid species. Taxa with **aff.**, **cf.** and **sp.** qualifiers included in the guide are always accompanied by a statement in the remark section to clarify their taxonomic status.

The definition (limits) of a given taxa are not always fully agreed upon systematists. Thus sometimes the concepts of sensu lato (s.l.) and sensu stricto (s.s.) are used. When **s.l.** follows the name of a taxa it means that the name is being used in a less-restricted interpretation of what the taxa holds; while **s.s**. indicates that the name is being used in the stricter interpretation of what the taxa holds.

## Preservation of specimens

Preserved fish specimens are central to documenting and describing global biodiversity over time. Worldwide, museum and university collections provide irreplaceable resources and have an enduring role in taxonomic, ecological, biogeographical and evolutionary studies. It is therefore important that the correct preservation procedures be followed to ensure the quality and longevity of preserved fish specimens.

Specimens should be rinsed in water to clean off any mud or sand. Then, if possible, they should be immediately placed in 10 percent formalin solution upon capture (this is made by combining 1 part full strength formalin with 9 parts clean water). Fish specimens should be fixed in a natural posture, with the body straightened and

mouth closed prior to fixation. The specimens should be placed head first into a wide-mouthed jar filled with enough formalin solution to cover the fish. Before fixing specimens larger than about 15–20 cm it is advisable to inject formalin into the body cavity (through the vent) or to make a lateral incision on the right side of the belly to allow the fixative into the body cavity. This is particularly important with large herbivorous fishes, as their guts will rapidly deteriorate.

Formalin is the best available fixative and is widely available from pharmacies worldwide. However, it contains formaldehyde, a hazardous chemical, so it is highly toxic and its fumes should not be inhaled. Rubber gloves should be worn while using formalin or handling formalin-fixed specimens. If you get formalin on your skin or in your eyes wash it off with large amounts of water. Always use formalin outdoors or in a well-ventilated area. Specimens usually have to be left in formalin to be fixed for a week or slightly more if larger than 10 cm. For long term storage it is desirable to transfer the specimen to 70% ethyl alcohol solution (70% ethanol, 30% water) after the fish is fully fixed in formalin. But first, the fixed specimen should be soaked for a day or two in clean freshwater and go through distinct ethanol washes (10% ethanol for two days, 50% ethanol for two days) before being transferred to 70% ethanol for long-term preservation (R. Bills pers. comm). Ethanol is usually safe to handle, but can cause irritation to the skin in cases of prolonged contact and is highly flammable. Always rinse hands thoroughly with water after working with alcohol. Industrial ethanol is toxic and should never be drunk. Receptacles containing ethanol should always be properly and clearly labelled. Ethanol is prone to rapid evaporation, and receptacles holding it should be securely covered at all times, and not be opened unnecessarily (Stiassny, 2015).

## Photography

Unfortunately colours fade rapidly in preservative, Therefore photography is a valuable method of accurately recording the colour pattern. The following steps will ensure the photos are of good diagnostic quality: 1) the specimen should be photographed when fresh as live colours fade quickly after death; 2) the fins should be spread out and pinned in erected position with sewing pins on a piece of flat styrofoam or cardboard; a small amount of formalin should then be applied to the fins with a small paintbrush and allowed to set for a few minutes before the pins are removed; 3) wet fish should be blotted dry with a cloth or paper to prevent annoying glare when photographed; 4) the specimen should be photographed on its left side from straight above (i.e. camera perpendicular to the fish), on a suitable contrasting background and with the fins fully erected; 5) a ruler or some other object of known length should be placed besides the fish when it is photographed; 6) flatfishes and batoids should always be photographed in dorsal and ventral views; 7) close-up photos of important diagnostic features (e.g. rostral ridges and inner part of pectoral fin in Triglidae, shape of esca in Antennariidae, palatal tooth patches in Ariidae, light organ in *Physiculus* (Moridae), upper and lower teeth in sharks) should be taken when possible.

## Collection of tissue for genetic analysis

In association with "classical" morphological studies, molecular tools have been shown to be particularly useful in distinguishing between species, and identifying species complexes, but also to define higher categories and relationships of taxa in phylogenetic studies. DNA tools are also used to identify appropriate stock boundaries and, along with chromatophore patterns, to identify early life history stages such as juvenile and fish larvae. **Formalin-preserved specimens cannot be used for genetic analysis due to degradation of nucleic acids in these specimens.** Only fresh/frozen or ethanol-preserved specimens can be used for genetic analysis.

**Procedure**

- Make sure to wash your hands between handling fish. The scissors, scalpel and forceps must also be cleaned thoroughly of any possible DNA between each sample. This is done by plunging the instruments exposed to the previous sample of DNA (or tissue) into high concentration ethanol.
- Cut a small piece of fin tissue from the pelvic (preferred) or pectoral fins using a clean scalpel or scissors. Alternatively, a muscle plug can be taken from the caudal peduncle below the lateral line. Fin clips and tissue sample should be removed from only the right side of the fish. **Do not damage the left side of the fish as this side is used for morphological studies.**
- Tissue size should be at a minimum 5 $mm^2$, which is about the size of a green pea.
- Each tissue sample should be placed into a small plastic vial containing 95% ethanol. The vial can be kept at room temperature. It is very important that tissue samples be completely immersed and not exposed to air (vial should be filled to the top).
- A minimum 10:1 ratio of preservative to tissue is desired.
- Each vial must be labelled with a permanent marker. Ensure that the following information be included on each label: sample number, collection date, and species.
- The sample number leads back to other useful information recorded on the data sheets, e.g. locality, collector(s) name, type of collection (e.g. fin clip), fish length and sex, etc.
- Samples must be kept out of extreme sun/heat as this may damage the DNA.

## Packing specimens*

The specimens fixed in formalin can be sent to museums/ scientific institutions under Special Provision A180 (SP A180) of the IATA Dangerous Goods Regulations. As

*by A. Graham (Australian National Fish Collection)

so, the specimens need to be packed according to the following rules of SP A180:

- Remove the specimens from the formalin. If possible, wash the specimens in freshwater so that there is no excess formalin on the specimens. If you can soak the specimens in freshwater for 30 minutes that would be great. If you cannot soak the specimens, then washing with water is sufficient.
- Wrap each specimen in cloth (muslin or similar) moistened with freshwater. Please use clean white cloth only. Do not use coloured cloth, as the colour may stain the specimens. Some of the specimens can be wrapped together, if this is easier for you. The specimens do not need to be wrapped/packed straight or flat. They can be wrapped/packed slightly bent or curved. This may assist when placing the specimens inside the transport container.
- Place each of the wrapped specimens inside four strong plastic bags. If you do not have a plastic bag sealer, then either tie a knot in each plastic bag or twist closed the top of each bag and secure it with a rubber band or string. Some of the specimens wrapped in the cloth can be placed together in the plastic bags. The aim is to pack the specimens so that there is no chance of fluid leakage during transport. IATA Dangerous Goods SP A180 requires some absorbent material (cloth or towel is ok) to be placed inside the plastic bags to soak-up any possible leaking fluid. Place the absorbent material between the second and third plastic bags.
- Place the plastic bags containing the wrapped specimens inside a plastic drum/barrel. A drum with a locking metal ring-clamp is very good as once the ring-clamp is locked in place there is no chance that the drum lid can fall off during transport. The drum needs to be just large enough to fit the specimens. If you cannot find a drum, then a strong cardboard box can be used. If you use a box, do not pack too much weight (no more than 10–15 kg) into the box, as the weight of the specimens may cause the box to fall apart during transport. It is better to use more than one box to ship the specimens, than to overload a single box.
- Empty space in the drum (or box) can be filled with bubble-wrap plastic or polystyrene foam pieces. The extra packing (bubble-wrap plastic or polystyrene foam pieces) will stop the specimens moving around inside the drum (or box). The extra packing may not be required if the specimens in the plastic bags actually fill the drum.
- It is also a requirement of SP A180 that the container is marked "scientific research specimens, not restricted Special Provision A180 applies". This description should also be included on the Air Waybill.

Before the specimens can be sent, please check paperwork required by the recipient's country Customs and/or Quarantine officials. Some countries (e.g. Australia) are strict regarding the documentation sent with the specimens. Incomplete documentation can delay a shipment on its arrival to these countries. A Customs and Quarantine Declaration for the specimens must be completed for some countries (e.g. Australia).

## Presentation and format

The authors' goal was to produce a compact and easily manageable guide that would be within reach of fishery workers at all levels. Consequently, the guide had to be kept as simple as possible (e.g. Arabic numerals used both for spinous and soft ray fin counts) and based largely on illustrations, while the text was kept as succinct as possible. This obviously implies certain limitations of the guide for an accurate identification of all species. It is therefore recommended, in the case of any doubt, that the regional sets of FAO Species Identification sheets for the Western Central Pacific (Carpenter and Niem, 1999–2001) and/or the taxonomic literature cited in this guide be consulted, being more comprehensive in species coverage and giving a much more detailed account of the diagnostic characters of each species.

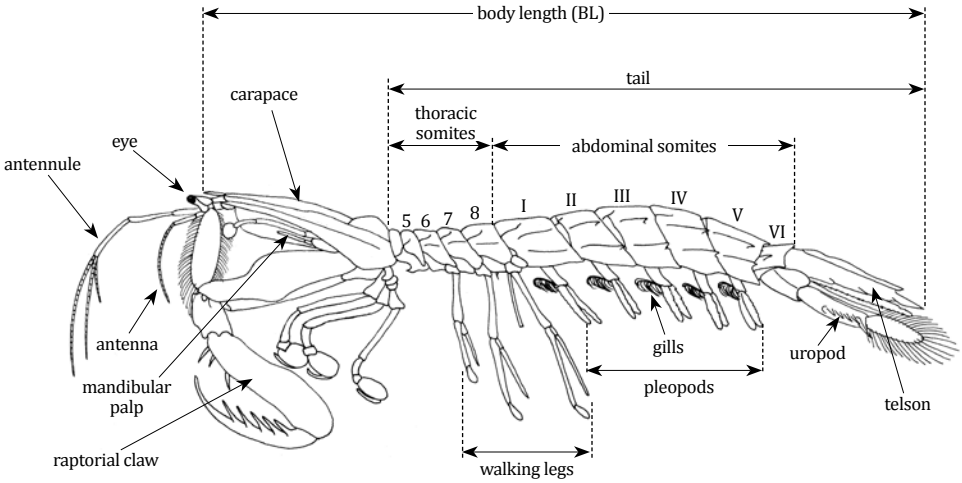
Each of the major taxonomic groups is introduced by a schematic illustration of the main body parts of a typical representative species and some measurements and technical terms of general use to fishery workers. A guide to the higher taxonomic categories, "Guide to Orders/Suborders and Families" arranged in phylogenetic (systematic) order is also included. Size information included in this section refers to the largest member species of a given family occurring in Myanmar's waters. The first thing the user should do when a specimen is caught is to determine to which higher taxonomic category it belongs, and then follow the page number to reach the family within the "Guide to Species". The diagram representing the family can, in most cases, help with identification through its generalized shape, but particular care should be paid to examination of the characters. Once the family has been identified, the species can be determined by looking at all the species accounts. Users are strongly advised not to rely exclusively on colour plates for species identification. The arrangement of species within a family is alphabetical by genus and species. Text for each species includes information on names: scientific names; FAO names in English (En) and French (Fr) (where available) and local names. The local names included are those gathered by the local authors over time in the course of their field work. It is hoped that other local names will be added directly on the sheets by users and communicated to fisheries offices or FAO. Maximum size for each species is expressed as total length (TL), fork length (FL), standard length (SL), disc width (DW) (only for batoids), body length (BL) (only for shrimps, prawns and lobsters), carapace width (CW) (only for crabs), and mantle length (ML) (only for cephalopods). Moreover, information on diagnostic features, colour pattern (including sexual dimorphism and ontogenetic changes), catch methods and habitat is provided. A remarks section mostly with taxonomic and nomenclature comments is included where necessary.

Colour plates for a large number of species consisting almost exclusively of specimens from Myanmar's waters are included at the end of the guide.

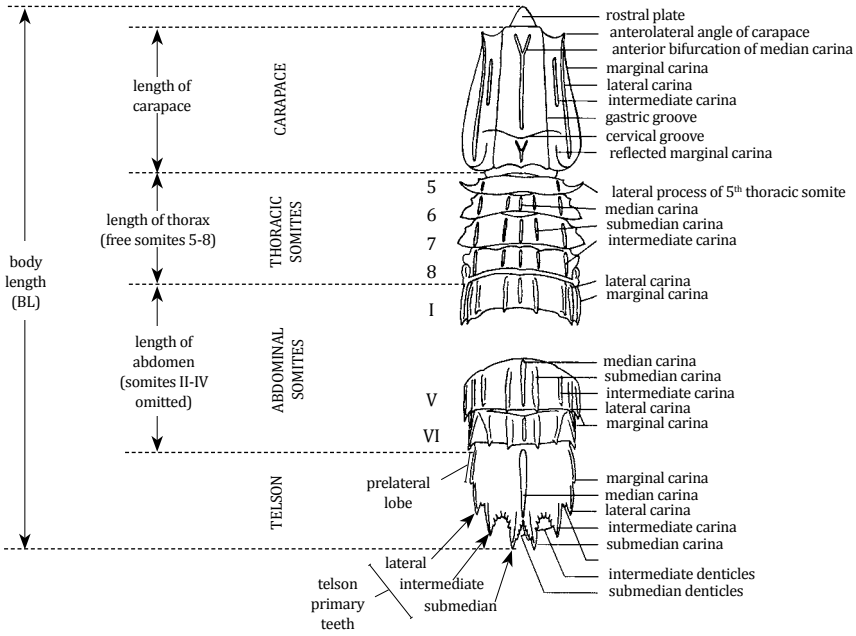
# STOMATOPODS

In Myanmar adult stomatopods are caught for local consumption and export. Juveniles are common bycatch in bottom trawl fishery especially along the Rakhine coast where they are dried and pounded for the preparation of animal feed. Eighteen species, belonging to three families are included in the guide.

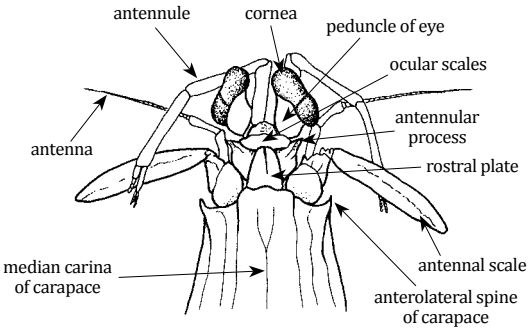
## TECHNICAL TERMS AND MEASUREMENTS



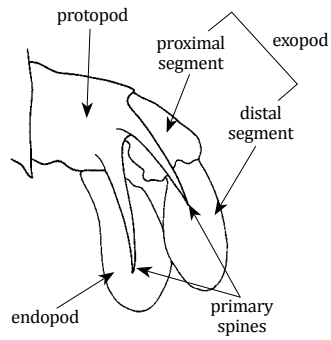

**lateral view of a stomatopod (mantis shrimp)**



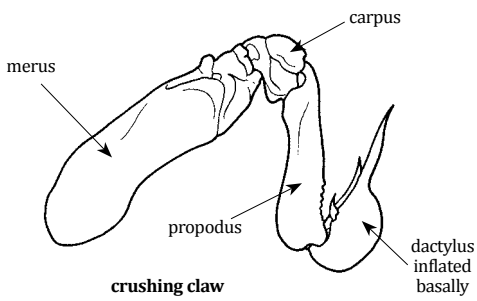

**dorsal view (without eyes and appendages)**



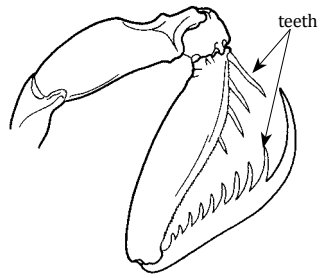

**anterior part of body (dorsal view)**




**left uropod (ventral view)**




**crushing claw**




**spearing claw**

**basic types of raptorial claw**

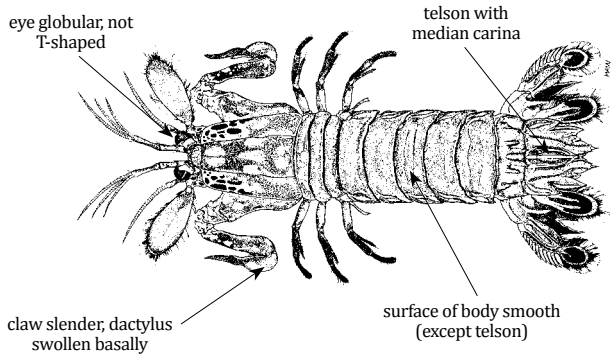
# GUIDE TO FAMILIES

## ODONTODACTYLIDAE

Page 14

**Odontodactylid mantis shrimps**

To about 17 cm (BL). Marine. Three species of interest to fisheries are included in the Guide to Species.

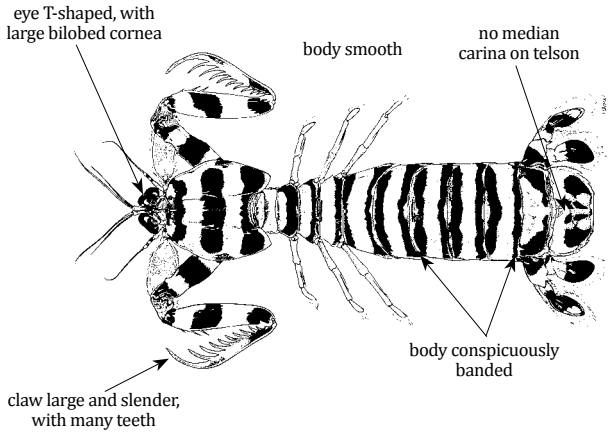



## LYSIOSQUILLIDAE

Page 15

**Banded mantis shrimps**

To about 38 cm (BL). Marine. One species of interest to fisheries is included in the Guide to Species.

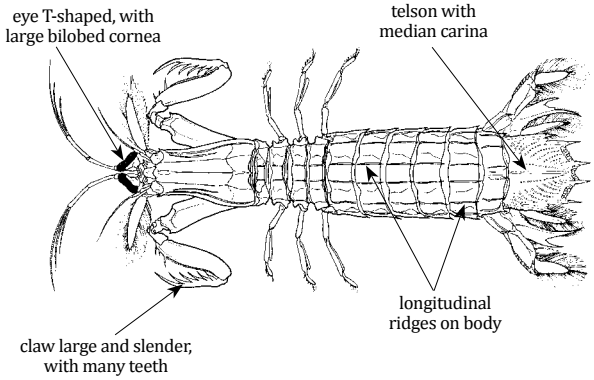



## SQUILLIDAE

Page 16

**Squillid mantis shrimps**

To more than 33 cm (BL). Marine and estuarine. Fourteen species of potential interest to fisheries are included in the Guide to Species.



# ODONTODACTYLIDAE

Odontodactylid mantis shrimps

## *Odontodactylus cultrifer* (White, 1851)

**FAO names:** Pastel odontodactylid mantis shrimp (En)

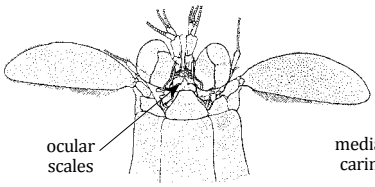
**Local name(s):** Yaung Sone Kin Puzun, Pa Kann.

**Habitat:** Burrows in level sandy-mud bottoms from 7 to 51 m depth.

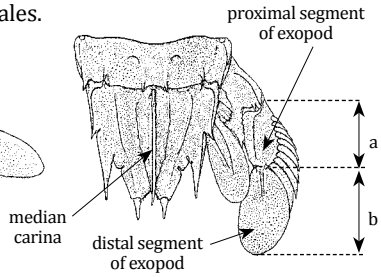
**Fisheries:** Bottom trawls.

**Distinctive Characters:** Ocular scales separated by distinct U-shaped cavity; raptorial claw dactylus with 2–3 small teeth on inner margin; distal segment (b) of uropodal exopod equal to or greater than 1.5 times length of proximal segment (a); telson dorsal surface with distinct high, thin median carina and 2 longitudinal carinae either side of midline.

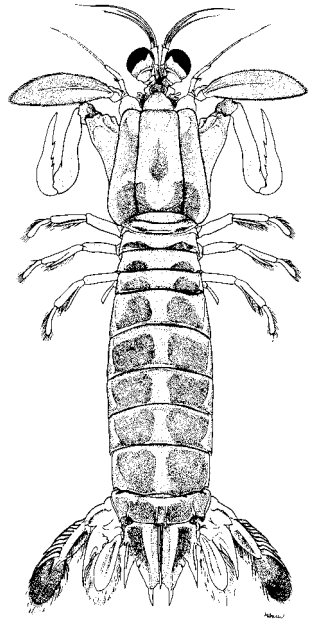
**Colour:** Colour primarily in pastels with pink or purple uropods and antennal scales.




**anterior part of body (dorsal view)**




**VI abdominal somite, telson and right uropod (dorsal view)**



**Size:** To about 12.5 cm (BL)

## *Odontodactylus japonicus* (De Haan, 1844)

**FAO names:** Japanese odontodactylid mantis shrimp (En)

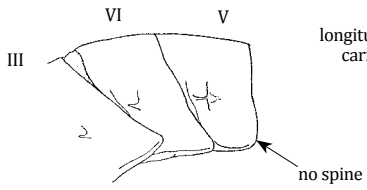
**Local name(s):** Japan Kin Puzun, Pa Kann.

**Habitat:** Burrows in sandy or shelly bottoms from 30-82 m depth.

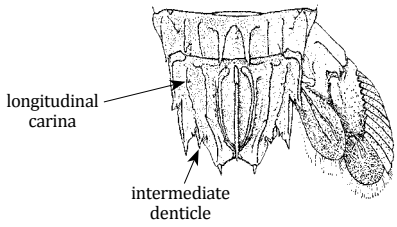
**Fisheries:** Bottom trawls.

**Distinctive Characters:** Ocular scales appressed medially; raptorial claw dactylus with 5 or more small teeth on inner margin; 5th abdominal somite without spine posterolaterally in adults; telson with longitudinal carina extending anteriorly from inner intermediate denticle.

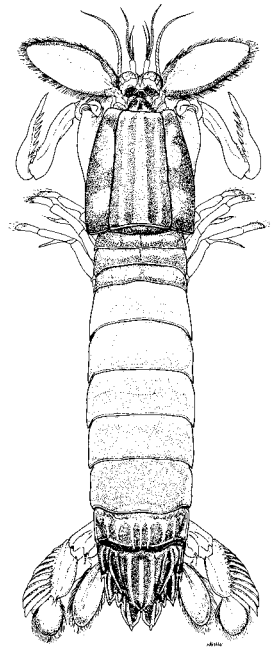
**Colour:** Overall salmon pink to pale grey-green with pink-purple antennal scales. Uropods pastel yellow; exopod distal segment often purplish.




**abdominal somites III–V (lateral view)**




**VI abdominal somite, telson and right uropod (dorsal view)**

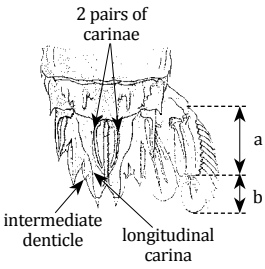


**Size:** To 19 cm (BL)

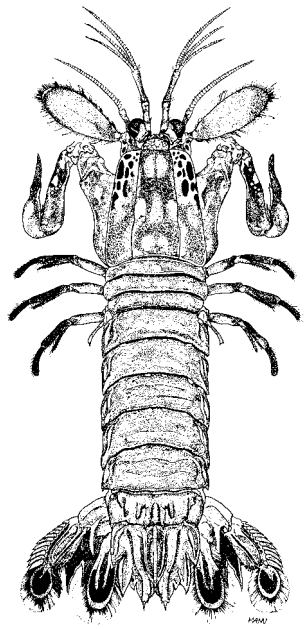
***Odontodactylus scyllarus*** (Linnaeus, 1758)

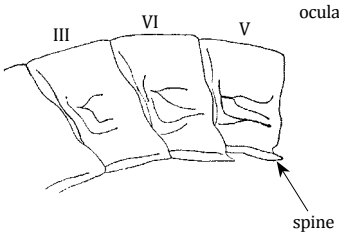
**FAO names:** Reef odontodactylid mantis shrimp (En)

**Local name(s):** Kyauk Tan Kin Puzun, Pa Kann.
**Habitat:** Lives in existing burrows in shallow rough bottom habitats, often on or near coral reefs to a depth of 30 m.
**Fisheries:** Collected primarily by hand.
**Distinctive Characters:** Ocular scales appressed medially; raptorial claw dactylus with 2–3 small teeth on inner margin; proximal segment (a) of uropodal exopod longer than distal (b); ocular scales fused in midline; telson with 2 pairs of carinae converging under apex of median carina; 5th abdominal somite with posterolateral spine.
**Colour:** One of the most brightly coloured stomatopods, with deep blue uropods and those and other appendages lined with bright red setae.

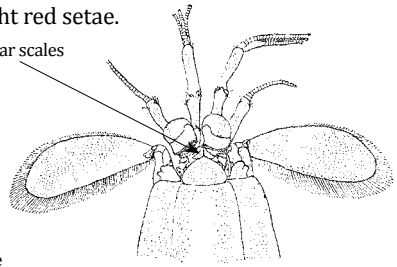


**VI abdominal somite, telson and right uropod (dorsal view)**





**abdominal somites III-V (lateral view)**



**anterior part of body (dorsal view)**

**Size:** To 17 cm (BL)

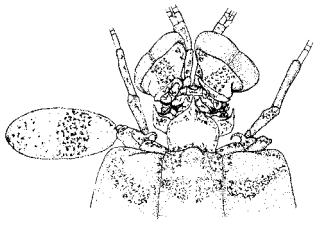
## LYSIOSQUILLIDAE

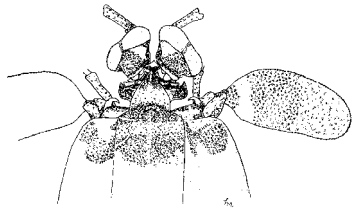
Banded mantis shrimps

***Lysiosquillina maculata*** (Fabricius, 1793)

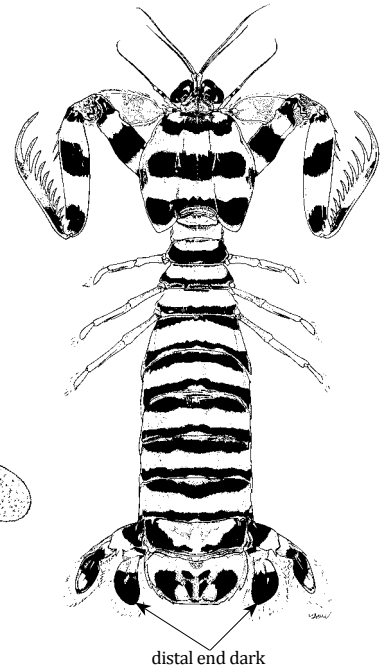
**FAO names:** Zebra mantis shrimp (En)

**Local name(s):** Thar Man Kin, Pa Kann.
**Habitat:** Burrows in level bottoms near shore.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Dactylus of raptorial claw with 10 or 11 teeth (usually less in adult females); distal end of uropodal endopod dark.
**Colour:** Distinctly banded with alternate light and dark bands.


**male**


**female**

**anterior part of body (dorsal view)**




**Size:** To 38 cm (BL)

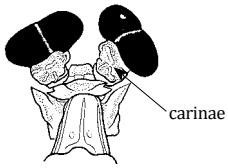
# SQUILLIDAE

Squillid mantis shrimps

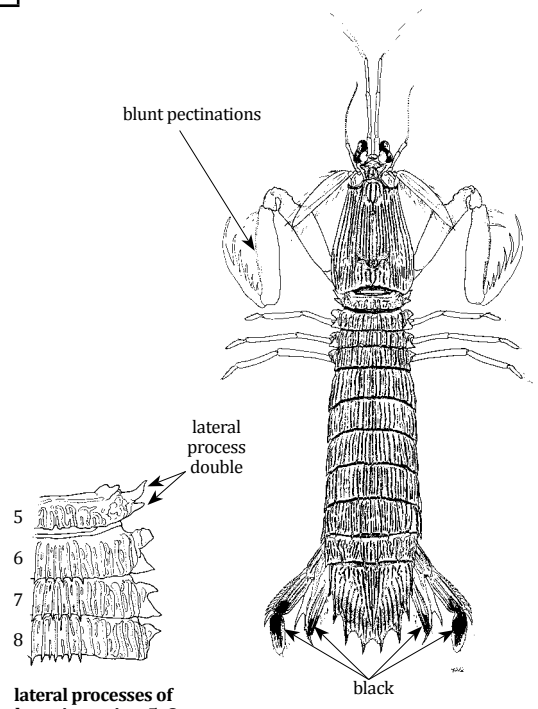
## *Carinosquilla spinosa* Ahyong & Naiyanetr, 2002

**FAO names:** Spinous mantis shrimp (En)

**Local name(s):** A Seik Shi Kin Puzun, Pa Kann.
**Habitat:** Burrows in sandy-mud bottoms from 30 to 40 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lateral process of 5th thoracic somite bilobed, with an anteriorly-directed spine and a shorter, laterally-directed lobe; eyestalk with short, irregular carinae; dorsal surface of carapace, thorax and abdomen completely covered with longitudinal carinae; submedian carinae of 6th to 8th thoracic somites and 1st to 4th abdominal somites ending in spines; raptorial claw dactylus with 6 teeth.
**Colour:** Overall pale grey-brown with dark brown grooves on body; primary teeth of telson and terminal spines of uropodal protopod and outer spines of uropodal exopod red.




**eyes (dorsal view)**



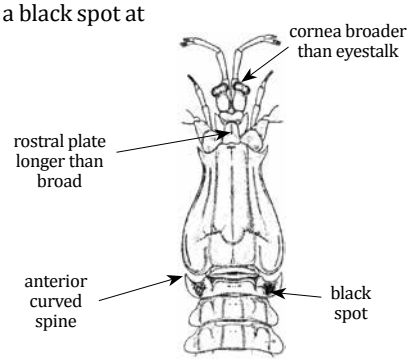

**lateral processes of thoracic somites 5–8**

**Size:** To 11.1 cm (BL)

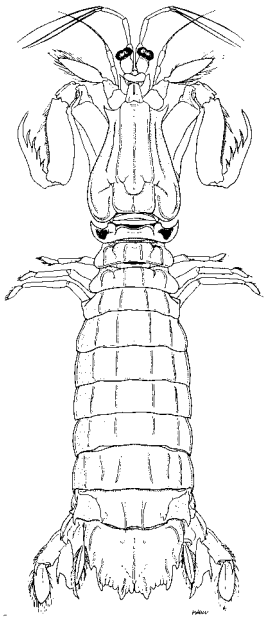
## *Cloridopsis scorpio* (Latreille, 1828)

**FAO names:** Black-spotted mantis shrimp (En)

**Local name(s):** Kin Puzun A Mae Set, Pa Kann.
**Habitat:** Littoral and sublittoral estuarine habitats.
**Fisheries:**
**Distinctive Characters:** Lateral process of 5th thoracic somite a broad, anteriorly-curved spine; propodus of raptorial claw lined with pectinations on occlusal margin; telson lacking longitudinal carinae on surface; rostral plate longer than broad; raptorial claw dactylus with 5 teeth.
**Colour:** Dorsal surface grey-brown with orange-red carinae; 5th thoracic somite with a black spot at base of lateral process.




**anterior part of body (dorsal view)**

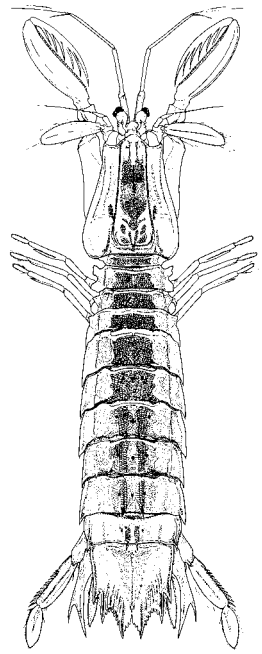


**Size:** To 9 cm (BL)

## *Dictyosquilla foveolata* (Wood-Mason, 1895)

**FAO names:** Reticulated mantis shrimp (En)

**Local name(s):** Pike Kwet Kin Puzun, Pa Kann.
**Habitat:** Muddy bottoms to a depth of 50 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lateral process of 5th thoracic somite bilobed, comprising a laterally and anterolaterally directed spine; dorsal surface of carapace, thorax and abdomen covered with mesh-like reticulated carinae; propodus of raptorial claw lined with pectinations on occlusal margin; lateral process of 6th thoracic somite bilobed and broadly rounded; raptorial claw dactylus with 6 teeth; cornea slightly narrower than eyestalk.
**Colour:** Dorsal side of body and tail greyish brown.

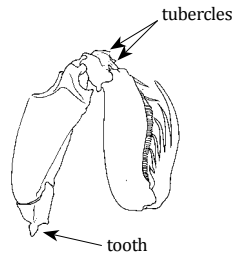


**Size:** To 10.5 cm (BL)

## *Erugosquilla woodmasoni* (Kemp, 1911)

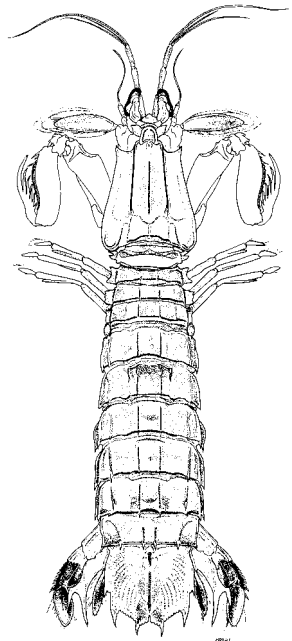
**FAO names:** Smooth squillid mantis shrimp (En)

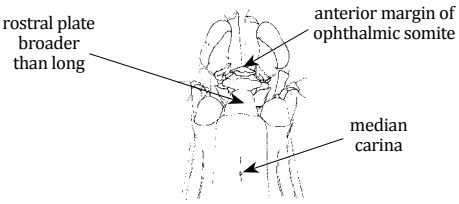
**Local name(s):** Kin Puzun Lone Chaw, Pa Kann.
**Habitat:** A shallow water species inhabiting burrows on level sandy-mud bottoms to a depth of 50 m.
**Fisheries:** Bottow trawls.
**Distinctive Characters:** Lateral process of 5th thoracic somite bilobed, with an anteriorly-directed spine and a shorter, laterally-directed lobe; dorsal surface of carapace smooth, shiny, lacking any trace of an anterior bifurcation on the median carina; dorsal surface of telson lacking a line of tubercles on each side of median carina; anterior margin of ophthalmic somite broadly rounded, with median point; raptorial claw dactylus with 6 teeth; meral tooth and tubercles on the carpus of the claw.
**Colour:** Dorsal side of body pale grey-green (abdominal somites mottled to banded in some specimens); uropodal exopods blue.



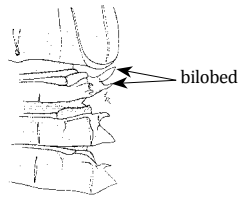

**right raptorial claw (lateral view)**

(from Ahyong *et al.*, 2008)






**anterior part of body (dorsal view)**




**lateral processes of thoracic somites 5–7**

**Size:** To 15 cm (BL)

## *Harpiosquilla annandalei* (Kempt, 1911)

**FAO names:** Annandale's harpiosquillid mantis shrimp (En)

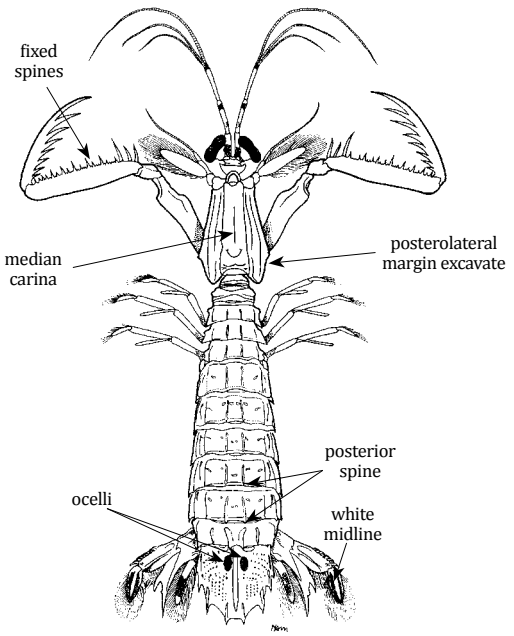
**Local name(s):** A Nanda Kin Puzun, Pa Kann.

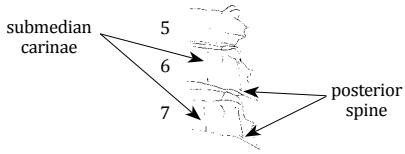
**Habitat:** Silty-sand substrates from 15 to 206 m depth.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Carapace posterolateral margin deeply excavated and propodus of raptorial claw lined with fixed spines (true of all *Harpiosquilla*); carapace with median carina; thoracic somites 6–8 with distinct submedian carinae; intermediate carinae of thoracic somites with posterior spine; submedian carinae of 5th and 6th abdominal somites with posterior spine; raptorial claw dactylus with 8 teeth.

**Colour:** Small black points (chromatophores) scattered over a pale grey dorsal surface; grooves and carinae on body dark brown; distal segment of uropodal exopod black with white midline; telson with a pair of dark ocelli on a pale outline.




**lateral processes of thoracic somites 5–7**

**Size:** To 13.7 cm (BL)

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## *Harpiosquilla harpax* (De Haan, 1844)

**FAO names:** Robber harpiosquillid mantis shrimp (En)

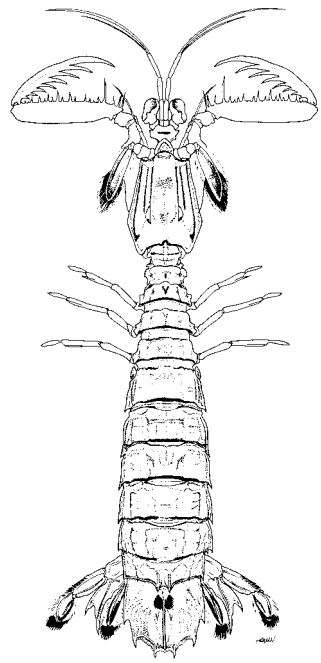
**Local name(s):** Da Pya Kin Puzun, Pa Kann.

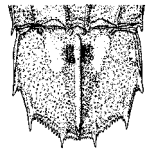
**Habitat:** Inhabits level sandy-mud bottom, near the shore to depths of about 70 m.

**Fisheries:** Bottom trawls.

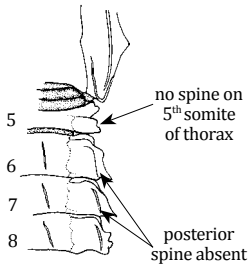
**Distinctive Characters:** Rostral plate triangular with anterior projection; carapace with median carina; thoracic somites 6–8 with intermediate carinae unarmed posteriorly; abdominal somites 1–5 with indistinct submedian carinae; raptorial claw dactylus with 8 teeth.

**Colour:** Dorsal surface ligth grey-brown; grooves and carinae on carapace and posterior margin of abdominal somites black brown; telson with a pair of oval dark spots.

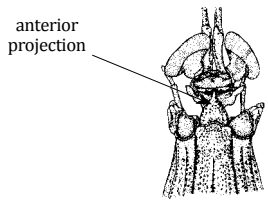




**telson (dorsal view)**




**lateral processes of thoracic somites 5-8**



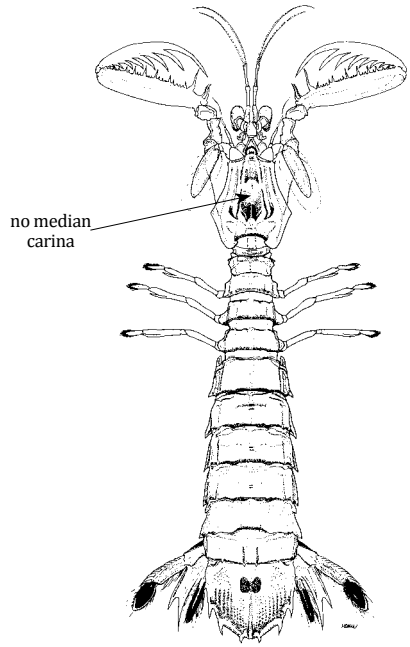

**anterior part of body (dorsal view)**

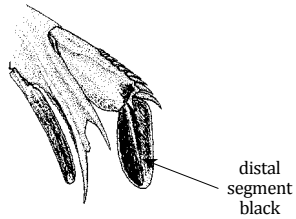
**Size:** To 26.2 cm (BL)

## *Harpiosquilla melanoura* Manning, 1969

**FAO names:** Black-tailed harpiosquillid mantis shrimp (En)

**Local name(s):** Hmee Net Kin Puzun, Pa Kann.
**Habitat:** Inhabits muddy-sand bottoms between depths of 10–80 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Carapace without median carina; thoracic and abdominal somites 1–5 without submedian carinae; raptorial claw dactylus with 8 teeth.
**Colour:** Dorsal surface dull tan brown; posterior margins of thoracic and abdominal somites black brown; telson with yellow primary teeth and a pair of oval red-maroon spots; distal segment of uropodal exopod entirely black.




**left uropod (dorsal view)**

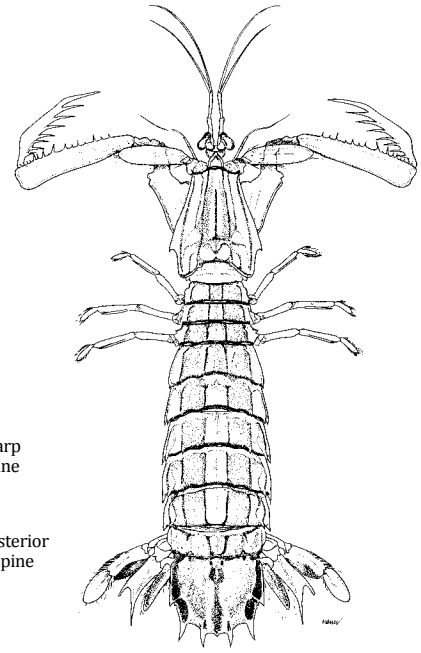
**Size:** To 16.8 cm (BL)

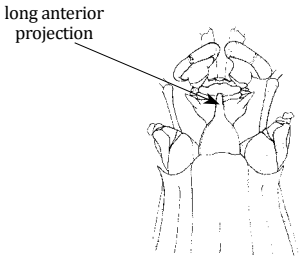
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## *Harpiosquilla raphidea* (Fabricius, 1798)

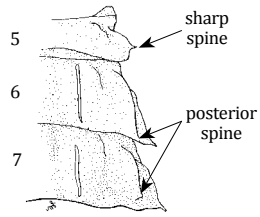
**FAO names:** Giant harpiosquillid mantis shrimp (En)

**Local name(s):** Kin Puzun Beluu, Pa Kann.
**Habitat:** Burrows in sandy mud, often estuarine, 2–51 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Carapace with median carina; intermediate carinae of thoracic somites 6–8 with posterior spine; submedian carina of 5th abdominal somite unarmed posteriorly; rostral plate with slender apical projection.
**Colour:** Distal segment of uropodal exopod dusky.






**anterior part of body (dorsal view)**



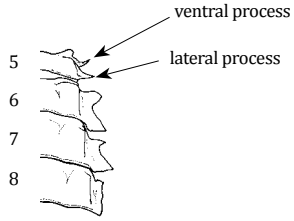

**lateral processes of thoracic somites 5-7**

**Size:** To 31 cm (BL)

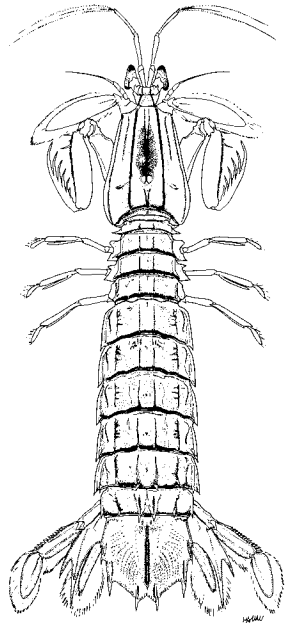
## ***Kempella stridulans*** (Wood-Mason, 1894)

**FAO names:** Kemp's plain mantis shrimp (En)

**Local name(s):** Kemp Kin Puzun, Pa Kann.
**Habitat:** Soft substrates from 122 to 432 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lateral process of 5th thoracic somite with a single, slender laterally-directed spine; lateral processes of 6th and 7th thoracic somites bilobed; rostral plate without median carina; raptorial claw dactylus with 6 teeth.
**Colour:** Dorsal surface light brown with carapace grooves, posterior margins of thoracic and abdominal somites dark brown; somites 2 and 3 same colour as other somites, without large dark brown patches; telson with pale orange carinae; uropod with orangish protopod and exopod margins.




**lateral processes of thoracic somites 5–8**



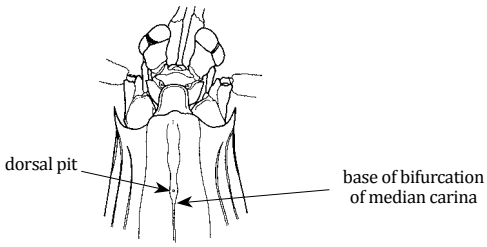
**Size:** To 13.5 cm (BL)

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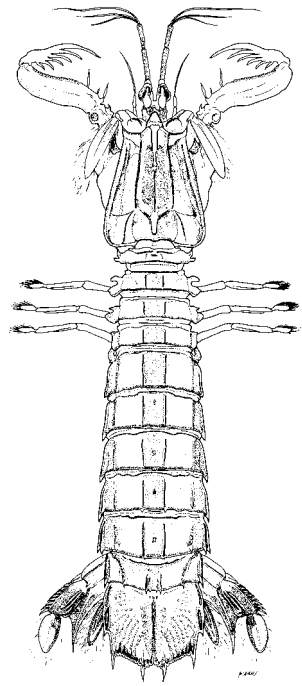
## ***Miyakella nepa*** (Latreille, 1828)

**FAO names:** Small-eyed squillid mantis shrimp (En)

**Local name(s):** Myet Lone Thae Kin Puzun, Pa Kann.
**Habitat:** Burrows in sand and mud level bottoms near the shore to less than 25 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lateral process of 5th to 7th thoracic somites bilobed; dorsal surface of carapace pitted or eroded; median carina of carapace bifurcates posterior to dorsal pit; 4th abdominal somite with submedian carinae usually armed posteriorly; raptorial claw dactylus with 6 teeth.
**Colour:** Dorsal surface olive grey-green; carinae and grooves on body dark green; uropodal protopod with pink terminal spines; uropodal exopod with distal segment dark blue-green distally and proximal segment yellowish.




**anterior part of body (dorsal view)**



**Size:** To 16.6 cm (BL)

## *Oratosquillina interrupta* (Kemp, 1911)

**FAO names:** Maroon-spot mantis shrimp (En)

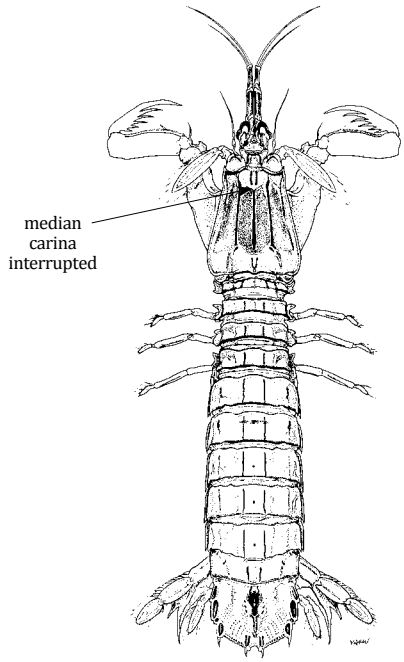
**Local name(s):** Maroon Kin Puzun, Pa Kann.

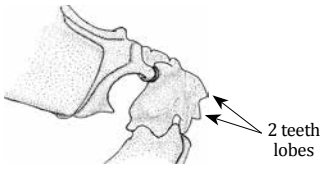
**Habitat:** Inhabits level sandy-mud bottom, near the shore to depths of about 25 m.

**Fisheries:** Bottom trawls.

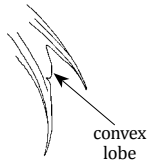
**Distinctive Characters:** Median carina of carapace interrupted at base of bifurcation; rostral plate without median carina; dorsal ridge on carpus of raptorial claw tuberculate; lobe between primary spines of uropodal protopod convex; 4th abdominal somite with submedian carinae unarmed posteriorly; raptorial claw dactylus with 6 teeth; mandibular palp present.

**Colour:** Dorsal surface pale olive green; posterior margins of thoracic and abdominal somites dark green; telson with red primary teeth and a single dark maroon spot proximally on median carina; uropodal exopod with yellowish distal segment on proximal third.




**carpus of right raptorial claw (dorsal view)**




**protopod of left uropod (ventral view)**

**Size:** To 16 cm (BL)

## *Oratosquillina nordica* Ahyong & Chan, 2008

**FAO names:** Northern five-toothed mantis shrimp (En)

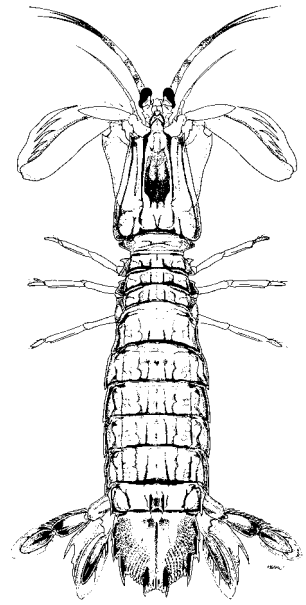
**Local name(s):** Thwar Lay Chaung Kin Puzun.

**Habitat:** Inhabits sandy-mud bottoms, near the shore to depths of about 70 m.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Lateral process of 5th thoracic somite bilobed, with posterior lobe of lateral process with blunt apex; median carina of carapace interrupted at base of bifurcation; raptorial claw dactylus with 5 teeth; mandibular palp present; abdominal somites 1–3 with lateral carinae unarmed posteriorly.

**Colour:** Dorsal surface light grey-brown, darker mid-dorsally; posterior margin of body somites red; telson with red primary teeth; uropodal exopod distal segment yellow with small black patch on inner part.



**Size:** To 13.1 cm (BL)

## *Oratosquillina perpensa* (Kemp, 1911)

**FAO names:** Common squillid mantis shrimp (En)

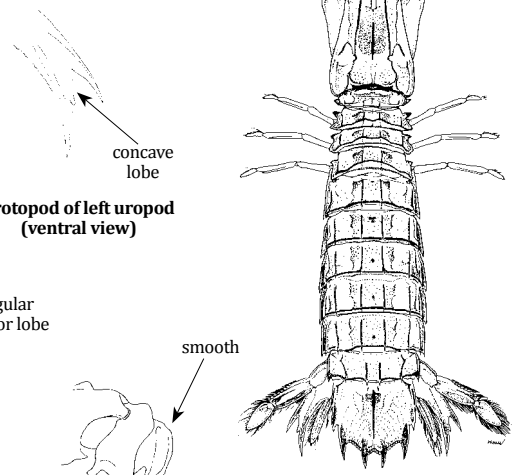
**Local name(s):** Thar Man Kin Puzun, Pa Kann.

**Habitat:** Occurs in sublittoral, sand and mud level-bottom habitats, in depths of 100 m or less.

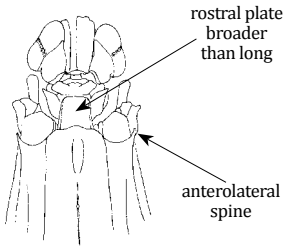
**Fisheries:** Bottom trawls.

**Distinctive Characters:** Raptorial claw dactylus with 6 teeth; mandibular palp present; rostral plate broader than long; anterolateral spines of carapace extending to or overreaching base of rostral plate; dorsal ridge on carpus of raptorial claw smooth, undivided; lobe between primary spines of uropodal protopod concave.

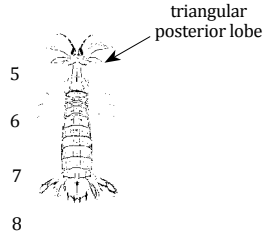
**Colour:** Body pale tan; telson with reddish primary teeth and a dark red proximal patch; uropodal exopod distal segment yellowish with black patch on inner half.



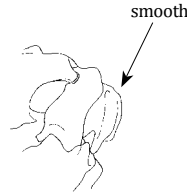

**protopod of left uropod (ventral view)**




**anterior part of body (dorsal view)**




**lateral processes of thoracic somites 5–8**




**carpus of right raptorial claw (dorsal view)**

**Size:** To 11.9 cm (BL)

## *Squilloides leptosquilla* (Brooks, 1886)

**FAO names:** Four-toothed mantis shrimp (En)

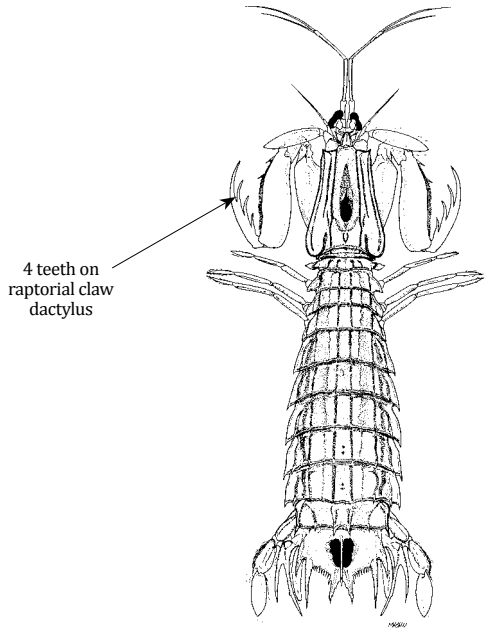
**Local name(s):** Thwar Lay Chaung Kin Puzun, Pa Kann.

**Habitat:** Inhabits soft bottoms between depths of 170–754 m.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Raptorial claw dactylus with 4 teeth; mandibular palp absent; carapace with anterolateral spines and intermediate carinae; abdominal somites 1–6 with submedian carinae; telson submedian teeth with fixed spines.

**Colour:** Dorsal surface pale orange with brown orange or reddish orange carinae; ventral surface white; merus of raptorial claw pale orange; carpus, propodus and dactylus white; a pair of red maroon patches on telson; uropods pale orange.

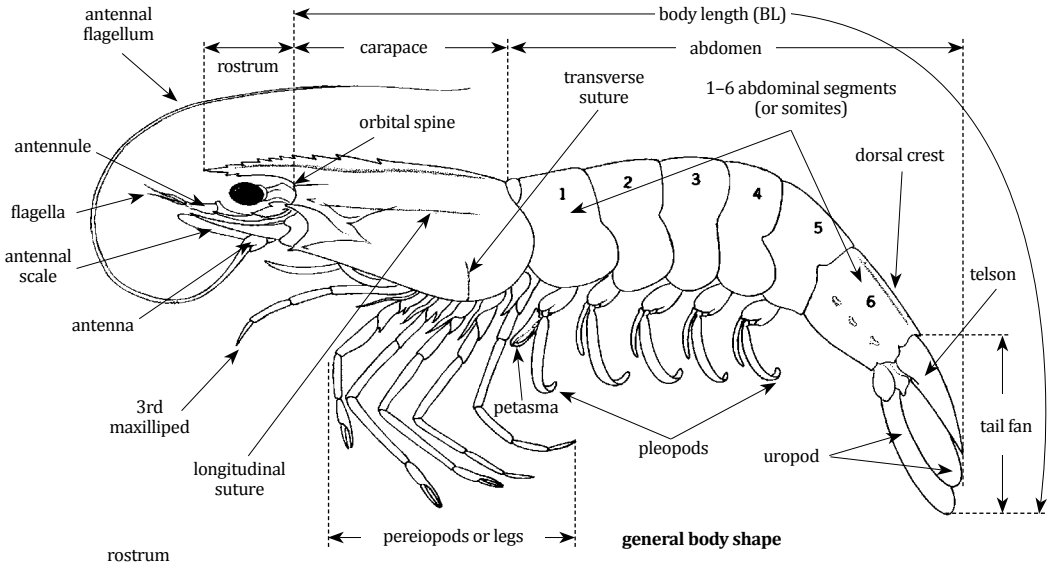



**Size:** To 11.8 cm (BL)

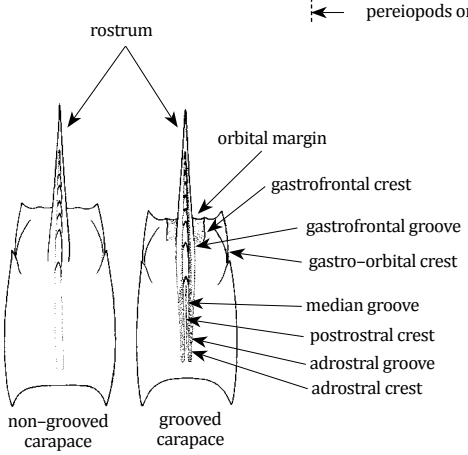
# SHRIMPS AND PRAWNS

In Myanmar, shrimps are caught and farmed for both local consumption and export. Artisanal fishermen catch shrimps by gillnets, push nets (*Acetes* spp.), bag nets, stake nets and traps, while commercial offshore fisheries use bottom trawls. Penaeidae are of great commercial value on the local and international market (except those of small size). Shrimps form the food of many fishes and play a major role in food relationships and ecology in both lagoons and the sea. A total of 54 species belonging to 2 suborders and 9 families are herein included.

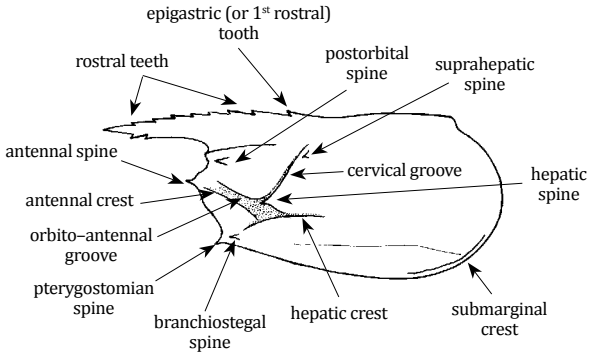
## TECHNICAL TERMS AND MEASUREMENTS



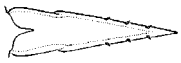

**general body shape**




**carapace (dorsal view)**



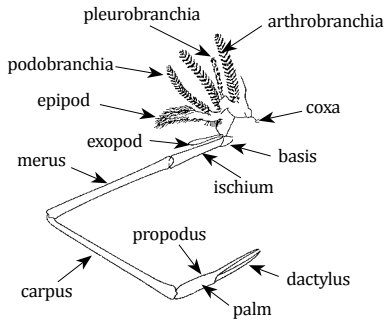

**carapace (lateral view)**



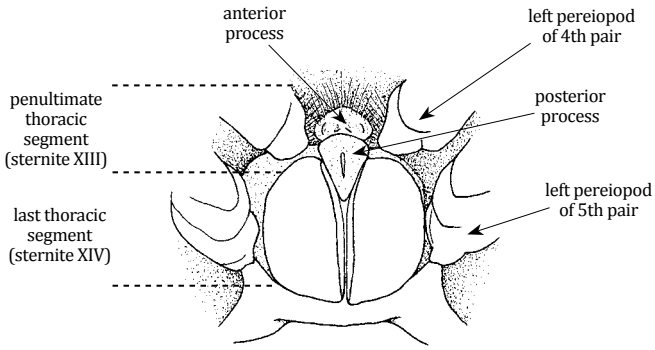
**telson with movable spines**

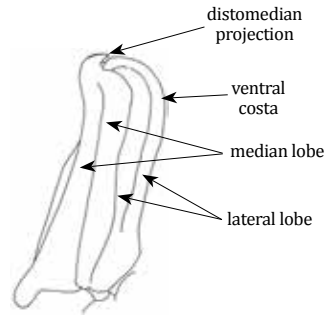


**telson without movable spines**

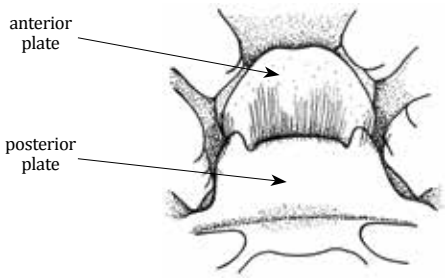


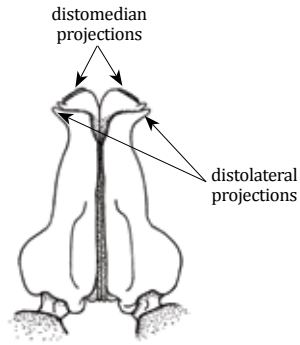

**pereiopod with branchiae**



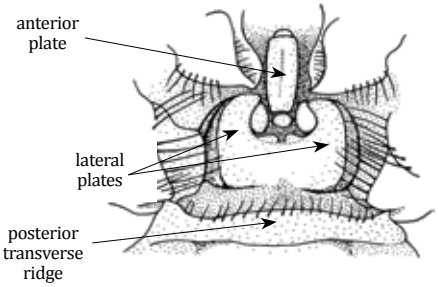



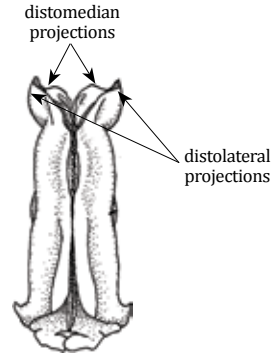

***Penaeus***



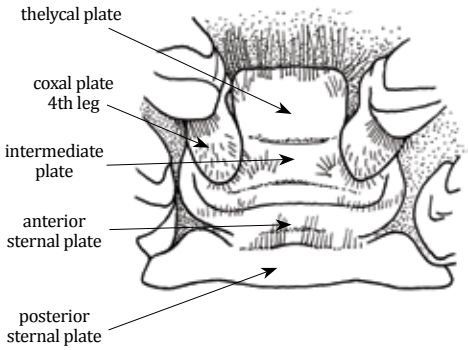




***Parapenaeopsis***

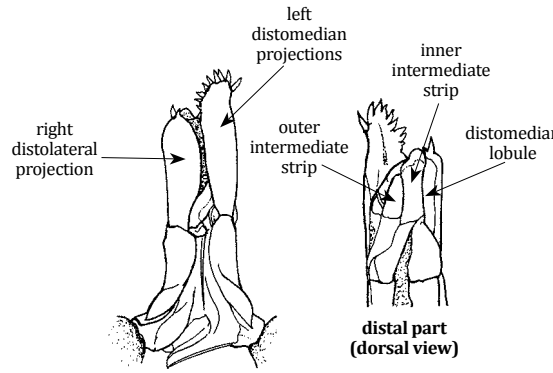



***Metapenaeus***




**basic types of thelycum of female penaeid shrimps (ventral view)**



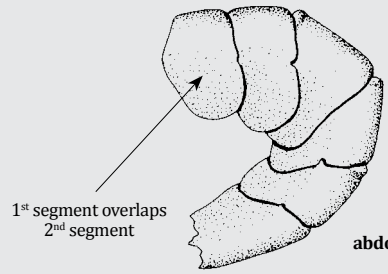

***Metapenaeopsis***

**basic types of petasma (joined endopods of 1st pair of pleopods) of male penaeid shrimps (ventral view - except otherwise stated)**

# GUIDE TO SUBORDERS AND FAMILIES

## Suborder DENDROBRANCHIATA
## Sergestoid and Penaeoid shrimps

Pleuron of second abdominal segment overlapping that of third segment only; pincer of first 3 pairs of pereiopods equal or sub-equal. Eggs not carried by the female.

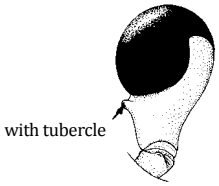


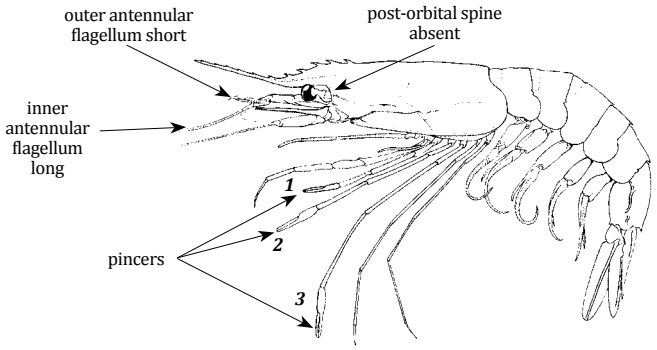

**ARISTEIDAE**

**Page 29**

**Aristeid shrimps**

To about 33.4 cm (BL). Marine, deep water; benthic. Five species of interest to fisheries are included in the Guide to Species.



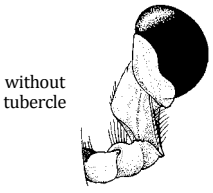



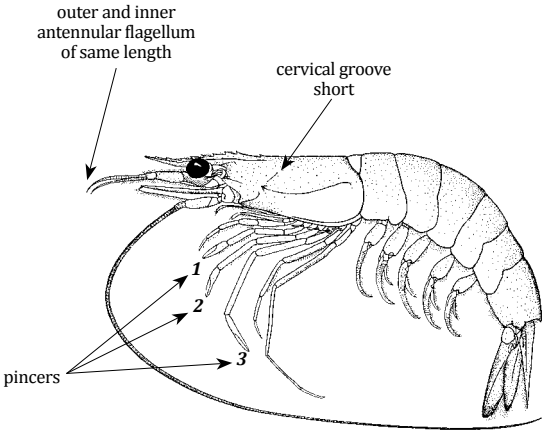

**PENAEIDAE**

**Page 31**

**Penaeid shrimps**

To about 27 cm (BL). Marine and estuarine, benthic. Thirty species of interest to fisheries are included in the Guide to Species. *Metapenaeopsis barbata* (De Haan, 1844) and *Metapenaeopsis menoui* Crosnier, 1991 although sampled during Nansen trawl surveys in Myanmar's waters are not included in the guide due to their minor commercial importance. The recently erected genera in *Penaeus* s.l. and *Parapenaeopsis* s.l. are indicated as subgenera here as these taxa have not been supported by phylogenetic studies.



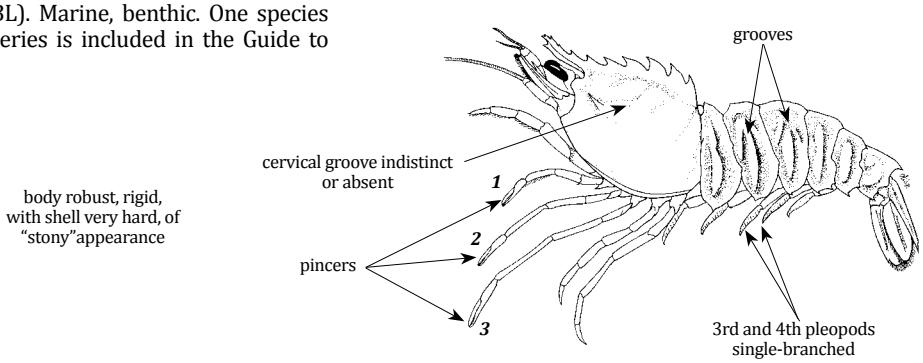



## SYCYONIIDAE

Page 46

**Rock shrimps**

To about 8 cm (BL). Marine, benthic. One species of interest to fisheries is included in the Guide to Species.

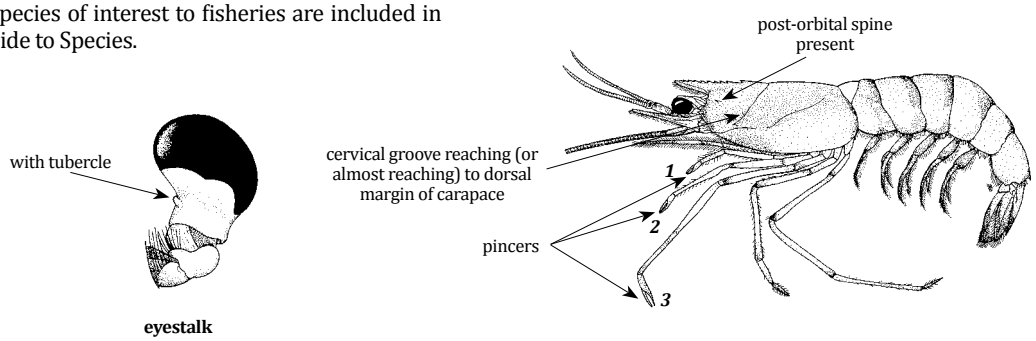



## SOLENOCERIDAE

Page 47

**Solenocerid shrimps**

To about 14 cm (BL). Marine, benthic, nocturnal. Four species of interest to fisheries are included in the Guide to Species.

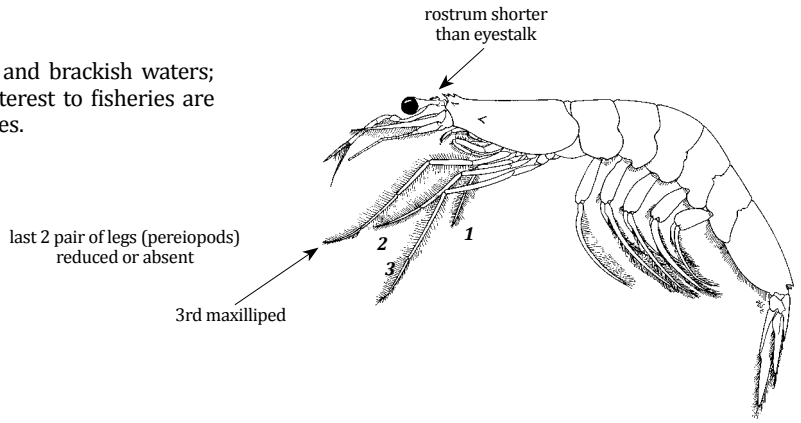



## SERGESTIDAE

Page 49

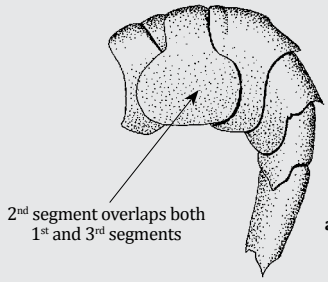
**Sergestid shrimps**

To about 4 cm (BL). Marine and brackish waters; epipelagic. Two species of interest to fisheries are included in the Guide to Species.



## Infraorder CARIDEA (Suborder PLEOCYEMATA)
## Caridean shrimps

Pleuron of second abdominal segment overlapping those of first and third segments. First two pairs of pereiopods, or only the second, ending in a pincer; the last three pairs with a simple claw. Eggs carried by the female.

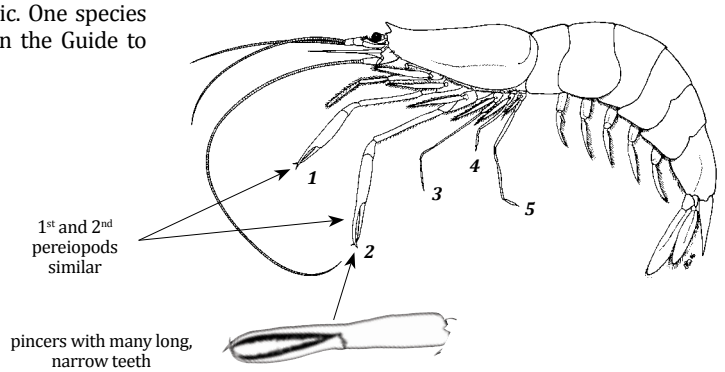



## PASIPHAEIDAE

Page 50

**Glass shrimps**

To about 11 cm (BL). Marine, pelagic. One species of interest to fisheries is included in the Guide to Species.

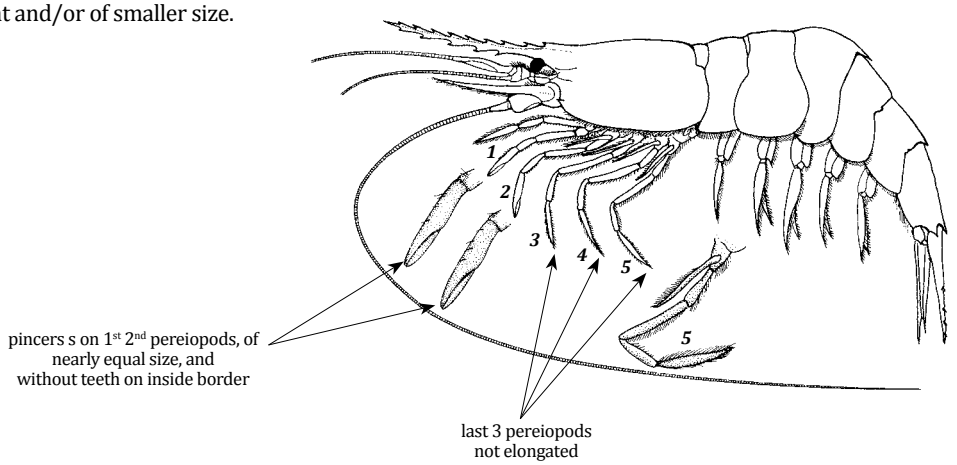



## ACANTHEPHYRIDAE

Page 50

**Deepsea shrimps**

To about 13 cm (BL). Marine, pelagic and occurring in deep waters. One species of potential interest to fisheries is included in the Guide to Species. *Acanthephyra fimbriata* Alcock & Anderson, 1894 and *Oplophorus gracilirostris* A. Milne-Edwards, 1881 were found during Nansen trawl surveys off Myanmar but are not included in the guide because less abundant and/or of smaller size.

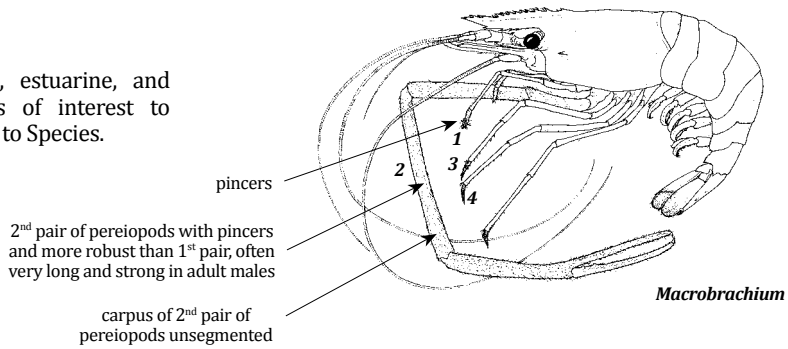


## PALAEMONIDAE

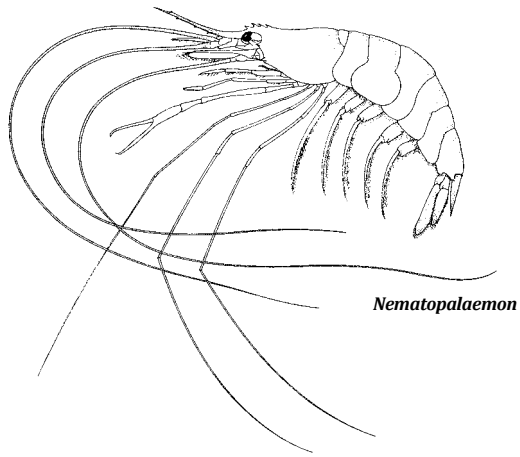
Page 51

**Palaemonid shrimps**

To about 26 cm (BL). Marine, estuarine, and freshwater; benthic. Six species of interest to fisheries are included in the Guide to Species.




*Macrobrachium*



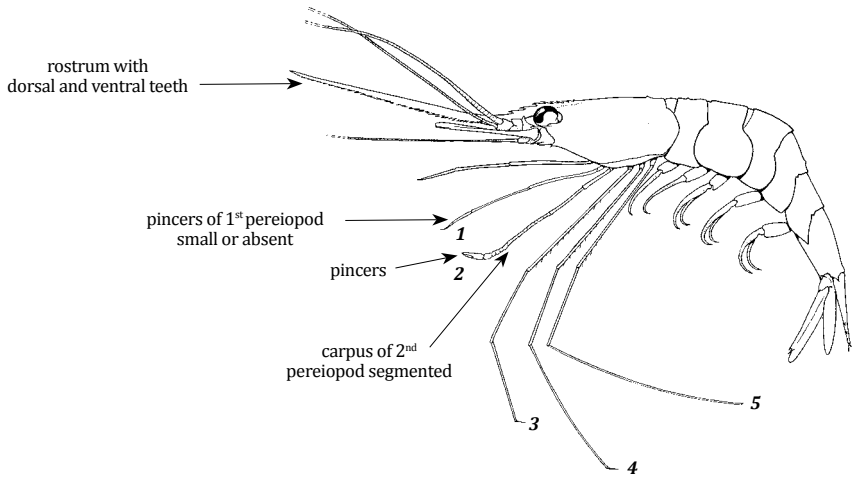
*Nematopalaemon*

## PANDALIDAE

Page 53

**Pandalid shrimps**

To about 15 cm (BL). Marine, mostly benthic and occurring in deep waters. Four species of interest to fisheries are included in the Guide to Species. *Plesionika semilaevis* Bate, 1888, sampled during Nansen trawl surveys in Myanmar offshore waters is not included in the guide because less abundant.



# ARISTEIDAE

Aristeid shrimps

***Aristaeomorpha foliacea*** (Risso, 1827)

**FAO names:** Giant red shrimp (En)

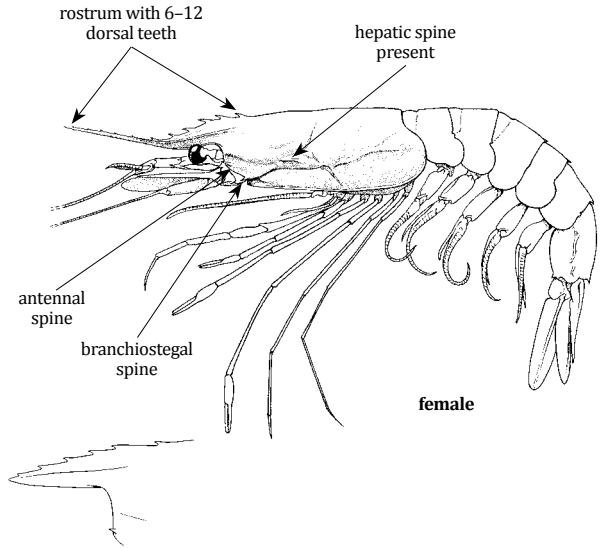
**Local name(s):** Ye Net Puzun Htoke Gyi.

**Habitat:** Found from depths of 61 to 1 300 m, but more often between 300 and 750 m; prefers mud bottoms. Moves to midwater at night.

**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.

**Distinctive Characters:** Rostrum with 6 to 12 upper teeth (including 2 teeth on carapace); very long in females and extending far beyond antennal scale, but short in males and not exceeding tip of antennular peduncle; carapace with antennal, hepatic, and branchiostegal spines; upper antennal flagella very short; 3rd to 6th abdominal segments each bearing a strong posteromedian spine; telson with 4 pairs of small movable lateral spines.

**Colour:** Body wine red with darker violet reflections on upper side of carapace; eyes black.




**Size:** To 22.5 cm (females), 17 cm (males) (BL)

***Aristeopsis edwardsiana*** (Johnson, 1868)

**FAO names:** Scarlet shrimp (En)

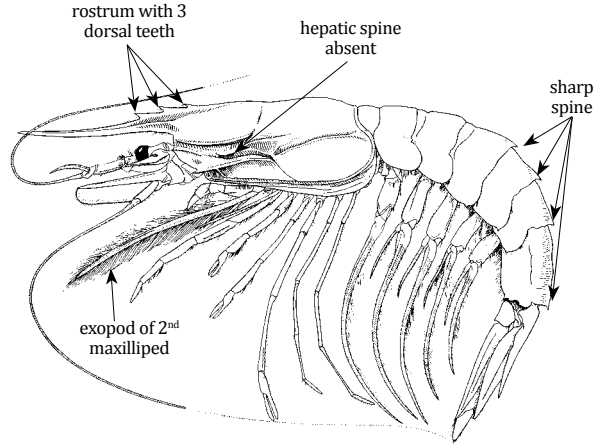
**Local name(s):** Scarlet Ye Net Puzun.

**Habitat:** Found on muddy bottom at depths of 200 to 1 850 m, usually between 400 and 900 m.

**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.

**Distinctive Characters:** Rostrum with 3 upper teeth only (including 1 tooth on carapace); very long in females reaching far beyond antennal scale, but short in males and not exceeding tip of antennal scale; carapace with antennal and branchiostegal spines but lacking hepatic spine; crests on carapace very sharp and prominent; exopod of 2nd maxilliped about twice as long as endopod, fringed by double row of long setae; 3rd to 6th abdominal segments each bearing a sharp posteromedian spine; no movable distal spine on merus of 1st and 2nd pereiopods; telson with 4 pairs of small movable lateral spines.

**Colour:** Entire body bright red; eyes black.




**Size:** To 33.4 cm (females), 19.3 cm (males) (BL)

**FAO names:** Arabian red shrimp (En)

## *Aristeus alcocki* Ramadan, 1938

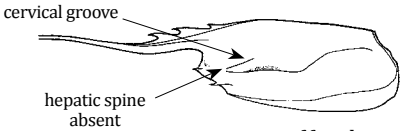
**Local name(s):** Ar Ray Bya, Ye Net Puzun.

**Habitat:** On muddy bottoms, at depths between 270 and 1 086 m.

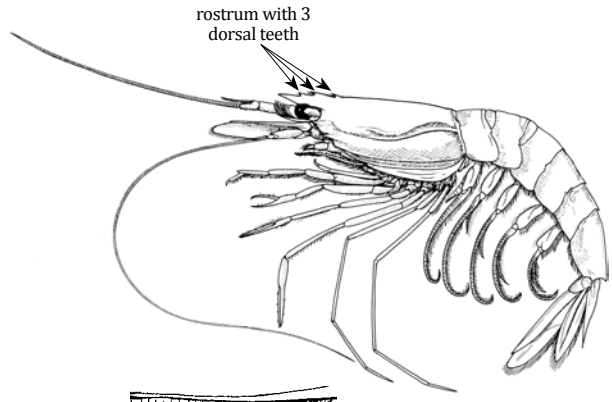
**Fisheries:** Deep bottom trawls. Not yet fishesd commercially in the area.

**Distinctive Characters:** Integument of body glabrous; rostrum in female long and slender, 0.6–1.1 in carapace length, upper margin curved downwards till distal end of 2nd segment of antennular peduncle (in male much shorter and seldom surpassing tip of antennular peduncle); cervical groove short; hepatic spine absent; movable distal spine on merus of 1st and 2nd pereiopods; telson shorter than inner uropod and provided with 3 movable spines on distal part; pleurobranchia greatly reduced on first 4 pereiopods and not feather like; 4th pereiopod with carpus slightly shorter than merus; 5th pereiopod with carpus as long as merus.

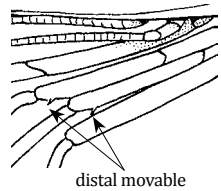
**Colour:** Orangish red with reddish bands on the posterior border of all abdominal segments.




**carapace of female**




**male**




**basal part of maxillipeds and pereiopods 1 to 3**

**Size:** To 22.2 cm (females), 14.6 cm (males) (BL)

**FAO names:** Deemed red shrimp (En)

## *Aristeus mabahissae* Ramadan, 1938

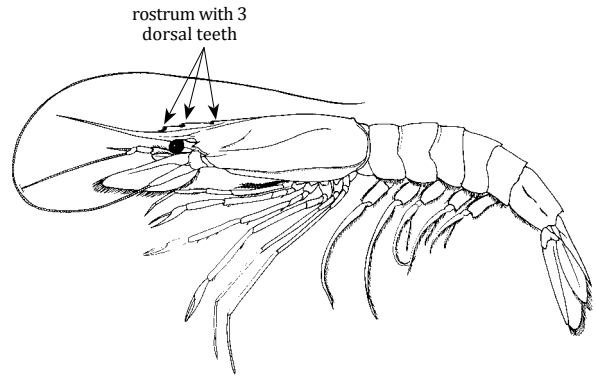
**Local name(s):** Dee Ye Net Puzun.

**Habitat:** On muddy bottoms, at depths between 366 and 1 097 m.

**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.

**Distinctive Characters:** Integument of body glabrous; hepatic spine absent; movable distal spine on merus of 1st and 2nd pereiopods; 5th pereiopods with 9 photophores on propodus, 11–12 on carpus and 4–6 on dactyl (photophores became indistinguishable after preservation); pleurobranchiae of first 4 pereiopods small but distinctly feather like; 4–11 photophores on 4th and 5th pereiopods; 4th pereiopod with carpus slightly longer than merus; 5th pereiopod with carpus 1.1–1.2 times longer than merus.

**Colour:** Body pinkish with reddish bands on posterior borders of all abdominal segments; eyes dark brown; photophores on pereiopods dark red.




**Size:** To 20 cm (females), 15 cm (males) (BL)

***Aristeus virilis*** (Bate, 1881)

**FAO names:** Stout red shrimp (En)

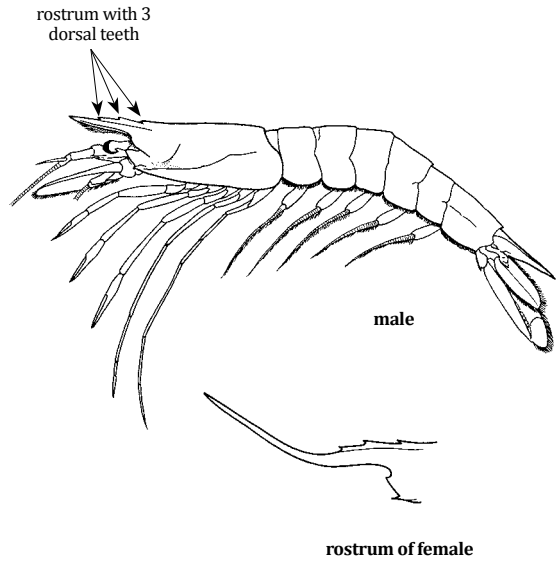
**Local name(s):** Stout Ye Net Puzun Ni.

**Habitat:** Found on sand and mud bottom, at depths from 188 to 936 m.

**Fisheries:** Deep bottom trawls.Not yet fished commercially in the area.

**Distinctive Characters:** Body covered with pubescence; rostrum armed with 3 upper teeth only (including 1 tooth on carapace); very long in females and extending far beyond antennal scale, but short in males and not exceeding tip of antennal scale; carapace with antennal and branchiostegal spines but lacking hepatic spine; crests on carapace without sharp edges; upper antennal flagella very short; pleurobranchia of anterior 4 pereiopods small but feather like; 4th and 5th pereiopods with carpus and propodus bearing 12–23 photophores, and carpus 1–1.2 times longer than merus; 1st and 2nd pereiopods armed with a distal movable spine on merus; 4th to 6th abdominal segments each bearing a posteromedian spine; telson with 4 pairs of small movable lateral spines.

**Colour:** Body pale white to pinkish red, with red bands on posterior margin of abdominal segments; eyes black; photophores on pereiopods purple-red.




**Size:** To 22.2 cm (females), 14.6 cm (males) (BL)

## PENAEIDAE

Penaeid shrimps

***Megokris sedili*** (Hall, 1961)

**FAO names:** Singapore rough shrimp (En)

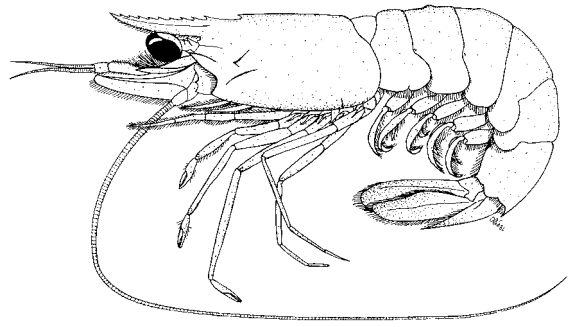
**Local name(s):** Singapore Thae Puzun Nyo.

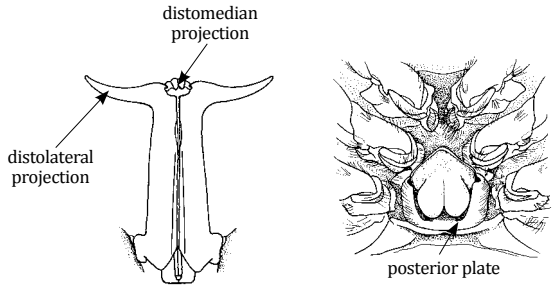
**Habitat:** Found on mud or sand bottom, from nearshore waters to depths of about 45m.

**Fisheries:** Caught mainly with bottom trawls.

**Distinctive Characters:** Entire body densely pubescent; rostrum armed with 8–10 (rarely 8) upper teeth, reaching to distal half of 2nd antennular article, generally strongly upcurved in females, straight in males; postorbital, antennal and hepatic spines present; longitudinal suture short; last 4 abdominal segments with a low dorsal crest; 6th abdominal segment bearing a sharp posteromedian spine; epipod present on first 3 pereiopods; 5th pereiopod not quite reaching tip of antennal scale; male petasma horn-like; female thelycum deeply excavate, embracing extremely long caudal extension of median protuberance, with sharply pointed apex.

**Colour:** Body yellowish-white to pale pink, often with dark yellow patches, rostrum darker; pereiopods and pleopods of same colour; uropods yellowish with endopods somewhat reddish brown.



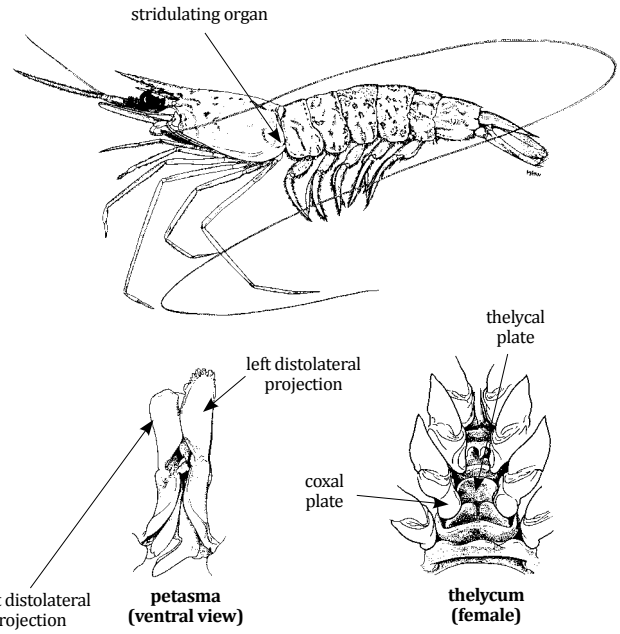


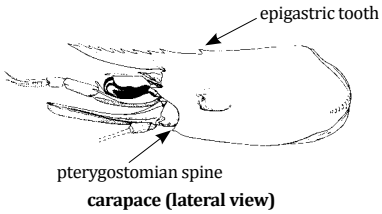

**Size:** To 5.1 cm (males), 8.8 cm (females)(BL)

## *Metapenaeopsis palmensis* (Haswell, 1879)

**FAO names:** Southern velvet shrimp (En)
Crevette chamois méridionale (Fr)

**Local name(s):** Kadipar Thae Puzun.
**Habitat:** Found on sandy-mud or mud bottoms, from depths of 5 to 100 m, usually less than 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body densely covered with short hairs; grooves and crests on carapace indistinct; rostrum extending just to distal antennular segment and armed with 7–8 dorsal regularly spaced dorsal teeth (excluding epigastric tooth); no ventral teeth on rostrum; pterygostomian spine reduced; stridulating organ consisting of 8–13 (mostly 9–10) ridges in a wide, straight band; petasma (in males) asymmetrical, left distolateral projection with distal papilla wide and obtuse; thelycum (females) with intermediate plate as two separated flaps.
**Colour:** Body whitish, mottled with irregular red stripes; eyes dark brown; antennal flagella pale red; legs whitish, with some red spots on the sides of pleopods; distal half of uropods reddish.



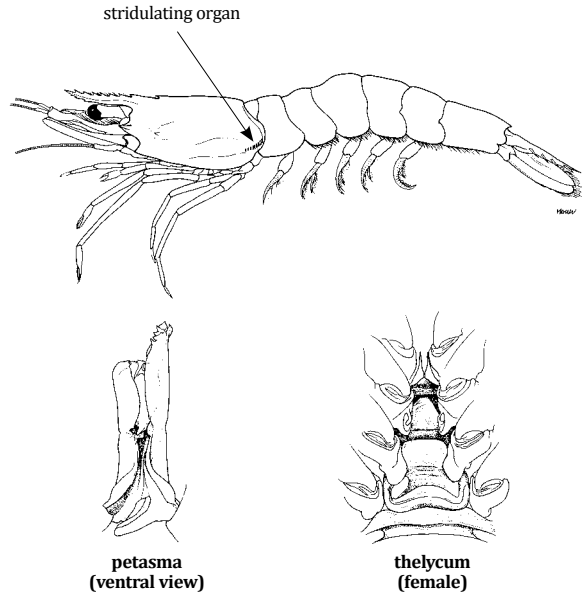
**carapace (lateral view)**

**Size:** To 8.5 cm (males), 12 cm (females)(BL)

## *Metapenaeopsis sinica* Liu & Zhong, 1988

**FAO names:** Chinese velvet shrimp (En)

**Local name(s):** Tayoke Kadipar Thae Puzun.
**Habitat:** Found on sandy-mud or mud bottoms, from depths of 13 to 219 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body densely covered with short hairs; grooves and crests on carapace indistinct; rostrum slightly curved upwards reaching to 2/3 of the 3rd antennular segment and armed with 7 (rarely 8) dorsal teeth (excluding epigastric tooth); no ventral teeth on rostrum; stridulating organ consisting of 8–16 well separated ridges in a wide, straight band; dorsal crest of 3rd abdominal segment with median groove diverging a little posteriorly; petasma (in males) asymmetrical, pipila at left distolateral projection sharp and narrow; thelycum (in females) with intermediate plate excavate.
**Colour:** Abundant red brick marbling on a luminous white background.

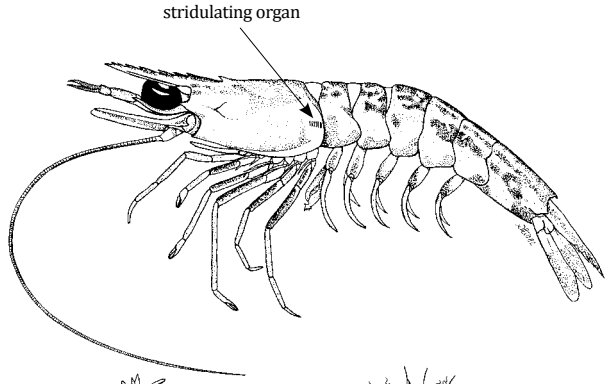


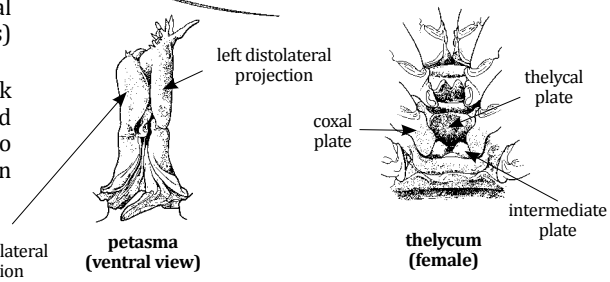

**Size:** To about 10 cm (females)(BL)

## *Metapenaeopsis stridulans* (Alcock, 1905)

**FAO names:** Fiddler shrimp (En)
Crevette violoneux (Fr)

**Local name(s):** Ta Yaw Tha Mar Thae Puzun.
**Habitat:** On sandy or muddy bottoms, from depths of 9 to 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body densely covered with short hairs; grooves and crests on carapace indistinct; rostrum reaching to, or almost to, tip of antennular peduncle and armed with 6–8 dorsal teeth (excluding epigastric tooth), the penultimate tooth generally anterior to orbital margin of carapace; no ventral teeth on rostrum; stridulating organ consisting of 4–7 (mostly 5–6) very strong ridges in a wide, straight band; petasma (in males) asymmetrical with some pipila on left distolateral projection greatly elongated; thelycum (in females) with 2 protuberances on intermediate plate.
**Colour:** White to reddish brown, with red to dark brown mottlings; pereiopods pinkish to dark red except on their proximal parts; uropods red to brown except for their proximal third and often their tips.







**stridulating ridges on posterolateral carapace**

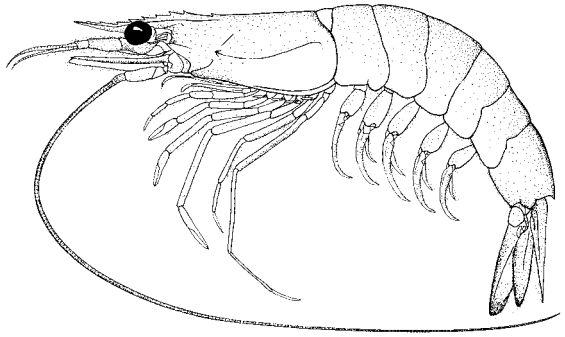
**Size:** To 8.9 cm (males), 10.6 cm (females)(BL)

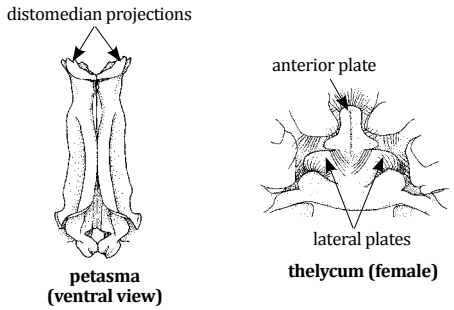
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## *Metapenaeus affinis* (H. Milne Edwards, 1837)

**FAO names:** Jinga shrimp (En)
Crevette jinga (Fr)

**Local name(s):** Ginga Pazun Pann Yaung.
**Habitat:** On mud or sandy-mud bottoms, from the coastline to depths of about 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Generally almost entire body pubescent; rostrum armed with 8–11 teeth along entire dorsal margin and no ventral teeth; 5th pereiopod without exopod and carapace without longitudinal or vertical sutures (true of all *Metapenaeus*); merus of 5th pereiopod in male with a proximal notch, followed by a twisted, keeled tubercle; anterior plate of thelycum in females deeply grooved longitudinally and considerably wider posteriorly; petasma (in males) symmetrical (true of all *Metapenaeus*); distomedian projections of petasma crescent-shaped.
**Colour:** Body pale greenish to pale pinkish; antennae red; distal half of uropods translucent green or rust coloured, tips usually whitish to yellowish.






**petasma (ventral view)**
**thelycum (female)**



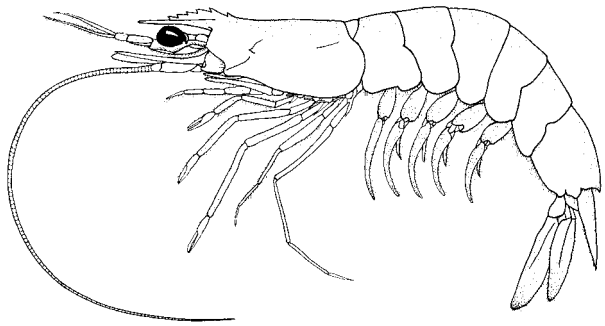
**merus of 5th pereiopod (male)**

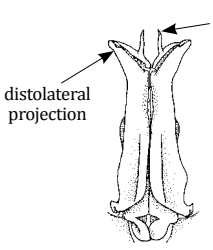
**Size:** To 14.6 cm (males), 18.6 cm (females)(BL)

## *Metapenaeus brevicornis* (H. Milne Edwards, 1837)

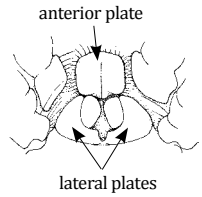
**FAO names:** Yellow shrimp (En)
Crevette jaune (Fr)

**Local name(s):** Sandarr Puzun A War.
**Habitat:** A marine to almost fresh-water species, found on sand or mud to depths of about 90 m, usually less than 30 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Almost entire body hairless; rostrum with 5–7 dorsal teeth (toothless on little less than its distal half) and no ventral teeth; rostral crest high; adrostral crest and groove reaching as far as 2nd rostral tooth; merus of 5th pereiopod in male with a proximal notch, followed by a keel-shaped tubercle, male petasma with distomedian projection long thread like; female thelycum with anterior plate not extending backwards onto lateral plates, lateral plate with 2 submedian swellings.
**Colour:** Body yellow to white, sometimes greyish, with distinct dark green to bluish brown specks; pleopods yellowish to pinkish; distal part of uropods brown to rusty red.

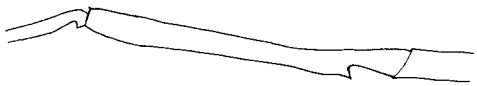





**petasma (ventral view)**




**thelycum (female)**



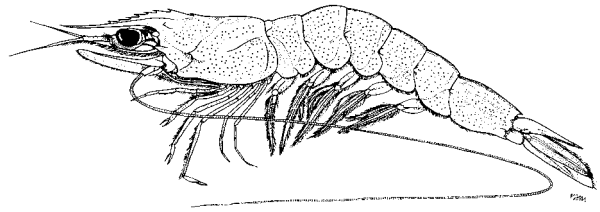
**merus of 5th pereiopod (male)**

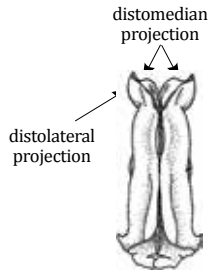
**Size:** To 15 cm (males), 20 cm (females)(BL)

## *Metapenaeus dobsoni* (Miers, 1878)

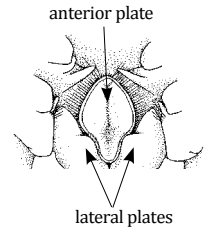
**FAO names:** Kadal shrimp (En)
Crevette kadal (Fr)

**Local name(s):** Shwe Puzun, Lone Thar Puzun.
**Habitat:** Occurs mainly in low salinity lagoons and adjacent marine areas on mud and mud and sand to a depth of 37 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Almost entire body pubescent; rostrum with 7–9 teeth along dorsal margin and no ventral teeth; in males, basial spine of 3rd pereiopod extremely long and barbed; male pestama with distolateral projection upwardly pointed; in females, lateral plates of thelycum partially sheathing anterior plate.
**Colour:** Body pale yellow to brownish with red, brown or green specks; pereiopods and pleopods white to pinkish; uropods grey-brown, darker distally.






**petasma (ventral view)**




**thelycum (female)**



**merus of 5th pereiopod (male)**



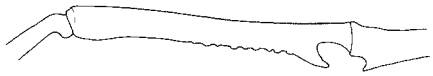
**basial spine of 3rd pereiopod (male)**

**Size:** To 11.8 cm (males), 13 cm (females)(BL)

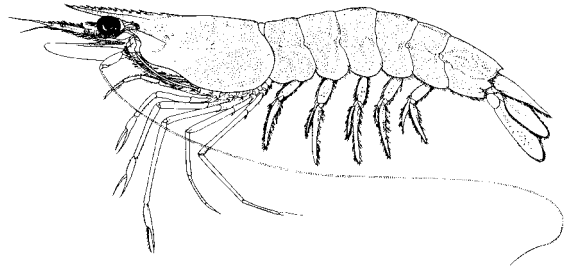
## *Metapenaeus ensis* (De Haan, 1844)

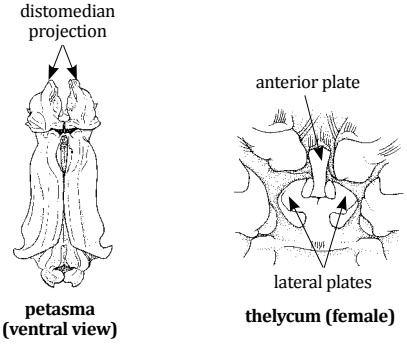
**FAO names:** Greasyback shrimp (En)
Crevette glissante (Fr)

**Local name(s):** Pazun Bawt Jate A Si Htwet.
**Habitat:** Mainly in turbid waters down to a depth of 95 m over bottoms of mud, sandy-mud or silt. Juveniles in estuaries (also in seagrass beds, mangrove banks, mud flats and open channels).
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body covered with fine pubescence; rostrum armed with 8–11 teeth along entire upper margin, nearly straight; no ventral teeth; postrostral crest low; merus of 5th pereiopod in male with a basal notch followed by a long, inwardly curved spine-like process and a row of tubercles; petasma of males with distomedian process very large and triangular, covering almost entire distolateral projection in ventral view; thelycum of females with posterolateral parts of lateral plate strongly recurved into an open flap.
**Colour:** Body greyish green or dark green and covered with dense dark brown dots, large adults somewhat pinkish; distal part of uropods somewhat bluish with reddish brown margins.



**merus of 5th pereiopod (male)**






**petasma (ventral view)** **thelycum (female)**

**Size:** To 15.4 cm (males), 18.9 cm (females)(BL)

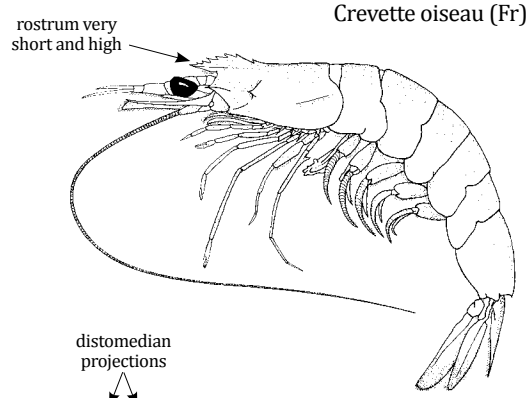
## *Metapenaeus lysianassa* (De Man, 1888)

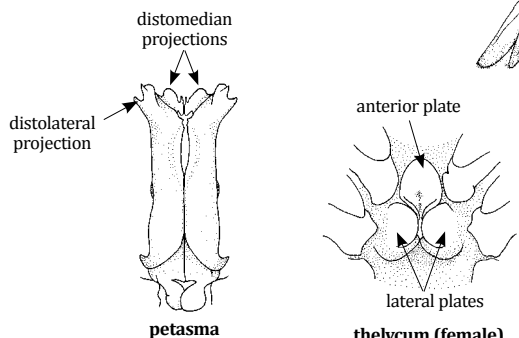
**FAO names:** Bird shrimp (En)
Crevette oiseau (Fr)

**Local name(s):** Pazun Seik Kalay.
**Habitat:** On muddy bottom in inshore waters, to depths of about 28 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body entirely pubescent; rostrum very short and high, not extending beyond eye and armed with 6–7 teeth along dorsal margin and no ventral teeth; adrostral crest and groove reaching to 3rd rostral tooth; merus of 5th pereiopod in male with a proximal notch followed by a large, inwardly curved process; male petasma with squarish projection between distolateral and distomedian projections; female thelycum with lateral plate as 2 submedian swellings.
**Colour:** Body pale yellowish white and scattered with grey to pink dots, antennae and dsital parts of uropods greyish.



**merus of 5th pereiopod (male)**



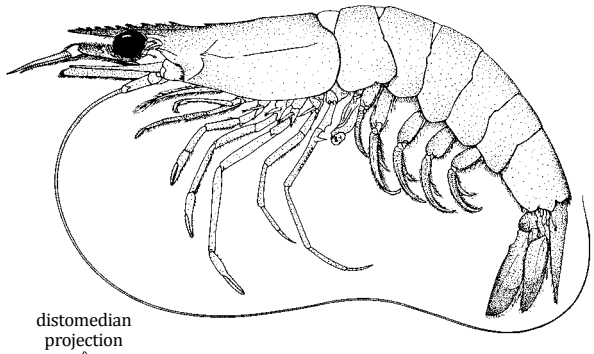

**petasma (ventral view)** **thelycum (female)**

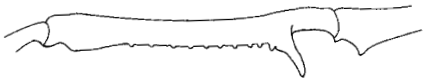
**Size:** To 6.1 cm (males), 9 cm (females)(BL)

## *Metapenaeus monoceros* (Fabricius, 1798)

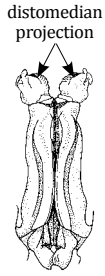
**FAO names:** Speckled shrimp (En)
Crevette mouchetée (Fr)

**Local name(s):** Pazun Bawt Jate Set Pyauk.
**Habitat:** From the coastline down to deeper waters, on mud, sand or silt bottoms. Maximum depth 70 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Almost entire body pubescent; rostrum with 9–12 teeth along entire dorsal margin and no ventral teeth; merus of 5th pereiopod in male with a proximal notch followed by a long, inwardly curved spiniform process and a row of tubercles; male petasma with distomedian projection large knob-like; female thelycum with posterolateral part of lateral plate not recurved upwards.
**Colour:** Body pink, green greyish or whitish with brown specks; rostral and mid-dorsal abdominal crests brown; antennae red; distal part of uropods purple-blue, external margin of exopods red.

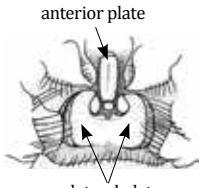




**merus of 5th pereiopod (male)**




**petasma (ventral view)**




**thelycum (female)**

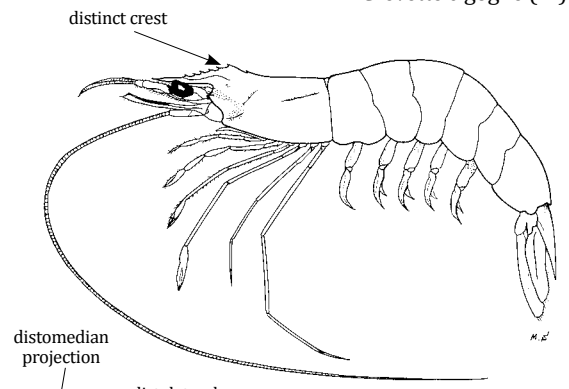
**Size:** To 15 cm (males), 20 cm (females)(BL)

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## *Metapenaeus tenuipes* Kubo, 1949

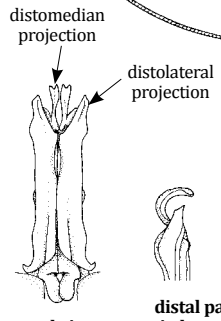
**FAO names:** Stork shrimp (En)
Crevette cigogne (Fr)

**Local name(s):** Pazun Bawt Jate A Kyarr.
**Habitat:** Occurs from the coastline and brackish waters to a depth of 30 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Almost entire body pubescent; rostrum extending beyond eye and armed with 6–8 teeth along dorsal margin (its distal half without teeth) and no ventral teeth; adrostral crest and groove reaching to 2nd rostral tooth; merus of 5th pereiopod in male with a proximal notch followed by a small, inwardly curved keeled tubercle; male petasma with distomedian projection elongate and strongly curved; female thelycum with anterior plate knob-like and much smaller than lateral plate.
**Colour:** Body from whitish to yellowish, carapace scattered with greenish dots, distal margins of uropodal exopods reddish; eyes black.






**merus of 5th pereiopod (male)**

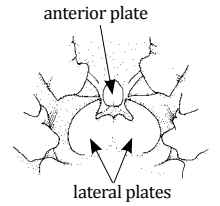



**ventral view**



**distal part in lateral view**

**petasma**



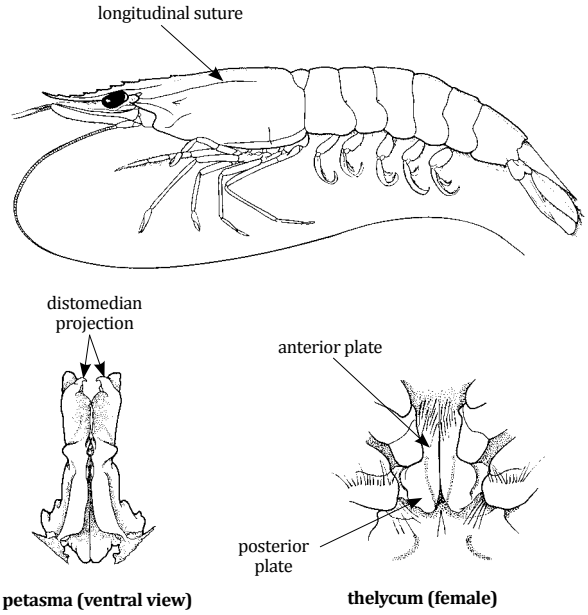

**thelycum (female)**

**Size:** To 9.5 cm (males), 7.5 cm (females)(BL)

## *Parapenaeopsis (Alcockpenaeopsis) hungerfordii* Alcock, 1905

**FAO names:** Dog shrimp (En)
Crevette chien (Fr)

**Local name(s):** Khway Pazun Bawk Jate.
**Habitat:** Found on mud or sandy mud bottoms, from depths of 5 to 45 m, usually less than 25 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Rostrum long, exceeding antennular peduncle and armed with 6–8 dorsal teeth (epigastric tooth excluded); ventral side of rostrum toothless; antennal peduncle short, not reaching the middle of the eye; 1st and 2nd pereiopods without epipods but with strong, elongate basial spines; longitudinal suture long, extending almost to posterior carapace; telson unarmed; distomedian projections of petasma (males) greatly reduced; distolateal projection somewhat triangular; female thelycum with broad median furrow from anterior to posterior plates.
**Colour:** Body yellowish with most parts of rostrum, dorsal carapace and posterodorsal part of each abdominal segments dark green, uropods also dark green with margins yellowish.



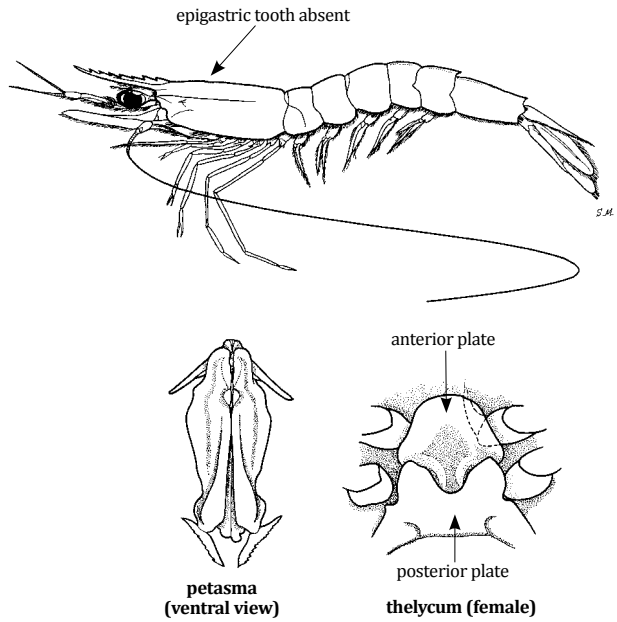

**Size:** To 7.8 cm (males), 10.4 cm (females)(BL)

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## *Parapenaeopsis (Batepenaeopsis) tenella* (Bate, 1888)

**FAO names:** Smoothshell shrimp (En)
Crevette glabre (Fr)

**Local name(s):** Khun Chaw Puzun.
**Habitat:** Found from depths of 40 to 90 m on clean sand, sometimes mixed with shell fragments.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body slender and setose; rostrum straight, not exceeding antennular peduncle and armed with 6–8 dorsal teeth; epigastric tooth absent; 1st and 2nd pereiopods without epipods; longitudinal suture extending far behind level of hepatic spine; 4th to 6th abdominal somites with dorsal carina; 3rd pereiopod with basial spine; male petasma with distolateral projection elongated but directed backwards; female thelycum with anterior margin of anterior plate convex and posterior plate with large median notch at anterior margin; telson unarmed.
**Colour:** Body scattered with red-brown to brown dots (variable in size and number); posterior margin of each abdominal somite and distal half of uropods deeper in colour; outer margin of exopods and uropods yellow.

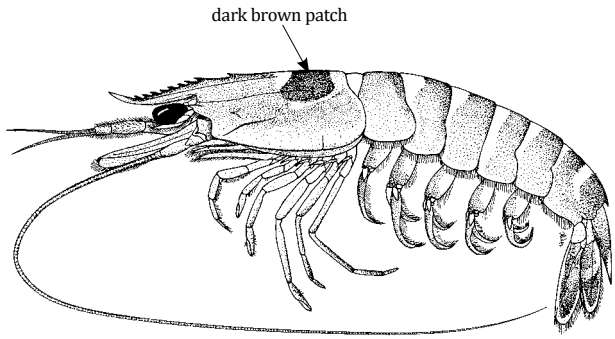


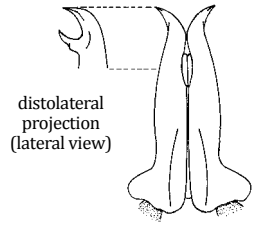

**Size:** To 5 cm (males), 7 cm (females)(BL)

## *Parapenaeopsis (Ganjampenaeopsis) uncta* Alcock, 1905

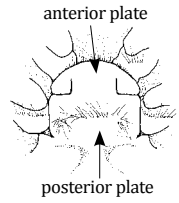
**FAO names:** Uncta shrimp (En)
Crevette uncta (Fr)

**Local name(s):** Khun Gyan Puzun Htate Kwet.
**Habitat:** Found from depths of 40 to 90 m on clean sand, sometimes mixed with shell fragments.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Rostrum extending to middle of 2nd segment of antennular peduncle, armed with 7–9 (epigastric tooth excluded) dorsal teeth; in females, sigmoid-shaped, toothless, on distal third, upcurved and usually exceeding antennular peduncle; in large males the rostral tip is straight; antero-inferior angles of carapace sharply rectangular; male petasma with distolateral projection hook-like; female thelycum with anterior margin of anterior plate convex, posterior plate with anteromedian part fused with anterior plate.
**Colour:** Carapace with a large white margined dark brown patch on posterodorsal part; abdomen with dark to ligth brown transverse bands (sometimes more or less faided on lower half of somites).



**petasma (ventral view)**



**thelycum (female)**



**rostrum of large males**

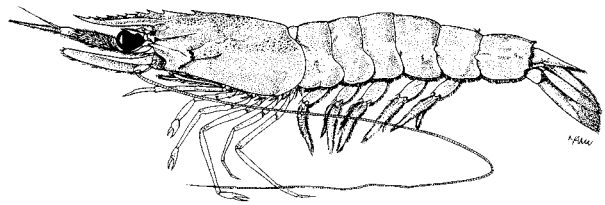
**Size:** To 8.3 cm (males), 13 cm (females)(BL)

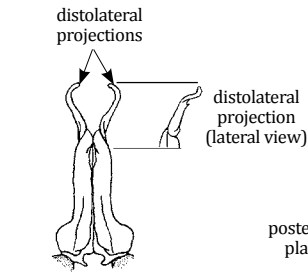
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## *Parapenaeopsis (Kishinouyepenaeopsis) cornuta* (Kishinouye, 1900)

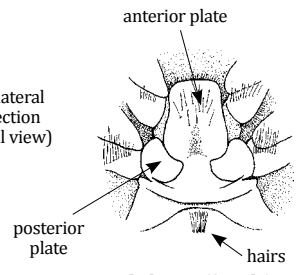
**FAO names:** Coral shrimp (En)
Crevette corail (Fr)

**Local name(s):** Thandar Khun Gyan Puzun.
**Habitat:** Found from near the coastline to about 90 m depth, but usually in less than 50 m on mud or sandy-mud.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Rostrum slightly upturned reaching to tip of 2nd segment of antennular peduncle and armed with 7–8 dorsal teeth; ventral side of rostrum toothless; 3rd pereiopod without basial spine; longitudinal suture short, reaching to about level of hepatic spine; male petasma curve horn-like with tip of distolateral projection bearing a small dorsal spiniform process; female thelycum with anterior plate long rectangular shaped and extending backwards onto posterior plate, a median tuft of hairs present behind posterior plate.
**Colour:** Body pale with very faint dark brown transverse bands not extending to lower half of somites; dark-coloured dots (variable in size and number) scattered on carapace and abdomen; antennal flagellae and distal parts of pleopods reddish.

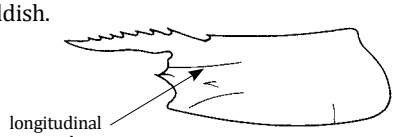




**petasma (ventral view)**



**thelycum (female)**



**carapace (lateral view)**

**Size:** To 8.5 cm (males), 10 cm (females)(BL)

## *Parapeneopsis (Kishinouyepenaeopsis) maxillipedo* Alcock, 1905

**FAO names:** Torpedo shrimp (En)
Crevette torpille (Fr)

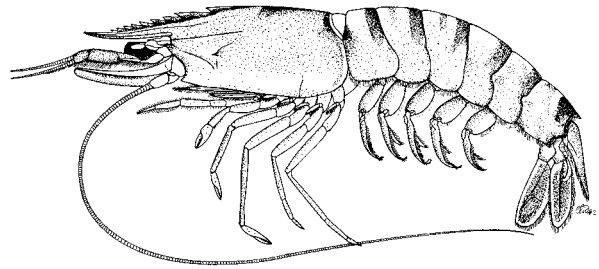
**Local name(s):** Torpedo Khun Gyan Puzun.

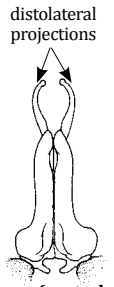
**Habitat:** Found from near the coastline to about 90 m depth, but usually in less than 50 m on mud or sandy-mud.

**Fisheries:** Caught mainly with bottom trawls.

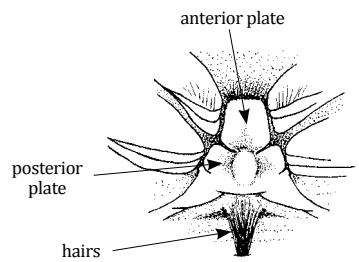
**Distinctive Characters:** Rostrum straight, tip upturned reaching to distal segment of antennular peduncle and armed with 9–10 dorsal teeth (epigastric tooth excluded); ventral side of rostrum toothless; 3rd pereiopod with basial spine; longitudinal suture short, reaching to about level of hepatic spine; male petasma with distolateral projection curve horn-like but without dorsal spiniform process at tip; female thelycum with anterior plate long rectangular but not extending backwards onto posterior plate, which instead bearing large swelling at middle.

**Colour:** Abdomen with dark brown transverse bands not extending to lower half of somites; antennular flagella, uropods as well as upper parts of carapace and rostrum darkish; pleopods and ventral side of body with an orangish tinge.

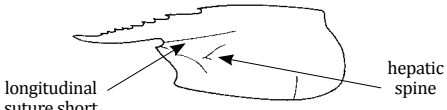





**petasma (ventral view)**




**thelycum (female)**




**carapace (lateral view)**

**Size:** To 10 cm (males), 15 cm (females)(BL)

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## *Parapenaeopsis (Mierspenaeopsis) hardwickii* (Miers, 1878)

**FAO names:** Spear shrimp (En)
Crevette javelot (Fr)

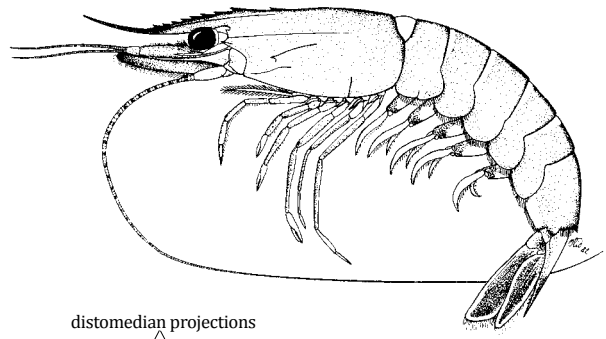
**Local name(s):** Hlan Thwar Khun Gyan Puzun.

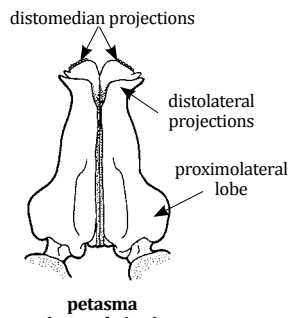
**Habitat:** Found from the coastline to depths of about 90 m, usually less than 20 m, on bottom of mud, sandy-mud or sand.

**Fisheries:** Caught mainly with bottom trawls.

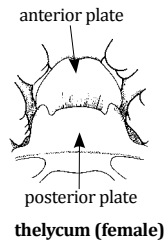
**Distinctive Characters:** Body naked and smooth; rostrum armed with 9–11 dorsal teeth; in females, rostrum very long and of sigmoidal shape, with distal 1/3 to 1/2 toothless, extending far beyond antennular peduncle; in adult males, unarmed portion absent and slightly curving downward, only reaching to middle of 2nd antennular segment; longitudinal suture extending to about 3/4 or more carapace length; male petasma with distomedian projection short and wide, with distal margin somewhat convex; posterior plate of thelycum (in females) with a pair of anterolateral tooth-like projections.

**Colour:** Body greyish to greenish grey, sometimes pink, and densely covered with dark-coloured dots; basal 1/3 of antennal flagella crossed with brown narrow bands; uropods dark reddish brown with yellowish margins.

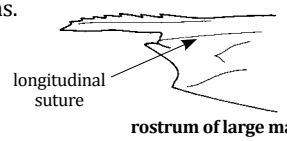





**petasma (ventral view)**




**thelycum (female)**




**rostrum of large males**

**Size:** To 11.1 cm (males), 13.5 cm (females)(BL)

## ***Parapenaeopsis (Mierspenaeopsis) sculptilis*** (Heller, 1862)

**FAO names:** Rainbow shrimp (En)
Crevette arc-en-ciel (Fr)

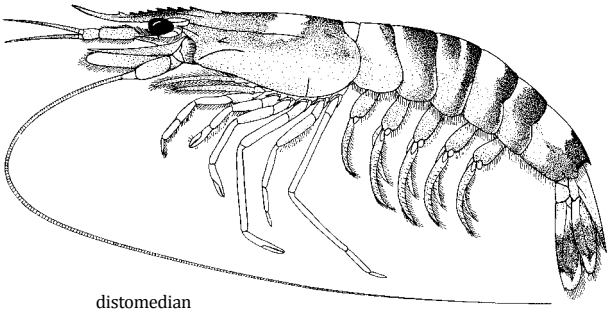
**Local name(s):** Pazun Kyaung, Thet Tant Khun Gyan.

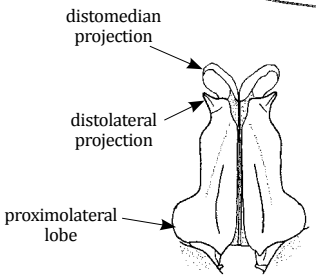
**Habitat:** Usually inhabits shallow waters from the coastline to depths of about 90 m, but mainly less than 40 m, on sand, mud, or mixed bottoms.

**Fisheries:** Caught mainly with bottom trawls.

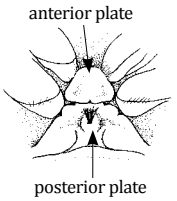
**Distinctive Characters:** Rostrum armed with 7–9 dorsal teeth; in females, sigmoid-shaped, toothless, on distal third to half, upcurved and exceeding antennular peduncle; in large males, curving downward, the unarmed portion absent and only reaching to middle of 2nd antennular article; longitudinal suture extending to about 3/4 of carapace length; male petasma with distomedian projection ear-like; posterior plate of thelycum (in females) without anterolateral tooth-like projections; but bearing a median tuft of hairs.

**Colour:** Body pale with wide, dark brown (almost black) transverse bands; carapace dark brown dorsally, except for a white band about its middle; uropods yellow to pink, with a very wide, dark brown middle transverse band.






**petasma (ventral view)**




**thelycum (female)**



**rostrum of large males**

**Size:** To 13 cm (males), 17 cm (females)(BL)

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## ***Parapenaeopsis (Parapenaeopsis) stylifera*** (H. Milne Edwards, 1837)

**FAO names:** Kiddi shrimp (En)
Crevette kidi (Fr)

**Local name(s):** Kadi Khun Gyan Puzun.

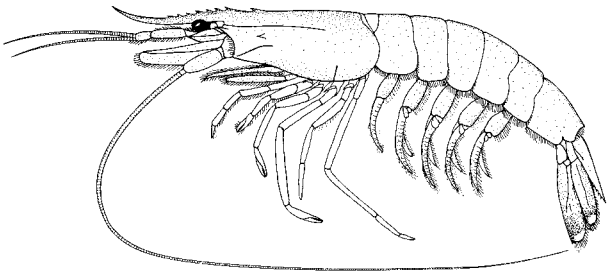
**Habitat:** Found from near the coastline to about 90 m depth, but usually in less than 50 m on mud or sandy-mud.

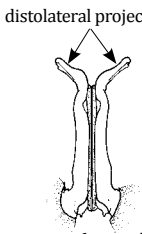
**Fisheries:** Caught mainly with bottom trawls.

**Distinctive Characters:** Rostrum sigmoid-shaped, strongly upcurved and by far overreaching tip of antennular peduncle (in males somewhat shorter), armed with 7–9 dorsal teeth; but toothless in distal half or more; telson armed with 4 pairs of small movable lateral spines; distolateral projections of petasma (males) slender, horn-like and straight; thelycum (females) with anterior plate squarish, posterior plate with a narrow median cleft on anterior margin.

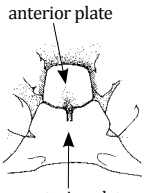
**Colour:** Pale brownish or pinkish white, sometimes greyish; rostrum and abdominal crest darker; pereiopods and pleopods yellowish pink to reddish pink; distal part of uropods dark grey, their tips distinctly white.

**Remarks:** The species *Parapenaeopsis (Parapenaeopsis) coromandelica* Alcock, 1906, differs mainly from this species in having fewer small movable lateral telson spines, is here not recognized as a distinct species or subspecies.






**petasma (ventral view)**



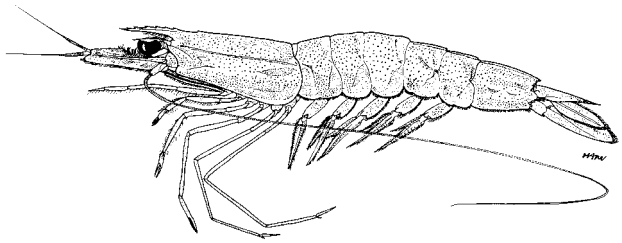

**thelycum (female)**

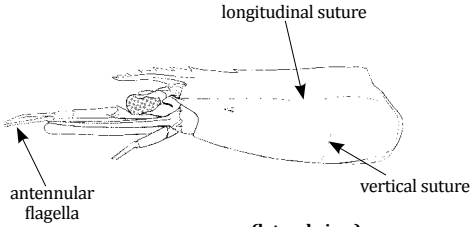
**Size:** To 11.7 cm (males), 14.5 cm (females)(BL)

## *Parapenaeus longipes* Alcock, 1905

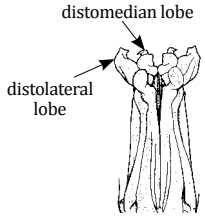
**FAO names:** Flamingo shrimp (En)
Crevette flamand (Fr)

**Local name(s):** Gyo Jar Khun Gyan Pa Zun.
**Habitat:** Rather deep waters from 10 m to 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body hairless; rostrum slightly curved downward and armed with 6–7 dorsal teeth and no ventral teeth; branchiostegal spine absent; no trace of hepatic crest; longitudinal and vertical suture present; antennular flagella shorter than carapace; telson armed with 1 pair of fixed lateral spines.
**Colour:** Pink to whitish, speckled with pink chromatophores; a red spot on distomedian part of outer uropods.

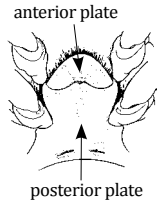




**carapace (lateral view)**



**petasma (ventral view)**



**thelycum (female)**

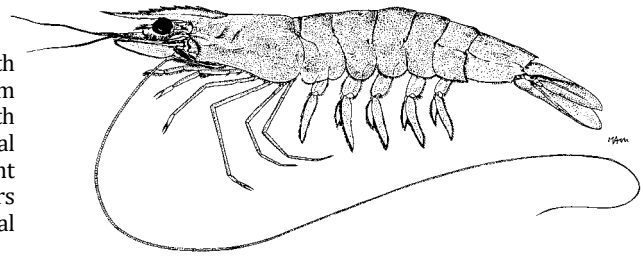
**Size:** To 7.6 cm (males), 7.9 cm (females)(BL)

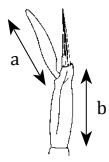
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## *Penaeus (Fenneropenaeus) indicus* H. Milne Edwards, 1837

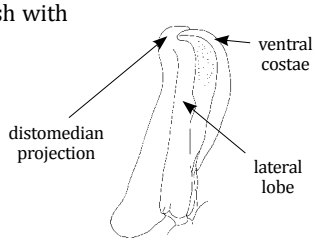
**FAO names:** Indian white prawn (En)
Crevette royale blanche (Fr)

**Local name(s):** India Ye Lite Puzun.
**Habitat:** Shelf areas from the coastline to 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Carapace rather smooth lacking gastrofrontal and hepatic crests; rostrum slightly curved at tip and sigmoidal-shaped with 7–9 teeth on dorsal and 3–6 teeth on ventral margin; 3rd maxilliped of male with distal segment (a) about as long as 2nd segment (b) which bears a tuft of dense long hairs; telson lacking lateral spines.
**Colour:** Body semi-translucent, somewhat yellowish white (small specimens) or greyish green and covered with numerous minute dark brown dots; distal part of uropods yellowish with red margins; antennal flagella yellowish.

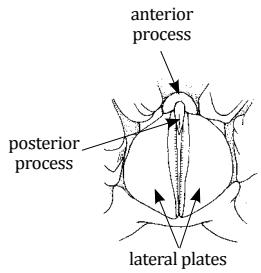




**distal part of 3rd maxilliped (male)**



**petasma (ventral view)**



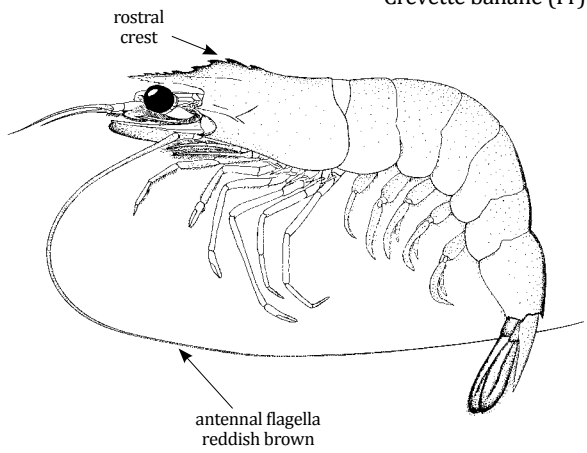
**thelycum (female)**

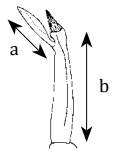
**Size:** To 18.4 cm (males), 23 cm (females)(BL)

## *Penaeus (Fenneropenaeus) merguiensis* De Man, 1888

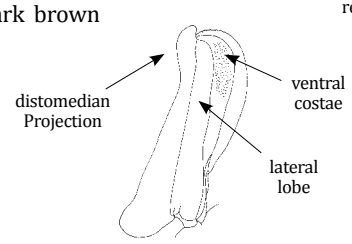
**FAO names:** Banana prawn (En)
Crevette banane (Fr)

**Local name(s):** Nga Pyaw Thi Pa Zun Phyu.
**Habitat:** Shelf areas from the coastline to 90 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace rather smooth, lacking gastrofrontal and hepatic crests; tip of rostrum horizontally straight, and rostral crest very high and broadly triangular in large specimens, bearing 6–9 upper teeth mostly 3–5 lower teeth; 3rd maxilliped of male with distal segment (a) only about half as long as 2nd segment (b) which bears a tuft of dense short hairs; telson lacking lateral spines.
**Colour:** Body semi-translucent, somewhat yellowish (in youngs and moderate-sized specimens) to greenish (in very large specimens) and covered with numerous minute dark brown dots.

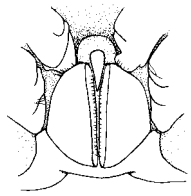


**distal part of 3rd maxilliped (male)**



**petasma (ventral view)**


**thelycum (female)**

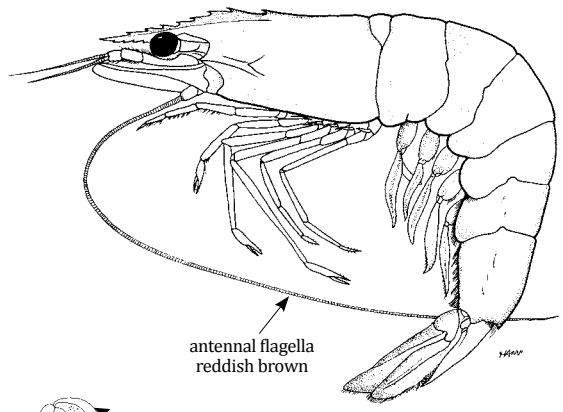
**Size:** To 24 cm (males), 20 cm (females)(BL)

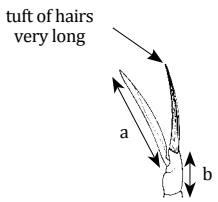
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## *Penaeus (Fenneropenaeus) penicillatus* Alcock, 1905

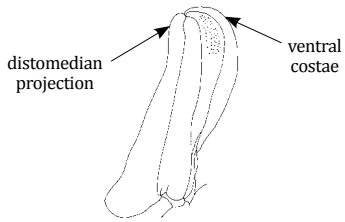
**FAO names:** Redtail prawn (En)
Crevette queue rouge (Fr)

**Local name(s):** Pa Zun Mee Ni, Pa Zun Phyu.
**Habitat:** Shelf areas from the coastline to 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Carapace rather smooth, lacking gastrofrontal and hepatic crests; rostrum with 7–9 teeth on dorsal and 3–5 teeth on ventral margin; adrostral crest and groove extending as far as or just beyond epigastric tooth; 3rd maxilliped of male with distal segment (a) much longer than 2nd segment (b); telson lacking lateral spines.
**Colour:** Body semi-translucent, slightly greenish and covered with numerous minute dark brown dots; distal half of uropods yellowish to greenish but always with reddish tips.

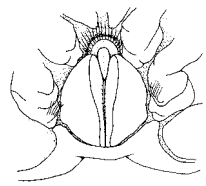


**distal part of 3rd maxilliped (male)**



**petasma (ventral view)**

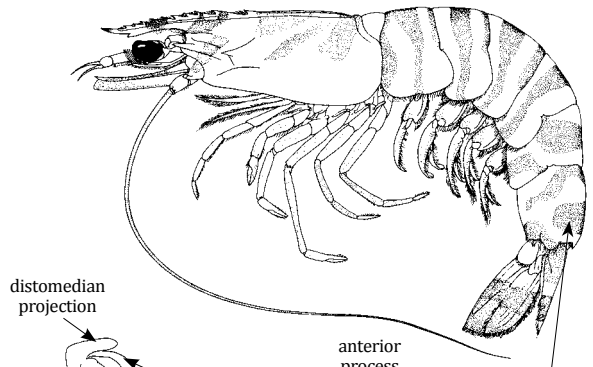

**thelycum (female)**

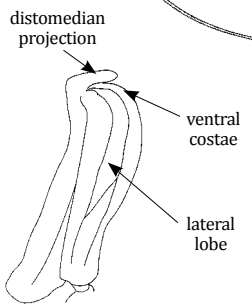
**Size:** To 21.2 cm (males), 16.3 cm (females)(BL)

## *Penaeus (Marsupenaeus) pulchricaudatus* Stebbing, 1914

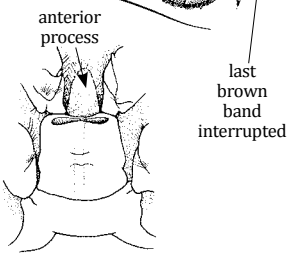
**FAO names:** Western kuruma prawn (En)

**Local name(s):** Kuruma Thae Puzun.
**Habitat:** Shelf areas from the coastline to 90 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Carapace with grooves and crests very distinct, bearing both gastrofrontal and hepatic crests; rostrum with 9–10 upper teeth and 1 lower tooth, lacking distinct accessory crest on the blade; adrostral crest extending near to posterior margin of carapace; thelycum of females a well-developed pouch with double tubes, opened anteriorly; telson with 3 pairs of movable lateral spines.
**Colour:** Body pale yellowish and crossed with dark brown transverse bands (only reaching the middle part on the carapace); distal part of uropods with a patch of bright yellow, followed by another patch of bright blue, and with red margins.
**Remarks:** Previously synonymized with *Penaeus (Marsupenaeus) japonicus* Bate, 1888, but now regarded as a valid species (see Tsoi *et al*., 2014).

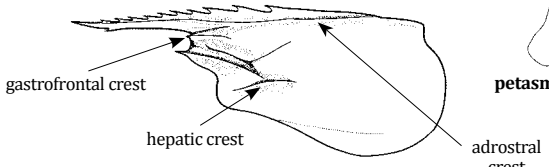




**petasma (ventral view)**



**thelycum (female)**



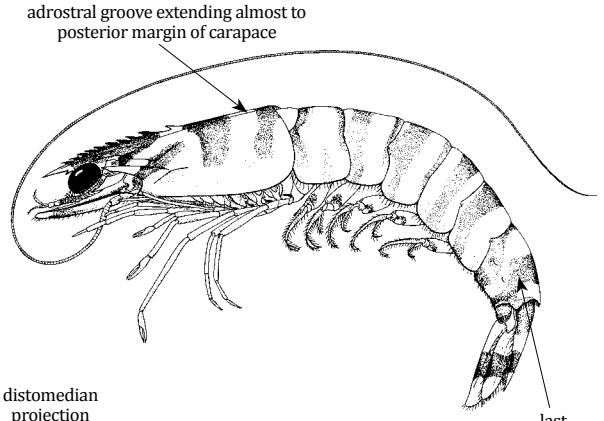
**carapace (lateral view)**

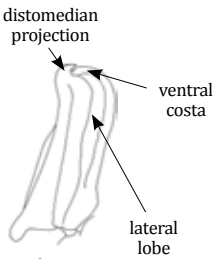
**Size:** To 20 cm (males), 23.5 cm (females)(BL)

## *Penaeus (Melicertus) canaliculatus* (Olivier, 1811)

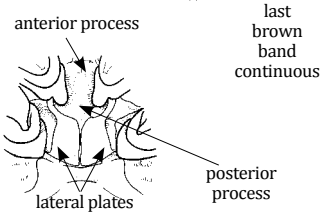
**FAO names:** Witch prawn (En)
Crevette sorciere (Fr)

**Local name(s):** Pazun Kyar Yoe.
**Habitat:** Coastline to deep waters down to 50 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Carapace with grooves and crests very distinct, bearing both gastrofrontal and hepatic crests; rostrum with 10–11 upper teeth and 1 lower tooth; thelycum of females formed by 2 subrectangular lateral plates, with their anterolateral angles diverging; anterior process suboval; posterior process somewhat triangular; telson lacking lateral spines.
**Colour:** Body pale yellowish and crossed with dark brown transverse bands; distal part of uropods with a patch of bright yellow, followed by another patch of bright blue, and with reddish margins.

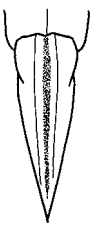


**petasma (ventral view)**



**thelycum (female)**


**telson**

**Size:** To 14.5 cm (males), 18.2 cm (females)(BL)

## *Penaeus (Melicertus) latisulcatus* Kishinouye, 1896

**FAO names:** Western king prawn (En)
Crevette royale occidentale (Fr)

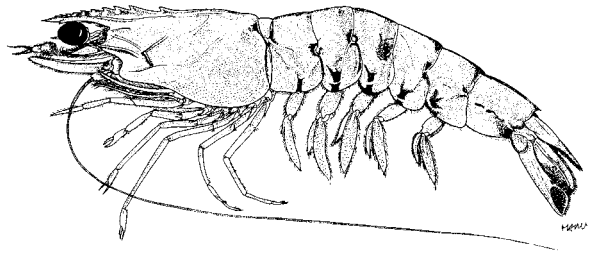
**Local name(s):** Pazun Mee Ni.

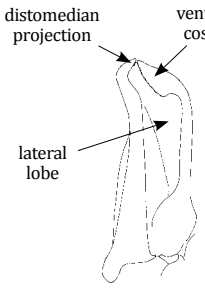
**Habitat:** From the coastline to depths of about 90 m, on bottoms of sand, mud, or gravel, with a clear preference for sandy substrates.

**Fisheries:** Caught mainly with bottom trawls.

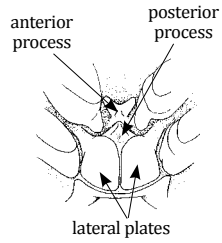
**Distinctive Characters:** Carapace bearing both gastrofrontal and hepatic crests; rostrum generally armed with 10–11 upper teeth (including those on carapace) and 1 lower tooth; postrostral crest well developed and with a deep median groove throughout its length; adrostral groove extending almost to posterior margin of carapace and distinctly wider than postrostral crest; ischial spine on 1st pereiopod indistinct or nearly absent; telson with 3 pairs of movable lateral spines.

**Colour:** Body generally yellowish green, becoming slightly reddish in large adults; abdominal segments each with a short vertical black bar on pleuron; uropods bright yellow, with distal half and outer margins of exopods bright blue, other margins reddish.





**petasma (ventral view)**



**thelycum (female)**

**Size:** To 16.2 cm (males), 20.2 cm (females)(BL)

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## *Penaeus (Melicertus) longistylus* (Kubo, 1943)

**FAO names:** Red-spot king prawn (En)
Crevette royale à taches rouges (Fr)

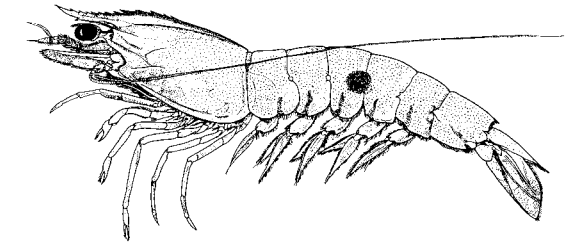
**Local name(s):** Pazun Kyaw Yoe Ni Set.

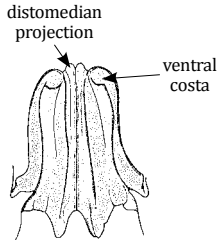
**Habitat:** Inhabits reefs, sand or sandy-mud bottoms in depths from 18 to 60 m.

**Fisheries:** Caught mainly with bottom trawls.

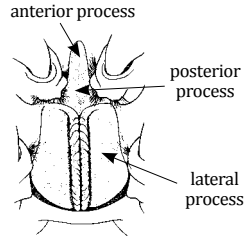
**Distinctive Characters:** Carapace bearing both gastrofrontal and hepatic crests; rostrum with 10–12 upper teeth and 1 lower tooth; postrostral crest well developed, with a deep median groove extending to about half of its length; adrostral groove extending almost to posterior margin of carapace and about twice as wide as postrostral crest; 1st pereiopod bearing a strong ischial spine; telson with 3 pairs of movable lateral spines.

**Colour:** Body generally yellowish green, becoming slightly pinkish in large adults; lower border of carapace reddish; posteroventral carapace and abdominal pleura each with a short vertical black bar except 5th pleuron which bears 2 vertical bars; lateral side of third abdominal segment often with a large red-brown circular spot; antennal flagella yellowish white;

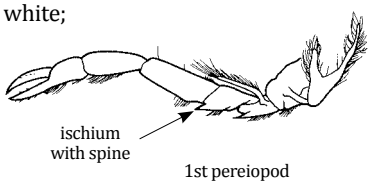




**petasma (ventral view)**



**thelycum (female)**



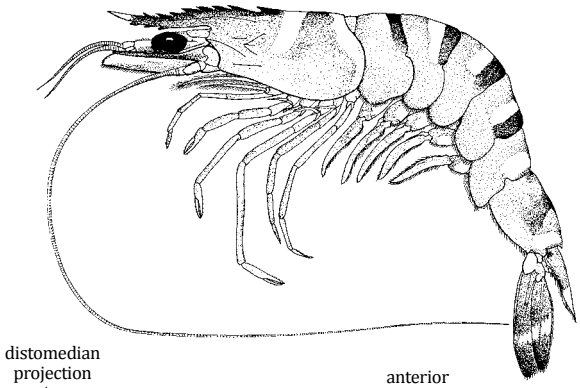
1st pereiopod

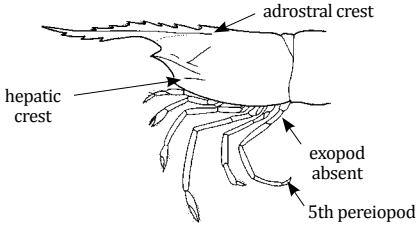
**Size:** To 15 cm (males), 18 cm (females)(BL)

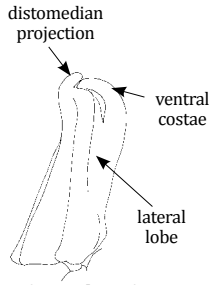
## *Penaeus (Penaeus) monodon* Fabricius, 1798

**FAO names:** Giant tiger prawn (En)
Crevette geante tigrée (Fr)

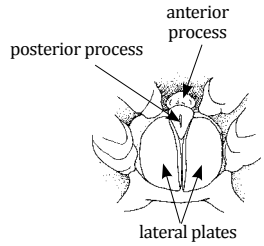
**Local name(s):** Pa Zun Kyarr, Kyarr Puzun.
**Habitat:** From the coastline to about 150 m on sand or mud bottoms; juveniles in mangrove swamps.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace with grooves and crests distinct; rostrum with 6–8 dorsal teeth and 3 ventral teeth; adrostral crest extending to just before last postrostral tooth; gastrofrontal crest absent; hepatic crest almost horizontal and extending far behind antennal crest; 5th pereiopod without exopod; telson lacking lateral spines.
**Colour:** Body green-grey to brown, sometimes reddish or bluish; dorso-posterior margin of carapace generally cream yellow; often a transverse band of the same colour near middle of carapace; abdomen with dark brown to dark grey and pale yellow dorsal transverse bands; antennae uniformly greenish brown, not banded.





**petasma (ventral view)**



**thelycum (female)**

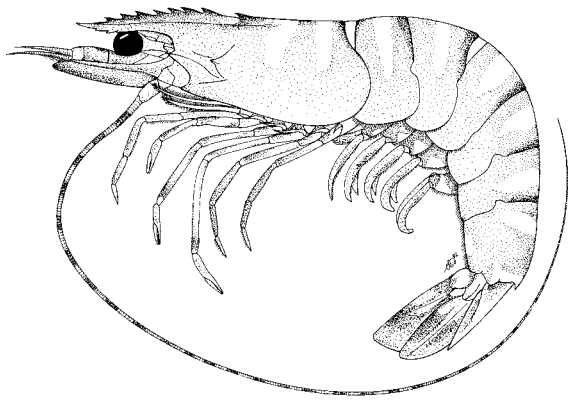
**Size:** To 27 cm (males), 34 cm (females)(BL)

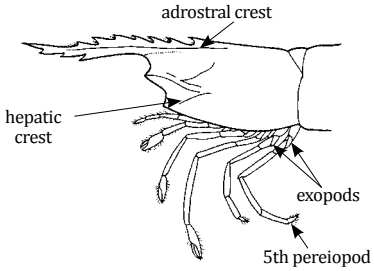
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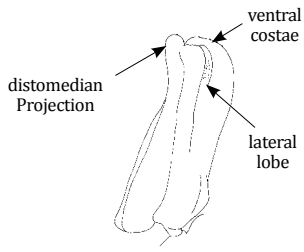
## *Penaeus (Penaeus) semisulcatus* De Haan, 1844

**FAO names:** Green tiger prawn (En)
Crevette tigrée verte (Fr)

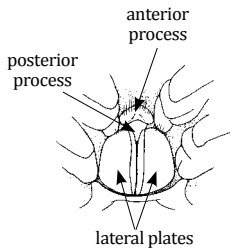
**Local name(s):** Pa Zun Sein Kyarr.
**Habitat:** Continental shelf from the coastline down to 130 m, on mud or sand bottoms.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace with grooves and crests distinct; rostrum with 6–8 upper teeth and 3 lower teeth; adrostral crest extending beyond last postrostral tooth; gastrofrontal crest absent; hepatic crest long and extending behind antennal crest, straight but distinctly sloping anteroventrally; 5th pereiopod with exopod (somewhat hidden beneath carapace); telson lacking lateral spines.
**Colour:** Body pale brown, sometimes greenish; carapace often with 2 yellow-cream dorsal transverse bands; abdomen with brown-grey and pale yellow dorsal transverse bands; antennae banded white and brown.





**petasma (ventral view)**



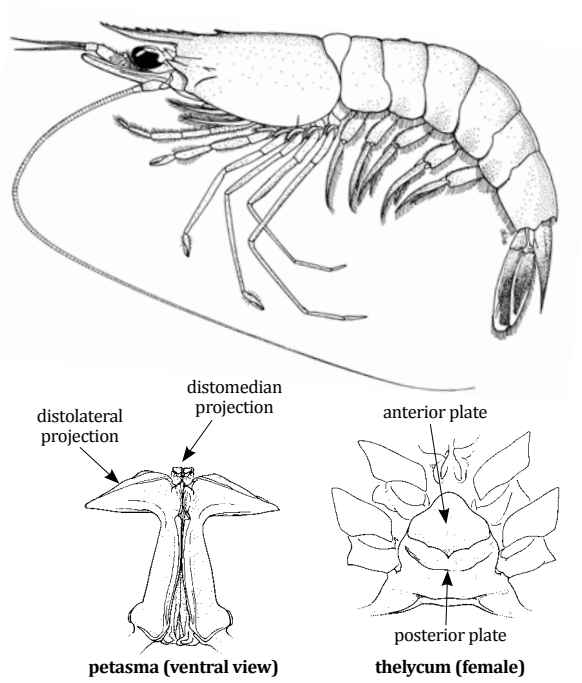
**thelycum (female)**

**Size:** To 18 cm (males), 23 cm (females)(BL)

***Trachysalambria aspera*** (Alcock, 1905)

**FAO names:** Indian rough shrimp (En)

**Local name(s):** Gaung Gyi Thae Puzun.
**Habitat:** Found on sand and mud bottoms from 8 m to about 110 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body densely pubescent, with grooves and crests on carapace indistinct; rostrum armed with 8–10 (excluding epigastric tooth) dorsal teeth; in adult females, rostrum moderately upcurved to straight; in males and juveniles rostrum straight to slightly curving downwards; first 3 pairs of pereiopods bearing epipods; 1st pereiopod generally armed with an ischial spine; last 5 abdominal segments with a low dorsal crest, the 4th and 5th distinctly incised posteriorly.
**Colour:** Body pinkish red to pinkish orange, with paler lateral surfaces; antennular and antennal flagella pale white; abdominal segments whitish, somite II sometimes with a broad saddle-shaped red patch; uropods almost entirely reddish, with basal parts whitish; eyes black-brown.




**Size:** To 8.1 cm (males), 10.5 cm (females)(BL)

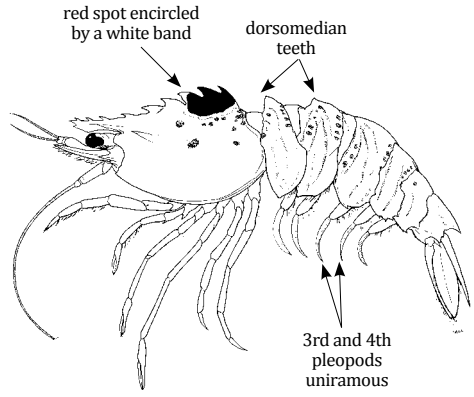
## SICYONIIDAE

Rock shrimps

***Sicyonia parajaponica*** Crosnier, 2003

**FAO names:** False Japanese rock shrimp (En)

**Local name(s):** Japan Kyauk Puzun.
**Habitat:** Soft bottoms from 100 m to 150 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body robust and pubescent; shell very hard and granular; rostrum nearly horizontal and narrow, with 2–3 dorsal teeth and 1 sub-apical tooth; lower margin with 1 tooth; carapace armed with 6 strong, crest-like postrostral teeth as well as a very strong hepatic spine; 1st abdominal segment with an upwards directed dorsomedian tooth; 2nd abdominal segment with an acute dorsomedian tooth; ventral margin of pleura of first 3 abdominal segments ending in a single spine, 4th and 5th with 2–4 spines on hind margin.
**Colour:** Body grey-green scattered with muddy white and deep brown stripes and minute red brown dots; ventral surface and pleopods red; antennal and antennular flagellae banded; large red spot encircled by white band at posterior dorsum of carapace.




**Size:** To 7 cm (BL)

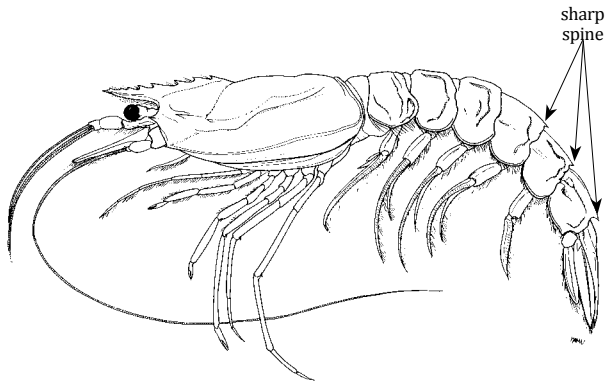
## SOLENOCERIDAE

Solenocerid shrimps

***Haliporus taprobanensis*** Alcock & Anderson, 1899

**FAO names:** Indian grooved shrimp (En)

**Local name(s):** India Ye Net Sin Gyaung Puzun.
**Habitat:** Soft bottoms from 520 m to 1 200 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Rostrum slightly upwardly directed, armed with 7–8 dorsal teeth (including 3–4 teeth on carapace) and extending to end of 2nd antennular article; no ventral teeth on rostrum; antennal, post-antennal, hepatic and pterygostomian spines present but no postorbital spine; abdominal segments with a low dorsal crest; 4th to 6th abdominal segments each bearing a strong posteromedian spine; telson with movable lateral spines.
**Colour:** Body pale pinkish white; dorsal margin of abdomen; rostrum, antennal scale, antennae, maxillipeds and inner part of pleopods red-orange; eyes black.



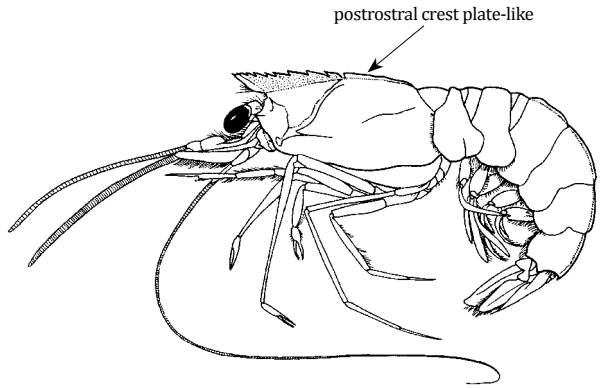

**Size:** To 9.5 cm (males), 13 cm (females)(BL)

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***Solenocera choprai*** Nataraj, 1945

**FAO names:** Ridgeback shrimp (En)
Salicoque balafrée (Fr)

**Local name(s):** Ye Net Puzun Kyaw Zinn.
**Habitat:** Soft bottoms from 75 m to 110 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Rostrum with 8–10 dorsal teeth (including 4 teeth on carapace); lower border moderately convex; postrostral crest plate-like, reaching posterior margin of carapace and interrupted by a notch just ahead of cervical groove; post-orbital spine present but no suprahepatic spine; telson with a pair of fixed lateral spines.
**Colour:** Body, pereiopods and pleopods red; antennae banded dark red and white; uropods dark red, except for some white areas.

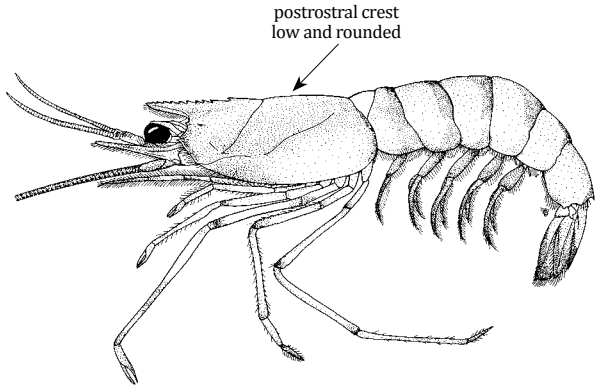



**Size:** To 9.5 cm (males), 13 cm (females)(BL)

***Solenocera crassicornis*** (H. Milne Edwards, 1837)

**FAO names:** Coastal mud shrimp (En)
Salicoque des vases côtières (Fr)

**Local name(s):** Ye Net Shunt Puzun.
**Habitat:** Inhabits muddy bottoms close to shore, at depths from 20 to 85 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Rostrum with 4–7 (mostly 5) dorsal teeth; lower border unarmed and somewhat convex; postrostral crest low and rounded; post-orbital spine present but no suprahepatic spine; telson without lateral spines.
**Colour:** Body pink to pinkish orange; posterior border of each abdominal segment covered with a red cross band; eyes dark brown; antennular flagella and distal part of tail fan reddish.



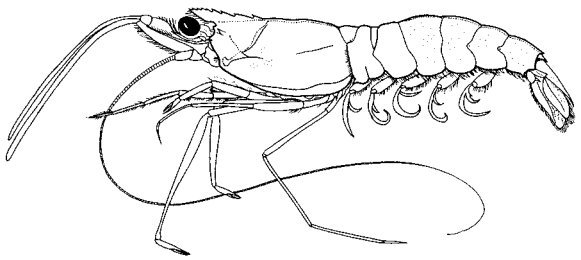

**Size:** To 9 cm (males), 14 cm (females)(BL)

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***Solenocera halli*** Starobogatov, 1972

**FAO names:** Malayan mud shrimp (En)

**Local name(s):** Ye Net Malay Puzun.
**Habitat:** Found in shallow waters at depths from 48 and 75 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Rostrum with 8–9 dorsal teeth; lower border razor-shaped, very straight or slightly concave; postrostral crest distinct but not plate-like; male petasma with dorsolateral lobe bearing 18–40 short terminal spinules; female thelycum with posterior thoracic ridge strongly bilobed and always bearing 2 pairs of protuberances in the middle, with submedian pair smaller than lateral pair; telson with a pair of fixed lateral spines.
**Colour:** Not available.

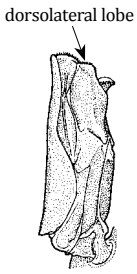




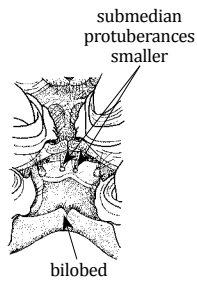

**rostrum (lateral view)**




**anterolateral corner of carapace**




**petasma (ventral view)**




**thelycum (female)**

**Size:** To 10 cm (BL)

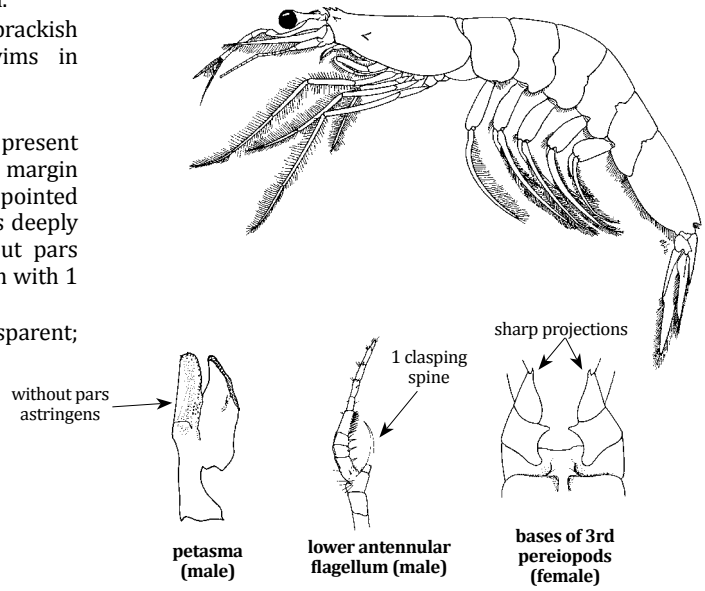
# SERGESTIDAE

Sergestid shrimps

## *Acetes indicus* H. Milne Edwards, 1830

**FAO names:** Jawla paste shrimp (En)
Chevrette jawla (Fr)

**Local name(s):** Gway Puzun, Nga Pi Puzun.
**Habitat:** Inhabits shallow, sometimes brackish coastal waters; epipelagic, usually swims in midwater or near the surface.
**Fisheries:** Push nets.
**Distinctive Characters:** Procurved tooth present between bases of 1st pleopods; inner margin of basis of 3rd pereiopods with sharply pointed projections; 3rd and 4th thoracic sternites deeply channeled longitudinally; petasma without pars astringens; and lower antennular flagellum with 1 clasping spine in males.
**Colour:** In life, whole body almost transparent; milky or yellowish when dead.

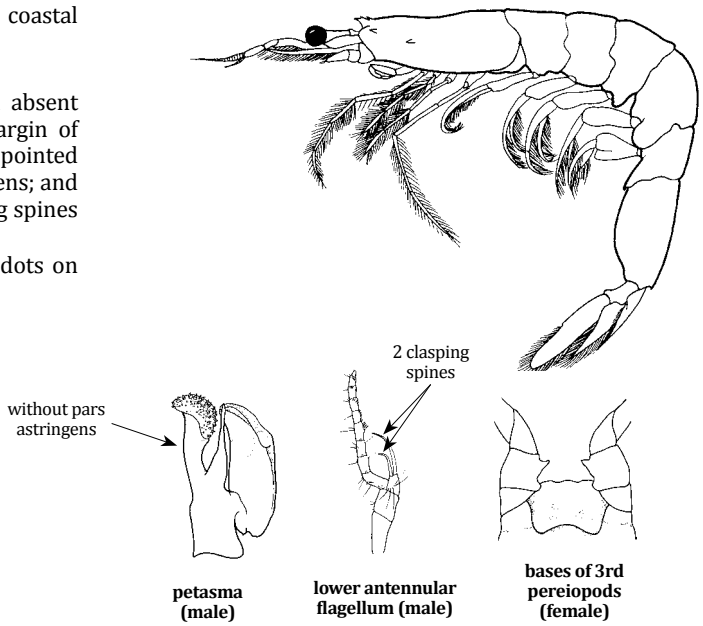



**Size:** To 1.5–2.5 cm (males), 2.3–4 cm (females)(BL)

## *Acetes japonicus* Kishinouye, 1905

**FAO names:** Akiami paste shrimp (En)
Chevrette akiami (Fr)

**Local name(s):** Gway Puzun, Nga Pi Puzun.
**Habitat:** Epipelagic, inhabits shallow coastal waters over muddy bottoms.
**Fisheries:** Push nets.
**Distinctive Characters:** Procurved tooth absent between bases of 1st pleopods; inner margin of basis of 3rd pereiopods without sharply pointed projections; petasma without pars astringens; and lower antennular flagellum with 2 clasping spines in males.
**Colour:** Body pale pink with several red dots on abdomen and basal parts of the tail fan.




**Size:** To 1.1–2.4 cm (males), 1.5–3.0 cm (females)(BL)

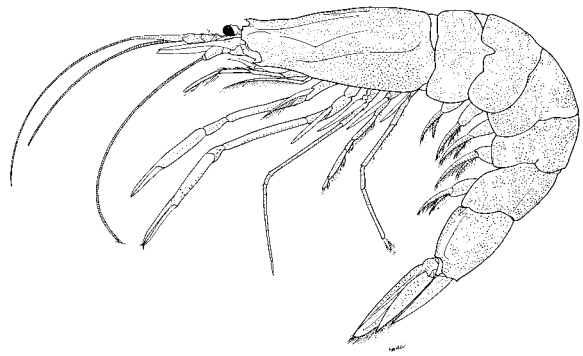
## PASIPHAEIDAE

Glass shrimps

***Pasiphaea unispinosa*** Wood-Mason, 1892

**FAO names:** Giant glass shrimp (En)

**Local name(s):** Ne Net Nylon Puzun.
**Habitat:** Bathypelagic at depths of 365–1 133 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Carapace dorsally carinate; rostrum triangular in lateral view; abdominal somites unarmed and dorsally flattened or bluntly carinate; 1st pereiopod without spine on merus; 2nd pereiopod with 1 spine near midlength of distal 2/5 of merus; posterodistal spine of basis of 2nd pereiopod smaller than that of 1st pereiopod; fingers shorter than palm; posterior margin of telson truncated, not curved.
**Colour:** Not available.



**Size:** To about 5 cm (males), about 14 cm (females)(BL)

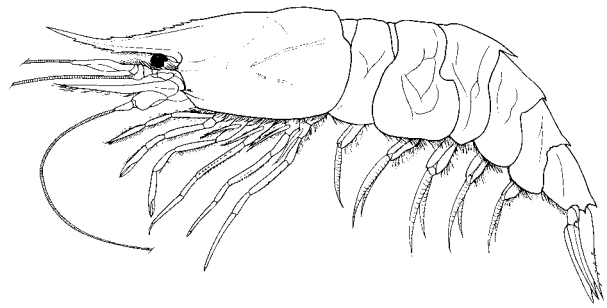
## ACANTHEPHYRIDAE

Deepsea shrimps

***Acanthephyra eximia*** Smith, 1884

**FAO names:** Orange deepsea shrimp (En)

**Local name(s):** Ye Net Lein Maw Puzun.
**Habitat:** Bathypelagic at depths of 200 to more than 4 700 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Rostrum very variable in length, in adults about 4/5 as long as carapace and often exceeding antennal scale; ventral margin of rostrum convex, armed with 1–5 (usually 3) teeth; dorsal margin of carapace sharply carinate throughout most of its length; abdomen dorsally carinate on all but anterior somite; 3rd to 6th abdominal segments each with posteromedian spine; 3rd somite with posterior margin slightly escavate either side of median tooth.
**Colour:** Body uniformly bright orange-red.



**Size:** To about 16 cm (males), about 9 cm (females)(BL)

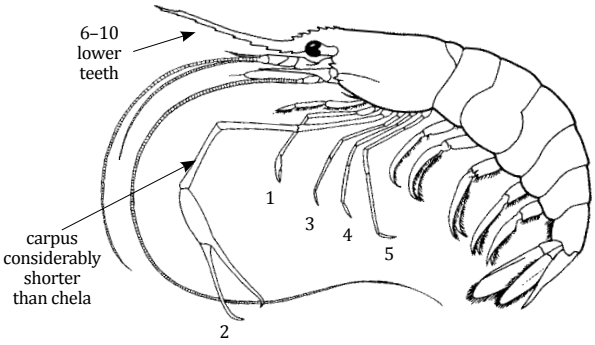
# PALAEMONIDAE

Palaemonid shrimps

## *Exopalaemon styliferus* (H. Milne Edwards, 1840)

**FAO names:** Roshna prawn (En)
Bouqet rosna (Fr)

**Local name(s):** Pa Zun Pyaung Htote.
**Habitat:** Inhabits shallow coastal waters, brackish or marine, occasionally also in fresh water.
**Fisheries:** Bottom trawls, gillnets, bag nets.
**Distinctive Characters:** Rostrum long and slender, with an elevated basal crest of 5–7 teeth over the eye; most of distal part of dorsal margin toothless, save for 1–2 subdistal teeth; branchiostegal spine and branchiostegal groove present; dactyls of 5th pair of pereiopods about 1/3 as long as propodus.
**Colour:** Whitish translucent, with distal part of rostrum dark reddish brown and some darker spots on tips of uropods and telson; ovigerous females with large dark spots on first 4 abdominal pleura; eggs of berried females yellowish.

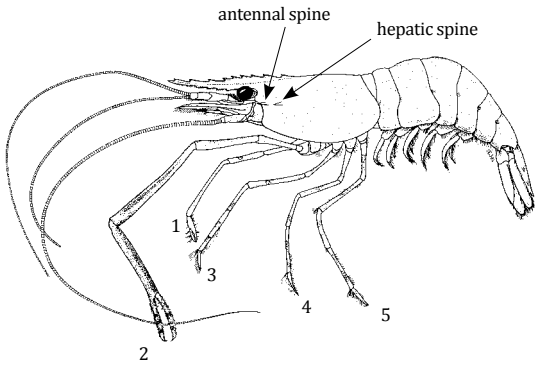



**Size:** To 9 cm (males), 8.6 cm (females)(BL)

## *Macrobrachium equidens* (Dana, 1852)

**FAO names:** Rough river prawn (En)
Bouqet chagrin (Fr)

**Local name(s):** Myit Puzun Khun Gyan.
**Habitat:** Inhabits lower parts of streams, river mouths and sea waters to a depth of at least 30 m.
**Fisheries:** Bottom trawls, gillnets, bag nets.
**Distinctive Characters:** Rostrum rather long, reaching to about end of antennal scale, armed with 9–13 upper teeth and 4–7 lower teeth; hepatic spine located on horizontal line through antennal spine; in adult males, 2nd pair of pereiopods long and strong, the fingers, but not the other parts, covered by a dense velvety pubescence; 1 or 2 enlarged proximal teeth on cutting edges of fingers.
**Colour:** Translucent, marbled or spotted with greyish, greenish or reddish; 2nd pair of pereiopods, and especially the palms, marbled with dark brownish (tortoise shell-like).

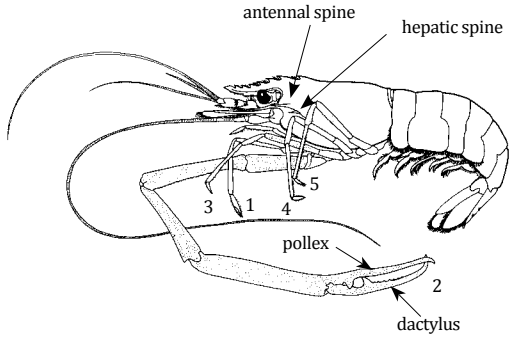



**Size:** To 9.8 cm (males), about 6.5 cm (females)(BL)

## *Macrobrachium lar* (Fabricius, 1798)

**FAO names:** Monkey river prawn (En)
Bouqet singe (Fr)

**Local name(s):** Myaul Let Myit Puzun.
**Habitat:** Adults occur mainly in fresh water; juvenile stages in brackish and salt water.
**Fisheries:** Bottom trawls, gillnets, bag nets.
**Distinctive Characters:** Rostrum short, armed with 7–10 upper teeth and 2–4 lower teeth; hepatic spine located below a line through antennal spine; in adult males, 2nd pair of pereiopods very large, all segments covered with a short pubescence; 1 very strong proximal tooth on cutting edges of fingers (dactylus tooth well advanced respect to the tooth on pollex).
**Colour:** Light olive to dark brown or blue, often with swirls of orange-brown, blue-grey on carapace; orange-red blotch near the base of the large chelipeds dactylus.

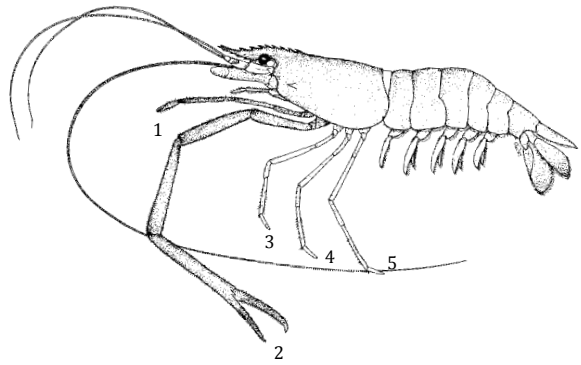



**Size:** To 18.1 cm (males), about 10 cm (females)(BL)

## *Macrobrachium malcolmsonii* (H. Milne Edwards, 1844)

**FAO names:** Monsoon river prawn (En)
Bouquet mousson (Fr)

**Local name(s):** Mo Yar Thi Myit Puzun.
**Habitat:** Essentially an inhabitant of flowing waters such as rivers and estuarine areas.
**Fisheries:** Gillnets, bag nets.
**Distinctive Characters:** Rostrum rather long, reaching to about end of antennal scale, forming a high basal crest above the eye armed with 7–11 upper teeth; 4–7 lower teeth on rostrum; hepatic spine situated distinctly below antennal spine; in adult males, 2nd pair of pereiopods with a very short pubescence which is especially distinct on the movable finger.
**Colour:** Body and anterior two pairs of pereiopods (chelipeds) dark grey, paler ventrally; antennae and inner flagella of antennules grey; outer flagella brownish.

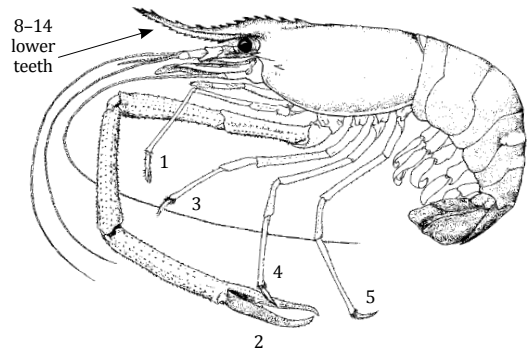



**Size:** To 23 cm (males), 20 cm (females)(BL)

## *Macrobrachium rosenbergii* (De Man, 1879)

**FAO names:** Giant river prawn (En)
Bouqet géant (Fr)

**Local name(s):** Ye Cho Pa Zun Htote.
**Habitat:** Inhabits mainly estuarine areas and rivers but sometimes also found at sea.
**Fisheries:** Bottom trawls, gillnets, bag nets.
**Distinctive Characters:** Rostrum long, well extending beyond antennal scale, forming a high basal crest above the eye armed with 11–14 upper teeth; hepatic spine situated distinctly below antennal spine; in adult males, entire 2nd pair of pereiopods densely covered with spines and sharp tubercles.
**Colour:** Body generally dark green to greyish blue, with longitudinal or irregular streaks of darker and lighter colour; hinges of abdominal segments often orange; eggs yellowish; youngs and berried females often with some longitudinal golden strips on the sides of body.

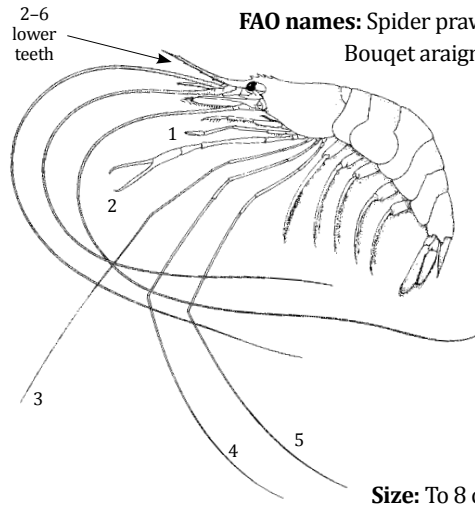



**Size:** To 34 cm (males), 26 cm (females)(BL)

## *Nematopalaemon tenuipes* (Henderson, 1893)

**FAO names:** Spider prawn (En)
Bouqet araignée (Fr)

**Local name(s):** Pazun Bawt Jate.
**Habitat:** Inhabits shallow coastal waters to depths of about 20 m, and also found in estuarine and brackish waters.
**Fisheries:** Bottom trawls, gillnets, bag nets.
**Distinctive Characters:** Rostrum long and slender, with an elevated basal crest of 4–7 teeth over the eye; most of distal part of dorsal margin toothless save for a small subdistal tooth; dactyls of 3rd to 5th pairs of pereiopods extremely long and thin, far longer than propodus and carpus combined.
**Colour:** Whitish translucent with distal part of rostrum dark reddish brown; some reddish brown colour on antennae, antennules and distal margins of uropods and telson; also a reddish brown spot on bases of uropods.



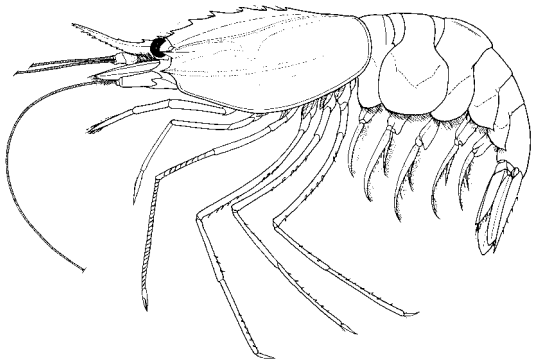

**Size:** To 8 cm (BL)

# PANDALIDAE
Pandalid shrimps

***Heterocarpus chani*** Li, 2006

**FAO names:** Smooth nylon shrimp (En)

**Local name(s):** Ye Net Nylon Puzun.
**Habitat:** Sandy mud bottoms at 382 to 888 m deep.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Rostrum curved upwards extending beyond distal edge of antennal scale; dorsal margin with 8–9 teeth of which 5 are situated behind the orbit; ventral margin with 13–15 teeth along entire length (tooth size progressively reduced distally); abdomen unarmed dorsally with blunt median carina on 3rd segment; pleura of 4th and 5th abdominal segments with acute posteroventral tooth; exopod on 3rd maxilliped reduced but distinct.
**Colour:** Body orange-red; eyes black-brown; flagella, pereiopods, pleopods and tail fan generally reddish; eggs dark green.

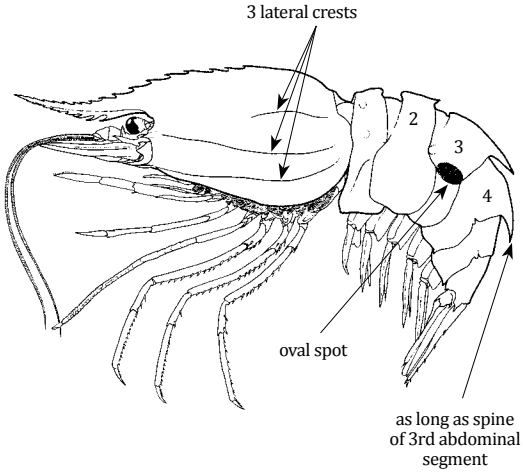


**Size:** To 8.5 cm (males), about 10 cm (females)(BL)

***Heterocarpus sibogae*** De Man, 1917

**FAO names:** Mino nylon shrimp (En)
Crevette nylon mino (Fr)

**Local name(s):** Ye Net Gaung Gyi Puzun.
**Habitat:** Found on bottoms of sand and mud from depths of 123–850 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Rostrum slightly curved upwards extending beyond distal edge of antennal scale; dorsal margin with 9–26 teeth of which 3–7 are situated behind the orbit; ventral margin with 6–13 teeth along entire length; carapace with 3 lateral crests on each side; distinct mid-dorsal keel on abdominal segments 1st to 4th, those of 3th and 4th produced posteriorly into a long and similar size spine.
**Colour:** Body pale pink to pale red, carapace often orangish red, a red band near tip of rostrum, a large reddish spot on lateral side of 3rd abdominal segment, eggs bright blue.

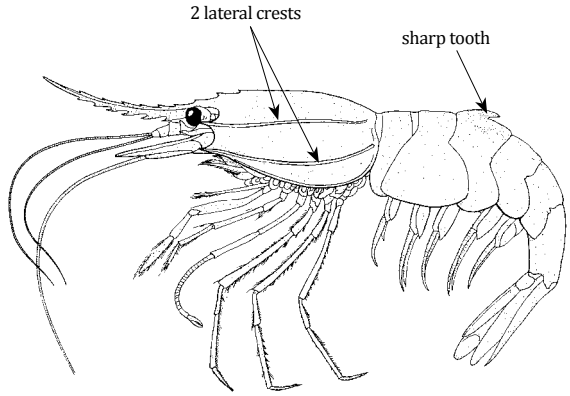



**Size:** To 11 cm (BL)

***Heterocarpus woodmasoni*** Alcock, 1901

**FAO names:** Indian nylon shrimp (En)
Crevette nylon indienne (Fr)

**Local name(s):** India Ye Net Nylon Puzun.
**Habitat:** Found on bottoms of sand and mud from depths of about 275–655 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Rostrum long, slightly curved, with 9–11 dorsal and 6–9 ventral teeth; dorsal teeth starting in anterior fourth of carapace; carapace with 2 lateral crests on each side, extending over the full length of carapace; mid-dorsal keel present from 3rd to 5th abdominal segments, not ending in posterior spines; a conspicuous elevated, sharp tooth at middle of dorsal crest of 3rd segment.
**Colour:** Body evenly pinkish red; eyes black brown; eggs brownish green.



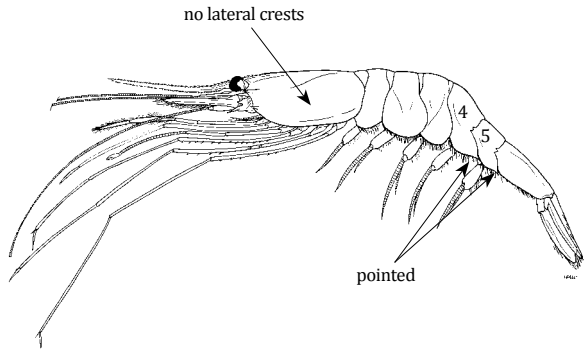

**Size:** To 14.9 cm (BL)

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***Plesionika quasigrandis*** Chace, 1985

**FAO names:** Indian pink shrimp (En)

**Local name(s):** India Ye Net Puzun Pan Yaung.
**Habitat:** Sandy mud bottom at depths of 164–501 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Rostrum long, slightly curved, with 41–53 (including 4–7 teeth on post-rostral ridge of carapace) dorsal and 32–44 ventral teeth; posterior 10 ventral rostral teeth corresponding to 8 or fewer dorsal teeth; abdomen unarmed dorsally; pleura of 4th and 5th abdominal segments pointed.
**Colour:** Body generally pale pink and covered with dense reddish pink dots; antennal flagella red or white; eggs bright blue.

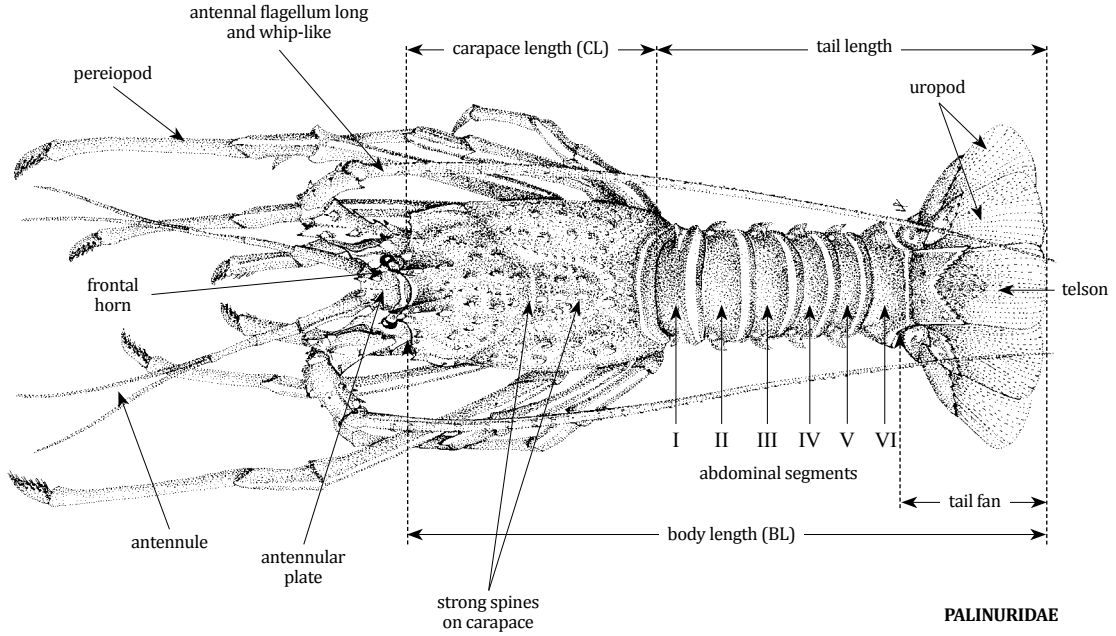



**Size:** To about 8 cm (BL)

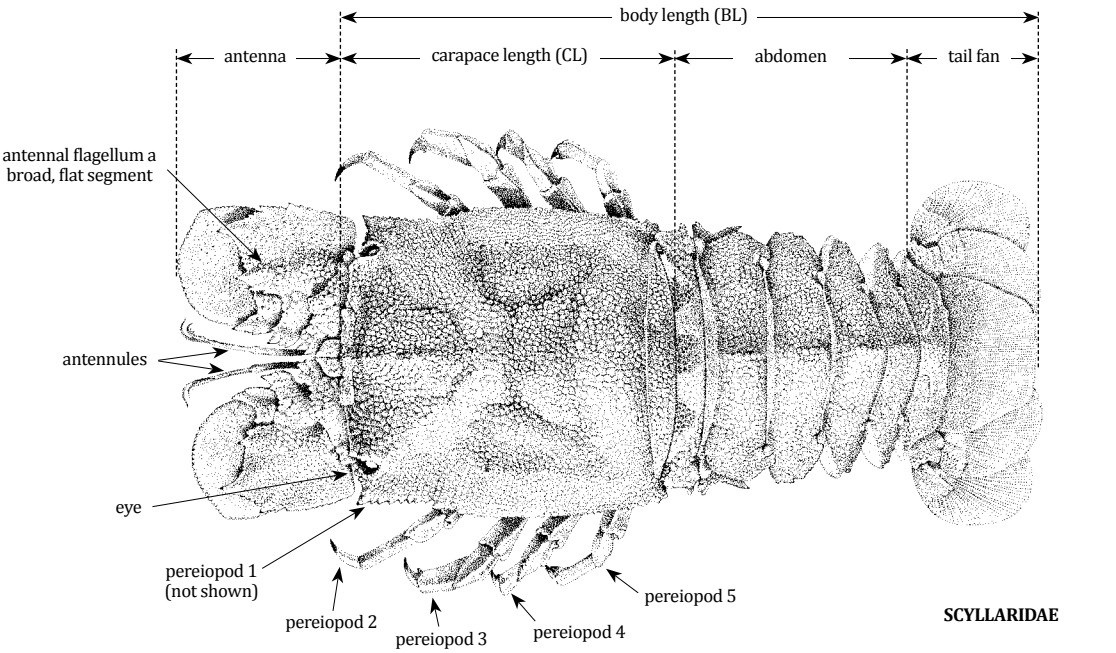
# LOBSTERS

Lobsters of the genera *Panulirus* and *Thenus* are of high commercial value locally and internationally. Five species occur in reasonable numbers in Myanmar: *Panulirus homarus*, *Panulirus ornatus*, *Panulirus polyphagus*, *Panulirus versicolor* and *Thenus indicus*. These are caught along the coast by traps, gillnets and free-diving. Four species, *Metanephrops andamanicus, Linuparus somniosus, Palinustus waguensis* and *Puelurus sewelli*, have been collected during experimental trawl surveys in off-shore waters. They are presently not commercially exploited but may represent potential fishery resources. Fifteen species belonging to 3 families are included in the guide.

## TECHNICAL TERMS AND MEASUREMENTS




**PALINURIDAE**




**SCYLLARIDAE**

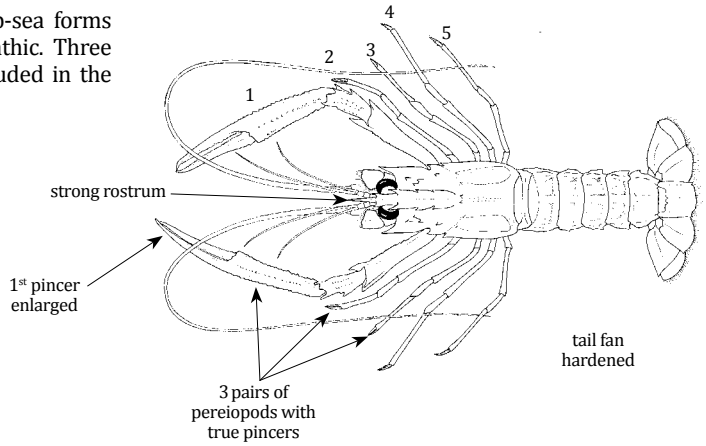
# GUIDE TO FAMILIES

## NEPHROPIDAE

**Page 57**

**True lobsters and lobsterettes**

To about 20 cm (BL). Marine, all deep-sea forms from 150 to more than 1 893 m; benthic. Three species of interest to fisheries are included in the Guide to Species.

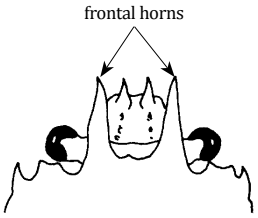


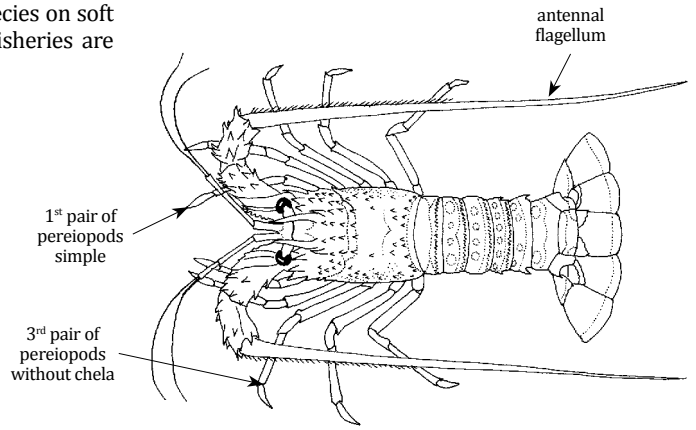

## PALINURIDAE

**Page 58**

**Spiny lobsters**

To about 50 cm (BL). Marine, mostly shallow waters on coral and sand stone reefs, some species on soft substrata. Nine species of interest to fisheries are included in the Guide to Species.



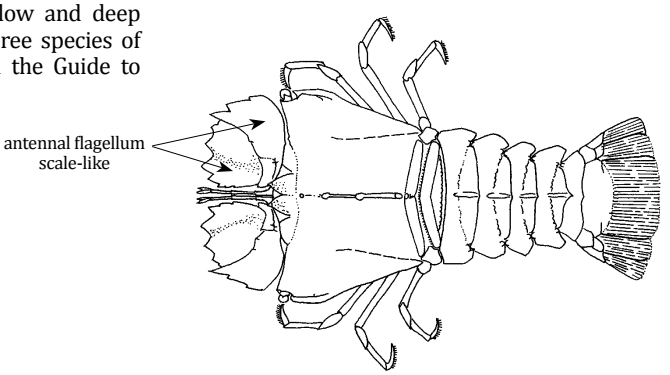




## SCYLLARIDAE

**Page 63**

**Slipper lobsters**

To about 30 cm (BL). Marine, shallow and deep waters down to 484 m; benthic. Three species of interest to fisheries are included in the Guide to Species.



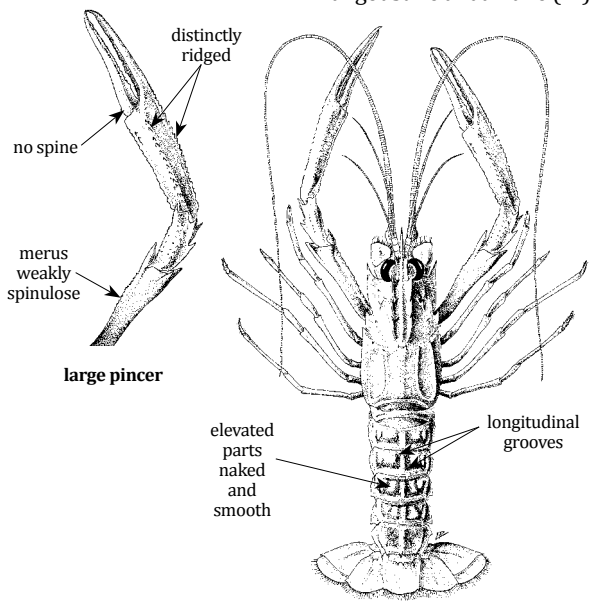
# NEPHROPIDAE

True lobsters and lobsterettes

***Metanephrops andamanicus*** (Wood-Mason, 1892)

**FAO names:** Andaman lobster (En)
Langoustine andamane (Fr)

**Local name(s):** Ye Net Puzun Htote.
**Habitat:** On hard mud in depths from 250 to 750 m, but mostly from 300 to 450 m; probably lives in burrows.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Carapace smooth between the ridges and large spines; postrostral carinae with 3 teeth; abdomen with distinct transverse and longitudinal grooves; large pincers distinctly ridged; no prominent basal spine on outer edge of movable finger of large pincers; inner margin of merus of large pincers weakly spinulose.
**Colour:** Body uniformly red-orange; large pincers somewhat banded white and red; postrostral carinae white; eyes black.



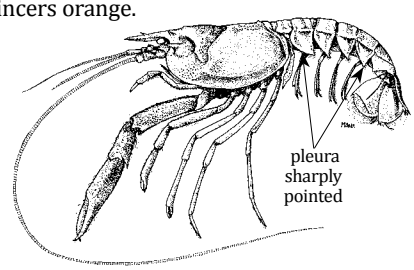

**Size:** To 20 cm (BL)

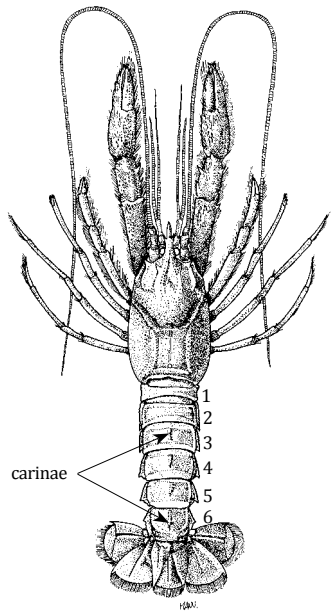
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***Nephropsis carpenteri*** Wood-Mason, 1885

**FAO names:** Ridge-back lobsterette (En)

**Local name(s):** Kyaw Sin Ye Net Puzun Htote.
**Habitat:** Depth range between 200 and 500 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Body granular and hairy; all pleura sharply pointed ventrally but lacking spines on front edges; rostrum armed with 1 pair of lateral spines and extending to anterior margin of antennular peduncles; abdominal somites 3 to 6 with a median londitudinal carina; large pincers very hairy.
**Colour:** Dorsal side of body light orange (anterior carapace and tail fan more intensely coloured); lateral parts of carapace and of abdominal segments sometimes white; antennal and antennular flagella white to red; pereiopods white, with distal segments orange; large pincers orange.



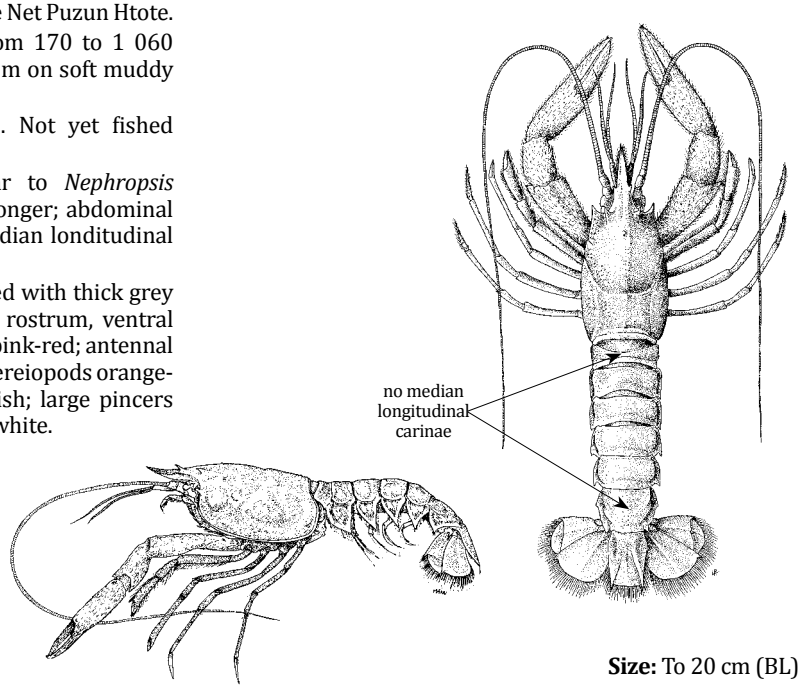




**Size:** To 12 cm (BL)

***Nephropsis stewarti*** Wood-Mason, 1872

**FAO names:** Indian Ocean lobsterette (En)
Langoustine indienne (Fr)

**Local name(s):** India Samudra Ye Net Puzun Htote.
**Habitat:** Deep sea at depths from 170 to 1 060 m, mostly between 500 and 750 m on soft muddy substrate.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Similar to *Nephropsis carpenteri* but rostrum slightly longer; abdominal somites without any trace of median londitudinal carina.
**Colour:** Body whitish and covered with thick grey fur; anterior carapace including rostrum, ventral surface, mouth parts and tail fan pink-red; antennal and antennular flagella orange; pereiopods orange-pink, with distal segments reddish; large pincers sometimes slightly orange; eggs white.




**Size:** To 20 cm (BL)

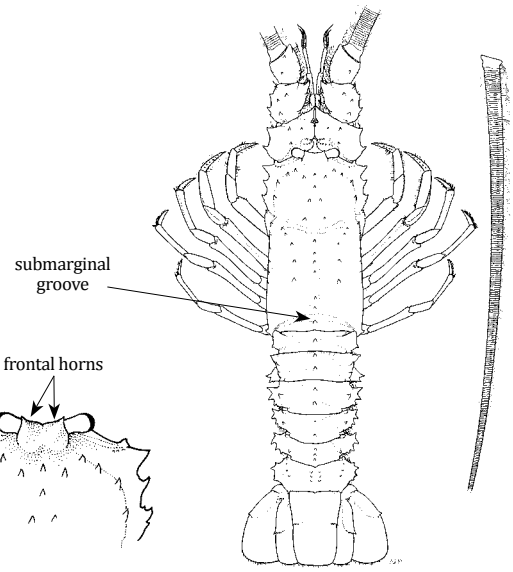
## PALINURIDAE

Spiny lobsters

***Linuparus somniosus*** Berry & George, 1972

**FAO names:** African spear lobster (En)

**Local name(s):** Africa Ye Net Puzun.
**Habitat:** On rough substrates with sand and mud in depths from 216 to 375 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Antennal flagella straight and inflexible; frontal horns fused to a broad 2–spined median projection on the anterior margin of the carapace between the eyes; no strong median teeth present between frontal horns; abdominal pleura bearing a few enlarged tubercles but basal teeth absent; submarginal posterior groove of carapace much wider medially than laterally; vestigial pleopods present on 1st abdominal segment of female.
**Colour:** Dorsal surface of antennal peduncles, carapace and abdomen reddish brown; lateral parts of the antennal peduncles and carapace dull white; antennal flagella dirty white; ventral surface of body and pereiopods dull white, with antennal peduncles, epistome and sternum pale reddish brown.



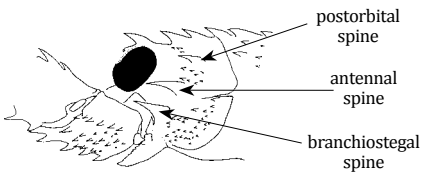

**anterior part of carapace (dorsal view)**

**Size:** To 35 cm (BL)

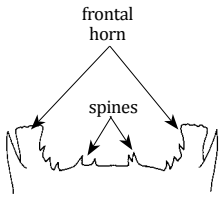
## *Palinustus waguensis* Kubo, 1963

**FAO names:** Japanese blunthorn lobster (En)

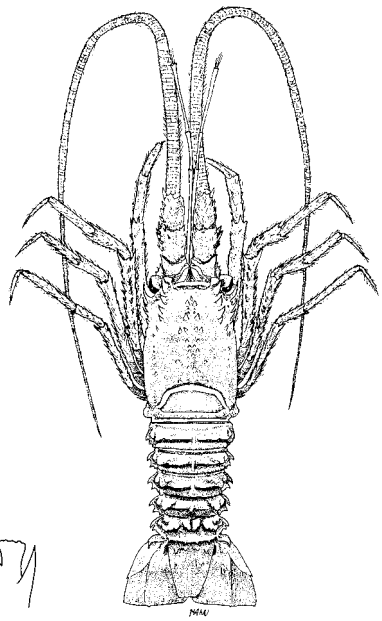
**Local name(s):** Ye Net Kyauk Puzun Su Toe.
**Habitat:** Inhabits the outer parts of coral and rocky reef slopes at depths from 72 to 180 m.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Elevated parts of abdomen distinctly pubescent; carapace angular; anterior margin of carapace between frontal horns provided with 0 to 8 (mostly more than 2) irregularly arranged spines; postorbital spine distinctly shorter than antennal spine and branchiostegal spines.
**Colour:** Overall body colour orange with anterior margin of carapace between supraorbital horns reddish; antennules banded and legs covered with dense narrow red rings; hinges between carapace and abdomen with a pair of white spots; abdominal segments, as well as inner bases of endopods of uropods each with a pale spot on sides.



**anterior part of carapace (lateral view)**



**anterior part of carapace (dorsal view)**

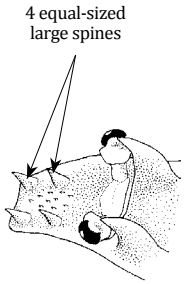


**Size:** To 14 cm (BL)

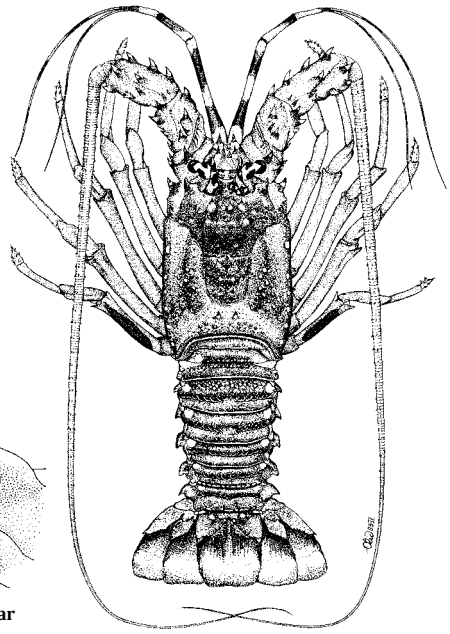
## *Panulirus homarus* (Linnaeus, 1758)

**FAO names:** Scalloped spiny lobster (En)
Langouste festonnée (Fr)

**Local name(s):** Kyauk Puzun.
**Habitat:** Inhabits shallow waters among rocks, often in the surf zone. Maximum depth 90 m.
**Fisheries:** Mostly by gillnets, traps and free-diving.
**Distinctive Characters:** Carapace rounded, covered with numerous spines of various sizes; flagella of antennules longer than peduncle; rostrum absent; bases of antennae separated by a broad antennular plate bearing 2 equal, well separated pairs of principal spines and scattered smaller spines in between; each abdominal segment with a transverse groove, sometimes interrupted in the middle, its anterior margins formed into shallow scallops; pereiopods 1 to 4 without pincers.
**Colour:** Dark greenish to blackish with numerous, very small white spots especially distinct on posterior half of abdomen, without transverse bands; antennules banded with white and green; pereiopods with indistinct white spots and stripes.



**antennular plate**

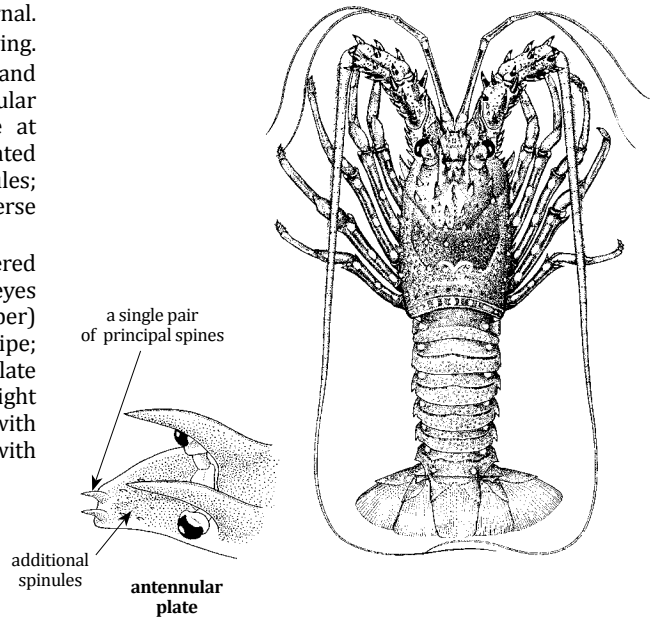


**Size:** To 31 cm (BL)

## *Panulirus longipes* (A. Milne-Edwards, 1868)

**FAO names:** Longlegged spiny lobster (En)
Langouste diablotin (Fr)

**Local name(s):** Chay Tan Shae Kyauk Puzun.
**Habitat:** Found in shallow coral or rocky reefs (but can be found down to a depth of 130 m); nocturnal.
**Fisheries:** Mostly by gillnets, traps and free-diving.
**Distinctive Characters:** Carapace rounded and spiny; flagella of antennules longer than antennular peduncle; rostrum absent; antennular plate at bases of antennae bearing 1 pair of well separated principal spines and some scattered spinules; abdominal segments with complete transverse grooves.
**Colour:** Body dark brown to indigo and covered with numerous white spots and markings; eyes black-brown; lateral carapace with 1 short (upper) and 1 long (lower) longitudinal white stripe; inner surfaces of antennae and antennular plate brown to purple and with stridulating pad bright blue; antennules dark brown and alternated with conspicuous white bands; abdomen covered with numerous small to medium-sized white spots.

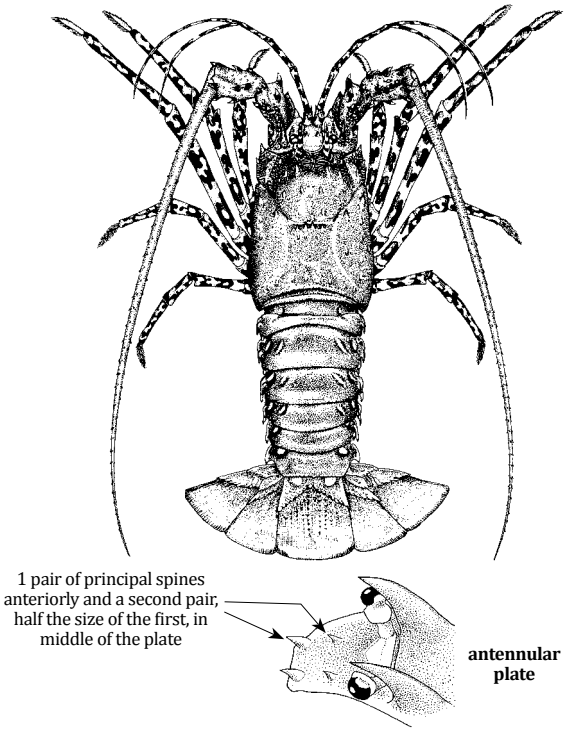



**Size:** To 35 cm, common 18–25 cm (BL)

## *Panulirus ornatus* (Fabricius, 1798)

**FAO names:** Ornate spiny lobster (En)
Langouste ornée (Fr)

**Local name(s):** Kyauk Puzun.
**Habitat:** Inhabits shallow, sometimes slightly turbid coastal waters usually on sand and mud substrates, but also on coral reefs and rocky bottoms. Maximum depth 8 m.
**Fisheries:** Mostly by gillnets, traps and free-diving.
**Distinctive Characters:** Carapace rounded, covered with numerous spines and tubercles of different sizes; flagella of antennules longer than antennular peduncles; bases of antennae separated by a broad antennular plate bearing one pair of spines anteriorly and a 2nd pair in the middle of the plate; each abdominal segment smooth without a transverse groove; pereiopods without pincers.
**Colour:** Bluish or greenish spines on yellow carapace; anterior part of carapace and near the bases of the frontal horns and the anterior spines with a vermicular pattern of pale and dark lines; abdomen with a broad, dark transverse band over the middle of the segments, each segment with a large pale spot on sides and an additional oblique elongate mark higher up on the 2nd, 3rd and 4th segments; no transverse white band along posterior margin of the segments; antennular flagella banded; pereiopods with distinct, sharply defined dark and pale blotches.

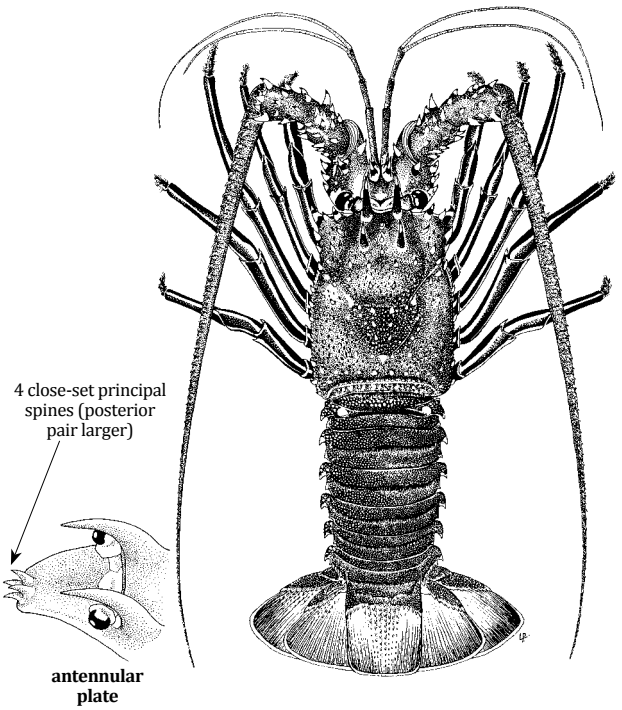



**Size:** To 50 cm, common 30.5 cm (BL)

## *Panulirus penicillatus* (Olivier, 1791)

**FAO names:** Pronghorn spiny lobster (En)
Langouste fourchette (Fr)

**Local name(s):** Suu Shae Kyauk Puzun.
**Habitat:** Found in shallow waters, usually at depths from 1 to 4 m (maximum depth 16 m) at seaward edges of reefs, in clear waters not influenced by rivers.
**Fisheries:** Mostly by gillnets, traps and free-diving.
**Distinctive Characters:** Carapace rounded and spiny; flagella of antennules longer than antennular peduncle; rostrum absent; bases of antennae separated by a broad antennular space bearing 4 close-set principal spines (posterior pair larger); abdominal segments with a transverse groove, not continuous with pleural groove; pereiopods 1 to 4 without pincers.
**Colour:** Body dark blue and brown; males usually darker than females; eyes black; tips of large spines on carapace yellowish; antennular peduncle striped with white lines, flagella uniformly brownish; membranous areas at outer base of antenna light blue; legs conspicuously striped with white lines; abdomen with tiny pale dots; pleopods and soft part of tail fan black.

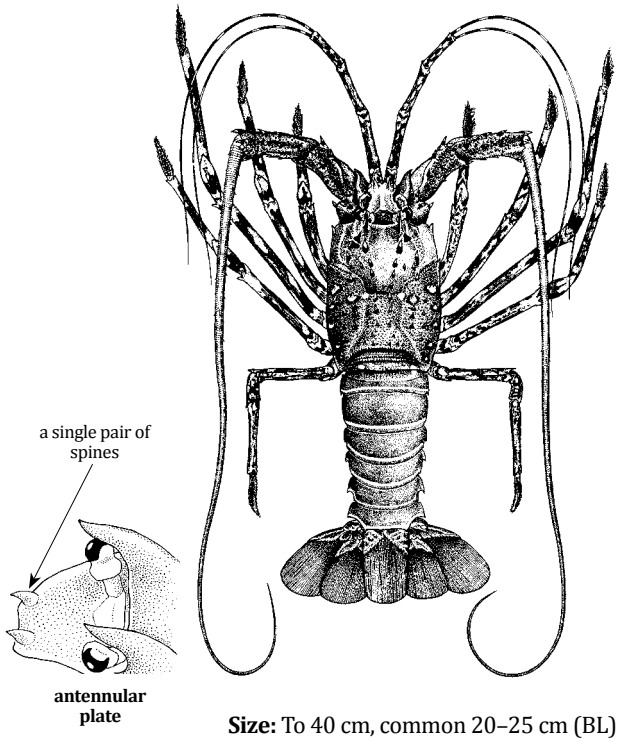



**Size:** To 40 cm, common 20–30 cm (BL)

## *Panulirus polyphagus* (Herbst, 1793)

**FAO names:** Mud spiny lobster (En)
Langouste de vase (Fr)

**Local name(s):** Shunt Kyauk Puzun.
**Habitat:** Mainly found on muddy bottoms (sometimes also on rocky bottoms) in turbid waters near river mouths at depths from 3 to 90 m, but usually less than 40 m deep.
**Fisheries:** Mostly by gillnets, traps and free-diving.
**Distinctive Characters:** Carapace rounded, covered with numerous spines of various sizes; flagella of antennules longer than antennular peduncle; rostrum absent; bases of antennae separated by a broad antennular space bearing a single pair of principal spines; abdominal segments without transverse grooves; pereiopods 1 to 4 without pincers.
**Colour:** Body dull green; eyes black-brown; spines on carapace with yellowish brown tips; orbital margin and posterior marginal groove yellowish white; antennular peduncle alternated with yellowish white and pale green bands; flagella banded with yellowish white and dark brown; pereiopods light brown with yellowish white blotches; abdomen with tiny pale dots; a yellowish white band with brown margins near posterior border of each segment.

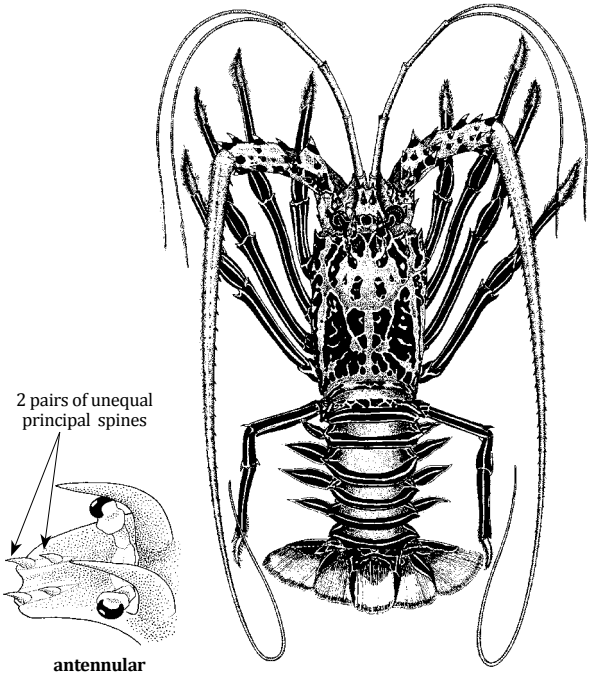



**Size:** To 40 cm, common 20–25 cm (BL)

## ***Panulirus versicolor*** (Latreille, 1804)

**FAO names:** Painted spiny lobster (En)
Langouste barriolée (Fr)

**Local name(s):** Sae Yaung Chal Kyauk Puzun.
**Habitat:** Shallow waters, from the sub-littoral zone down to 15 m, on coral reefs, often on the seaward edges of the reef plateau; nocturnal.
**Fisheries:** Mostly by gillnets, traps and free-diving.
**Distinctive Characters:** Carapace rounded, covered with numerous spines of various sizes; flagella of antennules longer than antennular peduncle; rostrum absent; bases of antennae separated by a broad antennular space bearing 2 pairs of unequal and separate principal spines; abdominal segments without transverse grooves; pereiopods 1 to 4 without pincers; abdominal segments II and III with broad sunken pubescent areas.
**Colour:** Green-blue with a distinctive pattern of blue-black patches and white lines on carapace; a transverse band of white, bordered by 2 black lines across each abdominal segment; pereiopods and antennules longitudinally striped (blotched in *Panulirus ornatus*); bases of antennae bright pink, not extending onto antennular plate.



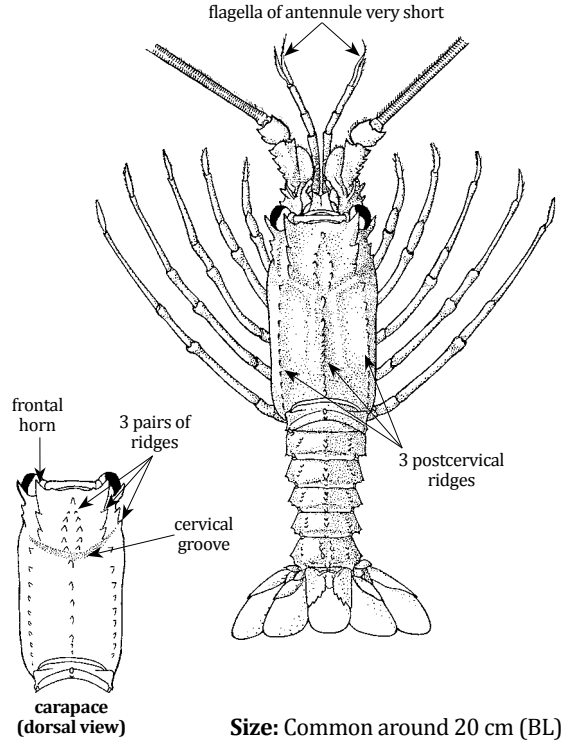

**Size:** To 40 cm, common 30 cm (BL)

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## ***Puerulus sewelli*** Ramadan, 1938

**FAO names:** Arabian whip lobster (En)

**Local name(s):** Ar Ye Bya Ye Net Puzun Htote.
**Habitat:** Known from depths between 73 and 1 608 m, but most commonly found from 200 to 500 m, on hard bottoms of coarse sand, mud or shells.
**Fisheries:** Deep bottom trawls. Not yet fished commercially in the area.
**Distinctive Characters:** Carapace angular, with a median and 2 lateral tuberculate longitudinal ridges behind the transverse cervical groove, and 3 pairs of ridges in front; median postcervical ridge with 8–9 small teeth; antennular plate present, without spines, forming stridulating organs with the antennal peduncle.
**Colour:** Body rather uniformly orange-brown, with distal parts of teeth on carapace and median keel on abdomen whitish; eyes black brown; antennal flagella with basal half orange-brown while distal half whitish; pereiopods and antennules with basal segments orange-pink and distal segments somewhat whitish; abdomen with articulated parts of somites and pleural spurs whitish; eggs reddish.




**Size:** Common around 20 cm (BL)

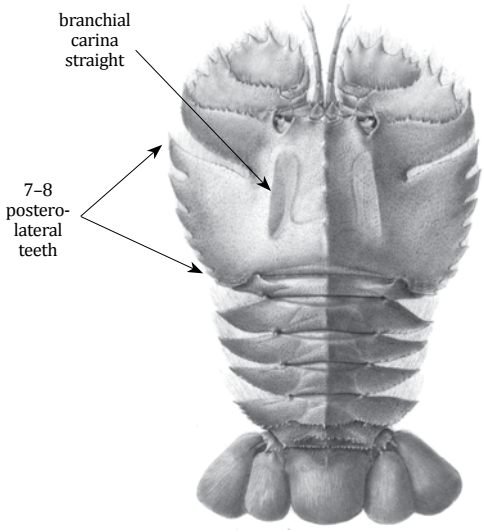
# SCYLLARIDAE

Slipper lobsters

## *Ibacus novemdentatus* Gibbes, 1850

**FAO names:** Smooth fan lobster (En)
Cigale glabre (Fr)

**Local name(s):** King Puzun Pyar, Gyap Pazun.
**Habitat:** Found at depths from 37 to 400 m on levelled bottom of sand and mud.
**Fisheries:** Bottom trawls, gillnets, traps.
**Distinctive Characters:** Body extremely flattened and with dorsal surface rather smooth or slightly pitted; carapace with nearly straight branchial carinae; posterior incision of orbit without tubercle; cervical incisions deep but narrow; posterolateral margin cut into 7–8 teeth; posterior margin of 5th abdominal segment evenly serrated, bearing a median spine; abdominal pleura directed laterally.
**Colour:** Body pale yellowish brown and marbled with reddish brown patches on dorsal surface; ventral surfaces of carapace and legs brown and white; eyes dark brown; soft part of tail fan transparent and somewhat pale yellowish; eggs orange.

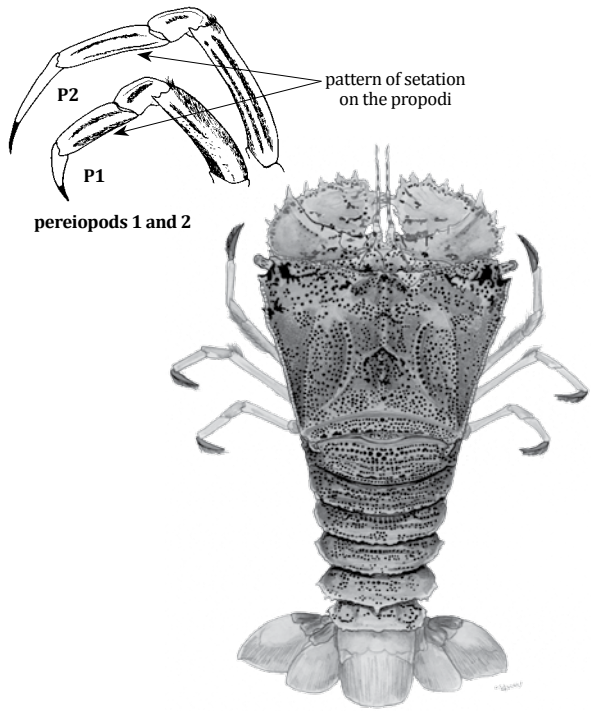



**Size:** To 19 cm (BL)

## *Thenus indicus* Leach, 1815

**FAO names:** Indian flathead lobster (En)

**Local name(s):** India King Puzun Pyar, Gyap Puzun.
**Habitat:** Mud and sand bottoms, mostly at depths of 10-50 m.
**Fisheries:** Bottom trawls, gillnets, traps.
**Distinctive Characters:** Body markedly depressed, with surface pubescent and granulate; carapace trapezoid, narrowing posteriorly, with weak branchial carinae and shallow cervical incisions; anterior part of lateral margin with only 2 teeth, posterior 3/4 without teeth; orbits situated at anterolateral angles of carapace; antennae broad, flattened and plate-like; all pereiopods without pincers and similar in size; abdomen with median carina and transverse grooves, 5th segment armed with a strong posteromedian spine; pleura directed downwards; outer faces of propodi of pereiopods 1 and 2 having upper-most longitudinal groove bearing obvious setae over at least proximal half; merus of 3rd maxilliped with a small spine proximally on inner ventral margin; inner margin of ischium prominently dentate along entire length.
**Colour:** Pale yellowish brown with the granules of a darker brown; tips of the teeth whitish; tail fan with a yellow tinge; no spotting on pereiopods.
**Remarks:** Previously reported under the name of "*Thenus orientalis*" (see Burton and Davie, 2007).




**Size:** To about 16 cm (BL)

***Thenus*** cf. ***parindicus*** Burton & Davie, 2007

**FAO names:** False Indian flathead lobster (En)

**Local name(s):** India King Puun, Gyap Puzun.

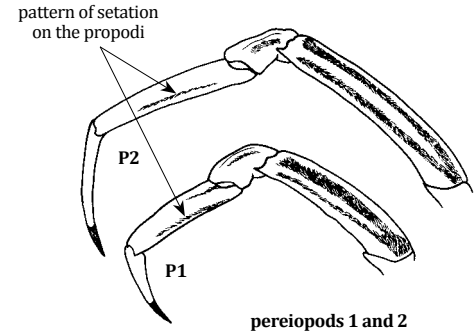
**Habitat:** Mud and sand bottoms, mostly at depths of 10-50 m.

**Fisheries:** Bottom trawls, gillnets, traps.

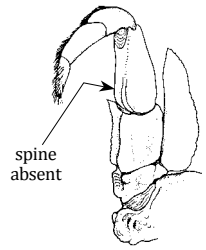
**Distinctive Characters:** Similar to *Thenus indicus* but outer face of propodi of pereiopods 1 and 2 having upper-most longitudinal groove with setae reduced to thin short line near base, or completely lacking; merus of 3rd maxilliped without a small spine proximally on inner ventral margin; inner margin of ischium distally dentate, but smoother and slightly molariform proximally.

**Colour:** Pale yellowish brown with the granules of a darker brown; tips of the teeth whitish; tail fan with a yellow tinge; no spotting on pereiopods.

**Remarks:** One specimen with intermediate characters between *T. indicus* and *T. parindicus* (with 2nd pereiopod fits the character of the former while the 3rd maxilliped fits the latter species) has been collected in Myanmar (T.Y. Chan, pers. comm., 2016).




**pereiopods 1 and 2**



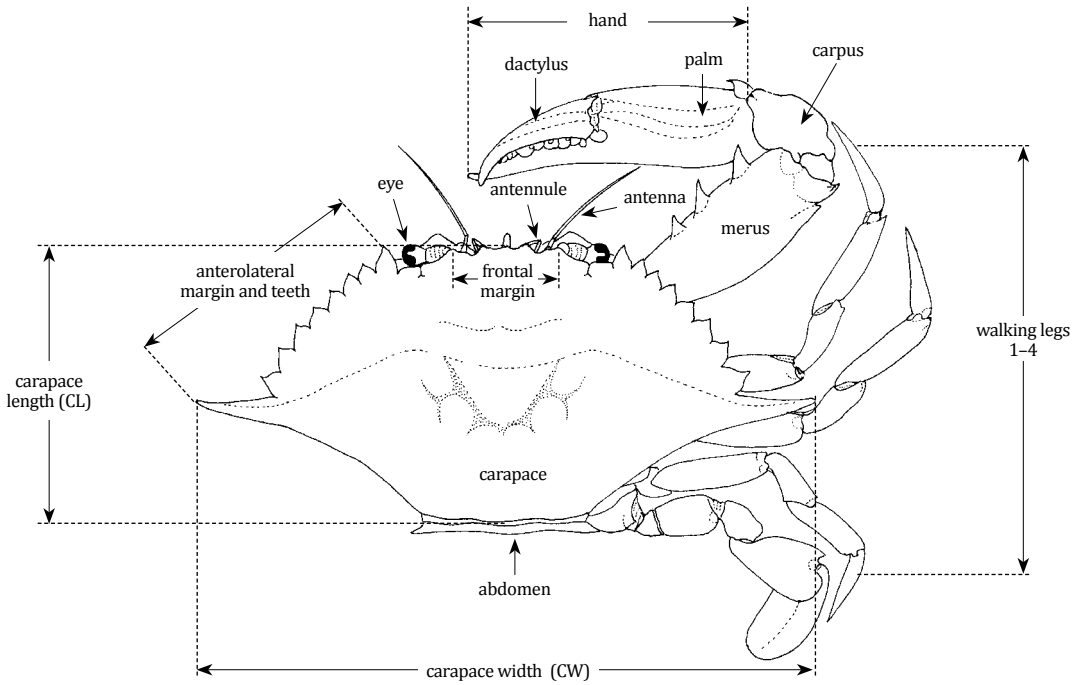

**3rd maxilliped**

**Size:** To about 16 cm (BL)

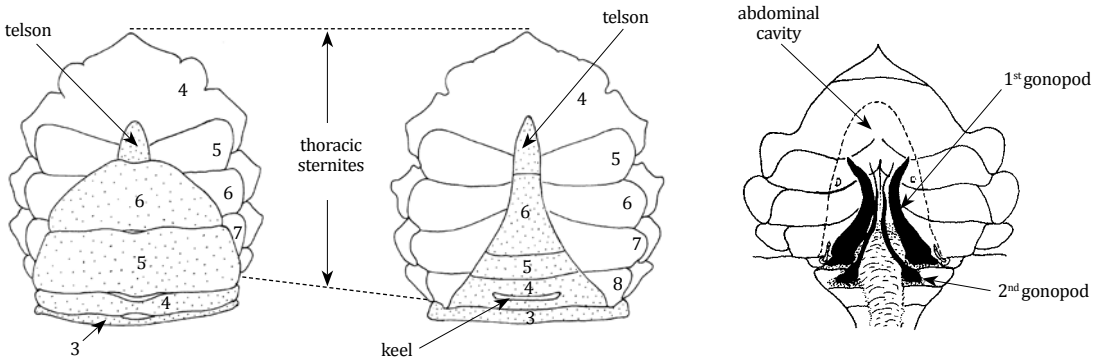
# CRABS

Many species of crabs occur in Myanmar, but only a few species are considered important to fisheries. Among these, members of the family Portunidae (except those of small size) are considered of commercial value on the local and international market and exported in whole frozen, and in form of cut crab. Some species such as *Scylla olivacea* and *S. serrata* are cultured in mangroves and mud flats. Thirty-three species, belonging to twelve families are included in the guide.

## TECHNICAL TERMS AND MEASUREMENTS




**general shape (dorsal view) of a brachyuran crab (family Portunidae)**




**abdomen of female** **abdomen of male** **male abdominal cavity (ventral view)**

**thoracic sternum and abdomen (ventral view)**

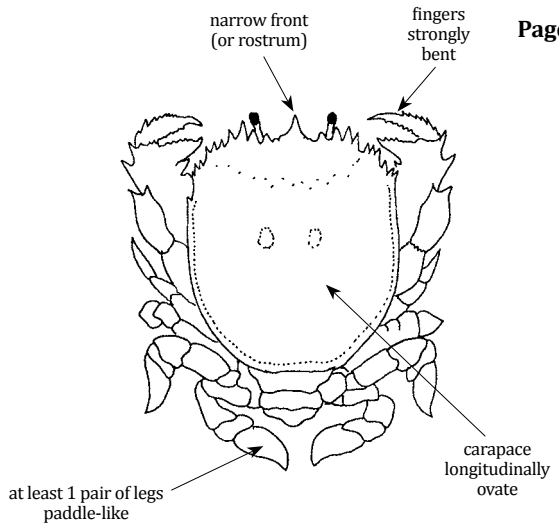
# GUIDE TO FAMILIES

## RANINIDAE

Page 70

**Spanner crabs**

To about 15 cm (CL). Benthic crabs with preference for open sany areas. One species of interest to fisheries is included in the Guide to Species.

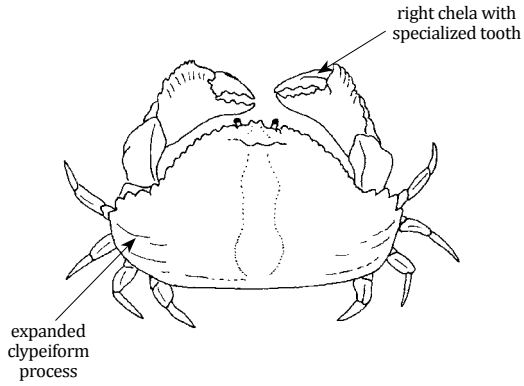


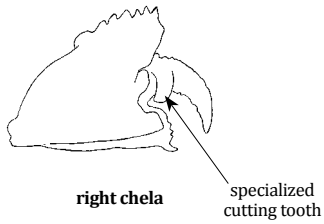

## CALAPPIDAE

Page 70

**Box crabs**

To about 12 cm (CW). Burrowing crabs on soft and mud substrates. Five species of interest to fisheries are included in the Guide to Species. *Calappa clypeata* Borradaile, 1903, recorded during experimental trawl surveys in Myanmar's waters is not included in the guide because of low commercial importance.



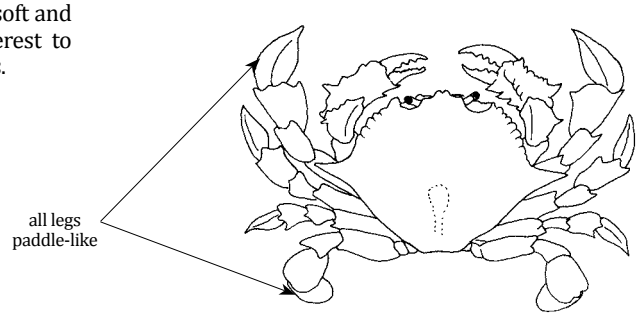

Page 73

## MATUTIDAE

**Moon crabs**

To about 6.5 cm (CW). Burrowing crabs on soft and mud substrates. Three species of low interest to fisheries are included in the Guide to Species.

carapace circular to ovate; legs distinctly flattened laterally, last 2 segments of all legs paddle-like

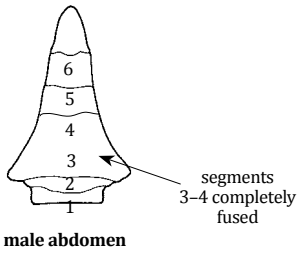


## CARPILIIDAE

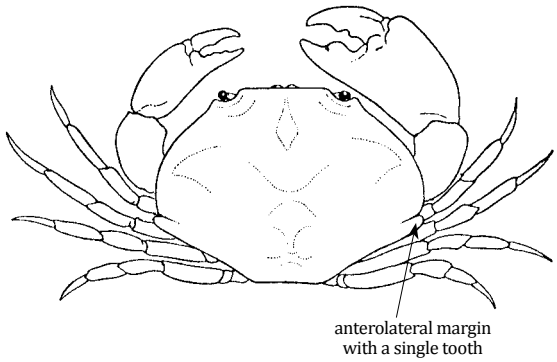
Page 74

**Reef crabs**

To about 18 cm (CW). Benthic crabs on reef habitats. Two species of interest to fisheries are included in the Guide to Species.




**male abdomen**

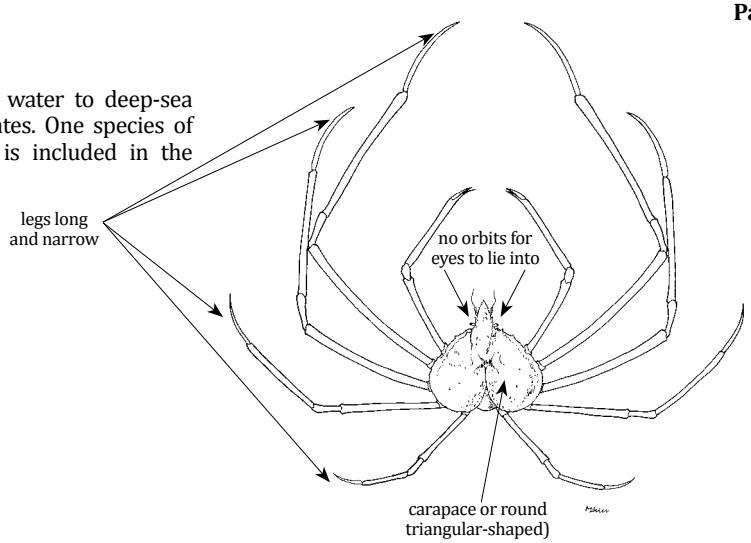



## INACHIDAE

Page 75

**Arrow crabs**

To about 3 cm (CW). Shallow water to deep-sea crabs on soft and mud substrates. One species of potential interest to fisheries is included in the Guide to Species.

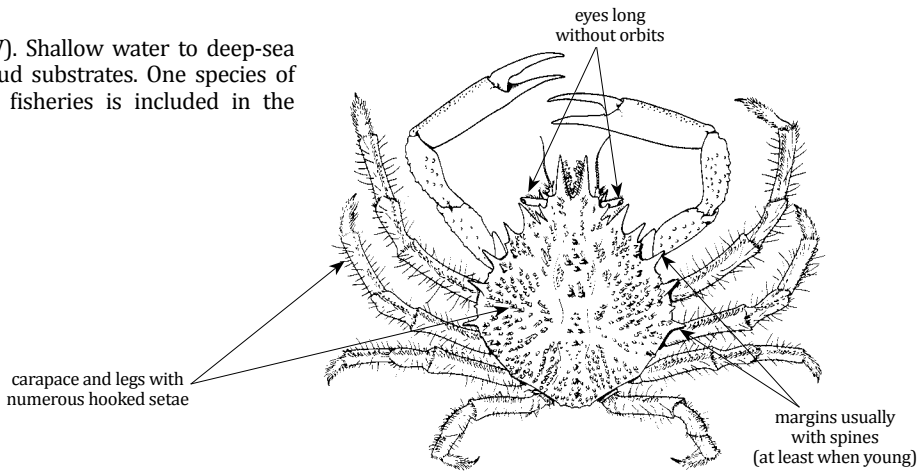



## MAJIDAE

Page 76

**Spider crabs**

To about 15 cm (CW). Shallow water to deep-sea crabs on soft and mud substrates. One species of potential interest to fisheries is included in the Guide to Species.

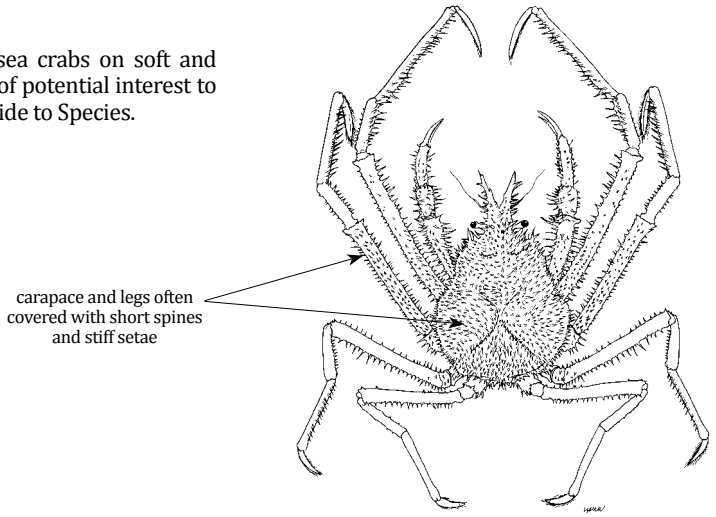


## OREGONIIDAE

Page 76

**Deepwater spider crabs**

To about 8 cm (CW). Deep-sea crabs on soft and mud substrates. One species of potential interest to fisheries is included in the Guide to Species.

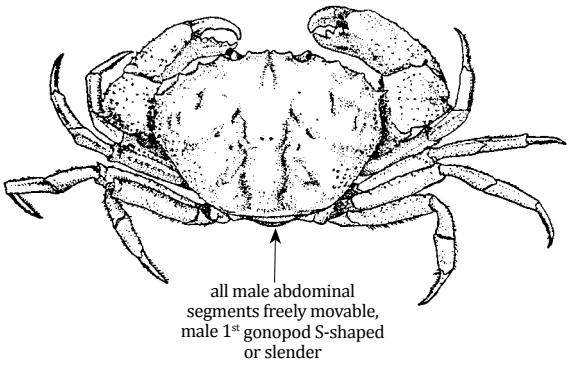



## PILUMNIDAE

Page 77

**Hairy crabs**

To about 8 cm (CW). Shallow water benthic crabs living on mud substrates. One species of interest to fisheries is included in the Guide to Species.

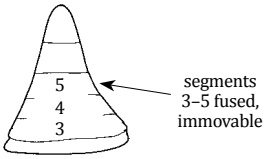



## PORTUNIDAE

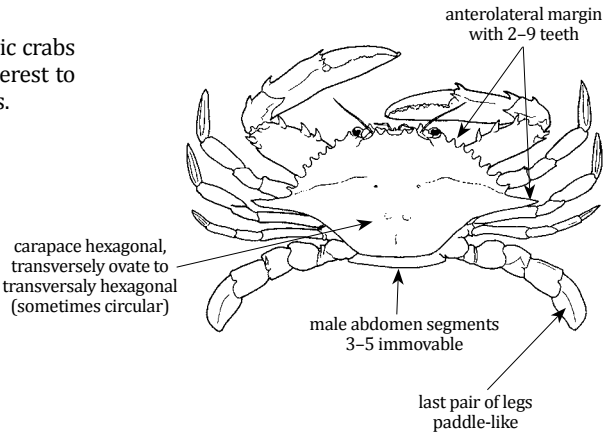
Page 77

**Swimming crabs**

To about 20 cm (CW). Benthic to semipelagic crabs with diverse habits. Fourteen species of interest to fisheries are included in the Guide to Species.




**male abdomen**

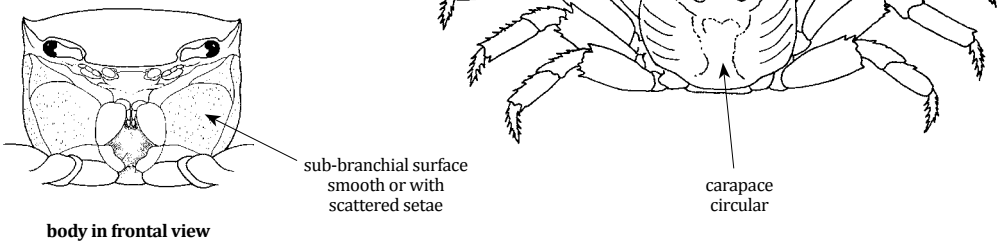


## GRAPSIDAE

Page 84

**Grapsid crabs**

To about 8 cm (CW). Shore crabs on mangroves and rocky areas. Two species of interest to fisheries is included in the Guide to Species.



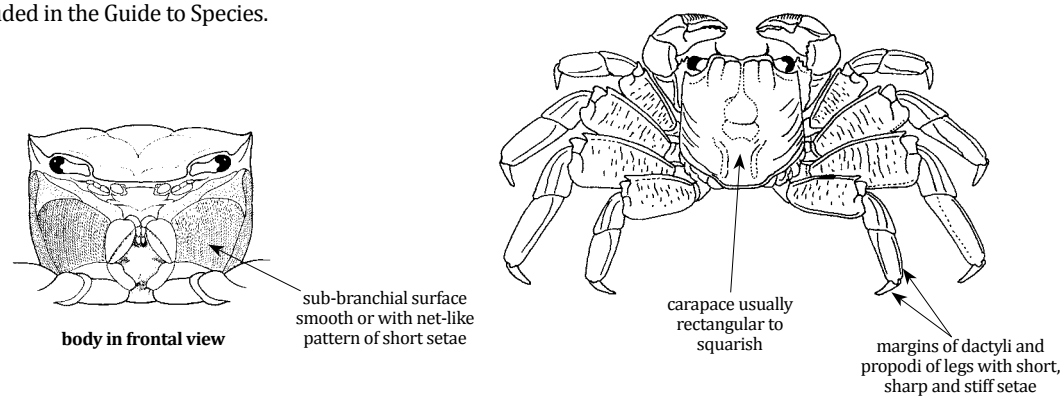

**body in frontal view**

## SESARMIDAE

Page 85

**Sesarmid crabs**

To about 8 cm (CW). Shore crabs on mangroves and seashores. One species of interest to fisheries is included in the Guide to Species.



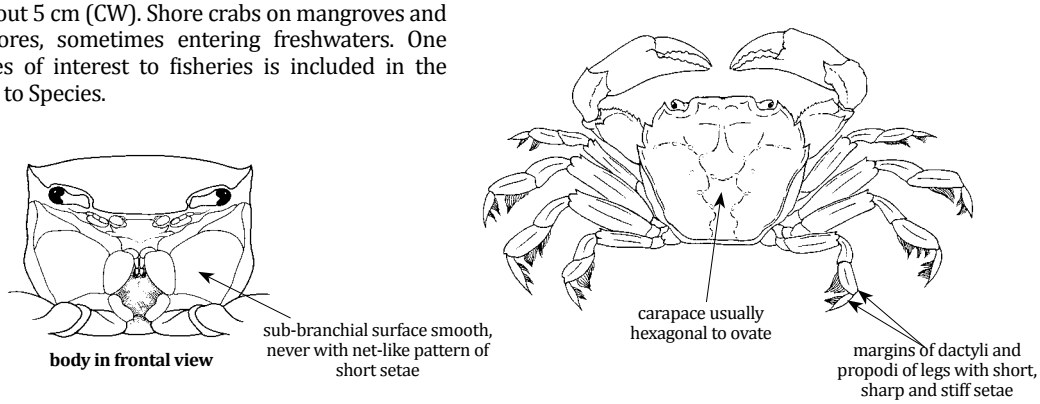

**body in frontal view**

## VARUNIDAE

Page 86

**Varunid crabs**

To about 5 cm (CW). Shore crabs on mangroves and seashores, sometimes entering freshwaters. One species of interest to fisheries is included in the Guide to Species.



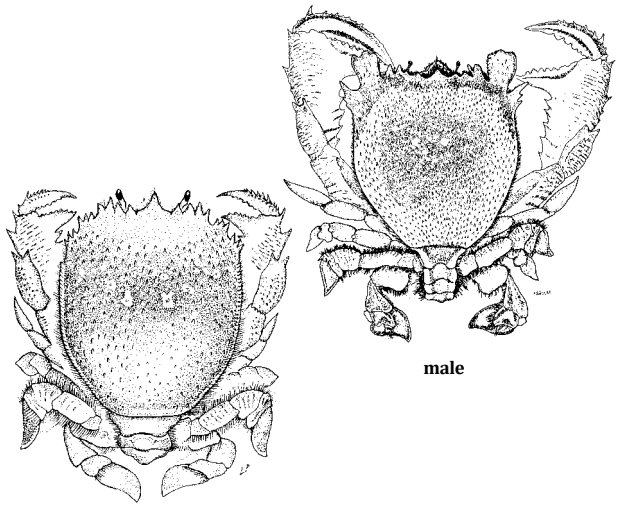

**body in frontal view**

## RANINIDAE
Spanner crabs

***Ranina ranina*** (Linnaeus, 1758)

**FAO names:** Spanner crab (En)

**Local name(s):** Pin Le' Phone Gyi Ga Nann.
**Habitat:** Mainly in more oceanic waters, but sometimes in intertidal waters, to depths of more than 100 m, with preference for open sandy areas.
**Fisheries:** Bottom trawls, tangle nets, gillnets fixed to a frame.
**Distinctive Characters:** Carapace very elongate, much longer than broad; anterior part much broader than narrow, posterior part waist-like; abdomen clearly visible from dorsal view; chelae greatly outsized in males; chelae and legs laterally flattened, spade-like.
**Colour:** Orange to red overall.



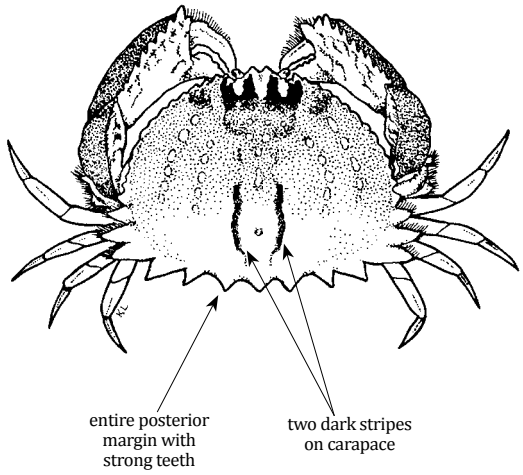

**Size:** To 10 (males) cm (CW)

## CALAPPIDAE
Box crabs

***Calappa bilineata*** Ng, Lai & Aungtonya, 2002

**FAO names:** Two-striped box crab (En)

**Local name(s):** Pin Le' Kyaw Hnit Zin Ga Nann.
**Habitat:** Prefers sandy to slightly muddy substrates at depths from 10 to 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace convex, 1.5 wide as long; frontal and epigastric regions more densely granulate; entire posterior margin of carapace and posterolateral margin of clypeiform expansion armed with strong teeth.
**Colour:** Pale brick-red to purplish above, the surface being covered with crowded punctae of that color; eyes are longitudinally striped with black, the stripes or lines being about seven in number; 2 longitudinal stripes on carapace.




**Size:** To 9 cm (CW)

## *Calappa calappa* (Linnaeus, 1758)

**FAO names:** Giant box crab (En)

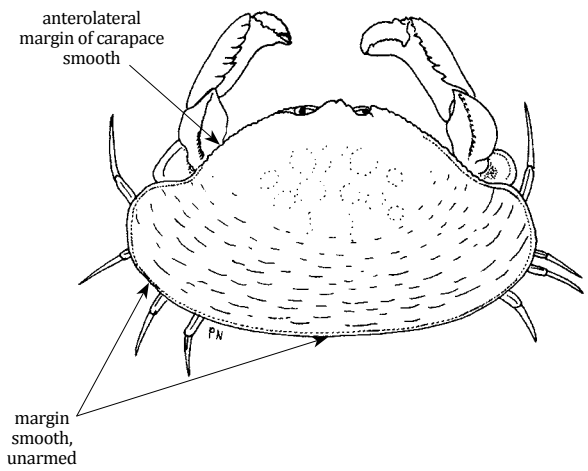
**Local name(s):** Thit Tar Pin Le' Ga Nann.

**Habitat:** Found in rocky to shelly substrates, from depths of 10 to 100 m.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Carapace markedly convex, 1.6–1.7 wide as long, regions undefined; carapace surface minutely squamose, anteriorly with barely distinguished flattened tubercles, posteriorly with minutely beaded transverse lines, increasing in length laterally; clypeiform part (= expanded posterior edge) of carapace with entire margin smooth, entire, not armed with spines or teeth.

**Colour:** Two colour morphs are known: one uniform tan and the other speckled with numerous red to maroon spots.




**Size:** To about 13 cm (CW)

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## *Calappa exanthematosa* Alcock & Anderson, 1894

**FAO names:** Bulbous box crab (En)

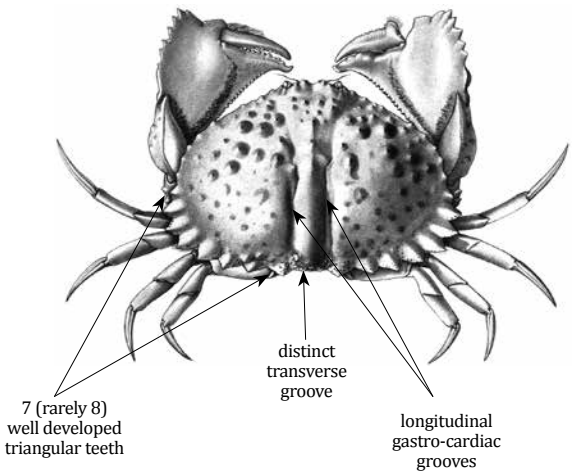
**Local name(s):** Pin Le' Suu Thit Tar Ga Nann.

**Habitat:** On sand and mud bottoms from 200 to 800 m depth.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Carapace rounded to subovate, distinctly wider than long; dorsal surface strongly convex, anterior 2/3 covered with large, round submammillate tubercles, resembling pustules, posterior 1/3 relatively smooth; longitudinal gastro-cardiac grooves deep, spaced relatively close to each other, especially along posterior part; posterior region of carapace with distinct transverse groove lined by small granules; posterolateral margin of clypeiform expansion well developed, with 7 (rarely 8) triangular teeth.

**Colour:** Maroon spots on posterior half of carapace independent, demarcated by cream or yellow area around each, not connected, area appears distinctly spotted.

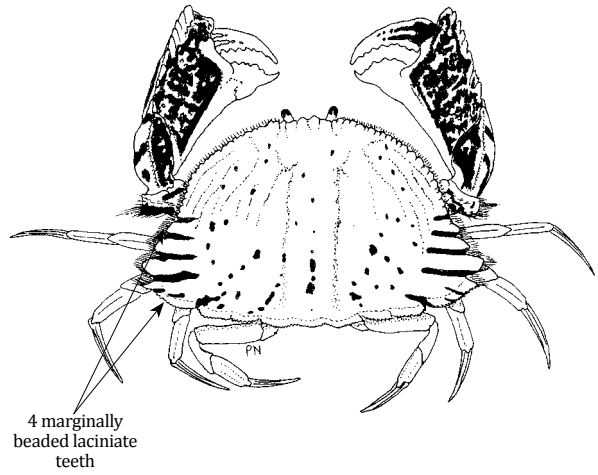



**Size:** To about 14 cm (CW)

## *Calappa lophos* (Herbst, 1782)

**FAO names:** Common box crab (En)

**Local name(s):** Pin Le' Ga Nann.
**Habitat:** On sand, mud, gravel bottom depths of 5 to 200 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace convex, 1.6 wide as long; frontal and epigastric regions with small tubercles; posterolateral margin of clypeiform expansion well developed, with 4 marginally beaded laciniate teeth, distalmost largest, and 3 granulate teeth.
**Colour:** Ground colour yellowish beige to yellow; posterior 1/3 of carapace with distinct red spots, posterolateral part with transverse red stripes; outer surface of cheliped with red streaks and spots.

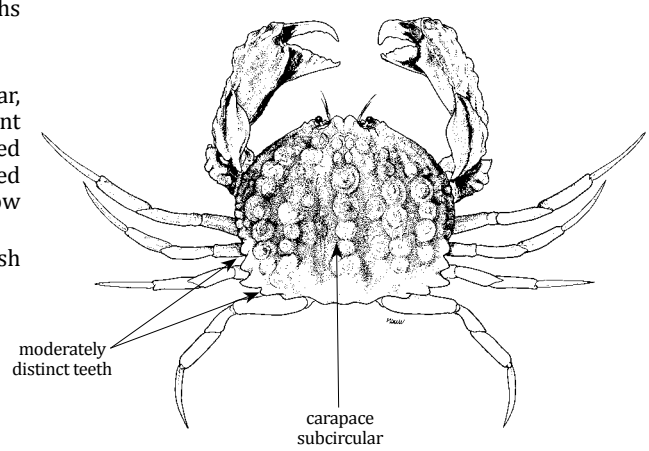



**Size:** To about 10 cm (CW)

## *Calappa pustulosa* Alcock, 1896

**FAO names:** Pustule box crab (En)

**Local name(s):** Set Waing Lone Pin Le' Ga Nann.
**Habitat:** On sandy or muddy bottoms, at depths from of 40 to 165 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace subcircular, 1.1 wide as long, surface almost smooth; front only slightly projecting, with two low, rounded teeth; clypeiform posterolateral part (= expanded posterior edge) of carapace with relatively low teeth.
**Colour:** Carapace light brown, irregular reddish spots anteriorly.




**Size:** To 8 cm (CW)

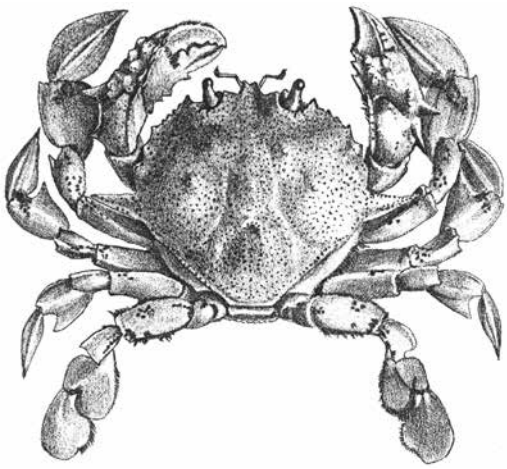
# MATUTIDAE

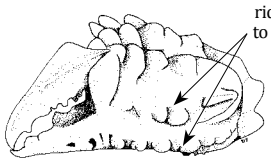
Moon crabs

***Ashtoret lunaris*** (Forsskål, 1775)

**FAO names:** Yellow moon crab (En)

**Local name(s):** Pin Le' Ga Nann War.
**Habitat:** Found in sandy substrates, often near reefs or seagrass beds, from the intertidal zone to a depth of 50 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Surface of carapace minutely granular and provided with 6 mid-dorsal tubercles; anterolateral margins with 5 small tubercles followed by 3 large triangular tubercles; lateral spine 0.2 times carapace width; outer surface of palm with ridge subparallel to ventral margin
**Colour:** Carapace light yellow covered with dark red to black spots.






**chela (outer surface)**

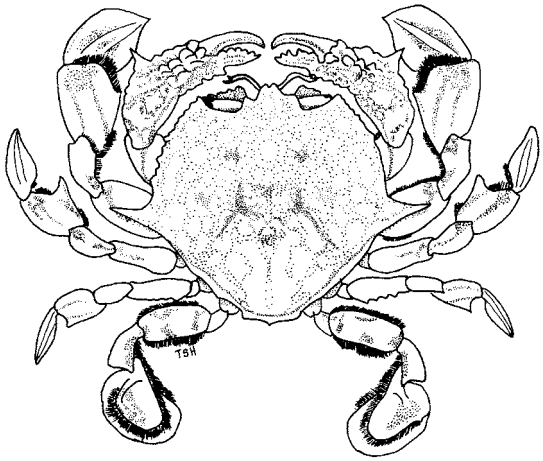
**Size:** To 5 cm (CW)

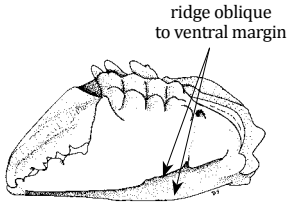
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***Matuta planipes*** Fabricius, 1798

**FAO names:** Flower moon crab (En)

**Local name(s):** Pan Pwint Pin Le' Ga Nann.
**Habitat:** Mainly in soft substrates from depths of 10 to 40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace rounded, with 2 long, well-developed lateral spines; anterolateral margins unevenly serrated; outer surface of palm with strong oblique ridge.
**Colour:** Mosaic to reticulate network of maroon lines on a white background.
**Remarks:** The coloration of this species is very distinctive and it cannot be confused with any other species in the area.





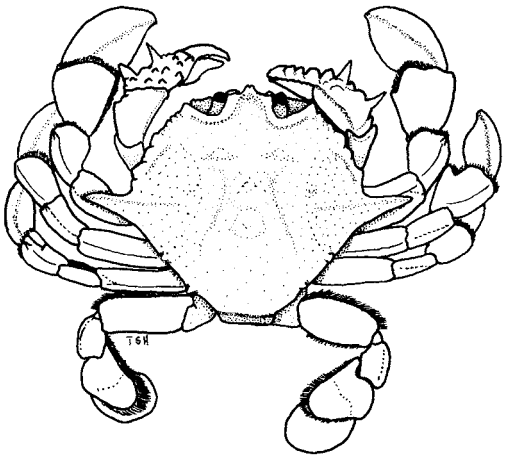

**chela (outer surface)**

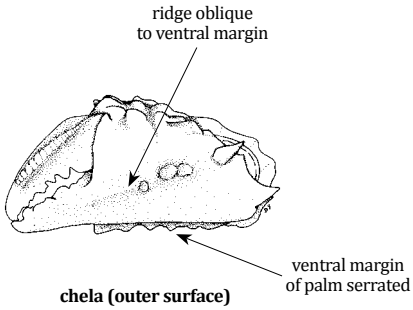
**Size:** To 6.5 cm (CW)

***Matuta victor*** (Fabricius, 1781)

**FAO names:** Common moon crab (En)

**Local name(s):** Pin Le' La Ga Nann.
**Habitat:** Prefers sandy areas, from the intertidal zone to depths of about 20 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace rounded, with 2 long, well-developed lateral spines; anterolateral margins gently serrated; outer surface of palm with low but distinct oblique ridge.
**Colour:** yellowish ground colour with numerous fine black spots and several larger ones on carapace; legs and chelae bright yellow.






**chela (outer surface)**

**Size:** To 5 cm (CW)

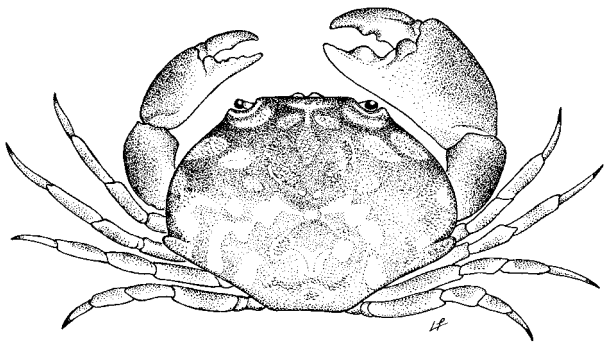
## CARPILIIDAE

Reef crabs

***Carpilius convexus*** (Forsskål, 1775)

**FAO names:** Red reef crab (En)

**Local name(s):** Kyauk Tan Pin Le' Ga Nann Ni.
**Habitat:** A reef crab. Biology and fisheries similar to *Carpilius maculatus* (see next page).
**Fisheries:** Collected mainly by hand or with baited traps.
**Distinctive Characters:** Carapace ovate; dorsal surface very smooth and convex.
**Colour:** Uniform red to reddish brown, with irregular dark brown patches on the dorsal surface of carapace.
**Remarks:** *C. convexus* is easily distinguished from *C. maculatus* by its distinct coloration which remains even after preservation.

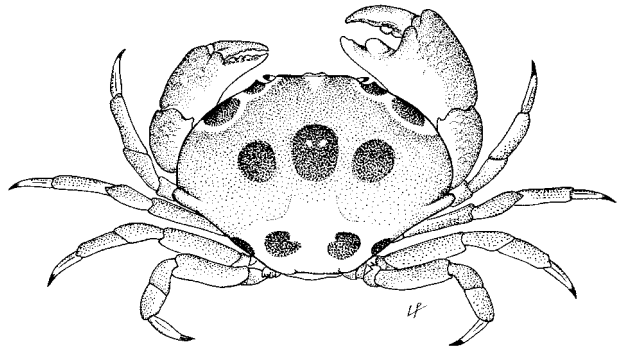


**Size:** To 15 cm (CW)

***Carpilius maculatus*** (Linnaeus, 1758)

**FAO names:** Spotted reef crab (En)

**Local name(s):** Pin Le' Ga Nann Ni Set.
**Habitat:** A reef crab.
**Fisheries:** Collected mainly by hand or with baited traps.
**Distinctive Characters:** Carapace ovate; dorsal surface very smooth and convex.
**Colour:** Cream to pink ground colour, with 9 large violet to maroon spots on dorsal surface of carapace: 3 on median region, 2 on posterior region, 2 on anterolateral region, and 2 around the orbits.
**Remarks:** There have been reports that this species is poisonous, but this could not been confirmed by biochemical tests. It is possible that after feeding on poisonous molluscs, the crabs become toxic for a short period as well.



**Size:** To 18 cm (CW)

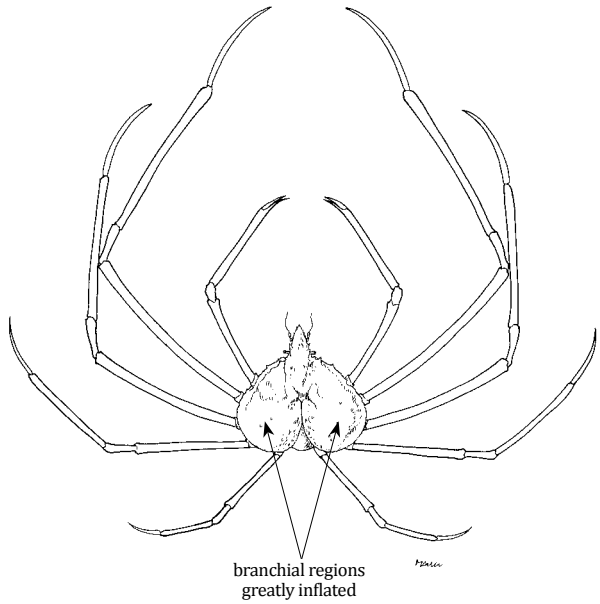
## INACHIDAE

Arrow crabs

***Encephaloides armstrongi*** Wood-Mason, in Wood-Mason & Alcock, 1891

**FAO names:** Bulbous spider crab (En)

**Local name(s):** Pin Le' Pink Ku Ga Nann.
**Habitat:** Inhabits low oxygen waters between 150–1 000 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Carapace heart-shaped with nodular or pustular surfaces in larger specimens (coarsely spiny in young); gastric, and hepatic regions well-defined; branchial regions greatly inflated and arched; rostrum beak-shaped with finely serrated edges; eyes small, slender, unpigmented, retracted against side of carapace; legs long, slender, cylindrical; chelipeds short, stouter than legs.
**Colour:** Uniformly orange with chelipeds and legs more intensely pigmented; ventral side of body whitish; tips of chelipeds and legs white.




**Size:** To about 4 cm (CW)

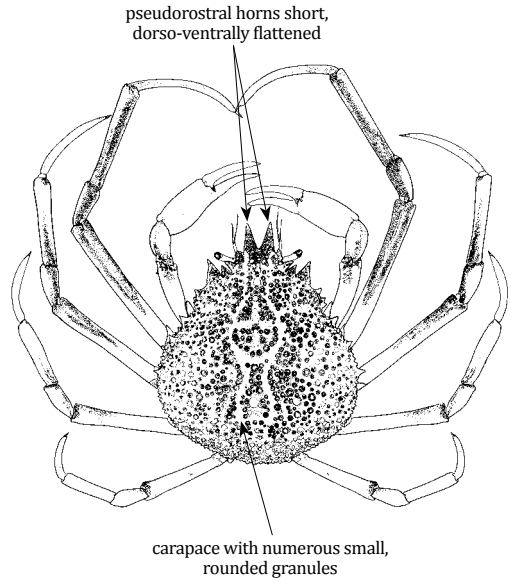
# MAJIDAE

Spider crabs

***Paramaja gibba*** (Alcock, 1895)

**FAO names:** Alcock's spider crab (En)

**Local name(s):** Alcock Pin Le' Pink Ku Ga Nann.
**Habitat:** Soft bottoms, sand and gravel, from 200 to 600 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Carapace ovate and pseudorostral horns dorso-ventrally flattened in adults; dorsal surface covered by numerous small and large distinct tubercles and granules which are never swollen, those on median row larger, tuberculate, forming low raised crest; male anterior thoracic sternum relatively broad in adults.
**Colour:** Uniformly red-orange with legs more intensely pigmented; ventral side of body whitish; tubercles and granules on posterolateral parts of carapace and the larger ones on the median row white.




**Size:** To about 8 cm (CW)

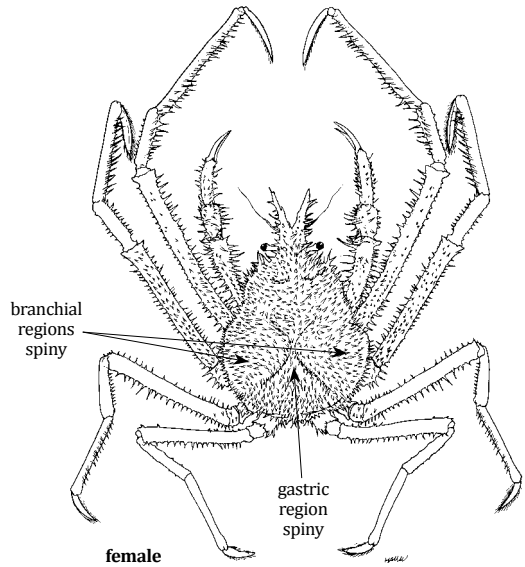
# OREGONIIDAE

Deepwater spider crabs

***Pleistacantha pungens*** (Wood-Mason, in Wood-Mason & Alcock, 1891)

**FAO names:**
Thorny deepwater spider crab (En)

**Local name(s):** Ye Net Su Pink Ku Pin Le' Ga Nann.
**Habitat:** Soft substrates, usually sand and mud, from 200 to 800 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Carapace pyriform, postrostral carapace length longer than width; rostral spines divergent, less than 1/4 postrostral carapace length; interantennular spine (ventral side of rostrum) deeply bifurcate; spination on dorsal side of carapace uniform; branchial regions nearly approximated in the longitudinal midline; cardiac region "hour-glass" shaped; chelipeds dissimilar in aduld males and females; chela in males distinctly inflated, graulate, non-spinous; female chela slender, markedly spinous.
**Colour:** Uniformly pale-orange.




**Size:** To about 10 cm (CW)

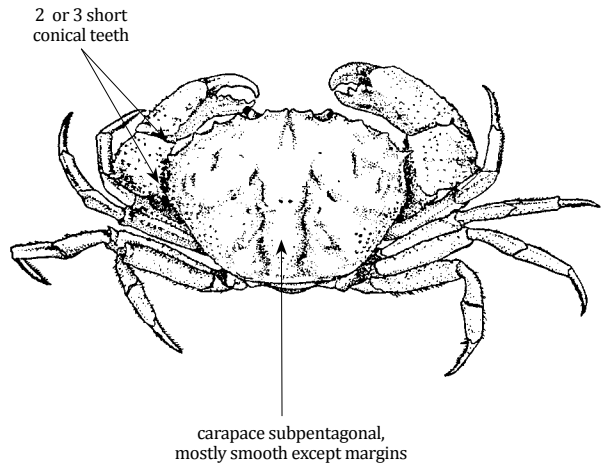
# PILUMNIDAE

Hairy crabs

***Galene bispinosa*** (Herbst, 1783)

**FAO names:** Square-shelled crab (En)

**Local name(s):** Pin Le' Lay Daunt Ga Nann.
**Habitat:** In shallower waters, down to depths of about 100 m, living on muddy substrates.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace subpentagonal, dorsal surface gently convex, lateral regions with numerous small, rounded granules; 2 or 3 distinct conical teeth on each lateral margin (2 teeth always distinct); chelipeds stout, surfaces finely granulated.
**Colour:** Tan to purplish tan.
**Remarks:** Despite the common name for the family "hairy crabs", many pilumnids (including *Galene bispinosa*) are actually not very setose (or "hairy").




**Size:** To about 8 cm (CW)

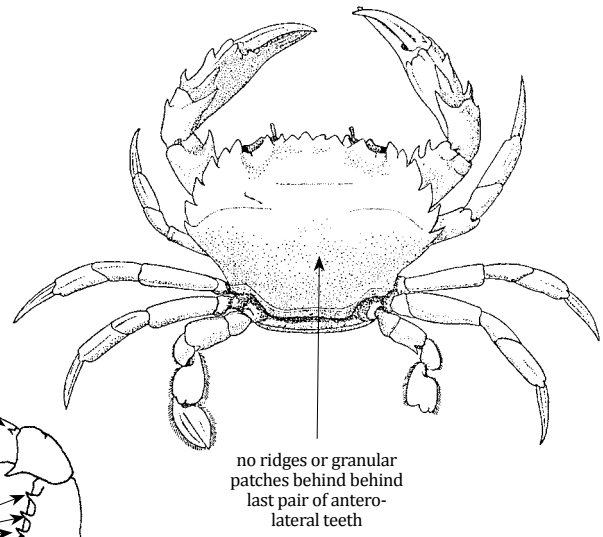
# PORTUNIDAE

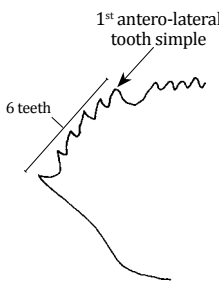
Swimming crabs

***Charybdis annulata*** (Fabricius, 1798)

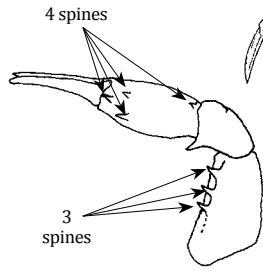
**FAO names:** Banded-legged swimming crab (En)

**Local name(s):** Pin Le' Kyaw Set Ga Nann.
**Habitat:** Prefers rocky areas and reefs, from the intertidal zone to a depth of about 20 m.
**Fisheries:** Bottom trawls, gillnets, bagnets.
**Distinctive Characters:** Carapace ovate, pubescent with 6 anterolateral teeth; 1st anterolateral tooth not truncate or notched; frontal-orbital border with 6 subacute teeth; merus of cheliped with 3 spines on anterior border; palm with 4 spines on upper surface.
**Colour:** Shows distinctive broad blue and white bands on the legs when alive.




**left side of carapace (dorsal view)**



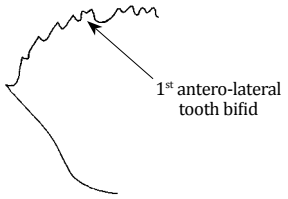

**right cheliped (dorsal view)**

**Size:** To about 7 cm (CW)

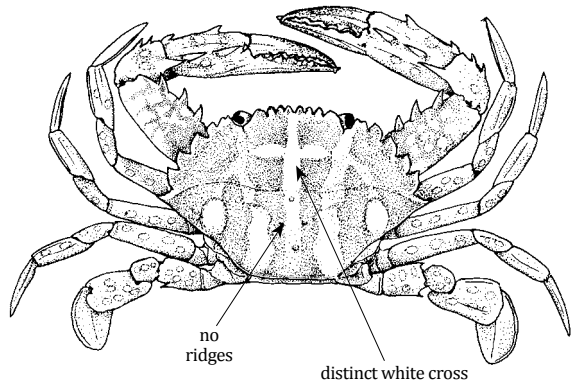
***Charybdis feriatus*** (Linnaeus, 1758)

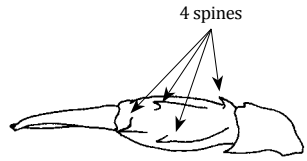
**FAO names:** Crucifix crab (En)

**Local name(s):** Kyet Chay Khat Pin Le' Ga Nann.
**Habitat:** Prefers sandy to sandy-muddy substrates, at depths from 30 to 60 m.
**Fisheries:** Gillnets, bottom trawls, bagnets.
**Distinctive Characters:** Carapace ovate without distinct ridges behind level of last pair of anterolateral teeth; front with 6 subequal triangular distally rounded teeth; 6 teeth on each anterolateral margin (1st anterolateral tooth distinctly bifid, last anterolateral tooth produced laterally); palm of cheliped with 4 spines on upper surface; male abdominal segment 4 keeled.
**Colour:** Distinctive pattern of longitudinal stripes of maroon and white, usually with distinct white cross on median part of gastric region; legs and pincers with numerous scattered white spots.

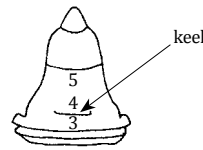


**left side of carapace (dorsal view)**



**right cheliped (dorsal view)**



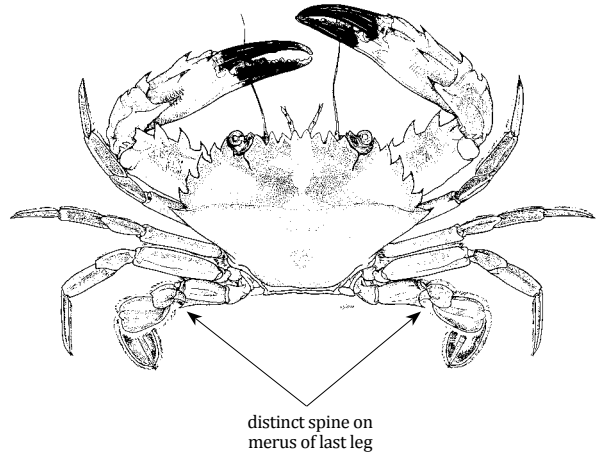
**male abdomen**

**Size:** To about 20 cm (CW)

***Charybdis hellerii*** (A. Milne-Edwards, 1867)

**FAO names:** Heller's swimming crab (En)

**Local name(s):** Pin Le' Ga Nann Let Me'.
**Habitat:** Inhabits rocky, sandy and muddy shores and coral reefs from the intertidal zone to depths beyond 30 m.
**Fisheries:** Bottom trawls, gillnets, bagnets.
**Distinctive Characters:** Carapace broad, and pubescent with 6 anterolateral teeth; 1st anterolateral tooth not truncate or notched; frontal-orbital border with 6 subacute teeth; granular ridges on anterior part of carapace; no ridges discernible behind last pair of anterolateral teeth; merus of cheliped with 3 spines and a spinule (at distal end) on anterior border; palm with 5 spines on upper surface; carpus of natatory legs with a well-developed spine on posterior border.
**Colour:** Larger specimens with orange to cream-coloured carapace and purplish legs; smaller specimens with reddish patches on either side of the median line in the anterior part and on the entire surface in the posterior part of the carapace.




**Size:** To about 8 cm (CW)

***Charybdis natator*** (Herbst, 1794)

**FAO names:** Ridged swimming crab (En)

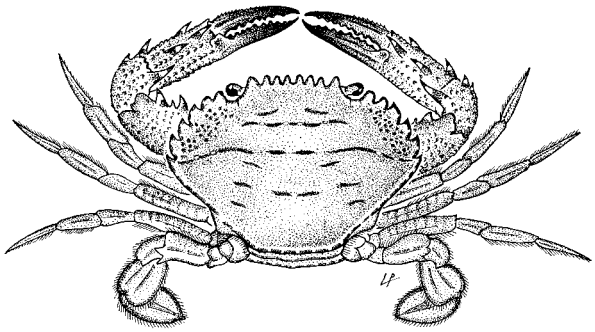
**Local name(s):** Pin Le' Kyaw Zinn Ga Nann.

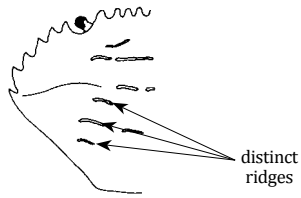
**Habitat:** Near or in rocky-sandy substrates, sometimes near reefs, from depths of 5 to 40 m.

**Fisheries:** Bottom trawls, gillnets, bagnets.

**Distinctive Characters:** Carapace ovate densely covered with very short pubescence which is absent on several distinct transverse granulated ridges in anterior half; 6 teeth on each anterolateral margin; merus of cheliped with 3 claw-like spines on anterior border; palm with 5 spines on upper surface; male and female abdomen with segments 2-5 keeled; carapace with distinct ridges or granular patches behind level of last pair of anterolateral teeth.

**Colour:** Orangish red overall, with ridges on carapace and legs dark reddish brown.






**left side of carapace (dorsal view)**

**Size:** To about 17 cm (CW)

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***Charybdis riversandersoni*** Alcock, 1899

**FAO names:** Anderson's swimming crab (En)

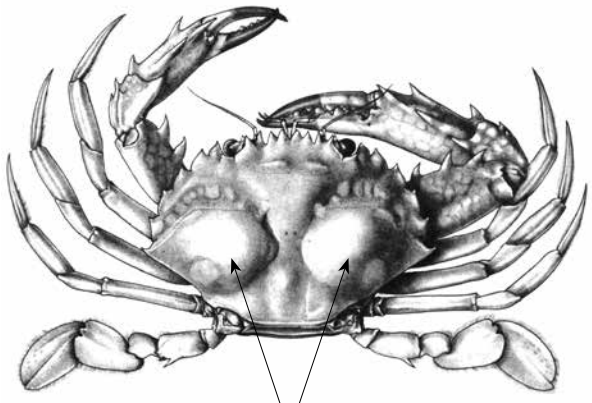
**Local name(s):** Anderson Pin Le' Ga Nann.

**Habitat:** On sandy to muddy substrates, at depths from 94 to 291 m.

**Fisheries:** Bottom trawls, gillnets, bagnets.

**Distinctive Characters:** Carapace ovate and glabrous with 6 anterolateral teeth; 1st anterolateral tooth truncate and small; frontal-orbital border with 6 subacute teeth; mesobranchial areas of carapace distinctly swollen; merus of cheliped with 3 spines and a proximal tubercle or with 4 spines on anterior border; palm with 4 spines on upper surface.

**Colour:** Freshly preserved specimens salmon-red; frontal and anterolateral borders and the boundary between the branchial and hepatic regions with numerous large creamy spots, four similar spots in a square on the gastric region and a very large one on either branchial region near the middle of the posterolateral border; distal half of the fingers blood-red with the extreme tips milk-white.

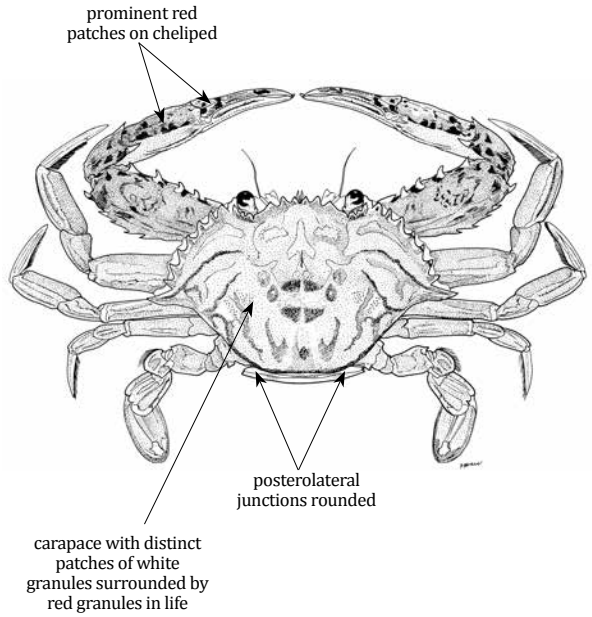



**Size:** To about 8 cm (CW)

***Monomia gladiator*** (Fabricius, 1798)

**FAO names:** Gladiator crab (En)

**Local name(s):** Thu Ye Gaung Pin Le' Ga Nann.
**Habitat:** Sandy-muddy bottoms, up to 150 m depth.
**Fisheries:** Bottom trawls, gillnets, bagnets.
**Distinctive Characters:** Carapace moderately broad, depressed; surface covered with pubescence; front with 4 teeth, middle pair smaller; 9 teeth on each anterolateral margin, the last tooth larger than preceding teeth; a single row of granules on the posterolateral border of the carapace; merus of cheliped with 4 spines on anterior border; palm with 1 distal spine on upper surface; postero-lateral junction of carapace rounded.
**Colour:** Carapace dark green to grayish with oblong or linear spots of dark red; chelipeds with crimson to dark red spots; spines on chelipeds usually white with an orange tip.

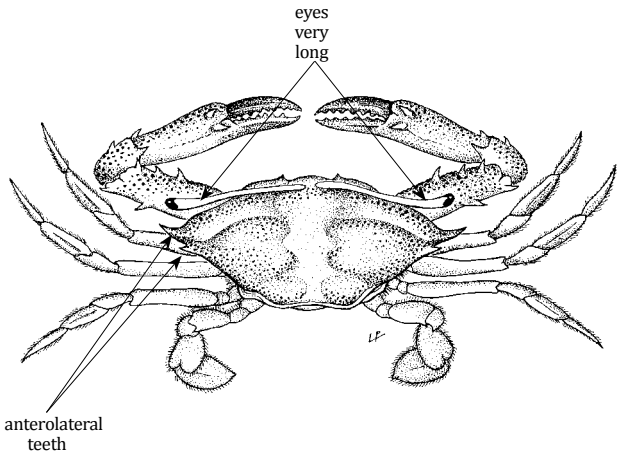



**Size:** To about 9 cm (CW)

***Podophthalmus vigil*** (Fabricius, 1798)

**FAO names:** Sentinel crab (En)

**Local name(s):** Kin Saunt Pin Le' Ga Nann.
**Habitat:** On sandy to muddy substrates in offshore waters.
**Fisheries:** Bottom trawls, gillnets, bagnets.
**Distinctive Characters:** Carapace distinctly broader than long; anterior margin much broader than posterior margin, with posterolateral margins converging strongly towards narrow posterior carapace margin; orbits very broad; eyes very long, reaching to or extending beyond edge of carapace.
**Colour:** Carapace green; chelipeds and parts of legs violet to maroon in adults.




**Size:** To about 15 cm (CW)

## *Portunus pelagicus* (Linnaeus, 1758)

**FAO names:** Common flower crab (En)

**Local name(s):** Pin Le' Ga Nann Pyar.

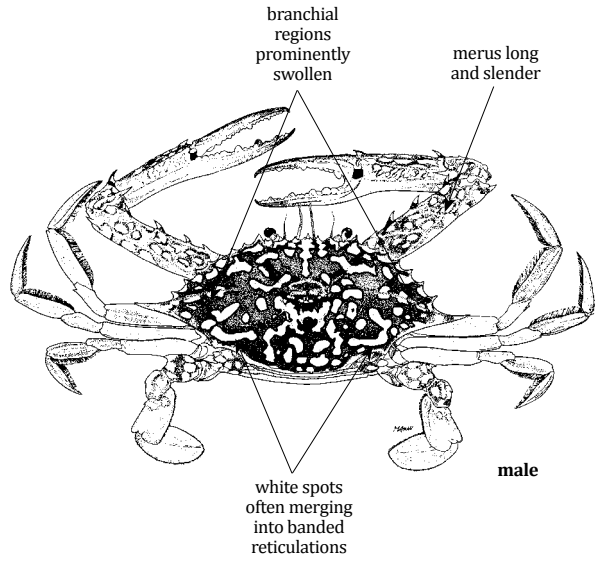
**Habitat:** Found in shallow sandy/muddy to sea grass lagoons and estuaries, brackish waters to a depth of 40 m.

**Fisheries:** Bottom trawls, gillnets, bagnets.

**Distinctive Characters:** Carapace with fine granulation (adults); front with 4 small but conspicuous teeth; 9 teeth on each anterolateral margin, last tooth at least 2 times larger than others; branchial regions markedly swollen; 6th male abdominal segment relatively shorter and broader; chelae elongate (more in males than in females); 3 spines on anterior margin of the merus of cheliped; cheliped meri long and slender; legs laterally flattened with last 2 segments of last pair paddle-like.

**Colour:** Carapace of males with pale white bands and blotches on a dark blue-green background; chelipeds purple-blue with rusty-red tips; females with uniformly brownish green carapace (sometimes pale spots and bands are present on posterior and branchial regions) and red tipped chelipeds; merus, carpus and manus of chelipeds speckled with pale white spots in both sexes.

**Remarks:** This species is part of a complex of four closely related species previously commonly known as "*Portunus pelagicus*" (see Lai, Ng & Davie, 2010).




**Size:** To 20 cm (CW)

## *Portunus sanguinolentus* (Herbst, 1783)

**FAO names:** Three-spot swimming crab (En)

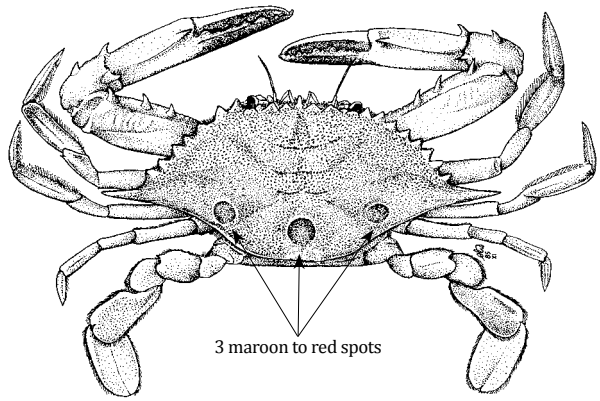
**Local name(s):** Ni Thone Set Pin Le' Ga Nann.

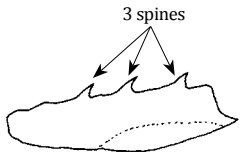
**Habitat:** Occurs on sandy to sandy-muddy substrates, from the intertidal zone (especially juveniles) to depths of 30 m.

**Fisheries:** Bottom trawls, gillnets, bagnets.

**Distinctive Characters:** Carapace finely granulose, regions just discernible; 9 teeth on each anterolateral margin, the last tooth 2–3 times larger than preceding teeth; chelae elongated in males; larger chela with conical tooth at base of fingers; pollex ridged.

**Colour:** Olive to dark green, with 3 prominent maroon to red spots on posterior 1/3 of carapace.



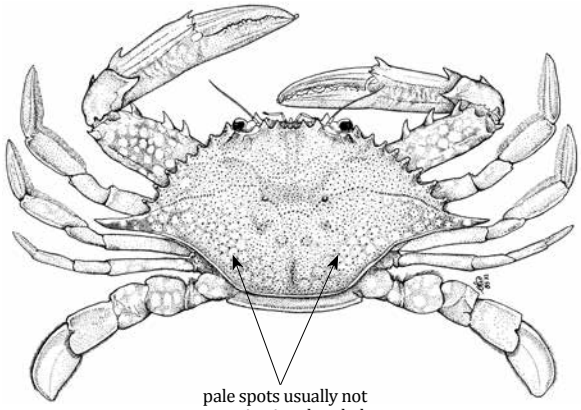

**merus of cheliped (inner margin)**

**Size:** To 20 cm (CW)

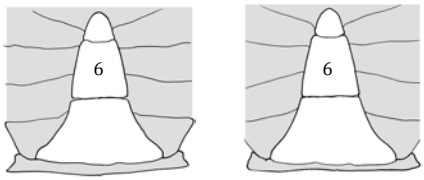
## *Portunus reticulatus* (Herbst, 1799)

**FAO names:** Reticulate flower crab (En)

**Local name(s):** Yar Zamut Kwet Pin Le' Ga Nann.
**Habitat:** Inhabits shallow sandy lagoons
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Portunus pelagicus* (Linnaeus, 1758) but 6th segment of male abdomen relatively narrower and more elongate; spots on carapace rarely merging into bands.
**Colour:** Males carapace greenish blue with variable pattern of large pale green spots rarely merging into broad net-like bands, to sparsely spotted thick reticulations; females carapace green brown with numerous dense spots and blotches; tips of chelipeds marked bright red.




**female**




*Portunus pelagicus* *Portunus reticulatus*

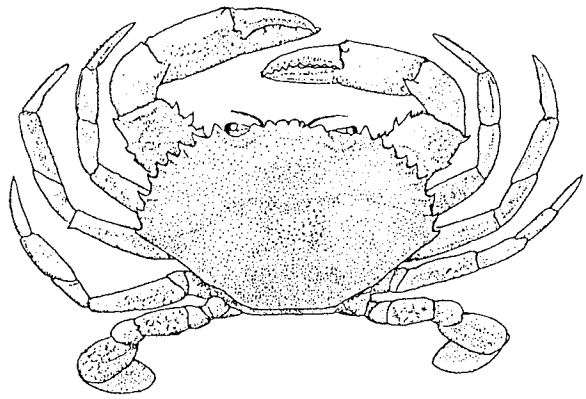
**male abdominal somites**

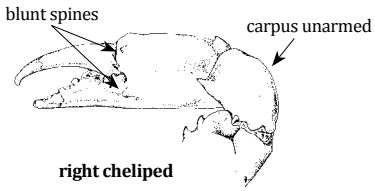
**Size:** To 18 cm (CW)

## *Scylla olivacea* (Herbst, 1796)

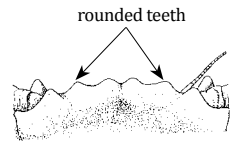
**FAO names:** Orange mud crab (En)

**Local name(s):** Pin Le' Ga Nann Lein Hmaw.
**Habitat:** Inhabits mangroves.
**Fisheries:** Gillnets, baited traps, hand picking, bottom trawls.
**Distinctive Characters:** Carapace smooth; front with 4 rounded and low teeth; 9 teeth on each anterolateral margin, last tooth subequal in size to others; palm of chelipeds usually with a pair of blunt prominences (may be spinous in juveniles and young adults); carpus of cheliped with only 1 low to very low granule on outer surface, never spiniform.
**Colour:** Carapace brownish to brownish green in colour (sometimes orangish), palm orange to yellow.
**Remarks:** This species used to be lumped under the name "*Scylla serrata*". The latter is now recognised to be a complex of four species, two of which occur in Myanmar (Keenan, Davie & Mann, 1998).






**right cheliped**




**frontal margin of carapace (dorsal view)**

**Size:** To 15 cm (CW)

***Scylla serrata*** (Forsskål, 1775)

**FAO names:** Giant mud crab (En)

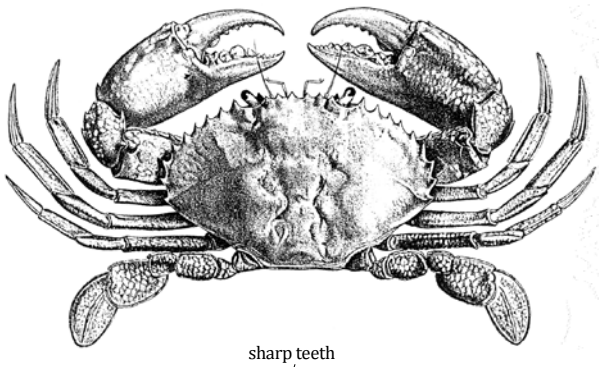
**Local name(s):** Pin Le' Shyunt Ga Nann.

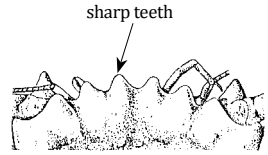
**Habitat:** Prefers more oceanic waters, usually found just offshore on soft muddy bottoms. like other *Scylla* species digs deep burrows in mangroves and soft substrates in shallow or intertidal waters.

**Fisheries:** Gillnets, baited traps, hand picking, bottom trawls.

**Distinctive Characters:** Carapace smooth, with strong transverse ridges; H-shaped gastric groove deep; relatively broad frontal lobes, all more or less in line with each other; broad anterolateral teeth, projecting obliquely outwards; well-developed spines present on outer surface of chelipedal carpus and anterior and posterior dorsal parts of palm.

**Colour:** Carapace green to almost black; legs may be marbled.






**frontal margin of carapace (dorsal view)**

**Size:** To about 28 cm (CW)

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***Scylla tranquebarica*** (Fabricius, 1798)

**FAO names:** Purple mud crab (En)

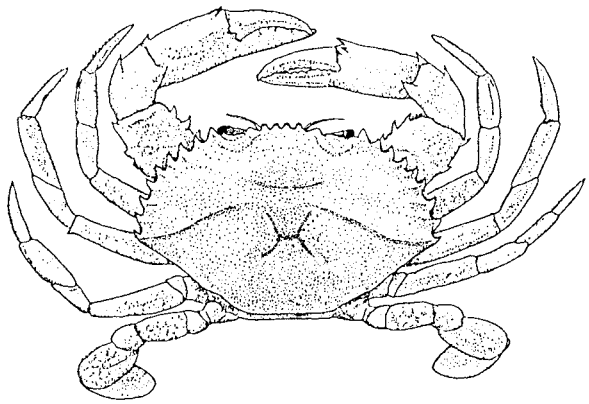
**Local name(s):** Pann Yaung Pin Le' Ga Nann.

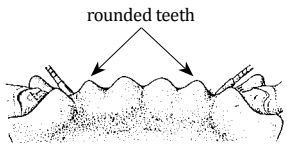
**Habitat:** Inhabits mangroves.

**Fisheries:** Gillnets, baited traps, hand picking, bottom trawls.

**Distinctive Characters:** Carapace smooth; front with 4 blunt moderate teeth; 9 teeth on each anterolateral margin, last tooth subequal in size to others; palm of chelipeds usually with distinct, sharp spines; carpus of cheliped with 2 distinct sharp granules or spines on outer surface.

**Colour:** Carapace usually very dark green to black; outer surface of palm purple; last legs marbled only in males.





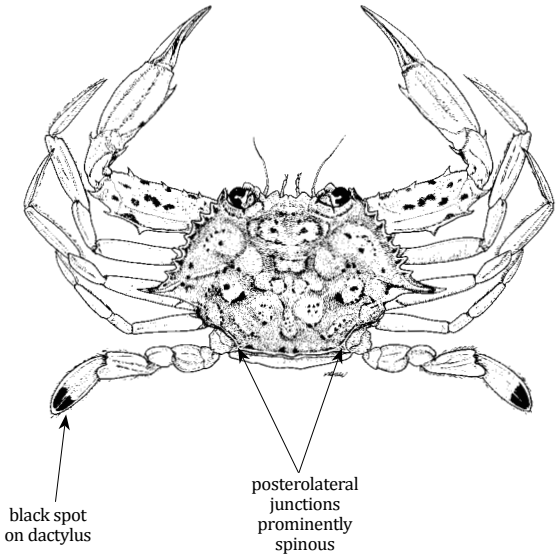

**frontal margin of carapace (dorsal view)**

**Size:** To about 20 cm (CW)

***Xiphonectes hastatoides*** (Fabricius, 1798)

**FAO names:** Fabricius' swimming crab (En)

**Local name(s):** Be Lu Gaung Pin Le' Ga Nann.
**Habitat:** On sandy or muddy bottoms, at depths between 5 and 205 m.
**Fisheries:** Bottom trawls, gillnets, bagnets.
**Distinctive Characters:** Carapace broad, depressed and densely tomentose with patches of granulation behind level of last pair of anterolateral teeth; front with 4 teeth, middle pair much narrower, but not less projecting than lateral pair; 8 teeth on each anterolateral margin, the last tooth much larger than preceding teeth; postero-lateral junction of carapace forming a conspicuous spine.
**Colour:** Variable, from dark grey with oblong or linear spots of black to uniformely merging from pink to light beige; black spot on the dactyl" of 5th pereiopod (= natatory leg).




**Size:** To about 4.1 cm (CW)

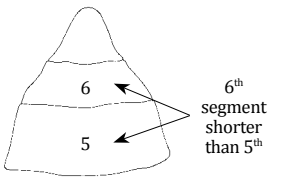
## GRAPSIDAE

Grapsid crabs

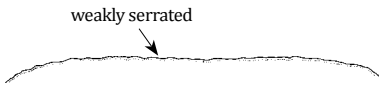
***Grapsus albolineatus*** Latreille, in Milbert, 1812

**FAO names:** Mottled Sally-light-foot (En)

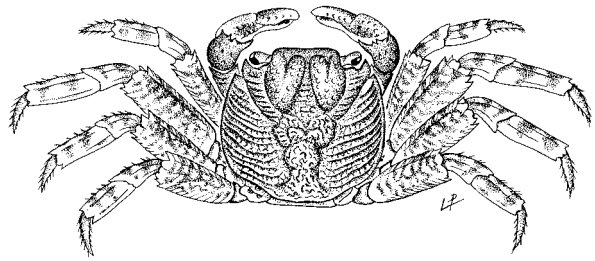
**Local name(s):** Pin Le' Ga Nann Set Pyauk.
**Habitat:** Found out of the water, on rocks in the splash zone.
**Fisheries:** Collected by hand.
**Distinctive Characters:** Carapace rounded; front straight, entire; anterolateral margins rounded, each with 1 tooth; lateral regions with numerous oblique striae; fingertips strongly spooned.
**Colour:** Carapace with green and white transverse markings.

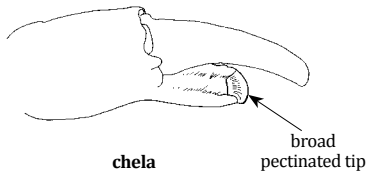



**male abdomen**




**frontal margin of carapace**





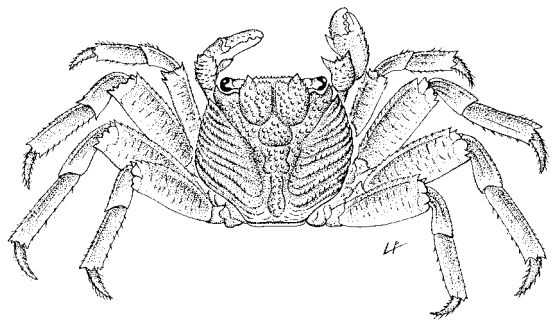

**chela**

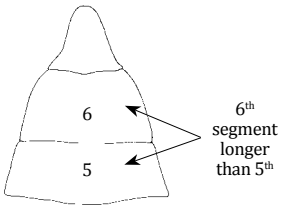
**Size:** To 5 cm (CW)

***Grapsus tenuicrustatus*** (Herbst, 1783)

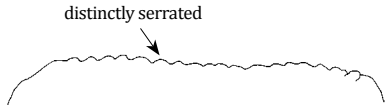
**FAO names:** Natal Sally-light-foot (En)

**Local name(s):** Pin Le' Ga Nann Kyar.
**Habitat:** Found out of the water, on rocks in the splash zone.
**Fisheries:** Collected by hand.
**Distinctive Characters:** Carapace rounded; front straight, finely serrated; anterolateral margins rounded, each with 1 tooth; lateral regions with numerous oblique striae: fingertips slightly spooned.
**Colour:** Carapace with green and white transverse markings.

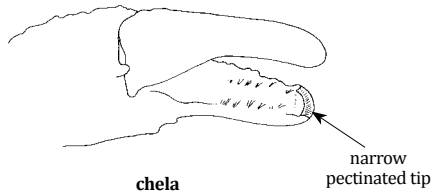





male abdomen




frontal margin of carapace




chela

**Size:** To 8 cm (CW)

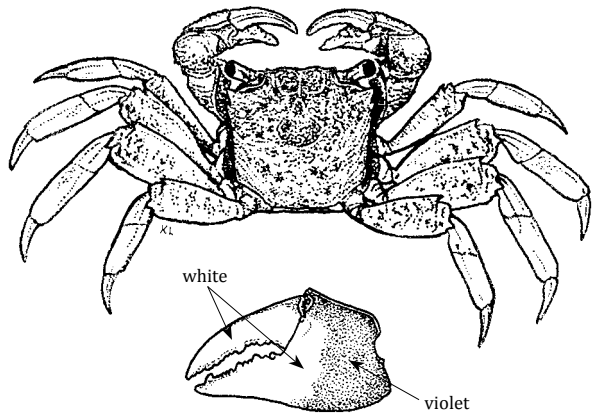
## SESARMIDAE

Sesarmid crabs

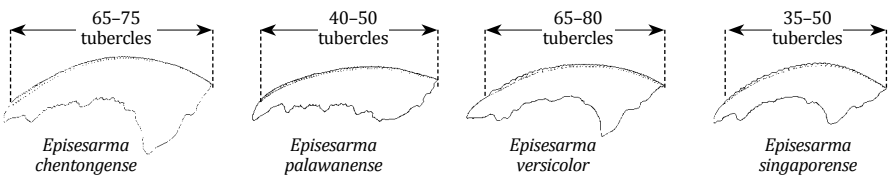
***Episesarma versicolor*** (Tweedie, 1940)

**FAO names:** Violet vinegar crab (En)

**Local name(s):** Ma Yan Yaung Pin Le Shyunt Ga Nann.
**Habitat:** All members of *Episesarma* are mangrove crabs, digging burrows at the base of trees and are predominantly herbivorous.
**Fisheries:** Collected by hand.
**Distinctive Characters:** Carapace squarish, with 1 small anterolateral tooth; dorsal surface relatively flat; regions well defined, covered with short, stiff setae; dorsal margin of dactylar finger with numerous (65 to 80) tubercles, forming a stridulatory organ.
**Colour:** Carapace brown to brownish grey; outer surface of palm with proximal parts violet, distal parts and fingers white.
**Remarks:** *Episesarma chentongense* (Serène and Soh, 1967), *E. palawanense* (Rathbun, 1914) and *E. singaporense* (Tweedie, 1936) recorded at the border with Thailand may also occur in Myanmar.




outer surface of chela




dactylus of chela (lateral view)

**Size:** To 5 cm (CW)

# VARUNIDAE

Varunid crabs

***Varuna litterata*** (Fabricius, 1798)

**FAO names:** Oceanic paddler crab (En)

**Local name(s):** Pin Le' Hlaw Tet Ga Nann.

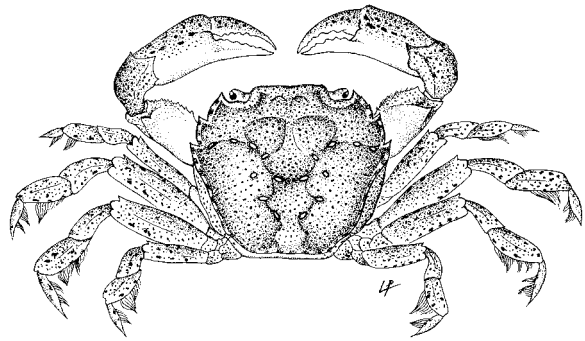
**Habitat:** Estuarine usually in slow-moving or almost stagnant bodies of water. Also found in completely fresh water. Prefers areas faced with more oceanic waters.

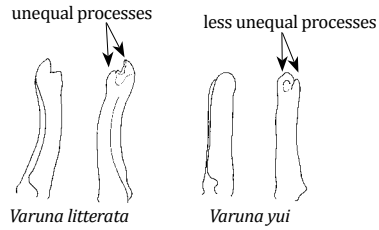
**Fisheries:** Collected mainly by hand.

**Distinctive Characters:** Carapace squarish, surface smooth; front straight; anterolateral margins each with 3 very broad, low but sharp teeth; dactylus, propodus, and carpus of legs laterally flattened, fringed with long, closely packed setae.

**Colour:** Light brown to brownish grey on dorsal surfaces.

**Remarks:** *Varuna yui* Hwang and Takeda, 1984 recorded at the border with Thailand may also occur in Myanmar.





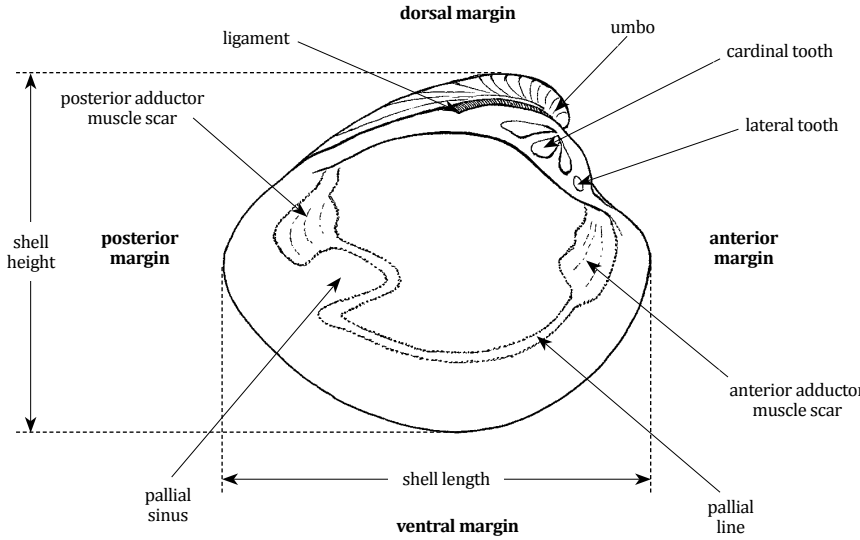

**male first gonopod**

**Size:** To 5 cm (CW)

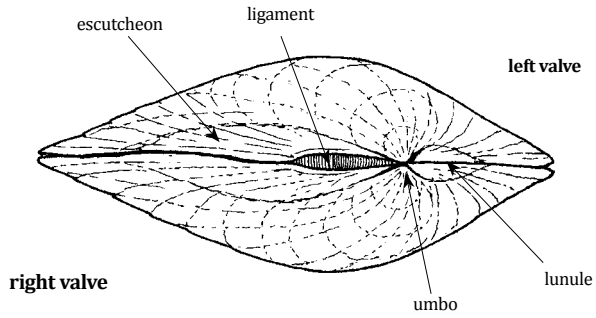
# BIVALVES*

In Myanmar, coastal species are of great interest to fisheries and have potential for export and aquaculture. Bivalves are harvested by raking in shallow waters and intertidal mudflats. They are also manually dislodged from the substrata. Some species of the genera *Pinctada* and *Pteria* are cultured for their ability to develop pearls. Others, such as giant clams of the genera *Tridacna* and *Hippopus* are grounded up and used as construction material or as additive in chicken feed. Twenty-three species belonging to nine families are included in the guide.

## TECHNICAL TERMS AND MEASUREMENTS




**left valve (interior)**




**bivalve shell (dorsal view)**

**Adductor muscle:** Muscle connecting the two valves of a shell, tending to draw them together.
**Byssus:** Clump of horny threads spun by the foot, by which a Bivalve can anchor to a hard substrate.
**Chomata:** Small denticles and corresponding pits located on the inner margin of the valves (Ostreidae).
**Hinge:** Top interlocking margin of the valves, often with shelly projections (teeth) and corresponding recesses (sockets).
**Ligament:** Horny, elastic structure joining the two valves dorsally, causing the opening of shell when adductor muscles relax.
**Mantle:** Fleshy sheet surrounding vital organs and composed of two lobes, one lining and secreting each valve.
**Muscle scar:** Impression marking the place of attachment of a muscle inside the shell.
**Pallial line:** A line near the internal margin of valve, marking the site of attachment of the mantle edge.
**Umbo:** The first formed part of a valve, usually above the hinge.

*Section upgraded and completed by J.–M. Poutiers (MNHN, Paris)

# GUIDE TO FAMILIES

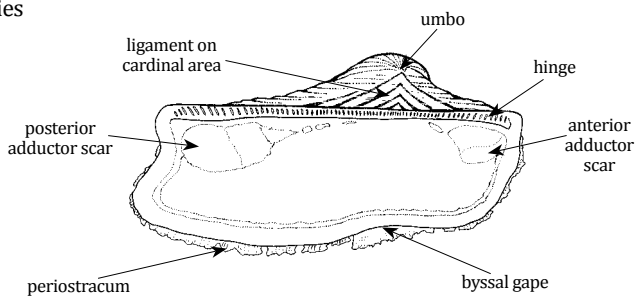
## ARCIDAE

Page 91

**Ark shells**

To 9 cm. Marine. Two species of interest to fisheries are included in the Guide to Species.

Shell equivalve or slightly inequivalve, more or less inequilateral; umbones in front of the midlength, on top of a wide cardinal area covered with the external ligament; hinge elongate, almost straight, with numerous small transverse teeth; adductor muscle scars subequal; pallial line without a sinus.




**left valve (interior)**

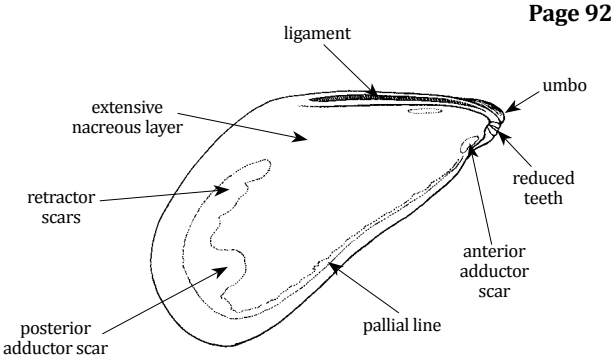
## MYTILIDAE

Page 92

**Sea mussels**

To about 19 cm. Marine and brackish waters. One species of interest to fisheries is included in the Guide to Species.

Shell equivalve and very inequilateral, with a narrow byssal gape; ligament external, deep-set in a whitish marginal ridge; hinge teeth absent or reduced; adductor muscle scars unequal, the anterior one small (sometimes absent); pallial line without a sinus; inner side of shell with an extensive nacreous layer.




**left valve (interior)**

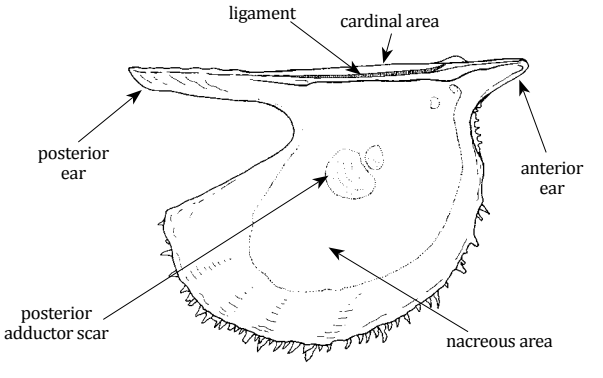
## PTERIIDAE

Page 92

**Pearl oysters**

To about 30 cm. Marine and brackish waters. Four species of interest to fisheries are included in the Guide to Species.

Shell slightly inequivalve, inequilateral; dorsal margin often produced at each end into a wing-like ear, sometimes very long behind; right valve with a byssal notch ante¬riorly; hinge toothless or with denticles; interior brilliantly nacreous, with non-nacreous margins; only one (posterior) adductor muscle scar; pallial line without a sinus.




**left valve (interior)**

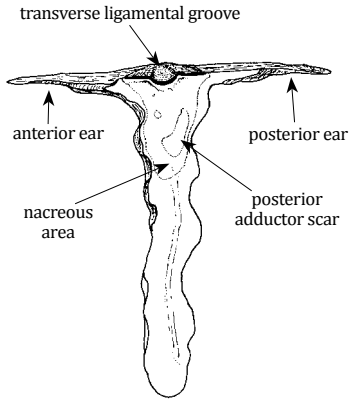
## MALLEIDAE

Page 94

**Hammer oysters**

To about 25 cm. Marine. Three species of interest to fisheries are included in the Guide to Species.

Shell compressed and irregular, elongate dorsoventrally; dorsal margin often produced at both ends into long wing-like ears; when present, anterior byssal notch developed in right valve; ligament on a transverse groove with 2 lateral thickenings; hinge without teeth; interior of shell partly nacreous, ventral expansion non-nacreous; only one (posterior) adductor muscle scar; pallial line without a sinus.




**right valve (interior)**

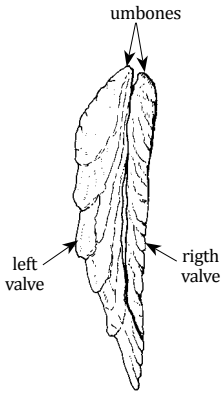
## OSTREIDAE

Page 96

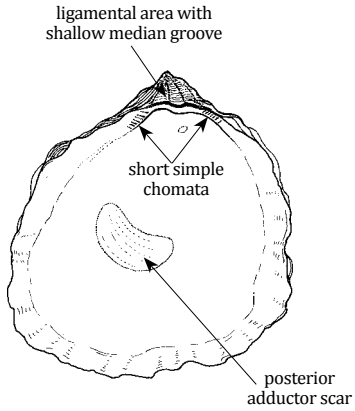
**Oysters**

To about 43 cm. Marine and estuarine. Two species of interest to fisheries are included are the Guide to Species.

Shell inequivalve, cemented to the substrate by the left (lower) valve which is generally larger and deeper; right (upper) valve quite flat; ligamental area with shallow median groove and 2 lateral thickenings; hinge without teeth; a single (posterior) adductor muscle scar, generally median in position; pallial line obscure to absent, without a sinus; internal margins smooth or with simple, short chomata.




**posterior view of entire shell**




**left valve (interior)**

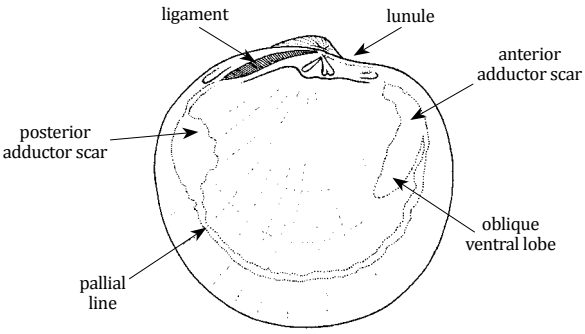
## LUCINIDAE

Page 97

**Lucinas**

To about 9 cm. Marine and brackish waters. Two species of interest to fisheries are included in the Guide to Species.

Shell equivalve, lenticular and slightly inequilateral, with small umbones near midlength of valves; lunule short to large, often impressed; ligament more or less deeply sunken in posterodorsal margin; hinge teeth present to absent; anterior adductor muscle scar elongate, with an oblique ventral lobe detached from pallial line; pallial line without a sinus.




**left valve (interior)**

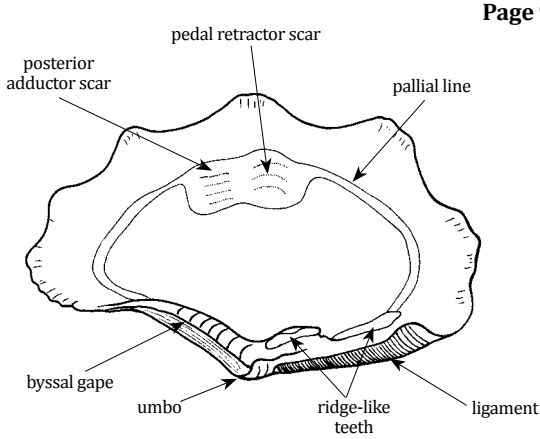
## CARDIIDAE (TRIDACNINAE)

Page 98

### Giant clams

To 137 cm. Clear shallow waters of coral reefs. Four species of interest to fisheries are included in the Guide to Species. Following recent phylogenetic studies, the giant clams are nowadays regarded as a subfamily within the Cardiidae, instead of constituting a separate family.

Shell equivalve, thick, heavy and often very large, with strongly scalloped free margins; umbones ventral, free margins of the valves dorsal-most in position; byssal gape, when developed, internally plicate; outer surface with strong radial folds; ligament external; hinge with ridge-like cardinal and lateral teeth; a single adductor muscle scar, associated with a pedal retractor scar, submedian in position; pallial line without a sinus.




**left valve (interior)**

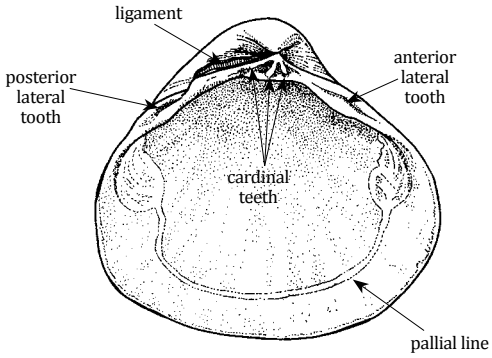
## CYRENIDAE (=CORBICULIDAE)

Page 100

### Marsh clams

To about 12.5 cm. Fresh and brackish waters. Three species of interest to fisheries are included in the Guide to Species.

Shell equivalve, solid, umbones prosogyrate; no lunule nor escutcheon; periostracum conspicuous; ligament external; three diverging cardinal teeth in each valve, and strong anterior and posterior lateral teeth; two adductor muscle scars; pallial sinus reduced to absent.




**left valve (interior)**

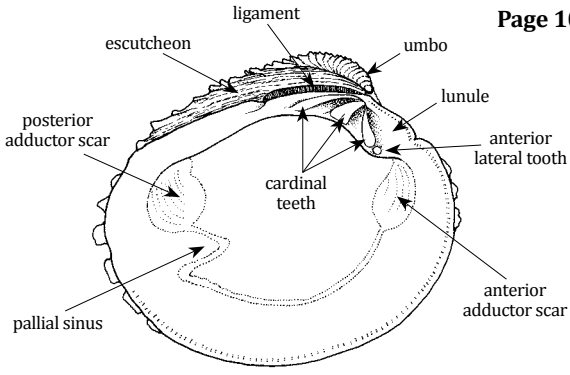
## VENERIDAE

Page 101

### Venus clams

To about 7 cm. Marine and brackish. Two species of interest to fisheries are included in the Guide to Species.

Shell equivalve and inequilateral, with anteriorly directed umbones; lunule and/or escutcheon usually present; ligament external; hinge with usually three diverging cardinal teeth in each valve, anterior lateral teeth sometimes present; two adductor muscle scars; pallial sinus usually present.



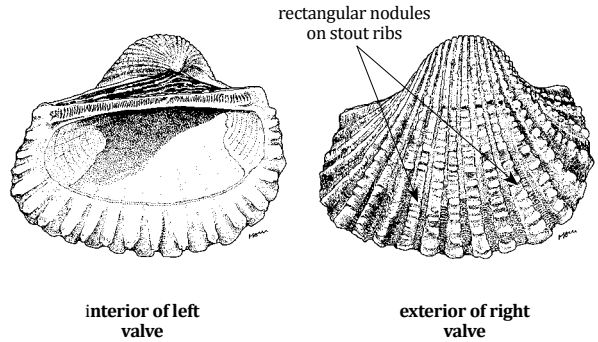

**left valve (interior)**

## ARCIDAE
Ark shells

### *Tegillarca granosa* (Linnaeus, 1758)

**FAO names:** Granular ark (En)
Arche granuuleuse (Fr)

**Local name(s):** A Sin Gyaung Gone Kha Yu, Gyin.
**Habitat:** On muddy bottoms. Intertidal and shallow sublittoral waters to a depth of 10 m.
**Fisheries:** Harvested manually and by raking, at low tide or from small boat in shallow water.
**Distinctive Characters:** Shell equivalve, strongly inflated and solid, ovate and slightly longer than high, with protruding umbones; about 18 radial ribs (15 to 20) at each valve; ribs stout and distinctly rugose, bearing regular often rectangular nodules on top; periostracum rather thin and smooth; no byssal gape.
**Colour:** Outside of shell white under the yellowish brown periostracum; inner side milky white, often tinged yellow toward the umbones.



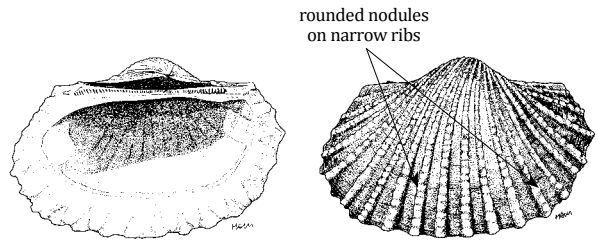

**interior of left valve** **exterior of right valve**

**Size:** To 9 cm, common 6 cm shell length

### *Tegillarca nodifera* (Martens, 1860)

**FAO names:** Nodular ark (En)
Arche noduleuse (Fr)

**Local name(s):** Bu Done Sin Gone Kha Yu.
**Habitat:** On mud and sand bottoms. Intertidal and shallow sublittoral waters to a depth of 10 m.
**Fisheries:** Harvested manually and by raking, at low tide or from small boat in shallow water.
**Distinctive Characters:** Shell equivalve, moderately inflated and solid, oblong ovate and distinctly longer than high, with moderately protruding umbones; about 21 radial ribs (19 to 23) at each valve; ribs quite narrow and sharp, distinctly rugose, bearing regular rounded nodules on top; periostracum rather thin and smooth; no byssal gape.
**Colour:** Outside of shell white under the medium brown periostracum; inner side milky white.




**interior of left valve** **exterior of right valve**

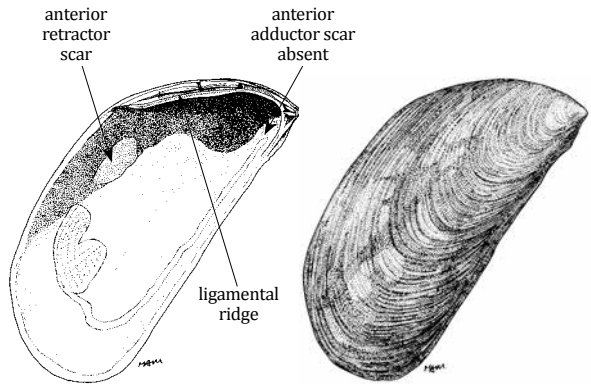
**Size:** To 6 cm, common 4 cm shell length

## MYTILIDAE
Sea mussels

***Perna viridis*** (Linnaeus, 1758)

**FAO names:** Asian brown mussel (En)
Moule verte asiatique (Fr)

**Local name(s):** Gone, Yauk Thwar A Nyo, Kha Yu Nyo.
**Habitat:** Byssally attached to various hard objects or substrates. Littoral and sublittoral to a depth of 20 m.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell elongate, roughly trigonal-ovate in outline, swollen and pointed anteriorly, rounded and compressed posteriorly; umbones terminal and sharply tapering, rather incurved; periostracum rather thick and smooth, adherent; ligamental ridge finely pitted; anterior adductor scar absent in adult specimens; anterior retractor scar separated, elongate-ovate in shape, situated a short way to posterior end of ligament.
**Colour:** Outside of shell whitish under a bright periostracum which is dark brownish green anteriorly and olive-green to bright green posteriorly; interior an iridescent pale bluish green, with a vivid green margin of periostracum.



**interior of left valve** **exterior of right valve**

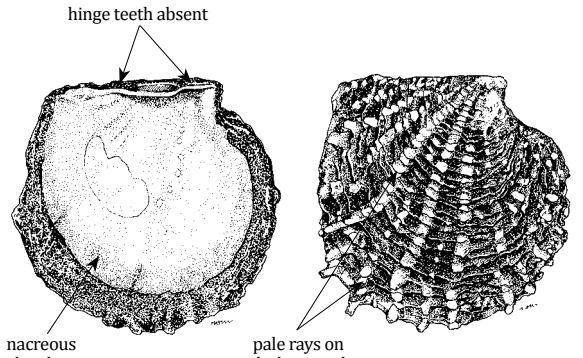
**Size:** To 19 cm, common 8 cm shell length

## PTERIIDAE
Pearl oysters

***Pinctada margaritifera*** (Linnaeus, 1758)

**FAO names:** Blacklip pearl oyster (En)
Pintadine à lèvre noire (Fr)

**Local name(s):** Hnote Kham Mee Ka Mar.
**Habitat:** On various bottoms, byssally attached to hard substrates at least in the young stages. Mainly in clear water under the influence of currents. Often in dense colonies. Littoral and sublittoral to a depth of 20 m.
**Fisheries:** Hand collecting, at low tide or diving.
**Distinctive Characters:** Shell rather thick and large (attaining 25 cm in length), subcircular in outline, with a short and ill-defined posterior ear which is not drawn out into a wing-like process; anterior margin markedly protruding beyond the tip of anterior ear; hinge completely devoid of teeth.
**Colour:** Outside of shell dark greyish brown or green to nearly black in ground colour, with radial stripes of white or yellowish markings corresponding to the basal portion of old flattened spines; internal nacreous area silvery, with a darker smoky hue and a hint of red and green iridescence on border; non-nacreous area very dark.



**interior of left valve** **exterior of right valve**

**Size:** To 25 cm, common 13 cm shell length

***Pinctada maxima*** (Jameson, 1901)

**FAO names:** Goldlip pearl oyster (En)
Pintadine à lèvre dorée (Fr)

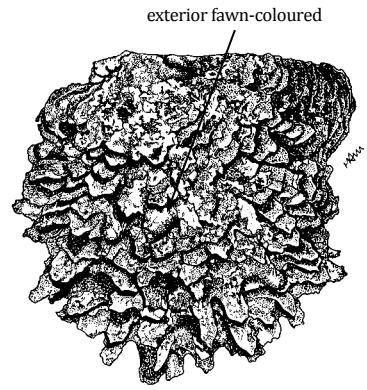
**Local name(s):** Shwe Hnote Kham Ka Mar.

**Habitat:** On various bottoms, byssally attached to hard substrates or objects, at least in the young stages. Mainly in clear water under the influence of currents. Often in dense colonies. Littoral and sublittoral to a depth of 60 m

**Fisheries:** Hand collecting, at low tide or diving.

**Distinctive Characters:** Shell rather thick and large to very large (attaining 30 cm in length), subcircular in outline, with a short and ill-defined posterior ear which is not drawn out into a wing-like process anterior margin markedly protruding beyond the tip of anterior ear; hinge completely devoid of teeth.

**Colour:** Outside of shell uniformly fawn, sometimes with radial stripes of darker spots in umbonal region; then, ground colour in that region green, dark brown, or purple; internal nacreous area highly lustrous, silvery with a variably extended golden border; non-nacreous margin clear, of a plain horny colour.




**exterior of left valve**

**Size:** To 30 cm, common 20 cm shell length

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***Pinctada radiata*** (Leach, 1814)

**FAO names:** Rayed pearl oyster (En)
Pintadine radiée (Fr)

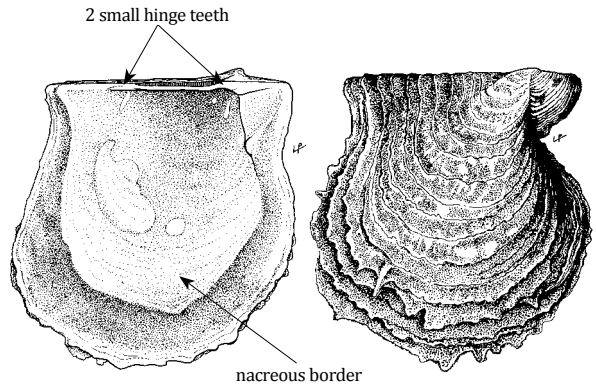
**Local name(s):** Pale Ka Mar.

**Habitat:** Byssally attached to rocks, dead corals and various submerged objects, often forming large natural banks. On soft bottoms, they aggregate to one another. Littoral, sublittoral and shelf zone, from low tide levels to a depth of about 150 m (most commonly, from depths of 5 to 25 m).

**Fisheries:** Hand collecting, at low tide or diving.]

**Distinctive Characters:** Shell rather thin and small to medium sized, relatively inflated, subquadrate in outline, with a short and ill-defined posterior ear which is not drawn out into a wing-like process; dorsal margin relatively long, anterior margin protruding only slightly or not at all beyond the tip of anterior ear; hinge line with 2 small teeth in each valve: 1 rounded anterior tubercle just in front of the umbo, and 1 posterior ridge, situated behind the ligamental area and almost parallel to dorsal margin.

**Colour:** Outside of shell variable, uniform or with darker markings or radial rays, mostly of reds and browns, but sometimes of green and bronze coloration; internal nacreous area highly iridescent; non-nacreous margin glossy, light brown with dark brown or reddish blotches corresponding to the main external rays.




**interior of left valve** **exterior of right valve**

**Size:** To 9.5 cm, common 6 cm shell length

***Pteria penguin*** (Röding, 1798)

**FAO names:** Penguin wing oyster (En)
Avicule épaisse (Fr)

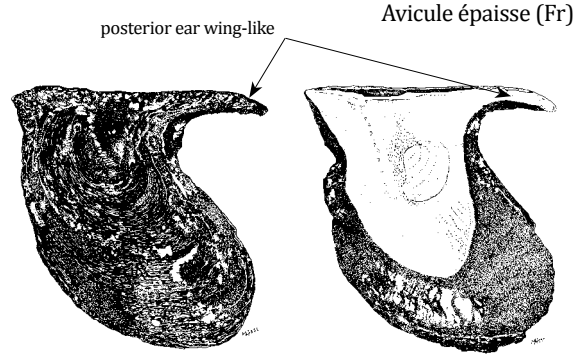
**Local name(s):** Pin Gwin Ka Mar.

**Habitat:** Byssally attached to rocks, corals, gorgonians and other hard objects. Littoral and sublittoral, from low tide levels to a depth of 35 m.

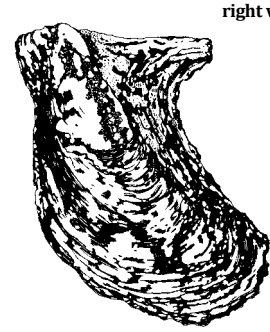
**Fisheries:** Hand collecting, at low tide or diving.

**Distinctive Characters:** Shell solid, reaching a very large size, obliquely ovate in outline, with posterior ear drawn out into a narrow, more or less elongated, wing-like expansion; slightly inequivalve, left valve a little more inflated and with a weak rounded fold radiating from umbo to posteroventral end of shell; outline of shell variable, initially narrowly oblique, later greatly expanding ventrally and almost as high as long, or even higher than long in larger specimens and with the posterior ear relatively short; interior of shell with a wide non-nacreous margin ventrally.

**Colour:** Outside of shell plain dark brown to black; interior silvery and brilliantly nacreous, with a broad, posteroventrally expanded, glossy black margin.




**exterior of left valve** **interior of right valve**



**exterior of left valve (mature specimen with shortened posterior wing)**

**Size:** To 30 cm, common 20 cm shell length

## MALLEIDAE

Hammer oysters

***Malleus albus*** Lamarck, 1819

**FAO names:** White hammer oyster (En)
Marteau blanc (Fr)

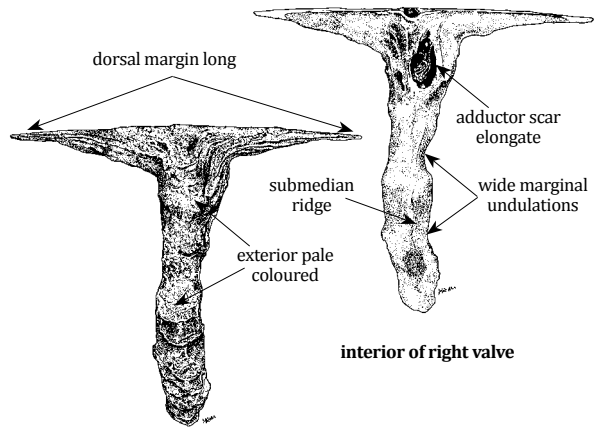
**Local name(s):** Pauk Chun Ka Mar.

**Habitat:** Free-living in muddy-sand bottoms. Forming large colonies with shells vertically disposed, partly buried and anchored in sediment by the long dorsal ears. Sublittoral, from 1 to 25 m.

**Fisheries:** Hands and knife.

**Distinctive Characters:** Shell strong and heavy, with a well-developed, long and narrow ventral expansion; dorsal margin with prominent wing-like ears at both ends; no anterodorsal byssal notch in right valve; ventral expansion with wide interlocking marginal undulations and a low submedian ridge interiorly; outer surface with irregular flat scales; posterior adductor muscle scar obliquely elongated, without byssal retractor scar.

**Colour:** Exterior and interior of shell creamy beige to whitish; nacreous area glossy blue-grey, often extensively flecked with dark grey-brown.




**interior of right valve**

**exterior of left valve**

**Size:** To 25 cm, common 15 cm shell length

## *Malleus malleus* (Linnaeus, 1758)

**FAO names:** Black hammer oyster (En)
Marteau noir (Fr)

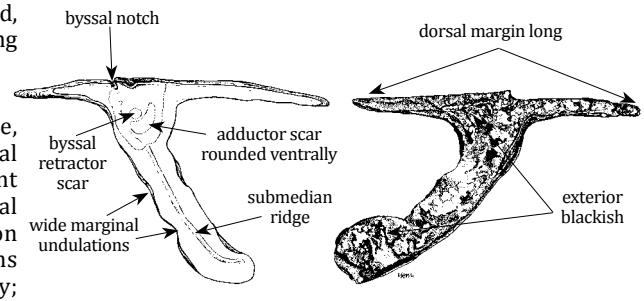
**Local name(s):** Pauk Chun Me' Ka Mar.

**Habitat:** Attached to hard objects, on reef flats, coarse coral sand and eelgrass areas. Forming large colonies with shells vertically disposed, partly buried and anchored in sediment by the long dorsal ears. Sublittoral zone, from 1 to 15 m.

**Fisheries:** Hands and knife.

**Distinctive Characters:** Shell rather thick, brittle, with well-developed, often irregular, ventral expansion; dorsal margin with prominent wing-like ears at both ends; anterodorsal byssal notch of right valve deep; ventral expansion with wide interlocking marginal undulations and well-defined submedian ridge interiorly; outer surface with large, irregular rough scales; posterior adductor muscle scar ventrally rounded, with prominent byssal retractor scar dorsally.

**Colour:** Exterior and interior dull greyish to purplish black; nacreous area glossy light grey to silvery.




**interior of right valve** **exterior of right valve**

**Size:** To 25 cm, common 18 cm shell length

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## *Malleus regula* (Forsskal, 1775)

**FAO names:** Straight hammer oyster (En)
Maillet droit (Fr)

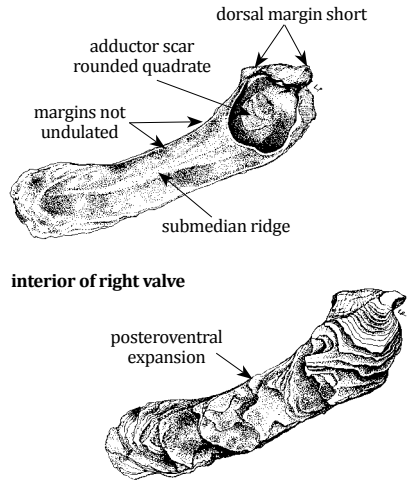
**Local name(s):** Tu Yoe Ka Mar.

**Habitat:** Attached to hard substrates or objects where mud occurs. Often in dense colonies. Littoral to about 20 m depth.

**Fisheries:** Hands and knife.

**Distinctive Characters:** Shell often irregular, brittle, with a well-developed posteroventral expansion; dorsal margin rather short, not expanded into wing-like ears; anterodorsal byssal notch present in right valve; outer surface scaly, with irregular concentric lamellations at young stages; posterior adductor muscle scar rounded subquadrate; non-nacreous posteroventral expansion with a more or less distinct, low submedian ridge.

**Colour:** Exterior of shell brownish; interior glossy and greyish in the nacreous area, brown and variably maculated with purplish and grey elsewhere.




**interior of right valve**

**exterior of right valve**

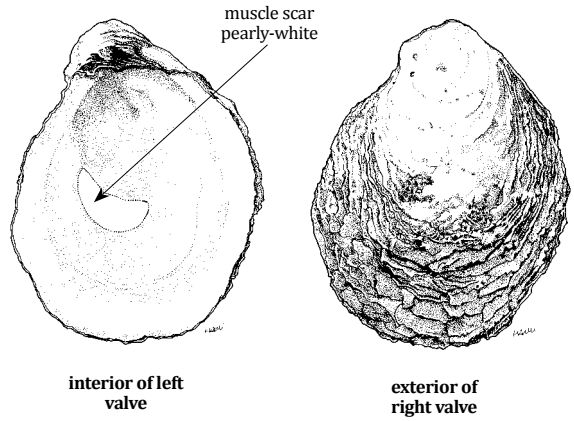
**Size:** To 12 cm, common 8 cm shell length

# OSTREIDAE
Oysters

## *Crassostrea belcheri* (G. B. Sowerby II, 1871)

**FAO names:** Belcher's cupped oyster (En)
Huître creuse de Belcher (Fr)

**Local name(s):** Khwet Ka Mar.
**Habitat:** Marine to brackish water areas of estuaries. Intertidal zone and shallow subtidal water to about 5 m deep.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell large to very large-sized, thick, very variable in shape but generally higher than long and rounded ovate to elongate orbicular in outline; both valves convex, left (lower) valve rather thick, heavy and more convex than right (upper) valve, with rather small to large-sized attachment area; umbonal cavity present under the hinge of left valve; adductor muscle scar large, oblong-lunate, somewhat concave anterodorsally and roughly as far from ventral margin as from the hinge; chomata completely absent.
**Colour:** Outside of shell whitish to dull green; interior of valves porcelaneous white, with pearly-white muscle scar.
**Remarks:** Molecular phylogenetic analyses have shown that another species with similar shell morphology exists in the Indian Ocean.

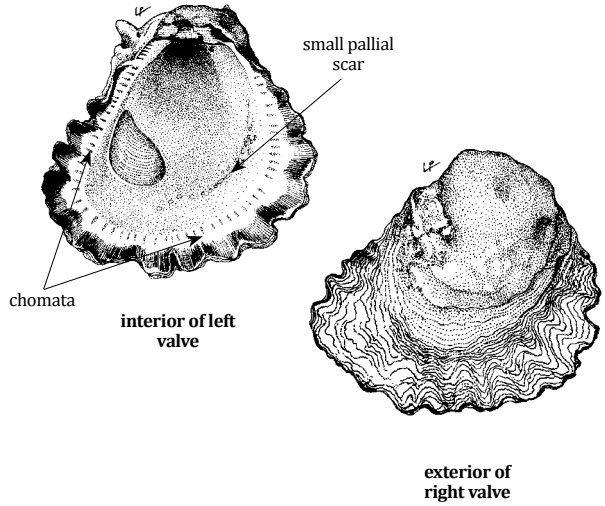



**Size:** To 43 cm, common 15 cm shell length

## *Saccostrea cucullata* (Born, 1778)

**FAO names:** Hooded oyster (En)
Huître-capuchon (Fr)

**Local name(s):** A Moe Khone Ka Mar, Kha Yin.
**Habitat:** Attached to various hard substrates, in marine, estuarine and mangrove areas, often in dense colonies. Intertidal and shallow subtidal levels to a depth of 5 m.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell stout, very variable in shape and size, usually medium-sized to small; left (lower) valve generally deep (occasionally very shallow), with large attachment area and strong radial ribs towards the periphery; right (upper) valve flattish, fitting down into the plicate margins of the wider opposite valve; adductor muscle scar kidney-shaped, more or less posteroventral in position; interior of valves with a crescent-shaped series of small pallial scars between the posterior adductor scar and the anterodorsal margin; chomata present all around the valve margins.
**Colour:** Exterior of shell dirty white to greyish brown, often with shades of purple; interior creamy white, often with deep purple to black margins and frequently a subnacreous iridescence.
**Remarks:** Molecular phylogenetic analyses have shown that *Saccostrea cucullata* represents a complex of sibling species in the Indo-Pacific, some of which are still under study.



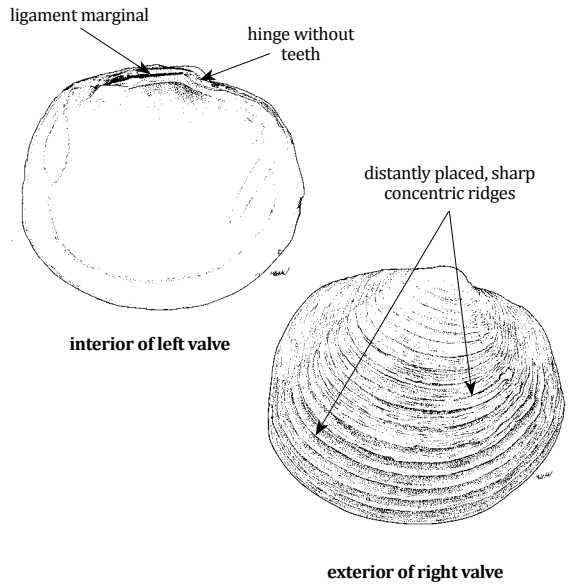

**Size:** To 20 cm, common 10 cm shell length

# LUCINIDAE
Lucines

## *Austriella corrugata* (Deshayes, 1843)

**FAO names:** Corrugated lucine (En)
Lucine ridée (Fr)

**Local name(s):** Tunt Khauk Gone Kha Yu.
**Habitat:** Deeply buried in soft mud to muddy sand bottoms in mangrove areas. Littoral to about 15 m depth.
**Fisheries:** Harvested manually, or with a long flat iron blade.
**Distinctive Characters:** Shell rather thick, moderately inflated, rounded subquadrangular in outline; lunule shallow, rather long and heart-shaped, nearly symmetrical; outer sculpture of distantly spaced, sharp and rather irregular concentric ridges; periostracum strong, wrinkled, umbones often heavily corroded and showing the chalky white shell; ligament marginal, deeply set in a long groove; hinge without distinct teeth; anterior adductor muscle scar ventrally detached from pallial line for 4/5 of its length, diverging at an angle of about 35°.
**Colour:** Outside of shell dirty white under the brown periostracum. Interior whitish, sometimes with light fawn towards the umbones.

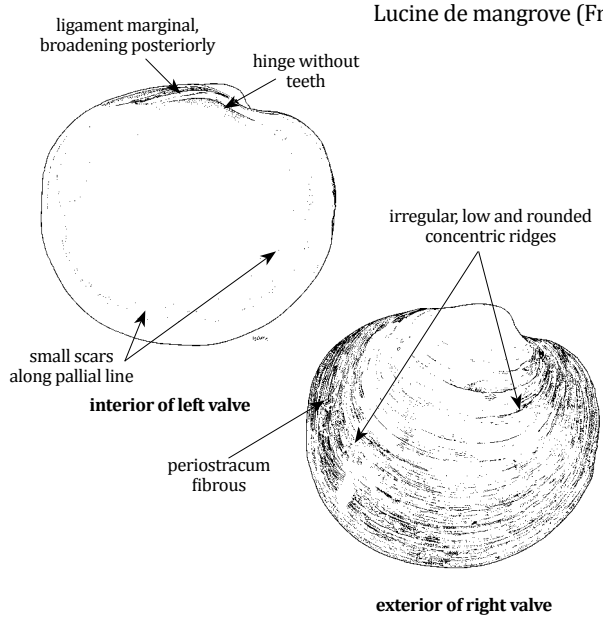



**Size:** To 7.5 cm, common 5 cm shell length

## *Pegophysema philippiana* (Reeve, 1850)

**FAO names:** Mangrove lucine (En)
Lucine de mangrove (Fr)

**Local name(s):** Dee Yay Taw Gone Kha Yu.
**Habitat:** Deeply buried in mud and fine sand bottoms, in estuarine and mangrove areas. Intertidal and shallow water to about 3 m depth.
**Fisheries:** Harvested manually or with a long flat iron blade.
**Distinctive Characters:** Shell rather thin, inflated, rounded in outline and slightly longer than high; lunule short and slightly impressed; outer surface with dense, irregular, low and rounded concentric ridges; periostracum thick and fibrous, partially adherent to shell surface; ligament marginal, deeply set and broadening posteriorly to form a triangular pad; hinge without teeth; anterior adductor muscle scar ventrally detached from pallial line for 3/4 of its length, diverging at an angle of 30-34°. Pallial line bordered dorsally by a row of small scars extending from anterior adductor scar to posterodorsal shell margin.
**Colour:** Outside of shell creamy or greyish white under the dull olive to brown periostracum; interior whitish.




**Size:** To 9 cm, common from 5 o 7 cm shell length

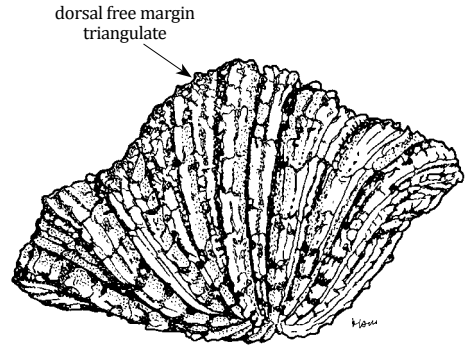
# CARDIIDAE (TRIDACNINAE)

Giant clams

## *Hippopus hippopus* (Linnaeus, 1758)

**FAO names:** Bear paw clam (En)
Bénitier tacheté (Fr)

**Local name(s):** Wet Wun Let Thae Ka Mar.
**Habitat:** On sandy bottoms of coral reefs, in shallow water to a depth of 6 m.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell very thick and heavy, medium to rather large sized, globose in shape and triangularly ovate to subrhomboidal in outline; posteroventral margin of valves without a well-defined byssal orifice, bordered by interlocking crenulations which become stronger posteriorly; dorsal free margin of shell irregularly arched and roughly triangular in shape, more protruding at about midlength, sloping and slightly depressed anteriorly and posteriorly; outer surface with 9 to 13 or 14 large, riblike folds and many low, unequal radial riblets often bearing short, prickly, semitubular spines and crossed by fine, wavy concentric lines of growth.
**Colour:** Outside of shell off-white, with yellowish orange suffusion and with reddish blotches arranged in irregular concentric bands; interior porcelaneous white, frequently flushed with yellowish orange on ventral margin; Dorsally exposed mantle area of living specimens yellowish brown, dull green or grey.



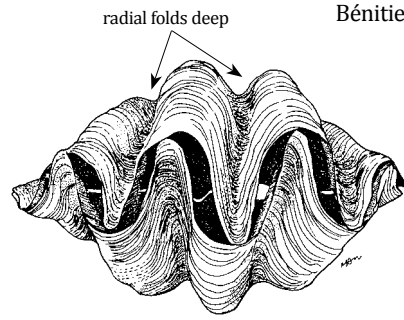

**exterior of left valve**

**Size:** To 40 cm, common 20 cm shell length

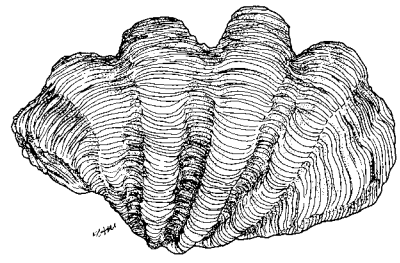
## *Tridacna gigas* (Linnaeus, 1758)

**FAO names:** Giant clam (En)
Bénitier géant (Fr)

**Local name(s):** Kyar Let Thae Jate Ket.
**Habitat:** On sand, in coral-reef areas, from depths of 2 to 20 m.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell very thick and heavy, moderately to strongly inflated and rather equilateral in shape, subovate to fan-shaped in outline; posteroventral margin of valves with a moderately small byssal orifice, bordered by obsolete, non-interlocking crenulations; outer surface of each valve with 4 to 6 deep radial folds, 4 of which are generally very large, forming elongate-triangular projections on dorsal free margin; secondary sculpture of weak radial riblets (both on and between the main radial folds) and overriding, fine concentric lines of growth, becoming obsolete on later stages of growth.
**Colour:** Exterior of shell off-white, often strongly encrusted with marine growths; interior porcelaneous white; dorsally exposed mantle area of living specimens yellowish brown to olive green, with numerous, small, brilliant blue-green rings.




**dorsal view of entire shell**



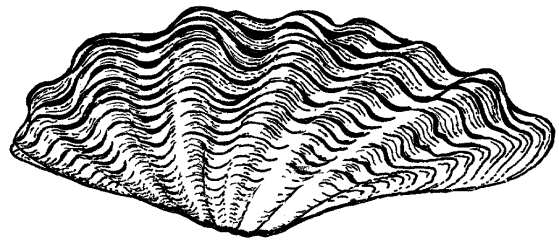
**exterior of right valve**

**Size:** To 137 cm, common 80 cm shell length

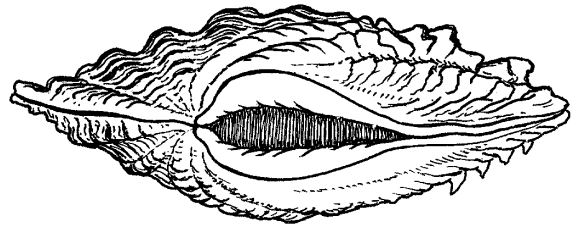
***Tridacna maxima*** (Röding, 1798)

**FAO names:** Elongate giant clam (En)
Bénitier allongé (Fr)

**Local name(s):** Shae Myaw Kyar Let Thae.
**Habitat:** On reefs, partially embedded in corals. Littoral and shallow water to a depth of 20 m.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell moderately inflated, strongly inequilateral and highly variable in shape, usually elongate-ovate to somewhat triangular in outline; umbones markedly anterior in position, generally situated about the anterior 1/3 of shell length; posteroventral margin of valves with a large byssal orifice, bordered by 4 to 9 small, distinct to obsolete and non-interlocking crenulations, which become more distantly set posteriorly; outer surface of each valve with 6 or 7 very broad, moderately convex, rib-like radial folds, bearing closely set, erect but low, concentric scales; scales developed on entire shell; secondary sculpture of closely spaced, undulate concentric lines of growth, and weak radial riblets; posterior pedal retractor scar relatively large
**Colour:** Exterior of shell greyish white, often suffused with yellow or pinkish orange and strongly encrusted with marine growths. Interior porcelaneous white, sometimes with yellow to orange hues on margins; dorsally exposed mantle area of living specimens often brightly coloured and variable in colour and pattern.



**exterior of right valve**



**ventral view of entire shell**

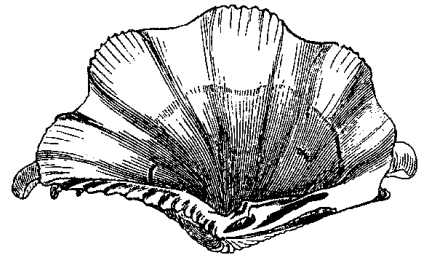
**Size:** To 35 cm, common 25 cm shell length

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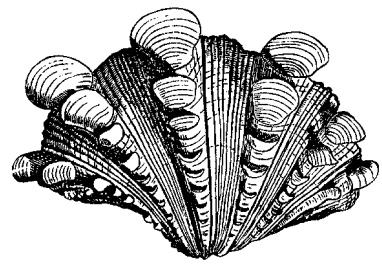
***Tridacna squamosa*** Lamarck, 1819

**FAO names:** Fluted giant clam (En)
Bénitier écailleux (Fr)

**Local name(s):** Pulway Kyar Let Thae.
**Habitat:** Littoral and shallow water to a depth of 20 m.
**Fisheries:** Hands and knife.
**Distinctive Characters:** Shell nearly equilateral in shape, semicircular in outline; umbones about midlength of shell or slightly anterior; posteroventral margin of valves with a medium-sized byssal orifice, bordered by 6 to 8 small, non-interlocking crenulations; posteroventral slope relatively broad and flat; outer surface of each valve with 5 or 6 broad, rib-like radial folds bearing large and erect, distant, blade-like concentric scales which are delicate and easily broken; secondary sculpture of many low radial riblets, crossed by concentric growth lines, giving a finely latticed pattern, mainly noticeable in the wide interstices of ribs.
**Colour:** exterior of shell highly variable, greyish white, often with different hues of orange, yellow, or pink to mauve; interior porcelaneous white, occasionally tinged with orange; dorsally exposed mantle area of living specimens mottled in various mixes of green, blue, brown, orange, and yellow.



**interior of left valve**



**exterior of right valve**

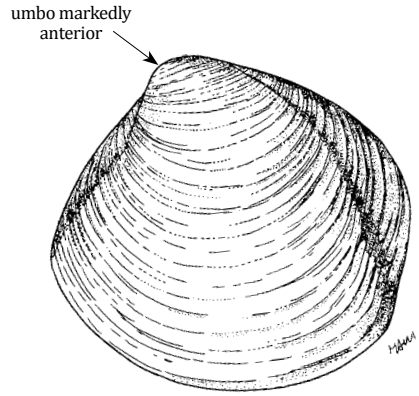
**Size:** To 40 cm, common 30 cm shell length

# CYRENIDAE
Marsh clams

## *Geloina bengalensis* (Lamarck, 1818)

**FAO names:** Bengali geloina (En)
Cyrène bengali (Fr)

**Local name(s):** Bingalar Gone.
**Habitat:** Shallowly buried in mud flats and estuaries of mangrove areas.
**Fisheries:** Detected with bare feet, hands or machete blade, and manually collected.
**Distinctive Characters:** Shell markedly inequilateral, thick and solid, inflated, usually subtrigonal in outline and about as high as long; umbones protruding well in front of the midlength of shell, resulting in a quite short anterior portion of valves; outer surface of valves with a dense, coarse, irregular concentric striation;periostracum thick, unpolished, irregularly striated. Hinge solid, strongly curved ventrally, bearing in each valve 3 stout cardinal teeth, two of which are shallowly bifid; lateral teeth smooth, 1 anterior and 1 posterior laterals in left valve, against 2 in right valve.
**Colour:** Outside of shell chalky white under the greenish brown to blackish brown periostracum; interior white.



**exterior of left valve**

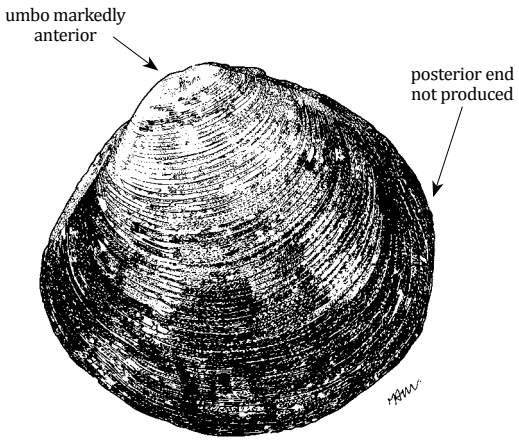
**Size:** To 9.5 cm, common 7.5 cm shell length

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## *Geloina coaxans* (Gmelin, 1791)

**FAO names:** Common geloina (En)
Cyrène érodée (Fr)

**Local name(s):** Yauk Thwar, Gone Kha Yu.
**Habitat:** Shallowly buried in muddy bottoms of the mangrove swamps, estuaries and larger rivers.
**Fisheries:** Detected with bare feet, hands or machete blade, and manually collected.
**Distinctive Characters:** Shell variable, slightly inequilateral, moderately inflated, subrhomboidal-ovate in outline and longer than high; umbones near the midline of shell, often corroded and showing the shell material. Outer surface of valves concentrically striated and wavely ridged. Periostracum thick and strongly wrinkled. Hinge relatively broad, bearing in each valve 3 strong cardinal teeth, two of which are deeply bifid; lateral teeth smooth, 1 anterior and 1 posterior laterals in left valve, against 2 in right valve.
**Colour:** Outside of shell chalky white, under the yellowish green to dark brown periostracum. Interior white.
**Remarks:** This species has long known under the erroneous name *Geloina erosa* (Lightfoot, 1786).



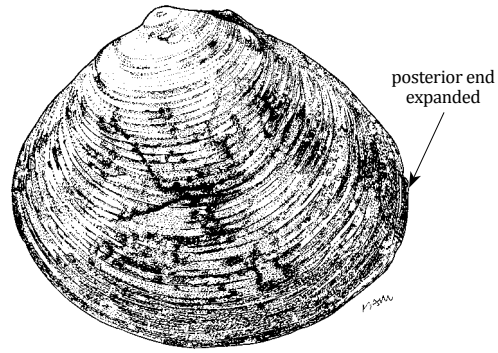
**exterior of left valve**

**Size:** To 11 cm, common 7 cm shell length

***Geloina expansa*** (Mousson, 1849)

**FAO names:** Broad geloina (En)
Cyrène large (Fr)

**Local name(s):** Gone Pyar Gyi, Wintnar.
**Habitat:** Shallowly buried in muddy, brackish to almost fresh-water areas of mangrove swamps. Can survive during drought periods by aerial respiration at the posterior mantle margins.
**Fisheries:** Detected with bare feet, hands or machete blade, and manually collected.
**Distinctive Characters:** Shell inequilateral, elongate, trigonal-ovate in outline, inflated and rather thin, distinctly expanded posteriorly and longer than high; umbones inflated, well in front of the midlength of shell; outer surface of valves concentrically striated; periostracum rather thin and fibrous, the umbones often corroded and showing the shell material; hinge relatively narrow, bearing 3 moderately strong cardinal teeth, two of which are deeply bifid; lateral teeth smooth,1 anterior and 1 posterior laterals in left valve, against 2 in right valve.
**Colour:** Outside of shell chalky white under the yellowish to yellowish brown periostracum; interior white.



**exterior of left valve**

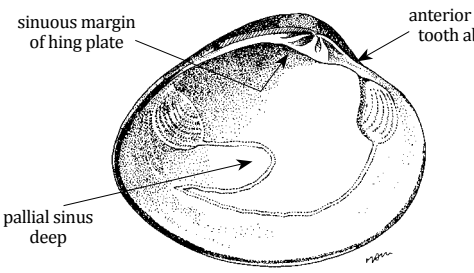
**Size:** To 12.6 cm, common 7 cm shell length

## VENERIDAE
Venus clams

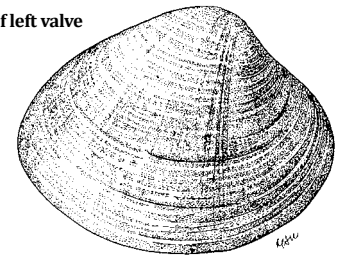
***Marcia opima*** (Gmelin, 1791)

**FAO names:** Fertile venus (En)
Vénus fertile (Fr)

**Local name(s):** Venus Gone.
**Habitat:** In soft bottoms of protected coastal areas and near estuaries. Intertidal and shallow subtidal waters to about 4 m deep.
**Fisheries:** Harvested manually and by raking.
**Distinctive Characters:** Shell tumid, longer than high, with a variable, inequilateral shape, roughly trigonal ovate in outline; umbones prominent, markedly anterior to midlength of shell; lunule lanceolate and more glossy than the surrounding surface, escutcheon indistinct; outer surface of valves smooth, except from low concentric growth marks; hinge plate with somewhat sinuous ventral margin, bearing in each valve 3 prominent cardinal teeth, but no lateral teeth; pallial sinus broad and deep, almost horizontal dorsally; internal margins smooth.
**Colour:** Outside of shell pale cream to greyish, often with variously developed darker brown to purplish patterns of spots, zigzag lines, radial or concentric bands; interior white, sometimes pale orange or pink towards the umbones.



**interior of left valve**


**exterior of right valve**

**Size:** To 6.5 cm, common 5 cm shell length

***Meretrix meretrix*** (Linnaeus, 1758)

**FAO names:** Asiatic hard clam (En)
Cythérée commune (Fr)

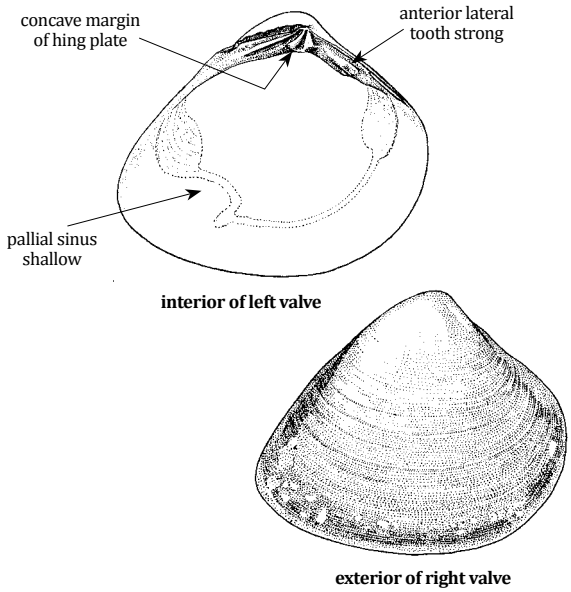
**Local name(s):** Asia Gone Mar, Shut.

**Habitat:** In sand and muddy-sand bottoms of open coasts. Intertidal and sublittoral waters to a depth of about 20 m.

**Fisheries:** Harvested manually and by raking.

**Distinctive Characters:** Shell thick, moderately inflated with a variable, nearly equilateral to rather inequilateral shape, trigonal-ovate in outline; umbones anterior, poorly inflated, pointing on top of dorsal margin; lunule smooth and poorly defined, escutcheon indistinct; outer surface of shell smooth, except from low concentric growth marks; periostracum smooth and glossy; hinge plate moderately thick, with a concave ventral margin, bearing in each valve 3 strong cardinal teeth and well developed anterior lateral teeth; pallial sinus broad and rather shallow, forming a horn-shaped process ventrally; internal margins smooth.

**Colour:** Outside of shell very variable in colour and pattern, under the transparent, pale straw-coloured periostracum; basically white or fawn to chestnut brown, plain or variously maculated with darker grey or brown; interior white, sometimes with dark brown along posterodorsal margin.

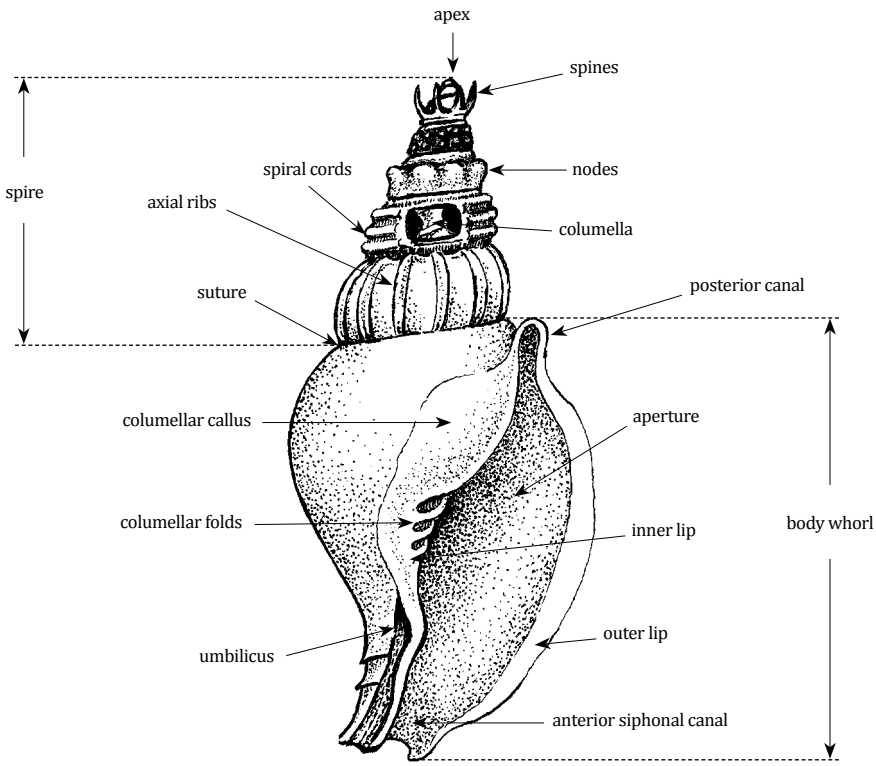



**Size:** To 7.7 cm, common 6 cm shell length

# GASTROPODS*

Several marine gastropod species are commercially important in Myanmar and are collected for food by coastal populations, and the shell used in the shellcraft industry. Twenty-two species belonging to eight families are included in the guide.

## TECHNICAL TERMS AND MEASUREMENTS




**gastropod shell (ventral view)**

**Aperture:** Opening of shell, at the last formed margin; in a spiral shell, the margin nearer to the coiling axis forms the inner lip, and the opposite margin the outer lip.
**Base:** Lower part of the shell, anterior to level of periphery of body whorl.
**Body whorl:** The largest, last turn of the spiral in a coiled shell.
**Callus:** Thick secondary deposit of lime, generally shiny and porcellaneous.
**Columella:** Coiling axis of shell, forming the lower part of inner lip.
**Operculum:** Horny or calcareous part attached to the foot, sealing aperture when animal retracts within the shell.
**Sculpture:** Relief pattern on shell surface. When parallel to the curve of whorls, sculptural elements are spiral; when parallel to the coiling axis, they are axial.
**Shoulder:** Distinct spiral angulation of a whorl.
**Siphonal canal:** Trough–like or tubular extension of aperture anteriorly, for inclosure of a fleshy siphon.
**Spire:** All the whorls of a shell, except the last one.
**Suture:** Spiral line or groove of shell surface, where adjacent whorls meet.
**Umbilicus:** Opening at base of shell made around the coiling axis when columella is hollow.
**Varix (pl. varices):** Axial rib–like thickening of the outer surface of shell, representing a previous growth halt during which the outer lip of aperture thickened.

*Section upgraded and completed by J.–M. Poutiers (MNHN, Paris)

# GUIDE TO FAMILIES

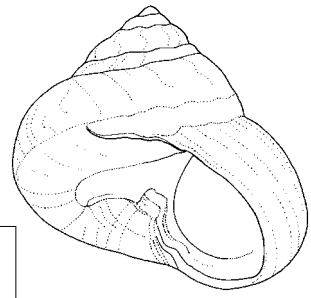
## TROCHIDAE s.l.

**Page 107**

**Top shells**

To 15 cm. Marine. Two species of interest to fisheries are included in the Guide to Species. Based on modern molecular studies, assignment of these species to the recently recognised family Tegulidae is incorrect. Pending to a correct family assignment, they are provisionally left here in the family Trochidae.

Shell conical, with a rather tall spire, a moderately large, rounded to angular body whorl and an often flattened base; sculpture variable, axial and spiral, sometimes weakening with growth and obsolete on later whorls; aperture rounded to squarish, without a siphonal canal, nacreous inside. Operculum corneous, rounded, with a central nucleus and many coils



**ventral view**



**operculum corneous**

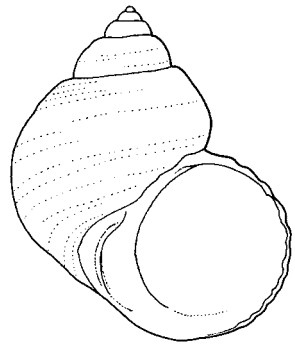
## TURBINIDAE

**Page 108**

**Turban shells**

To 22 cm. Marine. Two species of interest to fisheries are included in the Guide to Species.

Shell thick, turbinate to conical (occasionally flattened) in shape; sculpture very variable, often spiral to nodular; aperture variously rounded, without a siphonal canal, nacreous inside; operculum strongly calcified



**ventral view**



**operculum calcareous**

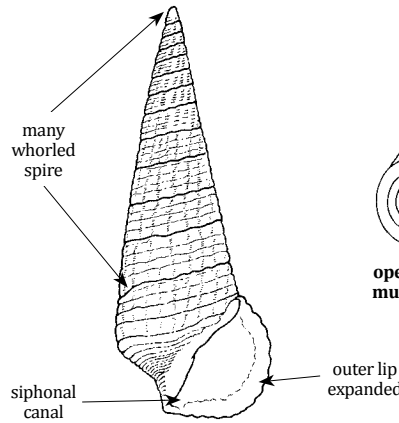
## POTAMIDIDAE

**Page 109**

**Swamp ceriths – Horn shells**

To 6.5 cm. Shallow marine and brackish water environments. Two species of interest to fisheries are included in the Guide to Species.

Shell high conical, with many spire whorls; sculpture generally coarse, often reticulated to nodular; aperture relatively small, with a short and deep siphonal canal; outer lip often thickened and flaring; operculum rounded, corneous, with many spiral turns and a subcentral nucleus




**ventral view**



**operculum multispiral**

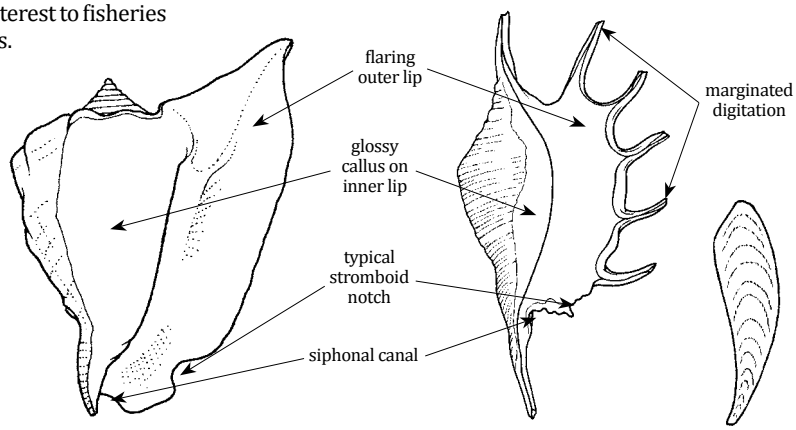
## STROMBIDAE

### Conchs

Page 110

To 29 cm. Marine. Four species of interest to fisheries are included in the Guide to Species.

Shell thick and solid, with a relatively large body whorl; aperture with a well-marked siphonal canal; a distinct notch along the anterior margin of the outer lip; operculum corneous, claw-like




**examples showing diversity of shape (ventral views)**

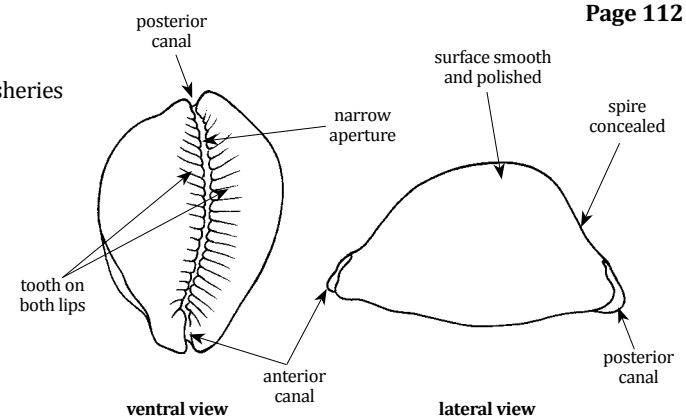
## CYPRAEIDAE

Page 112

### Cowries

To 15 cm. Marine. Five species of interest to fisheries are included in the Guide to Species.

Shell ovate or oblong, with spire concealed under the large body whorl in the adult; surface highly polished, smooth, with a low longitudinal groove on dorsal side; aperture long and narrow, channelled at both ends, with teeth on both lips; no operculum



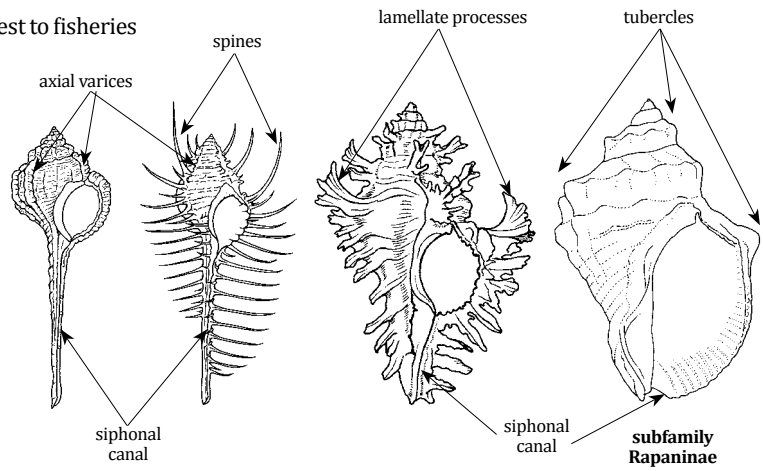

## MURICIDAE

Page 114

### Purpuras – Murex – Rock shells

To 33 cm. Marine. Five species of interest to fisheries are included in the Guide to Species.

Shell variably shaped, generally with a raised spire and strong sculpture with spiral ridges and often axial varices, frequently bearing spines, tubercles or blade-like processes (axial varices absent in Rapaninae); siphonal canal short to long; operculum corneous




**examples showing diversity of shape (ventral views)**

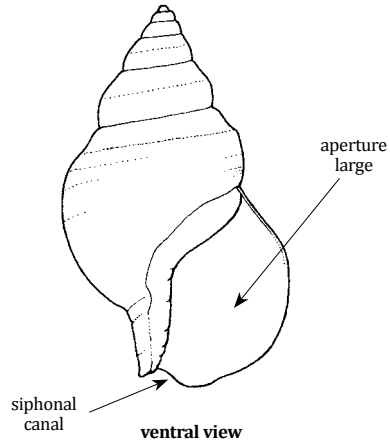
## BABYLONIIDAE

**Page 117**

**Ivory whelks**

To 6.5 cm. Marine. One species of interest to fisheries is included in the Guide to Species. This family has been recently separated from the Buccinidae on anatomical and molecular grounds.

Shell ovate-conical and globose to slender in shape, generally with fairly pointed spire and large body whorl; outer surface smoothish, without axial varices or developed spines; coloration typically patterned with brown to orange markings, rather regularly arranged along spiral (sometimes diagonal) rows; siphonal canal short; operculum corneous, completely occluding the aperture




**ventral view**

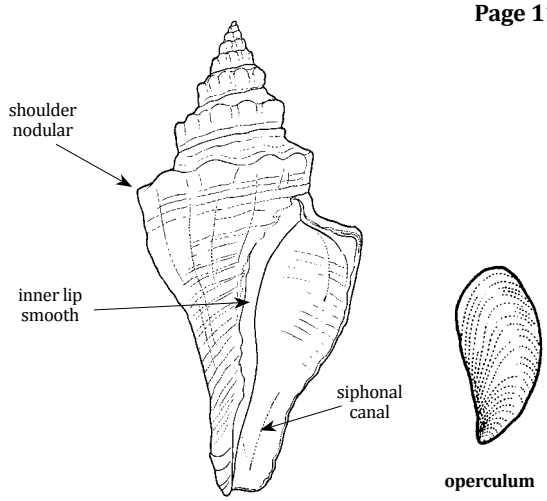
## MELONGENIDAE

**Page 117**

**Melongenas**

To 15 cm. Marine. One species of interest to fisheries is included in the Guide to Species.

Shell roughly fusiform, with variously developed spire and expanded body whorl; outer surface with spiral cords, often angulated and nodular to spiny on the shoulder; aperture large and ovate, anteriorly narrowing in an open, moderately short to long siphonal canal; inner lip smooth; operculum corneous, claw-shaped, with an apical nucleus




**ventral view**

# TROCHIDAE s.l.

Top shells

***Rochia nilotica*** (Linnaeus, 1767)

**FAO names:** Commercial top (En)
Trocha nacrier (Fr)

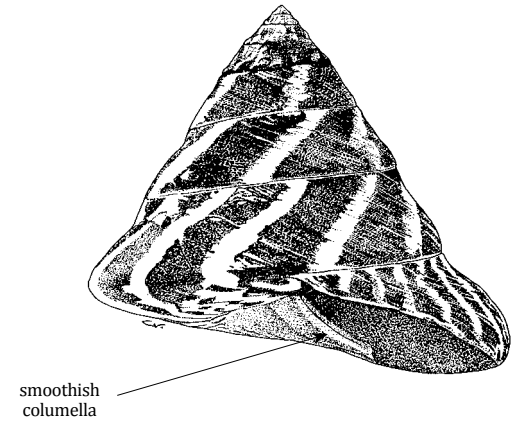
**Local name(s):** Baung Kha Yu, Kha Yu Zedi, Baung Lai.

**Habitat:** In coral reef areas, typically in shallow, high-energy portions of barrier and fringing reefs to a depth of about 10 m.

**Fisheries:** Caught by hands.

**Distinctive Characters:** Shell large, thick and very heavy, conical in shape; spire tall, with pointed apex and shallow sculpture, weakening with growth; early spire whorls distinctly tuberculated just above the sutures, the following ones flat-sided and quite smooth, separated by linear sutures; body whorl of large specimens nearly smooth; base of shell flattish; umbilicus present; aperture squarish; columella long, curved and smooth, somewhat thickened marginally.

**Colour:** Under the yellowish brown periostracum, the outer surface of shell is off-white, with large, irregularly axial reddish stripes, which are usually narrower and lighter on the base; columellar ridge nacreous, with a pure white, glossy spiral margin encircling the umbilicus.




**ventral view**

**Size:** To 15 cm, common 11 cm shell length

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***Tectus pyramis*** (Born, 1778)

**FAO names:** Pyramid top (En)
Troque obélisque (Fr)

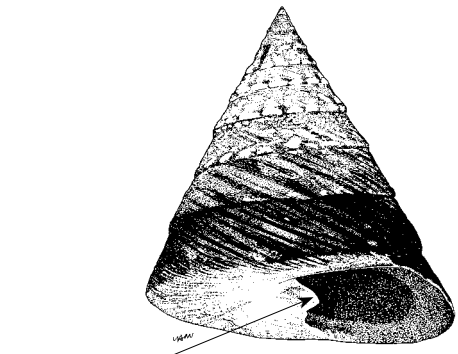
**Local name(s):** Baung Kha Yu, Piramid Kha Yu, Baung Gyi.

**Habitat:** Abundant in coral reef and rocky shore habitats. Littoral and shallow subtidal zones to a depth of about 10 m.

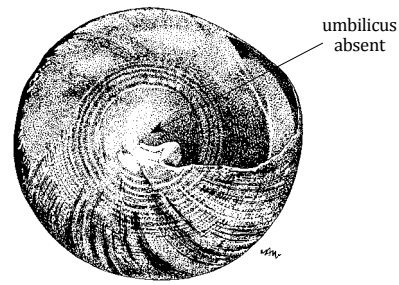
**Fisheries:** Caught by hands.

**Distinctive Characters:** Shell large, conical in shape; spire tall, with pointed apex, flat-sided whorls and reduced sculpture usually weakening with growth and becoming obsolete on body whorl of large specimens; sculpture of whorls comprising a row of low tubercles at the suture and sometimes weak spiral threads; base of shell flat; umbilicus absent; aperture squarish; columella with a strong, concave spiral fold.

**Colour:** Outside of shell lightly mottled in shades of drab grey to brown or green; base creamy brown, green or blue-green towards periphery, becoming white and glossy towards columella and aperture which is nacreous inside.




**ventral view**




**basal view**

**Size:** To 15 cm, common 8 cm shell length

# TURBINIDAE

Turban shells

## *Turbo argyrostomus* Linnaeus, 1758

**FAO names:** Silvermouth turban (En)
Turbo bouche-d'argent (Fr)

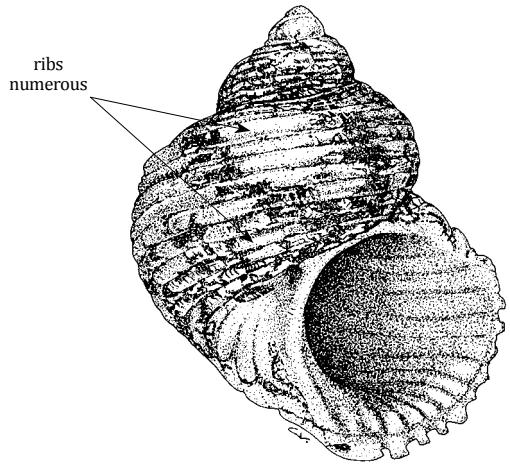
**Local name(s):** Ngwe Hnote Kham Kha Yu, Ngwe Nar Jay.

**Habitat:** Coral reef areas, in moderately exposed habitats and in lagoons.

**Fisheries:** Caught by hands.

**Distinctive Characters:** Shell large, solid and heavy, turbinate in shape; spire, pointed with strongly convex whorls; body whorl with a rounded ovate aperture; spiral sculpture well developed, with numerous ribs and grooves; exterior of operculum prominently pustulose, with oblique marginal grooves.

**Colour:** Outside of shell either whitish or irregularly marbled with green and brown, or uniformly greenish; aperture glossy white, becoming silvery white inside; exterior of operculum white, often with a greenish centre and brown to orange outer margin.




**ventral view**

**Size:** To 10 cm, common 7.5 cm shell length

## *Turbo marmoratus* Linnaeus, 1758

**FAO names:** Green turban (En)
Turbo vert (Fr)

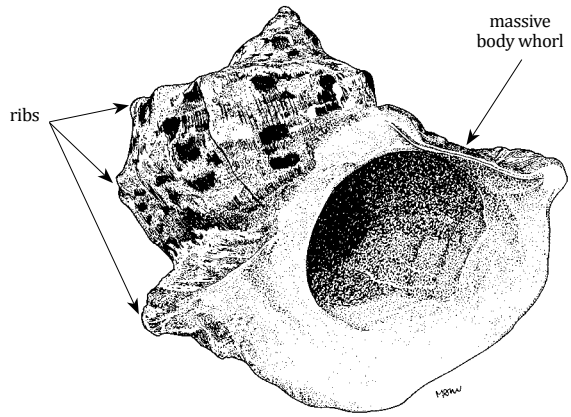
**Local name(s):** Kha Yu Sein.

**Habitat:** In subtidal, coral reef areas open to a constant flow of clean oceanic water. Juveniles mainly living on reefs crests, at depths of 1 to 5 m; adults also occurring deeper on slopes, to about 20 m or more.

**Fisheries:** Caught by hands.

**Distinctive Characters:** Shell reaching a very large size, sturdy, roughly turbinate in shape with a rather small, pointed spire and a strongly developed, massive body whorl; spiral sculpture poorly developed, apart from 3 ribs on shoulder, periphery, and base of body whorl, bearing blunt tubercles; exterior of operculum smooth to finely granular.

**Colour:** Outside of shell dull-coloured, uniformly greenish or dark green or mottled dark green and whitish, often with spiral bands of alternating chestnut brown and grey spots; interior of aperture silvery white; exterior of operculum whitish.




**ventral view**

**Size:** To 22 cm, common 15 cm shell length

# POTAMIDIDAE

Swamp ceriths – Horn shells

***Cerithidea obtusa*** (Lamarck, 1822)

**FAO names:** Obtuse horn shell (En)
Potamide obtus (Fr)

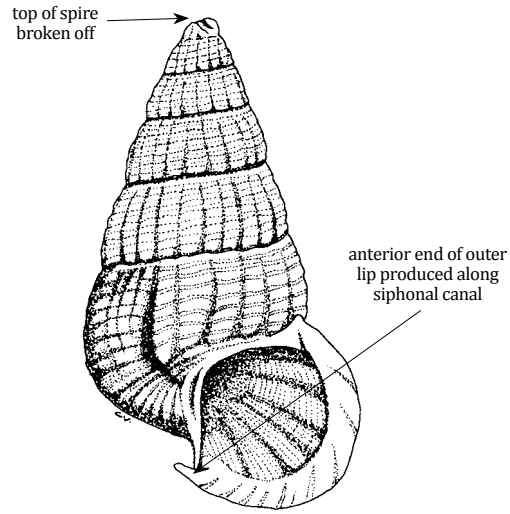
**Local name(s):** Kha Yu Oh Soke, Kha Yu Hpin Wine, Ar Ni.

**Habitat:** In mangrove swamps, on roots and branches above the bottom or on mud tidal flats, frequently forming dense populations.

**Fisheries:** Harvested manually.

**Distinctive Characters:** Shell elongate, with a moderately high conical, spire usually broken off on top, and broad rounded base; spire whorls convex, with moderately deep suture, 6 or 7 rounded spiral cords crossed by stronger, rather broad axial ridges and forming a reticulate sculpture; body whorl wide, rounded at periphery, with a low axial varix on its left side, with axial ribs fading away and with spiral cords on the base; aperture wide and subcircular, with thickened and flaring outer lip forming a tongue-shape anterior end produced over the short, open and oblique siphonal canal.

**Colour:** Outside of shell fawn or dull purplish brown, with a brighter zone below the suture, base brown or yellowish with a darker brown zone; aperture brownish,with cream outer lip on mature specimens.




**ventral view**

**Size:** To 6.5 cm, common 5 cm shell length

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***Pirenella cingulata*** (Gmelin, 1791)

**FAO names:** Girdled horn shell (En)
Potamide sanglé (Fr)

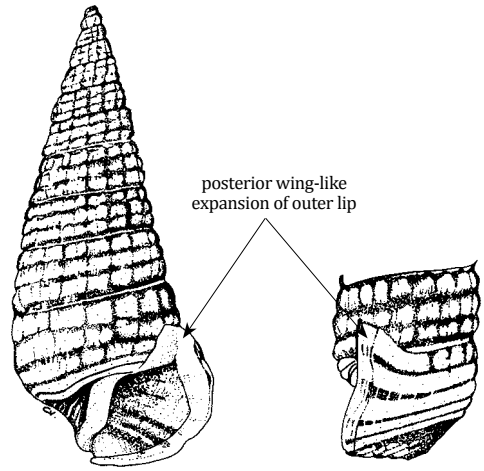
**Local name(s):** Kha Yar Kha Yu, Ka Yu.

**Habitat:** On coastal mud and sand flats, often adjacent to mangroves, frequently forming dense populations. Tolerant of brackish and hypersaline conditions.

**Fisheries:** Harvested manually.

**Distinctive Characters:** Shell elongate, with high conical, flat-sided spire and rounded base; spire whorls flat, with distinct, narrow suture, 3 equal sized spiral cords alternate with narrow spiral grooves and crossed by rather broad axial ridges, forming a reticulated pattern of squared nodules; body whorl with 7 to 9 spiral cords on the base; aperture somewhat flaring, the outer lip thickened and posteriorly expanded in a wing-like process; siphonal canal short, open and oblique.

**Colour:** Outside of shell variable, basically grey to dark orange brown with brown to black spiral grooves; last whorl lighter in colour, with alternate light and dark spirals on the base; aperture whitish, with purplish brown spiral lines inside and pale thickened margin.




**ventral view**

**anterior 1/3 of shell (lateral view)**

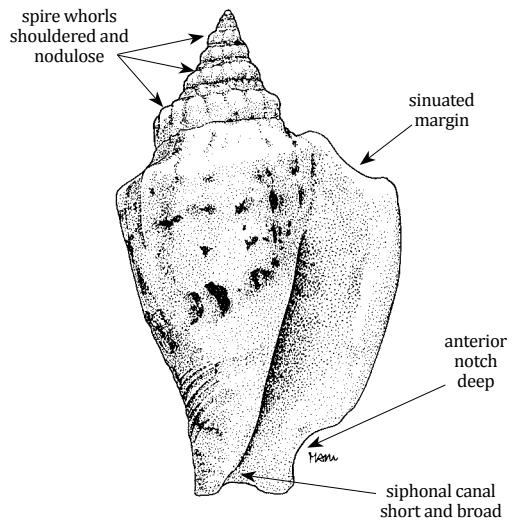
**Size:** To 3.7 cm, common 2.5 cm shell length

# STROMBIDAE
Conchs

## *Dolomena variabilis* (Swainson, 1820)

**FAO names:** Variable conch (En)
Strombe variable (Fr)

**Local name(s):** Pyaung Le' Kha Yu.
**Habitat:** On coral sand and sandy-mud bottoms. Mainlysublittoral, from low tide levels to a depth of about 50 m.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell small, elongate-ovate, with a relatively high, conical spire and a widely flaring outer lip; spire whorls distinctly shouldered and nodulose; outer lip roughly wing-shaped and sinuated posteriorly; anterior notch deep; siphonal canal short and broad.
**Colour:** Outside of shell white or cream, with heavy flecking of brown leaving on body whorl 5 narrow indistinct spiral white bands; interior glossy white, often with a conspicuous brown patch on columella.
**Remarks:** The presence of this species in Myanmar needs to be confirmed.



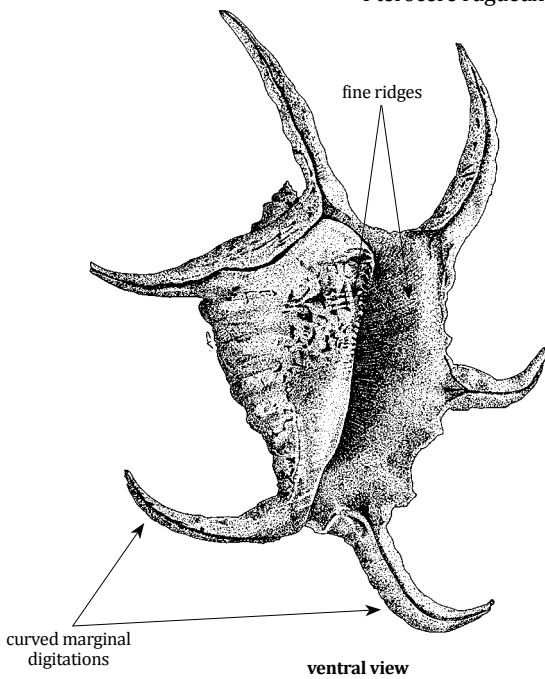
**ventral view**

**Size:** To 6 cm, common 4.5 cm shell length

## *Harpago chiragra* (Linnaeus, 1758)

**FAO names:** Chiragra spider conch (En)
Ptérocère rugueux (Fr)

**Local name(s):** Pink Ku Kha Yu.
**Habitat:** In coral reef areas, often on coarse sand with coral rubble and algae. Littoral and sublittoral, in tidal pools and low tide levels to a depth of about 25 m.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell large, thick and heavy, bearing 5 very thick, widely diverging marginal digitations on the outer lip, all of which distinctly curved except the one nearest the spire; spire whorls with a row of strong knobs on the angulated shoulder; body whorl with 4 to 5 strong spiral ridges bearing tubercles, stronger on the shoulder; columella and outer lip of the aperture with many fine incised ridges; siphonal canal expanded in a well developed digitation, markedly curved towards the left.
**Colour:** Outside of shell whitish to cream with various tan to dark brown markings; aperture usually light or rich pink to orange, white deep within; spiral ridging colourless, or whitish to brownish.
**Remarks:** Sexual dimorphism strong, females usually much larger than the males.



**ventral view**

**Size:** To 32 cm, common 17 cm shell length

## *Laevistrombus canarium* (Linnaeus, 1758)

**FAO names:** Dog conch (En)
Strombe isabelle (Fr)

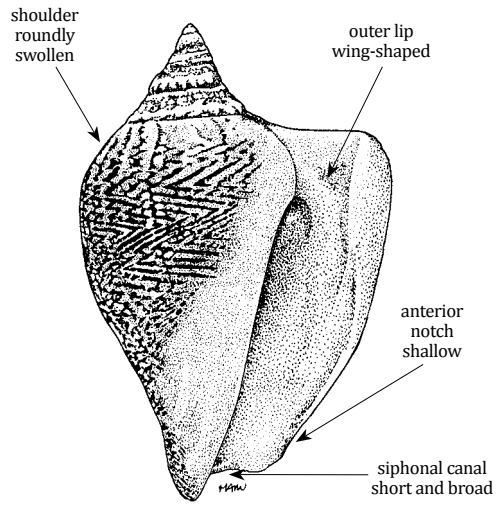
**Local name(s):** Khway Kha Yu.

**Habitat:** Abundant on muddy sand and algae bottoms of larger islands and continental shores. Littoral and sublittoral zones, from low tide levels to a depth of about 55 m.

**Fisheries:** Caught by hands.

**Distinctive Characters:** Shell heavy, rotund and smoothish with spire whorls weakly ribbed and varicate; body whorl roundly swollen at the shoulder, smooth except for a few spiral grooves anteriorly; outer lip roughly wing-shaped, strongly thickened marginally, not expanding posteriorly beyond the last whorl; anterior notch shallow; siphonal canal short and broad, straightish.

**Colour:** Outer coloration of shell variable, light (rarely dark) yellowish brown or grey, uniform or with a network of closely spaced, fine wavy axial lines of darker brown; colour of body whorl often paler ventrally; aperture white, sometimes with a golden brown or metallic grey glaze on thickened margin of the outer lip and on columellar callus of mature specimens.



**ventral view**

**Size:** To 10 cm, common 6.5 cm shell length

## *Lambis lambis* (Linnaeus, 1758)

**FAO names:** Common spider conch (En)
Ptérocère commun (Fr)

**Local name(s):** Thar Man Pink Ku Kha Yu.

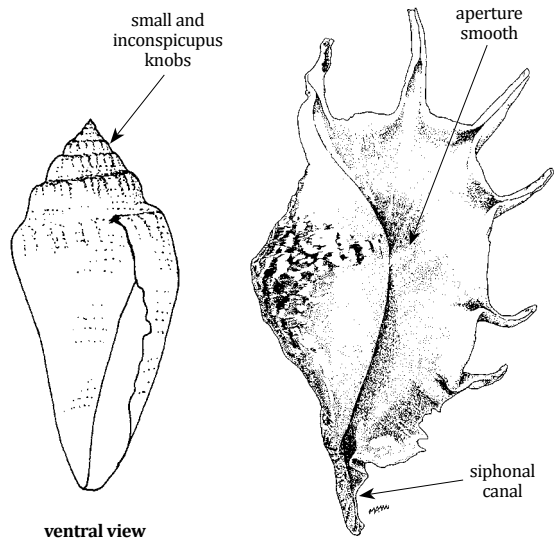
**Habitat:** Common on reef flats and on coral-rubble bottoms or in mangrove areas to a depth of about 5 m.

**Fisheries:** Caught by hands.

**Distinctive Characters:** Shell large, thick and heavy, bearing 6 large and slender marginal digitations on the strongly flaring outer lip; spire whorls with relatively small and inconspicuous knobs on the shoulder; body whorl rough, with 2 or 3 spiral rows of blunt tubercles forming large knobs on the shoulder; columella and outer lip of the aperture extensively glazed, smooth or nearly so; siphonal canal expanded in a relatively short and wide digitation, slightly bent towards the right.

**Colour:** Outer coloration of shell variable, cream to tan, often with various patterns of brown, purplish tan, or bluish black; glazed ventral side rich pink, orange, or purple tan, sometimes whitish.

**Remarks:** Sexual dimorphism pronounced. Shell of the males usually smaller and with shorter digitations on the outer lip.



**ventral view (juvenile)**

**ventral view (adult)**

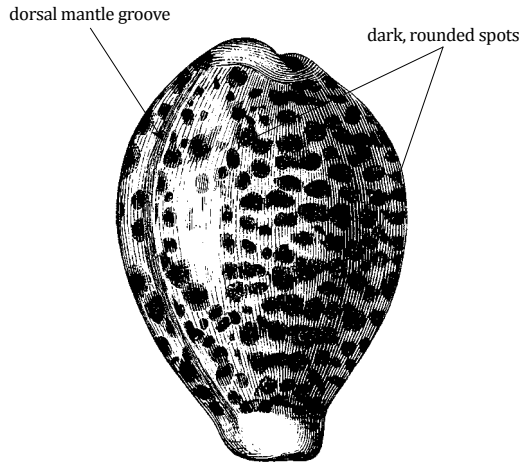
**Size:** To 29 cm, common 18 cm shell length

# CYPRAEIDAE
Cowries

## *Cypraea tigris* Linnaeus, 1758

**FAO names:** Tiger cowrie (En)
Porcelaine tigre (Fr)

**Local name(s):** Kyar Kwet Kyway Poke.
**Habitat:** Abundant on reef areas, on sand among rocks or corals, in tidal pools or on branched corals, often nearby seaweeds. Intertidal and sublittoral zones to a depth of about 30 m.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell large and heavy, very solid, with variable, ovate to pear-shaped outline; dorsal side inflated, with a linear mantle groove; ventral teeth mainly coarse and short, becoming finer and slightly longer on posterior part of inner lip.
**Colour:** Shell coloration very variable, ranging from almost white to nearly black, but usually whitish to light bluish grey, with a dense overlay of closely packed and irregularly sized, rounded spots of dark brown to black on dorsal and lateral sides; dark spots frequently edged with bright yellowish fawn or orange tints; dorsal mantle groove orange or light fawn; ventral side of shell white throughout, including the teeth, often with a pale greyish brown hue on mid-columellar surface.



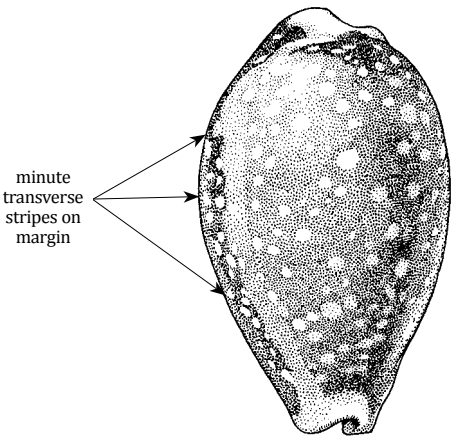
**dorsal view**

**Size:** To 15 cm, common 9 cm shell length

## *Lyncina vitellus* (Linnaeus, 1758)

**FAO names:** Pacific deer cowrie (En)
Porcelaine daim du Pacific (Fr)

**Local name(s):** Pacific Kyway Poke, Kyway Kha Yu.
**Habitat:** In coral reef and rocky habitats, common in shallow water and tide pools, under coral slabs and stones, or among seaweeds, sometimes half-buried in sand. Intertidal and sublittoral zones to a depth of about 25 m.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell moderately large, tumid, ovate to pear-shaped in outline; dorsal side inflated, the mantle groove indistinct; ventral side slightly convex, with a narrow aperture and moderately strong teeth.
**Colour:** Dorsal side of shell yellowish brown to fawn, usually with 2 obscure transverse bands of paler colour, and with a scattering of prominent white spots of varying size; lateral sides characteristically striated with minute, transverse and cloudy whitish stripes which are generally best developed on the right side of shell; ventral side creamy white, with white teeth.



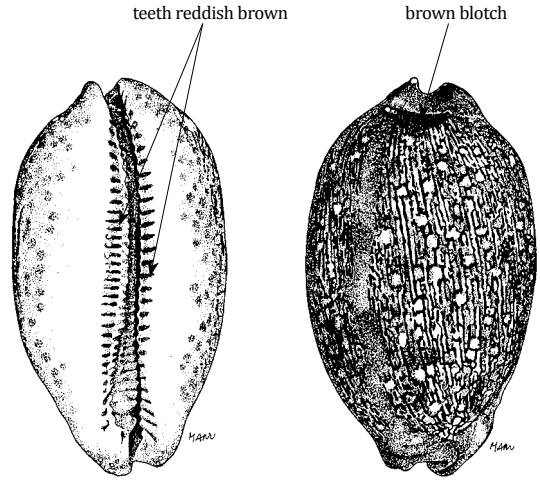
**dorsal view**

**Size:** To 10 cm, common 7 cm shell length

***Mauritia eglantina*** (Duclos, 1833)

**FAO names:** Eglantine cowrie (En)
Porcelaine églantine (Fr)

**Local name(s):** Kyway Poke, Kyway Kha Yu Set.
**Habitat:** Under slabs and stones, in coral reef and rocky habitats. Shallow subtidal waters.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell relatively large, elongate-ovate in outline; dorsal side rounded and more or less humped, mantle groove mostly appearing in the colour pattern; lateral margins more or less strongly expanded or calloused; ventral side convex, with well-developed but relatively fine teeth.
**Colour:** Dorsal side of shell fawn-grey with a pattern of brown longitudinal lines interrupted by clear spaces, and with a small brown blotch beside the spire; lateral sides with dark brown spots; ventral side whitish to creamy grey or pale fawn, teeth of the aperture reddish brown.




**ventral view** **dorsal view**

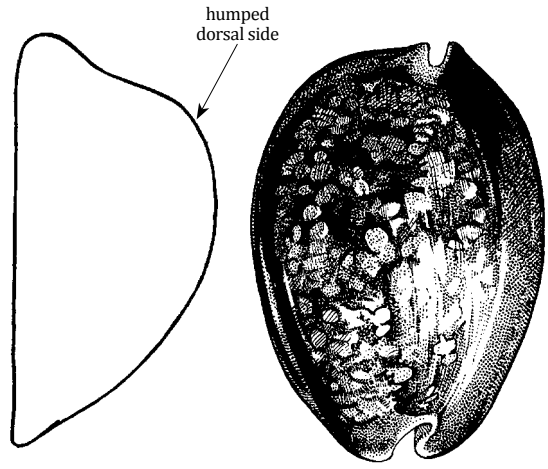
**Size:** To 8.5 cm, common 6.5 cm shell length

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***Mauritia mauritiana*** (Linnaeus, 1758)

**FAO names:** Humpback cowrie (En)
Porcelaine bossue (Fr)

**Local name(s):** Khar Kone Kyway Poke, Kyway Kha Yu.
**Habitat:** Under stones and in crevices of coral reefs and rocky headlands exposed to strong wave action. Mostly active at night. Littoral and sublittoral zones, mainly in low tide and shallow subtidal levels.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell large and heavy, very solid, elliptical-ovate in outline; dorsal side rounded and strongly humped, mantle groove often indistinct; lateral margins with an angular profile, markedly calloused; ventral side broad and slightly concave; teeth strong and prominent.
**Colour:** Dorsal side of shell pale tan, with brownish pattern leaving light rounded spots which often merge into one another; dorsal mantle groove sometimes enhanced by a narrow, creamy axial line; lateral sides and ventral surface of shell, including the teeth, uniformly deep chocolate brown to black, often with a translucent glossy hue of bluish grey; interstices of teeth white or cream.



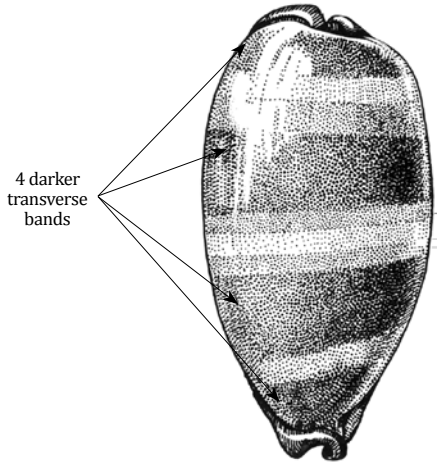

**lateral view of shell** **dorsal view**

**Size:** To 13 cm, common 10 cm shell length

***Talparia talpa*** (Linnaeus, 1758)

**FAO names:** Mole cowrie (En)
Porcelaine taupe (Fr)

**Local name(s):** Sin Kyar Kyway Poke, Kyway Kha Yu.
**Habitat:** In coral reefs, under slabs or in large coral heads, either on the external slope or in protected areas of the reef. Intertidal and sublittoral zones to a depth of about 10 m.
**Fisheries:** Caught by hands.
**Distinctive Characters:** Shell large, solid, almost cylindrical in outline, with widely convex to nearly straight lateral margins and slightly produced anterior and posterior extremities; dorsal side moderately swollen, without a mantle groove; ventral side flattish, rounded laterally, with a narrow, straightish aperture; apertural teeth numerous, short and fine.
**Colour:** Dorsal side of shell cream to coffee, with 4 wide, transverse bands of darker golden brown; lateral margins, anterior and posterior extremities, ventral side and teeth deep chocolate brown to black; interstices of teeth stained with cream or white.



**dorsal view**

**Size:** To 10.5 cm, common 8 cm shell length

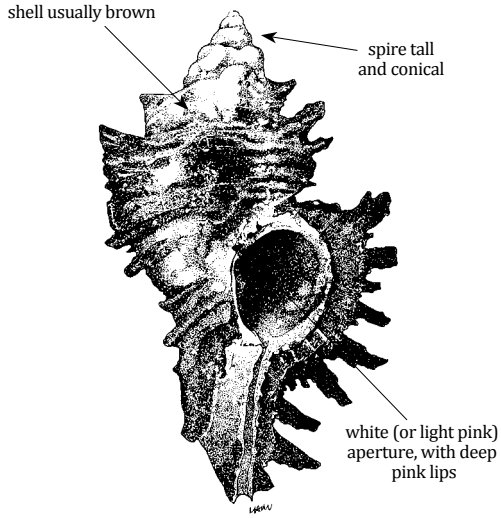
## MURICIDAE

Purpuras – Murex – Rock shells

***Chicoreus brunneus*** (Link, 1807)

**FAO names:** Adusta murex (En)
Murex bruni (Fr)

**Local name(s):** Kyauk Kha Yu.
**Habitat:** Common in various shallow water habitats, rocks, coral reefs, or clean to muddy sand bottoms. Intertidal and sublittoral zones, to a depth of about 20 m.
**Fisheries:** Caught by hands, baited traps.
**Distinctive Characters:** Shell moderately large, stout and heavy, roughly rhomboidal in outline, with a tall conical spire and inflated body whorl; about 3 strong and prominent, spinose axial varices per whorl, with a single broad axial node between them; spines of varices thick, branched, leaf-like and close-set; outer lip crenulate but without a tooth-like process; siphonal canal broad and relatively short, with 3 or 4 spines.
**Colour:** outside of shell usually brown, with darker brown to almost black spiral cords and spines, sometimes orange; aperture white or light pink, with deep pink lips.



**ventral view**

**Size:** To 11.5 cm, common 7 cm shell length

***Chicoreus ramosus*** (Linnaeus, 1758)

**FAO names:** Ramose murex (En)
Murex rameux (Fr)

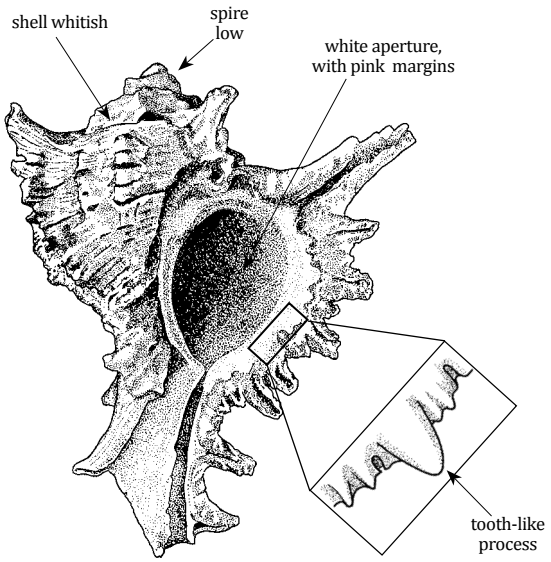
**Local name(s):** Ramo Kyauk Kha Yu.

**Habitat:** Common on coral reef areas, often on clean coarse sand and rubble bottoms in which large individuals partially bury themselves. Intertidal and shallow sublittoral zones to a depth of about 10 m.

**Fisheries:** Caught by hands, baited traps.

**Distinctive Characters:** Shell large, solid, globose ovate with a moderately low spire and tumid body whorl; about 3 spinose axial varices per whorl, with 2 unequal, axially elongate nodes between them; spines leaf-like, moderately short; outer lip of aperture crenulate and with a prominent tooth-like process anteriorly; siphonal canal moderately long, broad and narrowly open, with 2 or 3 spines.

**Colour:** Outside of shell whitish, sometimes stained rusty pink near sutures and along spiral lines; aperture white interiorly, with pink margins.




**ventral view**

**Size:** To 33 cm, common 20 cm shell length

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***Chicoreus torrefactus*** (G. B. Sowerby II, 1841)

**FAO names:** Firebrand murex (En)
Murex torréfié (Fr)

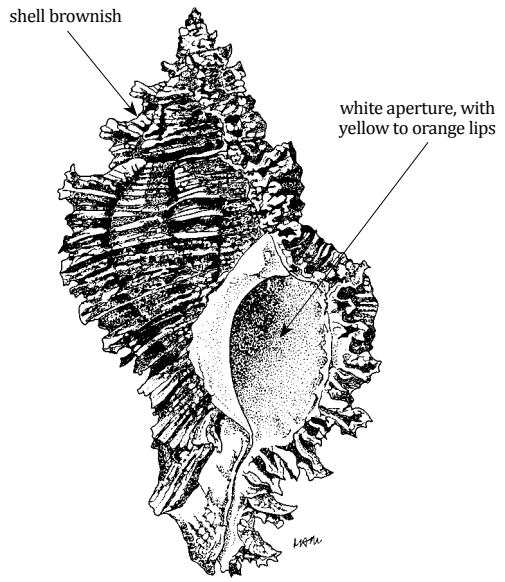
**Local name(s):** Mee Tauk Kyauk Kha Yu.

**Habitat:** Among rocks or on muddy sand bottoms, near rocks and under corals. Littoral and shallow subtidal waters.

**Fisheries:** Caught by hands, baited traps.

**Distinctive Characters:** Shell moderately large, solid, fusiform and moderately slender in outline, with a high, acute spire and large, elongate body whorl; 3 spinose axial varices per whorl, with usually 2 or 3 axial nodes between them; spines of varices short and branched; outer lip crenulate but without a tooth-like process; siphonal canal moderately short, with 3 or 4 spines.

**Colour:** Outside of shell usually brown, with darker spiral cords and spines; aperture white, often with yellow to orange lips.



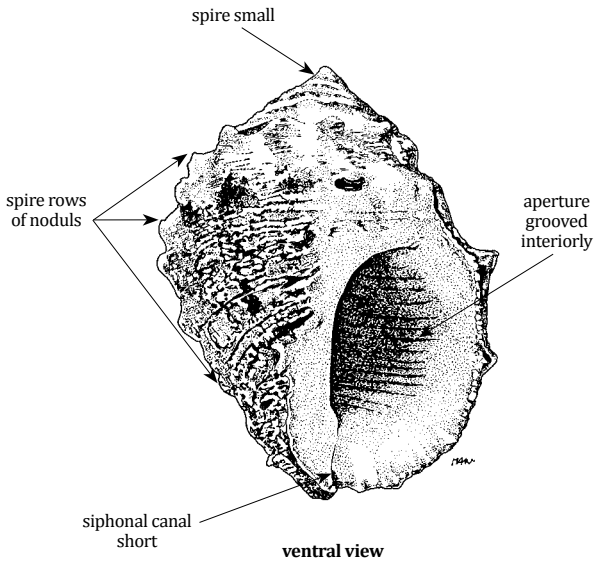

**ventral view**

**Size:** To 14 cm, common 8 cm shell length

## *Mancinella alouina* (Röding, 1798)

**FAO names:** Alou rock shell (En)
Pourpre petit-bourgeon (Fr)

**Local name(s):** Kyauk Kha Yu Nyo.
**Habitat:** On rocks, usually among marine growths and algae in sheltered areas. Littoral and shallow subtidal zones.
**Fisheries:** Caught by hands, baited traps.
**Distinctive Characters:** Shell sturdy, broadly ovate, with rather small conical spire, large globose body whorl and short siphonal canal; body whorl with many spiral grooves, 5 spiral rows of pointed nodules and distinctly knobbed band at anterior end; aperture conspicuously and finely grooved within.
**Colour:** Outside of shell cream brown, with darker rusty brown nodules; aperture and columella light to dark orange, darker orange-red on internal grooving.



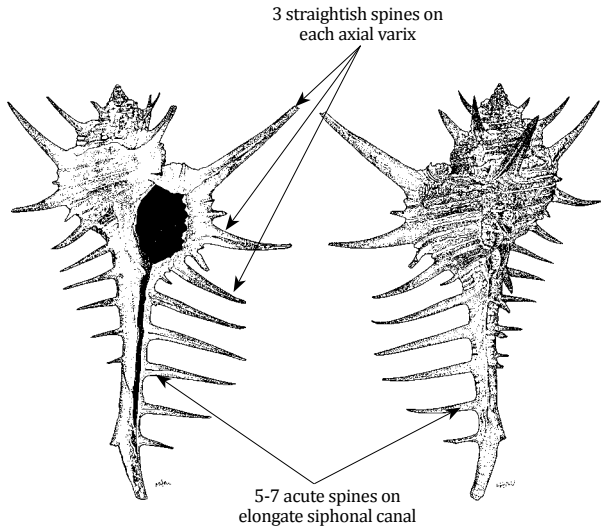
**ventral view**

**Size:** To 6 cm, common 5 cm shell length

## *Murex ternispina* Lamarck, 1822

**FAO names:** Black-spined murex (En)
Murex noire-épine (Fr)

**Local name(s):** Suu Net Suu Kha Yu.
**Habitat:** On soft sublittoral bottoms, from shallow water to a depth of about 60 m.
**Fisheries:** Caught by hands, baited traps.
**Distinctive Characters:** Shell highly spinose, club-shaped with a moderately tall conical spire, an inflated body whorl and elongate siphonal canal which is longer than the length of the spire and aperture; 3 heavy rounded axial varices per whorl, with 3 to 5 nodulose axial ribs between them, crossed by spiral cords; each varix with 3 well developed, almost straight spines, shoulder spine longest; anterior siphonal canal tubular, with 3 single axial rows of 5 to 7 acute long spines.
**Colour:** Outside of shell creamy white to light tan, with tips of the spines tinged dark purple; interior of aperture white.



**ventral view** **dorsal view**

**Size:** To 12 cm, common 9 cm shell length

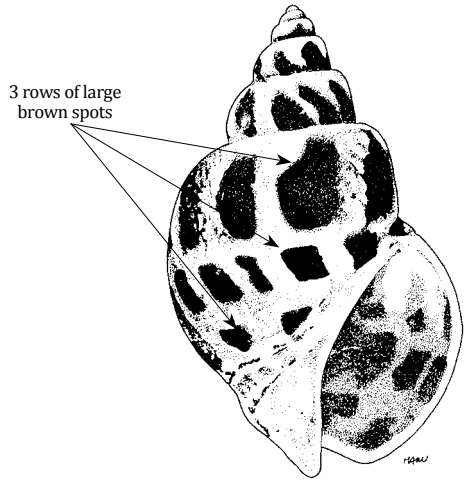
## BABYLONIIDAE

Ivory whelks

***Babylonia areolata*** (Link, 1807)

**FAO names:** Maculated ivory whelk (En)
Buccin à carreaux (Fr)

**Local name(s):** Nandar Hlaing Kha Yu.
**Habitat:** On sand and mud bottoms. Sublittoral, mainly between depths of 10 and 20 m.
**Fisheries:** Caught by hands, baited traps.
**Distinctive Characters:** Shell rather thin but solid, elongate-ovate in shape, with a high, conical spire and large, inflated body whorl; spire whorls convex, distinctly shouldered below the sutures; outer surface smooth and polished, under the prominent, velvety periostracum; aperture large and ovate, somewhat pointed at posterior end, with a broadly open and short siphonal canal anteriorly; umbilicus deeply perforated.
**Colour:** Outside of shell white, with 3 spiral rows of large, squarish brown spots on body whorl, and 1 row of such spots on spire whorls.




**ventral view**

**Size:** To 6.5 cm, common 5 cm shell length

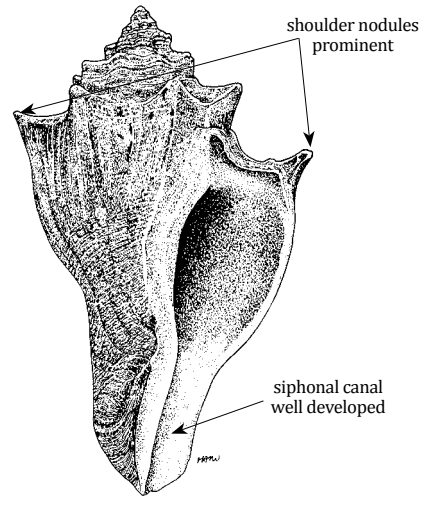
## MELONGENIDAE

Melongenas

***Volegalea cochlidium*** (Linnaeus, 1758)

**FAO names:** Spiral melongena (En)
Mélongène spiralée (Fr)

**Local name(s):** A Yit Khway Kha Yu.
**Habitat:** In muddy bottoms, often in brackish waters, near estuaries and mangroves. Intertidal and shallow subtidal areas.
**Fisheries:** Harvested manually.
**Distinctive Characters:** Shell solid and heavy, broadly fusiform in outline, with moderately tall spire, angulate shoulders and deeply incised sutures; spire whorls with many fine and rough spiral cords, and broad axial folds bearing bluntly spinose nodules on later whorls; body whorl well inflated in its median part, with rather prominent shoulder nodules and with spiral cording mainly developed anteriorly; periostracum thick and finely wrinkled, somewhat hairy on shoulder slope; siphonal canal broad and moderately long.
**Colour:** Outside of shell beige to fawn or purplish brown under a dull, olive brown periostracum; aperture polished orange-cream, sometimes dark brown on margins.




**ventral view**

**Size:** To 15.5 cm, common 12 cm shell length

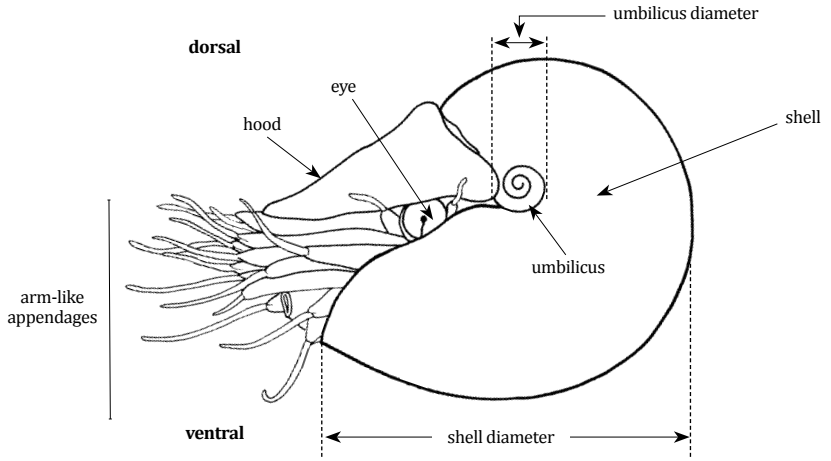
# CEPHALOPODS

All species of octopus, squid and cuttlefish are of commercial importance, and used as bait for various fish species and lobsters. The " Guide to Orders" and "Guide to Species" include 4 orders, 16 families and 45 species.

## TECHNICAL TERMS AND MEASUREMENTS AND GUIDE TO ORDERS

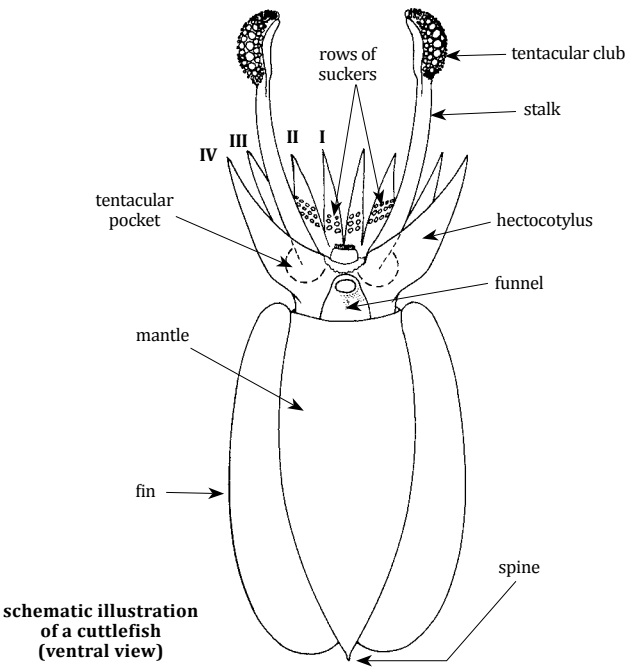
### Order NAUTILIDA – Chambered nautiluses

Coiled pearly external chambered shell; more than 50 smooth "arms" without suckers

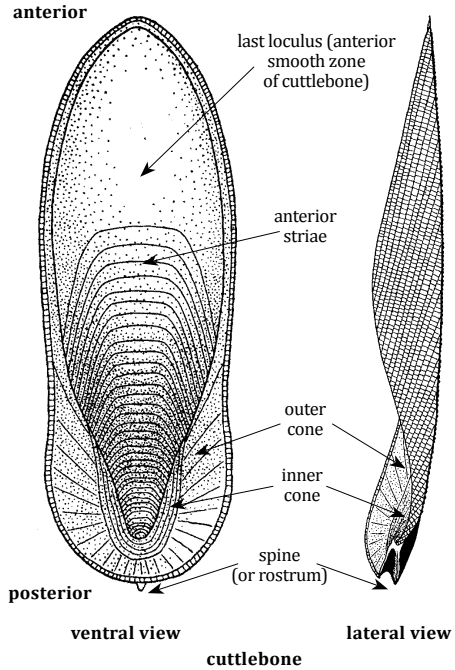



### Order SEPIIDA (=SEPIOIDEA) – Cuttlefishes

Sepion (internal shell) large, chalky, rigid; 8 arms and 2 retractile tentacles.



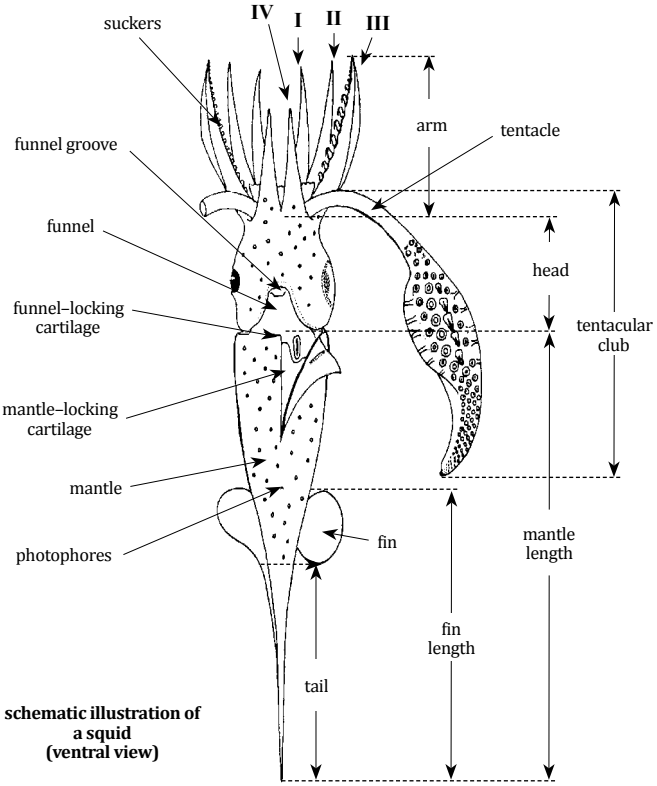

schematic illustration of a cuttlefish (ventral view)



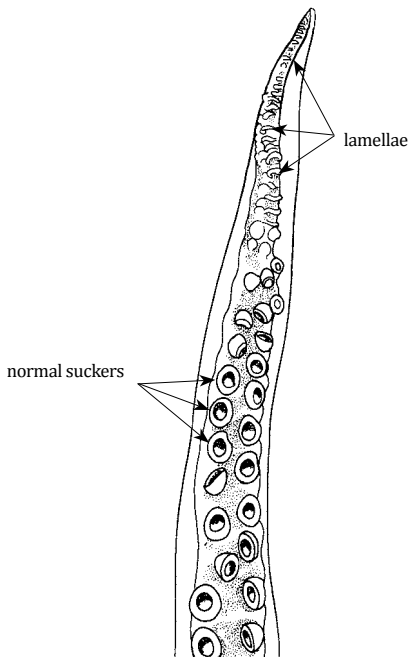

cuttlebone

## Order TEUTHIDA (=TEUTHOIDEA) – Squids

Gladius (internal shell) chitinous, flexible, pen–shaped; 8 arms and 2 non–retractile tentacles.



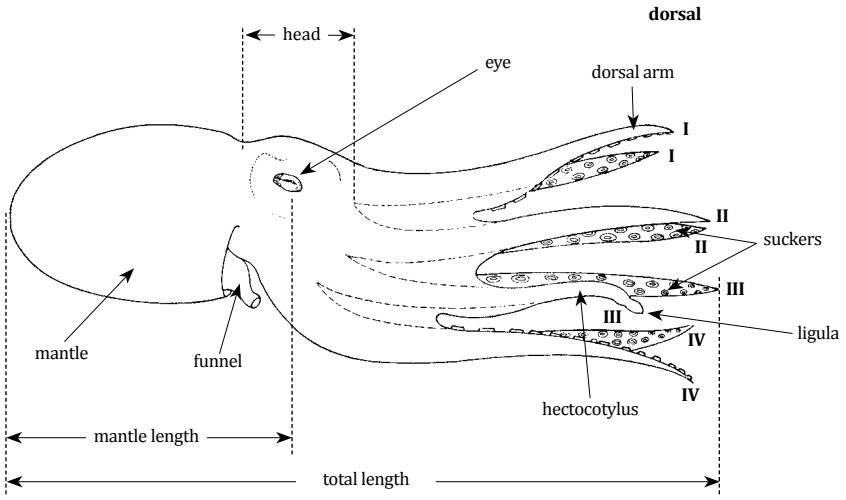

**schematic illustration of a squid (ventral view)**




**example of hectocotylus in a squid (Illex)**

## Order OCTOPODA – Octopuses and argonauts

Internal shell reduced or absent; 8 arms, no tentacles.




**schematic illustration of an octopus (lateral view)**

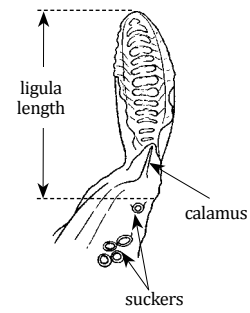



**diagram of hectocotylus**

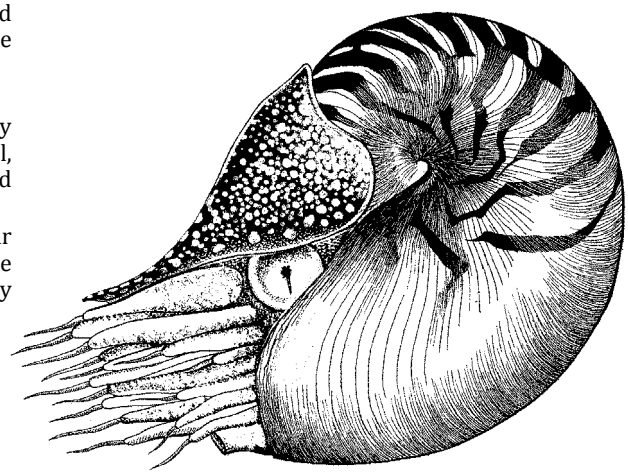
# NAUTILIDAE

Chambered nautiluses

***Nautilus pompilius*** Linnaeus, 1758

**FAO names:** Emperor nautilus (En)
Nautile flammé (Fr)

**Local name(s):** Naw Ti Lus Pin Lae Kha Yu.
**Habitat:** Inhabits deeper continental shelf and slope waters around coral reefs, from near the surface to a depth of about 750 m.
**Fisheries:** Bottom trawls, scuba diving.
**Distinctive Characters:** Shell generally smooth, without growth lines; umbilicus small, approximately 5% of shell diameter and covered by a calcareus deposit, the umbilical callus.
**Colour:** Brown to reddish brown striped colour pattern, from the shell margin extending to the umbilicus in some specimens or only half way across the shell in others.



**Size:** To 18 cm (maximum shell diameter)

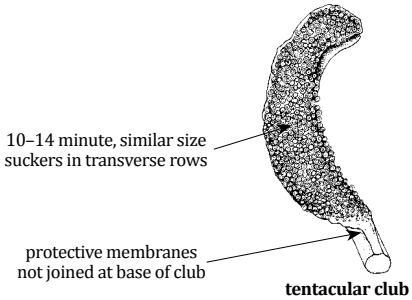
# SEPIIDAE

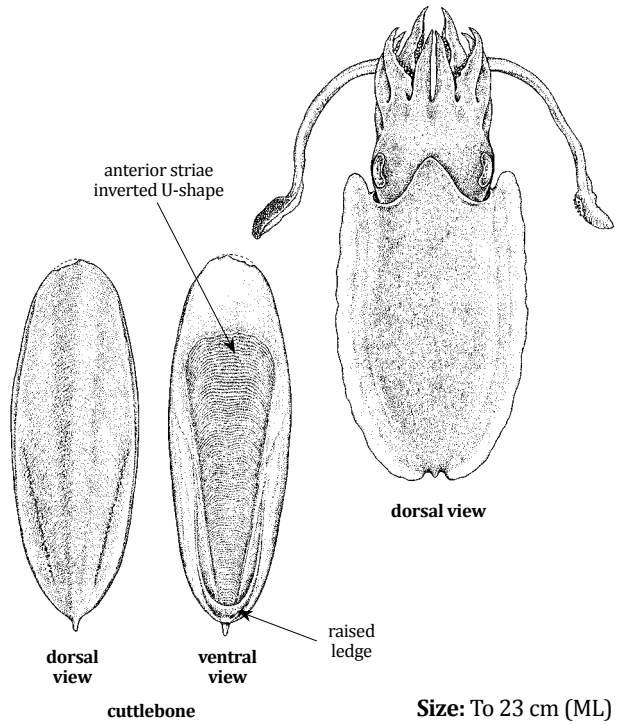
Cuttlefishes

***Sepia aculeata*** Van Hasselt, 1835

**FAO names:** Needle cuttlefish (En)
Seiche aiguille (Fr)

**Local name(s):** Soke Khwet Thae Pyi Gyi Nga.
**Habitat:** Demersal species, occuring to 60 m depth.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Cuttlebone outline ovale; anterior striae inverted U-shape; inner cone limbs narrow anteriorly, broaden posteriorly, then raised into a thick, round ledge; outer cone narrow anteriorly, broadens posteriorly; spine long, pointed, without keel.
**Colour:** Light brown with a longitudinal orange-red pigmented stripe along dorsal surface of arms 1–3; dorsal mantle with pale transverse saddle mark and pattern of bold, broad, zebra stripes during the spawning season; 3 circular, white patches occur mid-dorsally within transverse saddle mark.



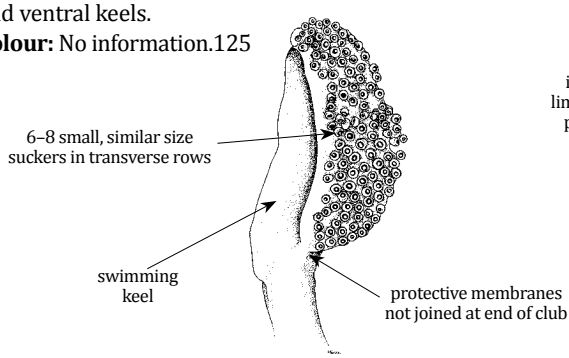




**Size:** To 23 cm (ML)

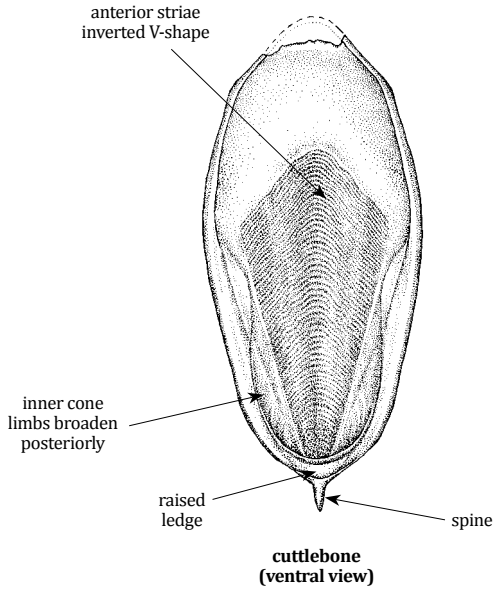
## *Sepia brevimana* Steenstrup, 1875

**FAO names:** Shortclub cuttlefish (En)
Seiche petites mains (Fr)

**Local name(s):** Kyaw Yoe Toe Pyi Gyi Nga.
**Habitat:** Depth range from 10 to 100 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Swimming keel of club extends well proximal to carpus; dorsal and ventral protective membranes not joined at base of club (dorsal membrane much wider than ventral membrane); cuttlebone oval, very angular (V-shaped) anteriorly; anterior striae inverted blunt V-shape; inner cone limbs broaden posteriorly, thickened, rose-coloured or yellowish orange with outer margin raised into a flattened ledge posteriorly; spine long, pointed, with dorsal and ventral keels.
**Colour:** No information.125



**tentacular club**



**cuttlebone (ventral view)**

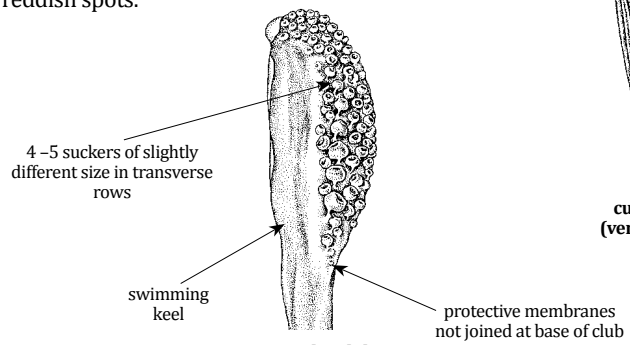
**Size:** To 11 cm (ML)

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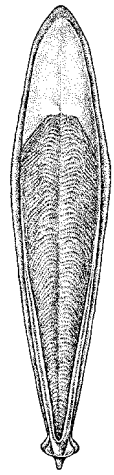
## *Sepia kobiensis* Hoyle, 1885

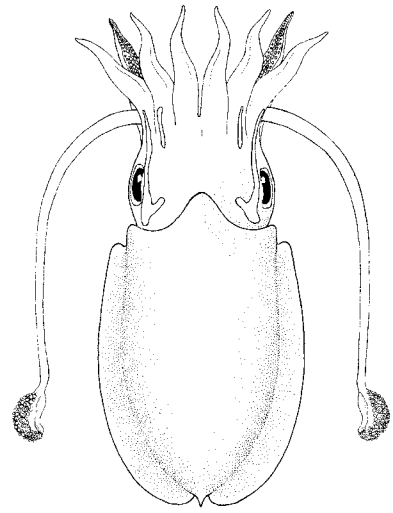
**FAO names:** Kobi cuttlefish (En)
Seiche kobi (Fr)

**Local name(s):** Kobi Pyi Gyi Nga.
**Habitat:** Depth range subtidal, to 200 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Swimming keel of club extends proximally slightly beyond carpus; dorsal and ventral protective membranes not joined at base of club; cuttlebone lanceolate, acuminate anteriorly and posteriorly; dorsal median rib indistinct, broadens anteriorly; dorsal surface pinkish, or yellowish.
**Colour:** Reddish brown; head with V-shape reddish stripe on dorsal margins of eye orbits and with orange stripes extending from posterior end of head to basal portions of arms I to III; dorsal mantle has reddish spots.



**tentacular club**


**cuttlebone (ventral view)**

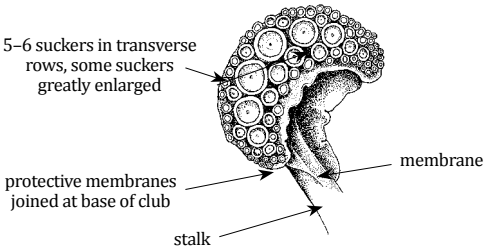

**dorsal view**

**Size:** To 9 cm (ML)

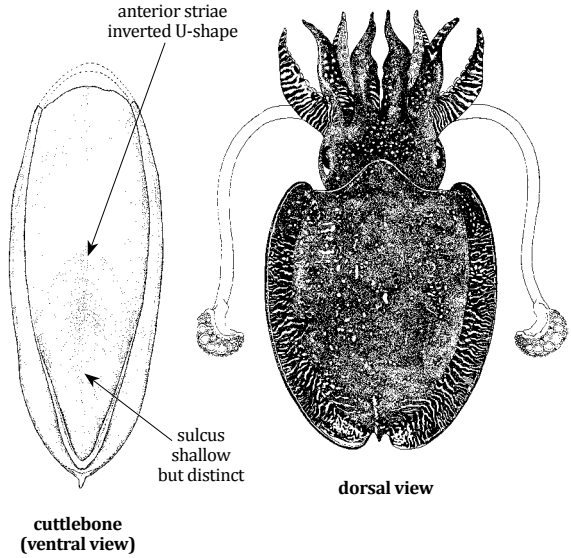
## ***Sepia latimanus*** Quoy and Gaimard, 1832

**FAO names:** Broadclub cuttlefish (En)
Seiche grandes mains (Fr)

**Local name(s):** Soke Khwet Gyi Pyi Gyi Nga.
**Habitat:** Shallow water species occurring to 30 m depth.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Swimming keel of club extends well proximal to carpus; dorsal and ventral protective membranes separated from stalk by membrane; hectocotylus absent; cuttlebone bluntly rounded anteriorly and posteriorly; sulcus shallow but distinct, anterior striae inverted blunt V-shape; spine short, pointed, stout, keels absent.
**Colour:** Light brown, yellowish or dark brown (dark in males during courtship and breeding), with whitish mottle, blotches or spots; arms and fins with white bands and stripes, respectively.



**tentacular club**



**cuttlebone (ventral view)**

**dorsal view**

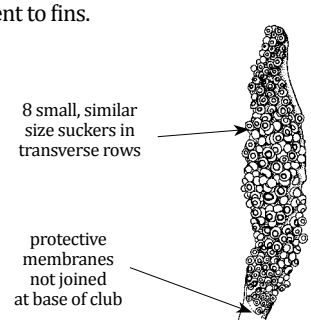
**Size:** To 500 cm (ML)

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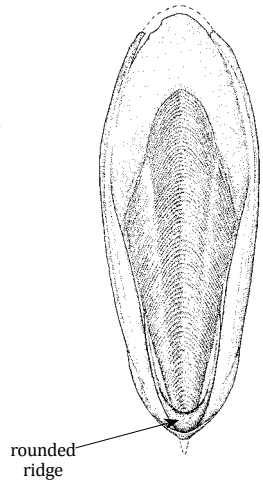
## ***Sepia lycidas*** Gray, 1849

**FAO names:** Kisslip cuttlefish (En)
Seiche baisers (Fr)

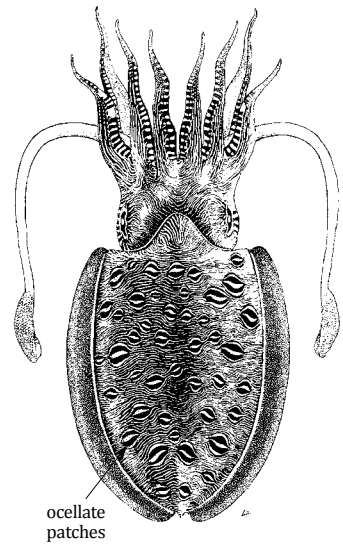
**Local name(s):** Hnote Khan Pyi Gyi Nga.
**Habitat:** Depth range from 15 to 100 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Dorsal and ventral protective membranes not joined at base of club, extend as membranous ridges along entire stalk; buccal membrane with a few, minute suckers; cuttlebone oblong, bluntly rounded anteriorly and posteriorly; dorsal median rib absent; anterior striae inverted V-shape; sulcus deep and wide; inner cone limbs thick, broaden into a rounded ridge posteriorly; spine short and pointed.
**Colour:** Reddish brown or purple with scattered ocellate patches and narrow, irregular, light-coloured, transverse stripes on dorsal mantle; wide stripe adjacent to fins.



**tentacular club**



**cuttlebone (ventral view)**



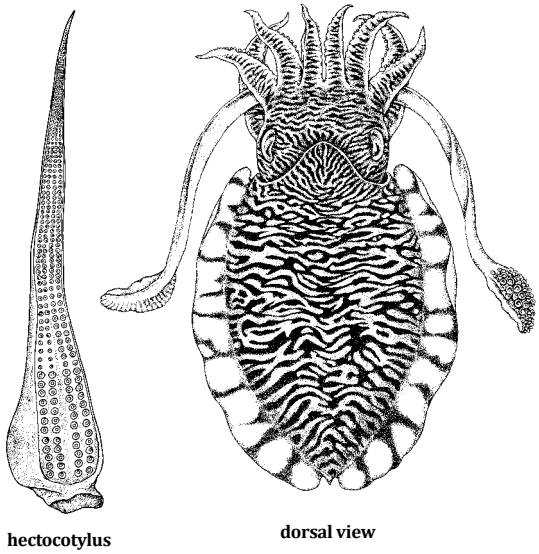
**dorsal view**

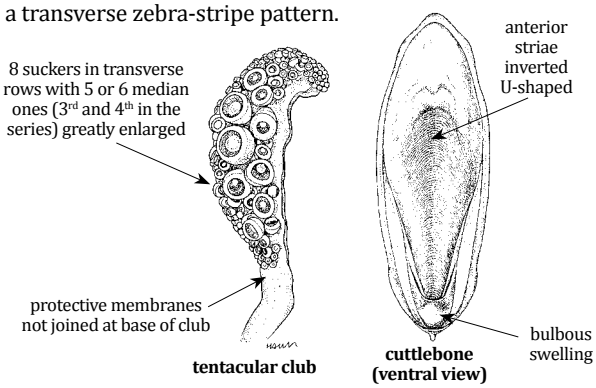
**Size:** To 38 cm (ML)

## *Sepia pharaonis* Ehrenberg, 1831

**FAO names:** Pharaoh cuttlefish (En)
Seiche pharaon (Fr)

**Local name(s):** Phar Roe Sin Kyar Pyi Gyi Nga.
**Habitat:** Neritic, demersal, from the coastline to 130 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Hectocotylus present on left ventral arm with 10 to 12 transverse rows of normal size suckers at base followed by reduced suckers; cuttlebone oblong; sulcus deep, wide, flanked by rounded ribs; spine short, pointed, curves dorsally, keel(s) absent.
**Colour:** Pale brownish or reddish purple; head and arms with transverse zebra-stripe pattern; dorsal mantle has white blotches or spots and has a transverse zebra-stripe pattern.



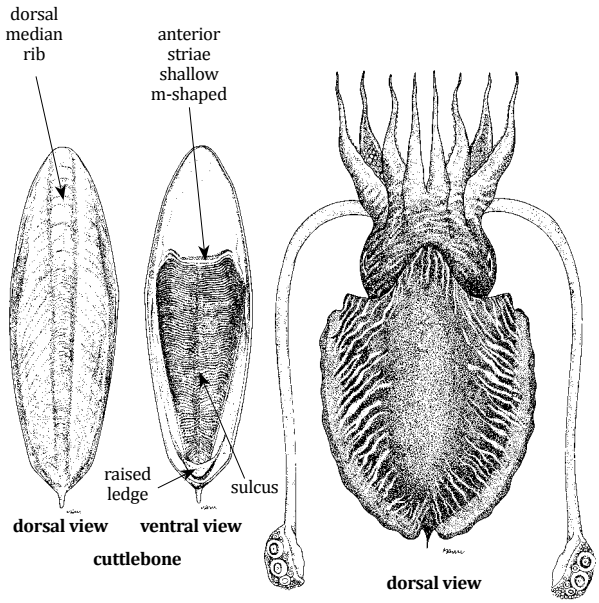



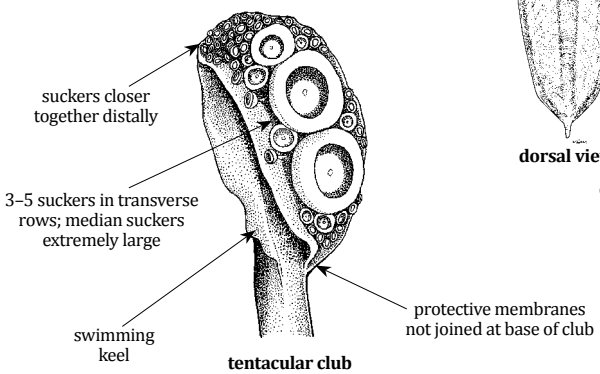

**Size:** To 42 cm (ML)

## *Sepia prashadi* Winkworth, 1936

**FAO names:** Hooded cuttlefish (En)
Seiche capuchon (Fr)

**Local name(s):** Jate Soke Khwet Gyi Pyi Gyi Nga.
**Habitat:** From the shoreline to about 40 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Swimming keel of club extends proximally slightly beyond carpus; cuttlebone oblong; sulcus shallow, narrow, flanked by rounded ribs, extends entire length of cuttlebone; inner cone limbs broaden posteriorly, raised into rounded, thickened ledge; spine long, pointed, straight, directed dorsally, with dorsal and ventral keel.
**Colour:** Dorsal mantle has transverse zebra-stripe pattern in breeding males.



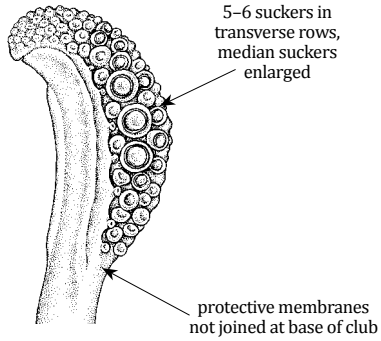




**Size:** To 14 cm (ML)

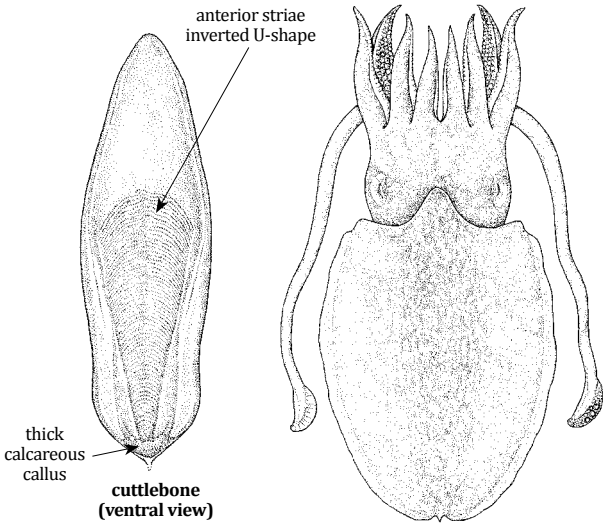
## *Sepia recurvirostra* Steenstrup, 1875

**FAO names:** Curvespine cuttlefish (En)
Seiche hameçon (Fr)

**Local name(s):** Su Kway Pyi Gyi Nga.
**Habitat:** Depth range from 10 to 100 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Swimming keel of club extends proximally slightly beyond carpus; cuttlebone oblong, very angular (V-shape anteriorly), bluntly rounded posteriorly; inner cone limbs thickened posteriorly into a rough chitinous callus; spine curves ventrally.
**Colour:** Dorsal mantle pale with opalescent blue transverse stripes; fins with pale reflective opalescent blue line along base.



**tentacular club**



**cuttlebone (ventral view)**

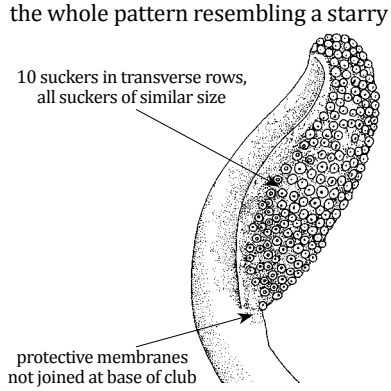
**dorsal view**

**Size:** To 17 cm (ML)

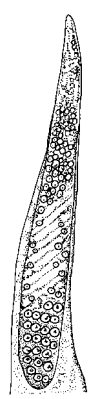
## *Sepia stellifera* (Homenko & Khromov, 1884

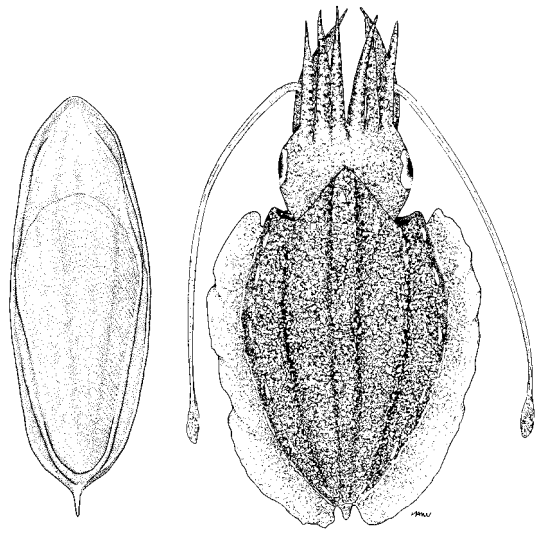
**FAO names:** Starry cuttlefish (En)
Seiche étoilée (Fr)

**Local name(s):** Zaung Hlar Thi Zin Pyi Gyi Nga.
**Habitat:** Depth to 200 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Hectocotylus present; on left ventral arm with normal suckers at base, reduced suckers medially, then normal size suckers distally to arm tip; cuttlebone oval, very angular (V-shape anteriorly); dorsal median rib very pronounced; lateral ribs present; spine long, pointed, with dorsal and ventral keel.
**Colour:** Dorsal mantle with many small, bright, brown-pink spots, encircled with green-blue rings, the whole pattern resembling a starry sky.



**tentacular club**


**hectocotylus**


**cuttlebone (ventral view)**

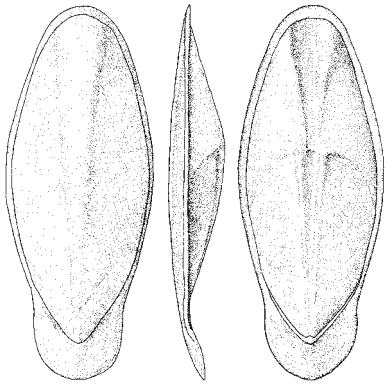
**dorsal view**

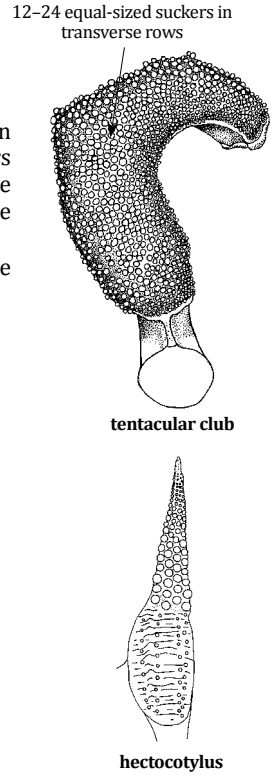
**Size:** To 12 cm (ML)

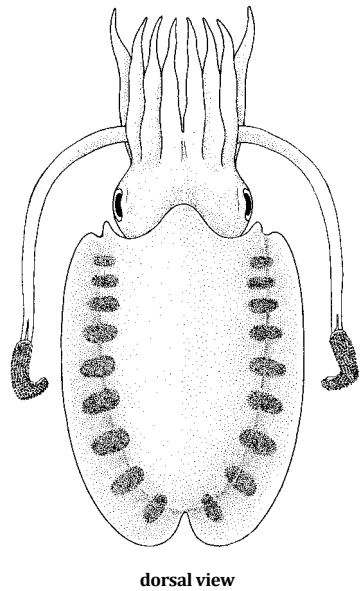
## *Sepiella inermis* (Van Hasselt, 1835)

**FAO names:** Spineless cuttlefish (En)
Sépia inerme (Fr)

**Local name(s):** Su Ma Shi Pyi Gyi Nga.
**Habitat:** Depth to 40 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Hectocotylus present on left ventral arm with 10 rows of reduced suckers at base; cuttlebone width 33–43% of cuttlebone length; strongly convex in lateral view; spine absent.
**Colour:** Greyish brown; dorsal mantle has more than 7 reddish patches adjacent to base of fins.



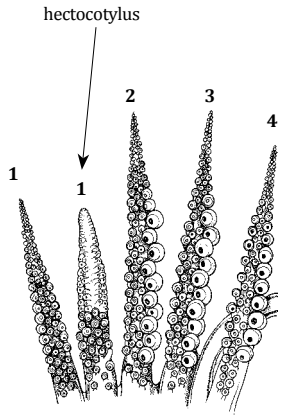

**Size:** To 12.5 cm (ML)

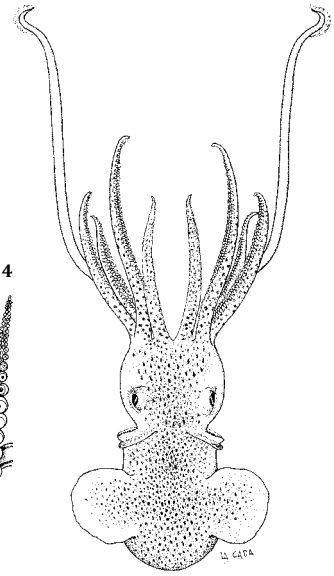
# SEPIOLIDAE
Bobtail squids

## *Euprymna* cf. *morsei* (Verrill, 1881)

**FAO names:** Mimika bobtail squid (En)
Sépiole mimika (Fr)

**Local name(s):** Pyi Gyi Nga Gaung Toe.
**Habitat:** No information.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Mantle dome-shaped, plump; dorsal mantle fused to head; fins wide, rounded, semicircular; short, not exceeding length of mantle anteriorly or posteriorly; posteriorly with wide gap between fins; anterior origin posterior to mantle margin; non-hectocotylized arm sucker arrangement same in both sexes: arm suckers tetraserial; ventral rows of arms II to IV in males with enlarged suckers, approximately 10 on each arm from proximal third or fourth suckers; hectocotylus present;
**Colour:** Iridescent gold to purple with large black chromatophores.
**Remarks:** The taxonomic status of members of this genus is largely unresolved (Norman and Lu 1997).



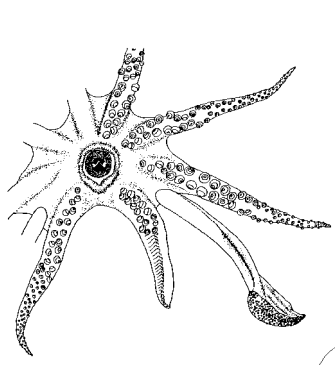
**Size:** To 4 cm (ML)

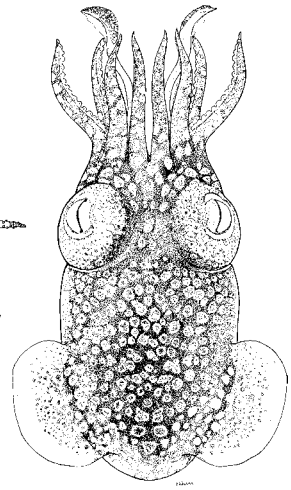
## SEPIADARIIDAE
Bottletail squids

***Sepiadarium kochii*** Steenstrup, 1881

**FAO names:** Koch's bottletail squid (En)
Sépiolette de Koch (Fr)

**Local name(s):** Pa Lin Pone Pyi Gyi Nga.
**Habitat:** Depth range to 60 m. Inhabits soft sediments. Remains buried during the day.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Hectocotylus present on left ventral arm with normal suckers (not modified) at base followed by 18–20 fleshy lamellae over distal 2/3; non-hectocotylized arm sucker arrangement same in both sexes: biserial basally, tetraserial over distal 20 transverse rows; tentacular club with 8 suckers in transverse rows (all suckers of similar minute size, very densely set).
**Colour:** Dorsal mantle surface covered with large, white leucophores (reflective cells) surrounded by smaller red-brown chromatophores.


**oral view (male)**


**dorsal view**

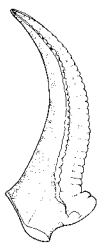
**Size:** To 3 cm (ML)

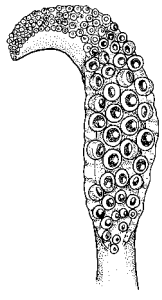
## LOLIGINIDAE
Inshore squids

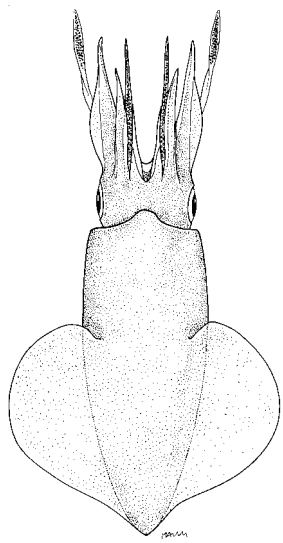
***Loliolus (Loliolus) hardwickei*** (Gray, 1849)

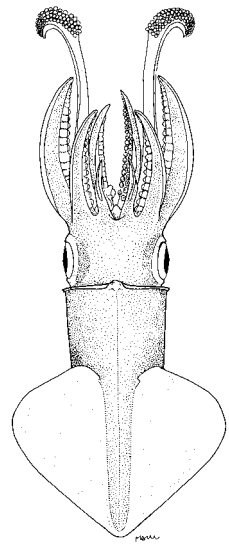
**FAO names:** Little Indian squid (En)
Petite encornet indien (Fr)

**Local name(s):** Indiya Kinn Mon.
**Habitat:** Estuarine and coastal waters to a depth of 30 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle short, stout; fins large, heart-shaped, with anterior and lateral edges rounded, width up to 76% of mantle length; left ventral arm hectocotylized in males by the modification of both ventral and dorsal series of suckers along its entire length: suckers are missing, except at the very tip where 2 or 3 minute suckers may be present; clubs small, scarcely expanded; club suckers subequal.
**Colour:** No information.


**hectocotylus**


**tentacular club**


**dorsal view of female**

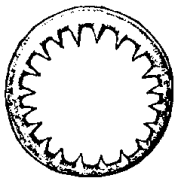

**dorsal view of male**

**Size:** To 8.8 cm (ML)

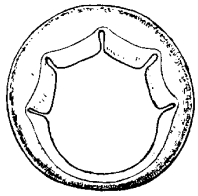
## *Loliolus (Nipponololigo) beka* (Sasaki, 1929)

**FAO names:** Beka squid (En)
Calmar cracheur (Fr)

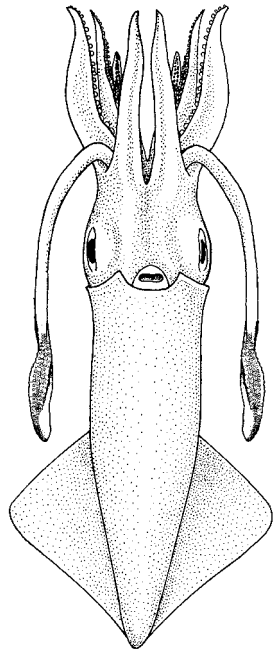
**Local name(s):** Bekar Kinn Mon.
**Habitat:** This species occurs in coastal and estuarine waters, particularly bays. Depth distribution is undetermined.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle short, slender; fins rhomboidal with round lateral angles, both fin length and width more than 50% of mantle length, up to 60%; left ventral arm hectocotylized in males with about 6–9 pairs of normal suckers on the proximal end and the distinctive ventral row of palisade-like, fused, fleshy papillae that form a wall-like crest on the distal portion; tentacular clubs expanded, lanceolate; medial manal suckers twice the diameter of the lateral suckers, with 18 to 20 (30) sharp teeth on the sucker rings.
**Colour:** No information.



**tentacular club sucker ring**



**arm III sucker ring**



**ventral view of female**

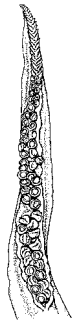
**Size:** To 8.7 cm (female) (ML)

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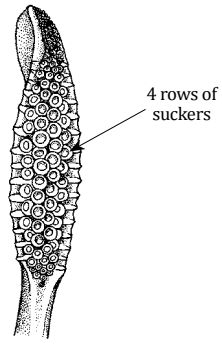
## *Sepioteuthis lessoniana* Férussac, 1831

**FAO names:** Bigfin reef squid (En)
Calmar tonnelet (Fr)

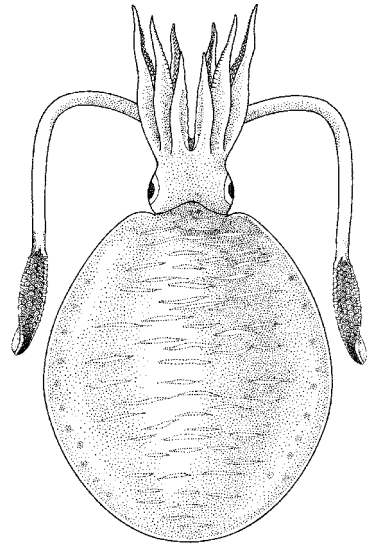
**Local name(s):** Bae Pyar Gyi Kinn Mon.
**Habitat:** Neritic, occurring from the surface down a maximum depth of at least 100 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle long, robust, length of fin about 100% of mantle length; tentacular clubs long, expanded.
**Colour:** Brown on the back, with white spots and stripes, variously shaped; young specimens are usually more iridescent.



**hectocotylus**




**tentacular club**



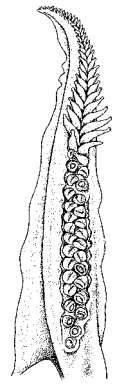
**dorsal view**

**Size:** To 42 cm (males), 38 cm (females)(ML)

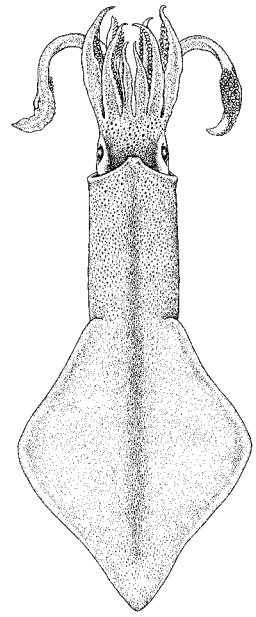
## *Uroteuthis (Photololigo) chinensis* Gray, 1849

**FAO names:** Mitre squid (En)
Calmar mitre (Fr)

**Local name(s):** Mite Tee Kinn Mon.
**Habitat:** Depth range approximately 15 to 170 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle elongate, slender, bluntly pointed posteriorly, its width about 20–30% of its length; about 12 medial manal suckers of tentacular clubs enlarged to one and a half times the diameter of the lateral suckers and 2 times the largest arm sucker; large rings with 20–30 sharp, separate teeth very unequal in size: 6–12 larger ones usually interspersed with 1 to 4 smaller ones; left ventral arm hectocotylized at distal 1/3 to 1/2 by modification of more than 30 suckers and stalks in each series into slender, conical papillae that are larger in the ventral series.
**Colour:** No information.



**hectocotylus tip**



**dorsal view**

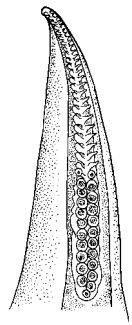
**Size:** To 49 cm (males) (ML)

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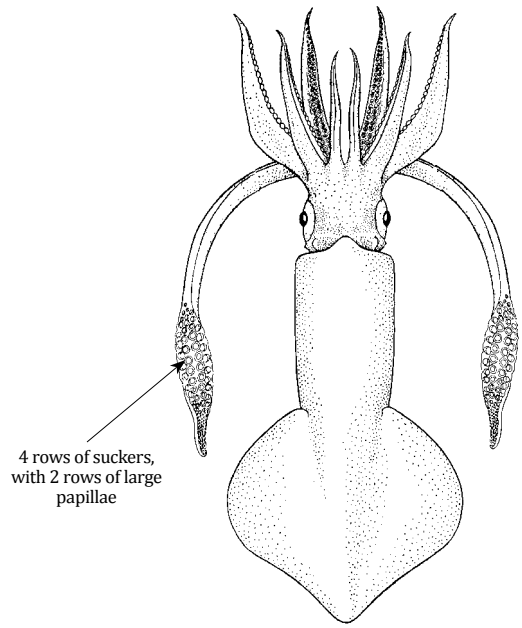
## *Uroteuthis (Photololigo) duvaucelii* (d'Orbigny, 1835)

**FAO names:** Indian squid (En)
Calmar indien (Fr)

**Local name(s):** India Kinn Mon.
**Habitat:** A neritic shallow water species occurring from 30 m to 170 m; forms large aggregations during the spawning season.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle moderately long, slender; fins gently rhombic, broad, approximately 50% of mantle length (up to 60% of mantle length); tentacular clubs expanded, large, up to 45–50% of mantle length; large median manal suckers (<2 times diameter of marginal suckers) with 14 to 22 short, sharp teeth, subequal in size, regularly spaced around the entire margin.
**Colour:** No information.



**hectocotylus**



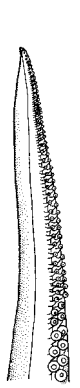

**dorsal view**

**Size:** To 32 cm (ML)

***Uroteuthis (Photololigo) edulis*** (Hoyle, 1885)

**FAO names:** Swordtip squid (En)
Calmar épée (Fr)

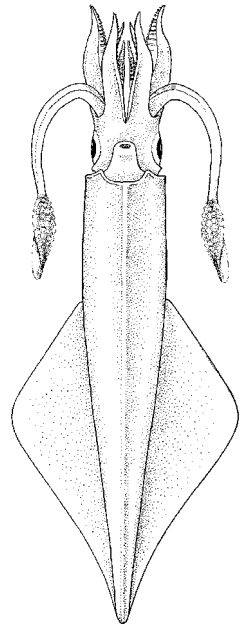
**Local name(s):** Dah Hteik Kinn Mon.
**Habitat:** Continental shelf waters.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle moderately stout, elongate, slender in mature males; fins rhombic, attain 70% of mantle length in adults, anterior margin slightly convex, posterior margin gently concave, lateral angles rounded; suckers on arms II and III of mature males noticeably enlarged as a secondary sexual character; mature males have a cutaneous ridge on their ventral mantle surface.
**Colour:** No information.



**hectocotylus**



**tentacular club**



**dorsal view**

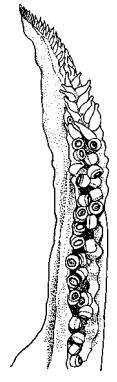
**Size:** To 50 cm (ML)

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***Uroteuthis (Photololigo) machelae*** Roeleveld & Augustyn, 2005

**FAO names:** Mozambique squid (En)
Calmar du Mozambique (Fr)

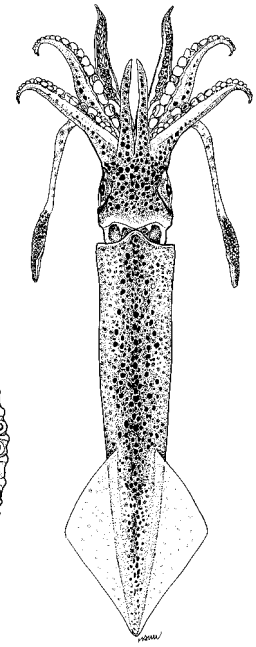
**Local name(s):** Mo Zum Bit Kinn Mon.
**Habitat:** Depth range approximately 54 to 200 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Suckers on arms 2 to 3 greatly enlarged in males, much larger than median manus suckers on clubs; arm sucker rings of both sexes with wide, rough teeth distally and laterally, proximal edge smooth; left arm IV hectocotylized with 13–16 pairs of proximal suckers, 35–65% arm length modified distally, proximal papillae elongate conical; fin length 39–46% mantle length; club length 18–28% mantle length, 26–36% tentacle length.
**Colour:** No information.
**Remarks:** A single male specimen (13.5 cm ML) collected during a bottom trawl carried out by the R/V *Dr. Fridtjof Nansen* off Myanmar on 20-05-2015. The species was previously known only from the Western Indian Ocean.



**hectocotylus**



**tentacular club**



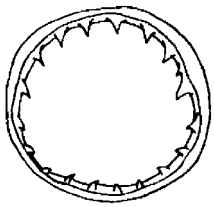
**dorsal view**

**Size:** To 13.5 cm (males) (ML)

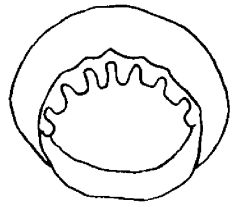
## *Uroteuthis (Photololigo) sibogae* (Adam, 1954 )

**FAO names:** Siboga squid (En)
Calmar siboga (Fr)

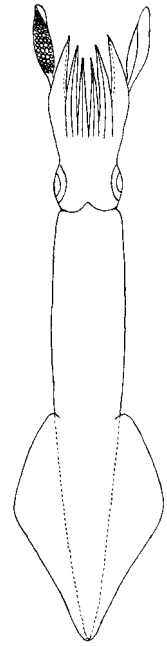
**Local name(s):** Lone Thway Kinn Mon.
**Habitat:** Depth range approximately 54 to 200 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle very long, slender; width 1/5 to 1/7 of length; fins narrow, relatively short, length <50% of mantle length; tentacles short, slender, clubs short; medial suckers on manus slightly enlarged, the largest with 15–20 conical, sharp, teeth around entire ring; teeth subequal in size; arm-sucker rings smooth proximally, with 7 to 9 plate-like, truncate (squared) teeth distally.
**Colour:** No information.



**tentacular club sucker ring**



**arm III sucker ring**



**dorsal view**

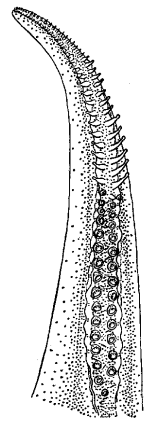
**Size:** To 16 cm (ML)

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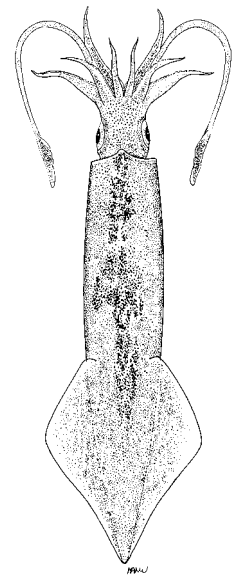
## *Uroteuthis (Photololigo) singhalensis* (Ortmann, 1891)

**FAO names:** Long barrel squid (En)
Calmar baril (Fr)

**Local name(s):** Hsi Paing Lone Kinn Mon.
**Habitat:** Usually occurs at depths from 30 to 120 m, but extends to bottom depths of 220 m.
**Fisheries:** Bottom trawls, squid jigging.
**Distinctive Characters:** Mantle long, slender, cylindrical, tapers posteriorly into a sharply pointed tip; fins narrow, rhombic in outline, anterior margin slightly convex, posterior margin slightly concave; relatively short in young specimens, up to 50 to 60% of mantle length in adults; tentacular clubs short, slightly expanded; suckers in medial series of manus only about 25% larger than those on lateral series; with 15 to 25 conical, sharply-pointed teeth around the entire margin, occasionally interposed with small, almost inconspicuous, pointed teeth.
**Colour:** No information.



**hectocotylus**



**dorsal view**

**Size:** To 50 cm (ML)

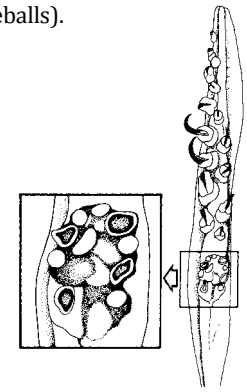
## ANCISTROCHEIRIDAE

Sharpear enope squid

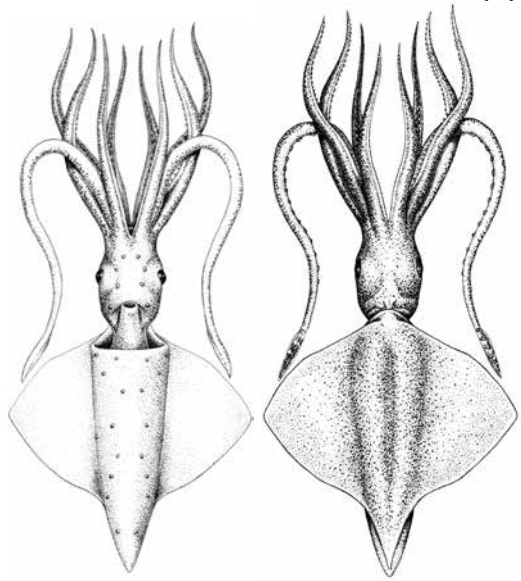
***Ancistrocheirus lesueurii*** (d'Orbigny, 1842)

**FAO names:** Sharpear enope squid(En)
Encornet cachalot (Fr)

**Local name(s):** Hteik Chun Kinn Mon.
**Habitat:** Oceanic species.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Posterior end of mantle elongate, forms tail; hooks present on all arms; tentacular clubs with 2 series of hooks on manus; suckers absent; photophores present on ventral surface of fins, mantle, funnel, head, arms, and tentacles (no photophores on eyeballs).
**Colour:** No information.



tentacular club



ventral view dorsal view

**Size:** To 41 cm (ML)

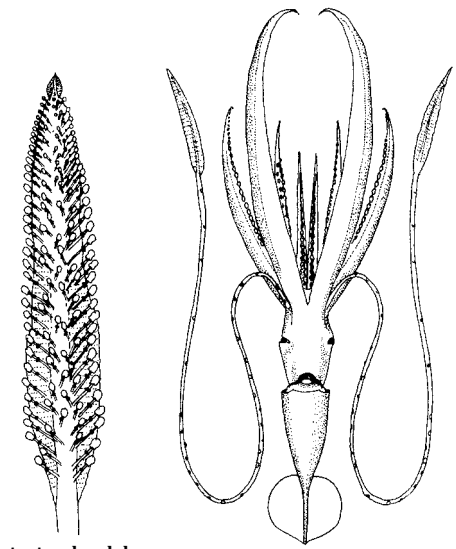
## CHIROTEUTHIDAE

Chiroteuthid squids

***Chiroteuthis veranyi*** (Ferussac, 1834)

**FAO names:** Verany's long-armed squid (En)
Chirocalmar de Verany (Fr)

**Local name(s):** Let Tan Shae Ye Net Kinn Mon.
**Habitat:** Oceanic species.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Mantle narrow, elongate; arms, head and mantle with numerous chambers filled with ammonium chloride, a light-weight fluid that provides near-neutral buoyancy; tissues semi-gelatinous; funnel-mantle locking cartilages free, not fused; tentacular clubs with suckers; arms 4 longer than arms 2 and 3; fins together approximately circular, not lobed posteriorly; arms IV usually much thicker than arms II and III; funnel valve present; funnel-locking apparatus with distinct tragus present.
**Colour:** No information.



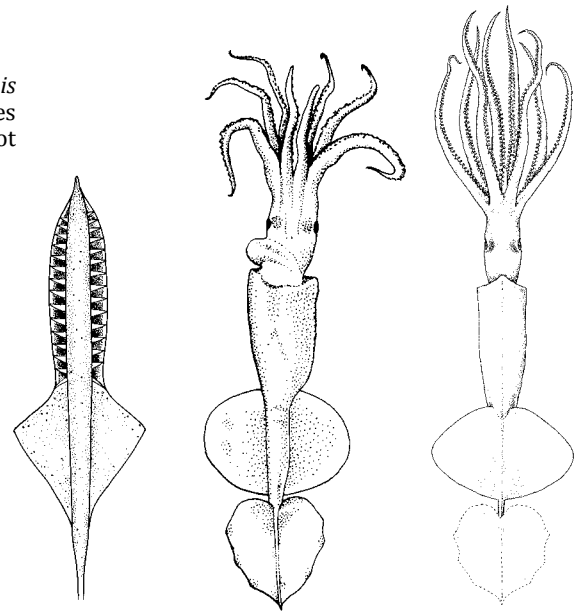
tentacular club ventral view

**Size:** To 20 cm (ML)

***Grimalditeuthis bonplandi*** (Verany, 1839)

**FAO names:** Grimaldi's chiroteuthid squid (En)
Chirocalmar de Grimaldi (Fr)

**Local name(s):** Let Tan Thae Ye Net Kinn Mon.
**Habitat:** Oceanic species.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Similar to *Chiroteuthis veranyi* but funnel-mantle locking cartilages (apparatus) fused; nuchal-mantle connective not fused; tentacular clubs without suckers.
**Colour:** No information.



**tentacular club** **ventral view** **dorsal view**

**Size:** To 25 cm (ML)

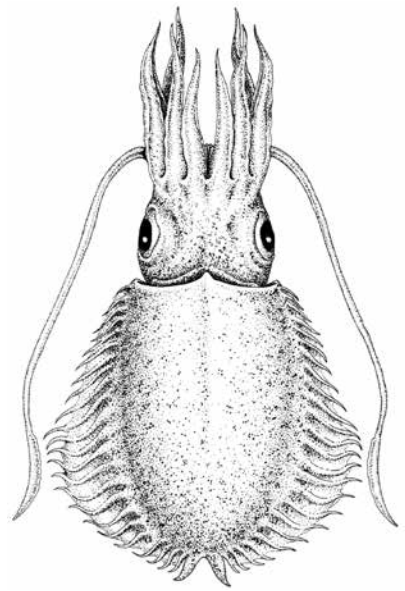
## CHTENOPTERYGIDAE

Comb-finned squids

***Chtenopteryx sicula*** (Verany, 1851)

**FAO names:** Sicilian comb-finned squid (En)
Calmar pectiné sicilienne(Fr)

**Local name(s):** Bee Pone Ye Net Kinn Mon.
**Habitat:** Midwater squids occurring at depths of 500 to 1 000 m during the day and migrate into near-surface waters at night (upper 200 m).
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Fins fused posteriorly, extend anteriorly the full length of the mantle in adults; posterior end of mantle broadly rounded; fins attach to lateral walls of muscular mantle, are comprised of slender muscle bundles (fin ribs) connected by their membranes, to produce a comb-like appearance; tentacular club suckers small to minute, in 8 to 20 irregular transverse series; tentacles narrow, clubs not expanded, no carpus (fixing apparatus).
**Colour:** No information.



**dorsal view**

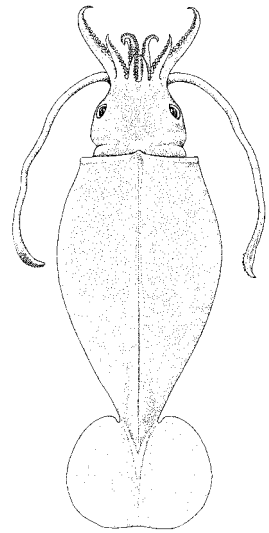
**Size:** To 10 cm (ML)

## CRANCHIIDAE
Cranch squids

***Liocranchia reinhardti*** (Steenstrup, 1856)

**FAO names:** Reinhardt's cranch squid (En)
Encornet-outre de Reinhardt (Fr)

**Local name(s):** Sink O Pone Kinn Mon.
**Habitat:** Depth from the surface to 1 200 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Mantle elongate, spindle-shaped, tapers posteriorly to narrow point, not covered with cartilaginous tubercles; 2 moderately long cartilaginous strips studded with cartilaginous tubercles extend from each funnel-mantle fusion in inverted-V pattern, co-equal in length or ventral component the longest; fins unite posterior to gladius, ovoid to nearly circular; funnel valve present; gladius with short conus; eyes with 14 oval photophores.
**Colour:** No information.



**dorsal view**

**Size:** To 25 cm (ML)

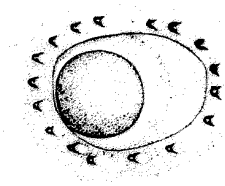
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## HISTIOTEUTHIDAE
Jewel squids

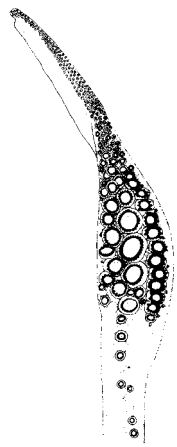
***Histioteuthis hoylei*** ( Goodrich, 1896)

**FAO names:** Flowervase jewell squid (En)
Loutène vase (Fr)

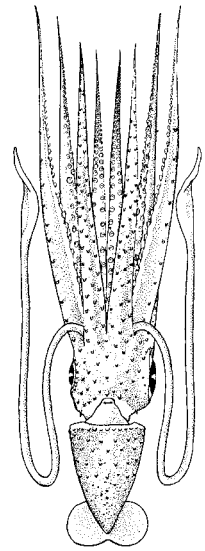
**Local name(s):** Ye Net Kinn Mon Pu Toe.
**Habitat:** Oceanic species.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Mantle conical, relatively thick-walled, relatively short, moderately stout; skin of whole body (mantle, head, arms and basal half of fins) covered with thickly spaced, low, fleshy papillae, giving a rough, textured appearance; arms long, 160 to 250% of mantle length; mature males with arms I very elongate, greater than 400% of mantle length; no photophores on arm tips.
**Colour:** No information.



**eyelid**



**tentacular club**



**ventral view**

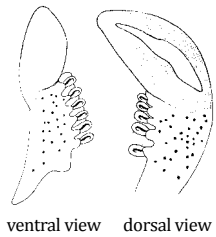
**Size:** To 24 cm (females)(ML)

## OCTOPOTEUTHIDAE
Octopus squids

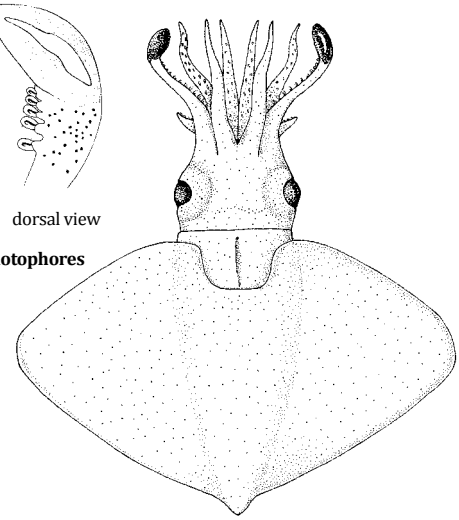
***Taningia danae*** Joubin, 1931

**FAO names:** Taning's octopus squid (En)
Encornet-poulpe de Taning (Fr)

**Local name(s):** Ye Ba Wei Kinn Mon.
**Habitat:** Oceanic species.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Tips of arms II only with a large, oval, swollen, composite photophore with a creamy white, crenulate bioluminescent producing surface, exposed when black eyelid-like skin folds are contracted open (no photophores on tips of any other arms); fins very large, occupy nearly entire mantle length by about 3 mm mantle length of the paralarva and throughout life; fins very broad, far in excess of mantle length (up to 130% of mantle length); tentacles cease to develop and are lost at a mantle length of 40–45 mm (although stumps may remain for some time); arms with large hooks in 2 series to the tips.
**Colour:** Mantle intense maroon.



**arms II photophores**


**dorsal view**

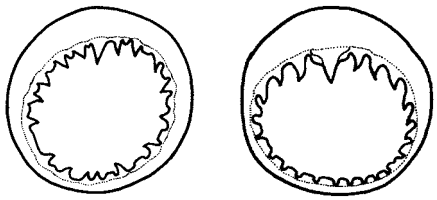
**Size:** To 170 cm (ML)

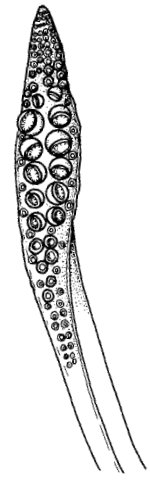
## OMMASTREPHIDAE
Flying squids

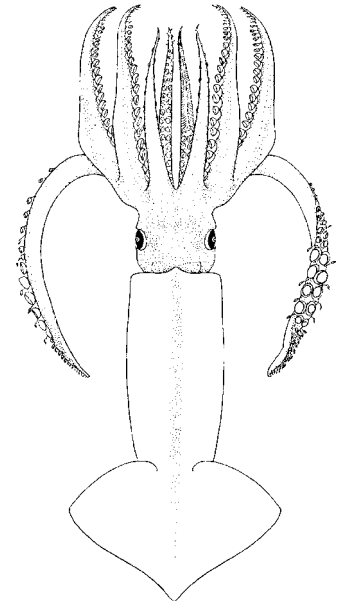
***Nototodarus hawaiiensis*** (Berry, 1912)

**FAO names:** Hawaiian flying squid (En)

**Local name(s):** Ye Net Hawaii Kinn Mon.
**Habitat:** Depth range to 650 m.
**Fisheries:** Not exploited at the moment.
**Distinctive Characters:** Mantle cylindrical, muscular, it tapers to a narrow, conical tip posteriorly; fins muscular, broad, short; fin length 35–43% of mantle length; funnel groove with foveola, without side pockets; tentacular club with 4 rows of suckers on dactylus; carpal area occupies most of tentacle length along stalk (about 70%); both arms IV hectocotylized in males; proximal 1/4 of each arm IV has 4–5 enlarged cushion-like trabeculae.


**tentacular club sucker rings**


**tentacular club**

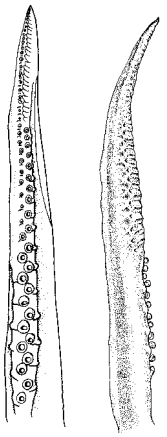

**dorsal view**

**Size:** To about 29 cm (ML)

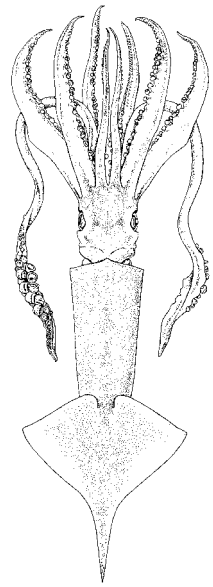
***Ornithoteuthis volatilis*** (Sasaki, 1915)

**FAO names:** Shiny bird squid (En)
Encornet planeur (Fr)

**Local name(s):** Ye Net Hteik Chun Kinn Mon.
**Habitat:** From the surface (paralarvae; adults at night) to moderate depths, at the bottom in bathyal zone and in midwater above the slope.
**Fisheries:** Not exploited at the moment.
**Distinctive Characters:** Mantle very narrow, muscular, drawn out posteriorly into a long pointed tail; fins long, sagittate, sharply lanceolate posteriorly, posterior margins concave; head broad, considerably broader than mantle width. tentacular club expanded with very large medial manal suckers; a single, round photophore patch occurs on the ventral surface of each eye; on viscera one large, round photophore occurs near the anus and one small oval photophore occurs at the posterior end of the intestine.
**Colour:** No information.



**hectocotylus arms**



**dorsal view**

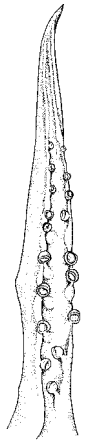
**Size:** To 31 cm (ML)

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***Sthenoteuthis oualaniensis*** (Lesson, 1830)

**FAO names:** Purpleback flying squid (En)
Encornet bande violette (Fr)

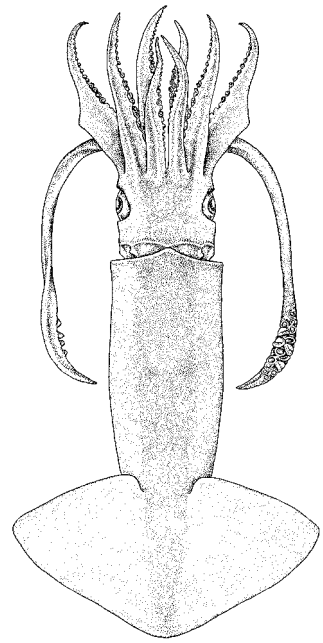
**Local name(s):** Ye Net Kinn Mon Mayan Pyar.
**Habitat:** Oceanic occurring from the surface to probably a maximum depth of 1 000 m.
**Fisheries:** Not exploited at the moment .
**Distinctive Characters:** Mantle muscular, conical posteriorly; 2 rows of suckers on tentacular club; a large, oval photophoric patch on antero-dorsal surface of mantle; 6 to 8 pairs of suckers occur on the hectocotylized arm of mature males.
**Colour:** No information.



**left arm IV of male hectocotylized**



**tentacular club**



**dorsal view**

**Size:** To 65 cm (ML)

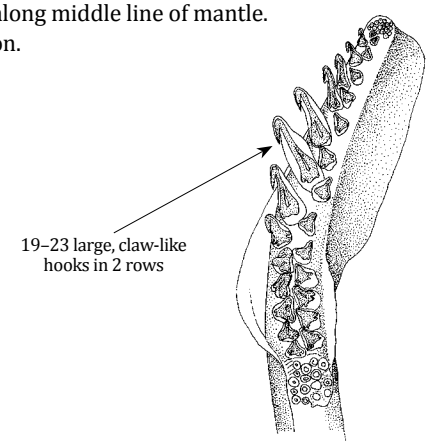
## ONYCHOTEUTHIDAE

Clubhook squids

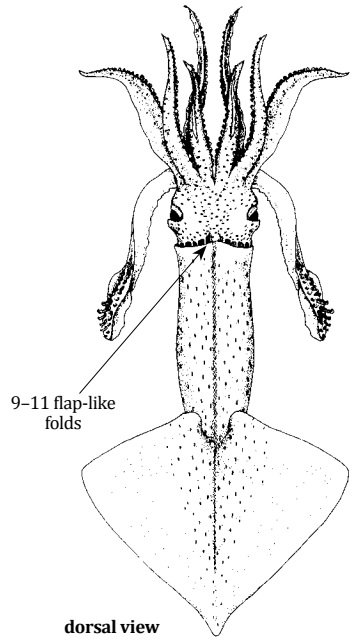
***Onychoteuthis banksii*** (Leach, 1817)

**FAO names:** Common clubhook squid (En)
Cornet crochu (Fr)

**Local name(s):** Ye Net Suu Cheik Kinn Mon.
**Habitat:** An oceanic species occurring from the surface to about 150 m; it may also be found as deep as 800 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Mantle robust; no marginal rows of suckers; gladius visible as a dark line through the skin along middle line of mantle.
**Colour:** No information.




tentacular club




dorsal view

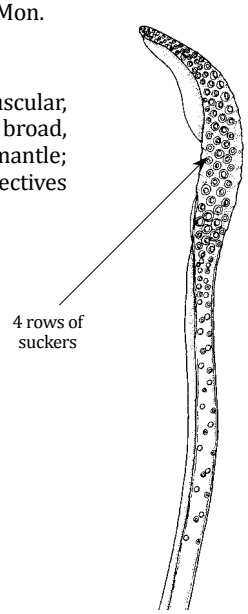
**Size:** To 30 cm (ML)

## THYSANOTEUTHIDAE

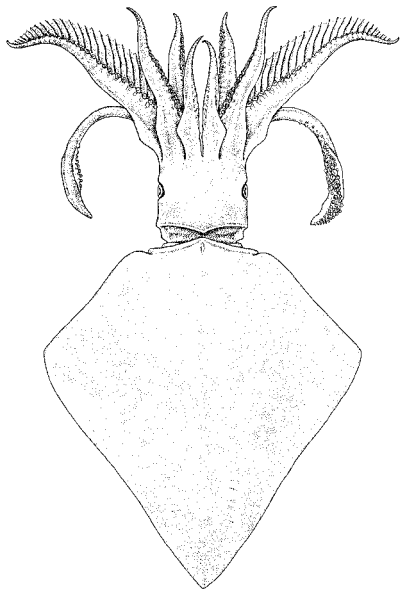
***Thysanoteuthis rhombus*** Troschel, 1857

**FAO names:** Diamondback squid (En)
Chipiloua commun (Fr)

**Local name(s):** Sein Kyaw Yoe Ye Net Kinn Mon.
**Habitat:** An epipelagic, oceanic species.
**Fisheries:** Not exploited at the moment.
**Distinctive Characters:** Mantle thick, muscular, tapering to a blunt tip posteriorly; fins long, broad, rhombic occupying the entire length of mantle; arms with 2 rows of suckers; buccal connectives attached to ventral borders of arms IV.
**Colour:** No information.




tentacular club



dorsal view

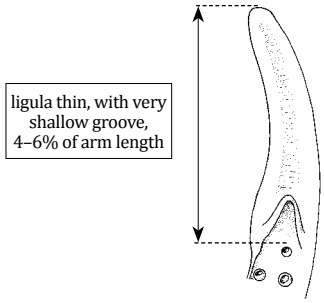
**Size:** To 100 cm (ML)

# OCTOPODIDAE
Octopuses

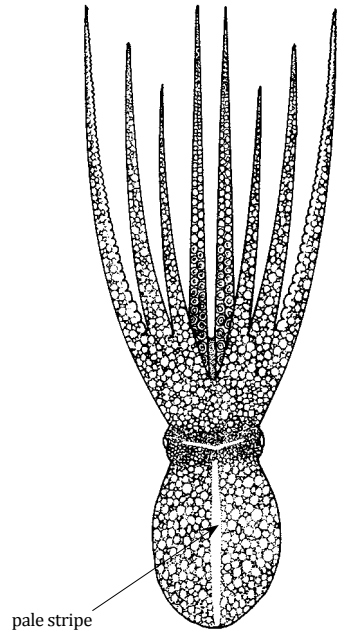
## *Amphioctopus aegina* (Gray, 1849)

**FAO names:** Sandbird octopus (En)
Poulpe de sables (Fr)

**Local name(s):** Thae Set Pyauk Ye Ba Wei.
**Habitat:** A benthic species, occurring on muddy bottoms at depths to at least 40 m.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Dorsal arms shorter than ventral arms; thin, moderate size ligula, 5–8% of arm length; single cirrus over eye.
**Colour:** Pattern of dark grooves enclosing pale round spots to form a round net mesh on dorsal and lateral surfaces, most obvious on arm bases.



**hectocotylus**



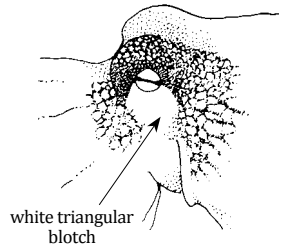
**dorsal view**

**Size:** To 9 cm (ML), 30 cm (TL)

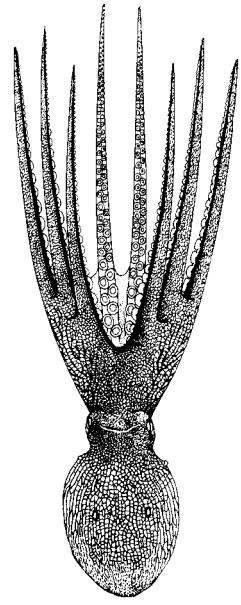
## *Amphioctopus marginatus* (Taki, 1964)

**FAO names:** Veined octopus (En)
Poulpe veinė (Fr)

**Local name(s):** Thwaye Gyaw Ye Ba Wei.
**Habitat:** Known from coastal muddy waters on mud and sand substrates, subtidal to depths of at least 190 m.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Lateral arms longest; ligula small and triangular, 1.5–3.5% of arm length.
**Colour:** Pattern of orange-brown to purple with dark reticulations defining distinct patches in irregular longitudinal rows; suckers white to pink contrasting against dark brown to black along leading edge of arms I to III; narrow transverse "head bar" visible in live animals; white triangle below each eye; dark vein-like reticulations distinctive on lateral arm crown



**head (lateral view)**

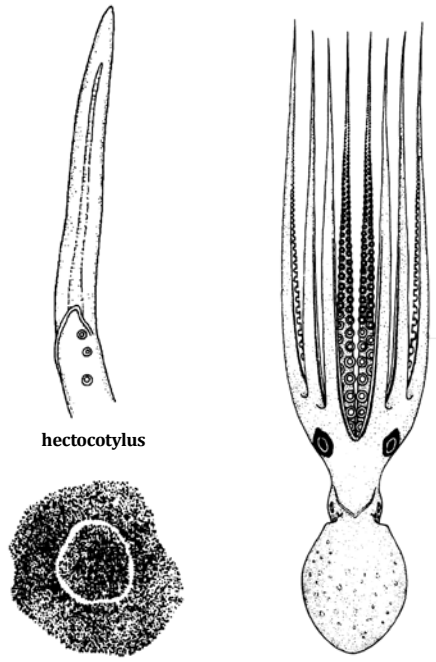

**dorsal view**

**Size:** To 10 cm (ML), 30 cm (TL)

***Amphioctopus neglectus*** (Nateewathana & Norman, 1999)

**FAO names:** Neglected ocellate octopus (En)
Poulpe négligé ocellé (Fr)

**Local name(s):** U Pet Khar Ye Ba Wei.
**Habitat:** Depth range unknown. Nothing is known of the biology and behaviour of this species.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Lateral or ventral arms longest (typically 4=3>2>1); ligula slender and long, around 10% of arm length; skin texture of small, close-set tubercles over head, mantle and arms; 1–2 larger papillae over each eye; skin ridge around lateral margin of mantle absent.
**Colour:** Brownish-green dorsally and paler white ventrally; numerous small, rounded white spots distributed on dorsal mantle; narrow U-shaped transverse bar present between eyes; false-eye spots (ocelli) present, containing a simple blue/purple iridescent ring.
**Remarks:** This small-size species is commonly marketed with *Amphioctopus aegina* around the world under the name 'baby octopus'.



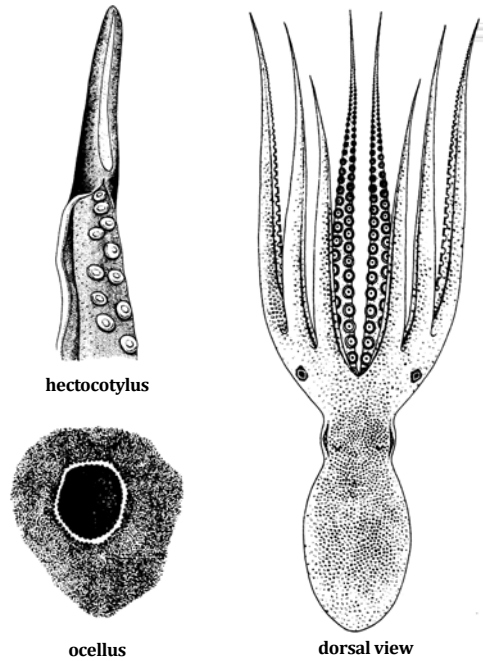

**Size:** To 6.4 cm (ML), 27 cm (TL)

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***Amphioctopus rex*** (Nateewathana & Norman, 1999)

**FAO names:** King ocellate octopus (En)
Poulpe royale ocellé (Fr)

**Local name(s):** Ba Yin Ye Ba Wei.
**Habitat:** Coastal waters on mud and sandy-mud substrates to around 80 m depth.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Lateral and ventral arms longest (typically 4>3>2>1); ligula moderately elongate, 5–9% of arm length; skin texture consisting of a pattern of fine, rounded and closely set epidermal tubercles that cover dorsal and ventral surfaces of arms, head and mantle; single small papilla present over each eye; skin ridge around lateral margin of mantle absent.
**Colour:** A short longitudinal brownish black bar present through eye; narrow dark stripe along dorso-lateral surface of arms 1–3; false-eye spots (ocelli) present containing a small simple pink-purple iridescent ring.
**Remarks:** This small-size species is commonly marketed with *Amphioctopus aegina* around the world under the name 'baby octopus'.

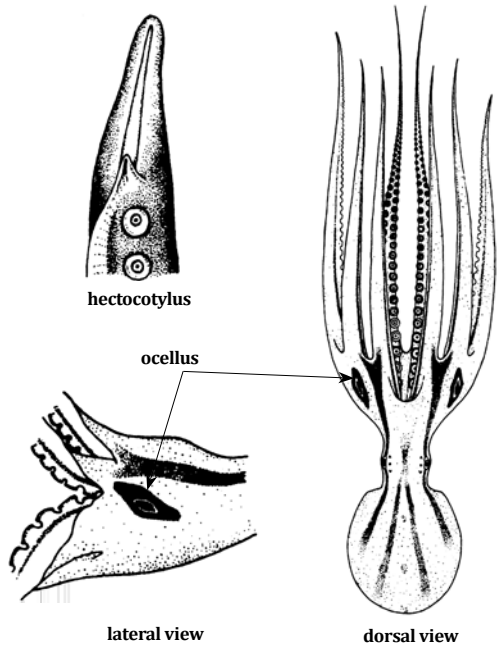



**Size:** To 7.6 cm (ML), 21 cm (TL)

## *Amphioctopus siamensis* (Nateewathana & Norman, 1999)

**FAO names:** Siamese ocellate octopus (En)
Poulpe siamois ocellé (Fr)

**Local name(s):** Yoedaya Ye Ba Wei.
**Habitat:** Depth range unknown. Nothing is known of the biology and behaviour of this species.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Lateral and ventral arms longest (typically 4=3>2>1); ligula conical and of moderate length, 9 to 10% of arm length; skin texture of small and regular rounded patches; skin ridge around lateral margin of mantle absent.
**Colour:** Brown to pink base colour with 4 dark longitudinal stripes on the mantle and head, continuing as fine dark lines along the leading edge of arms 1–3; false-eye spots (ocelli) present as dark spot with silver white iridescent ring.
**Remarks:** This ocellate species is caught in low numbers in trawl catches compared with the large commercial catches of two other co-occurring ocellate species: *Amphioctopus neglectus* and *A. rex.*

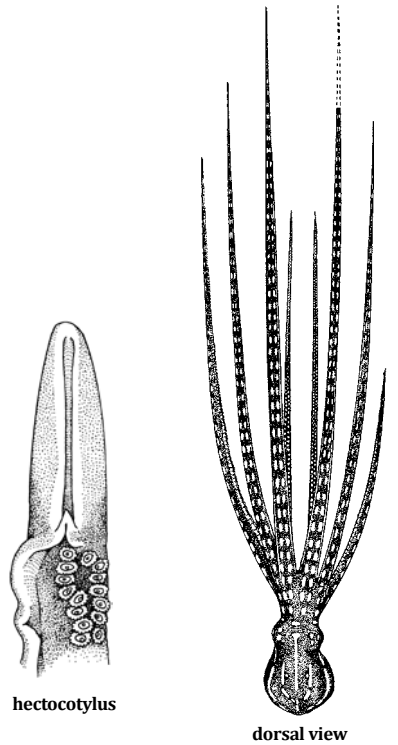



**Size:** To 6.4 cm (ML), 20 cm (TL)

## *Callistoctopus ornatus* Gould, 1852

**FAO names:** White-striped octopus (En)

**Local name(s):** Ye Ba Wei Phyu Sin.
**Habitat:** Shallow water species typically in association with coral reefs.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Arms long, 6–8 times mantle length; dorsal arms longest (1>2>3>4); webs shallow, deepest around 10% of arm length; Ligula robust and cylindrical, up to 6% of arm length; skin texture of small low papillae over dorsal surfaces; 2 moderate-sized erectile papillae over each eye; continuous skin ridge around lateral margin of mantle absent; short flaps of skin can be raised from within the longitudinal stripes on the lateral mantle.
**Colour:** Red brown with a distinctive pattern of short white longitudinal stripes on the dorsal mantle; paired white spots present along the entire length of the arms.

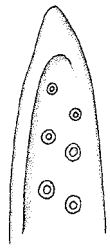


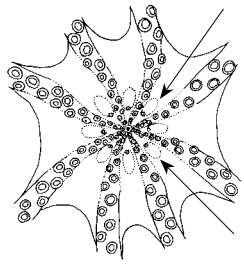

**Size:** To 13 cm (ML), 120 cm (TL)

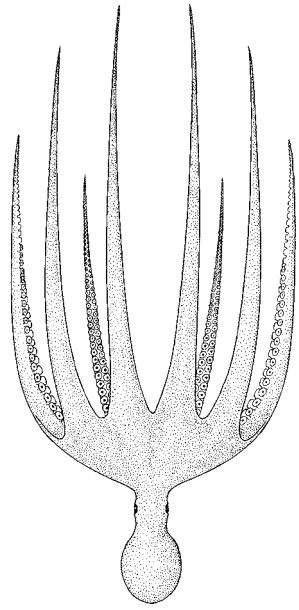
## ***Cistopus*** cf. ***indicus*** (Rapp, 1835)

**FAO names:** Old woman octopus (En)
Poulpe vieille femme (Fr);

**Local name(s):** Ye Ba Wei A Phwar Gyi.
**Habitat:** Occurs on soft sediment substrates to depths of at least 50 m.
**Fisheries:** Bottom trawls, pot traps.
**Distinctive Characters:** Arms long, length around 6 times mantle length; dorsal arms longest (1>2>3>4); water pouches present in oral surface of webs close to mouth; pores located adjacent to level of 3rd to 4th proximal sucker; ligula tiny and blunt, 0.5 to 0.7% of arm length; calamus absent; hectocotylized arm with 116–123 suckers; skin smooth with few, scattered, low papillae on dorsal mantle.
**Colour:** Cream to grey on dorsal surfaces produced by low density of very small chromatophores; lateral and ventral mantle and arm crown almost iridescent pink-purple, possibly produced by iridophore layer in skin.
**Remarks:** An additional unresolved *Cistopus* species (misidentified as *C. indicus*) also occurs on the coasts of Asia from at least Singapore, west to southern India. It also possesses water pouches, an arm formula of 1>2>3>4 and a tiny ligula that lacks a calamus. The taxonomy of this genus requires further research.


**hectocotylus**


**oral view of webs showing location of water pouches**

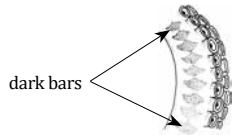

**dorsal view**

**Size:** To 18 cm (ML), 100 cm (TL)

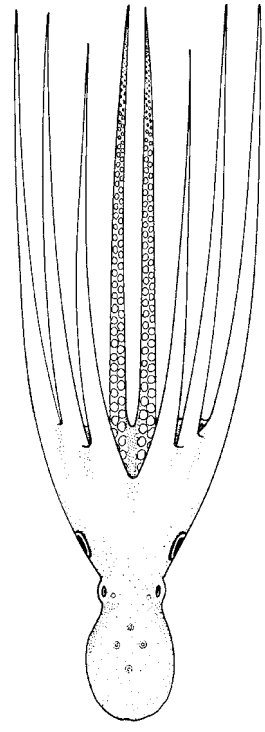
## ***'Octopus' cyanea*** Gray, 1849

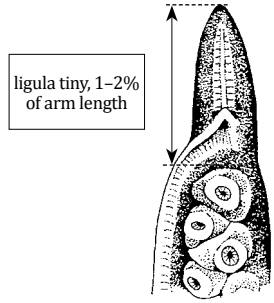
**FAO names:** Big blue octopus (En)
Gros poulpe bleu (Fr)

**Local name(s):** A Pyar Ye Ba Wei Gyi.
**Habitat:** A benthic species occurring on tropical coral reefs from intertidal flats to at least 22 m deep.
**Fisheries:** Spears, lured hooks, bottom trawls.
**Distinctive Characters:** Arms subequal in length; Ligula tiny, triangular, 1–2% of arm length; 1 large cirrus and 2 smaller tubercles over eye.
**Colour:** Mantle mottled, reticulate, arms with dark bars.
**Remarks:** This species likely belongs to a distinct genus. It is provisionally retained under the generic name '*Octopus*', with quotation marks indicating its unknown position.

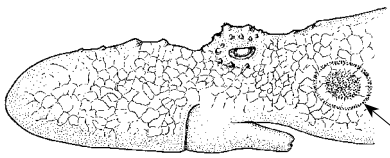


**arm (ventro-lateral view)**


**dorsal view**



**hectocotylus**



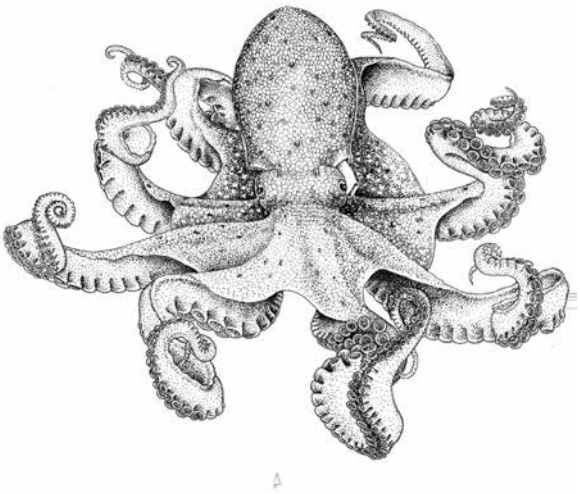
**lateral view of head and body**

**Size:** To 16 cm (ML), >100 (TL)

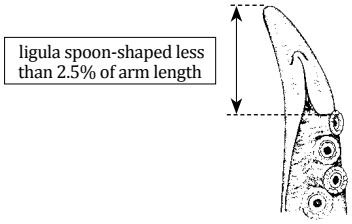
***Octopus*** cf. ***vulgaris*** Cuvier, 1797

**FAO names:** Common octopus (En)
Pieuvre (Fr)

**Local name(s):** Thar Man Ye Ba Wei.
**Habitat:** From the coastline to the outer edge of the continental shelf down to 250 m; over rocks on coral reefs and sea grass beds.
**Fisheries:** Spears, lured hooks, bottom trawls.
**Distinctive Characters:** Arms stout, about equal in length and thickness; two rows of suckers on arms.
**Colour:** Grey, yellow, brown and green; changes colour to hide from predators.
**Remarks:** This taxa is now considered a complex of four unresolved geographically disjunct forms. The geographical range of the east Asian "*vulgaris*" type IV form probably occurs in Myanmar.



**dorsal view**




**tip of hectocotylized right arm III of male**

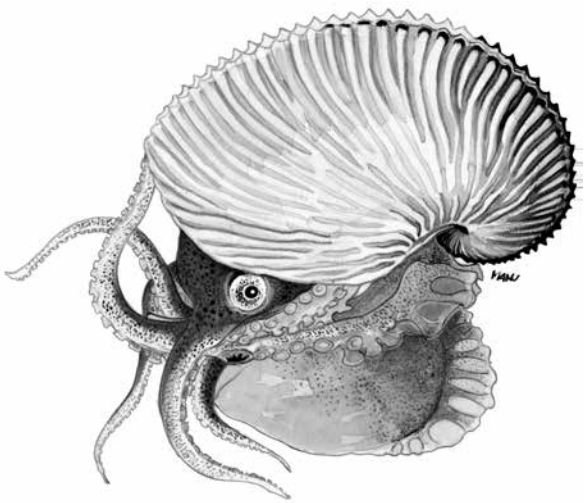
**Size:** To 130 cm (males), 120 cm (females)(TL)

## ARGONAUTIDAE
Argonauts

***Argonauta argo*** Linnaeus, 1758

**FAO names:** Greater argonaut (En)
Argonaute papier (Fr)

**Local name(s):** Argonaut Ye Ba Wei Gyi.
**Habitat:** An epipelagic, oceanic species occurring in near surface waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Males minute; females shell covered by the membrane of 1st pair of arms; head small, eyes prominent; 1st arms lengths variable, other arms unequal in length (arms formula: 4>2>3); 4th arms the longest, over 3 times mantle length and 20–30% longer than 2nd arms; keel narrow, consistent in size and shape around circumference of shell.
**Colour:** Body of females purple-blue to wine-red from above, light from below; extended 1st arm flap purple-red; shell, porcelain-white, early section and nodules on the keel dark brown; males with many small chromatophores.



**Size:** To 43.8 cm (female), 1.5–2 cm (dwarf male)(TL)

***Argonauta hians*** Lightfoot, 1768

**FAO names:** Lesser argonaut (En)
Argonaute mineur (Fr)

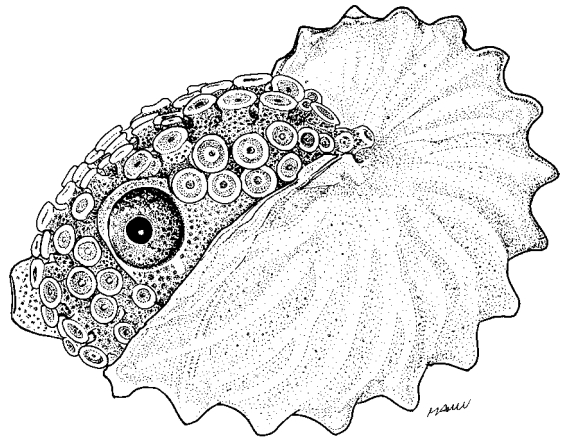
**Local name(s):** Myet Pyuu Argonaut Yet Ba Wei.

**Habitat:** An epipelagic, oceanic species occurring in near surface waters.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Males minute; females, shell covered by the membrane of 1st pair of arms; head small, eyes prominent; 1st arms lengths variable, other arms unequal in length (arms formula: 2>3>4); 2nd arms the longest, 1.4–2 times in mantle length; keel wide, its width 20–30% of shell length; keel tubercles increase in size around circumference of shell, alternate on opposing surfaces.

**Colour:** Variable from deep maroon to silver; dorsal mantle adorned with large chromatophores, smaller chromatophores present on ventral mantle; shell off-white to brown, approximately 1st third of keel tubercles stained black.

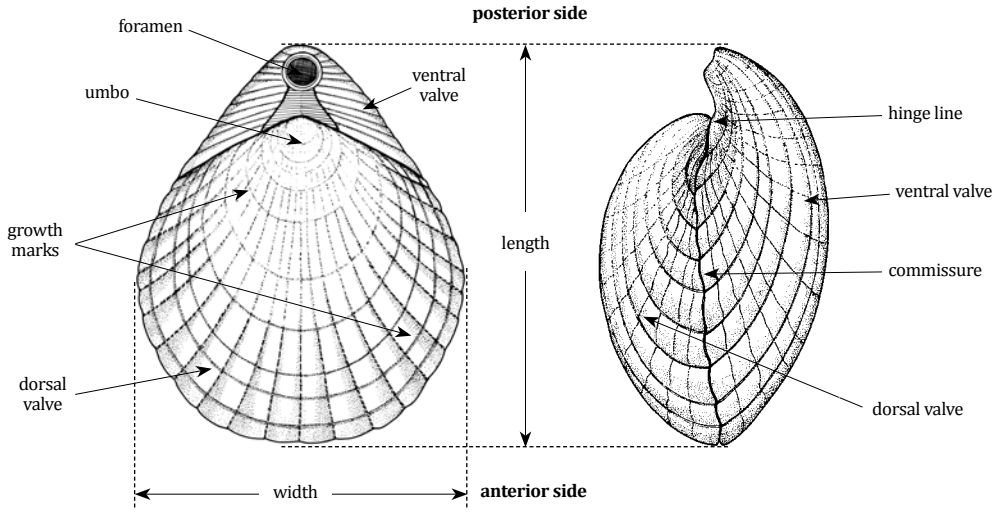


**Size:** To 11.8 cm (female), 1.2–2 cm (dwarf male)(TL)

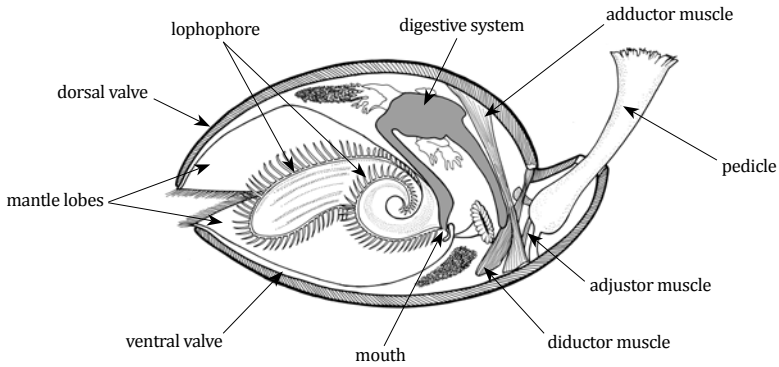
# BRACHIOPODS*

At least one brachiopod species is commercially important in Myanmar, collected for food and as a source of income by coastal populations. This single species is included in the guide.

## TECHNICAL TERMS AND MEASUREMENTS




**brachiopod shell**




**general anatomy of a brachiopod (longitudinal section)**

**Hinge:** articulation area of posterior margin of the valves, including a pair of lateral shelly projections (teeth) in the ventral valve which fits into a pair of corresponding depressions (sockets) in the dorsal valve.

**Lophophore:** organ providing a water current system for food and oxygen intake, and for waste and gametes ejection, with elongated lateral arms fringed with tentacles, symmetrically disposed about mouth, suspended in the mantle cavity and with or without a supporting skeleton.

**Mantle:** fleshy sheet surrounding vital organs and secreting a pair of shell valves.

**Muscle scar:** impression marking inside the shell the place of attachment of a muscle, either adductor muscle to close the shell, diductor to open it, adjustor to move it relative to the pedicle, or oblique muscle to ensure rotation and sliding movements of the valves (in species without hinge only).

**Mantle canals:** flattened, tube-like extensions of body cavity into the mantle.

**Pedicle:** A cuticle covered fleshy stalk-like structure, protruding from the posterior end of shell through a hole (foramen) or a groove of ventral valve, by which the animal is attached to the substrate.

**Umbo:** The first formed part of a valve, on the posterior margin.

**Valves:** The two bilaterally symmetrical parts of a shell, the larger one covering ventral surface of the animal, the smaller one covering its dorsal surface.

*Section prepared by J.–M. Poutiers (MNHN, Paris)

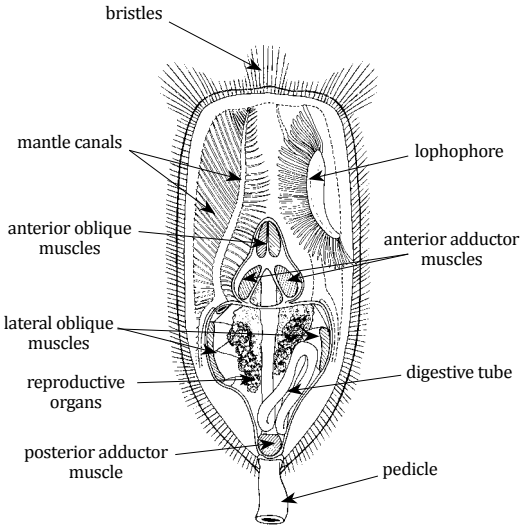
# GUIDE TO FAMILIES

## LINGULIDAE

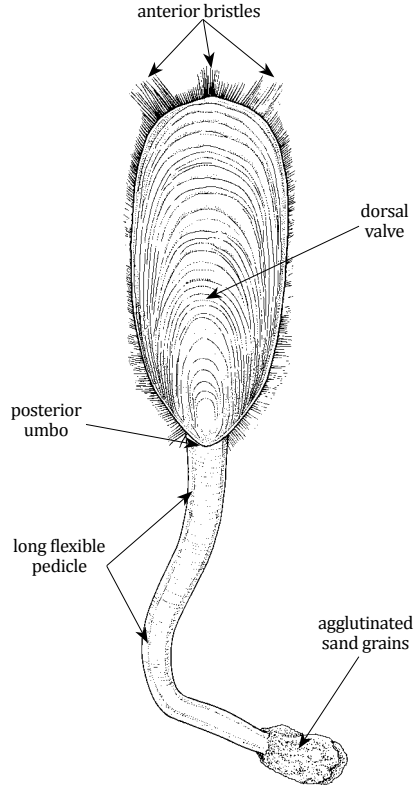
**Page 145**

**Lamp shells, lingulas**

To about 6.5 cm. Marine and brackish waters. One species of interest to fisheries included in the Guide to Species.




**general anatomy of a Lingulidae (dorsal valve, mantle and left lophophore arm removed)**




**living animal (exterior)**

Shell organophosphatic, elongate ovate to subrectangular in outline and dorso-ventrally compressed; nearly equivalve, dorsal valve with trigonal median umbo, ventral valve with wide triangular pedicle groove inside the produced posterior margin; valves only connected together by soft tissues; main musculature complex, with one posterior and 2 anterior adductors, 2 longitudinal lateral muscles encircling the body from base of lophophore arms (to open valves), and oblique muscles asymmetrically disposed, forming 4 scars in dorsal valve and 5 in ventral valve; mantle lobes fringed with bristles along lateral and anterior shell margins, forming 3 siphon-like channels anteriorly; lophophore arms spirally coiled, without a supporting skeleton; pedicle very long and flexible.

# LINGULIDAE

Lamp shells, lingulas

***Lingula anatina*** Lamarck, 1801

**FAO names:** Duck's-bill lingula (En)
Lingule bec-de-cane (Fr)

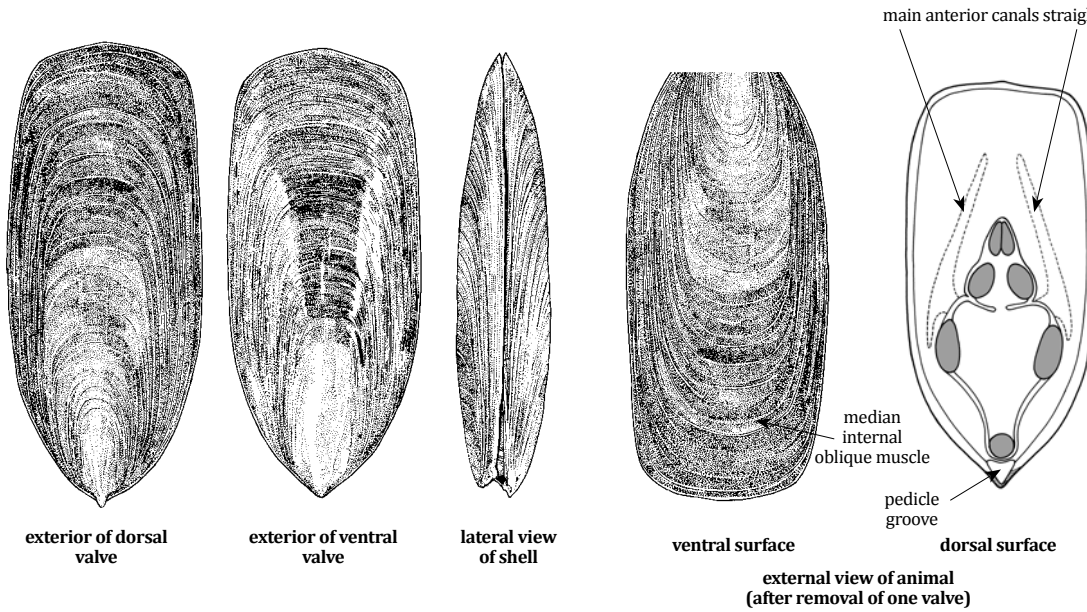
**Local name(s):** Be Hnote Thee Gone, Gone Yaung Ma.

**Habitat:** In compact, fine sandy to muddy bottoms of littoral areas, including near mangrove forests and estuaries; shell vertically disposed in a permanent burrow lined with mucus, anchored by a mass of agglutinated sand at lower bulged end of the long retractable pedicle.

**Fisheries:** Collected with bare hands or with a spade, at low tide or diving.

**Distinctive Characters:** Shell rather thin, elongate oblong with nearly parallel lateral margins; anterior margin slightly convex to straight with a low median projection; outer surface of valves smooth, with distinct growth lines; general disposition of muscle scars elongate, line encircling muscles strongly curved near median internal oblique on ventral side, and anterior and posterior internal oblique well separated; 2 main anterior mantle canals converging anteriorward, straight on dorsal side and slightly curved on ventral side.

**Colour:** Exterior of shell glossy, translucent greenish to deep green, often tinged beige to brownish along the posterior and lateral margins; interior with a large central white opaque area, becoming greenish toward margins; pedicle flesh coloured.

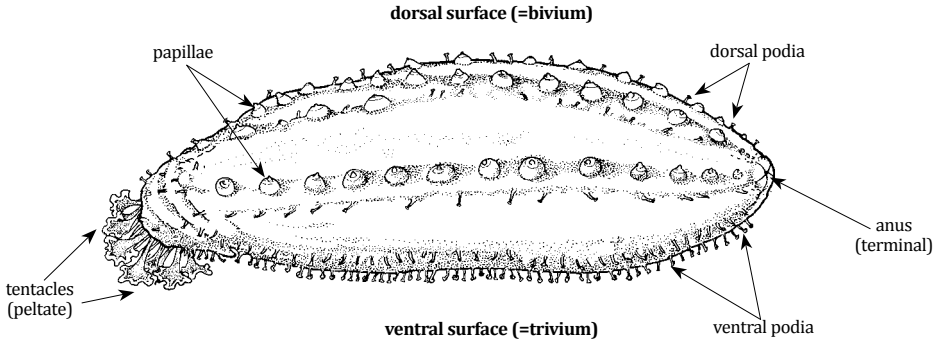



**Size:** To 6.5 cm, common 4 cm shell length
Up to nearly 10 times longer when pedicle is elongated

# SEA CUCUMBERS

In Myanmar, sea cucumbers are boiled, dried (by sun or smoke) and exported mainly to Japan, Korea, China and Singapore. They are collected by hand at low tide while wading on the reefs or by divers in deeper waters during the dry season (October to April) when the sea conditions are more favourable. Two species, *Holoturia* (*Metriatyla*) *scabra* and *H.* (*Metriatyla*) *lessoni* are quite common and fetch very high prices. Ten species (belonging to two families) considered of high/medium commercial value are included in the guide.

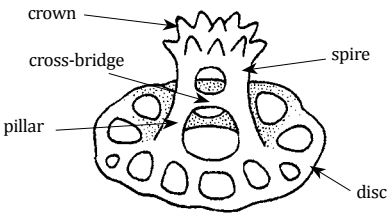
## TECHNICAL TERMS



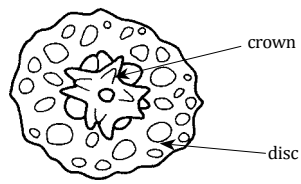

**main external anatomical features of a sea cucumber (lateral view)**

### MORPHOLOGICAL FEATURES

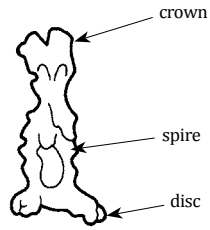
Holothuroids or sea cucumbers have an orally-aborally elongated body. The body is formed like a short or long cylinder, with the mouth (at the anterior end) encircled by **tentacles**, and the **anus** (at the posterior end) often encircled by small papillae or heavily calcified papillae called **anal teeth**. The pentamerous symmetry (character shared with other echinoderms) is sometimes recognizable by the presence of 5 meridional **ambulacra** bearing **podia** (or tube feet). These are hollow tubular projections terminating in a flat disc, which allows the podium to adhere to the substratum during locomotion. Holothurians often lay on the substrate with their ventral surface (or **trivium**). This creeping sole bears the locomotory podia, while on the dorsal surface (or **bivium**), the podia are often represented by papillae. The body surface is thick, slimy in some species and bears wart-like, conical or fleshy **papillae**. It constitutes the part of the body that is processed for human consumption and, therefore, commercial species are characterized by a thick body wall. **Ossicles** (also called spicules, or deposits) are characteristic of sea cucumbers and of primary importance for identification. They are mostly of microscopic size. There is a wide variety of simple to complex shapes. **Rods** can be simple or branching, smooth, warty, or spiny, or knobbed. They can also have a characteristic C- or S-shape. Fenestrated **plates** also come in various shapes. **Buttons** are oval ossicles, perforated with a varying number of holes arranged in 2 or more rows. **Tables** are more complicated; they appear as a perforated disc, bearing an erect **spire** (or tower) composed of pillars that can unite to form cross-beams or bridges and that terminate in a crown and show many variations according to the arrangement of its constituents. **Rosettes** are short rods subdivided into short branches. Anchors are peculiar of the family Synaptidae (not included in the guide). **Baskets** (not included in the guide) are concave, perforated plates. Miliary bodies (**grains**) are very tiny spicules found in some Synaptidae. Apart from the body wall, spicules are found in the tentacles, the podia and papillae, and also in some other internal organs. Their developmental stages can differ from the definitive shapes in the adults and thus can make species identification difficult. The **calcareous ring** is a ring of usually 10 calcified plates encircling the pharynx. It is composed of alternating larger radial plates, opposite to the ambulacra, and smaller interradial plates. The plates may be simple or composed of smaller pieces. Longitudinal muscles attach to the radial plates.




**side view**

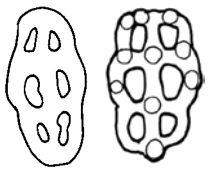



**top view**

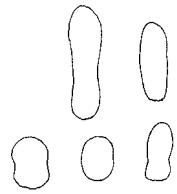



**pseudo-table**

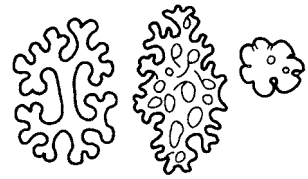
**tables**




**buttons**



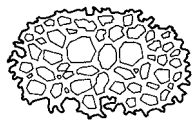
**grains**



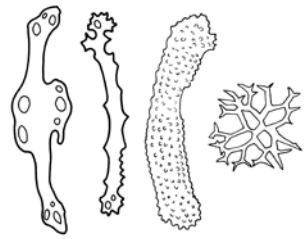
**rossettes**



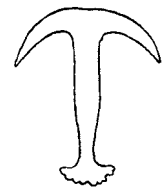
**C-shaped element**



**plate**

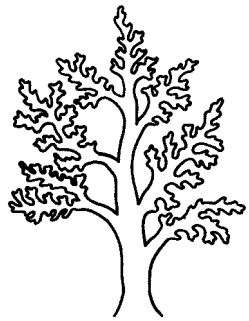


**rods**

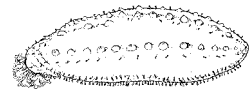


**anchor**

**basic types of ossicles**



**dendritic**



**peltate**

**basic types of tentacles**

## IDENTIFICATION NOTE

As in other echinoderms, species identification of sea cucumbers is aided by the examination of the skeletal elements (ossicles) found in various parts of the body. The calcareous ossicles, which are hidden in the body wall (mainly in the dermis tissue), papillae, podia and tentacles are, in the species within this book, mostly just one-twentieth to one-tenth of a mm in length. They are embedded in soft tissues, but can be dissected out of the live, dried or preserved animals and isolated by the following method:

**1.** Small pieces (e.g. a few square mm) of tissue are removed with a scalpel from dorsal body wall and ventral body wall, as well as the tentacles and podia, and each placed into separate small vials.
**2.** A small volume (e.g. 0.5 ml) of sodium hypochlorite (concentrated household bleach), or sodium hydroxide, is then added to each vial in order to dissolve the organic tissue away from the calcareous ossicles. The soft tissue will be dissolved/digested in 20–30 minutes, leaving the hard ossicles to fall to the bottom of the vial.
**3.** After decanting, or pipetting, out the bleach, the ossicles are washed 5 times in distilled water. This step can be achieved by sucking the liquid out of the vial with a pipette, taking much care to rinse the pipette in fresh water each time so as not to contaminate a sample with the ossicles from another.
**4.** The ossicles can then be rinsed in alcohol and placed onto a microscope slide with a drop of a mountant (Euparal medium). They can also be put on a scanning electron microscope (SEM) stub.
**5.** After processing, the ossicles can be observed either on permanent slides with a light microscope, or prepared for a scanning electron microscope.

## GLOSSARY OF TECHNICAL TERMS

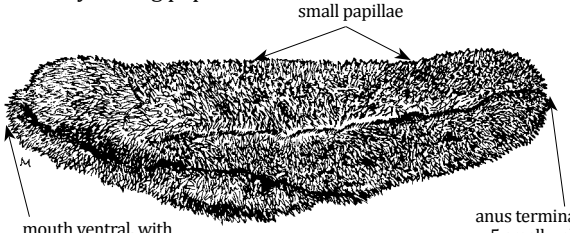
**Anal teeth** - radial extremely calcified papillae encircling the anus, appearing tooth-like.
**Bêche-de-mer** - widely used term for the processed product of sea cucumbers (see also **trepang**)
**Bivium** - the dorsal part of the body in the pentaradiate symmetry, with 2 radii and 3 interradii.
**Calacareous rin**g - internal collar of plates, generally 10, surrounding the pharynx.
**Cloaca** - anal cavity where the intestine ends.
**Cuvierian tubules** - threads becoming sticky when ejected out of the anus and used as a defense mechanism.
**Dendritic** - branching in an arborescent manner; used to describe the shape of the tentacles in Dendrochirotida that are used for suspension feeding.
**Digitations** - finger-like structures, used as descriptive term for the shape of tentacles.
**Fenestrated** - having small window-like openings or holes.
**Interradii** (or interambulacra) - in the pentaradiate symmetry, the 5 areas between the rows of podia or papillae.
**Ossicles** (or spicules) - microscopic carbonate skeleton particles in the body wall, tentacles, podia, papillae, and other body parts, useful for species identification; they come in various shapes.
**Papillae** - conical lumps or small fleshy extensions on the surface of the body wall.
**Peltate** - describing a structure that is circular or lobed with a stalk in the middle; used to describe the shape of the end of tentacles in Aspidochirotida that are used for deposit feeding on the sea floor.
**Pentamerous** - having 5 radiating parts, resulting in a pentaradiate symmetry.
**Podia** (or tube feet) - tiny water-filled tubes, terminating in a disc, used for locomotion.
**Radii** (or ambulacra) - in the pentaradiate symmetry, the 5 areas with podia or papillae.
**Teats** - large papillae at the border of the ventral surface of the animal.
**Tentacles** - buccal podia extended from the mouth for feeding.
**Trepang** - Malaysian name for sea cucumber, also used for the processed product (see also **bêche-de-mer**).
**Trivium** - the ventral surface of body in the pentaradiate symmetry, with 3 radii and 2 interradial areas.

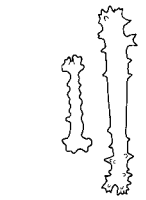
# HOLOTHURIIDAE

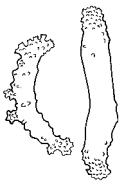
## *Actinopyga echinites* (Jaeger, 1833)

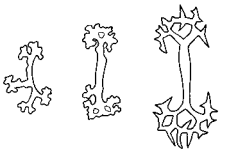
**FAO names:** Deep-water redfish (En).

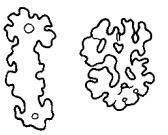
**Local name(s):** Ye Net Myort Ni.
**Habitat:** Mostly on reef flats (reefs and seagrass beds) to about 10 m depth.
**Fisheries:** Collected by hand at low tide.
**Distinctive Characters:** Dorsal surface covered with small (2 mm) "pimply" papillae; ventral surface with numerous long yellow to green podia; mouth ventral, surrounded by 20 stout, brown tentacles; anus surrounded by 5 small yellow, conical anal teeth; cuvierian tubules small, pinkish, and generally not expelled.
**Colour:** Variable from beige to rusty-brown or dark brown, sometimes with fine dark marks dorsally among papillae.

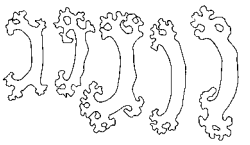


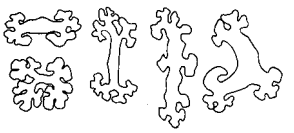


ossicles of ventral podia


ossicles of tentacle


ossicles of dorsal body wall


ossicles of ventral body wall


rods of ventral body wall

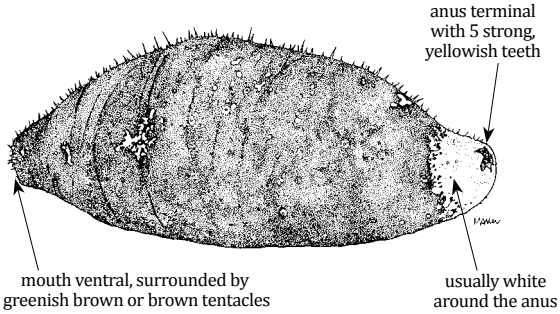

rossettes of ventral body wall

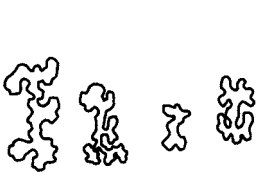
**Size:** To 35 cm, common 20 cm

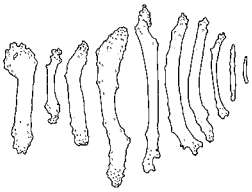
## *Actinopyga lecanora* (Jaeger, 1835)

**FAO names:** Stonefish (En)

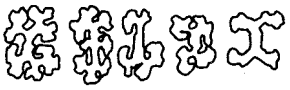
**Local name(s):** Not Myort Ni.
**Habitat:** Lives in coral and coral rocks and reef ledges to about 20 m; nocturnal species.
**Fisheries:** Collected by hand at low tide and by divers.
**Distinctive Characters:** Few papillae scattered over dorsal area; mouth ventral, surrounded by greenish brown or brown tentacles; anus terminal with five strong, yellowish teeth; cuvierian tubules absent.
**Colour:** Nearly uniformly beige to chocolate brown with some lighter spots and sometimes fine dark blotches; around the anus, it is usually characteristically white.

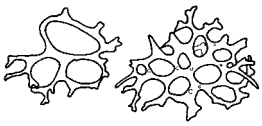


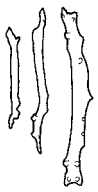


rossettes of podia


rods of tentacle


rossettes of dorsal body wall


rossettes of ventral body wall


plates of dorsal papillae


rods of dorsal papillae

**Size:** To 24 cm, common 20 cm

## *Bohadschia vitiensis* (Semper,1868)

**FAO names:** Brown sandfish (En)

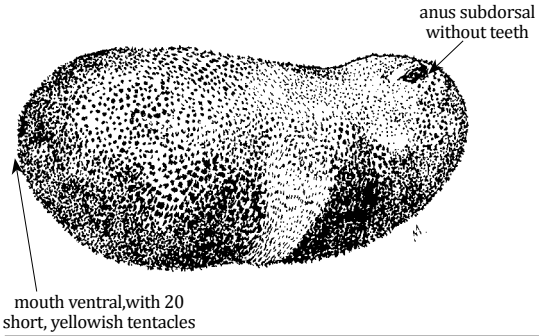
**Local name(s):** Thae` Luu Myort, Myort Nyo.

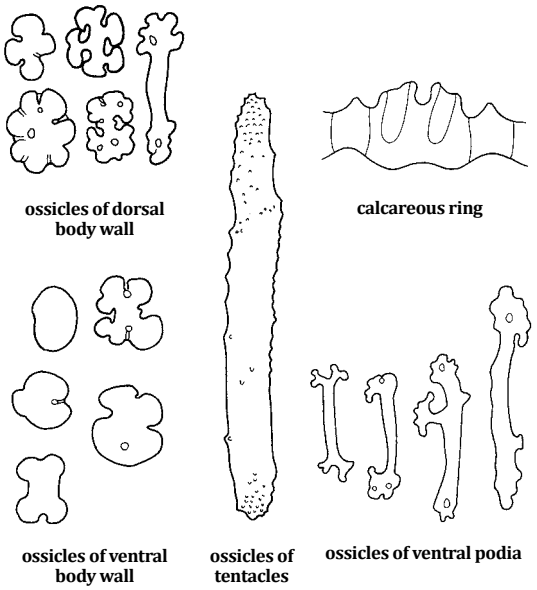
**Habitat:** Mostly on coastal lagoons and inner reef flats to about 20 m depth; abundant in sandy-muddy sediments where it burrows most of the time.

**Fisheries:** Collected by hand at low tide and by divers.

**Distinctive Characters:** Mouth ventral, surrounded by 20 short, yellowish tentacles; anus nearly dorsal, without teeth; cuvierian tubules large and numerous, readily ejected when even slightly disturbed.

**Colour:** Colour variable from cream to yellow-orange to brown with numerous brown spots (around podia) dorsally. Whitish ventrally.




**Size:** To 40 cm, common 32 cm

## *Holothuria lessoni* Massin, Uthicke, Purcell, Rowe & Samyn, 2009

**FAO names:** Golden sandfish (En)

**Local name(s):** Shwe War Myort.

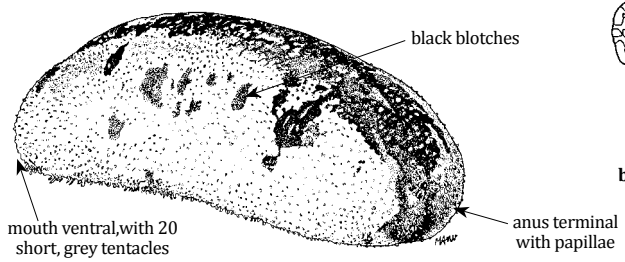
**Habitat:** On inner reef flats and coastal lagoons to about 20 depth.

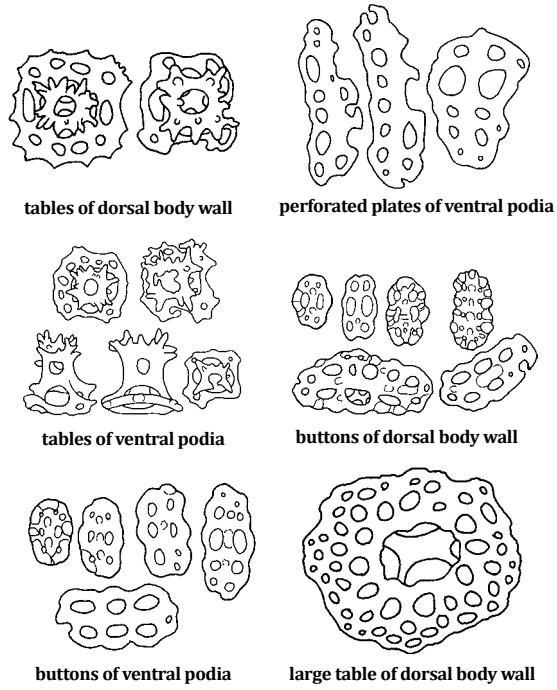
**Fisheries:** Collected by hand at low tide.

**Distinctive Characters:** Dorsal surface with black papillae (3 mm long); ventral surface with moderately abundant brown podia; mouth ventral, surrounded by 20 short, grey tentacles; anus terminal, surrounded by a circle of 5 groups of papillae and without teeth; cuvierian tubules absent.

**Colour:** From dark greyish black, to beige with black blotches and spots, or beige without black spots. Ventral surface whitish (grey in the black variants).

**Remarks:** Previously recorded in the area as *Holothuria scabra* var. *versicolor* (Conand, 1986).




**Size:** To 46 cm, common 30 cm

## *Holothuria scabra* Jaeger, 1833

**FAO names:** Sandfish (En)

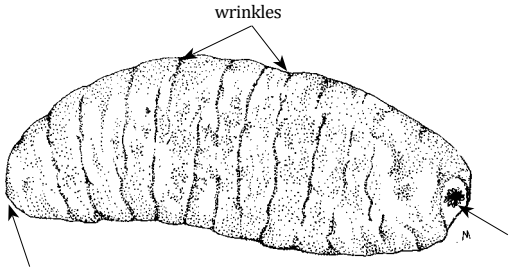
**Local name(s):** Thae` Myort.

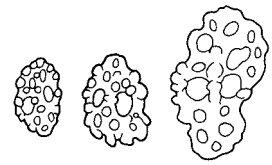
**Habitat:** Mostly on inner flat reefs of fringing and lagoonal reefs, and coastal sandflats and seagrass beds with muddy sandy substrates, near mangroves to about 20 m depth.

**Fisheries:** Collected by hand at low tide.

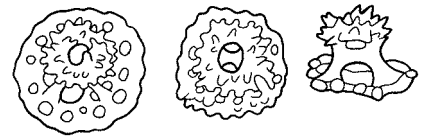
**Distinctive Characters:** Dorsal surface with deep (3 mm) wrinkles and short (1.5 mm) papillae; body often covered by fine muddy-sand; mouth ventral with 20 small, greyish, tentacles; anus terminal with no teeth; cuvierian tubules absent.

**Colour:** Black to grey or light brownish green (usually dark grey with white, beige or yellow transverse stripes in Indian Ocean populations); white or light grey with fine dark spots ventrally.



**buttons of dorsal body wall**



**tables of dorsal body wall**



**rods ofpodia**

**Size:** To 40 cm, common 24 cm

## *Holothuria spinifera* Théel, 1886

**FAO names:** Brownfish (En)

**Local name(s):** Myort Nyo Hmaung.

**Habitat:** On sand in shallow waters from 2 to 10 m. Believed to never be encountered in the intertidal region.

**Fisheries:** Collected by divers.

**Distinctive Characters:** This species has numerous, small, pointy papillae over the entire body.

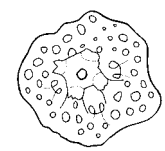
**Colour:** Dorsal surface brown, becoming lighter on the ventral surface.



**lateral view of table of dorsal body wall**



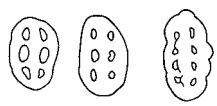
**perforated button of dorsal body wall**



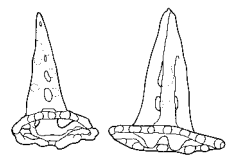
**dorsal view of table of anal papillae**



**calcareous ring**



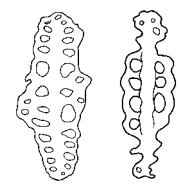
**smooth buttons of dorsal body wall**



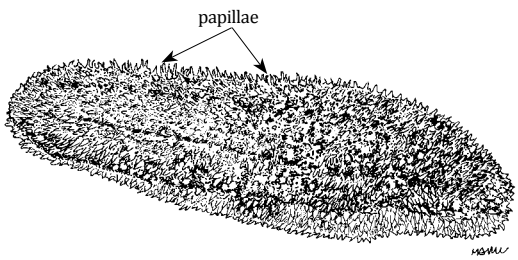
**lateral view of tack-like tables of papillae**

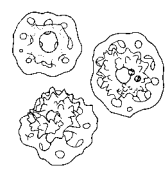


**rod of tentacles**



**plates of ventral podia**



**tables of dorsal body wall**



**nodose buttons of dorsal body wall**

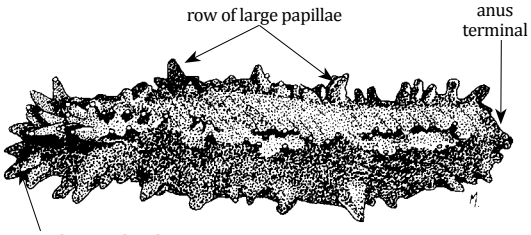
**Size:** To about 30 cm,

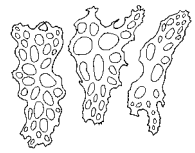
# STICHOPODIDAE

## *Stichopus chloronotus* Brandt, 1835

**FAO names:** Greenfish (En)
Trépang vert (Fr).

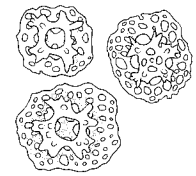
**Local name(s):** Kyet Hin Garr Thee Myort.
**Habitat:** Occurs on coral reefs, in shallow waters from the intertidal to depths of 10 m.
**Fisheries:** Collected by hand at low tide or by divers.
**Distinctive Characters:** Rows of long, conical papillae on both sides of the dorsal surface and along both lower lateral margins of the body; mouth ventral, surrounded by 19–20, white to greyish, stout tentacles; anus terminal bordered by 5 large papillae; cuvierian tubules absent.
**Colour:** Dark green to near black dorsally; dark green ventrally.



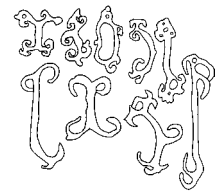


large plates of podia


tables of dorsal body body wall


C-shaped rods of podia


tables of top of dorsal papllae


C-shaped rods of dorsal body wall

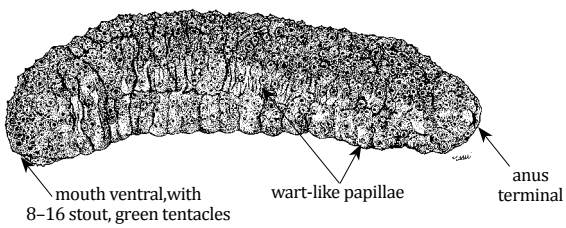

rossettes and rods of top of dorsal papillae

**Size:** To 35 cm, common 20 cm

## *Stichopus herrmanni* Semper, 1868

**FAO names:** Curryfish (En)
Trepang curry (Fr)

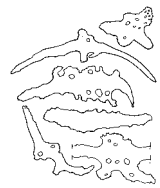
**Local name(s):** Peinn Ne` Thee Myort.
**Habitat:** Prefers seagrass beds, rubble and sandy-muddy bottoms to about 25 m depth.
**Fisheries:** Collected by divers.
**Distinctive Characters:** Body squarish in cross-section with 2 double rows of large wart-like papillae, bordered by fine dark rings; ventral surface with numerous podia; mouth ventral with 8–16 stout, green tentacles; anus terminal, with no teeth nor surrounding papillae; cuvierian tubules absent.
**Colour:** Light mustard-yellow to orangey-brown or brown or olive green with numerous dark brown to black spots scattered over the entire body. Lighter ventrally.
**Remarks:** Previously recorded in the area as *Stichopus variegatus* Semper, 1868.

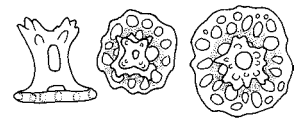




rossettes of dorsal body wall

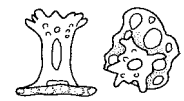

C-shaped rod of dorsal body wall


rods of top of dorsal papillae


tables of base of dorsal papllae


C-shaped rods of base of dorsal papillae


tables of top dorsal of dorsal papillae


tables of dorsal body wall

**Size:** To 31 cm

## *Stichopus horrens* Selenka, 1868

**FAO names:** Selenka's sea cucumber (En)

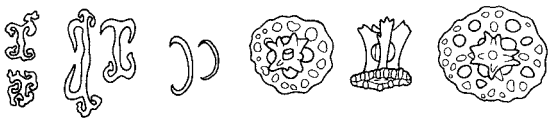
**Local name(s):** Khu Myort.

**Habitat:** Mostly on rocky bottoms interspersed with sandy patches, between 2 and 20 m depth.

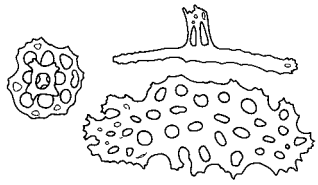
**Fisheries:** Collected by hand at low tide or by divers.

**Distinctive Characters:** Body covered with long and conical, or wart-like papillae; ventral surface with numerous large podia; mouth ventral, surrounded by 20 tentacles; anus terminal; cuvierian tubules absent.

**Colour:** Highly variable, from grey to beige to dark red, dark brown or black with different coloured blotches dorsally.



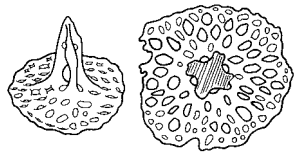
**rossettes, C-shaped rods and tables of body wall**



**table, rod and plate of ventral podia**



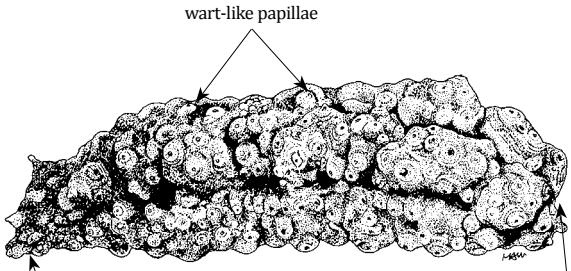
**rod of tentacle**



**tables of papillae**



**calcareus ring**




**Size:** To 40 cm, common 20 cm (ML)

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## *Thelenota ananas* (Jaeger, 1833)

**FAO names:** Prickly redfish (En)
Holothurie ananas (Fr).

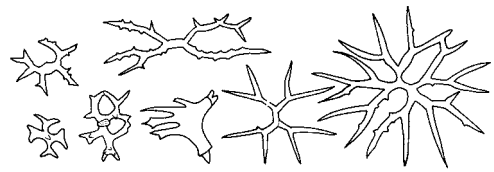
**Local name(s):** Myort Na Garr.

**Habitat:** African and Indian Ocean populations, prefer coral slopes over hard substratum between 5 and 35 m.

**Fisheries:** Collected by divers.

**Distinctive Characters:** Dorsal surface covered with very large papillae, which may be long and conical or star-shaped on a short stalk or somewhat branched; ventral surface with brown to pink podia more abundant on the radii; mouth ventral with 20 large, brown tentacles, surrounded by conical papillae; anus terminal, and often hidden by large papillae; cuvierian tubules absent.

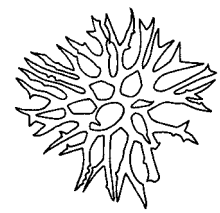
**Colour:** Variable dorsally, from reddish orange to brown or burgundy. Light pink to red ventrally.



**ossicles of body wall**



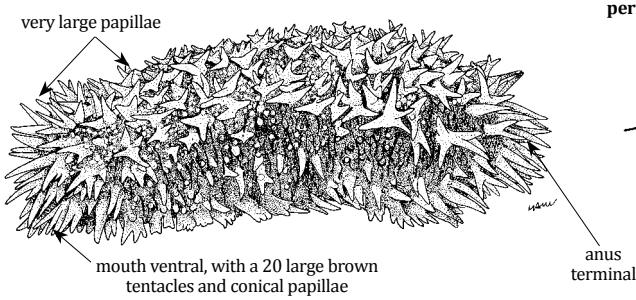
**perforated plate of podia**



**branched rod of tentacle**



**calcareus ring**



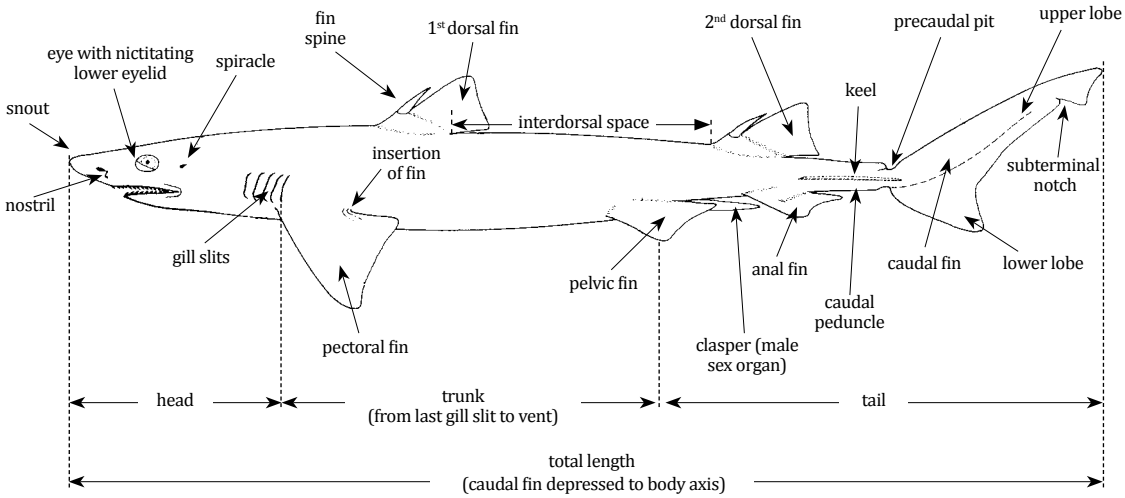

**Size:** To 80 cm, common 45 cm (ML)

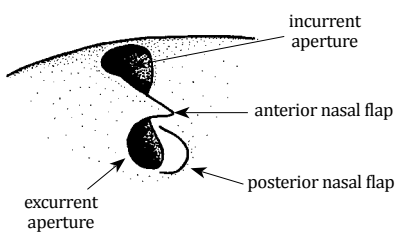
# SHARKS

The guide to "Orders and Families" includes a total of 6 orders and 20 families of sharks known or likely to occur in Myanmar. These are arranged by order using the classification adopted by Ebert *et al*. (2013). The "Guide to Species", includes 70 species belonging to 20 families considered to be of current or potential use in fisheries or are caught as by-catch by various gears of the Myanmar fishing fleet. Undescribed or potentially undescribed species are marked with an asterisk (*) besides the scientific name. If one of the latter species is recorded, the user can follow the instructions present in the introduction regarding its preservation and/or contact the EAF-Nansen and/or FishFinder Programme of FAO.

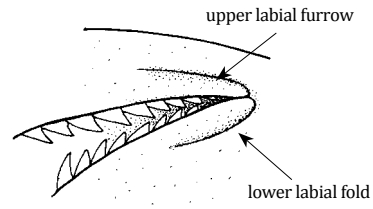
## TECHNICAL TERMS AND MEASUREMENTS

(straight-line distances)

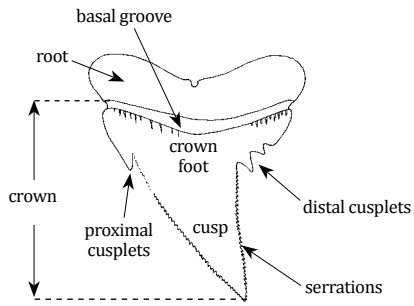


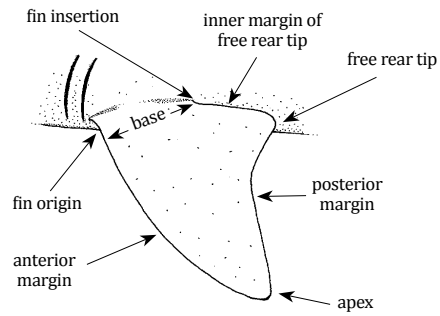

**nostril**




**mouth corner**




**tooth (labial view)**




**pectoral fin**

# GUIDE TO ORDERS AND FAMILIES

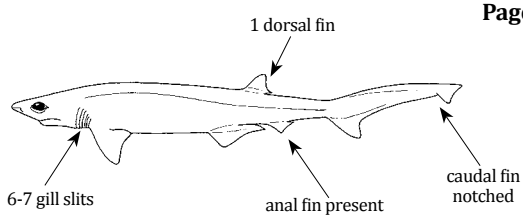
## Order HEXANCHIFORMES – Frilled and Cow sharks

Six or 7 pairs of gill slits; single dorsal fin; anal fin present.

### HEXANCHIDAE

Page 160

**Cow sharks**
To about 5 m. Mainly demersal from shallow waters to at least 2 500 m. Of little interest to fisheries. Two species included in the Guide to Species.



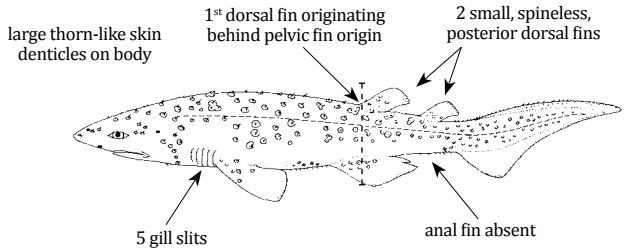

## Order ECHINORHINIFORMES – Bramble sharks

Five pairs of gill slits; 2 spineless similar-sized dorsal fins set close together and well back; anal fin absent; thorn-like skin denticles.

Page 160

### ECHINORHINIDAE

**Bramble sharks**
To 4.5 m. Demersal, from shallow depths to 1 100 m. Of little interest to fisheries. One species included in the Guide to Species.



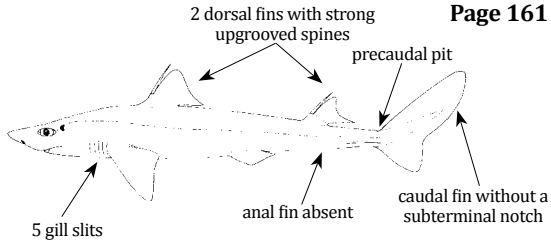

## Order SQUALIFORMES – Dogfish sharks

5 pairs of gill slits; 2 dorsal fins, usually with spines in front of each fin; anal fin absent.

### SQUALIDAE

Page 161

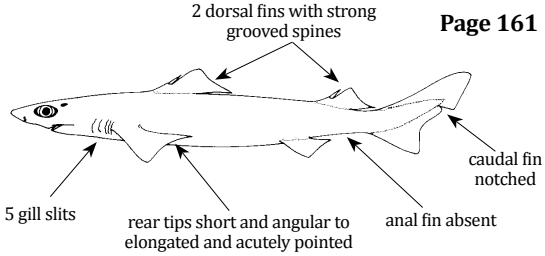
**Dogfish sharks**
To 1.8 m. Demersal and pelagic to depths of 1 446 m. Of interest to fisheries. Two species included in the Guide to Species.




### CENTROPHORIDAE

Page 161

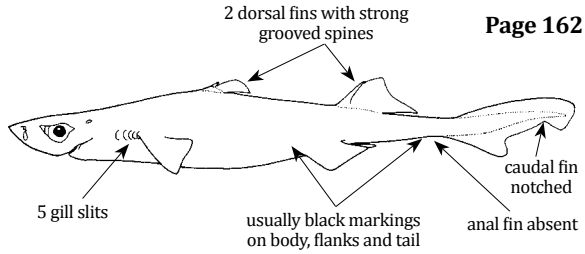
**Gulper sharks**
To 1.7 m. Demersal from 200 to below 4 000 m. Of interest to fisheries. Three species included in the Guide to Species.



## ETMOPTERIDAE

Page 162

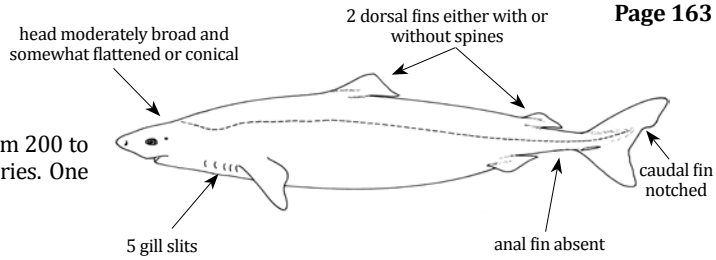
**Lantern sharks**
To about 1 m. Mainly bottom-dwelling from 70 to below 4 500 m. Of little interest to fisheries. One species included in the Guide to Species.




## SOMNIOSIDAE

Page 163

**Sleeper sharks**
To about 6 m. Mainly bottom-dwelling from 200 to below 3 675 m. Of little interest to fisheries. One species included in the Guide to Species.




## Order LAMNIFORMES – Mackerel sharks and allies

Five pairs of gill slits; 2 dorsal fins without spines; anal fin present; mouth strongly arched, extending well behind eyes; no movable nictidating eyelid; intestinal valve of ring type.

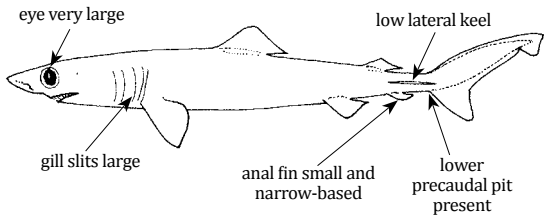


**no movable nictidating eyelid**

## PSEUDOCARCHARIIDAE

Page 163

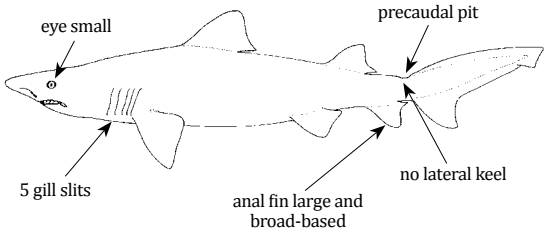
**Crocodile shark**
To 1.2 m. Pelagic, well offshore, from surface to at least 590 m. One species included in the Guide to Species.




## ODONTASPIDIDAE

Page 163

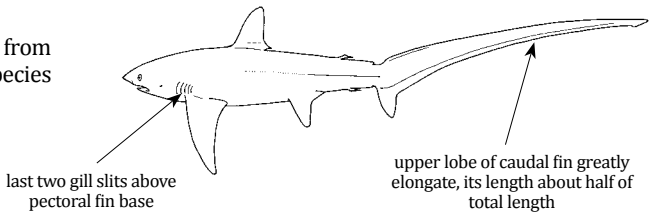
**Sandtiger sharks**
To 3.6 m. Inshore to offshore, littoral and deepwater from surface to possibly 1 600 m. One species included in the Guide to Species.



## ALOPIIDAE

Page 164

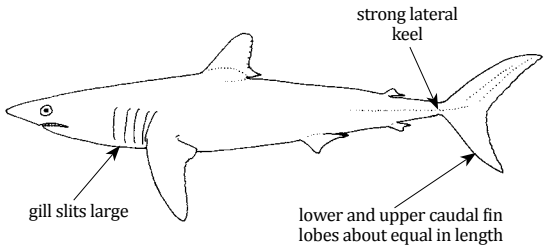
**Thresher sharks**
To 5.5 m. Pelagic, but also near the bottom, from the surface to depths of at least 500 m. Two species included in the Guide to Species.




## LAMNIDAE

Page 164

**Mackerel sharks**
To about 6 m. Mainly epipelagic, from the surface to depths of at least 1 280 m. One species included in the Guide to Species.



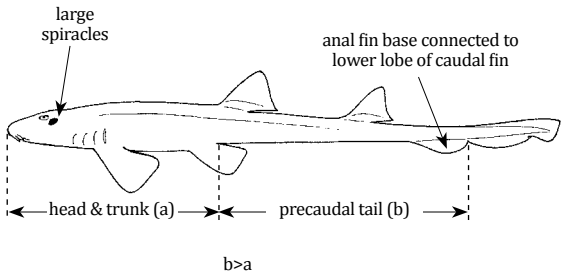

## Order ORECTOLOBIFORMES – Carpet sharks

Five pairs of gill slits, often the 5th overlapping the 4th; 2 dorsal fins without spines; mouth transverse, well in front of eyes, usually with barbels (*Rhincodon typus* with broad head and wide mouth).

## HEMISCYLLIIDAE

Page 165

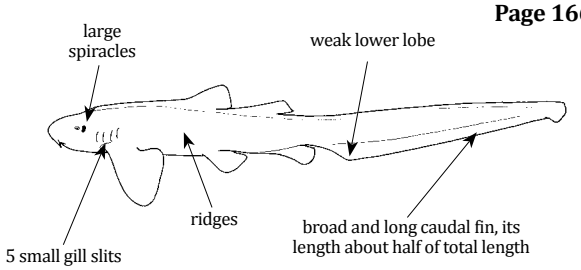
**Longtailed carpetsharks**
Mostly less than 1 m. Mostly inshore bottom sharks. Five species included in the Guide to Species.




## STEGOSTOMATIDAE

Page 166

**Zebra shark**
To 2.3 m. Demersal on continental and insular shelves from the intertidal zone down to 62 m. A single species worldwide.

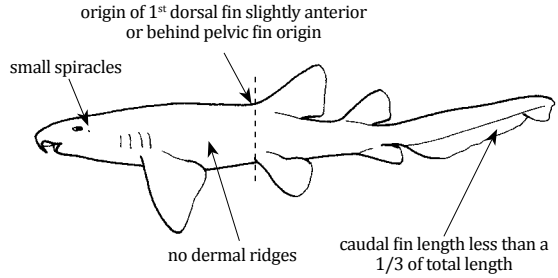


## GINGLYMOSTOMATIDAE

Page 167

**Nurse sharks**

To 3.2 m. Demersal from the intertidal zone to a depth of at least 70 m. One species included in the Guide to Species.

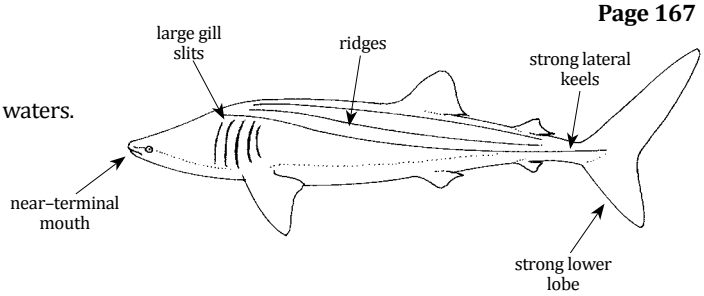



## RHINCODONTIDAE

Page 167

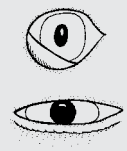
**Whale shark**

Possibly to 21 m. Epipelagic, in– and offshore waters. A single species worldwide.




## Order CARCHARHINIFORMES – Ground sharks and allies

Five pairs of gill slits; 2 dorsal fins without spines; anal fin present; mouth arched, extending behind anterior end of eyes; a movable nictidating eyelid; intestinal valve of scroll or spiral type.



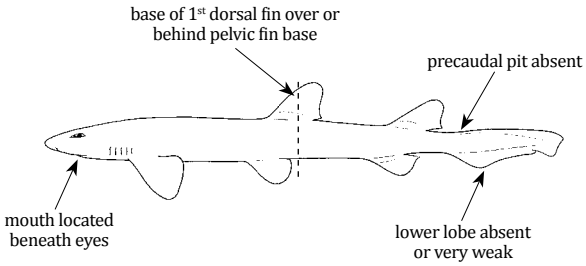
**movable nictidating eyelid**

## SCYLIORHINIDAE

Page 167

**Catsharks**

To 1 m. Demersal, from depths of 37 m to 1 840 m. Species belonging to the subfamily Pentanchinae have now been elevated to the rank of family. Five species included in the Guide to Species.

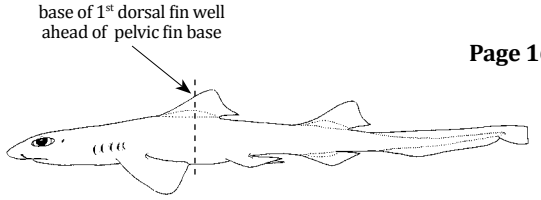



## PROSCYLLIIDAE

Page 169

**Finback catsharks**

To 65 cm. Demersal from 50 to 766 m. Of little interest to fisheries. Marine. Three species included in the Guide to Species.

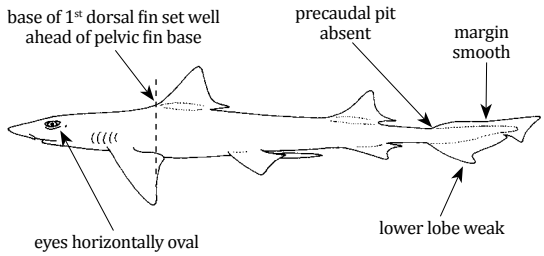


## TRIAKIDAE

Page 170

**Houndsharks**

To 1.5 m. Demersal, from the intertidal region down to a depth of at least 1000 m. Five species included in the Guide to Species.




## HEMIGALEIDAE

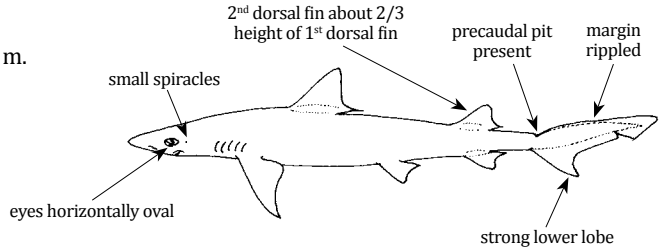
Page 172

**Weasel sharks**

To 2.4 m. Demersal, from depths of 1 m to 100 m. Four species included in the Guide to Species.



intestine with a spiral valve

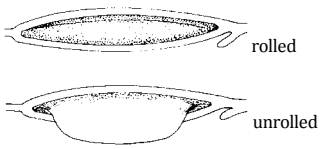



## CARCHARHINIDAE

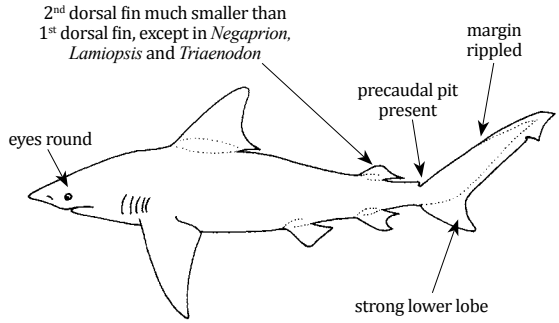
Page 173

**Requiem sharks**

To 550 m. Demersal to epipelagic, from the surface to a depth of 800 m. Twenty-six species included in the Guide to Species.




intestine with a scroll valve

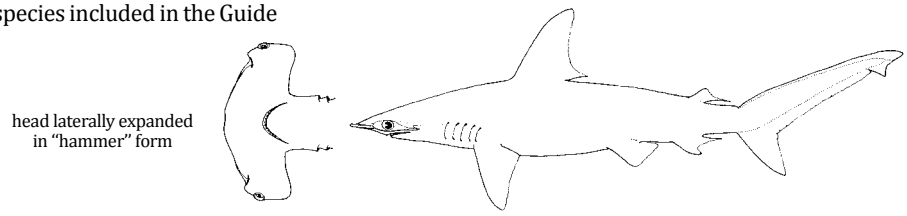



## SPHYRNIDAE

Page 182

**Hammerhead sharks**

To 6 m. Coastal and oceanic waters, from the surface to at least 275 m. Four species included in the Guide to Species.



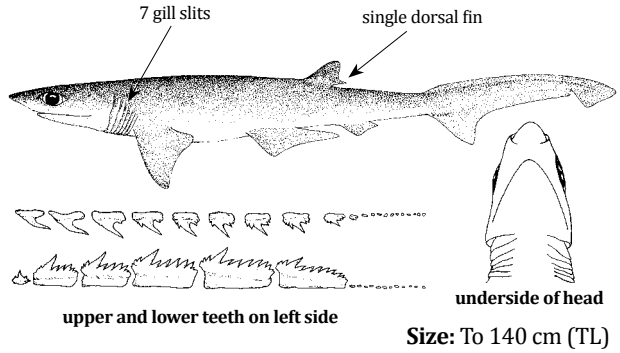

**underside of head**

## HEXANCHIDAE
Cow sharks

***Heptranchias perlo*** (Bonnaterre, 1788)

**FAO names:** Sharpnose sevengill shark (En)
Requin perlon (Fr)

**Local name(s):** Hnar Chun Nga Mann.
**Habitat:** Demersal on continental and insular shelves and upper slopes in depths of 100–400 m, also inshore and down to 1 000 m.
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Eyes very large; head extremely narrow and pointed; 5 rows of lower jaw comb-shaped anterolateral teeth on each side; 23–43 teeth on upper jaw and 20–33 on lower jaw;
**Colour:** Uniform pale grey above, ligther to white below; young with dark tips on dorsal fin and terminal lobe of caudal fin, lost in adults.

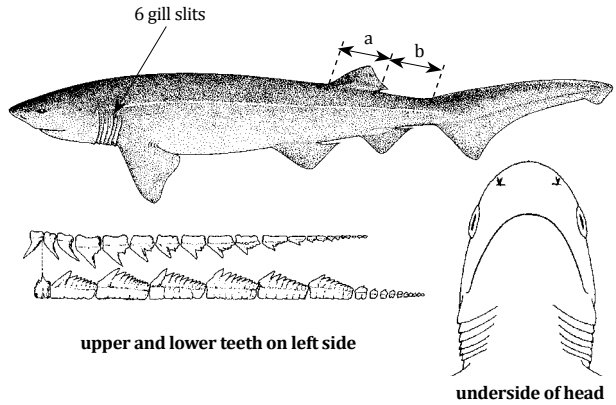



**Size:** To 140 cm (TL)

***Hexanchus griseus*** (Bonnaterre, 1788)

**FAO names:** Bluntnose sixgill shark (En)
Requin griset (Fr)

**Local name(s):** Hnar Tone Nga Mann.
**Habitat:** Demersal on continental and insular shelves from inshore down to 2 500 m (usually 180–1 100).
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Eyes small; head broadly parabolic; single dorsal fin; 26–46 teeth on upper jaw and 19–38 on lower jaw; lower jaw with 6 rows of large comb-shaped anterolateral teeth on each side; dorsal fin base (a) separated from caudal fin origin (b) by a distance about equal to or slightly greater than its length.
**Colour:** Grey or tan with a conspicuous lighter lateral line and sometimes with darker spots on the sides; underside often lighter than the dorsal surface in pups but uniform in larger juveniles and adults.



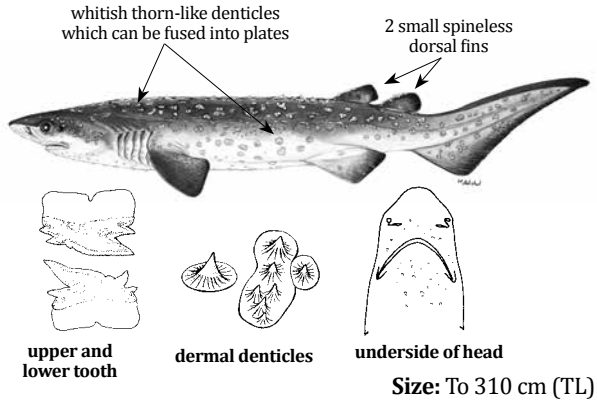

**Size:** To 470 cm (TL)

## ECHINORHINIDAE
Bramble sharks

***Echinorhinus*** cf. ***brucus*** (Bonnaterre, 1788)

**FAO names:** Bramble shark (En)
Squale bouclé (Fr)

**Local name(s):** Ye Net Phyuu Suu Nga Mann.
**Habitat:** Demersal on continental and insular shelves, usually from 200 to 900 m.
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Dorsal fins smaller than the pelvic fins, the 1st with its base over the pelvic bases; no anal fin; caudal fin without a subterminal notch; 20–26 teeth on upper jaw and 21–26 on lower jaw.
**Colour:** Grey, brownish or blackish, lighter below; fin edges blackish.
**Remarks:** A distinct form of *Echinorhinus brucus* occurs in the Indian Ocean (G. Naylor pers. comm., 2015).



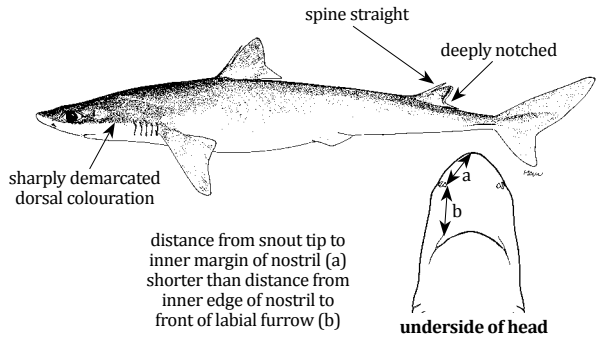

**Size:** To 310 cm (TL)

# SQUALIDAE
Dogfish sharks

***Squalus hemipinnis*** White, Last & Yearsley, 2007

**FAO names:** Indonesian shortsnout spurdog (En)
Aiguillat à nez court d'Indonésie (Fr)

**Local name(s):** Ye Net Indo Hnar Toe Nga Mann.
**Habitat:** Continental shelves and upper slopes usually at depths greater than 100 m.
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Short, broadly pointed snout; dorsal fins unequal in size; 2nd dorsal fin with a V-shaped posterior margin; precaudal vertebrae 72–76; anterior nasal flaps bifurcate.
**Colour:** Slate grey above, with light and dark areas sharply demarcated on head; differentiation indistinct on trunk; ventral surface white; dorsal fins greyish with dark blotch on apex and whitish base; caudal fin mainly greyish with a broad white posterior margin; dark caudal stripe present; juveniles with a distinct black caudal bar on fork.

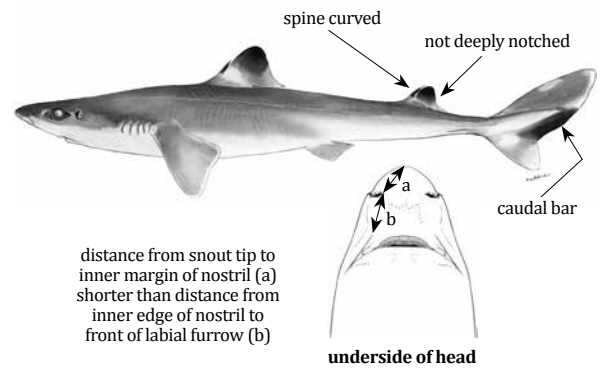



**Size:** To 78 cm (TL)

***Squalus*** sp. *

**FAO names:** None (En)

**Local name(s):** Ye Net Nga Mann, Suu Nga Mann.
**Habitat:** Trawled between 485–503 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Moderate, broadly pointed snout; 2nd dorsal fin concave but not deeply notched; head length 4.2 in TL; caudal fork width ca 2.2 in dorsal caudal margin; precaudal vertebrae 71; anterior nasal flaps bifurcate.
**Colour:** Greyish brown above, white below; dorsal fins with dark blotch on apex and whitish base; dark caudal bar, stripe and basal marking present.
**Remarks:** This is a low vertebrae count species which needs to be checked against the Western Indian Ocean species, *Squalus lalannei* Baranes, 2003 (W. White pers. comm., 2019).



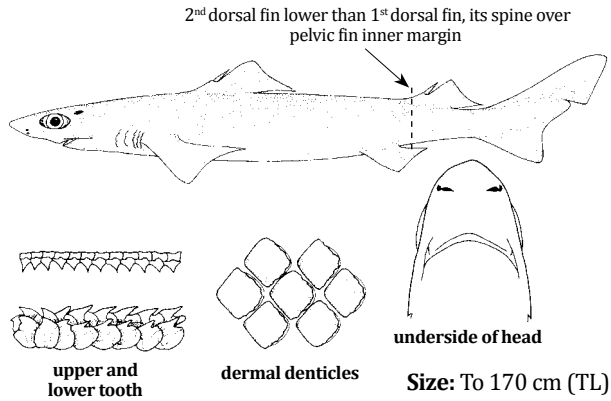

**Size:** To at least 52 cm (TL)

# CENTROPHORIDAE
Gulper sharks

***Centrophorus granulosus*** (Bloch & Schneider, 1801)

**FAO names:** Gulper shark (En)
Squale-chagrin commun (Fr)

**Local name(s):** Ye Net Guper Nga Mann.
**Habitat:** Continental shelves and upper slopes in depths from 50 to 1 440 m (usually below 200 m).
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Snout moderately long and thick; preoral length 0.9–1.2 in mouth width; lateral trunk denticles of adults rhomboidal to nearly circular sessile crowns on very low thick pedicels; crowns close-spaced but not overlapping, with a short thornlike to blunt or obsolete medial cusp; rear tips of pectoral fins narrowly angular and strongly extended; teeth blade-like unicuspidate in both jaws, with lowers much larger than uppers.
**Colour:** Brownish grey above, light grey below; mouth lining often dark.

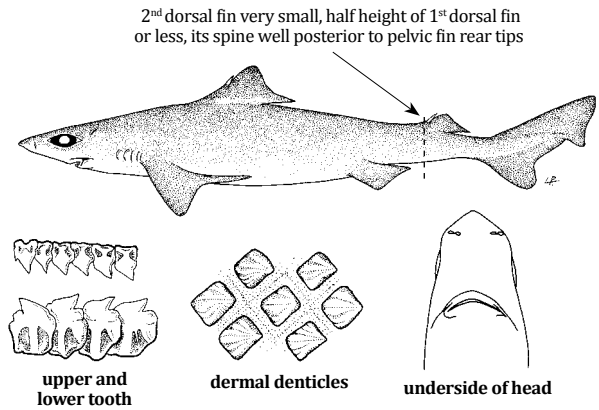



**Size:** To 170 cm (TL)

### *Centrophorus moluccensis* Bleeker, 1860

**FAO names:** Smallfin gulper shark (En)
Squale-chagrin cagaou (Fr)

**Local name(s):** Ye Net Suu Taung Toe Nga Mann.
**Habitat:** Continental and insular shelves and upper slopes in depths from 128 to 823 m.
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Snout moderately long and flat; preoral length 1.1–1.7 in mouth width; lateral trunk denticles of adults rhomboidal to nearly circular sessile crowns on very low thick pedicels; crowns close-spaced but not overlapping, with a short thornlike to blunt medial cusp; rear tips of pectoral fins narrowly angular and strongly extended; teeth blade-like unicuspidate in both jaws, with lowers much larger than uppers.
**Colour:** Light grey-brown or pearly grey above, lighter below; dorsal fins with black anterodorsal margins; pectoral fins with light posterior margins.

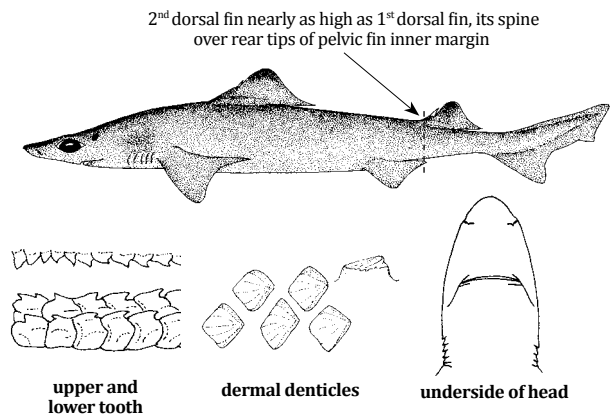



**Size:** To 102 cm (TL)

### *Centrophorus uyato* (Rafinesque, 1810)

**FAO names:** Little gulper shark (En)
Petite squale-chagrin (Fr)

**Local name(s):** Ye Net Gu Per Lay Nga Mann.
**Habitat:** Continental shelves and upper slopes in depths from 50 to 1 400 m (usually below 200 m).
**Fisheries:** Bottom trawls, longlines.
**Distinctive Characters:** Snout rather long and narrow; preoral length greater than mouth width; lateral trunk denticles of adults very broad, sessile-crowned, wide-spaced and cuspidate; rear tips of pectoral fins narrowly angular and strongly extended; teeth blade-like unicuspidate in both jaws, with lowers much larger than uppers.
**Colour:** Brownish grey above, light grey below; mouth lining often dark.
**Remarks:** Difficult to distinguish from *Centrophorus granulosus* when immature or subadult.



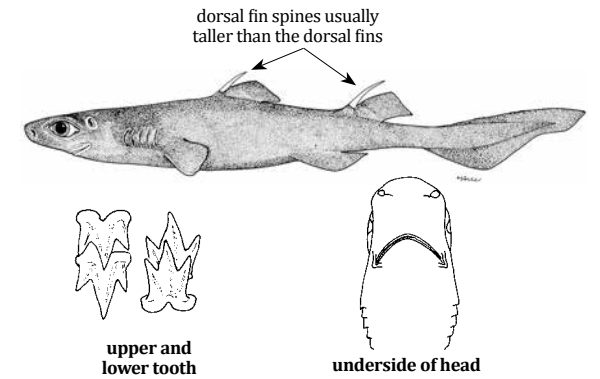

**Size:** To 110 cm (TL)

## ETMOPTERIDAE
Lantern sharks

### *Centroscyllium ornatum* (Alcock, 1889)

**FAO names:** Ornate dogfish (En)
Aiguillat élégant (Fr)

**Local name(s):** Ye Net Suu Shae Nga Mann.
**Habitat:** Upper continental slopes in depth of 521–1 262 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head broad and flattened, wider than deep; preoral length about 3.1 in HL; 2nd dorsal fin somewhat larger than first dorsal fin; lateral trunk denticles high, conical and sharp-cusped, close-set and numerous on dorsal ventral surfaces of body; skin firm; teeth similar in both jaws with narrow cusps and cusplets, not compressed or blad-like.
**Colour:** Body uniform blackish above and below, without without white fin markings or discrete black photomarks on body.



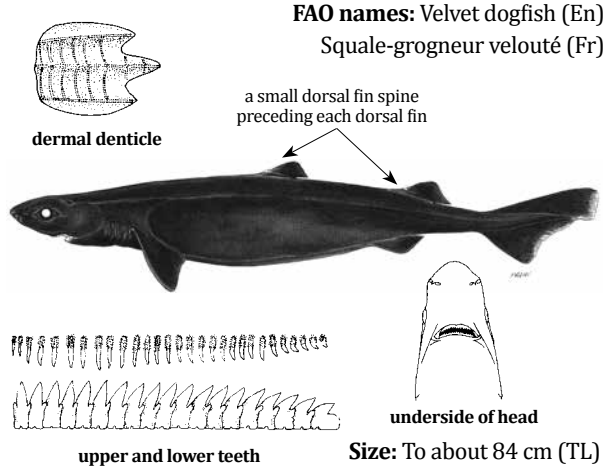

**Size:** To about 51 cm (TL)

## SOMNIOSIDAE
Sleeper sharks

***Zameus squamulosus*** (Günther, 1877)

**FAO names:** Velvet dogfish (En)
Squale-grogneur velouté (Fr)

**Local name(s):** Ye Net Nga Mann Pyar.
**Habitat:** Off continental and insular slopes in depths of 550–1 450 m.
**Fisheries:** Deep bottom trawls, longlines.
**Distinctive Characters:** Head rather low and flat; preoral length almost equal to distance from mouth to pectoral fin origins; postoral grooves much longer than upper labial furrows; caudal fin with strong subterminal notch and short lower lobe; lateral trunk denticles with cross-ridges on crowns; small lanceolate teeth without cusplets in upper jaw and large knife-cusped cutting teeth in lower jaw.
**Colour:** Uniformly black to dark brownish with no conspicuous markings.



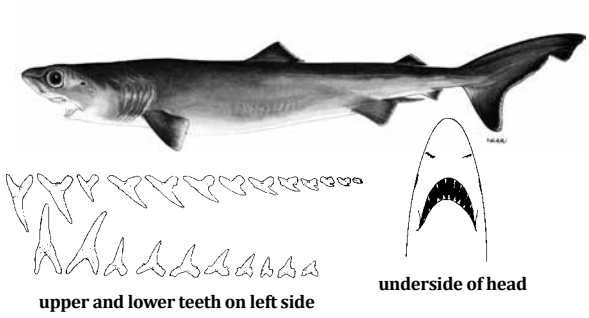

**Size:** To about 84 cm (TL)

## PSEUDOCARCHARIIDAE
Crocodile shark

***Pseudocarcharias kamoharai*** (Matsubara, 1936)

**FAO names:** Crocodile shark (En)
Requin crocodile (Fr)

**Local name(s):** Mi Kyaung Nga Mann.
**Habitat:** An oceanic species usually found offshore and far from land but sometimes occurring inshore.
**Fisheries:** Driftnets.
**Distinctive Characters:** Snout moderately long, pointed and bulbously conical; eyes very large; anal fin narrow-based, pivoting; caudal peduncle with both upper and lower precaudal pits and low lateral keels; 26–29 teeth in upper jaw and 19–26 in lower jaw.
**Colour:** Grey or grey-brown dorsal surface, lighter ventral surface, and light-edged fins.



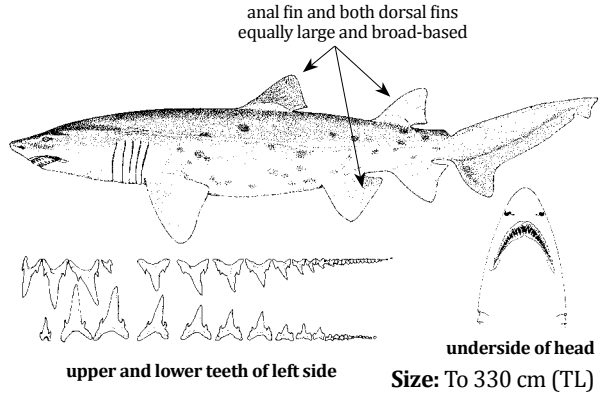

**Size:** To 122 cm

## ODONTASPIDIDAE
Sandtiger sharks

***Carcharias taurus*** Rafinesque, 1810

**FAO names:** Sandtiger shark (En)
Requin taureau (Fr)

**Local name(s):** The' Nga Mann Kyarr.
**Habitat:** Sandy and rocky beaches, in shallow bays, on offshore banks and reefs, in underwater caves down to at least 191 m depth.
**Fisheries:** Gillnets, longlines.
**Distinctive Characters:** Snout short and flattened; mouth long and extending behind eyes; 3 rows of large upper anterior teeth on each side of symphysis; 1st dorsal fin closer to pelvic fin bases than pectoral fin bases.
**Colour:** Light brown, often with darker reddish or brownish spots scattered on body; eyes with light green irises.



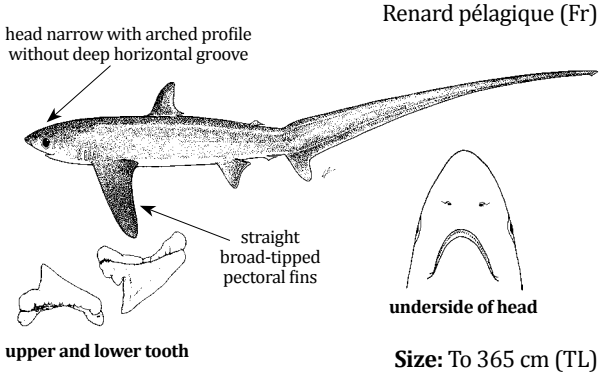

**Size:** To 330 cm (TL)

## ALOPIIDAE
Thresher sharks

***Alopias pelagicus*** Nakamura, 1935

**FAO names:** Pelagic thresher (En)
Renard pélagique (Fr)

**Local name(s):** Hmee She Ye Paw Nga Mann.
**Habitat:** Oceanic, epipelagic, caught near shore where shelf is narrow. Maximum depth 150 m.
**Fisheries:** Longlines, driftnets.
**Distinctive Characters:** Long upper caudal lobe nearly as long as rest of shark; eyes small with orbits not expanded onto dorsal surface of head; labial furrows absent; 1st dorsal fin base somewhat closer to pectoral fin bases than pelvic fin bases.
**Colour:** Deep blue or grey above, white below; white colour of abdomen not extending over pectoral fin bases.

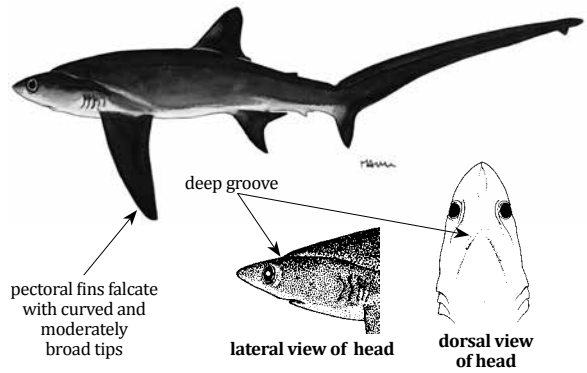



**Size:** To 365 cm (TL)

***Alopias superciliosus*** Lowe, 1841

**FAO names:** Bigeye thresher (En)
Renard à gros yeux (Fr)

**Local name(s):** Hmee She Myet Pyuu Nga Mann.
**Habitat:** Oceanic and coastal waters down to 500 m.
**Fisheries:** Driftnets, line gear.
**Distinctive characters:** Similar to *Alopias pelagicus* but head nearly flat between eyes, with a deep horizontal groove on nape; eyes very large, with orbits expanded onto dorsal surface of head; 1st dorsal fin base closer to pelvic bases than to pectoral bases; teeth large, in 22–27 rows in upper jaw (teeth smaller and in 41–45 rows in *A. pelagicus*).
**Colour:** Body purplish grey or grey-brown on upper surface and sides with underside grey to white; light colour of abdomen not extending over pectoral fin bases.



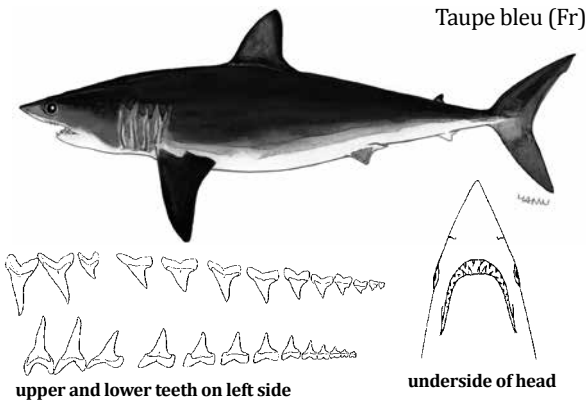

**Size:** To 470 cm (TL)

## LAMNIDAE
Mackerel sharks

***Isurus oxyrinchus*** Rafinesque, 1810

**FAO names:** Shortfin mako (En)
Taupe bleu (Fr)

**Local name(s):** Ye Yat Toe Nga Kun Shut Nga Mann.
**Habitat:** Pelagic in oceanic and coastal waters, usually near the surface.
**Fisheries:** Driftnets, line gear.
**Distinctive Characters:** Snout usually acutely pointed; pectoral fins considerably shorter than head, relatively narrow-tipped in young and acutely pointed in adults; 24–26 teeth on upper jaw and 24–29 on lower jaw; cusps of upper and lower anterior teeth flexed, with tips reversed;
**Colour:** Dorsolateral coloration brilliant blue or purplish in life, white below underside of snout and mouth in adults.



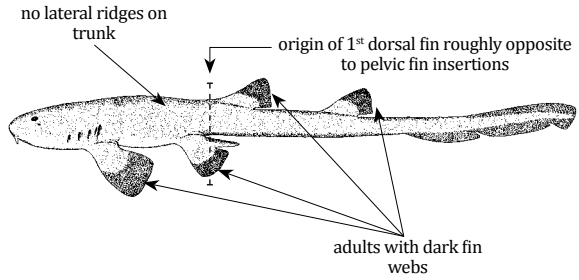

**Size:** To 400 cm, common 200 cm (TL)

# HEMISCYLLIIDAE
Bamboo sharks

***Chiloscyllium burmensis*** Dingerkus & DeFino, 1983

**FAO names:** Burmese bamboo shark (En)
Requin-chabot birman (Fr)

**Local name(s):** Ye Net Myanmar Walone Nga Mann.
**Habitat:** Presumably inshore and off the Irrawaddy River delta.
**Fisheries:** Unknown.
**Distinctive Characters:** Eyes small, less than 1.3% of total length; distance from vent to tail tip more than 67% of TL; prepectoral length less than 6.3 in TL; snout to vent length less than 3.2 in TL; dorsal fins with straight or convex posterior margins.
**Colour:** Colour pattern absent in adult male, juvenile colour pattern unknown
**Remarks:** Only known from a single specimen collected off Yangon, Myanmar



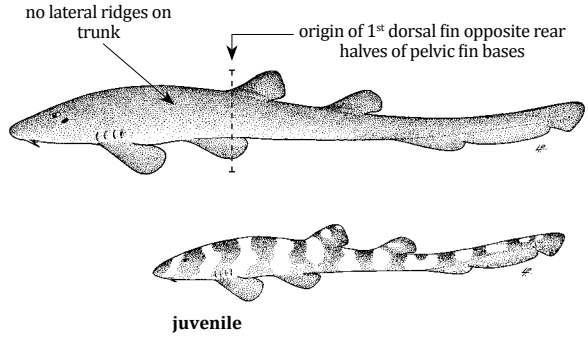

**Size:** To 57 cm (TL)

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***Chiloscyllium griseum*** Müller & Henle, 1838

**FAO names:** Grey bambooshark (En)
Requin-chabot gris (Fr)

**Local name(s):** Ye Net Mee Kho Yaung Nga Mann.
**Habitat:** An inshore bottom shark, on rocks and in lagoons from 5 to 80 m.
**Fisheries:** Bottom trawls, gillnets, line gear.
**Distinctive Characters:** interdorsal space usually more than 10.8 in TL; 1st dorsal fin height more than 15.2 in TL; 2nd fin height usually more than 17.2 in TL; dorsal fins with straight or convex posterior margins without projecting free rear tips.
**Colour:** Adults uniform grey but young with prominent dark saddle-marks without black edging.



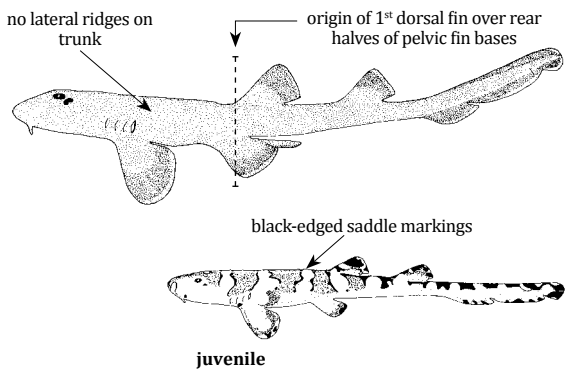

**Size:** To 77 cm (TL)

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***Chiloscyllium hasseltii*** Bleeker, 1852

**FAO names:** Indonesian bamboo shark (En)
Requin-chabot indonésien (Fr)

**Local name(s):** Ye Net Indonesia Walone Nga Mann.
**Habitat:** Probably mostly close inshore, depth to 12 m.
**Fisheries:** Bottom trawls, gillnets, line gear.
**Distinctive Characters:** Interdorsal space usually less than 10.8 in TL; 1st dorsal fin height less than 15.2 in TL; 2nd fin height usually less than 17.2 in TL; dorsal fins with straight or convex posterior margins without projecting free rear tips.
**Colour:** Colour pattern absent in adults except for dusky fins, but saddle-markings of juveniles with black edging.

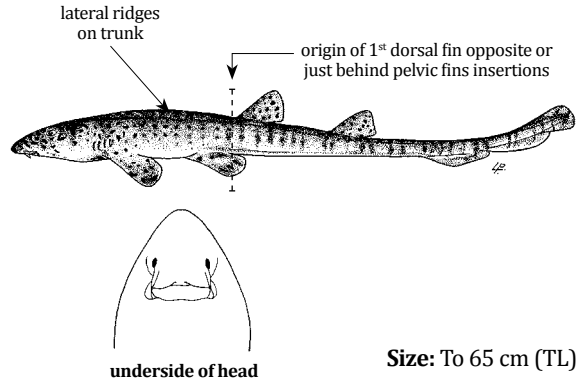



**Size:** To 61 cm (TL)

***Chiloscyllium indicum*** (Gmelin, 1789)

**FAO names:** Slender bambooshark (En)
Requin-chabot élégant (Fr)

**Local name(s):** Ye Net Walone Nga Mann Pain Thae.
**Habitat:** An inshore bottom shark, on rocks and in lagoons from 5 to 80 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Body and tail very slender; dorsal and anal fins set far back on very long thick tail; dorsal fins with straight or convex posterior margins.
**Colour:** Numerous dark brown or blackish spots, dashes and bars on light brown background present in juveniles and adults; saddle-markings or bars of young without prominent black edging.

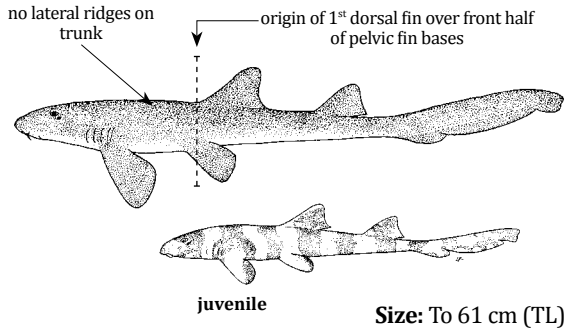



**Size:** To 65 cm (TL)

***Chiloscyllium punctatum*** Müller & Henle, 1838

**FAO names:** Brownbanded bamboo shark (En)
Requin-chabot bambou (Fr)

**Local name(s):** Ye Net A Nyo Yaung Walone Nga Mann.
**Habitat:** Coral reefs, tidepools, tidal flats, reef faces. Probably also on soft bottom offshore to at least 85 m.
**Fisheries:** Bottom trawls, gillnets, line gear.
**Distinctive Characters:** Interdorsal space slightly greater than 1st dorsal fin base and 7.9–11.0 in TL; posterior margins of dorsal fins distintly concave with free rear tips projecting.
**Colour:** Light brown in adults, usually without a colour pattern, but young with broad dark transverse bars and usually a scattering of small blackish spots, bars not prominently edged with black.



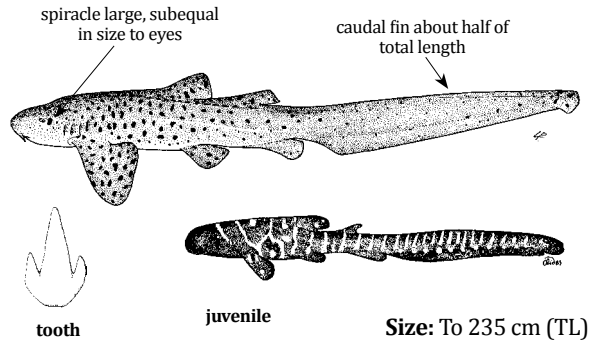

**Size:** To 61 cm (TL)

## STEGOSTOMATIDAE
Zebra shark

***Stegostoma tigrinum*** (Forster, 1781)

**FAO names:** Zebra shark (En)
Requin zèbre (Fr)

**Local name(s):** Kyarr Nga Mann, Thae Nga Mann.
**Habitat:** Inshore, very common on coral reefs.
**Fisheries:** Gillnets, line gear.
**Distinctive Characters:** Body moderately stout with prominent ridges on dorsal surface and sides; small transverse mouth in front of laterally positioned eyes; small barbels; caudal fin with lower lobe hardly developed.
**Colour:** Juveniles of the "zebra" colour morph dark brown with cream white to yellowish bands and large spots; subadults with small dots around the edges of the bands on a ligther background; adults with scattered dark spots on a uniform sandy beige to yellowish background. The "sandy" colour morph has been documented only from Kenya.
**Remarks:** *Stegostoma fasciatum* (Hermann, 1783) is a junior synonym (see Dahl *et al*., 2019).




**Size:** To 235 cm (TL)

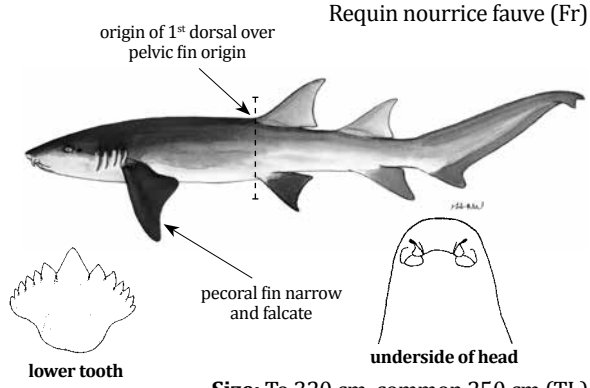
# GINGLYMOSTOMATIDAE

Nurse sharks

***Nebrius ferrugineus*** (Lesson, 1831)

**FAO names:** Tawny nurse shark (En)
Requin nourrice fauve (Fr)

**Local name(s):** Tawni The' Nga Mann.
**Habitat:** Demersal in shallow waters on coral and rocky reefs, in lagoons and on sand flats down to 70 m.
**Fisheries:** Gillnets, line gear, bottom trawls.
**Distinctive Characters:** Mouth in front of laterally positioned eyes; barbles fairly long, almost reaching mouth; minute spiracles; no circumnarial grooves; angular dorsal fins; 1st dorsal fin larger than 2nd dorsal and anal fins; pectoral, dorsal and anal fins apically angular; body without lateral ridges.
**Colour:** No colour pattern, tan above, lighter below; fins slightly dusky.




**Size:** To 320 cm, common 250 cm (TL)

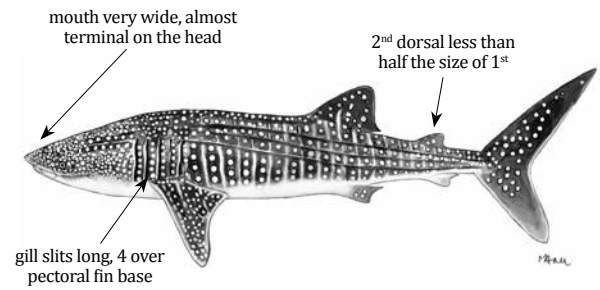
# RHINCODONTIDAE

Whale shark

***Rhincodon typus*** Smith, 1828

**FAO names:** Whale shark (En)
Requin baleine (Fr)

**Local name(s):** Way La Nga Mann, A Yae Yoe Nga Mann.
**Habitat:** Pelagic often near the surface down to 980 m.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head very wide and flattened; teeth minute; caudal fin with a strong lower lobe but no subterminal notch; caudal peduncle depressed with a strong keel on each side; upper precaudal pit present.
**Colour:** Dark grey, brown or greenish grey above, with white or yellow spots and transverse stripes; white or yellowish below.




**Size:** To 18.8 m, possibly to 21 m (TL)

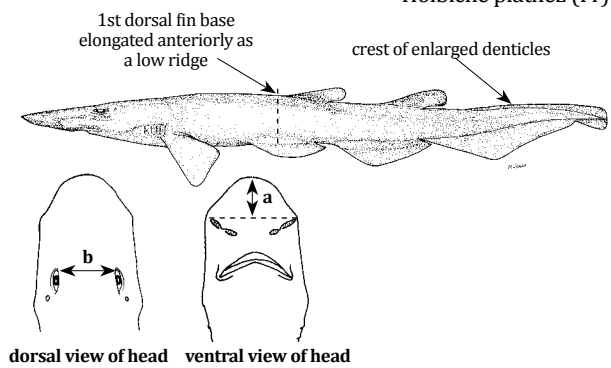
# SCYLIORHINIDAE

Catsharks

***Apristurus investigatoris*** (Misra, 1962)

**FAO names:** Broadnose catshark (En)
Holbiche platnez (Fr)

**Local name(s):** Kyaung Nga Mann Hnar Pyar.
**Habitat:** Continental slope in depths of 767–1 040.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head broadly flattened and spatulate; snout bell-shaped; prenarial length (a) much shorter than interorbital width (b); upper labial furrows longer than lowers; 1st dorsal fin about 3/4 as large as 2nd, with its origin over first fourth of pelvic fin bases; interdorsal space equal to or slightly less than 1st dorsal fin base; caudal fin with a creast of enlarged denticles.
**Colour:** Body uniform dark brown above and below, without fin markings.

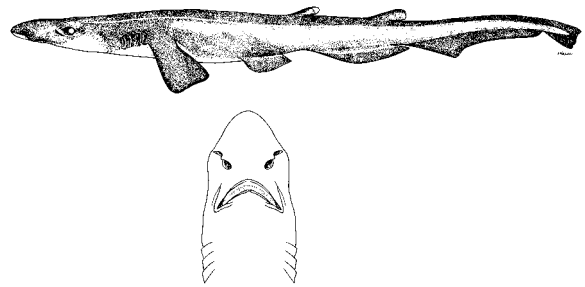



**Size:** To 26 cm (TL)

***Apristurus macrostomus*** Chu, Meng & Li, 1985

**FAO names:** Broadmouth catshark (En)

**Local name(s):** Pa Zut Gyi Kyaung Nga Mann.
**Habitat:** Continental slope in depths of 503–1 040.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Apristurus investigatoris* but 1st dorsal fin less than half size of 2nd; origin of 1st dorsal fin well behind pelvic fin bases; interdorsal space greater than 1st dorsal fin base; no modified dermal denticles on the dorsal margin of the caudal fin.
**Colour:** Dark brown or grey brown above and below; rear fin margins blackish.
**Remarks:** Species of the genus *Apristurus* (see also preceding account) belong to the subfamily Pentanchinae which has now been elevated to the rank of family.



underside of head

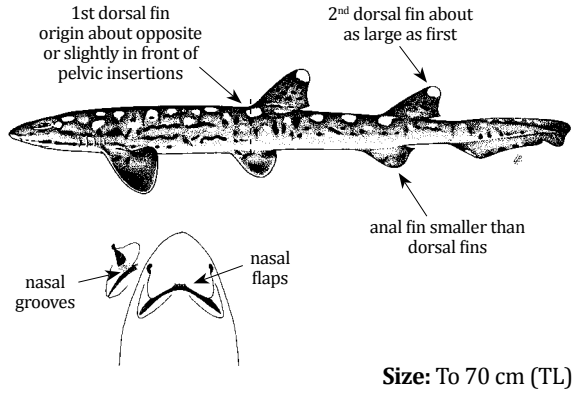
**Size:** To 49.5 cm (TL)

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***Atelomycterus marmoratus*** (Anonymous [Bennett], 1830)

**FAO names:** Coral catshark (En)
Chien corail (Fr)

**Local name(s):** Thanda Kyauk Tan Kyaung Nga Mann.
**Habitat:** Inshore on coral reefs and though to inhabit crevices and holes on reefs.
**Fisheries:** Gillnets, line gear, bottom trawls.
**Distinctive Characters:** Head slightly angular in dorsoventral view; anterior nasal flaps greatly expanded and reaching to mouth; very long labial furrows; nasoral grooves present; eyes horizontal and oval.
**Colour:** Enlarged black spots merging to form dash and bar marks that bridge not clear saddle areas; large white spots scattered on sides, back and fin margins.




underside of head

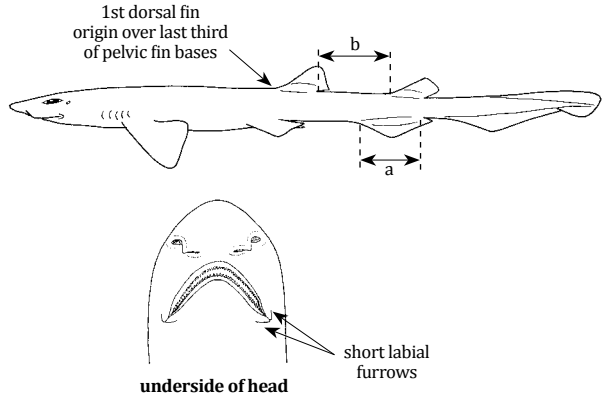
**Size:** To 70 cm (TL)

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***Bythaelurus hispidus*** (Alcock, 1891)

**FAO names:** Bristly catshark (En)
Holbiche mignonne (Fr)

**Local name(s):** A Hmwe Gyan Kyaung Nga Mann.
**Habitat:** Upper continental slopes at depths of 260–766 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Snout short and rounded; short labial furrow present along both upper and lower jaws; 1st dorsal fin origin over last third of pelvic fin bases; anal fin base (a) slightly shorter than interdorsal space (b); roof of mouth with numerous small papillae; eye diameter less than 14 times in predorsal distance in adults (24–29 cm).
**Colour:** Pale brown above (sometimes with dark brown saddle marks), white below; fins with narrow pale edges.
**Remarks:** Species of the genus *Bythaelurus* belong to the subfamily Pentanchinae which has now been elevated to the rank of family.



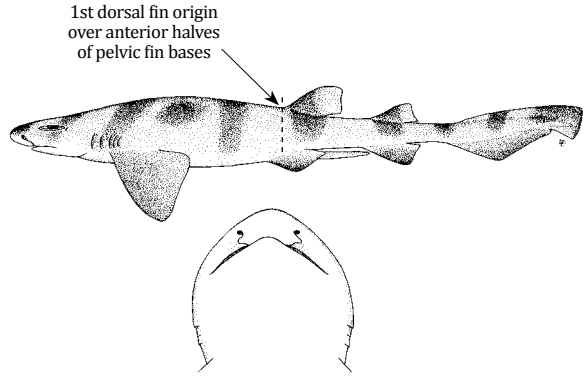

underside of head

**Size:** To 29 cm (TL)

***Cephaloscyllium*** cf. ***silasi*** (Talwar, 1974)

**FAO names:** Indian swellshark (En)
Holbiche indienne (Fr)

**Local name(s):** India Kyaung Nga Mann.
**Habitat:** Bottom-dwelling on upper continental slope in depths of 250–500 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Stout body with expanded belly; head depressed, flattened and broad, rounded in dorsoventral view; lower jaw covering upper teeth; labial furrows absent or vestigal; anterior nasal flaps broadly subtriangular, overlapping mouth posteriorly; eyes dorsolateral and slit-like.
**Colour:** Light brown with 7 moderately broad dark brown saddles, plus an obscure darker blotch over pectoral fin inner margin; underside of head and abdomen unspotted.
**Remarks:** Inclusion based on photographic record.



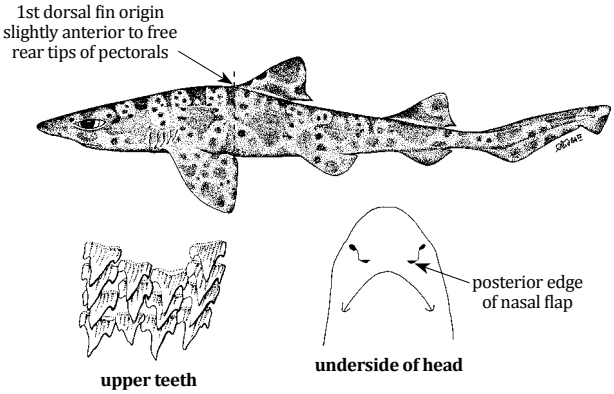

**Size:** To 45 cm (TL)

## PROSCYLLIIDAE
Finback catsharks

***Ctenacis*** cf. ***fehlmanni*** (Springer, 1968)

**FAO names:** Harlequin catshark (En)
Requin chat arlequin (Fr)

**Local name(s):** Kyaung Nga Mann Kywet Kyar.
**Habitat:** Known from 70 to 170 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head and snout broadly rounded in dorsoventral view; preoral snout about 0.7 in mouth width; anterior nasal flaps small, with posterior edges well in front upper symphysis; labial furrows very short; inside of mouth and edges of gill bars with papillae; anal fin origin appreciably posterior to origin of 2nd dorsal fin; dorsal margin of caudal fin about 4.3 in TL.
**Colour:** Large reddish brown, irregular dorsal saddle blotches on body, interspaced with smaller round spots and vertical bars; sposts also on fins.
**Remarks:** Inclusion based on photographic record.

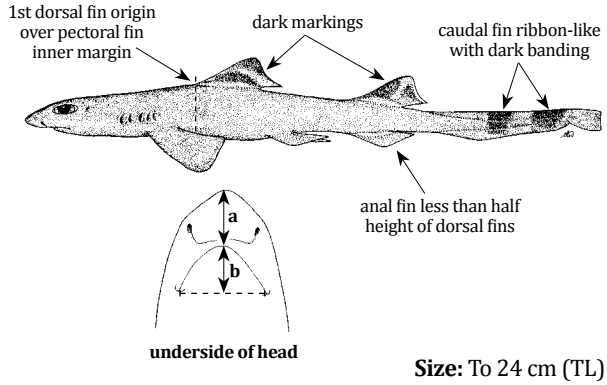



**Size:** To 46 cm (TL)

***Eridacnis radcliffei*** Smith, 1913

**FAO names:** Pygmy ribbontail catshark (En)
Requin chat pygmée (Fr)

**Local name(s):** Hmee Pyar Kyaung Nga Mann Pu.
**Habitat:** Mud bottoms on upper continental and insular slopes and the outer shelves at depths from 71 to 766 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head and snout narrowly rounded in dorsoventral view; preoral snout (a) less than 1.5 times in mouth length (b); labial furrows rudimentary or absent; anterior nasal flaps short, with posterior edges well in front of mouth; lateral trunk denticles narrow-crowned and with long, narrow cusps; 72–78 teeth on upper jaw and 65–77 on lower jaw.
**Colour:** Brown, with prominent dark banding on tail and dark markings on dorsal fins.

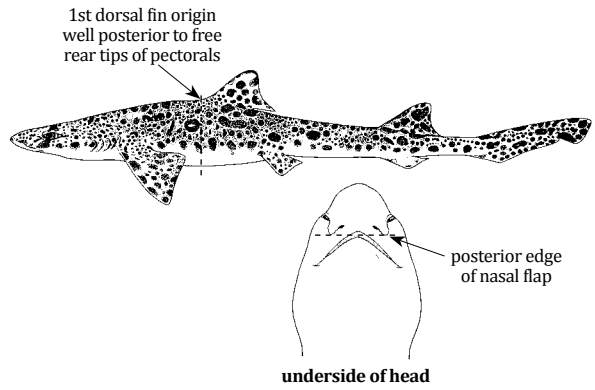



**Size:** To 24 cm (TL)

***Proscyllium magnificum*** Last & Vongpanich, 2004

**FAO names:** Magnificent catshark (En)

**Local name(s):** Kyaung Nga Mann A Thee Kywet.
**Habitat:** Near edge of outer continental shelf, from141 to 144 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Head and snout narrowly rounded in dorsoventral view; anterior nasal flaps large, with posterior ends reaching or nearly reaching upper symphysis; 2nd dorsal origin slightly forward of the anal fin origin; snout to cloaca length more than twice (2.1–2.3) interdorsal space.
**Colour:** Pattern of small and large spots and dots, including clusters of small round spots above a large upcurved spot and an intermediate small spot forming "clown faces" below dorsal fins.
**Remarks:** The species may be wrongly allocated (W. White pers comm., 2019).




**Size:** To 49 cm (TL)

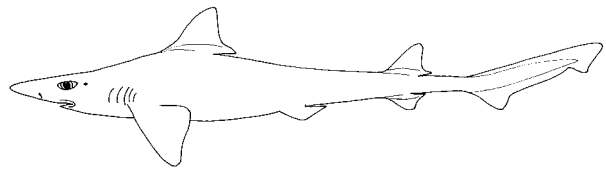
## TRIAKIDAE

Houndsharks – Smoothounds – Topes

***Iago garricki*** Fourmanoir & Rivaton, 1979

**FAO names:** Longnose houndshark (En)
Requin-hâ long nez (Fr)

**Local name(s):** Nga Mann Mote Soe Hnar Shae.
**Habitat:** Uppermost slope between 250–520 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Iago omanensis* (see below) but snout longer (preoral length about 1.1 in mouth width); distance from spiracle to 5th gill slit less than prespiracular head; width of longest gill slits much less than eye diameter; labial furrows rather long, uppers reaching level of lower symphysis (vs falling well behind level of lower symphysis).
**Colour:** Greyish brown with conspicuous black fin tips and upper rear edges, and pale free rear edges to dorsal fins; tips and posterior edges of anal, caudal and pectoral fins white.

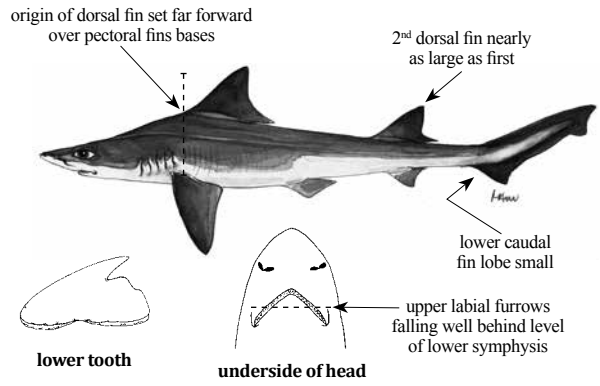


**Size:** To 75 cm (TL)

***Iago omanensis*** (Norman, 1939)

**FAO names:** Bigeye houndshark (En)
Requin-hâ à gros yeux (Fr)

**Local name(s):** Nga Mann Mote Soe Myet Pyuu.
**Habitat:** Continental shelf and slope between 78–1 000 m or more; often in oxygen-poor water masses.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head and snout subangular in dorsoventral view; snout rather short, preoral length about 0.7–0.9 in mouth width; distance from spiracle to 5th gill slit greater than prespiracular head; width of longest gill slits nearly equal to eye diameter; eyes lateral on head, subocular ridges obsolete; small blade-like teeth.
**Colour:** Greyish above and lighter below, with no conspicuous markings; tips of dorsal fins and upper caudal lobe often darker.

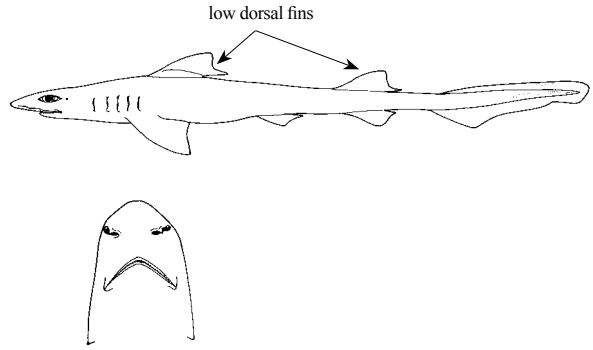



**Size:** To 58 cm (TL)

## *Iago* sp. A *

**FAO names:** Lowfin houndshark (En)

**Local name(s):** Nga Mann Mote Soe Suu Taung Gyi.
**Habitat:** Outer continental shelf and upper slope between 183–400 m, also semipelagic.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Iago omanensis* but with shorter head; more slender body; much lower dorsal fins; smaller pectoral fins; softer skin and muscles and darker coloration.
**Colour:** Metal grey above and lighter below, with somewhat darker pigmentation above gill slits, on distal half of dorsal fins and on caudal fin web.
**Remarks:** A *Iago* species (yet to be described) often confused with *Iago omanensis*, which has been recorded off the Gulf of Aden, Pakistan, West coast of India and now also in Myanmar.

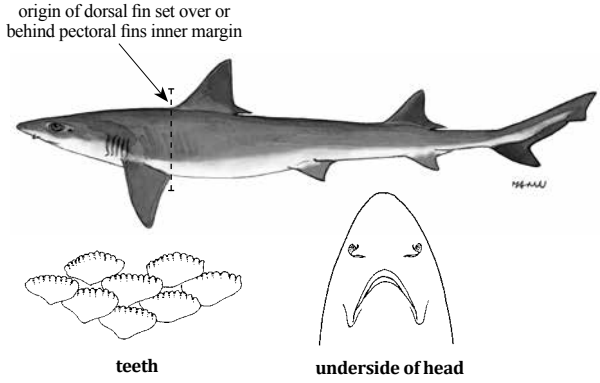



**Size:** To 41 cm (TL)

## *Mustelus mosis* Hemprich & Ehrenberg, 1899

**FAO names:** Arabian smooth-hound (En)
Emissole d'Arabie (Fr)

**Local name(s):** Arab Nga Mann Mote Soe.
**Habitat:** Bottom dwelling in inshore and offshore waters, also on coral reefs.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Short head and snout; broad internarial space; eyes dorsolateral, subocular ridges strong; rostral cartilages and supraorbital crests hypercalcified in adults; upper labial furrows about equal to lowers; teeth pavement-like with weak cusps; unfringed dorsal fins; semifalcate lower caudal fin lobe.
**Colour:** Back and sides plain grey or grey-brown, underside cream-white; no spots on sides.

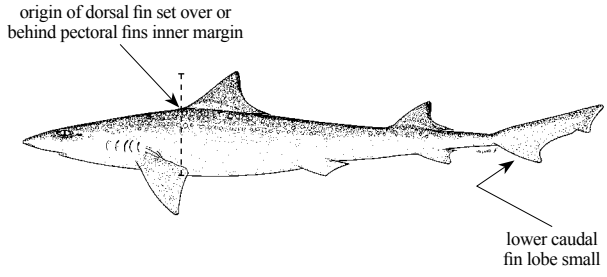



**Size:** To 150 cm (TL)

## *Mustelus stevensi* White & Last, 2008

**FAO names:** White-spotted gummy shark (En)

**Local name(s):** Nga Mann Mote Soe Phyu Set.
**Habitat:** Outer continental shelf and upper slope between 68–735 m.
**Fisheries:** Deep bottom trawls, line gears.
**Distinctive Characters:** Head almost straight parabolic in dorsoventral view; anal fin insertion slightly anterior to its apex; 1st dorsal fin base 1.6–2.1 in anal-caudal space; eyes dorsolateral on head; subocular ridges strong; buccopharyngeal denticles covering entire palate and floor of mouth; lower edge of spiracle usually at level with lower edge of eye; upper labial furrows much longer than lower furrows; teeth pavement-like in 72/75 rows.
**Colour:** Light grey above, lighter below; numerous small, diffuse-edged white spots in staggered, irregular rows on postspiracular head and body.



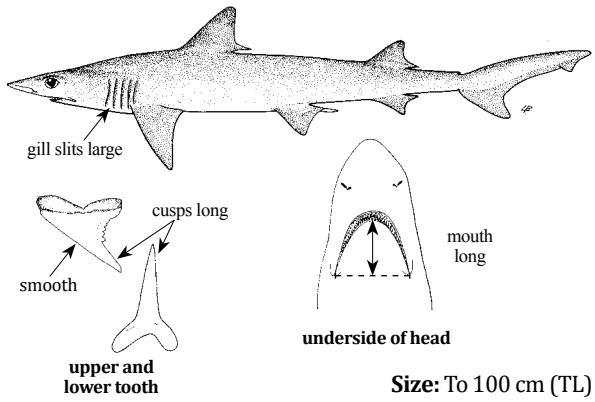

**Size:** To 103 cm (TL)

# HEMIGALEIDAE
Weasel sharks

**FAO names:** Hooktooth shark (En)
Milandre harpon (Fr)

## *Chaenogaleus macrostoma* (Bleeker, 1852)

**Local name(s):** Thwar Kauk Nga Mann.
**Habitat:** Continental and insular shelves at depths down to 59 m.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Snout obtusely wedge-shaped in dorsoventral view; very long parabolic mouth with prominently protruding lower teeth; gill slits more than twice eye diameter; fins not falcate; lower jaw rounded at symphysis; no toothless space at midline of jaws; 33–38 teeth on upper jaw and 34–36 on lower jaw; proximal edges of teeth smooth; lower teeth with extremely long, hooked cusps, sometimes a few cusplets at their bases.
**Colour:** Light grey or bronze colour with no obvious markings.

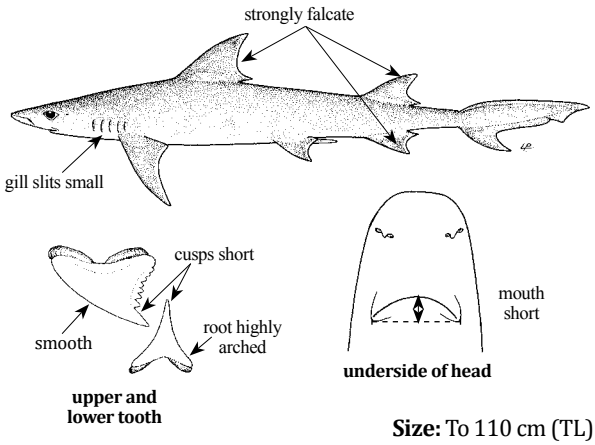



**Size:** To 100 cm (TL)

**FAO names:** Sicklefin weasel shark (En)
Milandre faucille (Fr)

## *Hemigaleus microstoma* Bleeker, 1852

**Local name(s):** Su Taung Kauk Nga Mann.
**Habitat:** Inshore and offshore at depths down to 170 m.
**Fisheries:** Line gears, bottom trawls.
**Distinctive Characters:** Snout long, rounded in dorsoventral view; mouth very short and broadly arched, its length 2.3–3.2 in its width; lower teeth not protruding when mouth is closed; gill slits less than twice eye diameter; fins strongly falcate; 25–34 teeth on upper jaw and 37–43 on lower jaw; proximal edges of upper teeth smooth; lower teeth with short, straight cusps, without cusplets or serrations.
**Colour:** Grey-brown above, lighter below, dorsal fins with white tips and posterior margins; sometimes white spots on sides of body.

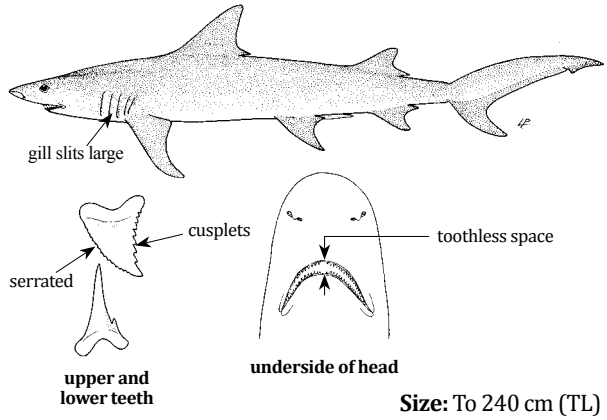



**Size:** To 110 cm (TL)

**FAO names:** Snaggletooth shark (En)
Milandre chicor (Fr)

## *Hemipristis elongata* Klunzinger, 1871

**Local name(s):** Hlwa Thwar Nga Mann.
**Habitat:** Continental and insular shelves at depths down to 132 m.
**Fisheries:** Line gears, bottom trawls.
**Distinctive Characters:** Snout long, broadly rounded in dorsoventral view; mouth with truncated lower symphysis and prominently protruding lower teeth; gill slits more than twice eye diameter; fins strongly falcate; 26–30 teeth on upper jaw and 30–36 on lower jaw; upper teeth with distal cusplets and proximal serrations, lower teeth with extremely long, hooked cusps and cusplets and serrations at their bases.
**Colour:** Grey or grey-brown above, lighter below, no prominent markings.

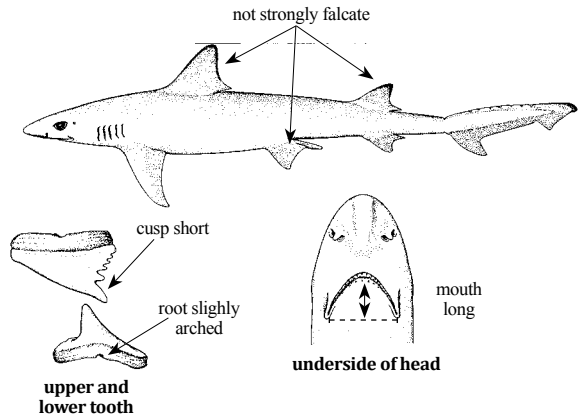



**Size:** To 240 cm (TL)

**FAO names:** Slender weasel shark (En)

***Paragaleus longicaudatus*** (Bessednov, 1966)

**Local name(s):** Ko Lone Thwae Nga Mann.
**Habitat:** Lives in shallow water to 20 m depth on the continental shelf.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Snout long, narrowly rounded in dorsoventral view; mouth long, jaw symphyses extending well anterior to upper labial furrows; gill slits less than twice eye diameter; 28–30 teeth on upper jaw and 28–33 on lower jaw; proximal edges of upper teeth smooth; 5 or more rows of lower anterolateral teeth with distal cusplets; lower anterior teeth mostly with oblique cusps; 164–187 total vertebrae.
**Colour:** Body greyish above, lighter below; a pair of longitudinal black lines on underside of prenarial snout.



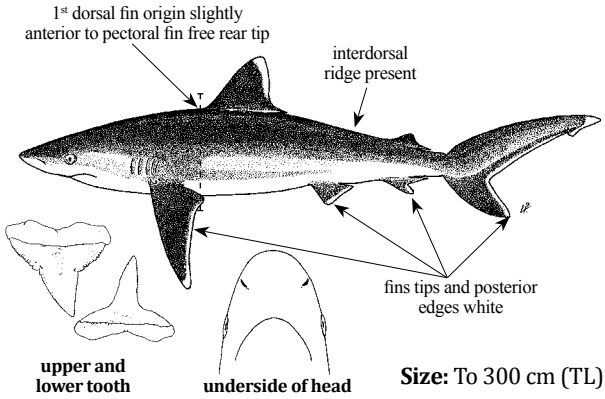

**Size:** To 94 cm (TL)

## CARCHARHINIDAE
Requiem sharks

**FAO names:** Silvertip shark (En)
Requin pointe blanche (Fr)

***Carcharhinus albimarginatus*** (Rüppell, 1837)

**Local name(s):** Nga Mann Taung Phyu.
**Habitat:** Coastal and oceanic, common near slopes, from the surface to deeper waters down to 500 m.
**Fisheries:** Driftnets, gillnets, line gears.
**Distinctive Characters:** Snout moderately long and broadly parabolic in dorsoventral view; 1st dorsal fin moderately high; large semifalcate pectoral fins; 24–28 teeth on upper jaw and 24–28 on lower jaw; erect to moderately oblique-cusped strongly serrated teeth in the upper jaw; lower teeth with erect, stout, serrated cusps.
**Colour:** Dorsal surface dark grey or grey-brown, ventral surface white; all fins have conspicuous white tips and posterior margins.

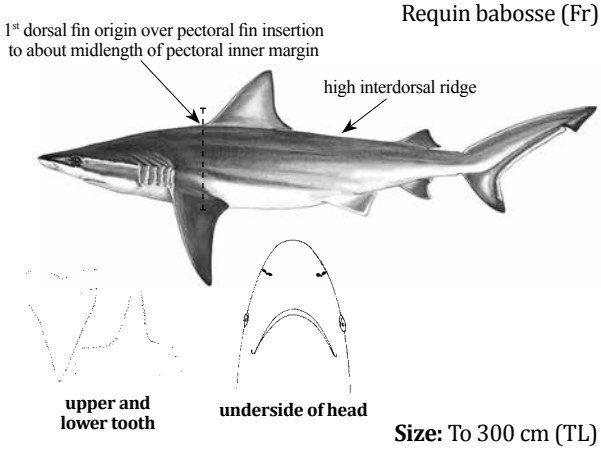



**Size:** To 300 cm (TL)

**FAO names:** Bignose shark (En)
Requin babosse (Fr)

***Carcharhinus altimus*** (Springer, 1950)

**Local name(s):** Hnar Khaung Gyi Nga Mann.
**Habitat:** Offshore, near the edge of the continental and insular shelves and uppermost slopes.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Snout moderately long and bluntly pointed to rounded in dorsoventral view; long nasal flaps; 1st dorsal and 2nd dorsal fins moderately high with short rear tips; long nearly straight pectoral fins; 28–30 teeth in upper jaw and 28–30 in lower jaw; upper jaw with high, triangular, serrated teeth; lower jaw with erect narrow-cusped serrated teeth.
**Colour:** Light grey above, white below, with dusky fin tips (except for pelvics) but no conspicuous markings.

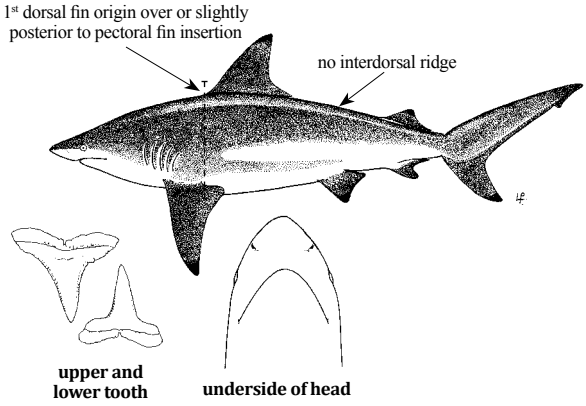



**Size:** To 300 cm (TL)

## *Carcharhinus amblyrhynchoides* (Whitley, 1934)

**FAO names:** Graceful shark (En)
Requin gracile (Fr)

**Local name(s):** Nga Mann Taung Me'.
**Habitat:** Coastal, pelagic on continental and insular shelves.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout fairly short, wedge-shaped in dorsoventral view; large triangular 1st dorsal and moderately high 2nd dorsal fins, both fins with short rear tips; moderately large falcate pectoral fins; 31–33 teeth on upper jaw and 29–33 on lower jaw; erect and narrow-cusped serrated teeth in both jaws.
**Colour:** Grey or grey-brown above, white below; pectoral, dorsal and pelvic fins, and ventral lobe of caudal fin black or dusky-tipped, sometimes inconspicuously.

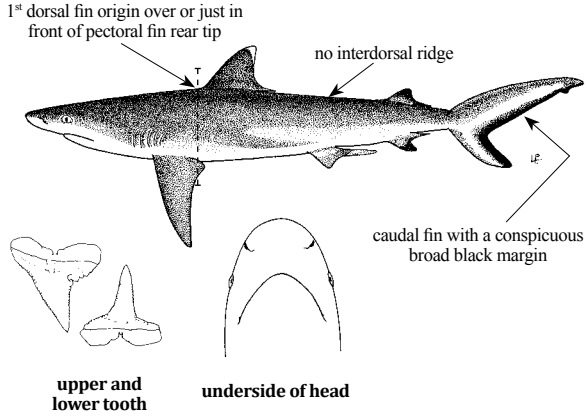



**Size:** To 178 cm (TL)

## *Carcharhinus amblyrhynchos* (Bleeker, 1856)

**FAO names:** Grey reef shark (En)
Requin dagsit (Fr)

**Local name(s):** Kyauk Tann Nga Mann Nyo.
**Habitat:** Occurs on continental and insular shelves and oceanic waters adjacent to them.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout moderately long and broadly rounded in dorsoventral view; moderately high 1st dorsal and 2nd dorsal fins, both fins with short rear tips; narrow and falcate pectoral fins; 28–30 teeth on upper jaw and 27–29 on lower jaw; teeth with serrated edges but with cusplets low or absent on upper teeth, always absent on lowers.
**Colour:** Dark grey or bronze-grey above, white below; 1st dorsal fin plain or irregularly to prominently white-edged; 2nd dorsal, anal and pelvic fins with blackish tips.

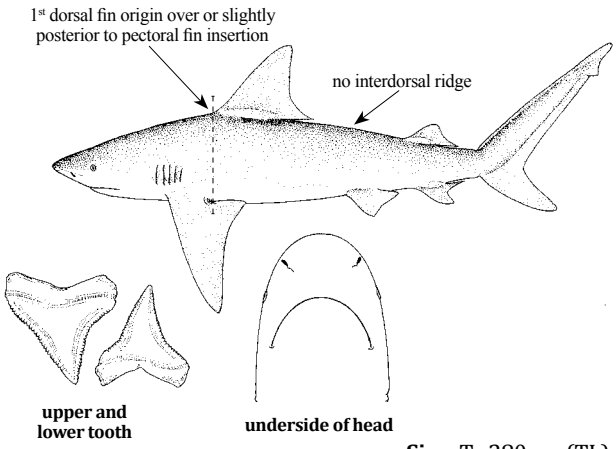



**Size:** To 255 cm (TL)

## *Carcharhinus amboinensis* (Müller & Henle, 1839)

**FAO names:** Pigeye shark (En)
Requin balestrine (Fr)

**Local name(s):** Nga Mann Wet Myet Hmay.
**Habitat:** Inshore and offshore, from the surface to the bottom.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout very short, bluntly rounded in dorsoventral view; eyes small; large triangular 1st dorsal fin (over 3 times 2nd dorsal height), both fins with short rear tips; large angular pectoral fins; 23–27 teeth on upper jaw and 23–25 on lower jaw; broadly triangular serrated teeth in upper jaw; slightly narrower cusped teeth with arched roots in lower jaw.
**Colour:** Grey above, light below, fin tips dusky, especially in young, but not strikingly marked; an inconspicuous white band on flank.

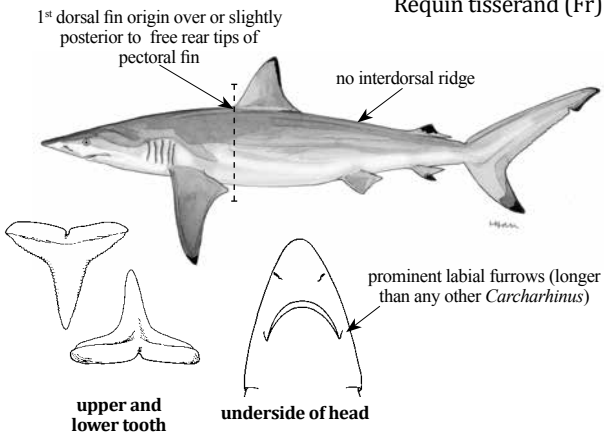



**Size:** To 280 cm (TL)

## *Carcharhinus brevipinna* (Valenciennes, 1839)

**FAO names:** Spinner shark (En)
Requin tisserand (Fr)

**Local name(s):** Lunn Nga Mann.
**Habitat:** Coastal, pelagic on continental and insular shelves.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout pointed and long, its length equal to or greater than mouth width; small 1st dorsal and moderately high 2nd dorsal fins, both fins with short rear tips; small falcate pectoral fins; 32–39 teeth on upper jaw and 29–37 on lower jaw; erect and narrow-cusped teeth in both jaws; uppers with entirely or partly serrated edges, lowers smooth.
**Colour:** Grey on back, white below; 2nd dorsal, anal, undersides of pectorals and lower caudal fin lobe black or dark grey-tipped in subadults and adults, but unmarked or nearly so in small individuals (below 1 m).

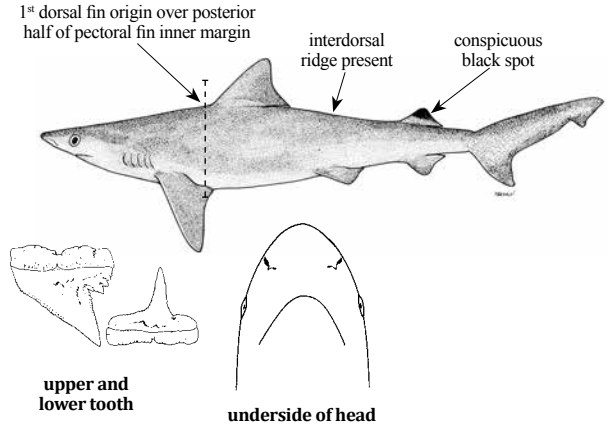



**Size:** To 280 cm (TL)

## *Carcharhinus dussumieri* (Valenciennes, 1839)

**FAO names:** Whitecheek shark (En)
Requin à joues blanches (Fr)

**Local name(s):** Mae Phyu Nga Mann.
**Habitat:** Found on the continental and insular inshore areas.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout moderately long and rounded in dorsoventral view; fairly large horizontally-oval eyes; small triangular 1st dorsal fin and a moderately large 2nd dorsal fin, both fins with short rear tips; small semifalcate pectoral fins; 24–31 teeth on upper jaw and 22–32 on lower jaw; oblique-cusped serrated teeth in both jaws, upper teeth with strong, serrated cusplets.
**Colour:** Grey, or grey brown; black or dusky tip present on 2nd dorsal fin only, other fins with pale posterior edges; light stripe on flank not conspicuous.

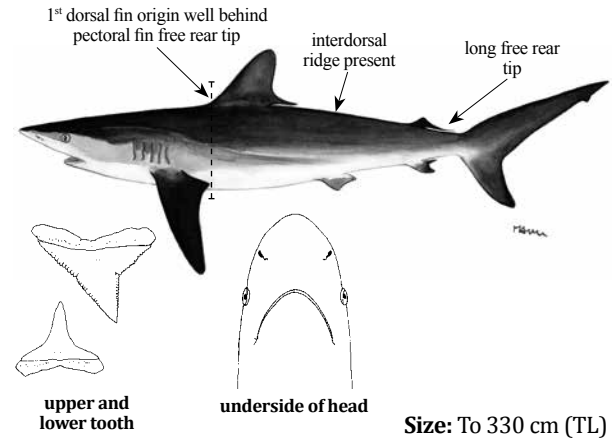



**Size:** To 100 cm (TL)

## *Carcharhinus falciformis* (Bibron, 1839)

**FAO names:** Silky shark (En)
Requin soyeux (Fr)

**Local name(s):** Nga Mann Chaw.
**Habitat:** Coastal and oceanic, common near slopes, from the surface to deeper waters down to 500 m.
**Fisheries:** Driftnets, gillnets, line gears.
**Distinctive Characters:** Snout narrowly rounded in dorsoventral view; 1st dorsal fin low to moderately high; 2nd dorsal fin free rear tip very long, more than 2 times the fin height; long narrow pectoral fins; 29–35 teeth on upper jaw and 27–37 on lower jaw; oblique-cusped serrated teeth in the upper jaw, upper teeth with basal cusplets or very strong serrations; lower teeth smooth-edged.
**Colour:** Dark grey to grey-brown above with an inconspicuous pale flank band, white below; fin marking inconspicuous; fin tips dusky except for 1st dorsal.

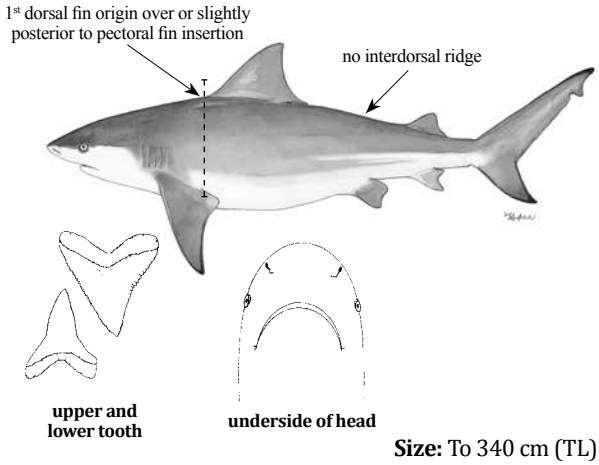



**Size:** To 330 cm (TL)

## *Carcharhinus leucas* (Valenciennes, 1839)

**FAO names:** Bull shark (En)
Requin bouledogne (Fr)

**Local name(s):** Nwa Thow Nga Mann.
**Habitat:** Coastal, estuarine, riverine and lacustrine waters, usually found close inshore in marine habitats from 1 m to 152 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout very short, bluntly rounded in dorsoventral view; eyes small; large triangular 1st dorsal fin (less than 3.2 times 2nd dorsal height), both fins with short rear tips; large angular pectoral fins; 24–29 teeth on upper jaw and 24–28 on lower jaw; broadly triangular serrated teeth in upper jaw; slightly narrower cusped teeth with arched roots in lower jaw.
**Colour:** Back greyish, belly white; fin tips dusky, especially in young, but not strikingly marked; an inconspicuous white band on flank.

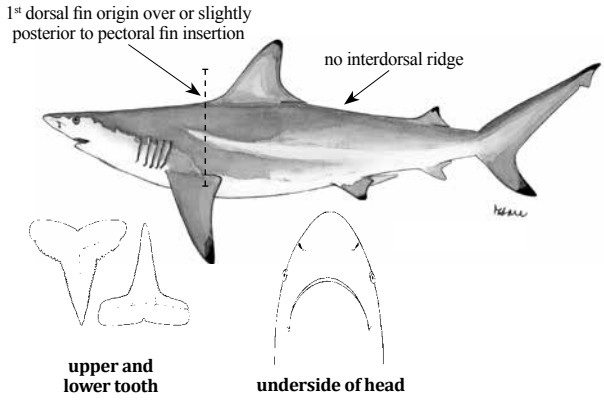



**Size:** To 340 cm (TL)

## *Carcharhinus limbatus* (Valenciennes, 1839)

**FAO names:** Blacktip shark (En)
Requin bordé (Fr)

**Local name(s):** Nga Mann Pu Su Taung Me'.
**Habitat:** Coastal and offshore but not truly oceanic species.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout moderately long and pointed in dorsoventral view; large 1st dorsal fin and moderately large 2nd dorsal fin, both fins with short rear tips; moderately large pectoral fins; 30–35 teeth on upper jaw and 27–34 on lower jaw; erect, narrow-cusped serrated teeth in both jaws.
**Colour:** Grey above, white below; black tips usually present on pectorals, 2nd dorsal, and ventral caudal lobe, and sometimes on pelvic and anal fins (anal usually plain), and black edges usually present on 1st dorsal apex and dorsal caudal lobe.

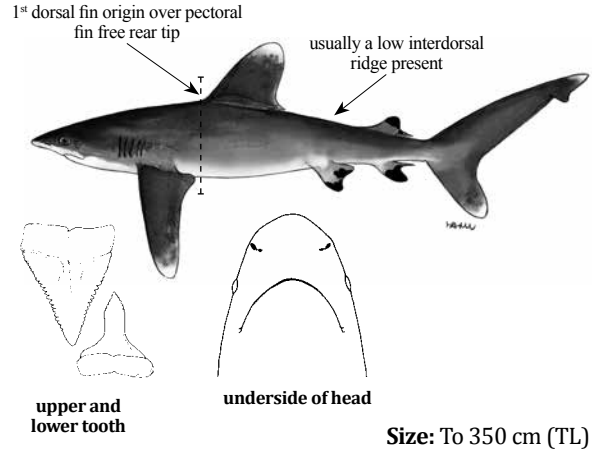



**Size:** To 275 cm, common 150 cm (TL)

## *Carcharhinus longimanus* (Poey, 1861)

**FAO names:** Oceanic whitetip shark (En)
Requin océanique (Fr)

**Local name(s):** Suu Taung Phyu Nga Mann.
**Habitat:** Oceanic, epipelagic mostly far offshore but occasionally in coastal waters.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Snout short and broadly rounded in dorsoventral view; 1st dorsal fin noticeably large with a very broadly rounded apex; pectoral fins long and paddle–shaped; 27–32 teeth on upper jaw and 27–33 on lower jaw.
**Colour:** Back usually dark grey with a bronze tinge or bluish; belly whitish or with a yellow tinge; mottled white fin tips on 1st dorsal, pectoral, and pelvic fins, and at tip of upper and lower caudal fin; 2nd dorsal and anal fins black; juveniles with some black on pelvic fins and on caudal fin tips, and black saddle-marks on caudal peduncle.

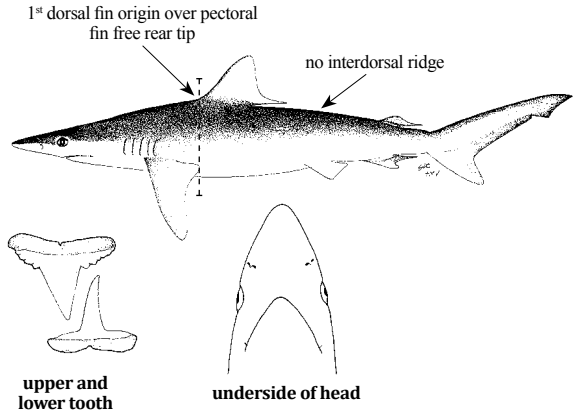



**Size:** To 350 cm (TL)

## *Carcharhinus macloti* (Müller & Henle, 1839)

**FAO names:** Hardnose shark (En)
Requin à nez rude (Fr)

**Local name(s):** Hnote Thee Mar Nga Mann.
**Habitat:** Inshore and offshore continental waters.
**Fisheries:** Gillnets, line gear, bottom trawls.
**Distinctive Characters:** Long narrowly rounded or somewhat pointed snout with an hyper-calcified rostrum (can easily be felt by pinching its snout); 1st and 2nd dorsal fins small with extremely long rear tips; small pectoral fins; 29–32 teeth on upper jaw and 26–29 on lower jaw; oblique-cusped smooth-edged upper teeth with strong proximal and distal cusplets.
**Colour:** Grey or grey-brown above, white below, fins with light edges but not conspicuously marked; light flank marks not conspicuous.

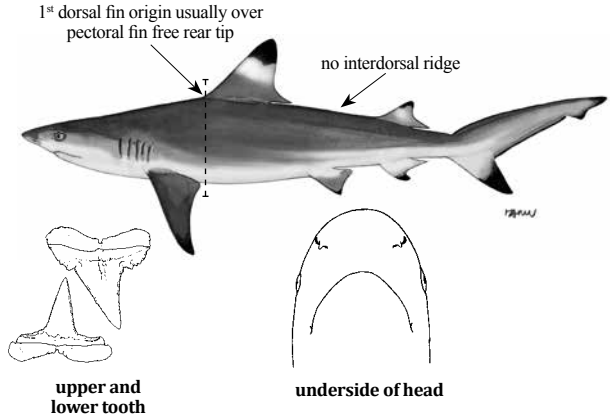



**Size:** To 100 cm (TL)

## *Carcharhinus melanopterus* (Quoy & Gaimard, 1824)

**FAO names:** Blacktip reef shark (En)
Requin pointes noires (Fr)

**Local name(s):** Suu Taung Me' Kyauk Tann Nga Mann.
**Habitat:** Inshore and sometimes offshore, on continental and insular shelves.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout very short and bluntly rounded; 1st dorsal fin moderately large, 2nd dorsal fin moderately high with a short rear tip; 23–28 teeth on upper jaw and 21–27 on lower jaw; upper teeth with narrow, strongly serrated, erect to oblique, high cusps, and crown feet with coarser serrations and cusplets.
**Colour:** Light brown above, white below; 1st dorsal and ventral caudal lobe with a conspicuous black apical blotch, brilliantly highlighted proximally with white; other fins, generally with less prominent black fin tips; a conspicuous white band on flank.

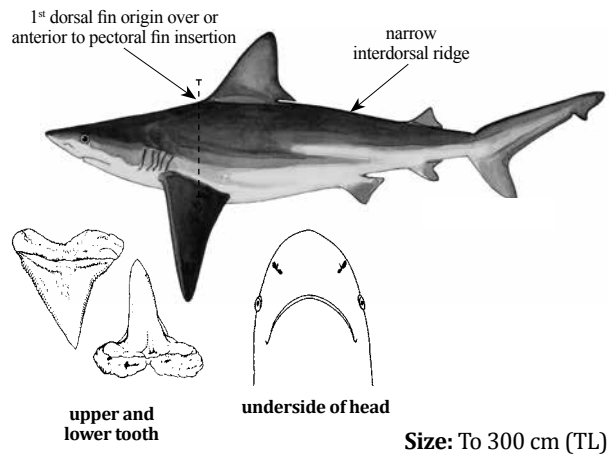



**Size:** To 200 cm (TL)

## *Carcharhinus plumbeus* (Nardo, 1827)

**FAO names:** Sandbar shark (En)
Requin gris (Fr)

**Local name(s):** Thae Thaung Nga Mann.
**Habitat:** Coastal pelagic, on continental and insular shelves and deeper waters adjacent to them. Maximum depth 280 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout short and broadly rounded or broadly parabolic in dorsoventral view; 1st dorsal fin triangular extremely tall and semifalcate; pectoral fins large, semifalcate, with narrowly rounded or pointed apices; 27–32 teeth on upper jaw and 25–32 on lower jaw; high, triangular, saw-edged upper teeth.
**Colour:** Grey-brown above, white below; tips and posterior edges of fins often dusky, but no conspicuous markings; an inconspicuous white band on flank.

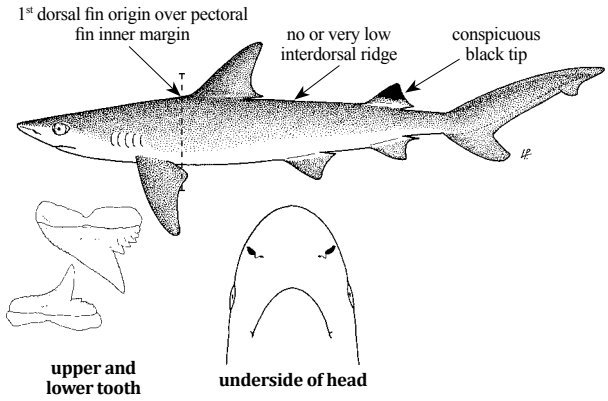



**Size:** To 300 cm (TL)

## *Carcharhinus sealei* (Pietschmann, 1916)

**FAO names:** Blackspot shark (En)
Requin à tache noire (Fr)

**Local name(s):** Nga Mann Mee Kwet.
**Habitat:** Continental and insular shelves, from the surf line and intertidal to a depth of 40 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout moderately long and rounded in dorsoventral view; large oval eyes; anterior nasal flaps expanded; 1st dorsal fin strongly falcate, 2nd dorsal fin high with a short rear tip; 24–26 teeth on upper jaw and 22–26 on lower jaw; oblique-cusped serrated teeth in both jaws.
**Colour:** Back greyish or grey-brown, belly whitish; a black spot on the 2nd dorsal fin is the only conspicuous marking.

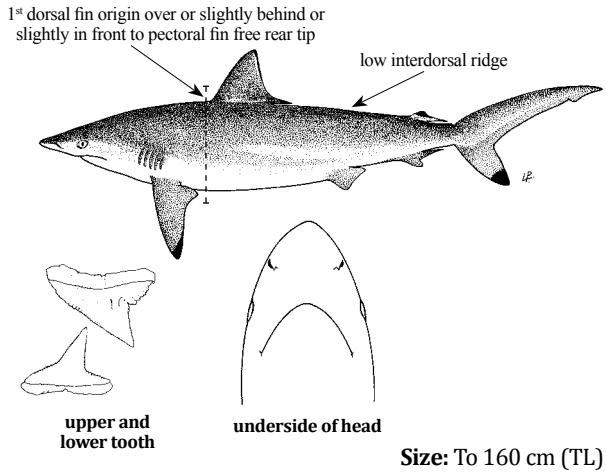



**Size:** To 95 cm (TL)

## *Carcharhinus sorrah* (Valenciennes, 1839)

**FAO names:** Spot-tail shark (En)
Requin à queue tachetée (Fr)

**Local name(s):** Nga Mann Out Hmee Me'.
**Habitat:** Continental and insular shelves around coral reefs, usually 20–50 m. Maximum depth 140 m.
**Fisheries:** Gillnets, line gear.
**Distinctive Characters:** Snout moderately long and pointed in dorsoventral view; 1st dorsal fin moderate-size with a short rear tip; 2nd dorsal fin small with a long rear tip; pectoral fins fairly small, and falcate; 23–30 teeth on upper jaw and 23–30 on lower jaw; oblique-cusped serrated teeth in both jaws, upper teeth with strong cusplets.
**Colour:** Grey above white below; a conspicuous and large black tip on the pectorals, second dorsal, and ventral caudal lobe, but 1st dorsal only with black edge at most; a conspicuous white band on flank.

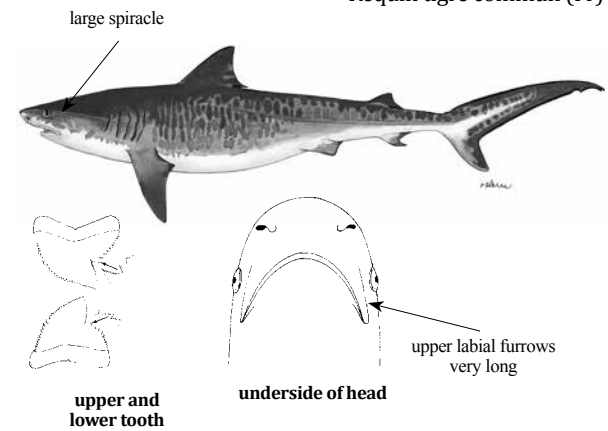



**Size:** To 160 cm (TL)

## *Galeocerdo cuvier* (Péron & Lesueur, 1822)

**FAO names:** Tiger shark (En)
Requin tigre commun (Fr)

**Local name(s):** Kyarr Nga Mann.
**Habitat:** Inshore and offshore waters near the surface and bottom.
**Fisheries:** Gillnets, line gear.
**Distinctive Characters:** Snout very short and bluntly rounded; upper labial furrows very long, extending to front of eye; spiracles present; a low rounded keel on each side of the caudal peduncle; interdorsal ridge present; 18–26 teeth on upper jaw and 18–26 on lower jaw; cockscomb-shaped curved teeth with heavy serrations and distal cusplets.
**Colour:** Back dark-grey or greyish brown with dark brown or black rectangular spots often forming bars on sides of the fins but fading with growth.
**Remarks:** This species is placed by some authors in its own monospecific family Galeocerdidae.

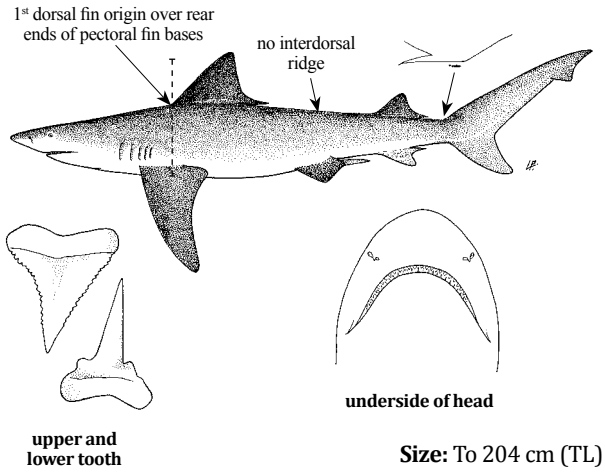



**Size:** To 550 cm, common 400 cm (TL)

## *Glyphis gangeticus* (Müller & Henle, 1839)

**FAO names:** Ganges shark (En)

**Local name(s):** Ayeyarwady Yae Cho Nga Mann.
**Habitat:** Freshwater, estuarine and marine.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout very short and broadly rounded in dorsoventral view; minute eyes; 2nd dorsal rather large, about half height of 1st dorsal; upper precaudal pit longitudinal; anal fin deeply notched; 29 teeth on upper jaw and 29 on lower jaw; upper teeth with high, broad, serrated triangular cusps; 1st few lower front teeth with weakly serrated cutting edges and low cusplets on crown foot; 209 total vertebrae.
**Colour:** Grey-brown above, white below; no conspicuous markings.
**Remarks:** *Glyphis siamensis* (Steindachner, 1896) described from a single juvenile male from the Irrawaddy River mouth is a junior synonym.

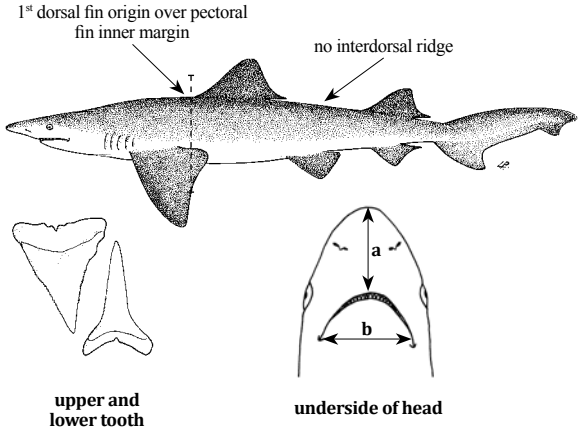



**Size:** To 204 cm (TL)

## *Lamiopsis temminckii* (Müller & Henle, 1839)

**FAO names:** Broadfin shark (En)
Requin grandes ailes (Fr)

**Local name(s):** Ye Yet Pyar Kje Nga Mann.
**Habitat:** Inshore continental shelf.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout (a) moderately long, nearly equal to mouth width (b); small round eyes; 2nd dorsal fin nearly as large as 1st; upper precaudal pit longitudinal; pectoral fin broad and triangular; anal fin with posterior margin nearly straight; 29–37 teeth on upper jaw and 28–34 on lower jaw; upper teeth serrated and with broad triangular cusps; lower teeth with smooth, hooked, narrow cusps.
**Colour:** Light grey or tan above, light below, with no prominent markings.

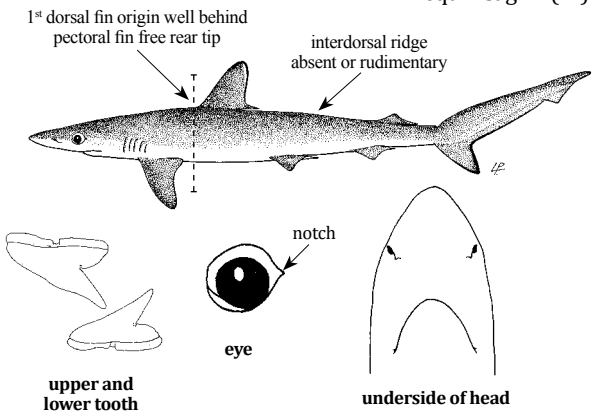



**Size:** To 168 cm (TL)

## *Loxodon macrorhinus* Müller & Henle, 1839

**FAO names:** Sliteye shark (En)
Requin sagrin (Fr)

**Local name(s):** Nga Mann Myet Hmae.
**Habitat:** Coastal clean waters, near the surface and bottom, from 7 m to 80 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout long and narrow; short labial furrows; big eyes with rear notches; 2nd dorsal origin behind anal fin origin, anal fin with very long preanal ridges; 24–28 teeth on upper jaw and 24–29 on lower jaw; small, oblique-cusped teeth with smooth edges.
**Colour:** Grey above, pale below; fins with pale edges (transparent in life) caudal and 1st dorsal fin with a narrow dark margin.

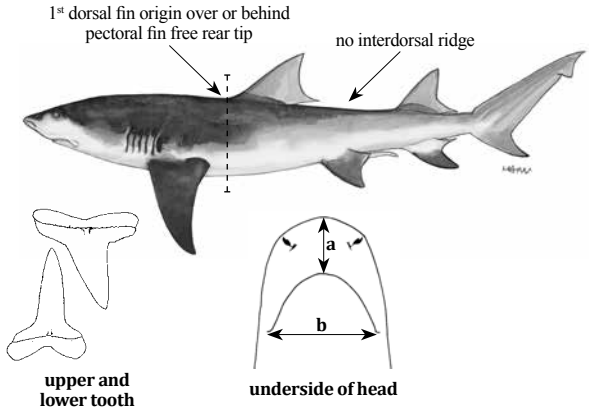



**Size:** To 98 cm (TL)

## *Negaprion acutidens* (Rüppell, 1837)

**FAO names:** Sicklefin lemon shark (En)
Requin limon faucille (Fr)

**Local name(s):** Suu Kutt Nga Mann.
**Habitat:** Shallow inshore and offshore waters near the bottom often around coral reefs and sand plateaus down to 23 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Snout (a) blunt, shorter than mouth width (b); 2nd dorsal fin nearly as large as the 1st dorsal fin; dorsal, pectoral and pelvic fins strongly falcate; 29–32 teeth on upper jaw and 28–30 on lower jaw; narrow, smooth-cusped teeth in both jaws.
**Colour:** Yellowish brown above, paler below.

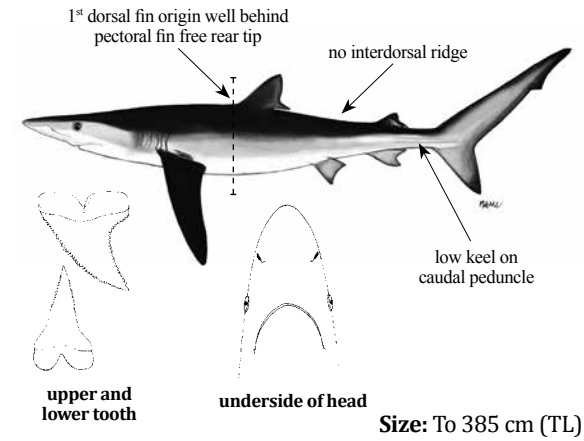



**Size:** To 380 cm (TL)

## *Prionace glauca* (Linnaeus, 1758)

**FAO names:** Blue shark (En)
Peau bleue (Fr)

**Local name(s):** Nga Mann Pyar.
**Habitat:** Oceanic, epipelagic, usually near the surface.
**Fisheries:** Driftnets, longlines.
**Distinctive Characters:** A slender, graceful blue shark with a long, conical snout; large eyes; pectoral fins long and pointed; 1st dorsal fin closer to pelvic fins origin than pectoral fins free rear tips; 24–31 teeth on upper jaw and 24–34 on lower jaw; curved triangular upper teeth with saw edges.
**Colour:** Dark blue on back, bright blue on sides, white below, fading to purple blackish after death; tips of pectoral and anal fins dusky.

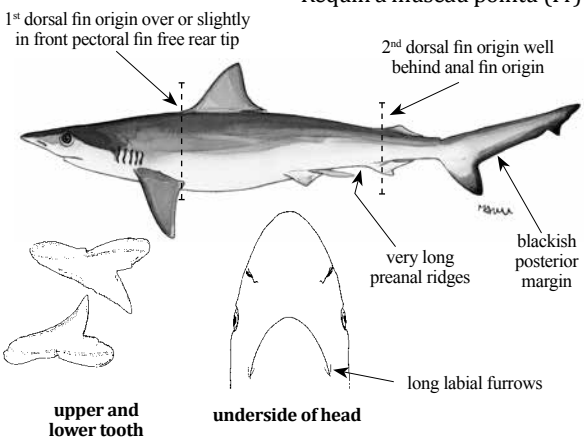



**Size:** To 385 cm (TL)

## *Rhizoprionodon acutus* (Rüppell, 1837)

**FAO names:** Milk shark (En)
Requin à museau pointu (Fr)

**Local name(s):** Noah Nga Mann.
**Habitat:** Inshore and offshore, from the surf line down to 200 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** A small shark with a long, narrow snout; big eyes without rear notch; long upper and lower labial furrows; 2nd dorsal fin smaller than anal fin; interdorsal ridge absent or rudimentary; 23–27 teeth on upper jaw and 22–26 on lower jaw; oblique-cusped teeth with smooth or weakly serrated edges.
**Colour:** Grey or greyish brown above, white below; dorsal and anal fins slightly darker than back; posterior margin of caudal fin blackish.

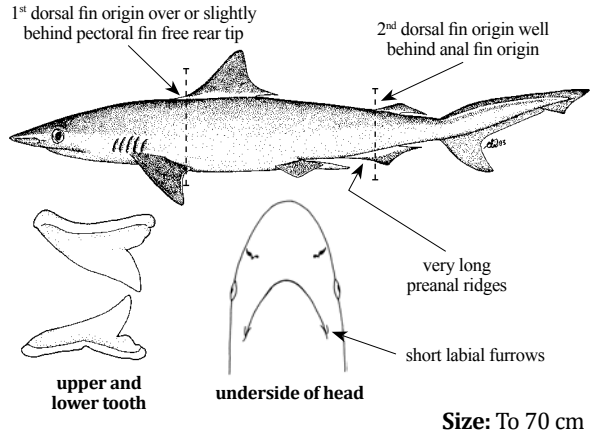



**Size:** To 180 cm, common 110 cm (TL)

## ***Rhizoprionodon oligolinx*** Springer, 1964

**FAO names:** Grey sharpnose shark (En)
Requin aiguille gris (Fr)

**Local name(s):** Hmee Kho Yaung Hnar Chun Nga Mann.
**Habitat:** Inshore and offshore shark found on continental and insular shelves, from the surf line down to 36 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Very small shark with a long snout; big eyes without rear notch; short upper and lower labial furrows; 2nd dorsal fin smaller than anal fin; interdorsal ridge absent or rudimentary; 23–25 teeth on upper jaw and 21–24 on lower jaw; oblique-cusped teeth with smooth or weakly serrated edges.
**Colour:** Grey or brownish grey above, pale below, bronzy when fresh, fins with dusky edges but not conspicuously marked.

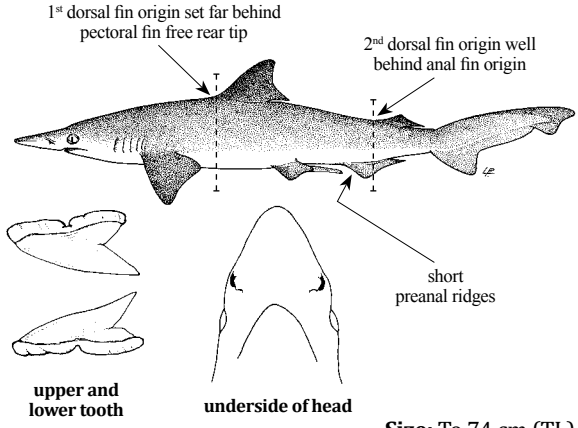



**Size:** To 70 cm

## ***Scoliodon*** cf. ***laticaudus*** Müller & Henle, 1838

**FAO names:** Spadenose shark (En)
Requin épée (Fr)

**Local name(s):** Hnarr Pyar Nga Mann.
**Habitat:** Rocky substrates of coastal waters and lower reaches of tropical rivers.
**Fisheries:** Bottom trawls, gillnets, line gear.
**Distinctive Characters:** Small stocky shark with a very long flattened, spade-like snout; small eyes; short, broad triangular pectoral fins; no interdorsal ridge; 25–33 teeth on upper jaw and 24–34 on lower jaw; small smooth-edged blade-like teeth with oblique cusps, distal blades, and no cusplets (teeth longer and more flexed in males)
**Colour:** Grey-brown above, light below, sometimes with obscure saddle bands; all fins with light margins.
**Remarks:** Generic revision needed.

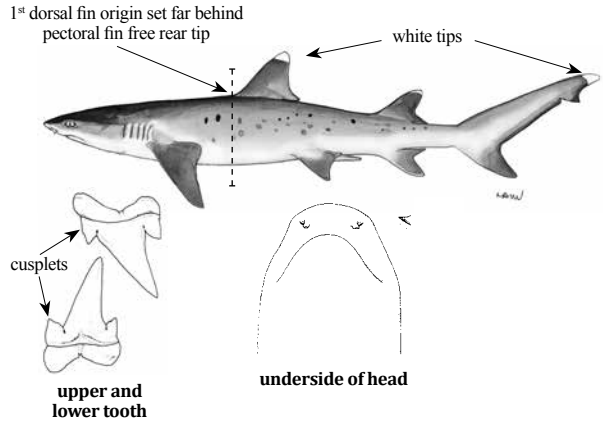



**Size:** To 74 cm (TL)

## ***Triaenodon obesus*** (Rüppell, 1837)

**FAO names:** Whitetip reef shark (En)
Requin corail (Fr)

**Local name(s):** Suu Taung Phyu Kyauk Tann Nga Mann.
**Habitat:** Coastal clear waters and offshore islands, very common within coral reefs, lying inside crevices.
**Fisheries:** Gillnets; line gears.
**Distinctive Characters:** Snout extremely short and broadly rounded; horizontally oval eyes with posterior notches; downslanted mouth; prominent expanded, tubular anterior nasal flaps, a large 2nd dorsal fin that is still considerably smaller than the 1st dorsal; no interdorsal ridge; 45–50 teeth on upper jaw and 42–48 on lower jaw; small smooth-edged teeth with strong cusplets in both jaws.
**Colour:** Grey-brown above, white below; sometimes with dark spots on sides; 1st dorsal and caudal lobes with brilliant white tips.




**Size:** To 215 cm, common 160 cm (TL)

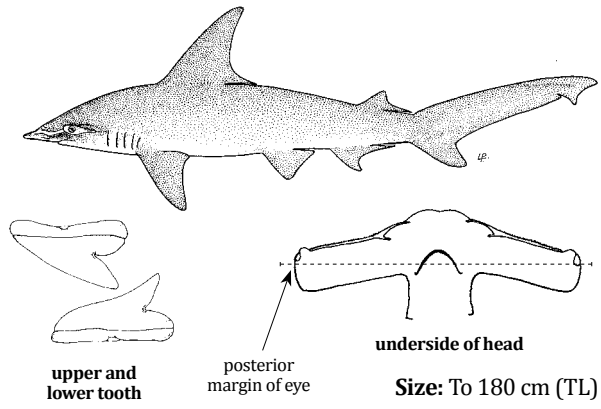
# SPHYRNIDAE

Hammerhead sharks

## *Eusphyra blochii* (Cuvier, 1816)

**FAO names:** Winghead shark (En)

**Local name(s):** Gyo Shae Kywe Nga Mann.
**Habitat:** Shallow water, continental and insular shelves.
**Fisheries:** Gillnets, line gears, driftnets.
**Distinctive Characters:** Unmistakable broad, wing-shaped head, with narrow blades nearly or quite half the shark's length; posterior margin of eyes below level of front of mouth; upper precaudal pit longitudinal, not crescent-shape; 30–31 teeth on upper jaw and 29 on lower jaw; teeth deeply notched distally with relatively narrow oblique cusps and smooth edges.
**Colour:** Grey or grey-brown above, paler below.

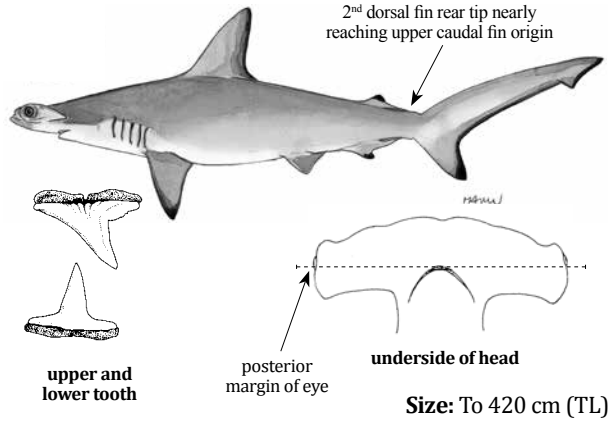



**Size:** To 180 cm (TL)

## *Sphyrna lewini* (Griffith & Smith, 1834)

**FAO names:** Scalloped hammerhead (En)
Requin-marteau halicorne (Fr)

**Local name(s):** Gyo Toe Kywe Nga Mann.
**Habitat:** Inshore, offshore and semi-oceanic waters.
**Fisheries:** Gillnets, line gear, driftnets, bottom trawls.
**Distinctive Characters:** Anterior margin of head with central notch and two smaller lateral indentations; posterior margin of eyes at about level of front of mouth; 1st dorsal fin high, moderately falcate; 2nd dorsal fin origin over midbase of anal fin; pelvic fin with a nearly straight posterior margin; 30–36 teeth on upper jaw and 30–35 on lower jaw; teeth with long slender smooth-edged cusps.
**Colour:** Greyish brown or olivaceous above, shading to white below; pectoral fins tipped grey or black ventrally.

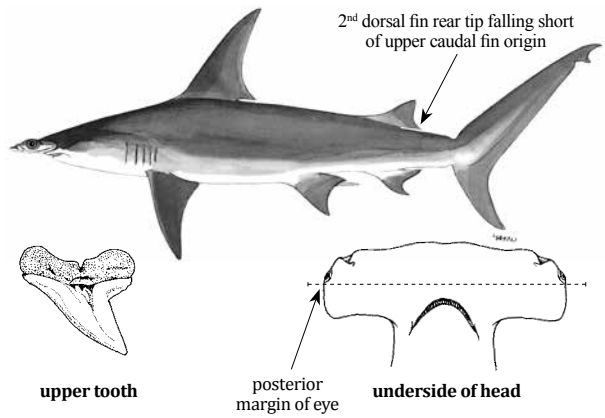



**Size:** To 420 cm (TL)

## *Sphyrna mokarran* (Rüppell, 1837)

**FAO names:** Great hammerhead (En)
Grand requin-marteau (Fr)

**Local name(s):** Gyo Toe Kywe Nga Mann.
**Habitat:** Semi-oceanic also in inshore waters, often found around and on coral reefs.
**Fisheries:** Gillnets, line gear, driftnets.
**Distinctive Characters:** Anterior margin of head nearly straight with a notch at the centre; posterior margin of eyes well anterior to front of mouth; 1st dorsal fin very high, strongly falcate; 2nd dorsal fin origin about over anal fin origin; pelvic fins with a deeply concave posterior margin; 36–37 teeth on upper jaw and 34–35 on lower jaw; teeth strongly serrated at all sizes.
**Colour:** Grey or grey-brown above, paler below; fins with dusky tips in young.




**Size:** To 610 cm (TL)

***Sphyrna zygaena*** (Linnaeus, 1758)

**FAO names:** Smooth hammerhead (En)
Requin-marteau commun (Fr)

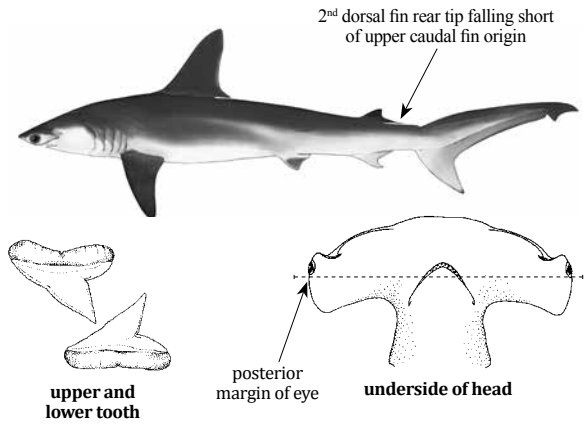
**Local name(s):** Gyo Toe Kywe Nga Mann.

**Habitat:** Continental and insular shelves, from close inshore to well offshore.

**Fisheries:** Gillnets, line gear, driftnets.

**Distinctive Characters:** Anterior margin of head broadly curved without a median indentation; posterior margin of eyes below level of front of mouth; 1st dorsal fin moderately high, broad, semi-curved; 2nd dorsal fin origin over midbase of anal fin; pelvic fins with a deeply concave posterior margin; 30–32 teeth on upper jaw and 29–30 on lower jaw; teeth with very broad cusps and smooth to finely serrated edges.

**Colour:** Dark olive or dark grey-brown above, white below; undersides of pectoral fin tips dusky.



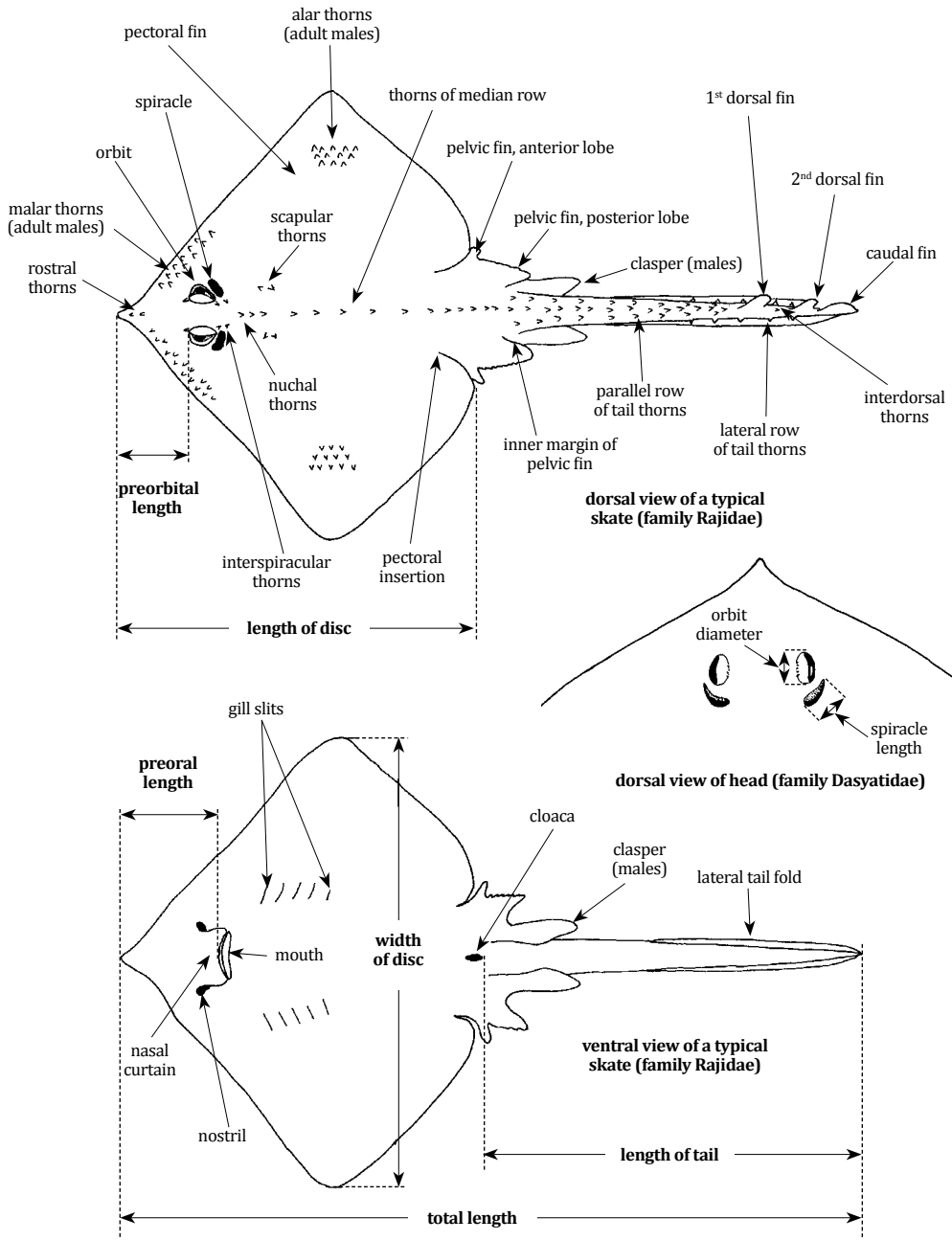

**Size:** To 400 cm (TL)

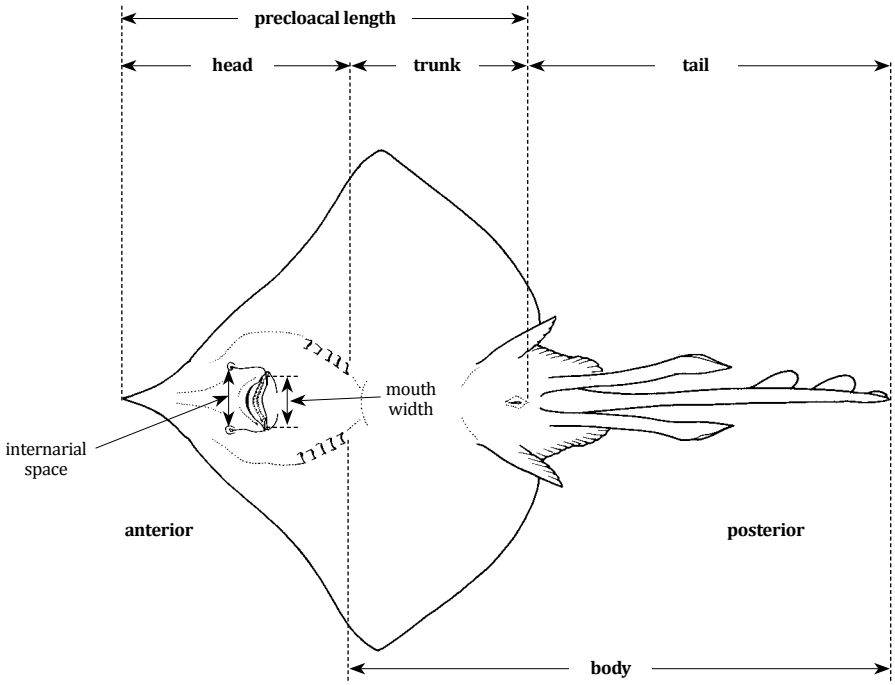
# BATOID FISHES

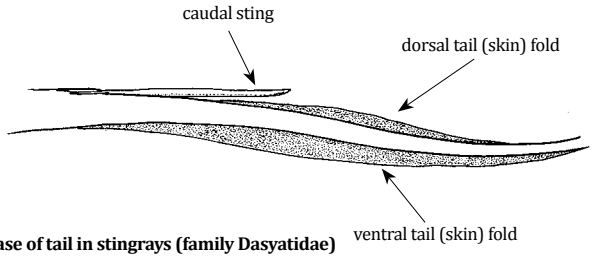
The "Guide to Orders and Families", includes a total of 4 orders and 19 families. The classification follows taxonomic and nomenclature modifications adopted in the *Rays of the World* book by Last *et al.* (2016). The "Guide to Species", includes 70 species belonging to 19 families. Undescribed or potentially undescribed species are marked with an asterisk (*) besides the scientific name. If one of the latter species is recorded, the user can follow the instructions present in the introduction regarding its preservation and/or contact the EAF-Nansen and/or FishFinder Programmes of FAO.

## TECHNICAL TERMS AND MEASUREMENTS

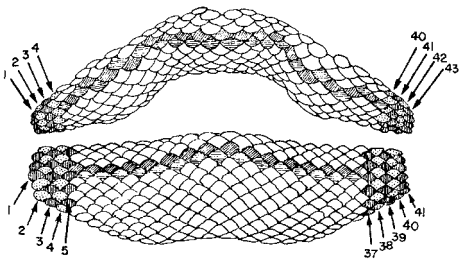
(straight-line distances)



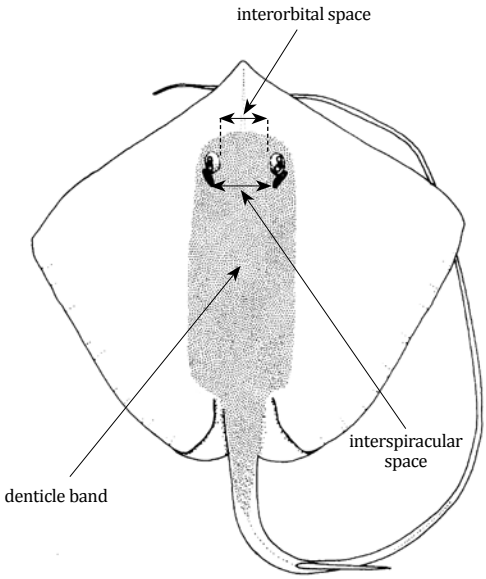


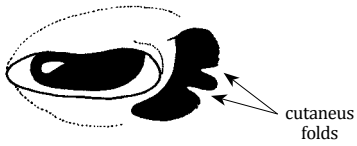

**base of tail in stingrays (family Dasyatidae)**



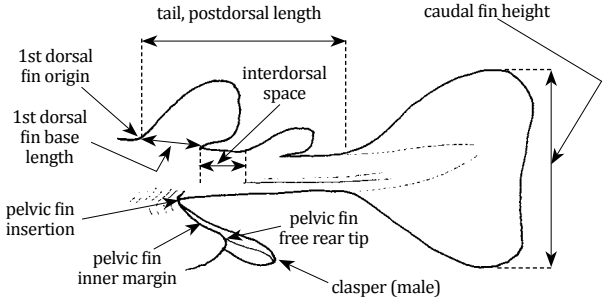
**upper and lower jaws of a stingrays (family Dasyatidae); arrows indicate method of counting teeth in batoids**




**dorsal view of a typical stingray (family Dasyatidae)**




**eye and spiracle (family Rhinobatidae)**




**lateral view of tail (family Torpedinidae)**

# GUIDE TO ORDERS AND FAMILIES

## Order RHINOPRISTIFORMES

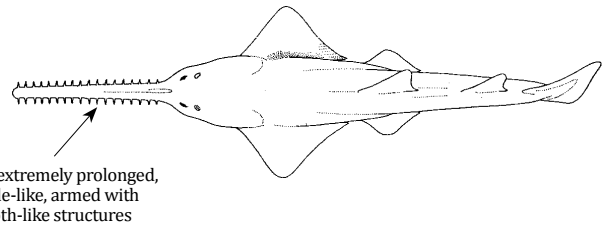
Body shark-like; pectoral fins variably fused to the head and trunk , forming a flattened wedge- or shovel-shaped disc in guitarfishes and giant guitarfishes; snout saw-like, or varying from broadly rounded to acutely pointed; tail massive, not demarcated from trunk; caudal fin well-developed with or without a distinct lower lobe.

### PRISTIDAE

**Page 193**

**Sawfishes**

To 7 m TL. Demersal, in shallow marine waters and estuaries, enters freshwaters. Four species included in the Guide to Species.

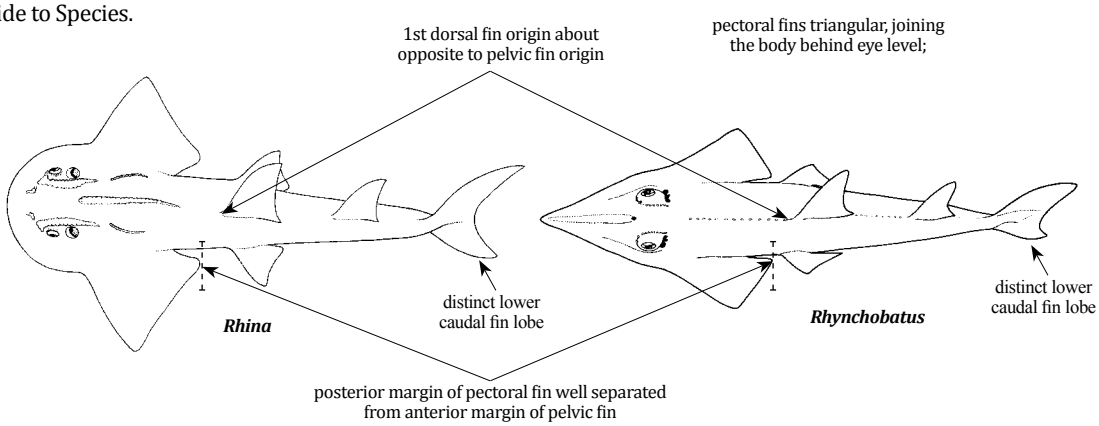



### RHINIDAE

**Page 194**

**Wedgefishes**

To 3.1 m TL. Demersal, from shallow waters to depths of 400 m. Three species included in the Guide to Species.

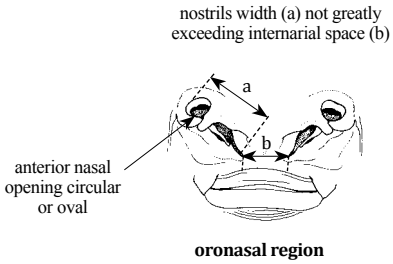


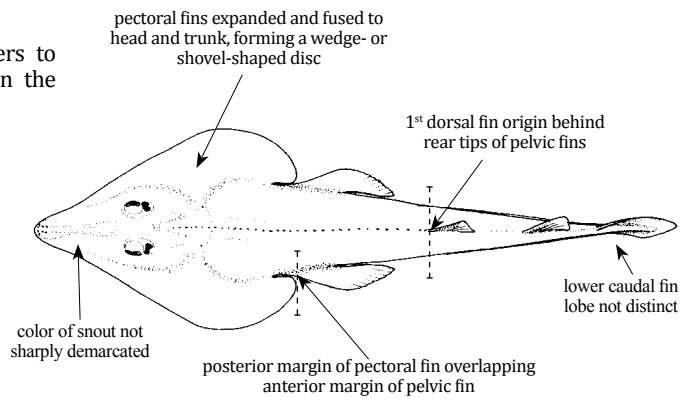

### RHINOBATIDAE

**Page 195**

**Guitarfishes**

To 1.7 m TL. Demersal, from shallow waters to depths of 400 m. Three species included in the Guide to Species.



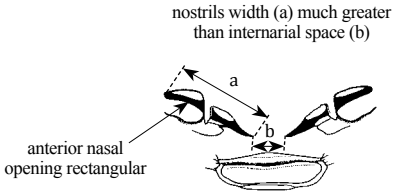



## GLAUCOSTEGIDAE

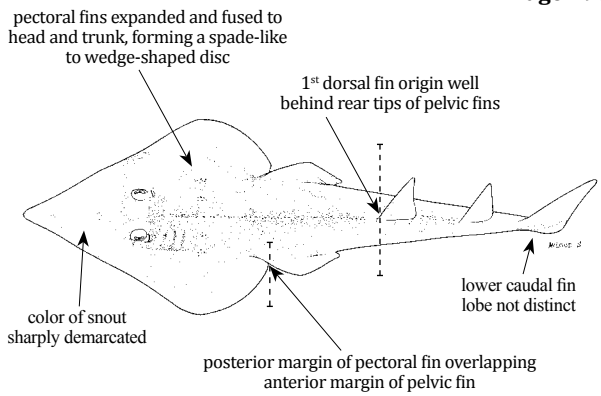
Page 196

**Giant guitarfishes**

To 3 m TL. Demersal, in shallow waters to dephts of at least 64 m. Four species included in the Guide to Species.




**oronasal region**




## Order TORPEDINIFORMES

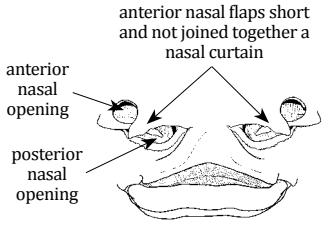
Pectoral fins greatly expanded and fused with head and trunk, forming a large oval to subcircular disc; tail stout to elongate, variably demarcated from disc, without caudal sting(s); uni-lobed pelvic fins; caudal fin elongate without a distinct lower lobe; most species with a large electric organ on each side of head, usually visible through the skin as a pattern of hexagonal markings.

## PLATYRHINIDAE

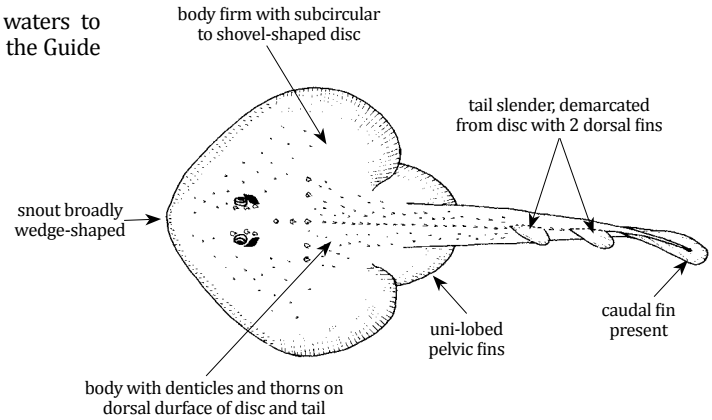
Page 197

**Fanrays**

To 90 cm TL. Demersal, from shallow waters to depths of 160 m. One species included in the Guide to Species.




**oronasal region**

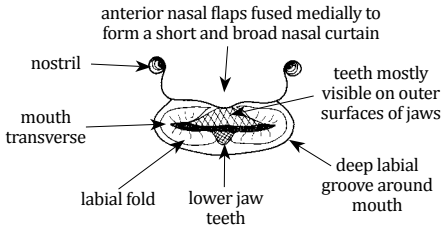



## NARCINIDAE

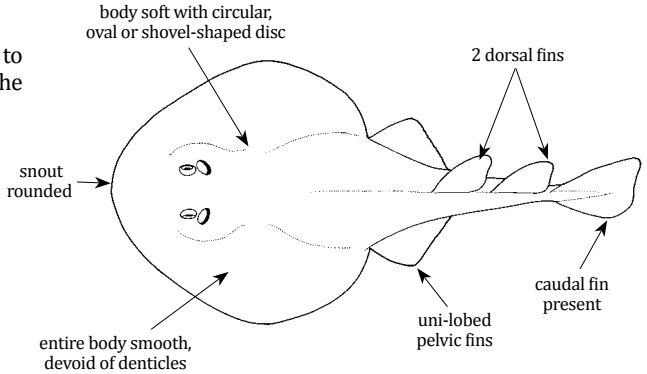
Page 198

**Numbfishes**

To 75 cm TL. Demersal, from shallow waters to depths of 1 071 m. Eight species included in the Guide to Species.




**oronasal region**

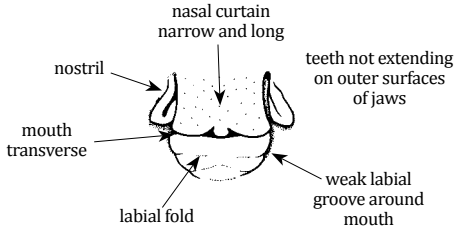


## NARKIDAE

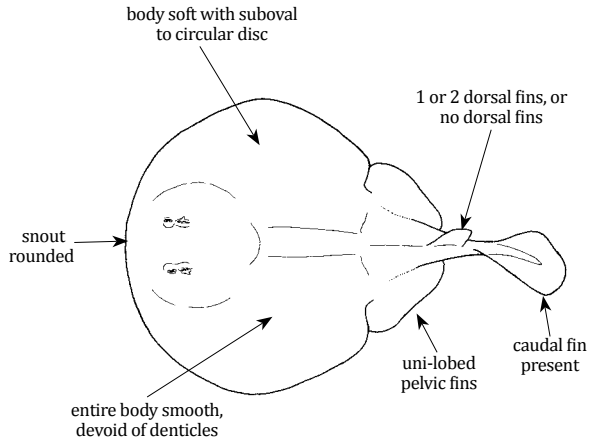
Page 200

**Sleeper rays**

To about 50 cm TL. Demersal, from shallow waters to depths of 330 m. Two species included in the Guide to Species.




**oronasal region**

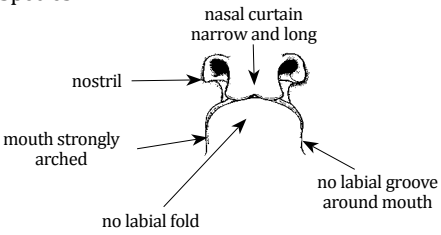



## TORPEDINIDAE

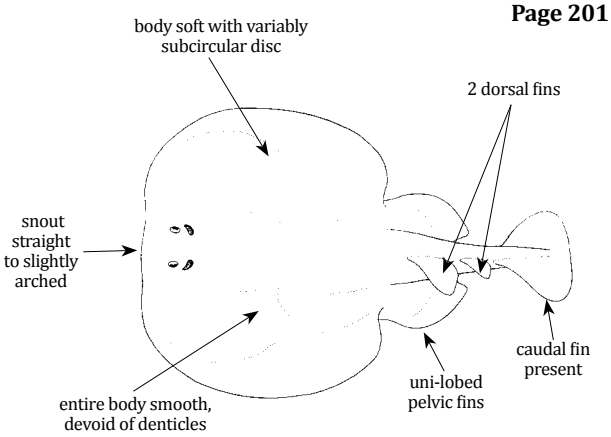
Page 201

**Torpedos**

To 1.8 m TL. Demersal, from shallow waters to depths of 200 m. One species included in the Guide to Species.




**oronasal region**




## Order RAJIFORMES

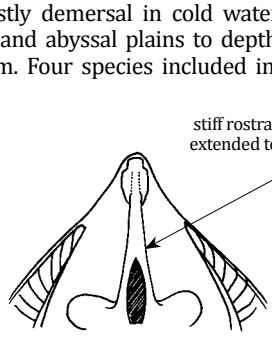
Body depressed with pectoral fins greatly expanded and fused with head and trunk to form a large rhombic to circular disc; pelvic fins moderately to strongly bilobate; tail rather slender, well demarcated from disc and without caudal sting(s).

## RAJIDAE

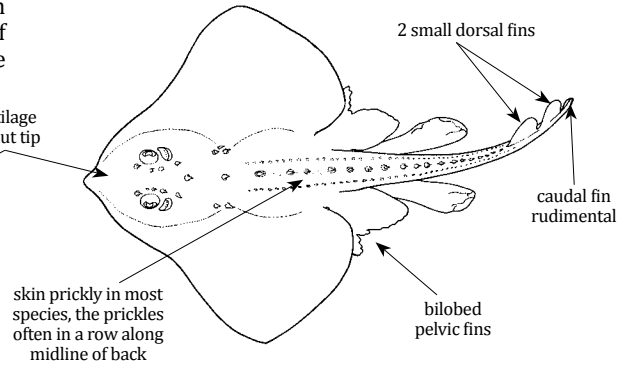
Page 201

**Skates**

To 2.5 cm TL. Mostly demersal in cold water on continental slopes and abyssal plains to depths of more than 4 000 m. Four species included in the Guide to Species.




**detail of snout skeleton**

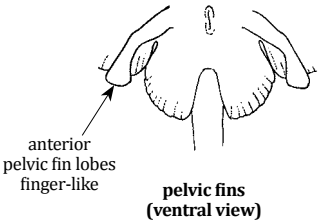


## GURGESIELLIDAE

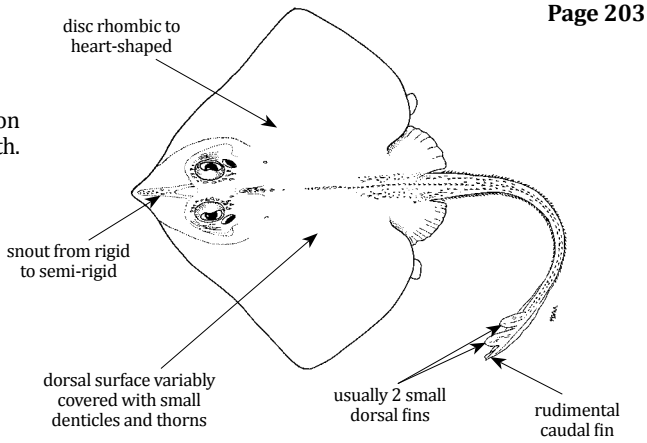
Page 203

**Pygmy skates**

To 59 cm TL. Demersal, mostly in deep water on continental and insular slopes to 1 095 m depth. One species included in the Guide to Species.




**pelvic fins (ventral view)**

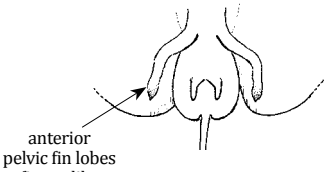



## ANACANTHOBATIDAE

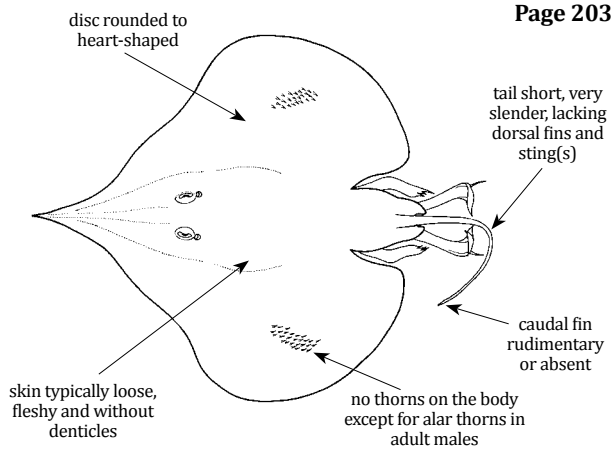
Page 203

**Legskates**

To 75 cm TL. Demersal, mosly in deep water between 150 and 1 725 m. One species included in the Guide to Species.




**pelvic fins (ventral view)**




## Order MYLIOBATIFORMES

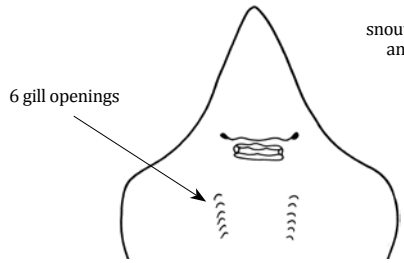
Batoids with enlarged, expanded pectoral fins variably fused to the head and trunk and forming subrhombic to diamond-shaped, or broadly lozenge-shaped disc; a single dorsal fin that is variably present or absent; pelvic fins uni-lobed; tail mostly long and whip-like, well demarcated from disc, often with serrated sting(s).

## HEXATRYGONIDAE

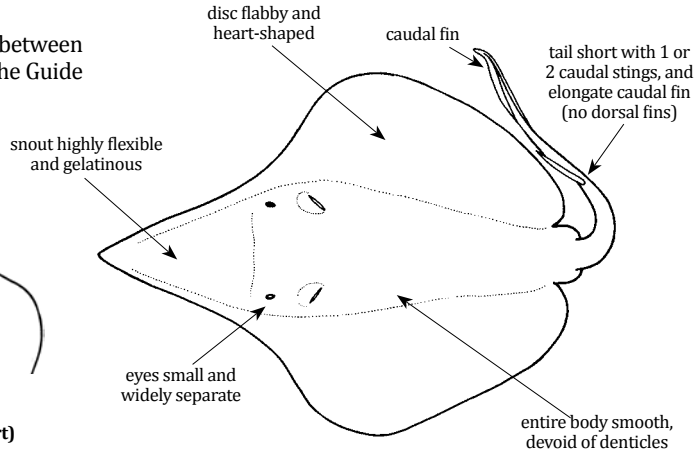
Page 203

**Sixgill stingrays**

To 1.7 m TL. Demersal, mosly in deep water between 300 and 1 120 m. One species included in the Guide to Species.




**ventral view of disc (in part)**

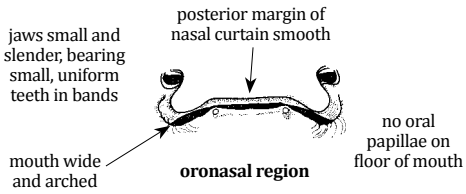


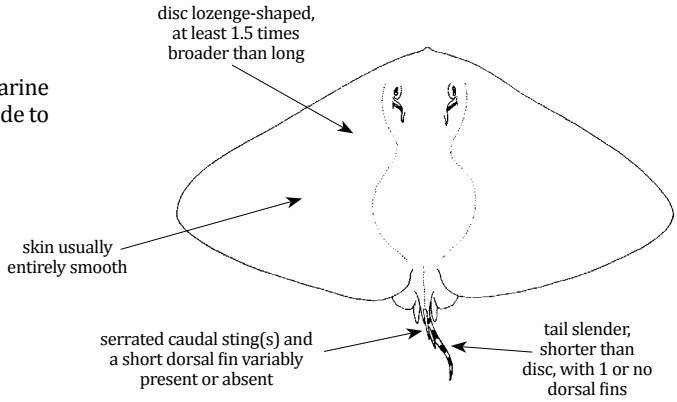
## GYMNURIDAE

Page 204

**Butterfly rays**

To at least 2.6 m disc width. Demersal, in marine coastal waters. Two species included in the Guide to Species.



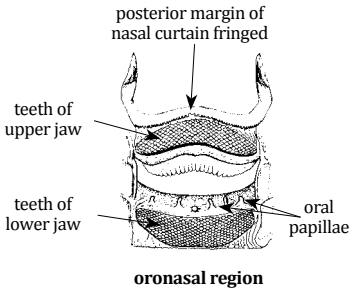



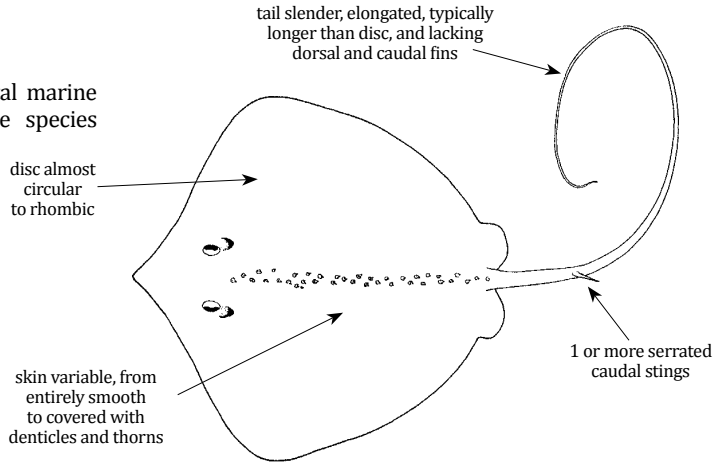

## DASYATIDAE

Page 204

**Stingrays**

To 2.2 m disc width. Demersal, in coastal marine waters, enters freshwaters. Twenty-one species included in the Guide to Species.



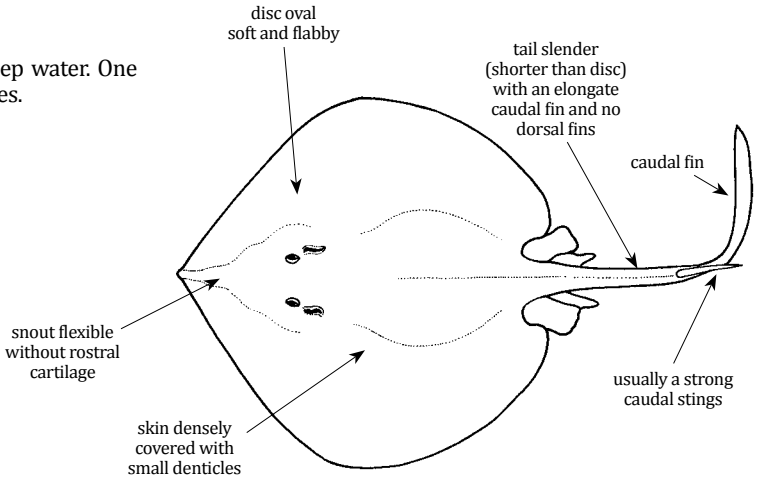




## PLESIOBATIDAE

Page 211

**Giant stingrays**

To 1.3 m disc width. Demersal, in deep water. One species included in the Guide to Species.

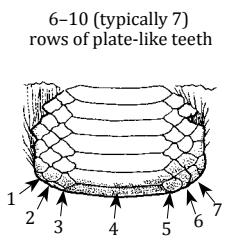


## MYLIOBATIDAE

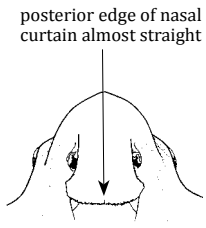
Page 212

**Eagle rays**

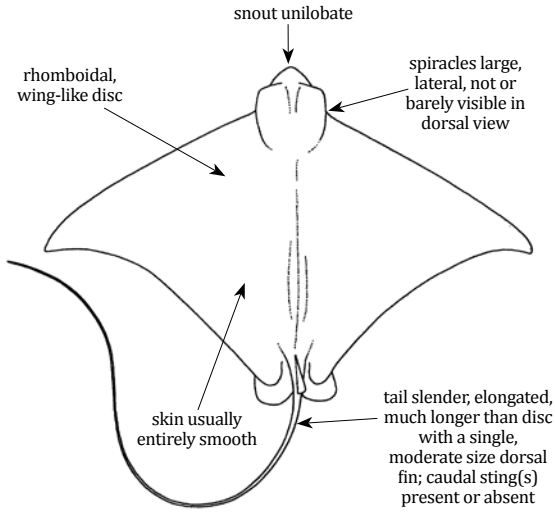
To at least 3 m disc width. Demersal and semi-pelagic in coastal waters. Three species included in the Guide to Species.




**arrangement of teeth in upper jaw**




**ventral view of head**

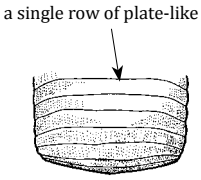



## AETOBATIDAE

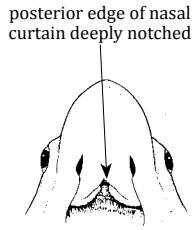
Page 213

**Pelagic eagle rays**

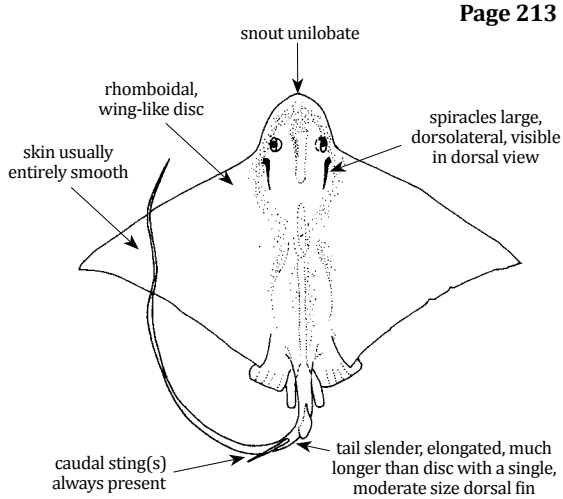
To at least 3 m disc width. Pelagic in coastal (including estuaries) and offshore waters. Two species included in the Guide to Species.




**arrangement of teeth in upper jaw**




**ventral view of head**

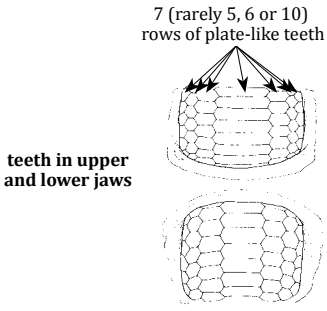


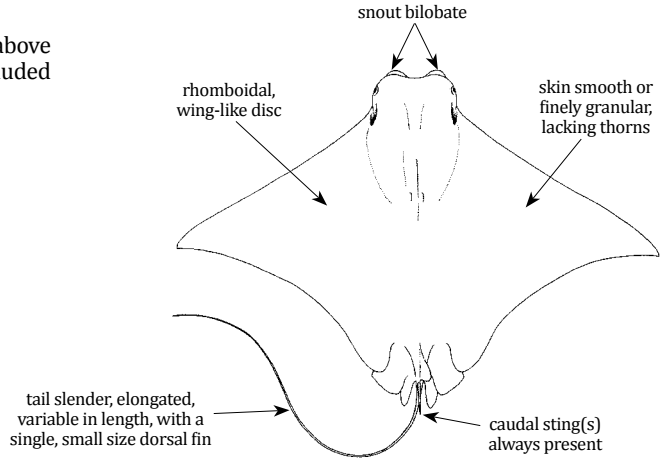

## RHINOPTERIDAE

Page 213

**Cownose rays**

To 1.7 m disc width. Demersal, but often swim above the bottom in coastal waters. Two species included in the Guide to Species.



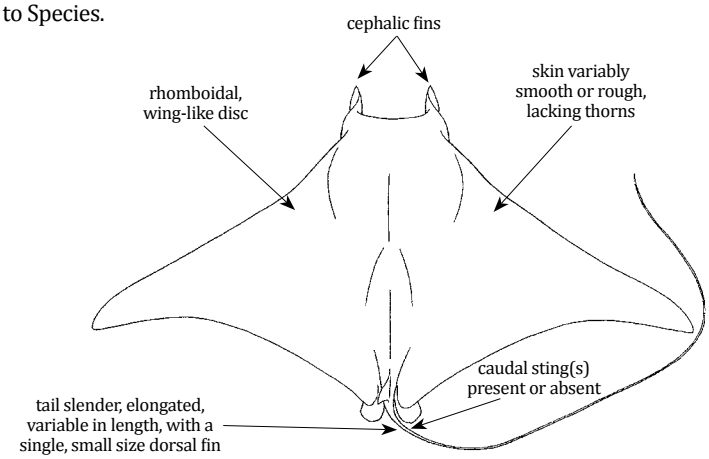



## MOBULIDAE

**Page 214**

**Manta rays, devil rays**

To 7 m disc width. Pelagic, in coastal and oceanic waters. Six species included in the Guide to Species.

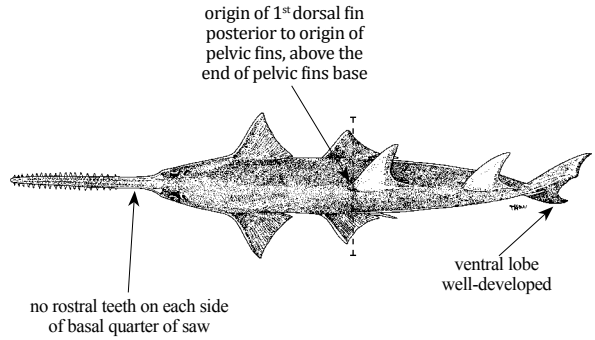


# PRISTIDAE
Sawfishes

## *Anoxypristis cuspidata* (Latham, 1794)

**FAO names:** Narrow sawfish (En)

**Local name(s):** Nga Mann Swe Thwe.
**Habitat:** Found inshore, often in river deltas and estuaries.
**Fisheries:** Incidental catches, mainly with set nets.
**Distinctive Characters:** Body subcylindrical, barely depressed anteriorly; rostrum long and slender, barely tapering; rostral teeth 16–26 (usually 20–25) blade-like, flattened and broadly triangular, becoming curved in adults; pectoral fin bases narrow; caudal fin lunate with distinctive subterminal projection on upper lobe, and lower lobe well developed.
**Colour:** Uniform slate grey above, white below.
**Remarks:** A very rare, seriously threatened species, possibly locally extinct in Myanmar.

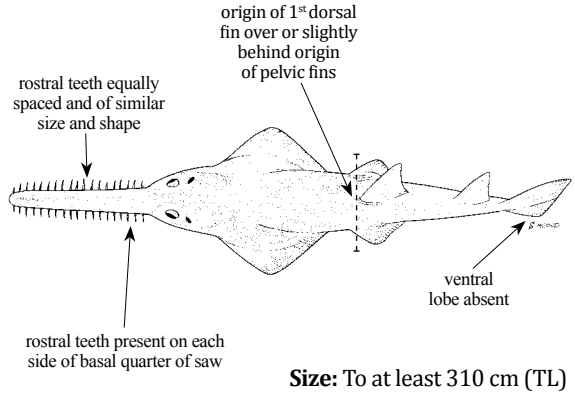



**Size:** To at least 350 cm (TL)

## *Pristis clavata* Garman, 1906

**FAO names:** Dwarf sawfish (En)

**Local name(s):** Nga Mann Swe Thwe Ja Pu.
**Habitat:** Inshore and intertidal, and in fresh-water rivers and lakes.
**Fisheries:** Incidental catches, mainly with set nets.
**Distinctive Characters:** Body depressed, more so anteriorly; rostrum broad and stout, converging slightly to its tip; rostral teeth 18–24 peg-like, flattened slightly and elongate, young with shallow posterior groove; pectoral fin bases broad; caudal fin with posterior margin almost straight; no fleshy projection on upper caudal lobe.
**Colour:** Greenish grey to greenish brown above, white below.
**Remarks:** A very rare, seriously threatened species, possibly locally extinct in Myanmar.

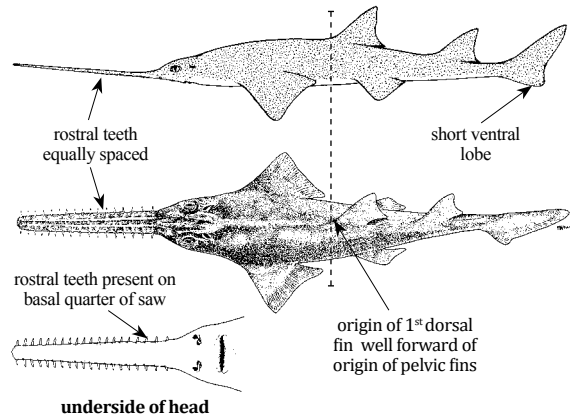



**Size:** To at least 310 cm (TL)

## *Pristis pristis* (Linnaeus, 1758)

**FAO names:** Largetooth sawfish (En)

**Local name(s):** Nga Mann Swe Thwe Thwar Gyi.
**Habitat:** Inshore and intertidal, and in fresh-water rivers and lakes.
**Fisheries:** Incidental catches, mainly with set nets.
**Distinctive Characters:** Body robust, somewhat depressed anteriorly; rostrum broad througout its length, coverging distally; rostral teeth 14–24 peg-like, flattened and elongate, with variable posterior groove at all ages; pectoral fin bases broad; caudal fin with posterior margin straight to slightly concave with an obvious lower lobe; no fleshy projection on upper caudal lobe.
**Colour:** Yellowish to greyish above, fins distinctly yellowish; ventral side white.
**Remarks:** A very rare, seriously threatened species, possibly locally extinct in Myanmar.

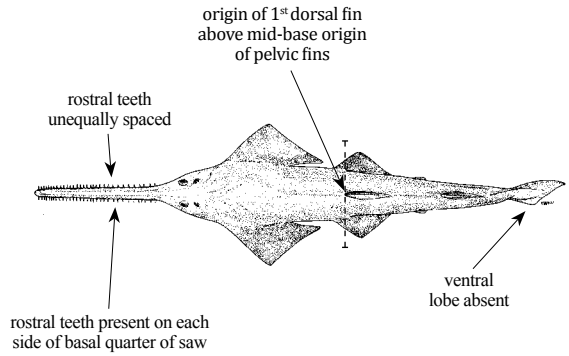



**Size:** To 656 cm (TL)

***Pristis zijsron*** Bleeker, 1851

**FAO names:** Longcomb sawfish (En)

**Local name(s):** Nga Mann Swe Thwe Su Shae.
**Habitat:** Inshore and intertidal species known to enter freshwater in some areas.
**Fisheries:** Incidental catches, mainly with set nets.
**Distinctive Characters:** Body depressed, more so anteriorly; rostrum rather narrow, not coverging to its tip; rostral teeth 23–37 (usually 24–31) peg or awl-like, flattened and elongate, with variable posterior groove at all ages; pectoral fin bases broad; caudal fin with posterior margin convex in young and straight in adults, no lower lobe or fleshy projection on upper lobe.
**Colour:** Uniformly olive greenish brown above, white below.
**Remarks:** A very rare seriously threatened species possibly locally extinct in Myanmar.



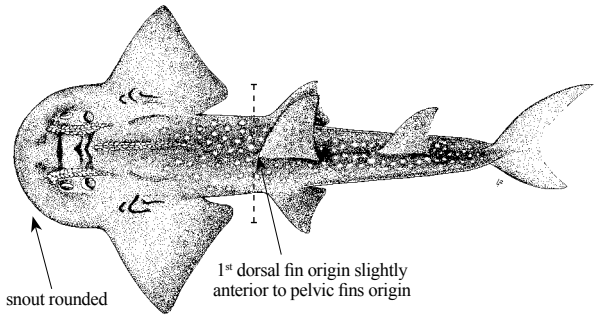

**Size:** To 730 cm (TL)

## RHINIDAE
Wedgefishes

***Rhina ancylostoma*** Bloch & Schneider, 1801

**FAO names:** Bowmouth guitarfish (En)
Angelot (Fr)

**Local name(s):** Nga Mann Be Lu.
**Habitat:** Inhabits coastal areas and on coral reefs, close inshore from 3 m to 90 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Snout rounded; heavy ridges with greatly enlarged denticles on back, over eyes and spiracles; caudal fin lunate, almost symmetrical.
**Colour:** Grey above, white below; numerous white spots dorsally on fins, body and tail; black spots on head and shoulders but no eyespots or ocelli.

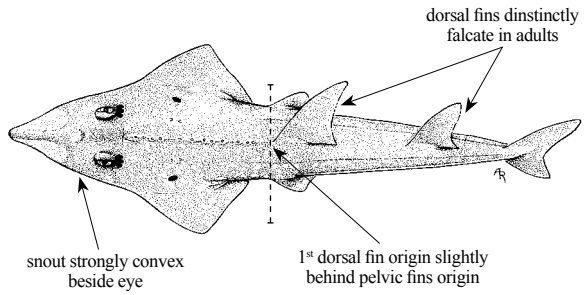



**Size:** To 270 cm (TL)

***Rhynchobatus australiae*** Whitley, 1939

**FAO names:** Bottlenose wedgefish (En)

**Local name(s):** Pa Lin Hnote Thee Nga Mann.
**Habitat:** Benthic, coastal inshore to 60 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout narrowly angular; thorns small, blunt, present along dorsal mid-line, on shoulder, beside spiracle and around upper margin of eye; dorsal fins distinclty falcate in adults; 1st dorsal fin much larger than 2nd; pectoral fin apices angular; total free vertebral centra 144–164.
**Colour:** Grey to yellowish above with sparse coverage of white spots, and a dark pectoral marking surrounded by a distinctive pattern of white spots (white spots indistinct in large adults).

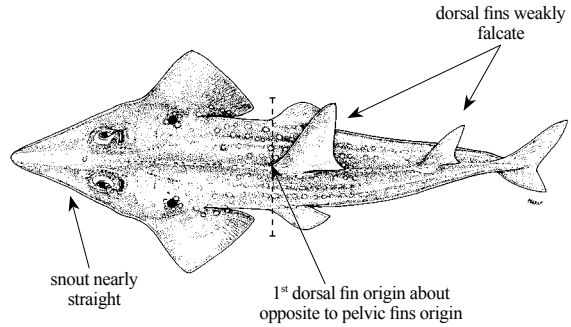



**Size:** To at least 300 cm (TL)

***Rhynchobatus laevis*** (Bloch & Schneider, 1801)

**FAO names:** Smoothnose wedgefish (En)

**Local name(s):** Hnar Chaw Nga Mann Khar.
**Habitat:** Demersal inshore on the continental shelf.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout short, broad and bluntly angular in young, narrower in adults; thorns small, blunt, present along dorsal mid-line, on shoulder, beside spiracle and around upper margin of eye; dorsal fins weakly falcate; 1st dorsal fin 1.2–1.5 taller than 2nd; pectoral fin apices angular; total free vertebral centra 135–144.
**Colour:** Greyish brown above, white below; prominent dark pectoral marking usually surrounded by 4–5 white spots; upper body with multiple rows of white spots posterior to level of pectoral markings; a black blotch on anterior half of snout ventrally; orbital membrane usually with curved black markings.



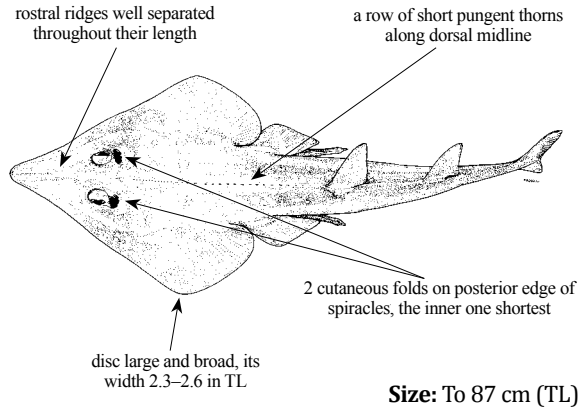

**Size:** To at least 147 cm (TL)

## RHINOBATIDAE
Guitarfishes

***Rhinobatos annandalei*** Norman, 1926

**FAO names:** Annandale's guitarfish (En)

**Local name(s):** Ananda Kyei Nga Mann Khar.
**Habitat:** Demersal inshore on the continental shelf to at least 90 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout long and triangular, its tip bluntly pointed; lateral margins a little concave; disc thin, length 1.1–1.2 times its width; tail 1.2–1.3 times longer than disc; mouth width 12.5–14.1 in TL; skin covered with minute denticles, rather smooth to touch.
**Colour:** Greyish to brownish dorsally with symmetrical pattern of small widely spaced white spots; ventral surface white, often with sparse dusky blotches and dark edges on pectoral and pelvic fins.

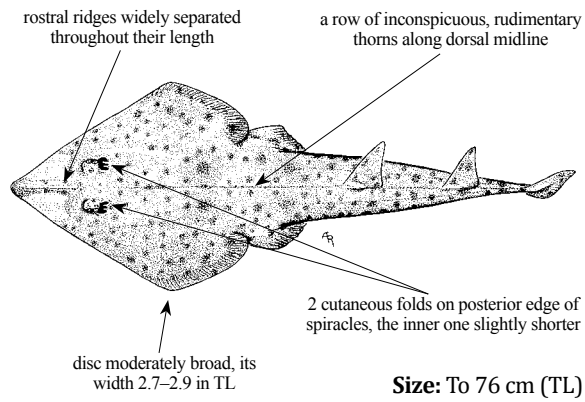



**Size:** To 87 cm (TL)

***Rhinobatos lionotus*** Norman, 1926

**FAO names:** Smoothback guitarfish (En)

**Local name(s):** Chaw Hywe KjeiNga Mann Khar.
**Habitat:** Demersal inshore on the continental shelf to at least 77 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout moderate, broadly triangular, its lateral margins weakly undulate; disc thin, length 1.2–1.3 times its width; tail 1.4–1.5 times longer than disc; mouth width 14.5–15.9 in TL; skin finely granular, covered with minute denticles; thorns very short, only slghtly larger than adjacent denticles.
**Colour:** Greenish brown dorsally with or without dense symmetrical pattern of faint orange to dusky cloudy blotches, paler beside rostral ridges; ventral surface white.

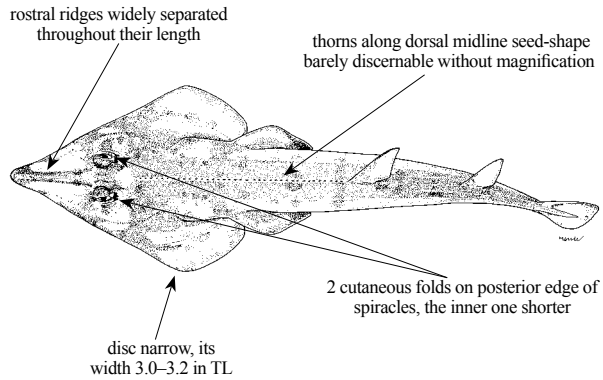



**Size:** To 76 cm (TL)

***Rhinobatos ranongensis*** Last, Séret & Naylor, 2019

**FAO names:** Ranong guitarfish (En)

**Local name(s):** Ra Nong Kyei Nga Mann Khar.
**Habitat:** Demersal inshore on the continental shelf to at least 68–108 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout moderately elongate and bluntly pointed, its lateral margins slightly undulated; disc moderately thick, length 1.3–1.4 times its width; mouth width 16.7–18.5 in TL; tail 1.3–1.5 times longer than disc; skin covered with minute, close-set denticles, rather smooth to touch.
**Colour:** Brownish dorsally without obvious spots or blotches (sometimes faint), paler beside rostral ridges; ventral surface white with darker pectoral and pelvic margins.



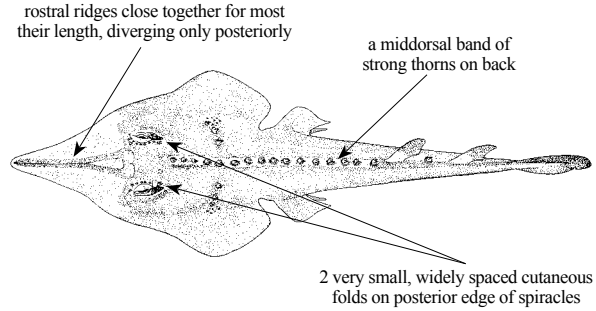

**Size:** To 64.5 cm (TL)

## GLAUCOSTEGIDAE
Giant guitarfishes

***Glaucostegus granulatus*** (Cuvier, 1829)

**FAO names:** Granulated guitarfish (En)

**Local name(s):** Kyaw Suu Kwet Kyei Nga Mann.
**Habitat:** Ranges from the intertidal to offshore continental shelves down to 120 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout very long and acute with pointed tip, its lateral margins straight or rather concave; disc thickened centrally, its length 1.3–1.4 times width; orbit very small in adults, diameter 9–16 in preorbital length; tail 1.0–1.4 times longer than disc; skin rough, densely covered with small denticles; a pair of large thorns on each shoulder; a row of thorns median to spiracle and eye and on each rostral ridge in young.
**Colour:** Yellowish brown to greyish dorsally, except for large traslucent area on snout to each side of rostral cartilages; whitish below.

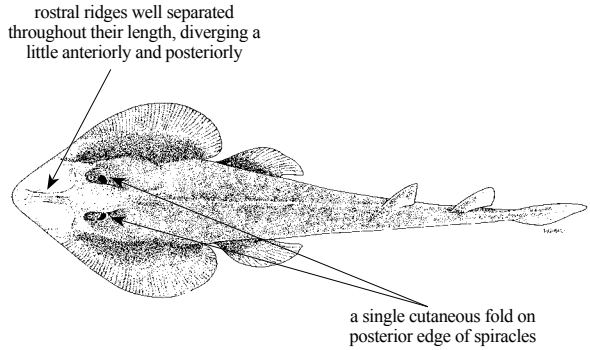



**Size:** To at least 229 cm (TL)

***Glaucostegus obtusus*** Müller & Henle, 1841

**FAO names:** Bluntnose guitarfish (En)

**Local name(s):** Hnar Tone Kyei Nga Mann Khar.
**Habitat:** Benthic inshore and over inner continental and insular shelves to 60 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout short, broad-tipped, and obtusely pointed, its lateral margins largely convex; disc flattened centrally, length 1.2 times its width; orbit very small, its diameter 6.5 in preorbital length; tail long, 1.4–1.6 in disc length; skin rough, covered with small denticles; juveniles with preorbital, scapular and middorsal band of thorns on back; no distinct series of thorns or spines in adults.
**Colour:** Adults light brown (juveniles dark grey) dorsally, except for large traslucent area on snout to each side of rostral cartilages; whitish below.

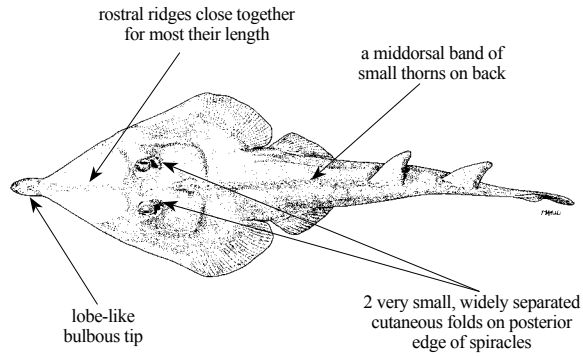



**Size:** To 93 cm (TL)

***Glaucostegus thouin*** (Anonymous, 1798)

**FAO names:** Clubnose guitarfish (En)

**Local name(s):** Hnar Pyar Kyei Nga Mann Khar.
**Habitat:** Benthic inshore and over inner continental and insular shelves to 60 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout long with a lobe-like bulbous tip; disc thickened centrally, length 1.4–1.5 times its width; orbit small, its diameter 9–12 in preorbital length; tail about 2 times longer than disc; skin rough, covered with small denticles; small thornlets on interorbit; no enlarged thorns on snout tip or around orbits.
**Colour:** Uniformly pale brown yellowish or greyish; most of snout translucent, sharply demarcated from rostral ridges and anterior part of cranium; bulbous snout tip greyish; ventral surface white.

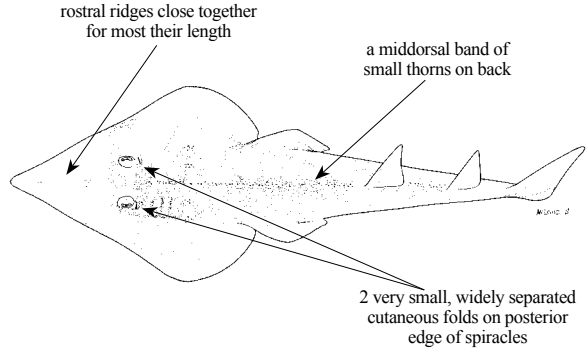



**Size:** To 300 cm (TL)

***Glaucostegus typus*** (Bennett, 1830)

**FAO names:** Giant guitarfish (En)

**Local name(s):** Belu Kyei Nga Mann Khar.
**Habitat:** Benthic inshore and over inner continental and insular shelves to 100 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Snout long and triangular, its tip narrowly rounded; lateral margins almost straight; disc thickened centrally, length 1.2–1.3 times its width; orbit small, its diameter 6.1–7.8 in preorbital length; tail 1.3–1.5 times longer than disc; skin rough, densely covered with small denticles; no obvious patch on each shoulder or greatly enlarged thorns on snout tip and around orbit.
**Colour:** Uniformly yellowish to greyish brown, ventral surface mostly white; sides of snout translucent, sharply demarcated from rostral ridges and anterior part of cranium; snout apex usually with dark blotch.



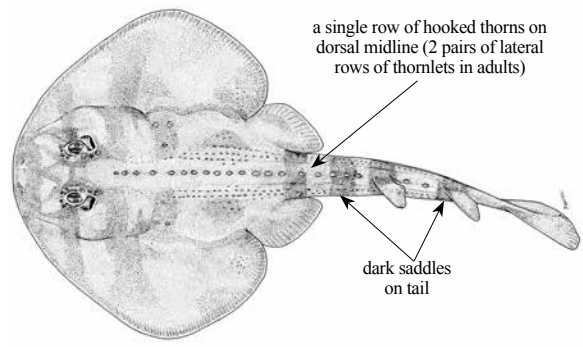

**Size:** To at least 270 cm (TL)

## PLATYRHINIDAE
Fanrays

***Platyrhina psomadakisi*** White & Last, 2016

**FAO names:** Psomadakis' fanray (En)

**Local name(s):** Bamar Kyei Nga Mann Phar.
**Habitat:** Benthic inshore and over inner continental at 60–160 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Broadly rounded to shovel-shaped disc, its length much shorter than tail; preorbital length 2.0–2.2 in interorbital space; interdorsal space 11.0–11.8 in TL; thorns on orbital, nape and scapular regions not encircled by pale pigment; dorsal surface of adults with patches of prickly denticles.
**Colour:** Greyish brown dorsally with a series of darker brown saddles on tail.



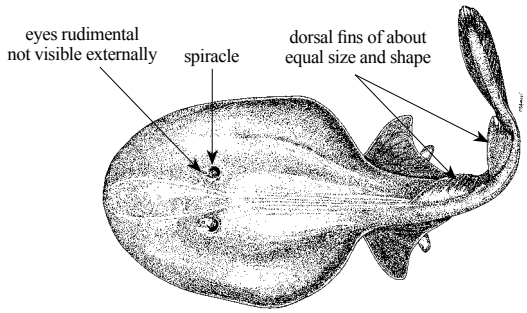

**Size:** To at least 38 cm (TL)

# NARCINIDAE
Numbfishes

***Benthobatis moresbyi*** Alcock, 1898

**FAO names:** Moresby's blind numbfish (En)

**Local name(s):** Nga Let Htone Myet Kan.
**Habitat:** Benthic on continental slope between 376–1 070 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc soft, elongate and oval; disc widest posterior to its mid-length; disc length almost 2 in TL; body entirely naked; lower tooth band subtriangular and smaller than upper tooth band; tail slightly longer than disc.
**Colour:** Uniform dark brown dorsally and ventrally with scattered small white pores.

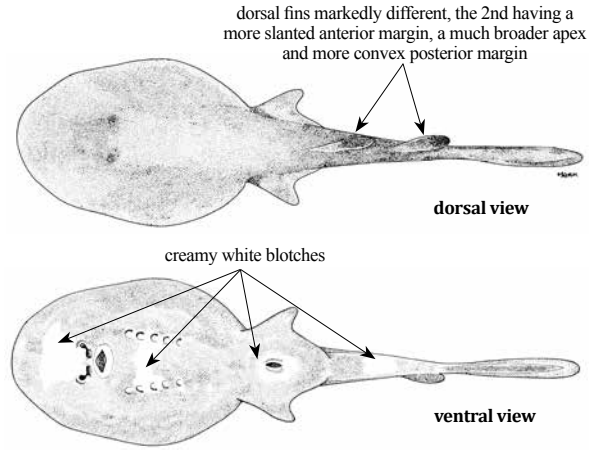



**Size:** To 35 cm (TL)

***Benthobatis*** cf. ***yangi*** Carvalho, Compagno & Ebert, 2003

**FAO names:** Yang's blind numbfish (En)

**Local name(s):** Yan Nga Let Htone Myet Kan.
**Habitat:** Benthic on continental slope at 300–523 m depth.
**Fisheries:** Deepottom trawls.
**Distinctive Characters:** Similar to *Benthobatis moresbyi* but disc widest at about its mid-length; disc shorter, its length 2.4–2.6 in TL; preorbital length 6.6–7.8 (vs 5.2) in TL; interdorsal space 8.3–15.6 (vs 43.5) in TL; 2nd dorsal-caudal space 10.3–21.3 (vs 142.9) in TL; dorsal fins with markedly different outlines; narrower gill slits; creamy white blotches on ventral side of body.
**Colour:** Purplish or purplish black on both dorsal and ventral surfaces with irregular creamy white blotches ventrally.
**Remarks:** Myanmar specimens need to be checked against the types of *Benthobatis yangi* for confirmation.

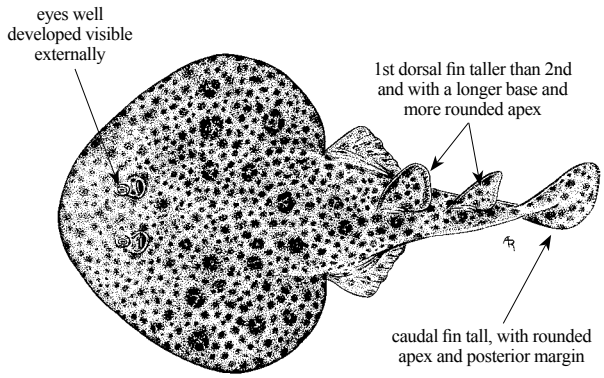



**Size:** To 37 cm (TL)

***Narcine atzi*** Carvalho & Randall, 2003

**FAO names:** Oman numbfish (En)

**Local name(s):** Oman Kyaw Kywet Nga Let Htone.
**Habitat:** Benthic in shallow coastal waters to 30 m depth.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Disc soft, subcircular to broadly oval or heart-shaped; eyes well developed (true of all *Narcine* species); spiracles wider than long, with smooth elevated rims; 1st dorsal fin originating slightly anterior to pelvic fin insertions; preoral length greater than preorbital length; mouth wider than internarial width; tooth bands with broad rounded margins with upper band wider than lower band.
**Colour:** Pale brown to greyish brown above covered with numerous small dark brown spots or vermiculations, overlaid with faint larger blotches on disc; ventral surface creamy white, sometimes with dusky margins and blotches on tail.

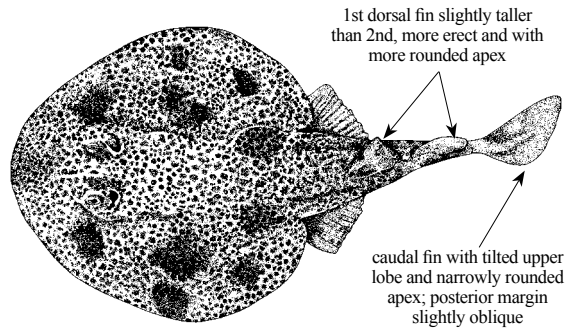



**Size:** To 36 cm (TL)

***Narcine brevilabiata*** Bessednov, 1966

**FAO names:** Shortlip numbfish (En)

**Local name(s):** Hnote Kham To Nga Let Htone.
**Habitat:** Benthic, offshore on inner continental shelf at 20–70 m depth.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Disc soft, broadly oval (usually slightly wider than long); eyes slightly larger than spiracles; spiracles slightly oblique in relation to eyes with weakly elevated rims; 1st dorsal fin origin over posterior end of pelvic fins; preoral length greater than preorbital length; mouth wider than internarial space; tooth bands very narrow (especially lower band), triangular with upper band wider than lower band.
**Colour:** Ligth brown above, covered with numerous very small dark brown spots, overlaid with fewer faint larger blotches; ventrally uniformly pale, with greyish blotches on posterior pelvic fins and disc.

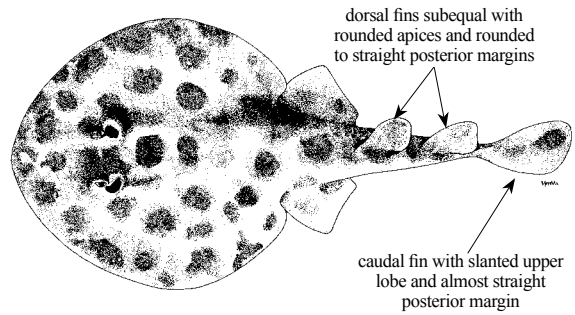



**Size:** To 32 cm (TL)

***Narcine lingula*** Richardson, 1846

**FAO names:** Chinese numbfish (En)

**Local name(s):** Tayoke Nga Let Htone.
**Habitat:** Benthic, inshore in shallow water near the coast.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Disc soft, oval to rounded or heart-shaped (usually slightly wider than long), widest near mid-length; eyes and spiracles subequal in size; spiracles subcircular, with thin, elevated rims; 1st dorsal fin origin over posterior end of pelvic fins; preoral length about equal to preorbital length; mouth about equal to internarial space; tooth bands rounded and equal in width.
**Colour:** Dorsal surface and fins pale brownish, densely covered with large darker brown, oval, circular or crescent-shape spots; ventrally creamy white, frequently with darker disc margins.

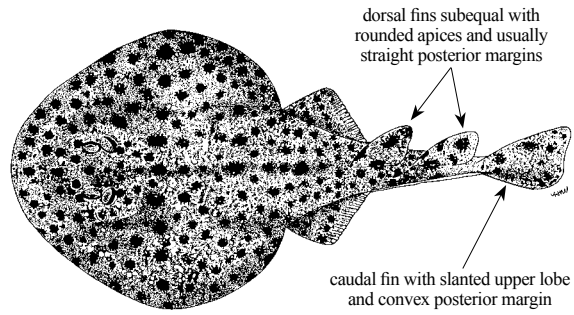



**Size:** To 35 cm (TL)

***Narcine maculata*** (Shaw, 1804)

**FAO names:** Smallspot numbfish (En)

**Local name(s):** Nga Let Htone Set Pyouk.
**Habitat:** Benthic, inshore in shallow water near the coast.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Disc soft, broadly oval to heart-shaped (usually slightly wider than long), widest near mid-length; eyes slightly larger than spiracles; spiracles subcircular, with thin, elevated rims; 1st dorsal fin origin slightly posterior to pelvic fin insertion; preoral length about equal to preorbital length; internarial space slightly exceeding mouth width; tooth bands broad, rounded and subequal in width.
**Colour:** Dorsal surface and fins brownish with darker reddish brown to blackish brown spots (varying both in shape and size); ventrally creamy white, sometimes with darker disc margins.

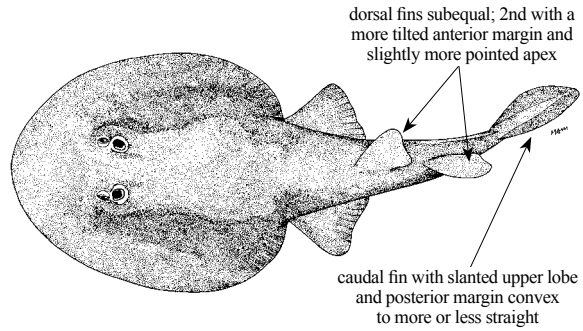



**Size:** To 40 cm (TL)

***Narcine timlei*** (Bloch & Schneider, 1801)

**FAO names:** Brown numbfish (En)

**Local name(s):** Nga Let Htone Nyo.
**Habitat:** Benthic, inshore in shallow water near the coast.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Disc soft, oval or subtrapezoidal, widest near mid-length; eyes usually smaller than spiracles; eyes and spiracles joined together; spiracles rounded, with elevated smooth rims; 1st dorsal fin originating slightly posterior to pelvic fin insertion; mouth width slightly wider than internarial space; tooth bands subequal about half of mouth width.
**Colour:** Dorsally uniform yellowish, brownish or purplish brown; posterior margins of dorsal fins, lateral tail region and posterior pelvic borders whitish; ventrally creamy white.

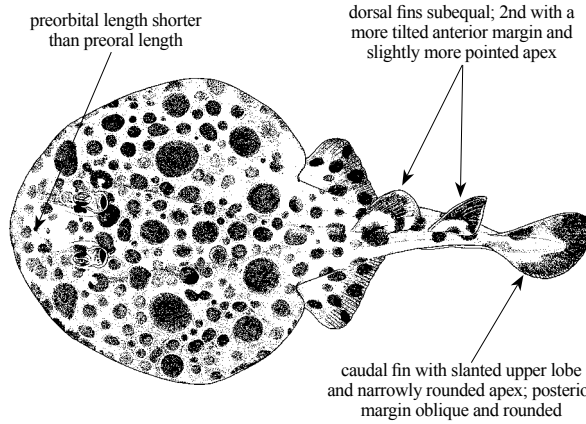



**Size:** To 24 cm (TL)

***Narcine*** sp. *

**FAO names:** Andaman numbfish (En)

**Local name(s):** Nga Let Htone Kyaw Kywet.
**Habitat:** Trawled between 73–89 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Disc soft, subcircular to broadly oval or heart-shaped; spiracles oval, with elevated smooth rims; 1st dorsal fin originating slightly posterior to pelvic fin insertion; internarial space slightly wider than mouth width; tooth bands strongly subtriangular with upper band clearly wider than lower band.
**Colour:** Dorsal surface pale brown, covered with symmetrical pattern of dark brown blotches and smaller spots; ventrally creamy white with darker posterior pelvic fins and disc margins.
**Remarks:** Based on molecular analysis, this appears to be a regional variant of *Narcine brevilabiata*, whose species specific status has not yet been determined (G. Naylor pers. comm., 2018).



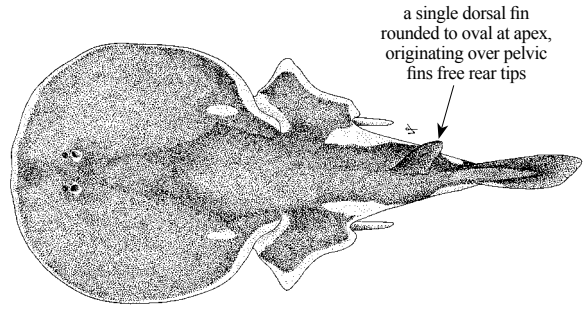

**Size:** To 32 cm (TL)

## NARKIDAE
Sleeper rays

***Narke dipterygia*** (Bloch & Schneider, 1801)

**FAO names:** Spottail sleeper ray (En)

**Local name(s):** Nga Let Htone Hmee Set Pyauk.
**Habitat:** Found in continental waters, both inshore and offshore to over 100 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc soft, subcircular; eyes and spiracles close together; spiracles much larger than eyes; a single dorsal fin; pelvic fins with a single lobe; lower labial groove deep.
**Colour:** Dorsal surface medium to dark brown or reddish, usually with creamy blotches above pelvic fins bases, pectoral fin insertions, and along base of tail; ventrally white, sometimes with darker posterior disc margins.

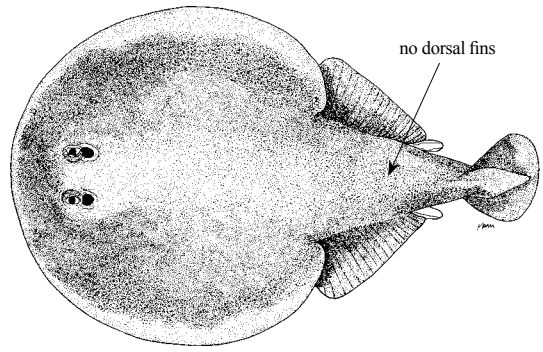



**Size:** To 25 cm (TL)

***Temera*** cf. ***hardwickii*** Gray, 1831

**FAO names:** Finless sleeper ray (En)

**Local name(s):** Su Taung Me' Nga Let Htone.
**Habitat:** Benthic, mainly inshore on soft substrates.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc soft, circular and disproportionately large; eyes very small and oval; spiracles circular slightly larger than eyes; eyes and spiracles close together; median and lower labial gooves inconspicuous or absent.
**Colour:** Dorsal surface dark brown; ventral surface creamy white or tan; outer margins of disc and pelvic fins pale brown or grey.
**Remarks:** A mature male specimen (11.5 cm TL) collected off the coast of Myanmar with oval disc and white pigmentation around eyes and inside spiracles, may be a distinct species and needs to be checked against the types of *T. hardwickii.*



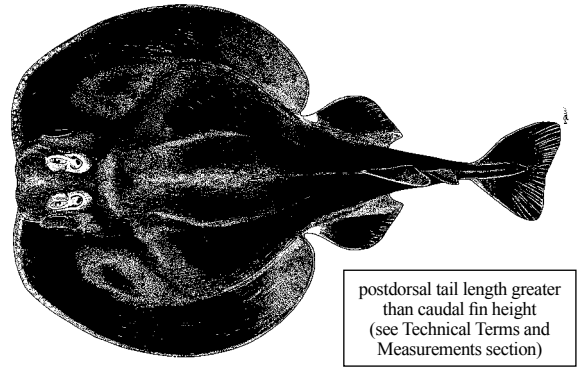

**Size:** To 15 cm (TL)

## TORPEDINIDAE
Torpedos

***Tetronarce*** aff. ***formosa*** (Haas & Ebert, 2006) *

**FAO names:** Taiwanese torpedo (En)

**Local name(s):** Tor Pe To Nga Let Htone.
**Habitat:** Offshore between 265–316 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc broadly circular, its length 1.1 in width; spiracles smooth, rims not elevated, 17.5 in disc length; eyes and spiracles close together; internarial width 17.5 in TL; preorbital length 10.0 in TL; 28–29 trunk vertebrae.
**Colour:** Uniform purplish brown above; ventral surface white, abruptly darker on posterior disc and pelvic fin margin; lateral skin fold white.
**Remarks:** Status uncertain; Myanmar specimens need to be checked against types of *T. formosa*.



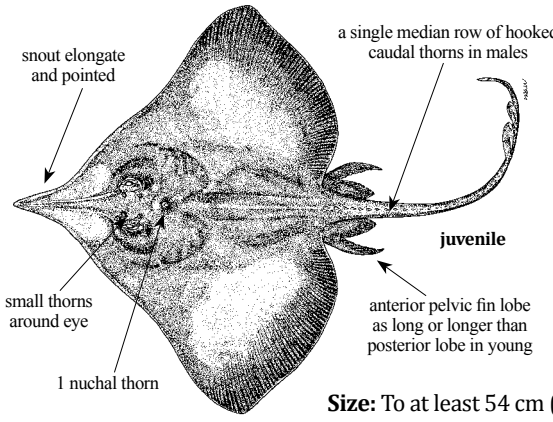

**Size:** To at least 62 cm (TL)

## RAJIDAE
Skates

***Dipturus johannisdavisi*** (Alcock, 1899)

**FAO names:** Travancore skate (En)

**Local name(s):** Hnar Chun Leik Kyauk.
**Habitat:** Demersal on upper continental slope at 252–660 m depth
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc broad and rhombic, its width about 1.2 times in length; disc not especially thick; preorbital length 5.4–6.2 in orbit diameter; interorbital space 1.2–1.4 in orbit length; tail short, thick, its length 0.8–0.9 in precloacal length in adults (tail long and slender in young); about 30–38 tooth rows in lower jaw.
**Colour:** Dorsal surface purplish brown, slightly darker on pelvic fins and along pectoral fin hind margin; ventral surface darker greyish brown.

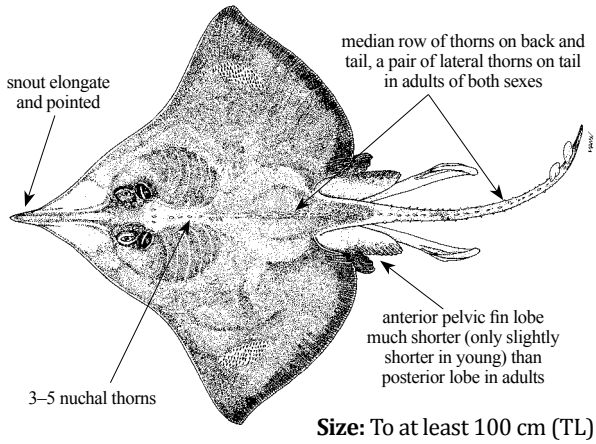



**Size:** To at least 54 cm (TL)

## *Dipturus* sp. *

**FAO names:** None (En)

**Local name(s):** Suu Leik Kyauk.
**Habitat:** Trawled between 252–376 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc broad and rhombic, its width about 1.2 times in length; preorbital length 4.9–6.1 in orbit diameter; interorbital space 1.9–2.2 in orbit length; tail length 0.7–0.8 in precloacal length in adults; 2–3 interspiracular thorns in adult males (adult females with a patch of thorns on each side); malar and alar thorns in males; ca. 15–17 tooth rows in lower jaw.
**Colour:** Dorsal and ventral surface purplish brown (ventral surface paler in adult females).
**Remarks:** An undescribed species, presently being studied by Last *et al*. (P. Last pers. comm., 2018).

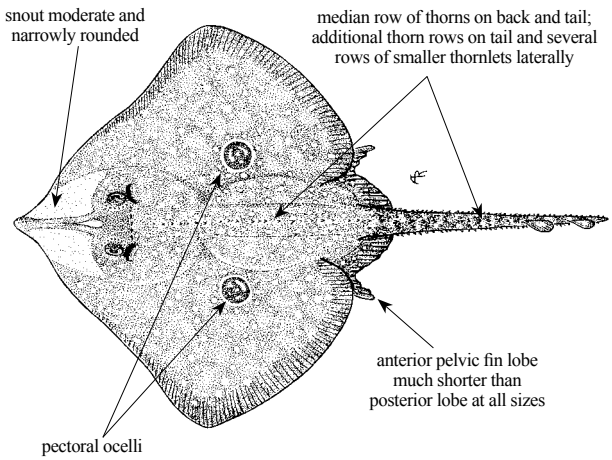



**Size:** To at least 100 cm (TL)

## *Orbiraja powelli* (Alcock, 1898)

**FAO names:** Indian ring skate (En)

**Local name(s):** India Kyaw Kywet Leik Kyauk.
**Habitat:** Benthic on inner continental shelf to upper slope at 15–460 m depth.
**Fisheries:** Mainly bottom trawls.
**Distinctive Characters:** Disc rhombic, its width about 1.1–1.2 times in length; preorbital length 3.9–4.7 in orbit diameter; interorbital space 1.0–1.6 in orbit diameter; tail length 0.9 in precloacal length; small thorns around eyes; no malar or scapular thorns; 71–75 tooth rows in upper jaw.
**Colour:** Dorsal surface dark brown, variably covered with irregular pale spots; ventral surface uniformly white; a pair of ocelli on pectoral fins, usually with pale speckled or dark blue centre surrounded by continuous dark brown and broken yellowish rings; no dark sensory pores ventrally.

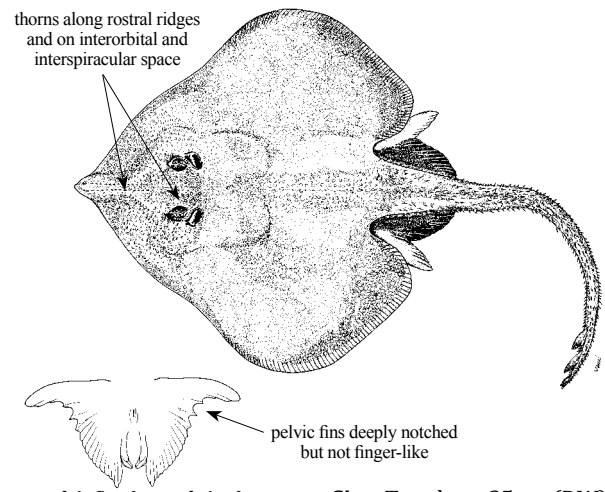



**Size:** To at least 53 cm (TL)

## *Rajella* sp. *

**FAO names:** None (En)

**Local name(s):** Hnar Suu Par Leik Kyauk.
**Habitat:** Trawled between 767–777 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc heart-shaped its width ca. 1.1 times in length; tail longer than body, its length ca. 1.9 in TL; dorsal disc entirely prickly, except anterior pelvic fin lobes; dense band of large thorns and smaller thornlets extending along trunk and tail; a single large nuchal thorn followed by a triangular patch of smaller scapular thorns; tail very strongly armed with median row of large-based thorns flanked by irregular parallel rows of hooked thorns; ventral surface of disc smooth.
**Colour:** Dorsal and ventral surface light grey (dark mucus on upper surface of disc easily coming off when rinsed with water).
**Remarks:** Taxonomic status uncertain. Generic revision needed to establish its specific identity.



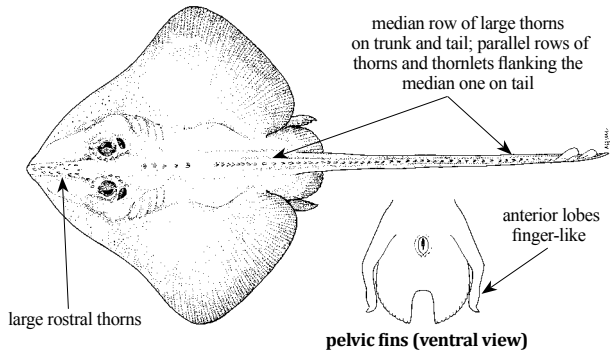

**Size:** To at least 25 cm (DW)

# GURGESIELLIDAE
Pygmy skates

***Cruriraja andamanica*** (Lloyd, 1909)

**FAO names:** Andaman pygmy skate (En)

**Local name(s):** Andaman Japu Leik Kyauk.
**Habitat:** Benthic at depths of 275–525 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc rhombic, about 1.2–1.3 times broader than long; tail long, its length about 1.6 times precloacal length; 8 large thorns on each orbital rim; posterior lobes of pelvic fin distinctly separate, anterior lobe finger-like; 2 dorsal fins; dorsal surface largely covered with small dermal denticles.
**Colour:** Dorsal and ventral surface slate grey.



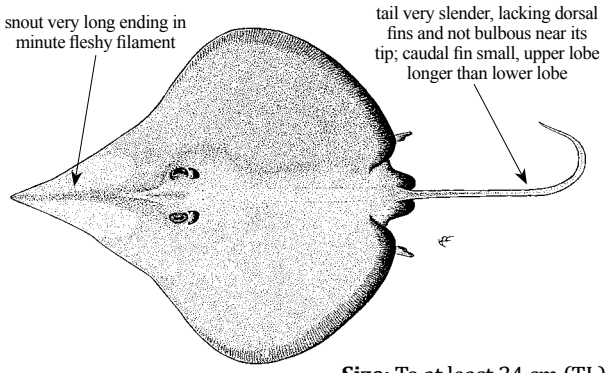

**Size:** To at least 50 cm (TL)

# ANACANTHOBATIDAE
Legskates

***Sinobatis andamanensis*** Last & Bussarawit, 2016

**FAO names:** Andaman legskate (En)

**Local name(s):** Andaman Hnar Shae Leik Kyauk.
**Habitat:** Little known, probably benthic on soft bottoms of continental slope.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc heart-shape and strongly flattened; preorbital length 1.8–2.5 in DW; pelvic fins consist of 2 separate lobes, finger-like anterior lobes resemble "legs"; dorsal surface smooth except for small alar patch in adult male.
**Colour:** Dorsal surface brownish to greyish pink, whitish along anterior disc margin, hind margin (including posterior lobe of pelvic fins) dark brown; undersurface whitish to translucent.



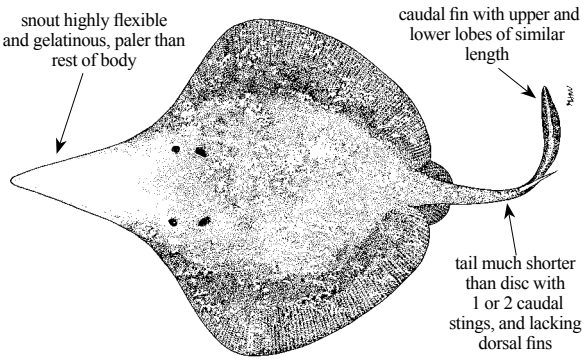

**Size:** To at least 34 cm (TL)

# HEXATRYGONIDAE
Sixgill stingrays

***Hexatrygon bickelli*** Heemstra & Smith, 1980

**FAO names:** Sixgill stingray (En)

**Local name(s):** Leik Kyauk Nharr Pyort.
**Habitat:** Deepwater, demersal occurring mainly on continental slopes at 360–1 120 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Soft, extremely flabby heart-shape disc; snout broad-based, long and triangular; eyes small and widely separate; 6 widely separated pairs of small gill slits; entire body smooth, devoid of denticles; tail much shorter than disc with 1 or 2 stings.
**Colour:** Purplish brown on dorsal surface when alive, white below with dusky margin on disc and pelvic fins; underside of tail dark.



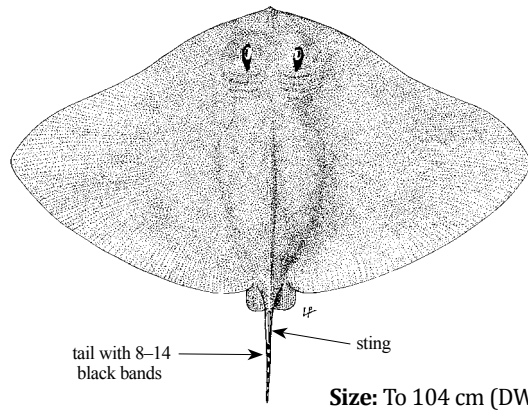

**Size:** To 170 cm (TL)

## GYMNURIDAE
Butterfly rays

***Gymnura poecilura*** (Shaw, 1804)

**FAO names:** Long-tailed butterfly ray (En)

**Local name(s):** Hta Min Ni, Hmee Shae Leik Sun.
**Habitat:** Occurs in shallow inshore waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc lozenge-shaped, much broader than long (1.7–2.1 times); tail long, its length 1.9–3.2 in DW; dorsal fin absent; no tentacle on posterior margin of spiracle; caudal stings variously present or absent.
**Colour:** Dorsal surface usually plain, sometimes with faint pale spots; ventral side whitish to brownish; tail banded, dark spot frequently between each black band; tail banding less well defined in very large individuals.

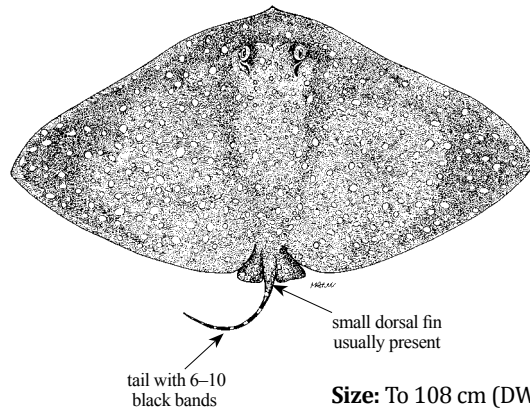



**Size:** To 104 cm (DW)

***Gymnura zonura*** (Bleeker, 1852)

**FAO names:** Zonetail butterfly ray (En)

**Local name(s):** Hta MinNi, Kyaw Set Pyork Leik.
**Habitat:** Occurs in shallow inshore waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc lozenge-shaped, much broader than long (1.8–2.1 times); tail moderately long, its length 2.8–4.3 in DW; dorsal fin usually present; no tentacle on posterior margin of spiracle; caudal stings usually present.
**Colour:** Dorsal surface uniform brown or with numerous small round whitish spots; ventral side whitish to brownish; tail banded, pale sections often with a single dark spot frequently between each black band.



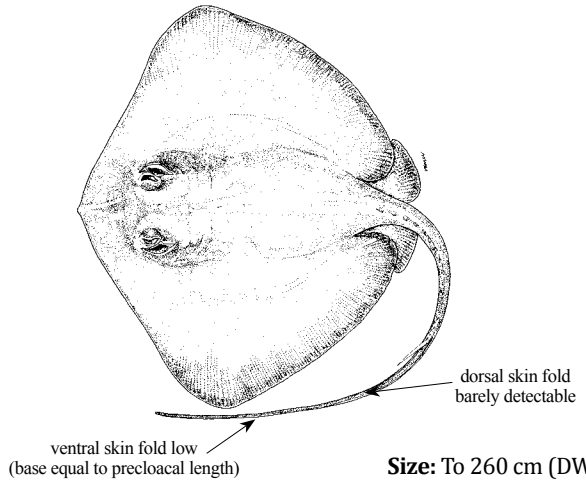

**Size:** To 108 cm (DW)

## DASYATIDAE
Stingrays

***Bathytoshia lata*** (Garman, 1880)

**FAO names:** Brown stingray (En)

**Local name(s):** Nga Leik Kyauk Nyo.
**Habitat:** Demersal on insular and continental shelves to 800 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhombic with narrowly rounded apices; anterior margins of disc weakly undulate; snout short, broadly triangular; skin of juveniles (<60 cm DW) smooth, sometimes with stellate thorns on midline of disc and tail; dorsal surface finely granular with denser coverage of large thorns centrally in adults; tail beyond sting very thorny; tail broad and depressed at base.
**Colour:** Dorsal surface greyish brown to blackish, ventral surface entirely white; tail dark before sting above, usually white ventrally; all surfaces black beyond sting.

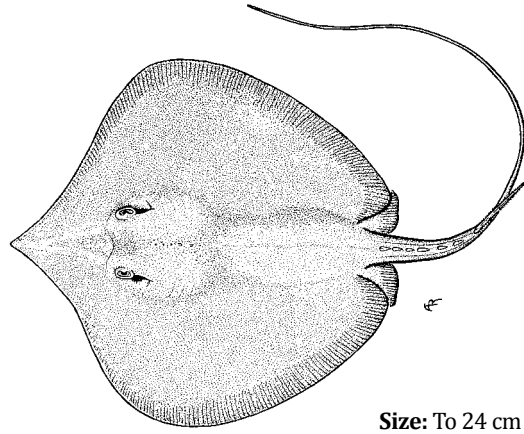



**Size:** To 260 cm (DW)

## ***Brevitrygon heterura*** (Bleeker, 1852)

**FAO names:** Dwarf whipray (En)

**Local name(s):** Nga Leik Kyauk Ja Pu Hmee Shae.
**Habitat:** Demersal on inner continental shelf to at least 50 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Similar to *Brevitrygon imbricata* (see below) but usually has a shorter tail (1.0–1.7 in DW) and smaller interspiracular space.
**Colour:** Description same as for *Brevitrygon imbricata* (see below).

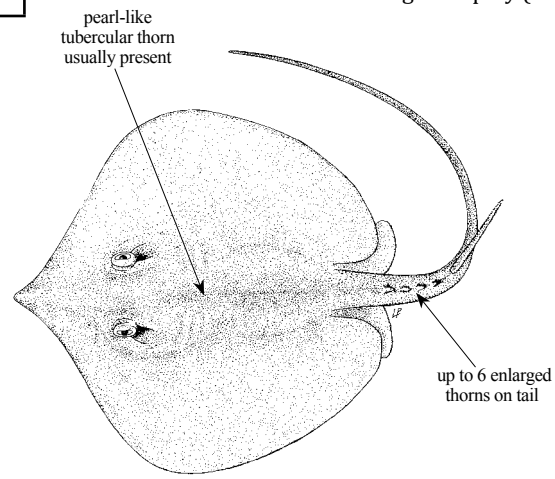


**Size:** To 24 cm (DW)

## ***Brevitrygon imbricata*** (Bloch & Schneider, 1801)

**FAO names:** Bengal whipray (En)

**Local name(s):** Bengal Nga Leik Kyauk.
**Habitat:** Demersal on inner continental shelf to at least 55 m depth.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc suboval with broadly rounded apices; anterior margins markedly concave; snout acutely pointed; interspiracular space 5.3–5.6 in DW; tail stout and oval at base, its length 1.5–1.7 in DW; a broad median denticle band from interorbital to base of spine on tail; denticle band constricted besides spiracles; tail with fleshy ridges along sides (no folds); usually 2 caudal stings.
**Colour:** Brownish to greenish brown, margin of disc pale; ventral surface of disc white with yellowish brown margins; tail forward to sting brownish above and white below; lateral ridges white, demarcated by darker surface of tail behind sting.

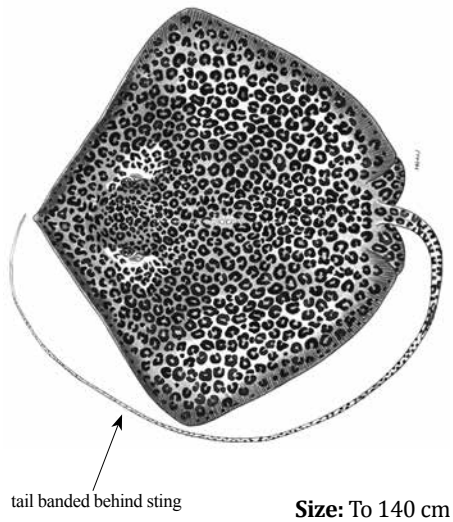



**Size:** To 23 cm (DW)

## ***Himantura leoparda*** Manjaji-Matsumoto & Last, 2008

**FAO names:** Leopard whipray (En)

**Local name(s):** Nga Leik Kyauk Kyar Thit Kywet.
**Habitat:** Occurs mainly inshore and coastal to depths of at least 70 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc weakly rhombic with narrowly rounded apices; anterior margin of disc straight or weakly concave; snout with a small apical lobe; tail narrow-based, suboval in cross-section, tapering gently toward the sting; denticle band well developed (extending onto tail) in adults, developing relatively slowly in young; 2 enlarged heart-shaped denticles on back, preceded and followed by a row of smaller denticles of similar shape; tail usually with 1 sting and no skin folds.
**Colour:** Dorsal surface covered with leopard-like spots in adults and large dark brown polygonal spots in young (<55 cm DW); ventral disc surface uniformly pale.

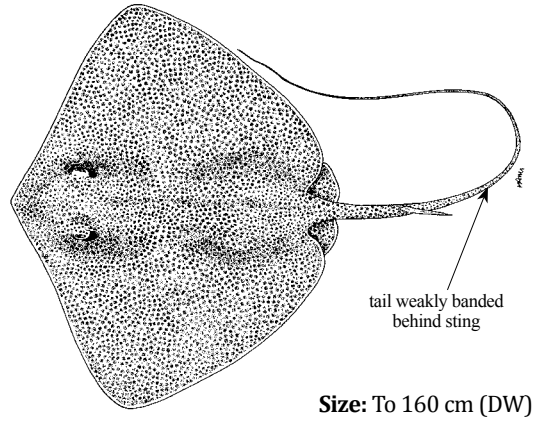



**Size:** To 140 cm (DW)

## ***Himantura uarnak*** (Gmelin, 1789)

**FAO names:** Reticulate whipray (En)

**Local name(s):** Nga Leik Kyauk Kyaw Set Pyauk.
**Habitat:** Inshore ray occurring on soft substrates; often intertidal, but to depths of at least 50 m.
**Fisheries:** Gillnets, bottom trawls, line gears.
**Distinctive Characters:** Similar to *Himantura leoparda* but central disc only with 1–3 small heart-shaped thorns but no other enlarged thorns extending along midline of disc and tail.
**Colour:** Dorsal surface of adults covered with small brownish spots and flecks; newborns with pattern of similar sized, closely set black spots, subadults with fine reticulate pattern; ventral surface almost entirely white.

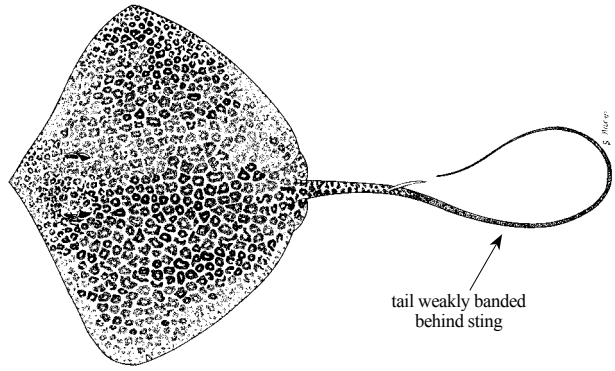



**Size:** To 160 cm (DW)

## ***Himantura undulata*** (Bleeker, 1852)

**FAO names:** Honeycomb whipray (En)

**Local name(s):** Nga Leik Kyauk Pyar Eain Kywet.
**Habitat:** Inshore ray occurring on soft substrates; often intertidal, but to depths of at least 50 m.
**Fisheries:** Gillnets, bottom trawls, line gears.
**Distinctive Characters:** Similar to *Himantura leoparda* but disc suboval with broadly rounded apices; central disc with a large pearl-shaped yellowish thorn followed by 2–3 slightly smaller similar thorns in adults (1st of these usually white), no other enlarged thorns extending along midline of disc and tail.
**Colour:** Dorsal surface of large adults with a dense pattern of large dark, thick-lined rings (larger than in *Himantura leoparda*) and reticulations; young with large dusky spots and blotches that coalesce to form reticulations during growth; ventral surface almost entirely white.

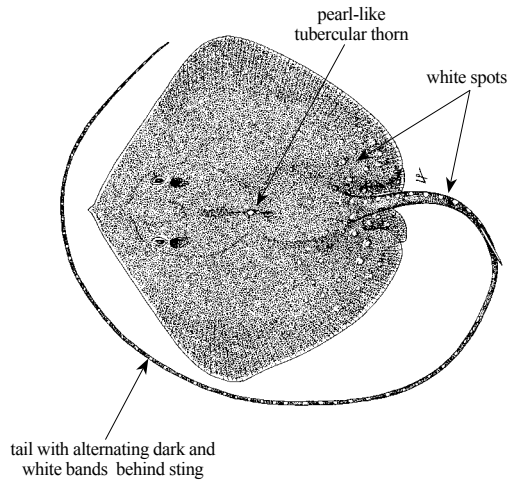



**Size:** To 130 cm (DW)

## ***Maculabatis gerrardi*** (Gray, 1851)

**FAO names:** Whitespotted whipray (En)

**Local name(s):** Nga Leik Kyauk Kyaw Phyu Set.
**Habitat:** Demersal over sandy and mud bottoms from inshore to depths of at least 60 m; also found in river mouths.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhombic with rounded to somewhat angular apices; head length 2.2–2.4 in DW; internasal width 13.0–15.6 in DW; anterior margin of disc weakly concave; snout broadly triangular with small tip; tail slightly depressed in cross-section, very slender, whip-like beyond sting; denticle band well developed in adults and developing early in young; some enlarged denticles before and after pearl-like tubercular thorn; no skin folds on tail.
**Colour:** Upper surface with numerous white spots (may be dark-edged) or with spots confined to posterior portion of disc; ventral surface white.

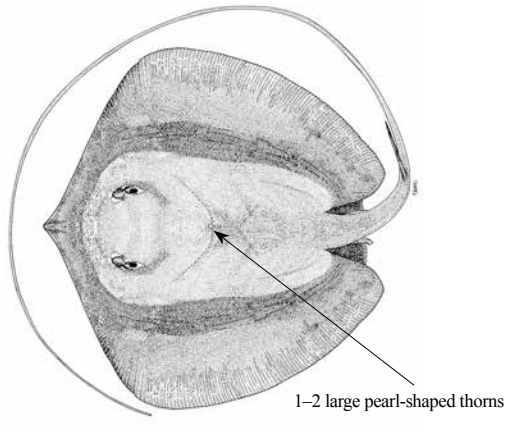



**Size:** To 116 cm (DW)

## *Maculabatis pastinacoides* (Bleeker, 1852)

**FAO names:** Round whipray (En)

**Local name(s):** Nga Leik Kyauk Kyaw Waing.
**Habitat:** Inshore in coastal waters, estuaries and near large river mouths.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc broadly suboval (as wide as long); anterior margin of disc weakly convex; snout rather short and broadly triangular; tail narrow-based, subcircular in cross-setion, slender, whip-like beyond sting; denticle band very broad, well-defined and developing rapidly with growth (fully developed by 30 cm DW); usually pearl-shaped thorns on back (anteriormost largest); no thorns or skin folds on tail; tail beyond caudal sting densely granular.
**Colour:** Uniform brownish, greyish to greenish above, white below; tail blackish behind sting.

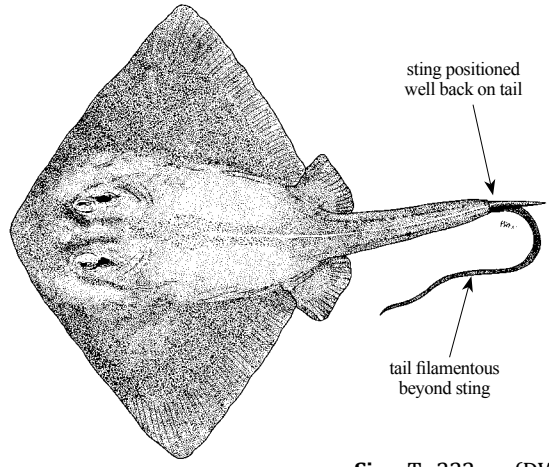



**Size:** To about 86 cm (DW)

## *Megatrygon microps* (Annandale, 1908)

**FAO names:** Smalleye stingray(En)

**Local name(s):** Nga Leik Kyauk Myet Lone Thae.
**Habitat:** Benthopelagic (and possibly pelagic) over continental and insular shelves.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhombic, very broad and angular (width 1.4–1.5 times its length); anterior margin of disc almost straight; snout short, bluntly rounded, tip not extended; tail short, very broad and depressed to sting, becoming filamentous beyond sting; skin rough, densely covered with minute, stellate denticles but lacking enlarged thorns or bucklers; skin folds on tail reduced (dorsal) or very low (ventral).
**Colour:** Disc brownish or pinkish above with diagonal row of white spots on each pectoral base; ventral surface white with dusky margins.

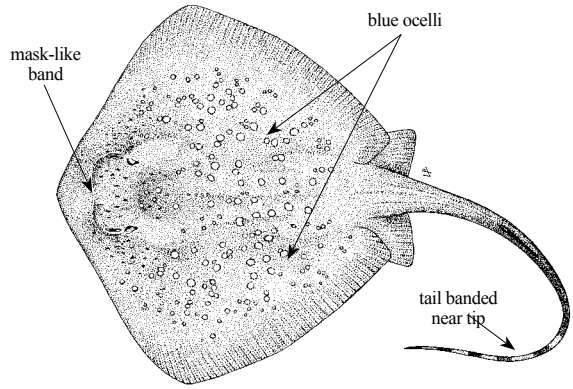



**Size:** To 222 cm (DW)

## *Neotrygon caeruleopunctata* Last & White, 2016

**FAO names:** Blue-spotted maskray (En)

**Local name(s):** Nga Leik Kyauk Kyaw A Pyar Set.
**Habitat:** Inshore species living mainly on sandy substrates to a depth of 90 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhomic with abruptly angular apices; anterior margin straight to weakly convex; snout short, broadly rounded, tip not extended; tail firm (not whip-like), rather broad based and depressed anteriorly, slender and compressed beyond sting; denticles confined to single row of short, thorn-like elements along disc mid-line; skin folds present on tail.
**Colour:** Dorsal surface pale greenish brown with small blue ocelli; spots less dense on medial strip of disc; ventral surface white with sharply defined dark submarginal band; skin folds almost entirely dark; mask-like band weak.

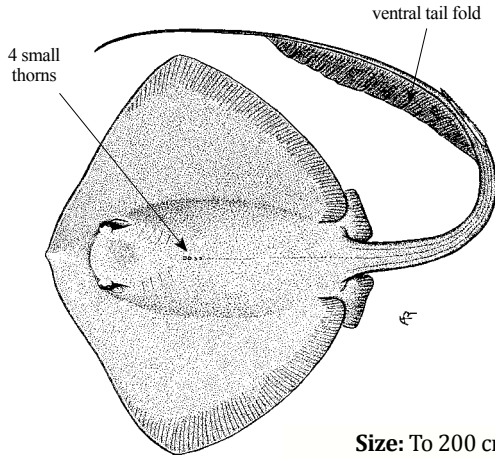



**Size:** To 47 cm (DW)

## *Pastinachus ater* (Macleay, 1883)

**FAO names:** Broad cowtail stingray (En)

**Local name(s):** Nga Leik Kyauk Nwar Mee.
**Habitat:** Demersal on continental and insular shelves (also in estuaries and freshwater).
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhombic with angular apices; anterior margins of disc straight; snout short, obtuse, with small lobe at tip; tail about twice DW or less, its base very broad and strongly depressed, tapering gently beyond sting; denticle band distinct, becoming less dense toward outer pectoral fin; usually 4 small thorns on back; ventral fold very deep, height behind sting 3.6–5.7 times adjacent tail heigth; dorsal tail fold absent.
**Colour:** Upper surface uniform, greyish brown to black; tail fold and tail tip black; ventral surface white, often with fine black edge; ventral tail with black areas before sting.

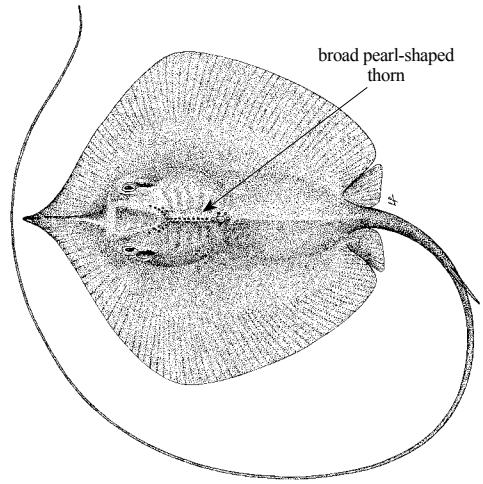



**Size:** To 200 cm (DW)

## *Pateobatis bleekeri* (Blyth, 1860)

**FAO names:** Bleeker's whipray (En)

**Local name(s):** Nga Leik Kyauk Kyar Put Hmee.
**Habitat:** Demersal over sandy and mud bottoms from inshore to depths of at least 40 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc subcircular with broadly rounded apices; anterior margin of disc weakly to moderately concave; snout pointed; tail narrow-based, subcircular in cross-setion, slender, whip-like beyond sting; a very broad median denticle band from well before interorbit, extending along centre of disc and onto upper tail; pearl thorn (more prominet in young) on back, preceded and followed by a few slightly enlarged thorns; no thorns or skin folds on tail.
**Colour:** Uniformly brownish (greenish brown centrally) dorsally; ventral surface white with darker margins in young, becoming almost entirely dark, with occasional white patches in adults.

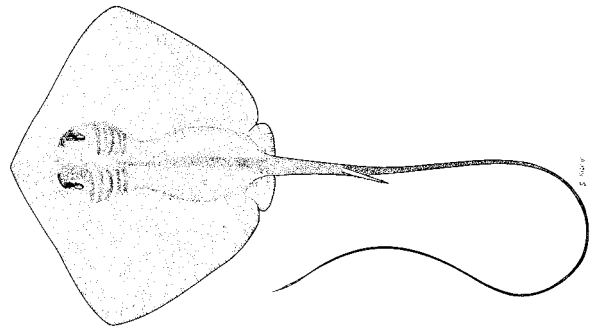



**Size:** To 119 cm (DW)

## *Pateobatis fai* (Jordan & Seale, 1906)

**FAO names:** Pink whipray (En)

**Local name(s):** Nga Leik Kyauk Me' Pann Yaung.
**Habitat:** Demersal over sandy bottoms and coral rubble from inshore to depths of at least 70 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhombic with narrowly rounded apices, anterior margins weakly concave; snout short and broad; tail whip-like, subcircular in cross-section; denticle band on central disc loosely defined, becoming indiscernible in individuals larger than 90 cm DW; no enlarged thorny denticles on mid-line of disc and tail; no skin folds on tail.
**Colour:** Dorsal surface pale pinkish brown to greyish; small white patch anterior to orbits; tail black behind sting, white with dark margin ventrally.

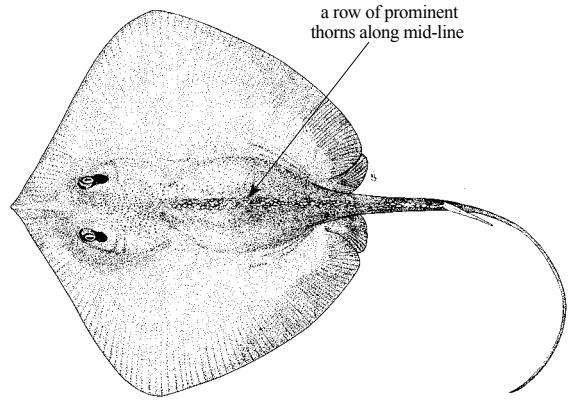


**Size:** To 146 cm (DW)

## *Pateobatis jenkinsii* (Annandale, 1909)

**FAO names:** Jenkin's whipray (En)

**Local name(s):** Nga Leik Kyauk Kyar Put Hmee.
**Habitat:** Benthic over sandy bottoms to depths of about 90 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc rhombic with narrowly rounded apices, anterior margins straight; snout moderately broad, obtuse, rather short; tail short, subcircilar in cross-section, slender, whip-like beyond sting; denticles on back in a narrow, asimmetrical well-defined band; a row of prominet thorns along mid-line of disc and tail before sting (denticle band and thorns reduced or absent in young); no skin folds on tail.
**Colour:** Dorsal surface uniform yellowish brown (young with small dark spots on rear margins of disc); tail blackish beyond sting; ventral surface white (a sharply defined dark submarginal band in young).

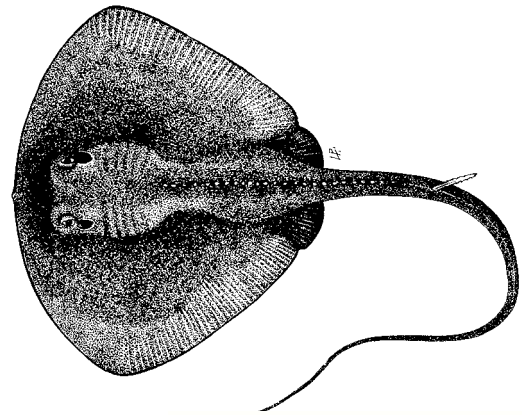



**Size:** To 150 cm (DW)

## *Pteroplatytrygon violacea* (Bonaparte, 1832)

**FAO names:** Pelagic stingray (En)
Pastenague violette (Fr)

**Local name(s):** Ye Paw Hlwar Nga Leik Kyauk.
**Habitat:** Found in open waters usually in the first 100 m.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Disc cone-shaped, very broad (width 1.3–1.4 times its length); apices angular; anterior margin uniformly convex; snout very short and obtuse; tail slightly depressed anteriorly, whip-like beyond sting; denticles confined to a single row of small thorns along disc midline in adults; ventral skin fold very low, terminating well before tail tip.
**Colour:** Upper surface uniform dark purple to black; ventral surface almost entirely dark, but usually slightly lighter than dorsal surface; cloaca, thorns and sting mostly pale.

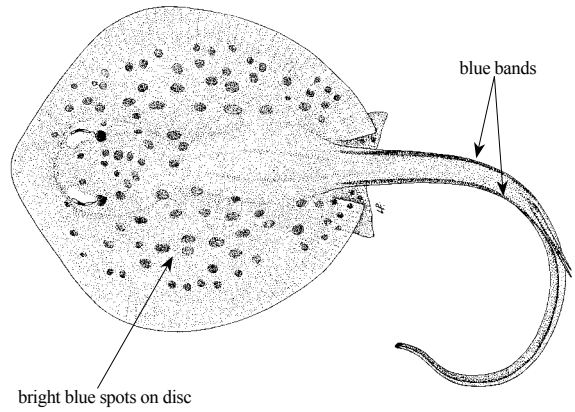


**Size:** To 80 cm (DW)

## *Taeniura lymma* (Forsskål, 1775)

**FAO names:** Bluespotted ribbontail ray (En)
Pastenague queue à ruban (Fr)

**Local name(s):** Nga Leik Kyauk Kyaw Pyarr Set Hmee Pyar.
**Habitat:** Sandy bottoms of coastal waters down to 20 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc oval; anterior margin slightly convex; snout bluntly rounded, tip not pointed; tail short, broad-based, depressed anteriorly (about 1.5 in DW when undamaged), tapering rapidly to sting; mostly with 2 stings located posteriorly on tail; disc smooth, except for patch of small, widely spaced thorns in nuchal area; ventral skin fold extending to tail tip.
**Colour:** Golden-brown with blue spots on disc and 2 broad blue bands on tail before sting.

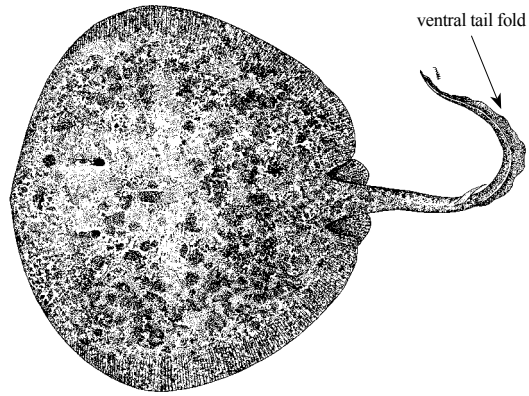



**Size:** To 35 cm (DW)

***Taeniurops meyeni*** (Müller & Henle, 1841)

**FAO names:** Blotched stingray (En)

**Local name(s):** Nga Leik Kyauk Gaung Lone Phae Pyarr Hmee.
**Habitat:** Benthic around coral reef habitats and on sand substrates from the surf zone to 439 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc subcircular; anterior margin uniformly convex; snout short, very obtuse, tip not pointed; tail short (length slightly longer than DW when undamaged), relatively broad-based, depressed, tapering rapidly at sting; disc surface of adults covered with short, star-shaped denticles (no thorns); ventral tail fold prominent, extending to tail tip, several times deeper than tail above; dorsal tail fold absent.
**Colour:** Dorsal surface mottled black and white (sometimes uniformly brownish or black); ventral surface of disc uniformly pale; skin fold and tail uniformly black behind sting.

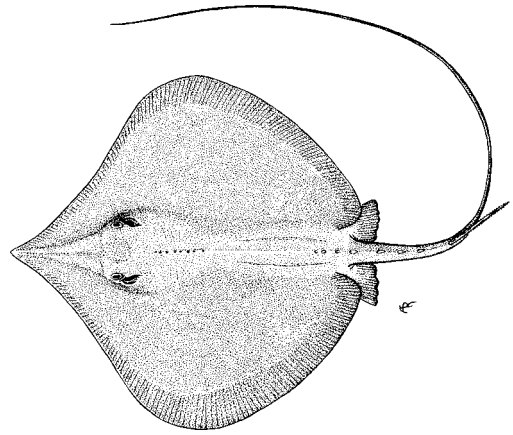



**Size:** To 180 cm (DW))

***Telatrygon crozieri*** (Blyth, 1860)

**FAO names:** Indian sharpnose ray (En)

**Local name(s):** Nga Leik Kyauk Hnar Chunn.
**Habitat:** Demersal on continental shelf.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc weakly rhombic with broadly rounded apices and deeply concave anterior margins; snout elongate, tip narrow and angular (length 2.8–3.0 in DW); tail narrow-based, depressed slightly, becoming filamentous beyond sting; skin largely smooth, lacking denticles in both young and adults; short, single row of small thornlets on nape; up to 12 much larger thorns on tail before sting in adults; dorsal tail fold prominent, ventral tail fold long (base 1.5 in DW).
**Colour:** Disc uniformly dark brown with broad dark margin; ventral surface white; tail behind sting usually dusky above and below, sides paler.

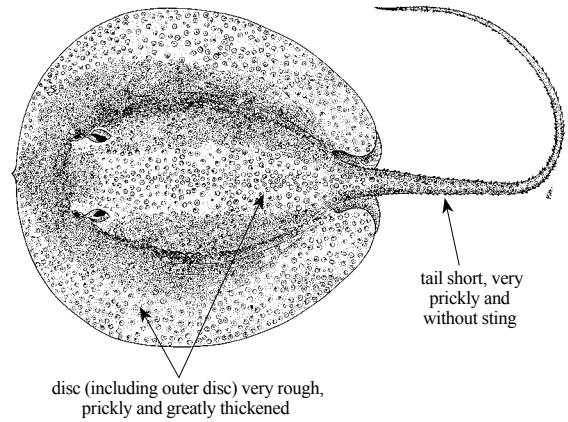


**Size:** To 40 cm (DW))

***Urogymnus asperrimus*** (Bloch & Schneider, 1801)

**FAO names:** Porcupine whipray (En)

**Local name(s):** Nga Leik Kyauk Suu Pyann.
**Habitat:** Demersal, in inshore waters.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc very thick, oval to subcircular with broadly rounded apices; snout short, obtuse, tip with short lobe; tail short, slender, about equal to disc length, almost cylindrical in cross-section; upper mid-disc and tail extremely rough and prickly, densely covered with a broad band of flat, plate-like denticles, interspersed with fewer, taller upright thorns in adults; outer disc with fewer denticles but similar coverage of upright thorns; caudal stings and skin folds absent.
**Colour:** Disc light grey, yellowish or whitish above, thorns often paler; white below; posterior half of tail blackish.

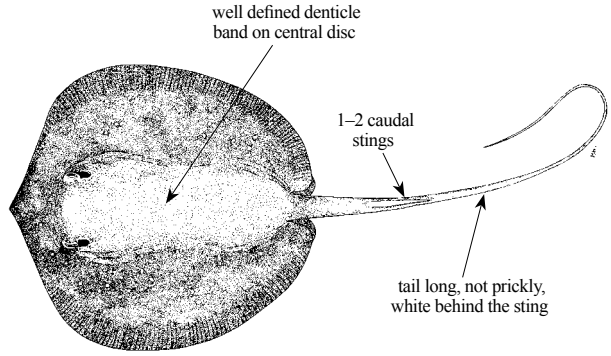



**Size:** To 147 cm (DW)

***Urogymnus granulatus*** (Macleay, 1883)

**FAO names:** Mangrove whipray (En)

**Local name(s):** De Yay Taw Nga Leik Kyauk.
**Habitat:** Young live mainly in mangroves and estuaries; adults on coral reefs.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc very thick, oval, with broadly rounded apices; snout short with a weak apical lobe; tail broad-based, subcircular in cross-section, slender, whip-like beyond sting, its length 1.3–2.1 times DW; well-developed denticle band with sparse denticles; no enlarged thorns or thornlets on body; no denticles on undersurface or sides of tail; no skin folds on tail.
**Colour:** Dorsal surface greyish or yellowish brown, covered with small white flecks and often with dark mucus; ventral surface white in young, with dense black blotches in adults; broad dark margin usually around disc and outer edges of pelvic fins.

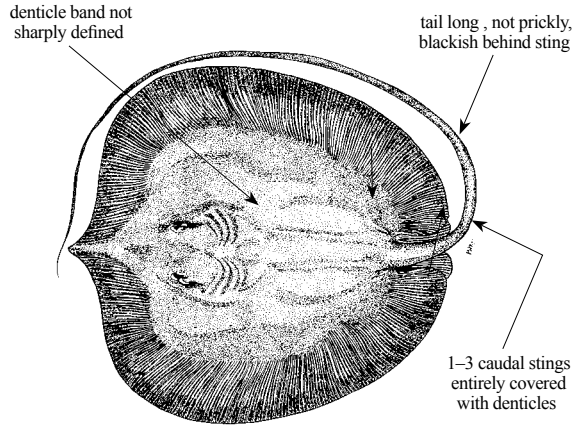



**Size:** To 141 cm (DW)

***Urogymnus polylepis*** (Bleeker, 1852)

**FAO names:** Giant freshwater whipray (En)

**Local name(s):** Nga Leik Kyauk Suu Pyann.
**Habitat:** Inhabits freshwater and low salinity embayments near the coast.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Disc with oval, thick trunk and thin highly flexible pectoral fins; snout very broad with pronounced triangular apical lobe; tail narrow-based, compressed to subcircular in cross-section, slender, whip-like beyond sting, its length 2.8–3.1 in DW; skin on upper surface entirely covered with fine granular denticles; 1–6 mid-shoulder enlarged denticles, mostly small or inconspicuous; no skin folds on tail.
**Colour:** Dorsal surface uniform greyish or brownish; ventral surface white with outer margin dark broadly dark brown or greyish, widest posteriorly and with blotchy inner margin.



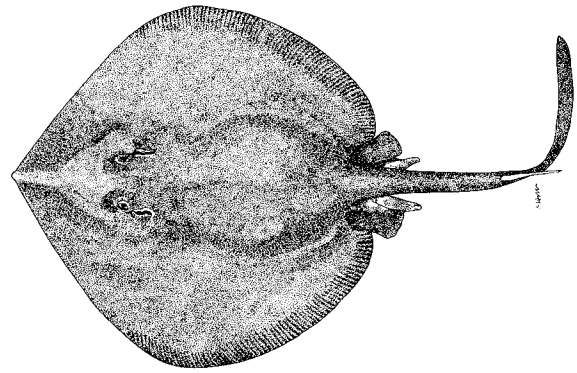

**Size:** To 192 cm (DW)

## PLESIOBATIDAE
Giant stingrays

***Plesiobatis daviesi*** (Wallace, 1967)

**FAO names:** Giant stingray (En)

**Local name(s):** Leik Kyauk Be Lu.
**Habitat:** Benthic on soft bottoms at 275–680 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc soft, subcircular in young, becoming oval in adults; snout flexible, broadly triangular and pointed; tail narrow-based, slender (not whip-like), shorter than disc and usually with as strong caudal sting; caudal fin elongate and slender, base about half length of tail; upper disc and tail covered with small denticles in both adults and young; ventral side of disc smooth.
**Colour:** Dorsal surface greyish, purplish or reddish brown; tail dark brownish to black; caudal fin black; ventral surface white, with narrow dark margins.



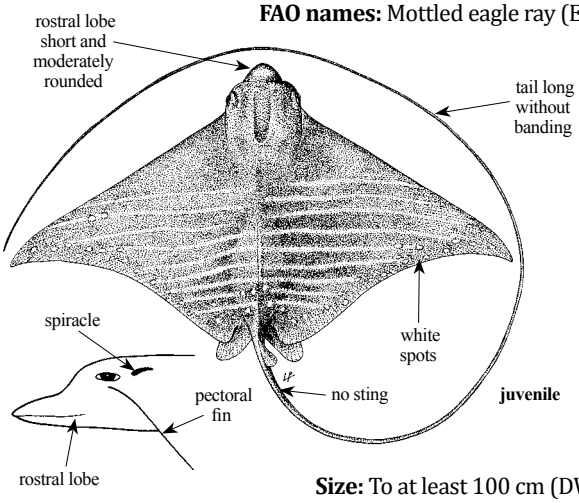
**Size:** To 130 cm (DW)

# MYLIOBATIDAE

Eagle rays

## *Aetomylaeus maculatus* (Gray, 1834)

**FAO names:** Mottled eagle ray (En)

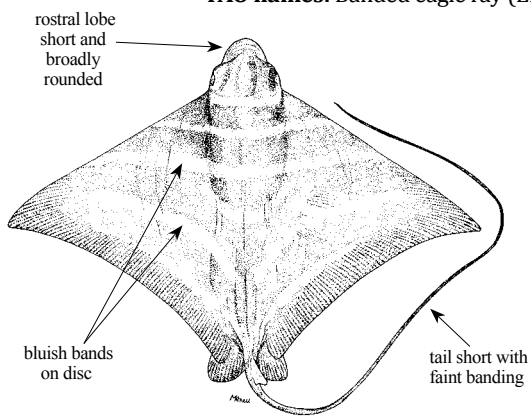



**Local name(s):** Be' Leik Soon Kyaw Sin Lay.
**Habitat:** Pelagic over coastal inshore habitats.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc very broad and short (disc slightly longer in adult females); pectoral fins weakly falcate, joining head below eye, separate from rostral lobe; caudal sting absent; spiracles lateral, not visible in dorsal view (the last three characters valid for all *Aetomylaeus* species occurring in the area); tail long, its length about 3.0–4.4 in length of body; disc smooth, without thorns or denticles; dorsal fin origin just behind pelvic fin insertion.
**Colour:** Dorsal surface browhish to greenish; disc with numerous, usually faint, whitish spots mostly concentrated on posterior half of disc; white below.

**Size:** To at least 100 cm (DW)

## *Aetomylaeus nichofii* (Bloch & Schneider, 1801)

**FAO names:** Banded eagle ray (En)

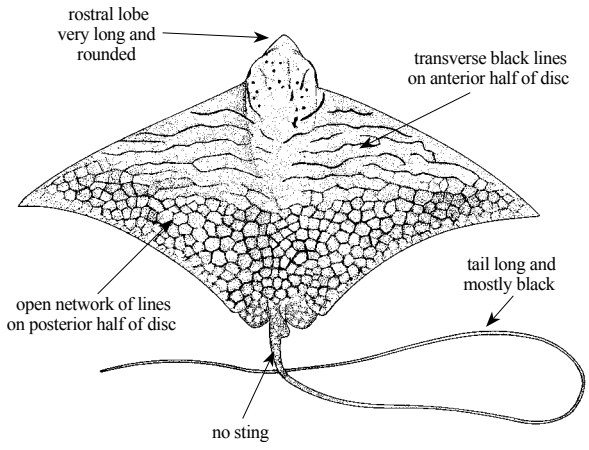



**Local name(s):** Be' Leik Soon Kyaw Zin Gyi Tin.
**Habitat:** Mainly pelagic over soft bottoms from inshore to at least 100 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Aetomylaeus maculatus* but no spots on disc; tail shorter, its length about 1.4–1.8 in length of body; rostral lobe more rounded; dorsal fin origin at level of pelvic fin insertions.
**Colour:** Dorsal disc surface greyish brown; disc with 5–8 pale blue (sometimes dark-edged) transverse bands beginning at interorbital region; bands becoming faint in large adults; faint banding present on tail; ventral surface white with brownish pectoral fin apices.

**Size:** To about 72 cm (DW)

## *Aetomylaeus vespertilio* (Bleeker, 1852)

**FAO names:** Ornate eagle ray (En)




**Local name(s):** Bae Leik Soon Kyaw Kywet Kyar.
**Habitat:** Mostly pelagic over coral reefs and inshore muddy bays to at least 110 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc very broad and short; pectoral fins weakly falcate, joining head below eye, separate from rostral lobe; caudal sting absent; tail elongate, its length about 3 times DW; disc mostly smooth, without thorns (adults with a narrow band of flat denticles along midline of disc and predorsal tail); dorsal fin small, no free rear tip, its origin behind pelvic fin insertions.
**Colour:** Dorsal surface brown to bluish grey with broken transverse black lines anteriorly and an open network of black lines posteriorly; posterior margin of disc with white spots; head with black spots and stripes; ventral surface white.

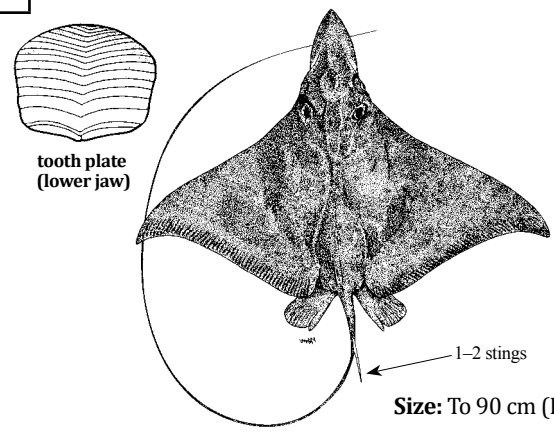
**Size:** To at least 300 cm (DW)

# AETOBATIDAE

Pelagic eagle rays

***Aetobatus flagellum*** (Bloch & Schneider, 1801)

**FAO names:** Longheaded eagle ray (En)

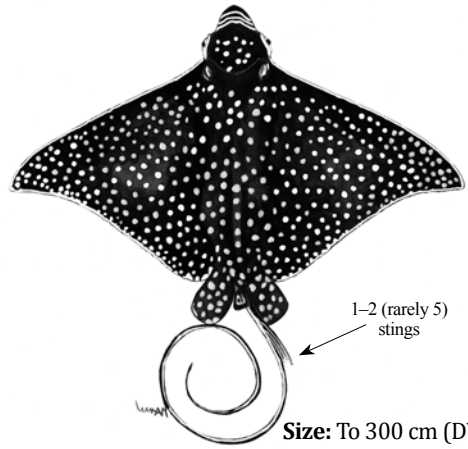



**Local name(s):** Bae' Leik Soon Lin Yone Gaung Shae.
**Habitat:** Pelagic in inshore waters; also found in estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc diamond-shaped, very broad but relatively short; rostral lobe very long, narrowly pointed; skin smooth; teeth plate-like, in a single row in both jaws, those in lower jaw chevron-shaped; nasal curtain deeply notched, centrally; spiracles large, visible in dorsal view (the last three, are shared characters of all aetobatids); skin entirely smooth.
**Colour:** Dorsal surface uniformly brownish to greenish brown; ventral surface mostly white.

**Size:** To 90 cm (DW)

***Aetobatus ocellatus*** (Kuhl, 1823)

**FAO names:** Ocellated eagleray (En)




**Local name(s):** Bae' Leik Soon Kyaw Me' Phyu Set.
**Habitat:** Pelagic in inshore and offshore waters; also found in estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Disc very broad and short, rostral lobe moderately long (shorter in juveniles) and parabolic; skin smooth; teeth plate-like, in a single row in both jaws, those in lower jaw chevron-shaped; nasal curtain deeply notched centrally; spiracles large, visible in dorsal view; tail very long, 2.1–2.5 in DW.
**Colour:** Dorsal surface greenish grey with numerous, similar size white to pale blue spots (occasionaly without spots or with spots confined to rear disc); ventral surface mostly white.

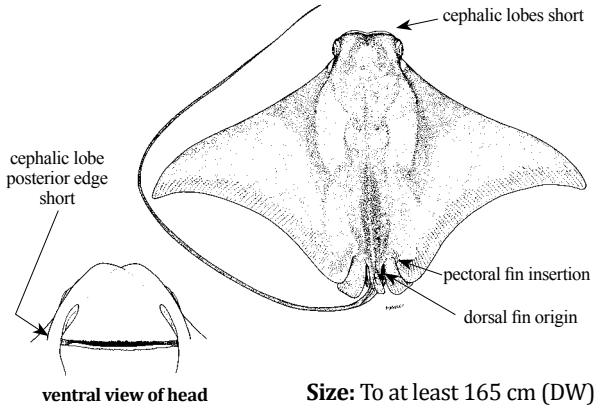
**Size:** To 300 cm (DW)

# RHINOPTERIDAE

Cownose rays

***Rhinoptera javanica*** Müller & Henle, 1841

**FAO names:** Javanese cownose ray (En)
Mourine javanaise (Fr)



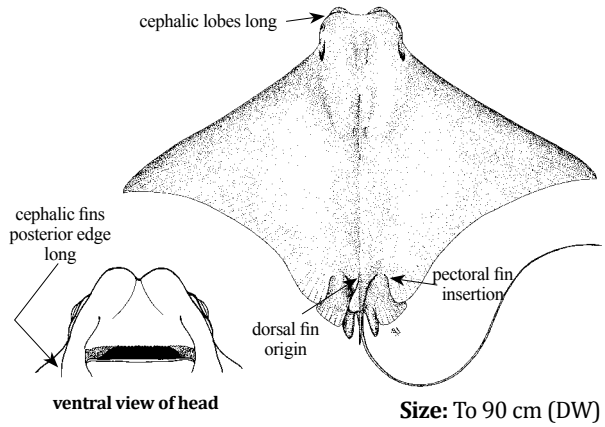

**Local name(s):** Japan Be' Leik Dee Doke.
**Habitat:** Most common inshore in bays, estuaries and near coral reefs.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Disc broad and short; snout strongly notched medially to form two lobes; head relatively narrow, its width across middle of eye 6.7–7.4 in DW; cephalic lobe posterior edge not (or just) reaching mouth; tail long, usually 2.4–3.4 times disc length (when undamaged); dorsal fin origin distinctly behind pectoral fin insertions; posterior margin of dorsal fin strongly concave; sting (when present) behind dorsal fin free rear tip.
**Colour:** Disc plain greenish brown to blackish above, white below; tail base white below remainder of tail black.

**Size:** To at least 165 cm (DW)

***Rhinoptera jayakari*** Boulenger, 1895

**FAO names:** Shorttail cownose ray (En)

**Local name(s):** Bae' Leik Dee Doke Hmee To.
**Habitat:** Usually pelagic in large schools, near the coast and well offshore.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Rhinoptera javanica* but head broader, its width across middle of eye 5.7–6.9 in DW; cephalic lobe posterior edge extending past mouth (almost to 1st gill slit); tail shorter, about 1.4–1.8 times disc length (when undamaged); dorsal fin origin over or slightly forward of pectoral fin insertions; posterior margin of dorsal fin weakly convex; sting (when present) beneath dorsal fin inner margin.
**Colour:** Olivaceus above, white below; tail black distally.



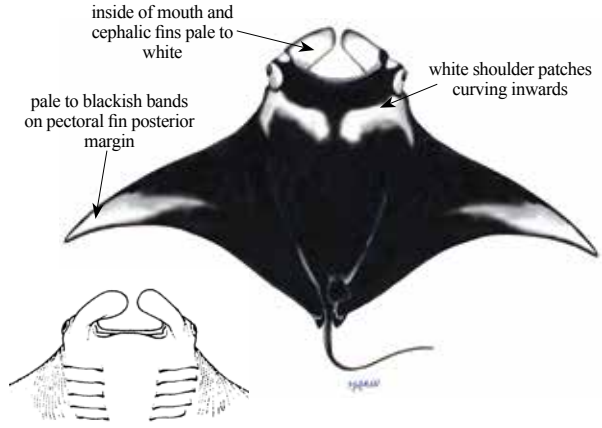

**Size:** To 90 cm (DW)

## MOBULIDAE
Devil rays

***Mobula alfredi*** (Krefft, 1868)

**FAO names:** Alfred's manta (En)

**Local name(s):** Be' Leik Kyaw Phyu Sin.
**Habitat:** Pelagic, mainly inshore around coral and rocky reefs and areas associated with upwelling.
**Fisheries:** Driftnets, gillnets.
**Distinctive Characters:** Disc very broad and short, length 2.1–2.4 in width; mouth terminal; spiracles slit-like, on dorsal surface behind eyes; denticles on dorsal surfaces small, not overlapping and uniformly distributed; tail whip-like about equal to or longer than disc length when undamaged; no spine or calcified lump behind dorsal fin.
**Colour:** Dorsal surface black with pale to white shoulder patches; ventral surface mostly white (rarely entirely black), occasionaly with dark spots or patches; a small black, semicircular spot emanating from both of the 5th gill slits.

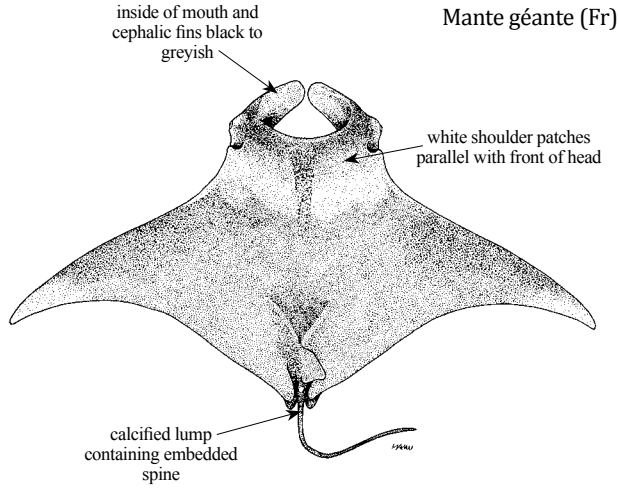



**Size:** To at least 550 cm (DW)

***Mobula birostris*** (Walbaum, 1792)

**FAO names:** Giant manta (En)
Mante géante (Fr)

**Local name(s):** Bae' Leik Beluu.
**Habitat:** Pelagic, mostly along coastlines with regular upwelling, oceanic islands and offshore seamounts.
**Fisheries:** Driftnets.
**Distinctive Characters:** Similar to *Manta alfredi* but calcified lump containing an embedded spine behind dorsal fin present; denticles on dorsal and ventral surfaces prominent, strongly overlapping and forming length-wise ridges; tail whip-like less than disc length when undamaged; different pattern of white shoulder patches (see colour description below).
**Colour:** Dorsal surface black, with pale to white shoulder patches present, their anterior margins running parallel with the front of head; ventral surface mostly white (rarely entirely black) with dark spots or patches; a large black, semicircular spot emanating from both of 5th gill slits.

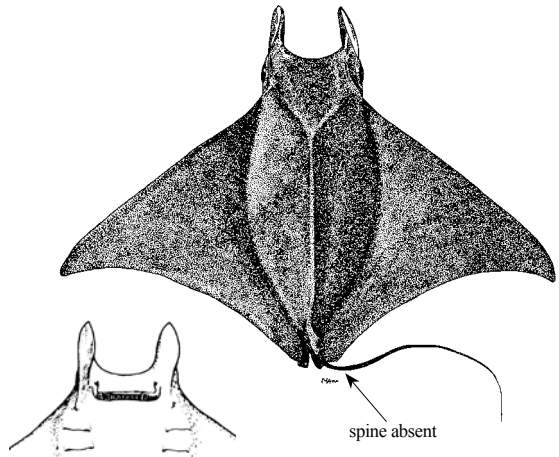



**Size:** To at least 700 cm (DW)

## *Mobula kuhlii* (Muller & Henle, 1841)

**FAO names:** Kuhl's devilray (En)

**Local name(s):** Bae' Leik Gyo Taung.
**Habitat:** Pelagic, mainly in coastal waters.
**Fisheries:** Driftnets, gillnets.
**Distinctive Characters:** Anterior margin of pectoral fins straight or slightly convex; mouth subterminal; spiracles very small, subcircular and ventral to the plane of the pectoral fins; denticles mostly absent; tail whip-like and long, greater than disc width in embryos and juveniles, shorter than disc width in adults; caudal spine absent.
**Colour:** Greyish brown above; dorsal fin plain or with a white tip; ventral surface mostly white.



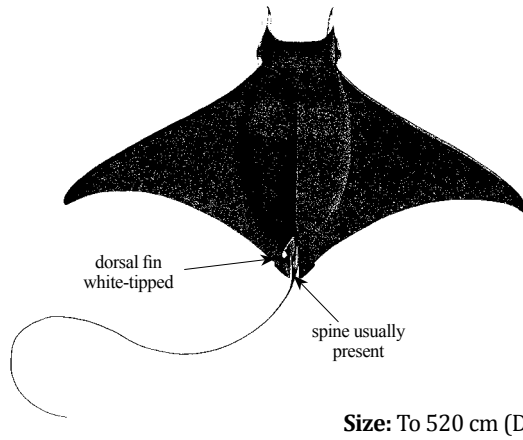

ventral view of head

**Size:** To 135 cm (DW)

## *Mobula mobular* (Bonnaterre, 1788)

**FAO names:** Giant devilray (En)

**Local name(s):** Bae' Leik Gyo Taung Phyu.
**Habitat:** Pelagic, in coastal and oceanic waters.
**Fisheries:** Driftnets, gillnets.
**Distinctive Character:** Pectoral fins moderately falcate; mouth subterminal; spiracles long, slit-like and dorsal to the plane of the pectoral fins; densely cover most of the body surfaces; tail whip-like and very long, subequal to or exceeding disc width when undamaged; a short serrated caudal spine usually present behind dorsal fin.
**Colour:** Bluish black above with 2 crescentic white patches on shoulders, most obvious in embryos and juveniles, fading in adults; white ventrally, sometimes with dark patches in adults.

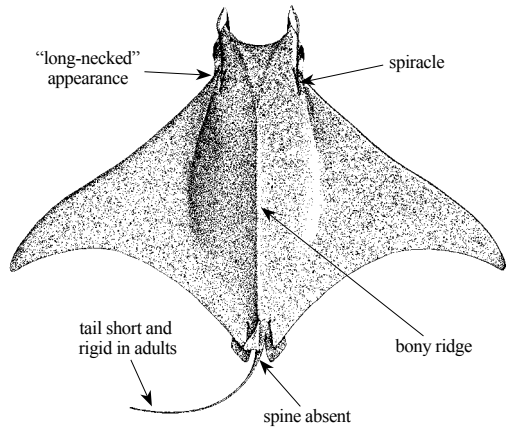



**Size:** To 520 cm (DW)

## *Mobula tarapacana* (Philippi, 1892)

**FAO names:** Sicklefin devilray (En)

**Local name(s):** Bae' Leik Gye Doke Chaung Hmee.
**Habitat:** Pelagic, in coastal and oceanic waters.
**Fisheries:** Driftnets, gillnets.
**Distinctive Characters:** Pectoral fins strongly falcate; mouth subterminal; spiracles long, slit-like and dorsal to the plane of the pectoral fins; denticles densely cover most of the body surfaces, very rough to touch; a strong bony ridge present along dorsal mid-line; tail whip-like but short, slightly longer than disc in juveniles, much less than disc length in adults; caudal spine absent.
**Colour:** Uniform greyish green to greyish brown above; dorsal fin plain, without a white tip; ventral surface whitish anteriorly, pale greyish posteriorly.

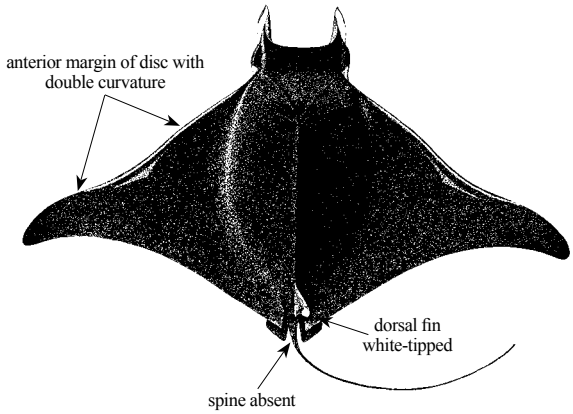



**Size:** To 370 cm (DW)

***Mobula thurstoni*** (Lloyd, 1908)

**FAO names:** Smoothtail mobula (En)

**Local name(s):** Bae' Leik A Hmee Chaw.
**Habitat:** Pelagic, mainly in coastal waters.
**Fisheries:** Driftnets, gillnets.
**Distinctive Characters:** Anterior margin of disc with double curvature; mouth subterminal; spiracles very small, subcircular and ventral to the plane of the pectoral fins; denticles very sparse on body surface; tail whip-like and long, can be as long as DW in adults when intact; caudal spine absent.
**Colour:** Bluish black with purplish hues above; blackish margin along anterior disc becoming broad and very distinctive at level of concavity; dorsal fin with a distinct white tip (becoming faint in adults); ventral surface mostly white.

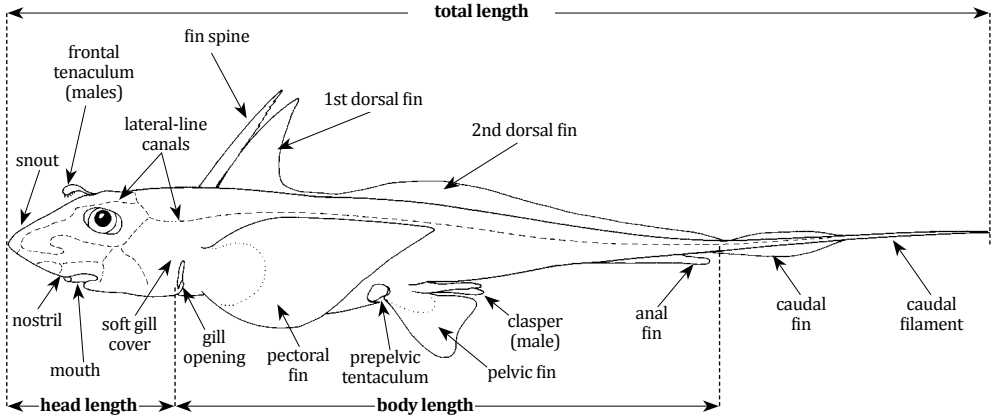



**Size:** To at least 189 cm (DW)

# CHIMAERAS

The "Guide to Orders and Families", includes a total of 1 order and 2 families. The "Guide to Species", includes 3 species belonging to 2 families. Given their deep-water habitat and lack of specimens in museum collections, the diversity and biology of chimaeroid fishes occuring in the area is poorly understood. If one or more specimens are recorded, the user can follow the instructions present in the introduction regarding its preservation and/or contact the EAF-Nansen and FishFinder Programmes of FAO.

## TECHNICAL TERMS AND MEASUREMENTS




### Order CHIMAERIFORMES

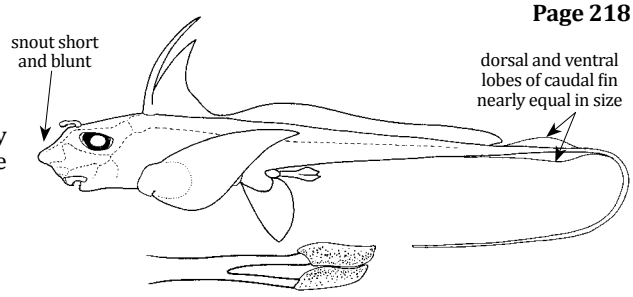
Body shark-like typically tapering rearwards to a filamentous tail; head very large; prominent 1st dorsal fin spine preceding a large, erect triangular dorsal fin; 2nd dorsal fin long and spineless; pectoral fins broad wing-like; noticeable lateral line canals on head and trunk; mouth small, ventral and connected to the nostrils by deep grooves; teeth plate-like; fleshy operculum covering the 4 gill openings, leaving one opening on each side; skin smooth.

**Page 218**

### CHIMAERIDAE

**Shortnose chimaeras**

To 1.50 m TL. Generally inhabit deep-water, usually from depths of 200 to over 2 500 m. Two species are included in the Guide to Species.



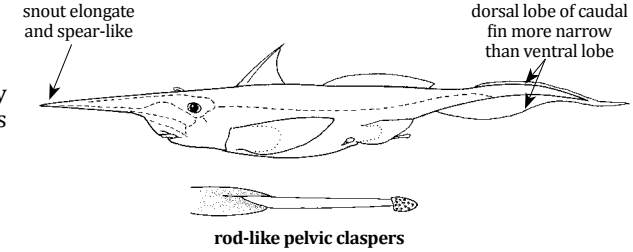

**bifurcate pelvic claspers**

**Page 218**

### RHINOCHIMAERIDAE

**Longnose chimaeras**

To 1.50 m TL. Generally inhabit deep-water, usually found at depths of 250 to 3 000 m. One species is included in the Guide to Species.

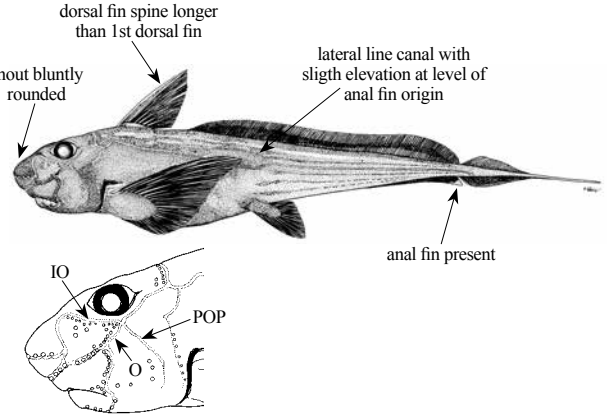



**rod-like pelvic claspers**

## CHIMAERIDAE
Shortnose chimaeras

***Chimaera*** sp. *

**FAO names:** Andaman chimaera (En)

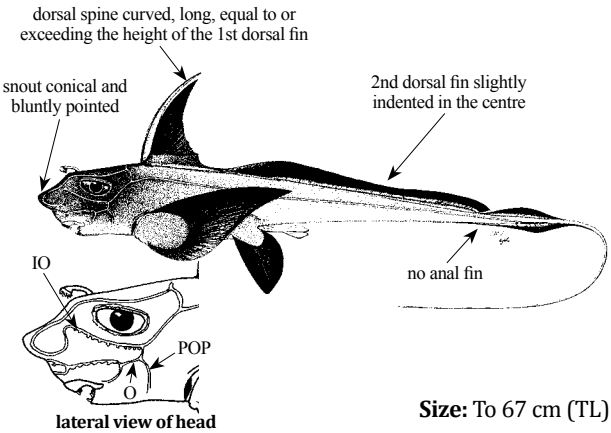



**Local name(s):** Andaman Nga Kywet Hmee.
**Habitat:** Trawled between 520–522 m depth
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body tapering to a slender tail ending in a whip-like filament; oral (O) and preopercular (POP) lateral line canals branching off the infraorbital (IO) canal from the same point; ventral caudal margin ending slightly posterior to dorsal caudal margin; anterior half of lateral slightly wavy; skin deciduous, smooth.
**Colour:** Uniform purplish brown (whitish where skin deciduous) and all fins blackish in fresh specimens.
**Remarks:** An undescribed species, presently being described by Ebert *et al*.

**Size:** At least to 68 cm (TL)

***Hydrolagus*** cf. ***africanus*** (Gilchrist, 1922)

**FAO names:** African chimaera (En)



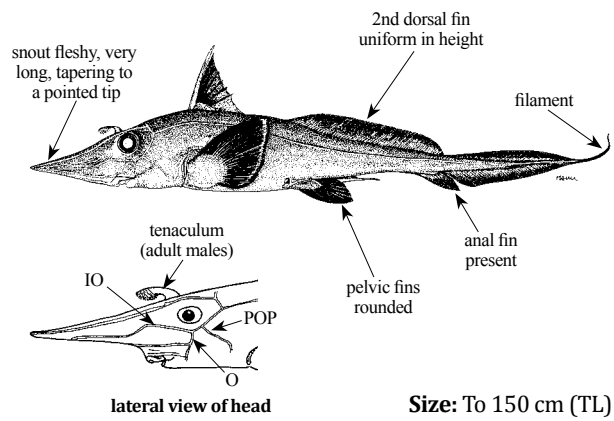

**Local name(s):** Africa Nga Kywet Hmee.
**Habitat:** Upper slope from 421 to 777 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, slender, rapidly tapering behind pelvic fins to a very long, slender, narrow, whip-like filamentous tail; oral (O) and preopercular (POP) lateral line canals sharing a common branch off the infraorbital (IO) canal; lateral line non-wavy; skin deciduous, smooth.
**Colour:** Body and fins uniform blackish brown.
**Remarks:** Inclusion based on a juvenile *Hydrolagus* specimen (17.5 cm TL), which is most likely a geographic variant of *H. africanus*, a species presently known only from the West Indian Ocean.

**Size:** To 67 cm (TL)

## RHINOCHIMAERIDAE
Longnose chimaeras

***Neoharriotta pinnata*** (Schnakenbeck, 1931)

**FAO names:** Sicklefin chimaera (En)
Chimère faucillée (Fr)



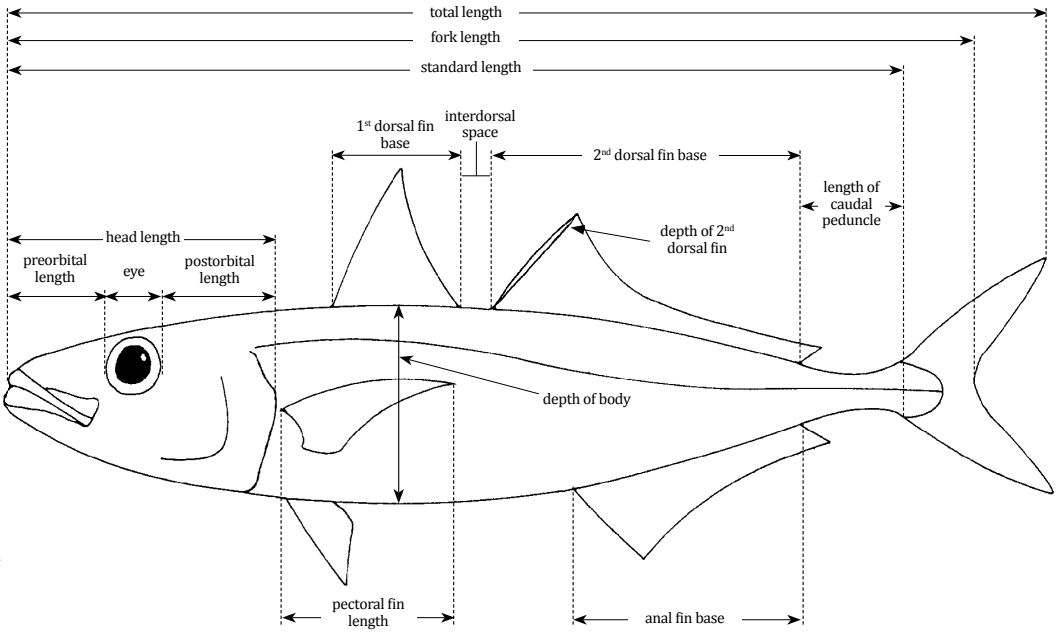

**Local name(s):** Nga Kywet Hmee Hnar Shae'.
**Habitat:** Occurs from 200–550 m depth
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, tapering to a caudal fin with short terminal filament; oral (O) and preopercular (POP) lateral line canals branching off separately from the infraorbital (IO) canal; pectoral fins short and broad; anal fin distinct and curved; frontal tenaculum prominent in adult males.
**Colour:** Uniform chocolate brown without any distinctive blotches, spots or stripes.

**Size:** To 150 cm (TL)

# BONY FISHES

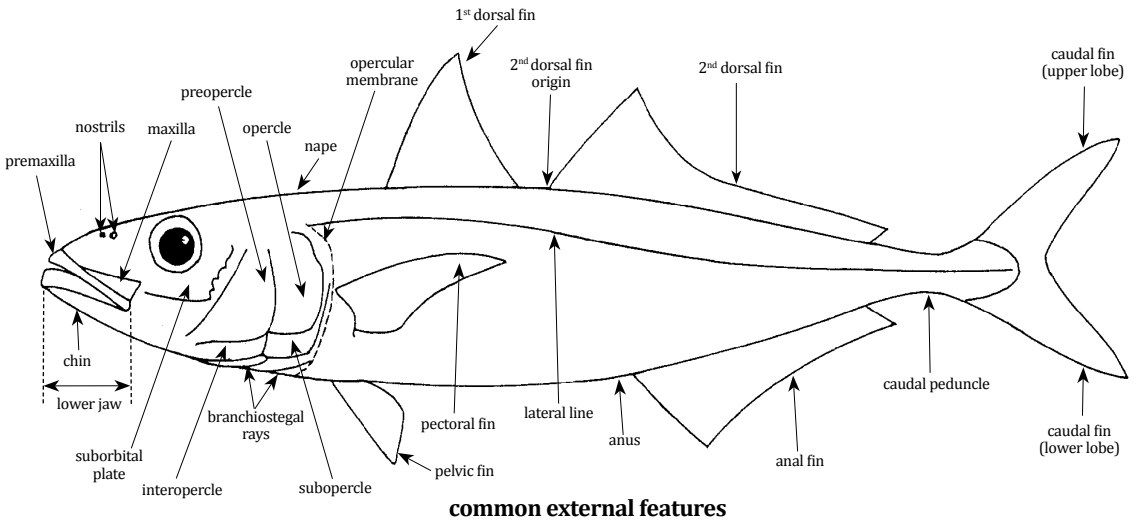
The "Guide to Orders and Families", includes a total of 28 orders and 180 families. These are arranged by order (and suborder in the case of Perciformes) using, with few exceptions, the classification adopted by Eschmeyer and Fricke (2017). Very recent changes in the classification of fishes (Van der Laan *et al*., 2019; Gill & Leis, 2019) came too late to incorporate here, but are mentioned in the "Guide to Orders and Families". Page numbers refer to those families that are treated in more detail in the species identification guide. The "Guide to Species", includes 1074 species belonging to 161 families. Undescribed and possibly undescribed species are marked with an asterisk (*) besides the scientific name. If one of the latter species is recorded, the user can follow the instructions present in the introduction regarding its preservation and/or contact the FAO EAF-Nansen and/or FishFinder Programmes.

## TECHNICAL TERMS AND MEASUREMENTS

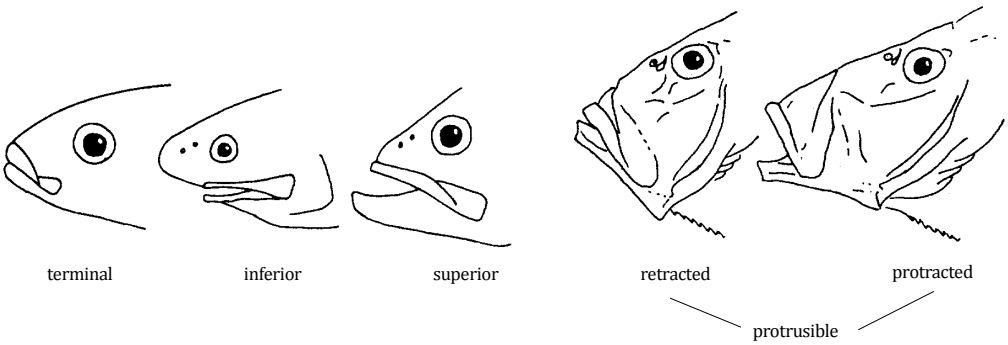



**common external measurements**

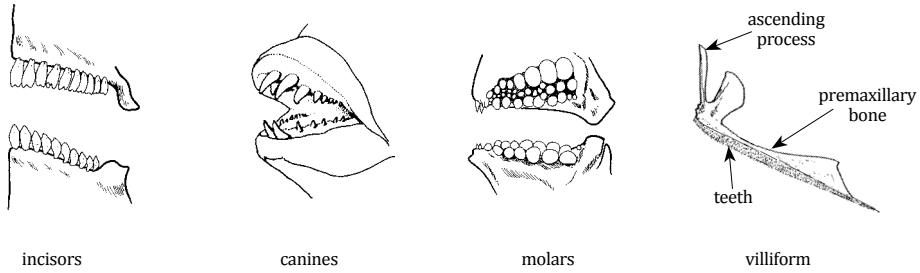
**NOTE: although all measurements are shown vertical and horizontal, all distances are measured as the straight line, shortest distance between 2 points**



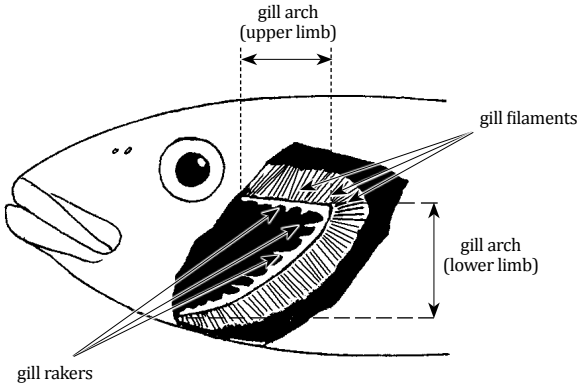

**common external features**



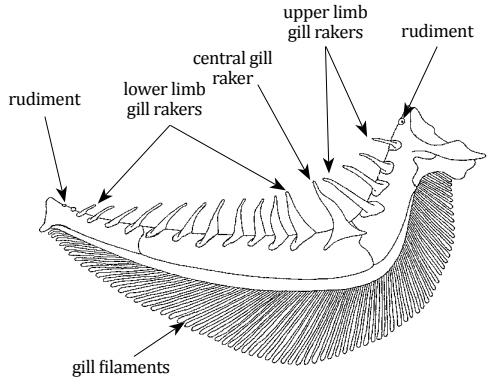

**mouth position and protusibility**



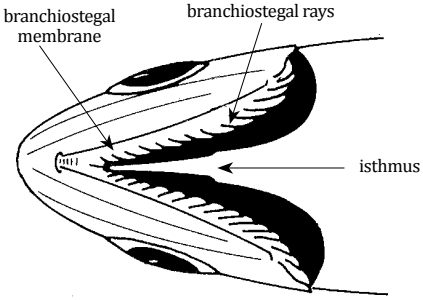

**common types of teeth**



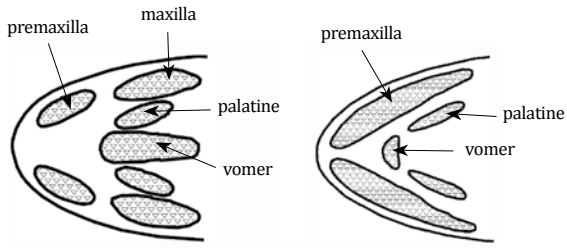

**position of 1st left gill arch with gill cover removed**



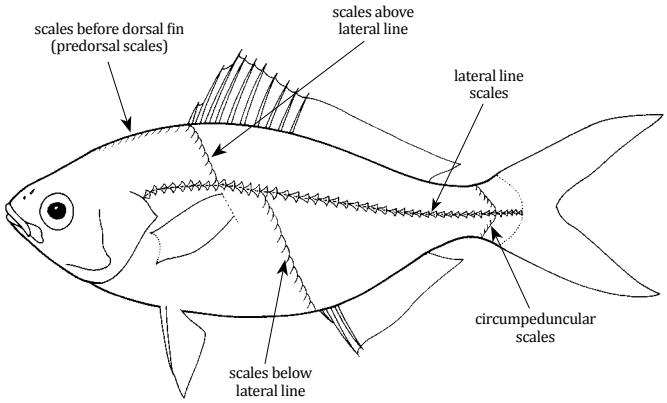

**structures of 1st left gill arch**



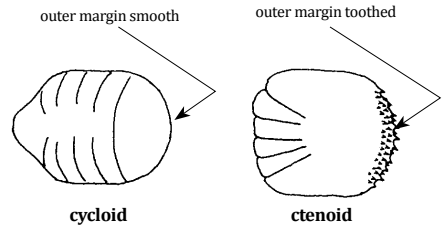

**structures on ventral side of head**



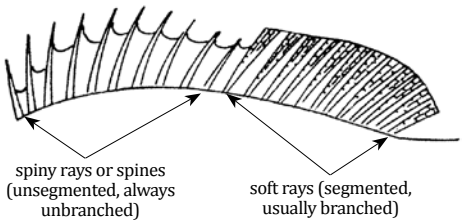

**roof of mouth**



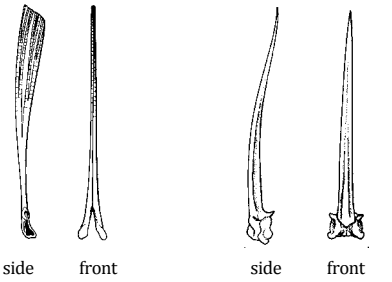

**common scale counts**



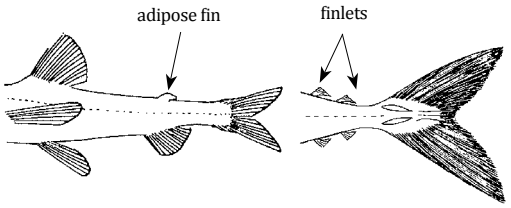

**schematic examples of typical scales**



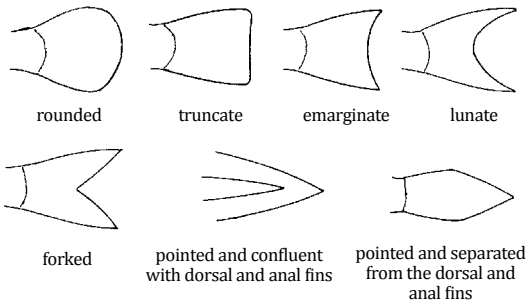

**example of a continuous dorsal fin of a spiny-rayed fish**




**construction of fin rays**




**accessory dorsal and anal fins: adipose fin and finlets**




**most common types of caudal fins**

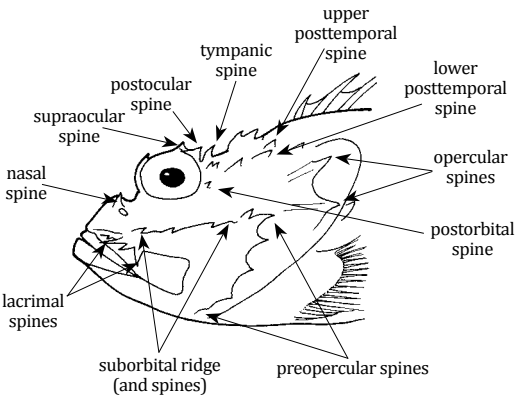
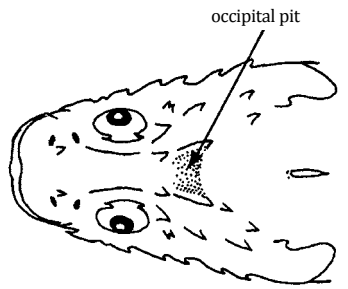



**diagram of head spines of a typical scorpaenid**




**dorsal view of head of a typical scorpaenid**

# GUIDE TO ORDERS AND FAMILIES

## Order ELOPIFORMES – Tarpons and allies

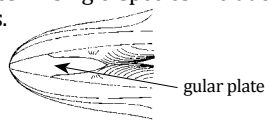
Fin spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; pectoral fins low on body; 23–35 branchiostegal rays; maxilla included in gape of mouth; scales cycloid; gular plate present; colour silvery.

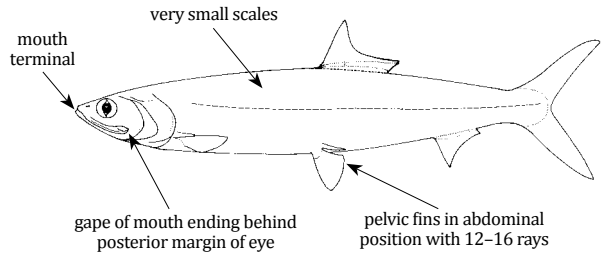
### ELOPIDAE

**Page 270**

**Tenpounders**

To 100 cm. Mostly midwater in coastal marine waters and estuaries. A single species included in the Guide to Species.



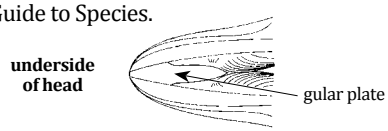



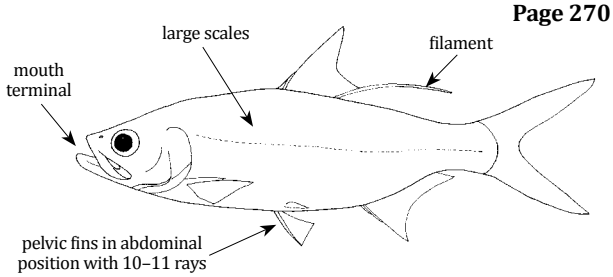

### MEGALOPIDAE

**Page 270**

**Tarpons**

To 150 cm. Mostly pelagic in coastal marine waters, estuaries and fresh water. A single species included in the Guide to Species.




## Order ALBULIFORMES – Bonefishes and allies

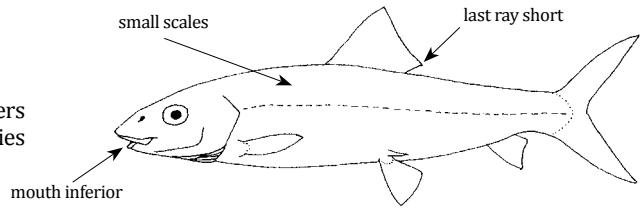
Fin spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position with 10–14 rays; pectoral fins low on body; 6–16 branchiostegal rays; maxilla included in gape of mouth; upper jaw not extending as far as front of eye; tip of snout overhanging mouth; gular plate reduced or absent; colour silvery.

### ALBULIDAE

**Page 270**

**Bonefishes**

To around 70 cm. Mostly in shallow coastal waters over sand and mud bottoms. A single species included in the Guide to Species.



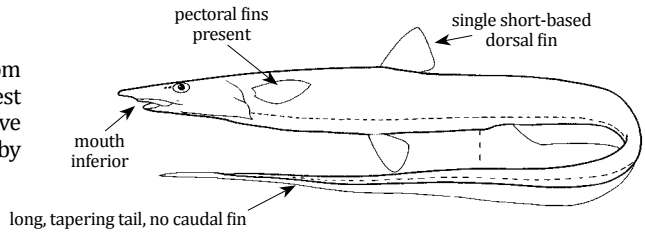

## Order NOTACANTHIFORMES – Halosaurs and allies

Body eel-like; mouth inferior, tip of snout overhanging mouth; scales present; pectoral fins relatively high on body; pelvic fin abdominal with 7–11 rays; anal fin long, extending from just behind anus to tip of tail; lateral line present.

### HALOSAURIDAE

**Halosaurs**

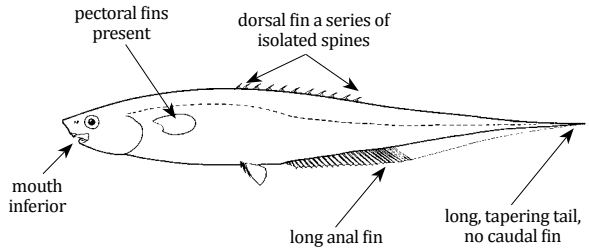
To around 50 cm. Deep-water demersal, usually from depths between about 500 and 3 000 m. Of no interest to fisheries. Members of the genus *Aldrovandia* have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.



## NOTACANTHIDAE

**Spiny eels**

To around 20 cm. Deep-water demersal, usually from depths between about 200 and 3 500 m. Of no interest to fisheries. Members of genus *Notacanthus* have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.




## Order ANGUILLIFORMES – Eels

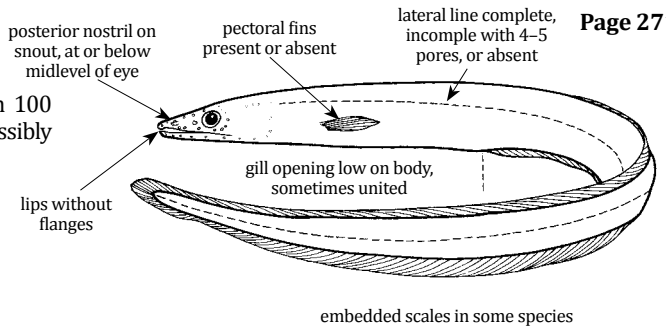
Body very elongate; pelvic fins absent; fin spines absent; usually scaleless.

## SYNAPHOBRANCHIDAE

Page 271

**Cutthroat eels**

To 50 cm. Benthic, usually at depths between 100 and 4 700 m. Four species (including 1 possibly undescribed) included in the Guide to Species.

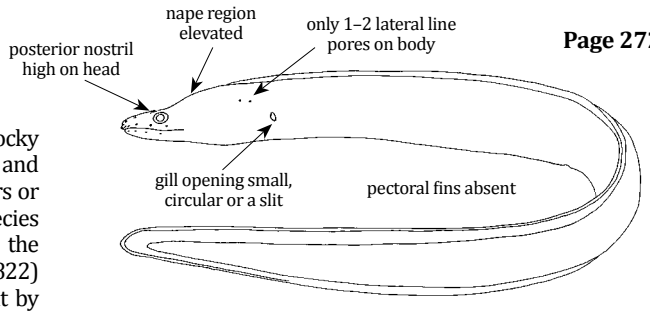



## MURAENIDAE

Page 272

**Morays**

To 400 cm. Mostly demersal in shallow coastal rocky or coral reef habitats, but some occur over sand and mud to depths of 500 m. Some in brackish waters or entering rivers. Of interest to fisheries. Eleven species (including 1 possibly undescribed) included in the Guide to Species. *Gymnothorax tile* (Hamilton, 1822) has been identified in bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.

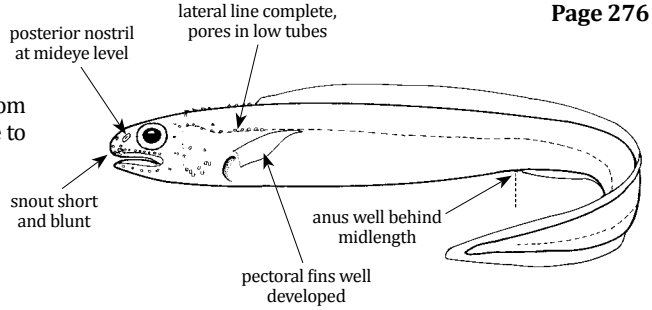



## COLOCONGRIDAE

Page 276

**Colocongrids**

To 50 cm. Mostly over muddy bottoms at depths from 300 to 1 000 m. One species included in the Guide to Species.

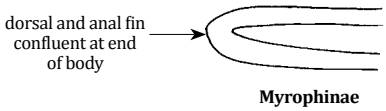


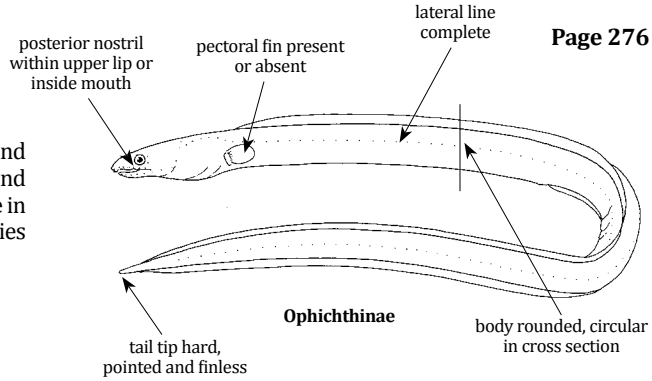
## OPHICHTHIDAE

Page 276

**Snake eels**

To 150 cm. Mostly demersal and burrowing in sand and mud in coastal habitats including estuaries and coral reefs. Some in depths down to 1 000 m; some in midwater. Of limited interest to fisheries. Nine species included in the Guide to Species.



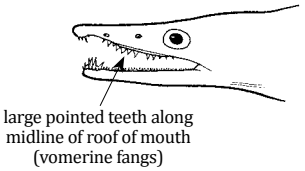



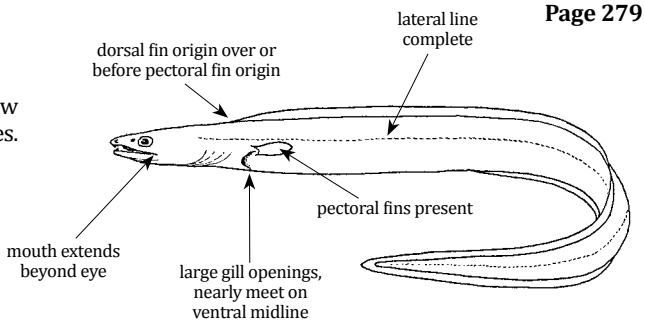

## MURAENESOCIDAE

Page 279

**Pike congers**

To 250 cm. Demersal on soft bottoms in shallow coastal waters and estuaries. Of interest to fisheries. Five species included in the Guide to Species.



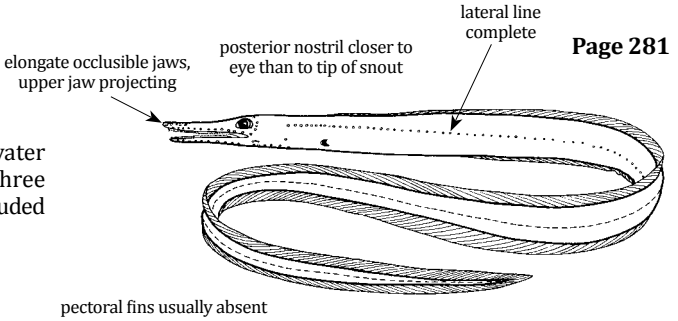




## NETTASTOMATIDAE

Page 281

**Duckbill eels**

To 70 cm. On or near the bottom in deep water to 2 000 m. Of limited interest to fisheries. Three species (including 2 possibly undescribed) included in the Guide to Species.

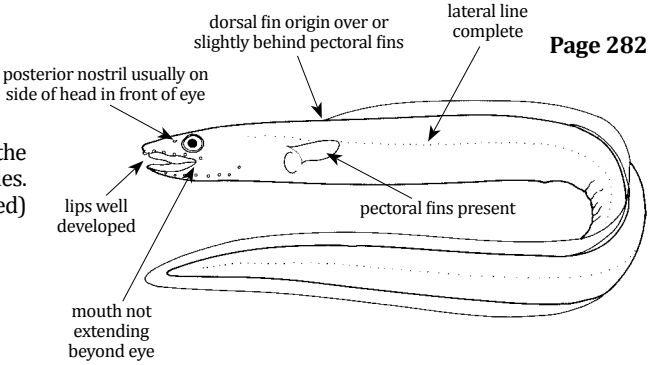



## CONGRIDAE

Page 282

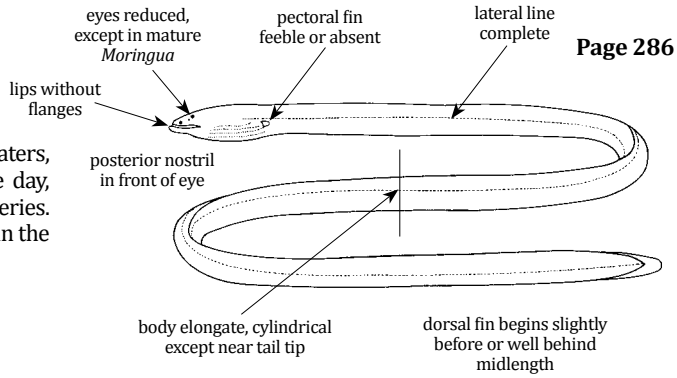
**Conger eels**

To 140 cm. On sand or mud bottoms from the coastline to depths of 2 000 m. Of interest to fisheries. Twelve species (including 1 possibly undescribed) included in the Guide to Species.



## MORINGUIDAE

Page 286

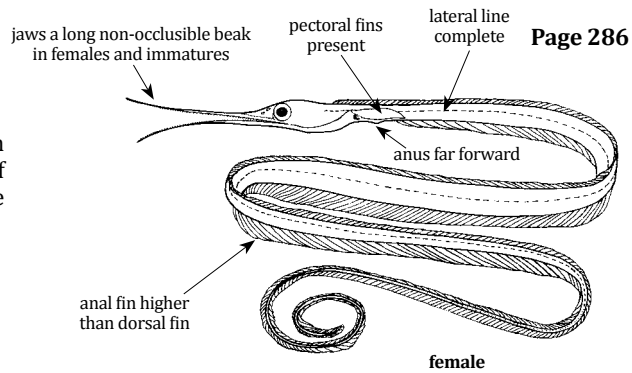



**Spaghetti eels**

To about 40 cm. Demersal, mostly inshore waters, common on coral reefs. Burrowing during the day, free swimming at night. Of limited interest to fisheries. A single possibly undescribed species included in the Guide to Species.

## NEMICHTHYIDAE

Page 286

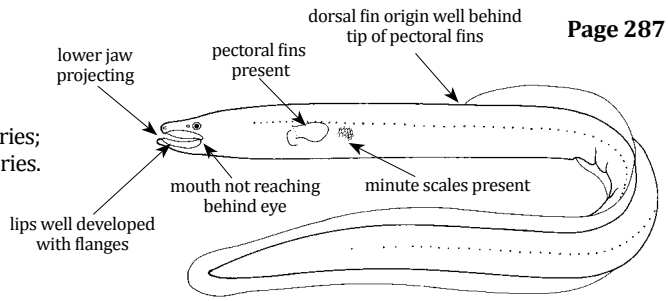



**Snipe eels**

To at least 130 cm. Midwater in the open ocean from depths of several hundred to more than 2 000 m. Of no interest to fisheries. Three species included in the Guide to Species.

## ANGUILLIDAE

Page 287




**Freshwater eels**

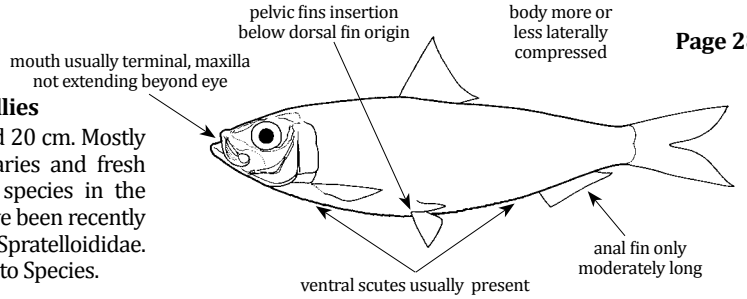
To 200 cm. Mainly fresh water but entering estuaries; spawn in the ocean; demersal. Of interest to fisheries. Two species included in the Guide to Species.

## Order CLUPEIFORMES – Herrings and allies

Fin spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; lateral line absent; usually a row of scutes along ventral profile (except Chirocentridae, some Clupeidae and some Engraulidae); colour silvery; maxilla included in gape of mouth; scales cycloid; pectoral fins low on body; gular plate absent.

## CLUPEIDAE

Page 288




**Herrings, sardinellas, shads and allies**

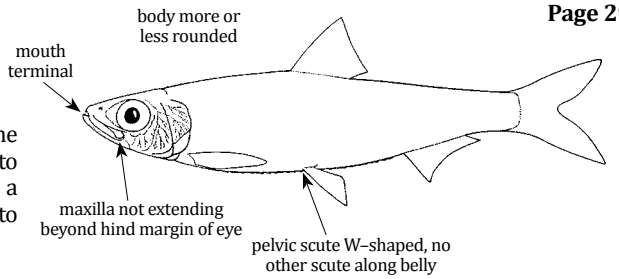
To 60 cm but usually between 10 and 20 cm. Mostly coastal pelagic, some entering estuaries and fresh water. Of interest to fisheries. The species in the genera *Spratelloides* and *Jenkinsia* have been recently assigned to a separated family, Spratelloididae. Twenty species included in the Guide to Species.

## DUSSUMIERIIDAE

Page 294

**Round herrings**

To about 20 cm. Pelagic in coastal waters, some entering estuaries and fresh water. Of interest to fisheries. Previously included in Clupeidae, as a subfamily. Two species included in the Guide to Species.

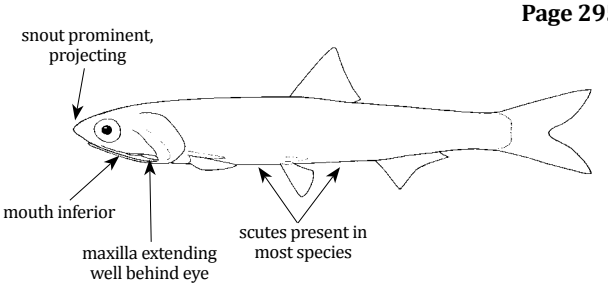



## ENGRAULIDAE

Page 295

**Anchovies**

To about 30 cm, but usually 10 to 20 cm. Mostly coastal pelagic but some entering brackish and fresh water. Of interest to fisheries. Twenty-five species included in the Guide to Species.

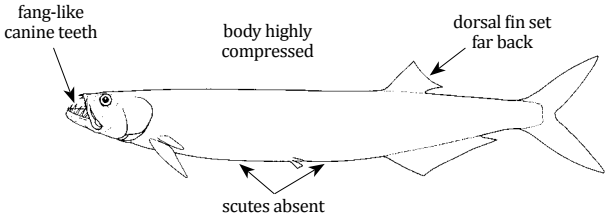



## CHIROCENTRIDAE

Page 302

**Wolf-herrings**

To about 100 cm. Pelagic in coastal waters. Of interest to fisheries. Two species are included in the Guide to Species.

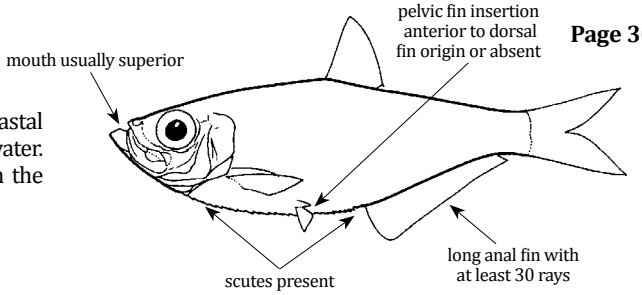



## PRISTIGASTERIDAE

Page 303

**Ilishas, pellonas**

To about 25 cm, usually less than 15. Mostly coastal pelagic but some entering brackish and fresh water. Of interest to fisheries. Five species included in the Guide to Species.




## Order GONORYNCHIFORMES – Milkfish and allies

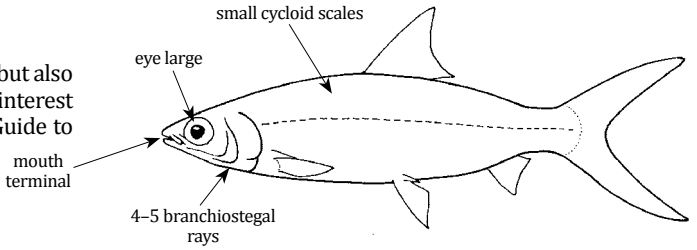
Fin spines absent; a single dorsal fin; pelvic fins in abdominal position; lateral line present; 4–5 branchiostegal rays; mouth small, jaws toothless or teeth reduced; colour silvery.

## CHANIDAE

Page 304

**Milkfish**

To about 150 cm. Mostly pelagic and neritic, but also in estuarine and occasionaly fresh water. Of interest to fisheries. One species is included in the Guide to Species.



## Order SILURIFORMES – Catfishes

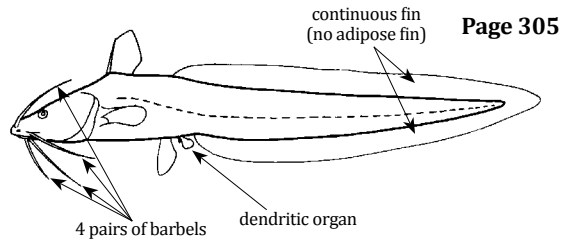
Barbels present around mouth; a strong spine usually present at front of dorsal and pectoral fins; an adipose fin often present; scales absent, but a bony head shield often present.

### PLOTOSIDAE

**Eel catfishes**

To about 150 cm. Demersal in a variety of coastal habitats including coral reefs, and sand flats, and estuaries. Of interest to fisheries. Two species included in the Guide to Species.

Page 305

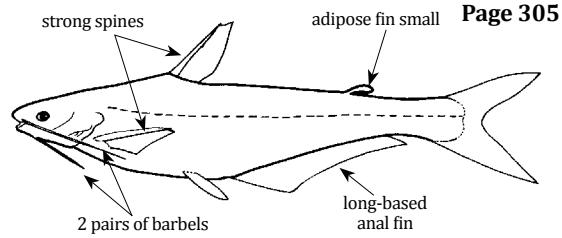



### PANGASIIDAE

**Pangasiid catfishes**

To about 300 cm. Mainly freshwater; benthic. Of interest to fisheries. A single species included in the Guide to Species.

Page 305

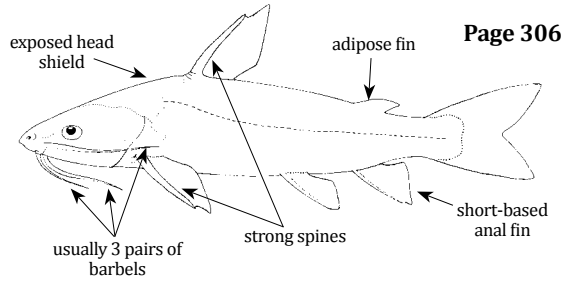



### ARIIDAE

**Sea catfishes**

To 185 cm. Benthic in coastal waters, estuaries, and fresh water. Of interest to fisheries. Sixteen species included in the Guide to Species.

Page 306




## Order ARGENTINIFORMES – Marine smelts

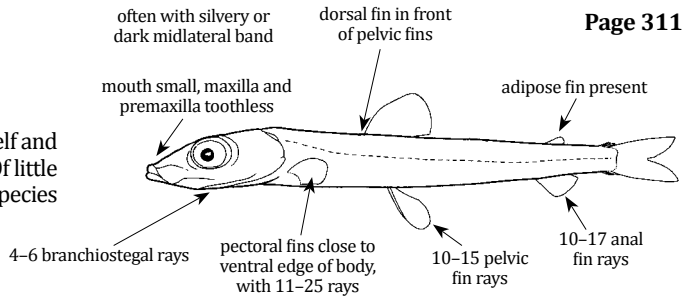
Fin spines absent; adipose fin present or absent; maxilla usually included in gape of mouth; radii absent on scales.

### ARGENTINIDAE

**Argentines**

To about 20 cm. Benthopelagic on the outer shelf and upper slope to a maximum depth of 1 400 m. Of little interest to fisheries. A single undescribed species included in the Guide to Species.

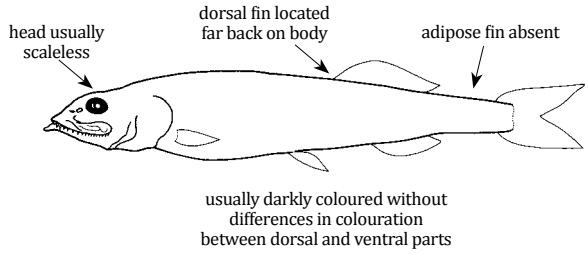
Page 311




### ALEPOCEPHALIDAE

**Slickheads**

To about 40 cm. Benthopelagic, mesopelagic and bathypelagic from depths of 100 to 5 000 m. Of no interest to fisheries. Members of genera *Alepocephalus, Asquamiceps* and *Talismania* have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar. The family Alepocephalidae has been recently assigned to the order Alepocephaliformes.



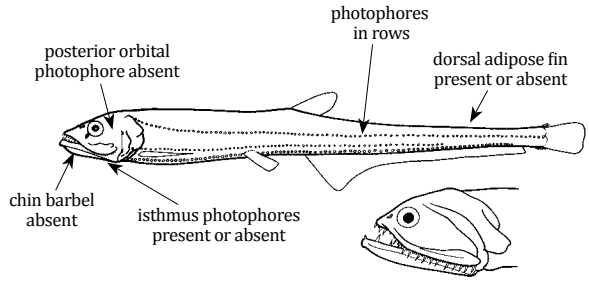
## Order STOMIIFORMES – Bristlemouths and allies

Deep-sea fishes, having light organs (photophores); chin barbels present in some; premaxilla and maxilla both with teeth, and included in gape of mouth; ventral adipose fin present in some.

### GONOSTOMATIDAE

**Bristlemouths**

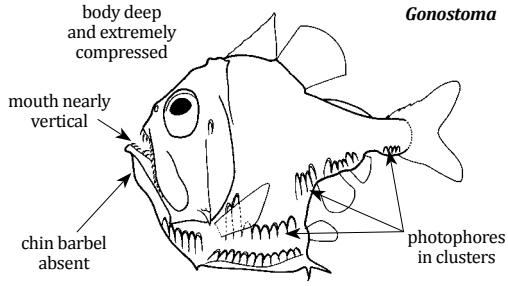
To about 36 cm. Mesopelagic and bathypelagic. Some may be of potential interest to fisheries. *Sigmops elongatus* (Günther 1878) and *Triplophos hemingi* (McArdle, 1901) have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.




### STERNOPTYCHIDAE

**Hatchetfishes**

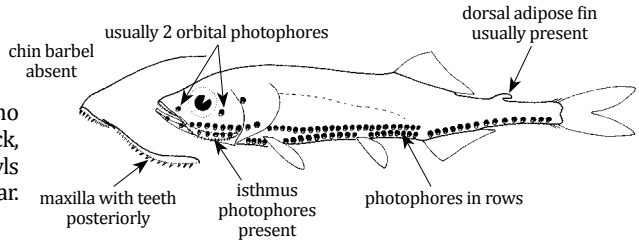
To about 10 cm. Mostly mesopelagic, occasionaly bathypelagic or benthopelagic. Of no interest to fisheries. *Argyropelecus aculeatus* Valenciennes, 1850 and *Polyipnus indicus* Schultz, 1961 have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.




### PHOSICHTHYIDAE

**Lightfishes**

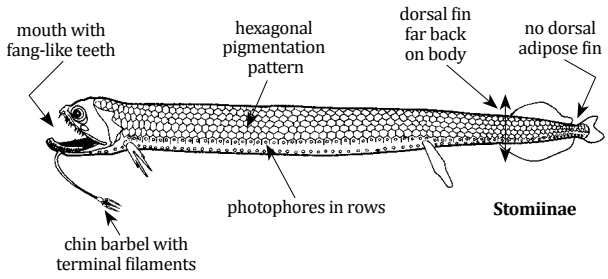
To about 30 cm. Mesopelagic and bathypelagic. Of no interest to fisheries. *Polymetme corythaeola* (Alcock, 1898) has been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.

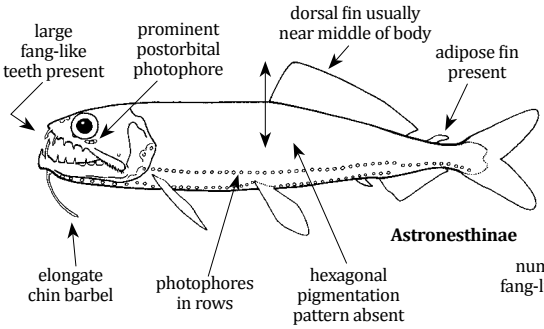


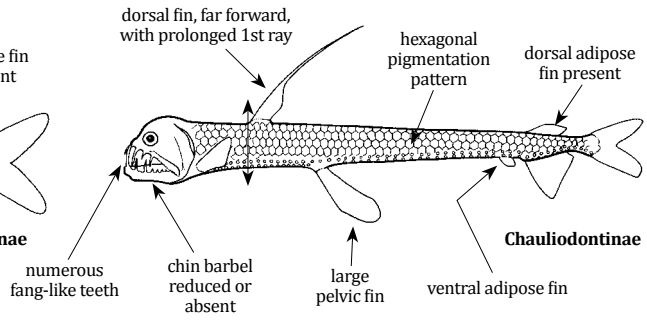

### STOMIIDAE

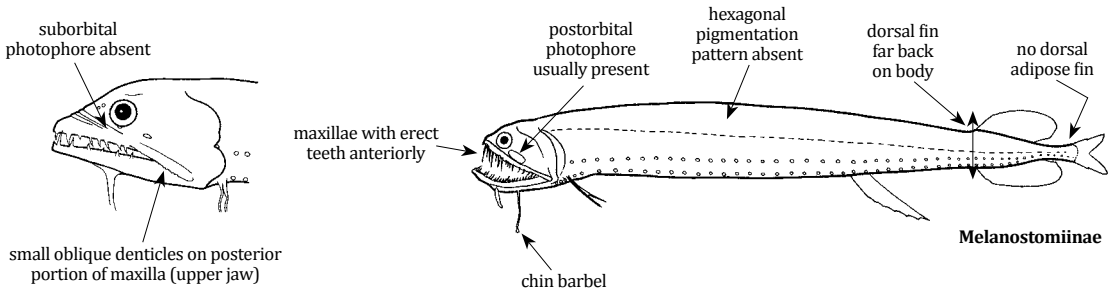
**Scaly dragonfishes and allies**

To about 40 cm but usually smaller than 20 cm. Mesopelagic and bathypelagic. Of no interest to fisheries. *Astronesthes martensii* Klunzinger, 1871, *A. lamellosus* Goodyear & Gibbs, 1970, *Chauliodus sloanei* Bloch & Schneider, 1801, *Melanostomias* sp. and *Photonectes* sp. have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.






## Order ATELEOPODIFORMES – Jellynose fishes

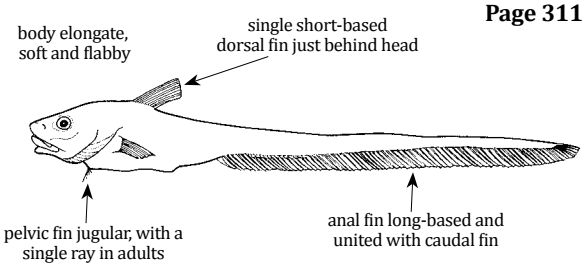
Body elongate soft and flabby; snout pointed or rounded, very soft and gelatinous; mouth inferior; single short-based dorsal fin; anal fin elongate and united with caudal fin; pelvic fins jugular with a single elongate ray in adults.

### ATELEOPODIDAE

Page 311

**Jellynose fishes**

To about 40 cm. Demersal or benthopelagic, usually from depths between 200 and 800 m. Of no interest to fisheries. One species included in the Guide to Species.




## Order AULOPIFORMES – Lizardfishes

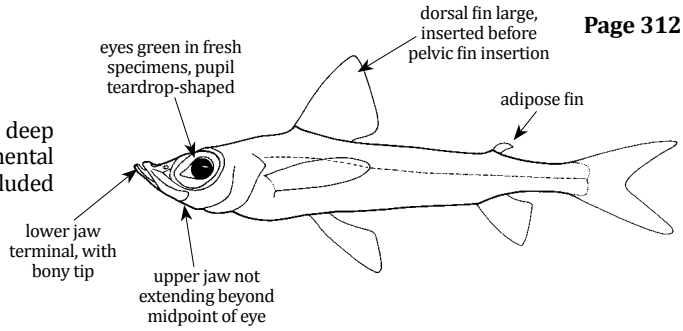
Premaxilla forming the gape of the mouth (maxilla excluded); upper jaw not protrusible; adipose fin usually present; no fin spines; pelvic fins usually abdominal, sometimes nearly thoracic or absent in adults; caudal fin forked.

### CHLOROPHTHALMIDAE

Page 312

**Greeneyes**

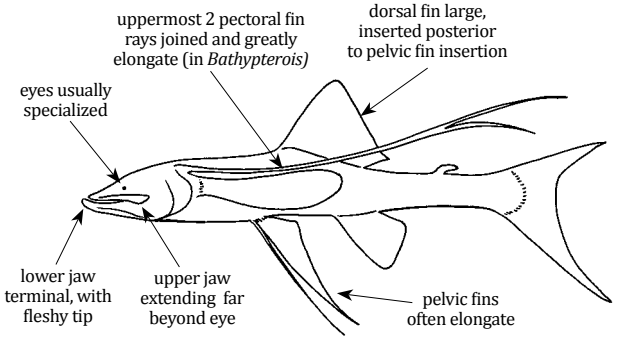
To about 30 cm. Demersal or benthopelagic in deep water on the outer continental shelf or continental slope. Of interest to fisheries. Two species included in the Guide to Species.




### IPNOPIDAE

**Tripod fishes**

To about 30 cm. Demersal deep-sea fishes from the continental slope to abyssal depth below 5 000 m. Of no interest to fisheries. *Bathypterois atricolor* Alcock 1896 and *B. guentheri* Alcock, 1889 have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.

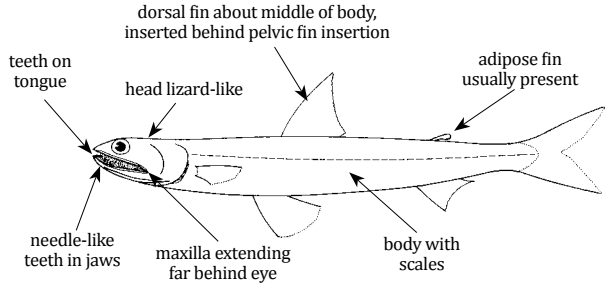


**Page 312**

## SYNODONTIDAE

**Lizardfishes**

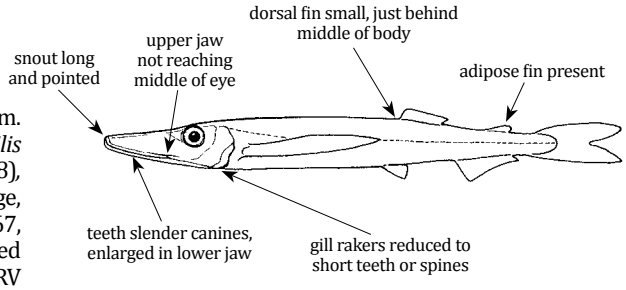
To around 60 cm. Demersal, in estuarine, inshore, and continental shelf waters on coral reef, rock, sand and muddy bottoms to depths of about 3 000 m. Of interest to fisheries. Fourteen species (including 1 possibly undescribed) included in the Guide to Species.




## PARALEPIDIDAE

**Barracudinas**

To 100 cm, but usually smaller than 20 cm. Mesopelagic and bathypelagic. *Lestidiops mirabilis* (Ege, 1933), *Lestrolepis japonica* (Tanaka, 1908), *L. intermedius* (Poey, 1868), *Magnisudis indica* (Ege, 1953), *Stemonosudis rothschildi* Richards, 1967, *Sudis hyalina* Rafinesque, 1810 have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.




## Order MYCTOPHIFORMES – Lanternfishes and allies

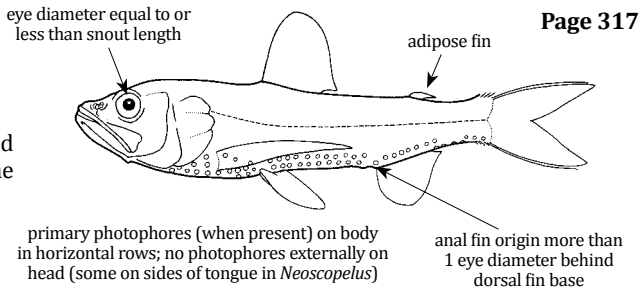
Fin spines absent; adipose fin present; light organs (photophores) usually present; maxilla toothless and excluded from gape of mouth; pelvic fins subabdominal, behind insertion of pectoral fins.

**Page 317**

## NEOSCOPELIDAE

**Blackchins**

To around 30 cm. Mesopelagic, benthopelagic and bathypelagic. Of potential interest to fisheries. One species included in the Guide to Species.

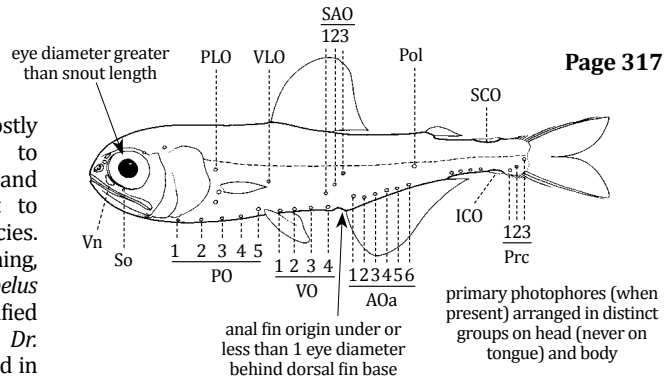



**Page 317**

## MYCTOPHIDAE

**Lanternfishes**

To 20 cm, but most species less than 12 cm. Mostly mesopelagic, undergoing vertical migration to the upper 200 m at night; some bathypelagic and benthopelagic species. Of potential interest to fisheries. Six species included in the Guide to Species. *Diaphus thiollierei* Fowler, 1934, *D. regani* Tåning, 1932, *D. watasei* Jordan & Starks, 1904, *Dasyscopelus brachygnathos* (Bleeker, 1856) have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar but are not included in the Guide to Species due to space constraints.




| | | |
|---|---|---|
| **AOa** - anterior anal | **Pol** - posterolateral | **So** - suborbital |
| **ICO** - infracaudal luminous organ | **Prc** - precaudal | **VLO** - supraventral |
| **PLO** - suprapectoral | **SAO** - supra-anal | **Vn** - ventronasal |
| **PO** - thoracic | **SCO** - supracaudal luminous organ | **VO** - ventral |

**distribution and terminology of photophores mentioned in the Guide to Species**

## Order LAMPRIFORMES – Opahs and allies

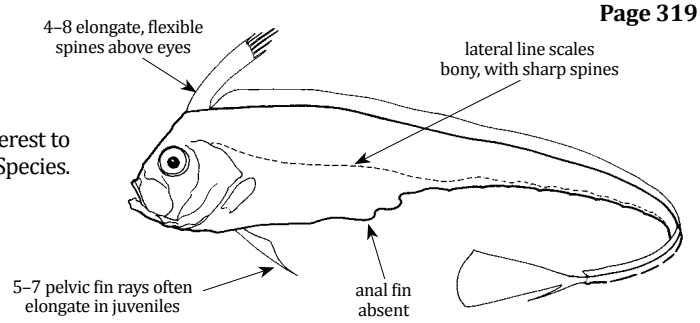
A diverse group of often strange looking fishes; no true spines in fins; pelvic fins under bases of pectorals, base of dorsal fin elongate; upper jaw protrusible; maxilla excluded from gape of mouth.

Page 319

### TRACHIPTERIDAE

**Ribbonfishes**

To 200 cm. Rare mesopelagic fishes. Of no interest to fisheries. One species included in the Guide to Species.




## Order POLYMIXIIFORMES – Beardfishes

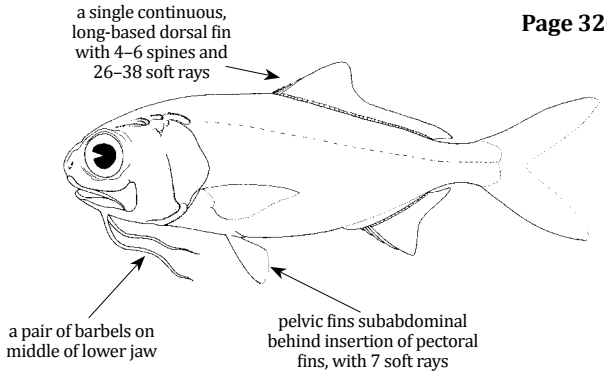
A pair of barbels on middle of lower jaw; no distinct mucous cavities on head; no photophores or luminous organs.

Page 320

### POLYMIXIIDAE

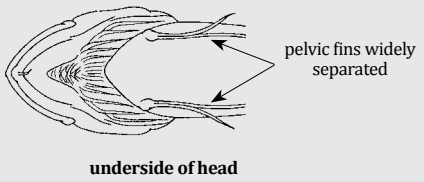
**Beardfishes**

To around 25 cm. Demersal fishes on the outer continental shelf and slope to a depth of around 800 m. Of little interest to fisheries. One species included in the Guide to Species.




## Order GADIFORMES – Hakes and allies

No sharp spines in fins (except in dorsal fin of some macrourids); pelvic fins below or anterior to pectoral fins and widely separated from each other, usually entire, but reduced to filaments in some species; all species with long dorsal and anal fins; barbels often present on chin.



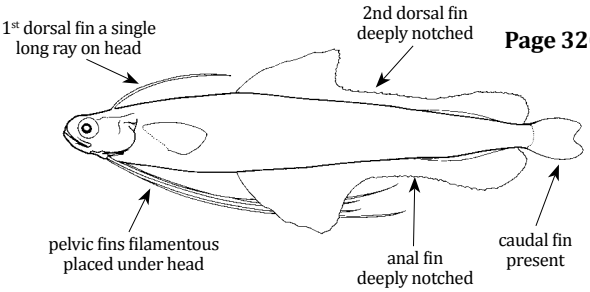

**underside of head**

Page 320

### BREGMACEROTIDAE

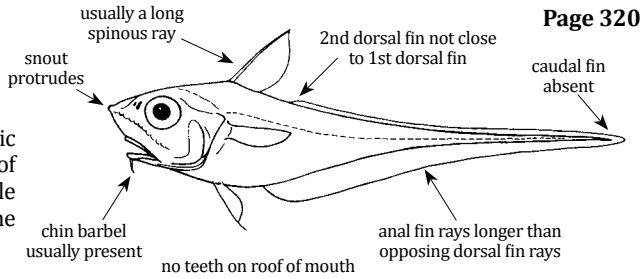
**Codlets**

To 10 cm. Epipelagic in coastal and oceanic waters at depths down to around 300 m. Of little interest to fisheries. One species included in the Guide to Species.



## MACROURIDAE

Page 320

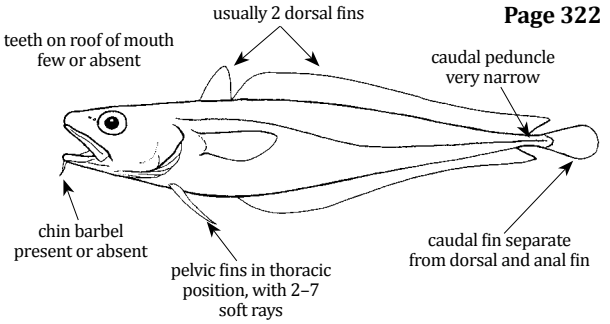



**Grenadiers**

To about 60 cm, most less than 30 cm. Benthopelagic on the upper continental slope mostly at depths of 250 to 2 000 m, but some to below 5 000 m. Of little interest to fisheries. Five species included in the Guide to Species.

## MORIDAE

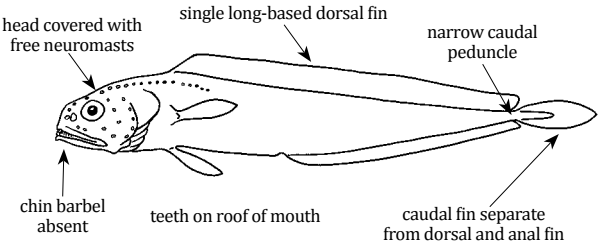
Page 322




**Morays**

To about 25 cm. Mostly benthopelagic at depths between 150 and 3 000 m. Of little interest to fisheries. One species included in the Guide to Species.

## MELANONIDAE

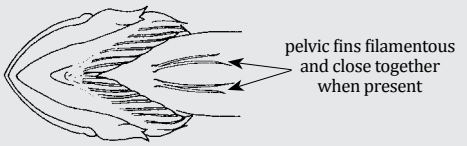



**Pelagic cods**

To about 30 cm. Mostly bathypelagic at depths between 991 and 3 000 m. Of little interest to fisheries. *Melanonus zugmayeri* Norman, 1930 has been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.

## Order OPHIDIIFORMES – Cusk eels

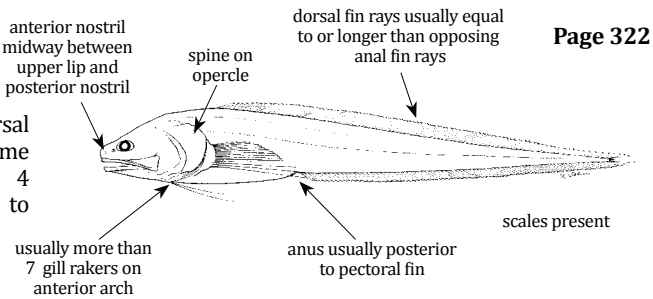
No sharp spines in fins; pelvic fins absent in some species; when present these fins are placed anterior to pectoral fins, sometimes far forward on underside of head; they are always close together and filamentous, each with not more than 2 rays; caudal fin separate or joined to dorsal and anal fins.




**underside of head**

## OPHIDIIDAE

Page 322




**Cusk eels**

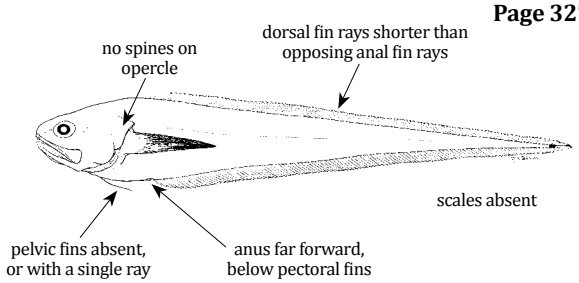
To about 100 cm, most less than 30. Mostly demersal from shallow water to depths of 8 370 m. Of some interest to fisheries. Fifteen species (including 4 possibly undescribed) included in the Guide to Species.

**Page 327**

## CARAPIDAE

**Pearlfishes**

To about 20 cm. Adults demersal, mostly cryptic in shallow coastal waters; some species living as commensals in holothurians, molluscs, and ascidians. Larvae with highly modified first dorsal fin ray (vexillum). Of no interest to fisheries. One species included in the Guide to Species




## Order BATRACHOIDIFORMES – Toadfishes

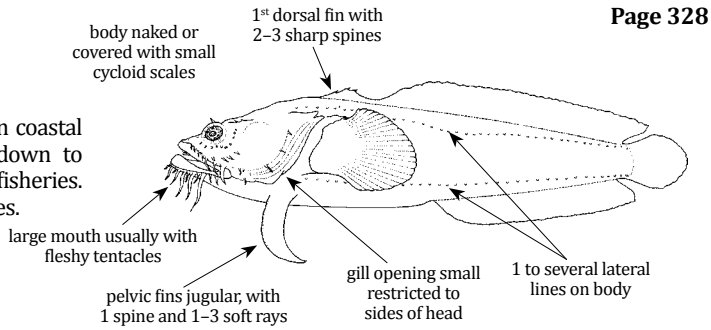
Head large and depressed; two dorsal fins, the 1st with 2 or 3 spines; pelvic fins jugular; gill openings small, restricted to sides of head; one to several lateral lines on body.

**Page 328**

## BATRACHOIDIDAE

**Toadfishes**

To 30 cm. On rocky, sand, or mud bottom in coastal and estuarine areas from the shoreline down to depths of at least 140 m. Of little interest to fisheries. Three species included in the Guide to Species.




## Order LOPHIIFORMES – Anglerfishes and allies

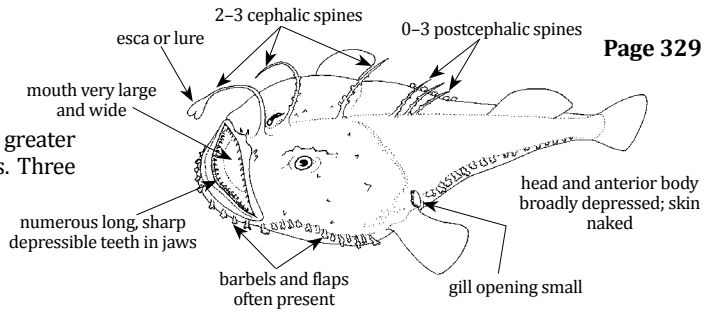
Body globulose or depressed; 1st spine of dorsal fin modified to form a 'fishing pole' (illicium) with a bait (esca) at its tip; gill openings small and circular, usually located below or behind pectoral fins; pelvic fins absent or in front of pectoral fins, with 1 spine and usually 4 soft rays.

**Page 329**

## LOPHIIDAE

**Anglerfishes**

To about 45 cm. Demersal, usually at depths greater than 100 m. Of limited interest to fisheries. Three species included in the Guide to Species.

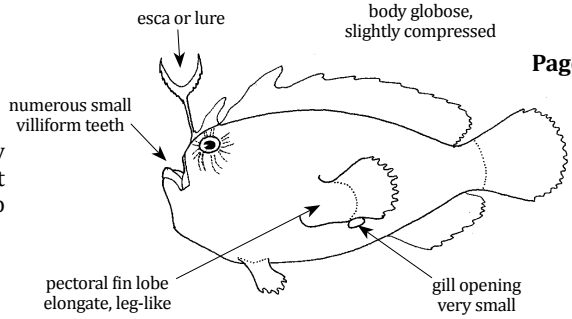



**Page 330**

## ANTENNARIIDAE

**Frogfishes**

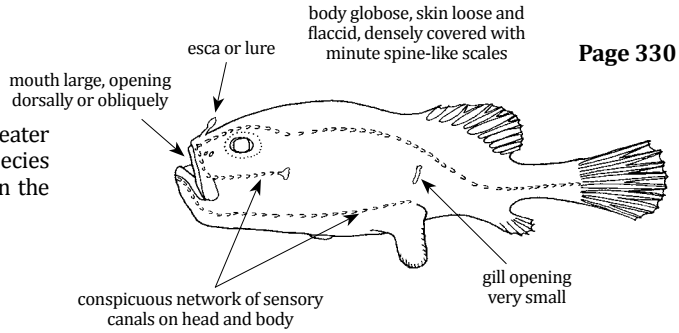
To 25 cm. Mostly demersal in a variety of shallow water habitats. Also in deeper water. Of no interest to fisheries. Two species included in the Guide to Species.



## CHAUNACIDAE

**Sea toads**

To about 20 cm. Demersal usually at depths greater than 200 m. Of no interest to fisheries. Three species (including 1 possibly undescribed) included in the Guide to Species.

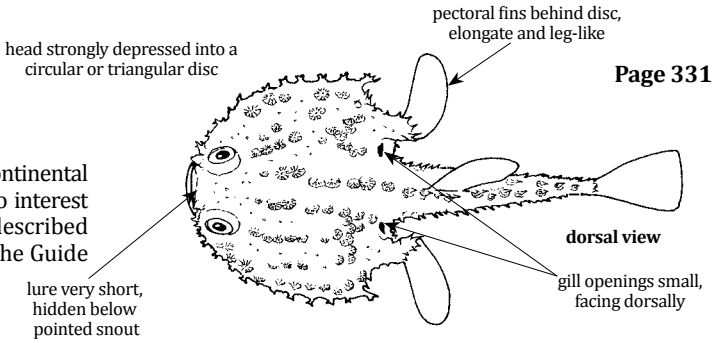



**Page 330**

## OGCOCEPHALIDAE

**Batfishes**

To about 30 cm. Demersal, offshore on continental shelves and upper continental slopes. Of no interest to fisheries. Nine species (included 1 undescribed and 2 possibly undescribed) included in the Guide to Species.

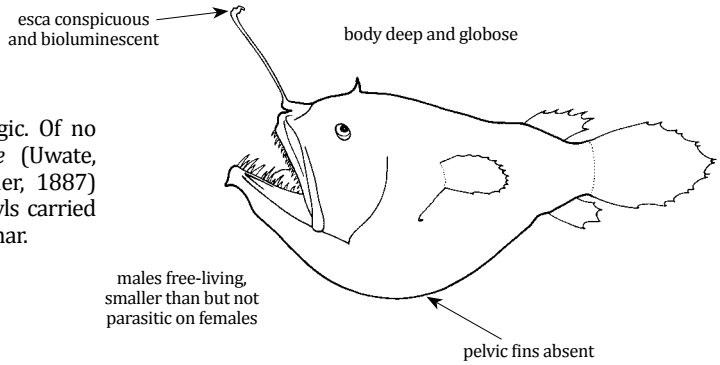



**Page 331**

## DICERATIIDAE

**Double-spine seadevils**

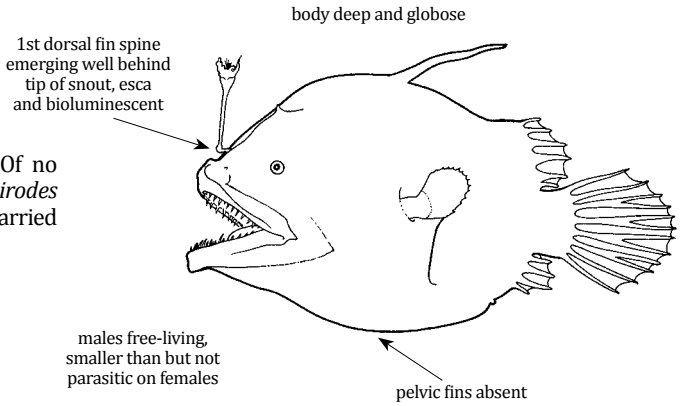
To about 27 cm. Meso - and bathypelagic. Of no interest to fisheries. *Bufoceratias thele* (Uwate, 1979) and *Diceratias bispinosus* (Günther, 1887) have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.




## ONEIRODIDAE

**Dreamers**

To about 21 cm. Meso - and bathypelagic. Of no interest to fisheries. Fishes of the genus *Oneirodes* have been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.



## Order ATHERINIFORMES – Silversides

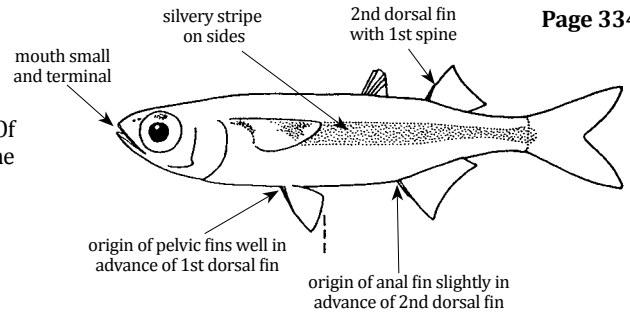
Small fishes; usually 2 dorsal fins, 1st with flexible spines; pectoral fins inserted high on body; 4–7 branchiostegal rays; pelvic fins abdominal with 1 spine and 5 soft rays; usually a single anal fin spine; lateral line absent or weak.

### ATHERINIDAE

Page 334

**Silversides**

To about 15 cm. Inshore, pelagic near the surface. Of little interest to fisheries. One species included in the Guide to Species.




## Order BELONIFORMES – Needlefishes, flyingfishes and allies

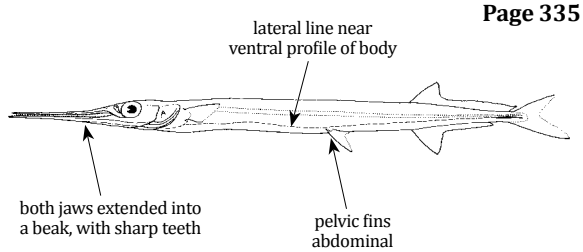
Either snout beak-like with upper or lower jaws greatly prolonged, or with enlarged, wing-like pectoral, and sometimes also pelvic fins; lateral line absent or near ventral profile of body; a single dorsal fin consisting of soft rays; non-protrusible upper jaw; pelvic fins abdominal.

### BELONIDAE

Page 335

**Needlefishes**

To around 150 cm. Epipelagic in coastal and offshore waters, some in estuaries and lagoons and entering fresh water. Of interest to fisheries. Seven species included in the Guide to Species.

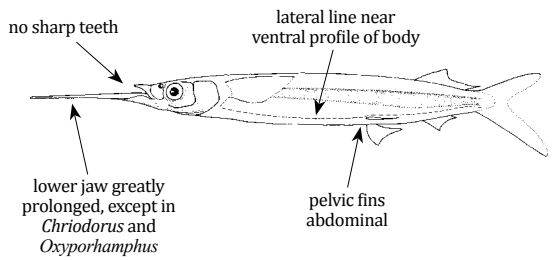



### HEMIRAMPHIDAE

Page 337

**Halfbeaks**

To around 50 cm. Generally pelagic in coastal and offshore surface waters, some in estuaries and lagoons and entering fresh water. Of interest to fisheries. Eleven species included in the Guide to Species.

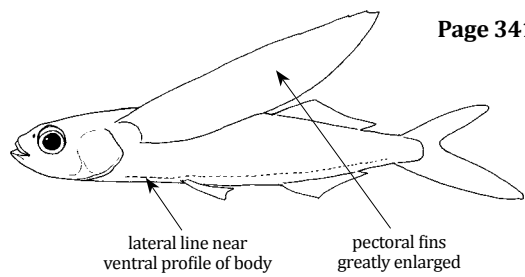



### EXOCOETIDAE

Page 341

**Flyingfishes**

To around 40 cm. Pelagic in open ocean surface waters; capable of jumping out of the water and gliding for long distances. Of interest to fisheries. Eighteen species included in the Guide to Species.



## Order BERYCIFORMES – Squirrelfishes and allies

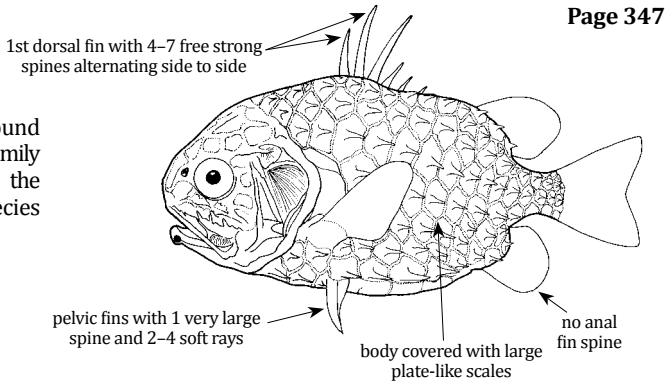
Head with spines and crests well developed; fin spines well developed (except in Anoplogastridae and Diretmidae); scales heavy and strongly ctenoid (rough); pelvic fins abdominal (Anoplogastridae) or thoracic, with 0–1 spines and usually more than 6 soft rays (2–4 rays in Monocentridae).

### MONOCENTRIDAE

Page 347

**Pinecone fishes**

To about 20 cm. Demersal from depths of around 3 to 300 m. Of little interest to fisheries. The family Monocentridae has been recently assigned to the newly erected order Trachichthyiformes. One species included in the Guide to Species.

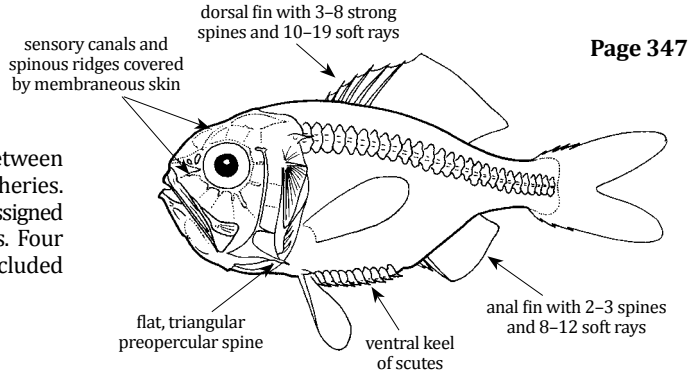



### TRACHICHTHYIDAE

Page 347

**Slimeheads**

To about 20 cm. Demersal from depths between 100 and 1 500 m. Of limited interest to fisheries. The family Trachichthyidae has been recently assigned to the newly erected order Trachichthyiformes. Four species (including 2 possibly undescribed) included in the Guide to Species.

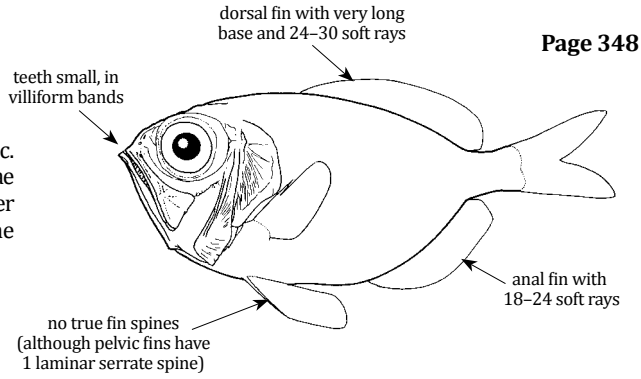



### DIRETMIDAE

Page 348

**Spinyfins**

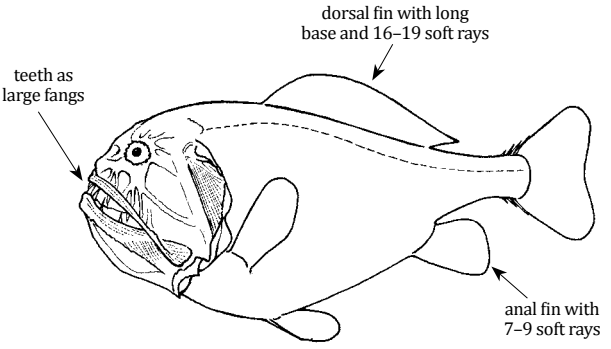
To about 37 cm. Meso- bathy- and benthopelagic. Of no interest to fisheries. The family Diretmidae has been recently assigned to the newly erected order Trachichthyiformes. One species included in the Guide to Species.




### ANOPLOGASTRIDAE

**Fangtooths**

To about 16 cm. Meso- and bathypelagic. Of no interest to fisheries. The family Anoplogastridae has been recently assigned to the newly erected order Trachichthyiformes. *Anoplogaster cornuta* (Valenciennes, 1833) has been identified in deep bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar

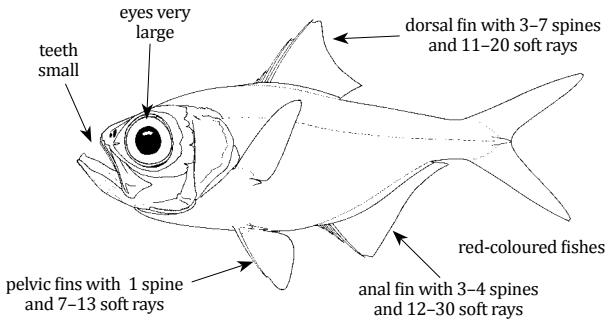


## BERYCIDAE

Page 349

**Alfonsinos**

To 70 cm. Demersal or benthopelagic on the continental shelf and slope mostly between depths of 200 and 1 300 m. Of interest to fisheries. Two species included in the Guide to Species.

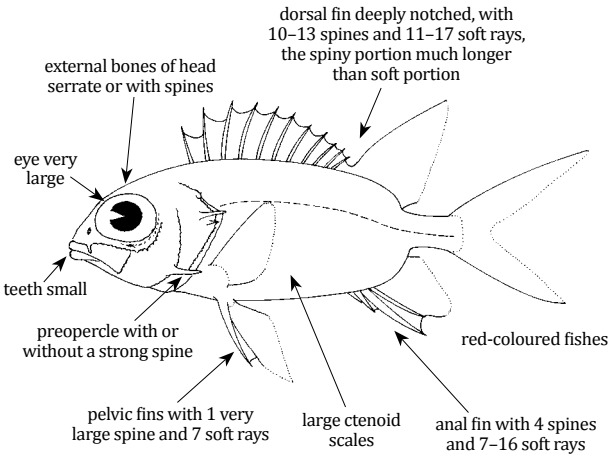



## HOLOCENTRIDAE

Page 349

**Squirrelfishes, soldierfishes**

To about 45 cm. Demersal on coral reefs or shallow rocky coastal bottoms to depths of around 200 m, rarely to 600 m. Of interest to fisheries. The family Holocentridae has been recently assigned to the newly erected order Holocentriformes. Fifteen species included in the Guide to Species.




## Order ZEIFORMES – Dories and allies

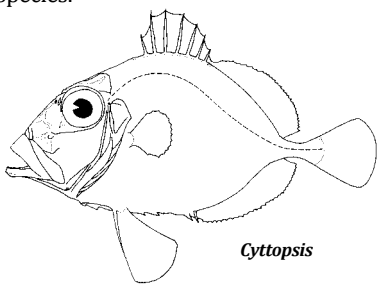
Body usually compressed and deep; jaws greatly distensable; soft rays of dorsal, anal and pectoral fins not branched; 5–10 prominent spines in anterior part of dorsal fin; pelvic fins subthoracic or thoracic with or without a spine and 5–10 soft rays; caudal fin with 11 or 13 branched rays.

## ZEIDAE

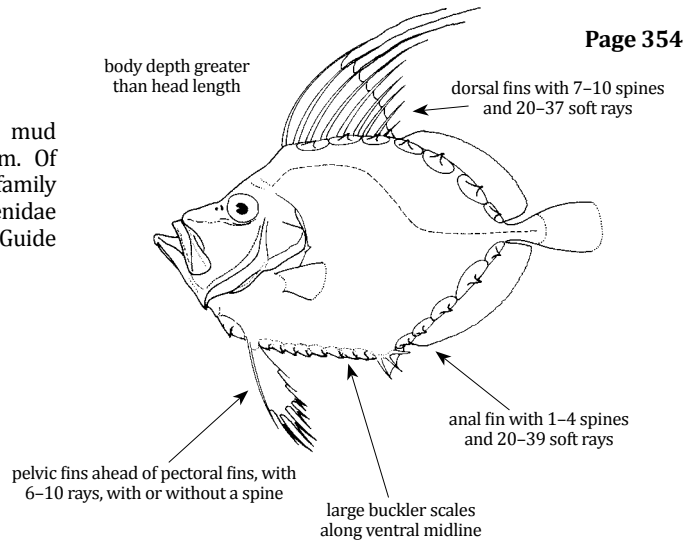
Page 354

**Dories**

To around 60 cm. Demersal over sand or mud bottoms at depths between 35 and 600 m. Of interest to fisheries. Members of the subfamily Cyttopsinae are assigned to the family Parazenidae by some authors. Two species included in the Guide to Species.



*Cyttopsis*



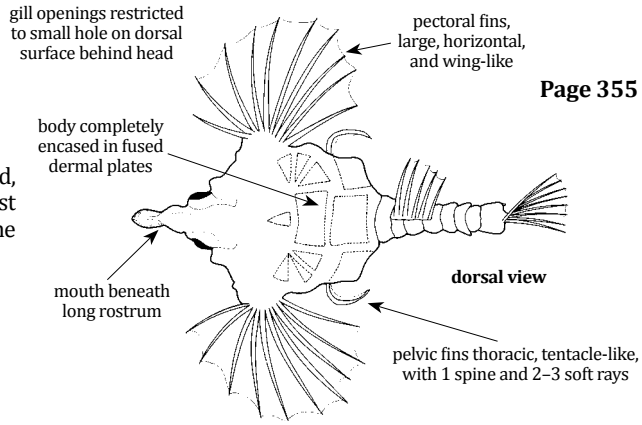
## Order SYNGNATHIFORMES – Pipefishes and allies

Body elongate; snout tube–like, mouth small; scales often modified to form series of body plates.

### PEGASIDAE

**Seamoths**

To about 20 cm. Demersal in coastal waters on sand, gravel, shell-rubble, or muddy bottoms. Of interest to the aquarium trade. One species included in the Guide to Species.

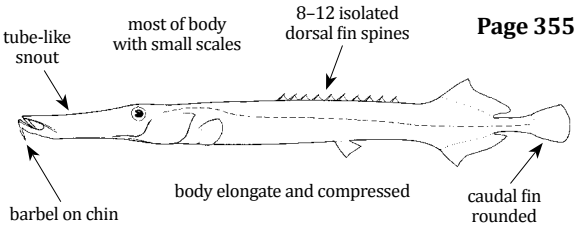



Page 355

### AULOSTOMIDAE

**Trumpetfishes**

To 80 cm. In clear, shallow coastal waters. Often associated with reefs. Of little interest to fisheries. A single species worldwide.

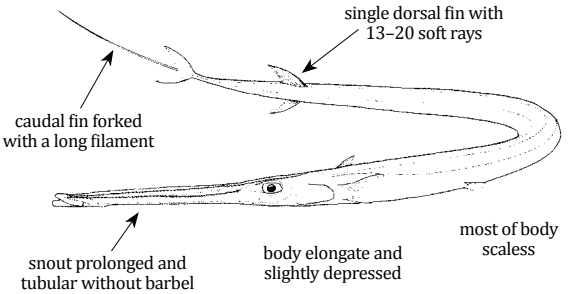



Page 355

### FISTULARIIDAE

**Cornetfishes**

To about 200 cm. Marine, shallow coastal waters over sand or mud bottoms, or in seagrass beds and around coral reefs. Of interest to fisheries, but flesh excellent. Two species included in the Guide to Species.

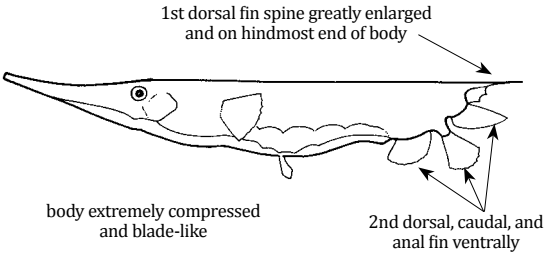



Page 356

### CENTRISCIDAE

**Shrimpfishes**

To about 15 cm. In shallow coastal waters on muddy bottoms near mangroves or on coral reefs. Of interest to the aquarium trade. One species included in the Guide to Species.



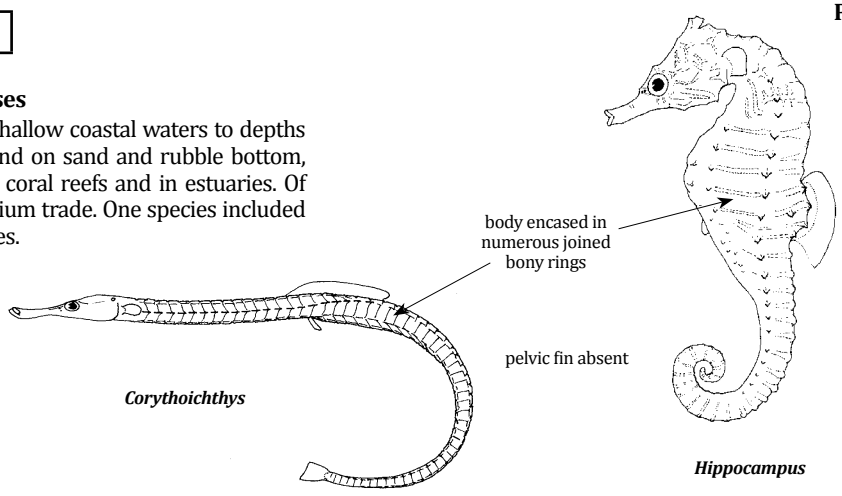

Page 356

**SYNGNATHIDAE**

**Page 357**

**Pipefishes, seahorses**

To about 30 cm. In shallow coastal waters to depths of about 100 m; found on sand and rubble bottom, in seagrass beds, on coral reefs and in estuaries. Of interest to the aquarium trade. One species included in the Guide to Species.



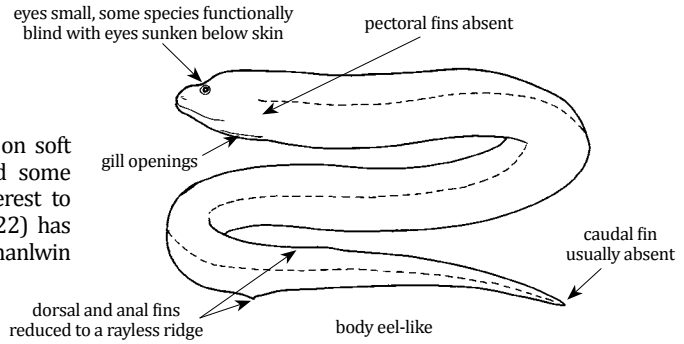

## Order SYNBRANCHIFORMES – Swamp eels

Body elongate "eel–like"; gill openings confined to ventral half of body; pelvic fins absent; premaxillae nonprotrusible and without ascending process.

**SYNBRANCHIDAE**

**Swamp eels**

To 150 cm. Freshwater and brackish in or on soft bottoms. Many have burrowing habits and some have evolved as airbreathing fishes. Of interest to fisheries. *Monopterus cuchia* (Hamilton, 1822) has been identified from coastal waters off the Thanlwin River mouth.




## Order SCORPAENIFORMES – Scorpionfishes and allies

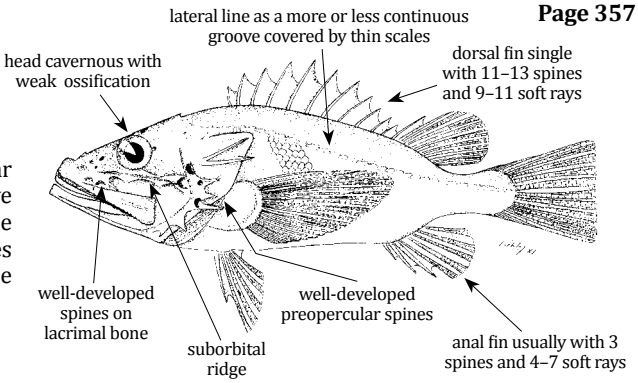
Cheeks with a bony ridge (posterior extension of infraorbital bone to preopercle); usually well-developed spines on head and prominent spines in dorsal fin; pectoral fins usually rounded, sometimes greatly enlarged; membranes between lower rays of pectoral fins often reduced or absent; caudal fin usually rounded (rarely truncate).

**Page 357**

**SETARCHIDAE**

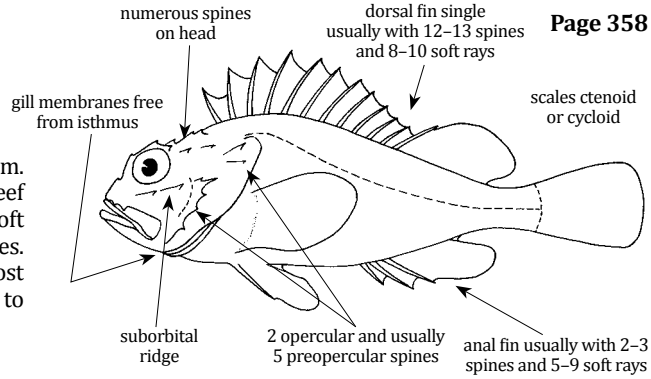
**Deepsea bristly scorpionfishes**

To 31.4 cm but most rarely exceed 20 cm. On or near the bottom at depths of 110–780 m, but some live in the water column to depths of 2 000 m. Of little interest to fisheries. Anterolateral glandular grooves with venom gland. Two species included in the Guide to Species.



## SCORPAENIDAE

Page 358

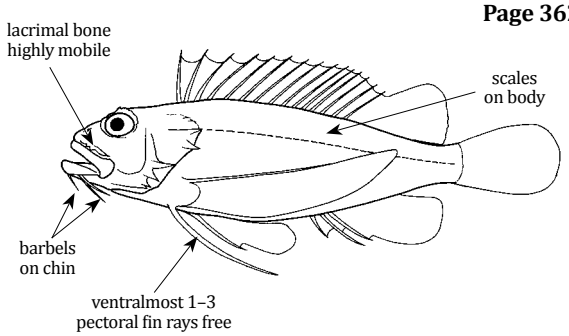



**Scorpionfishes**

To around 40 cm but most rarely exceed 20 cm. Demersal, mostly in near shore rocky or coral reef habitats to a depth of 150 m; some species over soft bottoms to depths of 800 m. Of interest to fisheries. Dorsal, anal, and pelvic fin spines venomous in most species. Fourteen species included in the Guide to Species.

## APISTIDAE

Page 362

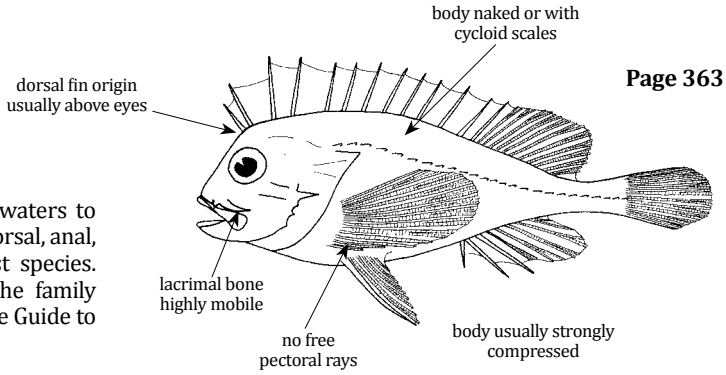



**Wasp scorpionfishes**

To 20 cm. Coastal marine waters to depths of about 90 m. Of little interest to fisheries. Dorsal, anal, and pelvic fin spines venomous in most species. This family was formerly included in the family Scorpaenidae. One species included in the Guide to Species.

## TETRAROGIDAE

Page 363

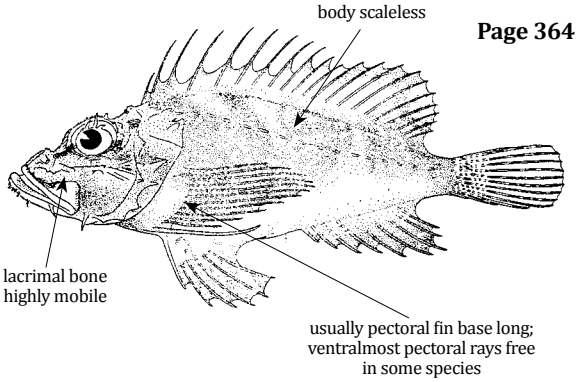



**Waspfishes**

To about 25 cm. From inshore shallow waters to deep waters. Of no interest to fisheries. Dorsal, anal, and pelvic fin spines venomous in most species. This family was formerly included in the family Scorpaenidae. Four species included in the Guide to Species.

## SYNANCEIIDAE

Page 364




**Stonefishes**

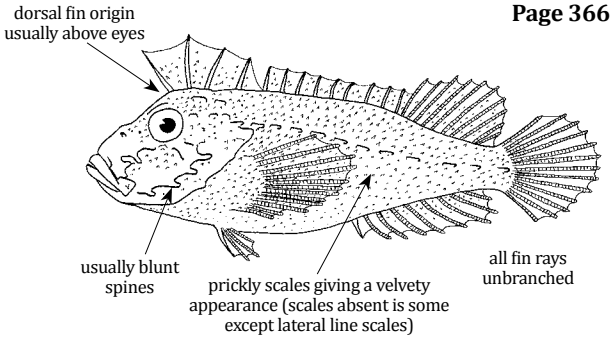
To about 25 cm. From inshore shallow waters to relatively deep waters. Of little interest to fisheries. Dorsal, anal and pelvic fin spines usually highly venomous. The neurotoxin of these fishes is the most deadly of the fish venoms and can be fatal to humans. This family was formerly included in the family Scorpaenidae. Six species included in the Guide to Species.

## APLOACTINIDAE

Page 366

**Velvetfishes**

To around 10. Mostly nearshore cryptic among rocks and seaweeds. Of no interest to fisheries. A single possibly undescribed species included in the Guide to Species.

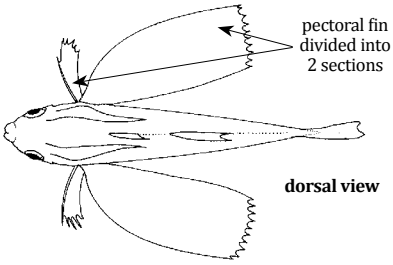


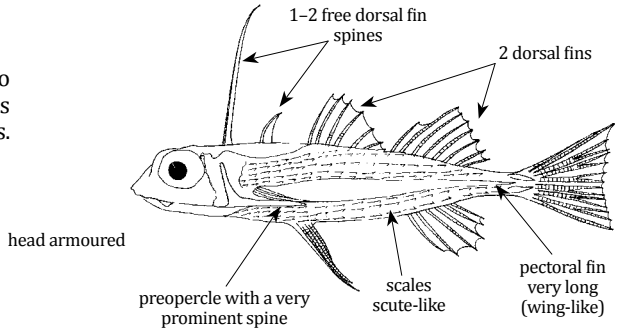

## DACTYLOPTERIDAE

Page 366

**Flying gurnards**

To 40 cm. Inshore on sandy or muddy bottoms. Of no interest to fisheries. The family Dactylopteridae has been recently moved to the order Syngnathiformes. Two species included in the Guide to Species.



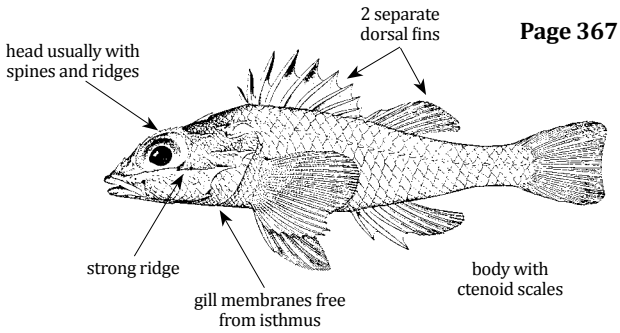




## PLECTROGENIIDAE

Page 367

**Stinger flatheads**

To about 8 cm. Demersal, at depths mostly between 250 and 650 m. Of no interest to fisheries. This family was formerly included in the family Scorpaenidae. One species included in the Guide to Species.

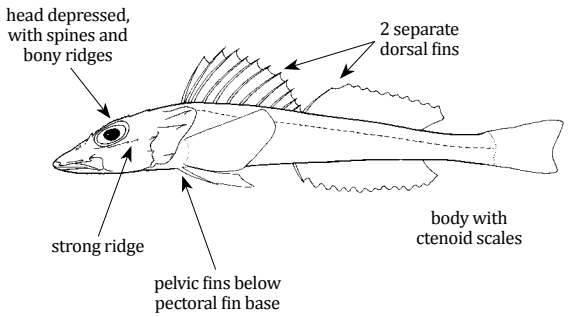



## BEMBRIDAE

Page 367

**Deepwater flatheads**

To about 20 cm. Demersal, at depths mostly between 80 and 580 m. Of no interest to fisheries. The genus *Bembradium* is included in the family Plectrogeniidae by some authors. Three species included in the Guide to Species.

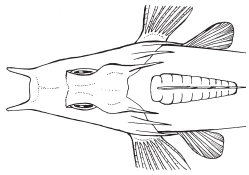


## TRIGLIDAE

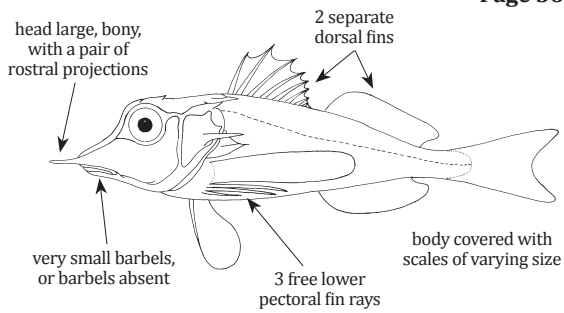
Page 368

### Gurnards

To about 30 cm. Demersal mostly on soft bottoms from nearshore areas to depths of 500 m. Of interest to fisheries. Six species included in the Guide to Species.



**dorsal view of head (*Pterygotrigla*)**

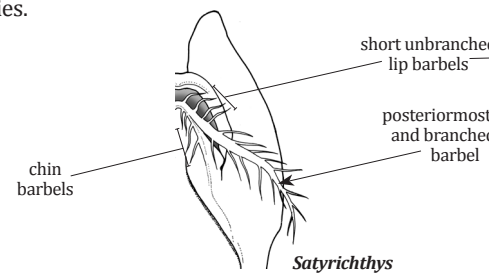



## PERISTEDIIDAE

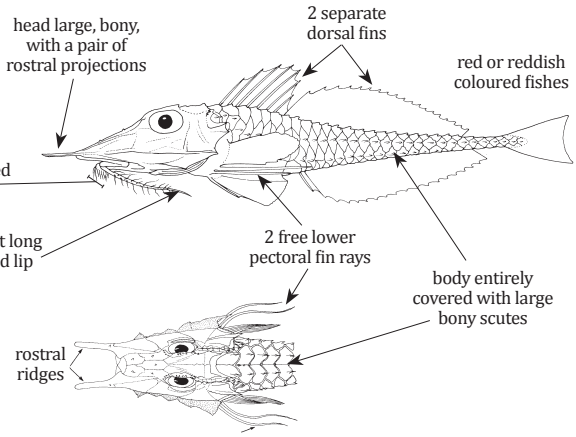
Page 370

### Armored gurnards

To around 50 cm. Deepwater at depths mostly between 200 and 500 m; benthic. Of limited interest to fisheries. Six species included in the Guide to Species.




**ventral view of head (only left side showed)**



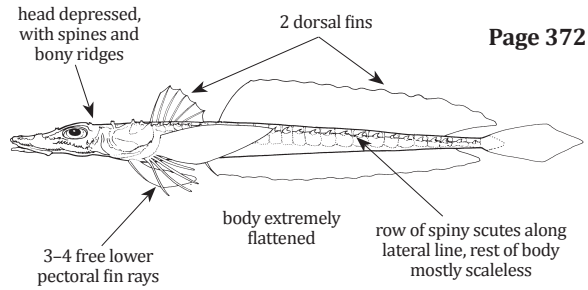

**dorsal view of head (*Peristedion*)**

## HOPLICHTHYIDAE

Page 372

### Ghost flatheads

To around 25 cm. On the continental shelf and slope at depths from 60 to 1 500 m. One species included in the Guide to Species.

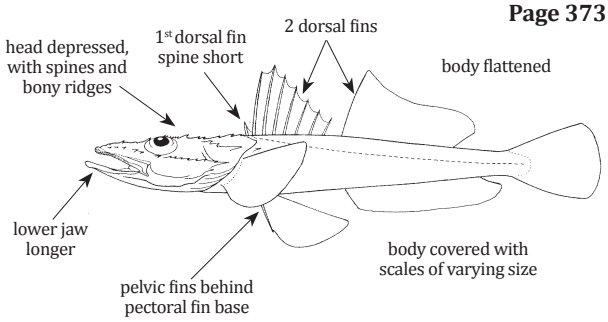



## PLATYCEPHALIDAE

Page 373

### Flatheads

To 50 cm, most less than 30. Demersal, mostly on mud or sand bottoms to a depth of about 300 m. Some species associated with rocky bottom and coral reefs. Of little interest to fisheries. Eighteen species (including 1 undescribed) included in the Guide to Species.



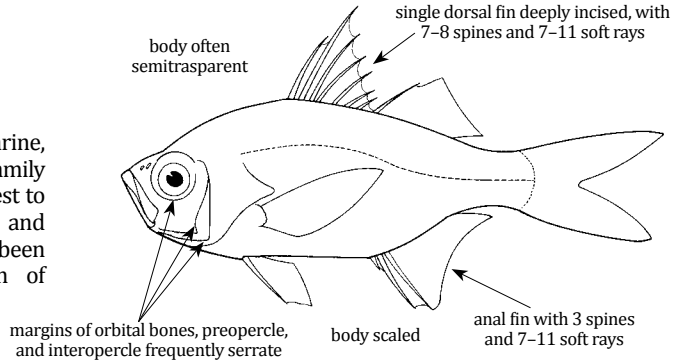
## Order PERCIFORMES: Suborder PERCOIDEI – Perch-like fishes

Shape extremely variable; either two dorsal fins, or one dorsal fin with anterior elements being sharp spines; pelvic fins usually thoracic, and with one spine and five soft rays, placed well forward on ventral surface of body; maxillary bone not included in gape of mouth, but dorsal to the tooth-bearing premaxilla.

### AMBASSIDAE

**Perchlets, glassfishes**

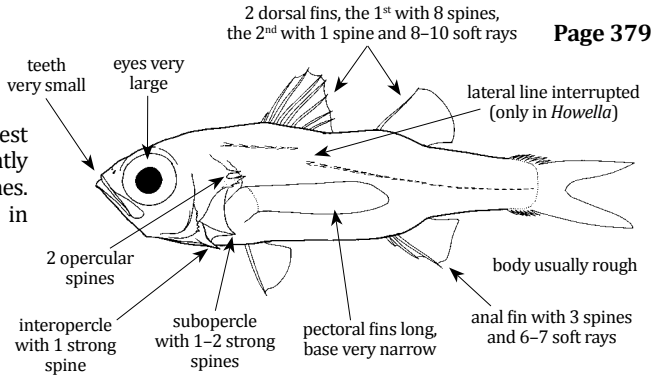
To about 26 cm but most under 10 cm. In estuarine, mangrove swamps and fresh water. This family formerly known as Chandidae. Of limited interest to fisheries. *Ambassis* cf. *nalua* (Hamilton, 1822) and *Parambassis* cf. *ranga* (Hamilton, 1822) have been identified from photographic documentation of fishes taken from Myeik coastal waters.




### HOWELLIDAE

**Oceanic basslets**

To around 10 cm. Meso- bathypelagic. Of no interest to fisheries. The family Howellidae has been recently moved to the newly erected order Acropomatiformes. A single possibly undescribed species included in the Guide to Species.



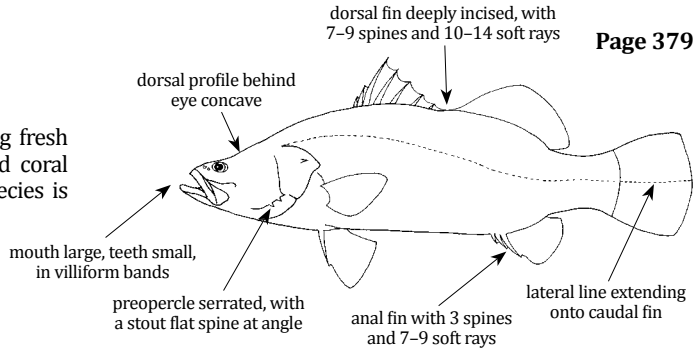

**Page 379**



### LATIDAE

**Sea perches**

To 200 cm. Coastal in estuaries and entering fresh water, mangrove swamps, and on rocky and coral reefs. Of major interest to fisheries. Two species is included in the Guide to Species.



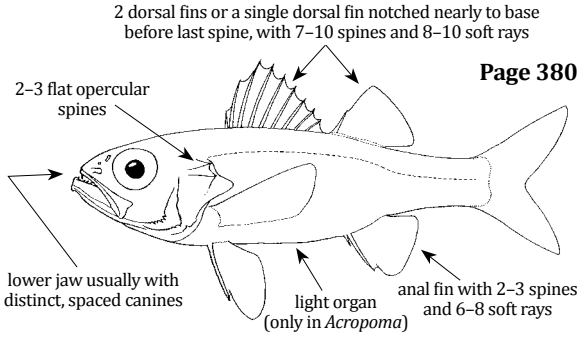

**Page 379**



### ACROPOMATIDAE

**Lanternbellies**

To 40 cm. Mostly in deep water over soft bottoms at depths from 20 to 700 m. Of little interest to fisheries. This family has been recently split into Acropomatidae and Synagropidae, and placed into a newly erected order Acropomatiformes. Five species (including 2 possibly undescribed) included in the Guide to Species.



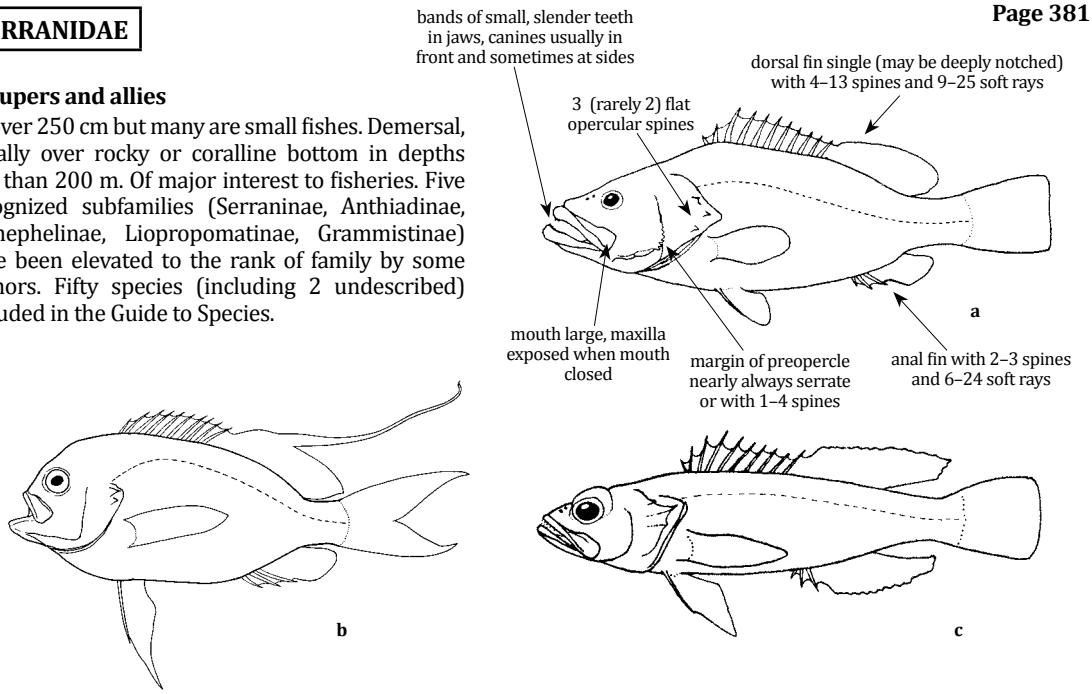

**Page 380**

## SERRANIDAE

Page 381

**Groupers and allies**

To over 250 cm but many are small fishes. Demersal, usually over rocky or coralline bottom in depths less than 200 m. Of major interest to fisheries. Five recognized subfamilies (Serraninae, Anthiadinae, Epinephelinae, Liopropomatinae, Grammistinae) have been elevated to the rank of family by some authors. Fifty species (including 2 undescribed) included in the Guide to Species.



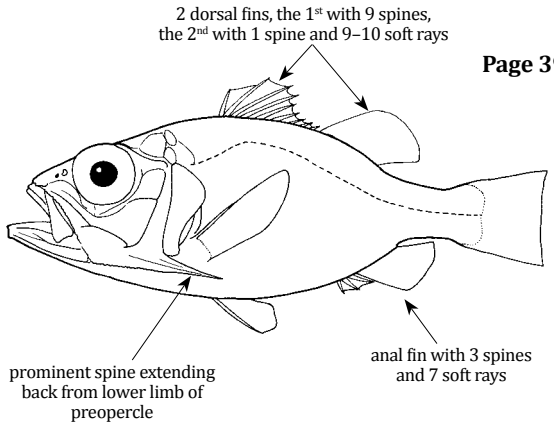

**Epinephelinae (a) Anthiadinae (b) and Serraninae (c) are the 3 subfamilies included in the guide. For family-level characters the user should make reference to Epinephelinae**

## OSTRACOBERYCIDAE

Page 398

**Ostracoberycids**

To about 20 cm. Demersal or near bottom on the continental slope at depths between 250 and 710 m. The family Ostracoberycidae has been recently moved to the newly erected order Acropomatiformes. A single species included in the Guide to Species.

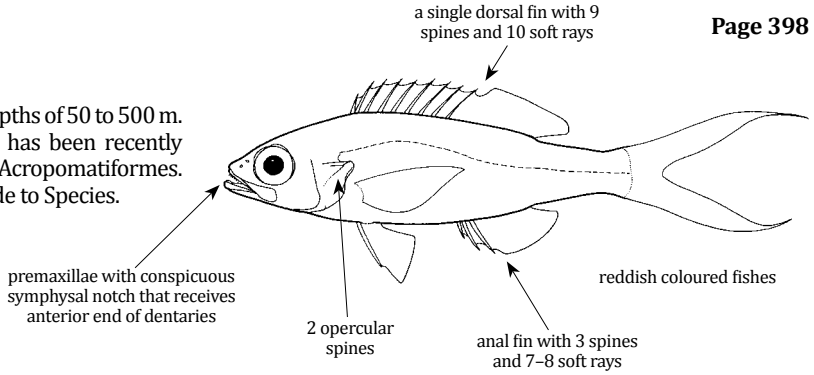



## SYMPHYSANODONTIDAE

Page 398

**Bunquelovelies**

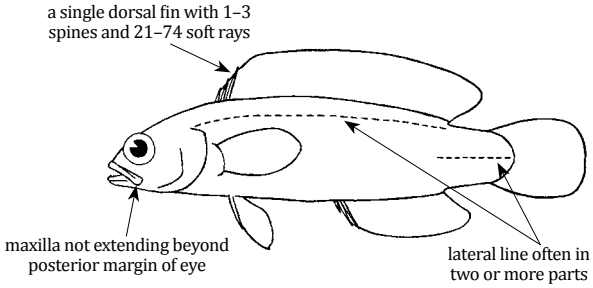
To about 20 cm. Near bottom at depths of 50 to 500 m. The family Symphysanodontidae has been recently moved to the newly erected order Acropomatiformes. Three species included in the Guide to Species.



## PSEUDOCHROMIDAE

**Dottybacks**

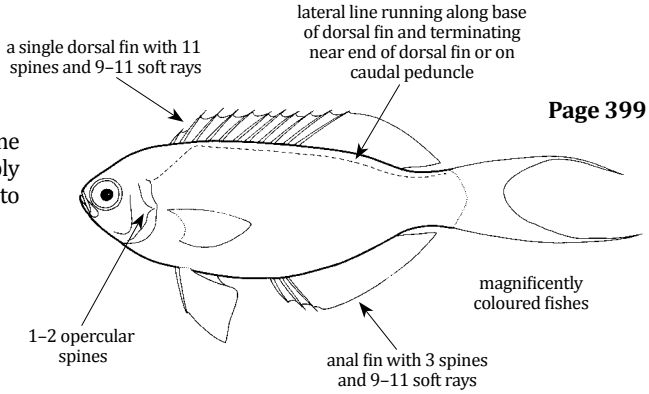
To 11 cm. Shallow coastal waters, especially coral reefs to depths of about 100 m. Of interest to the aquarium trade. *Pseudochromis andamanensis* Lubbock, 1980 and *P. caudalis* Boulenger, 1898 have been recorded in Myanmar.




## CALLANTHIIDAE

**Splendid perches**

To about 15 cm. Near bottom on rocky and coralline reefs at depths from 4 to 660 m. A single possibly undescribed species included in the Guide to Species.

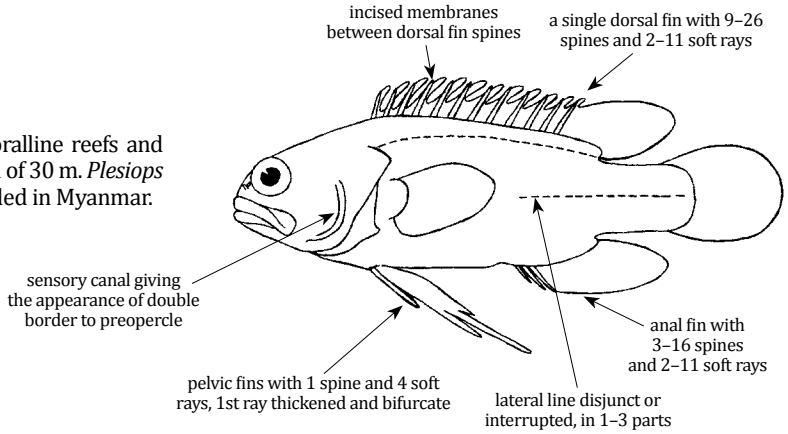



**Page 399**

## PLESIOPIDAE

**Roundheads**

To about 10 cm. On rocky and coralline reefs and tidepools from nearshore to a depth of 30 m. *Plesiops auritus* Mooi, 1995 has been recorded in Myanmar.

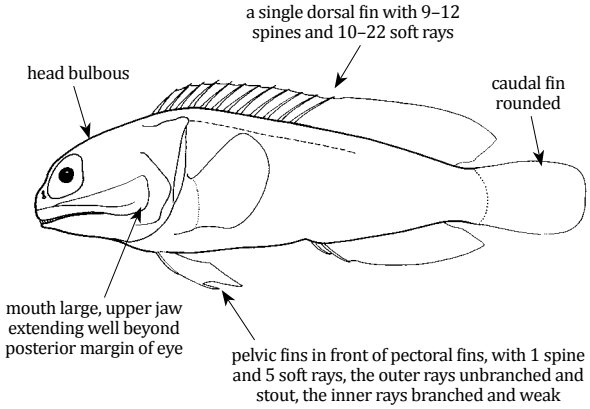



## OPISTOGNATHIDAE

**Page 400**

**Jawfishes**

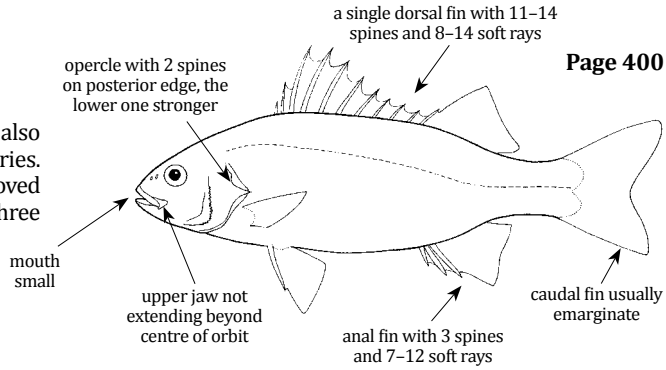
To about 16 cm. Mostly burrowing in sandy areas adjacent to coral reefs at depths between 2 and 30 m. A single species included in the Guide to Species.



## TERAPONTIDAE

**Grunters**

To about 35 cm. Coastal waters and estuaries, also entering fresh water. Of little interest to fisheries. The family Terapontidae has been recently moved to the newly erected order Centrarchiformes. Three species included in the Guide to Species.

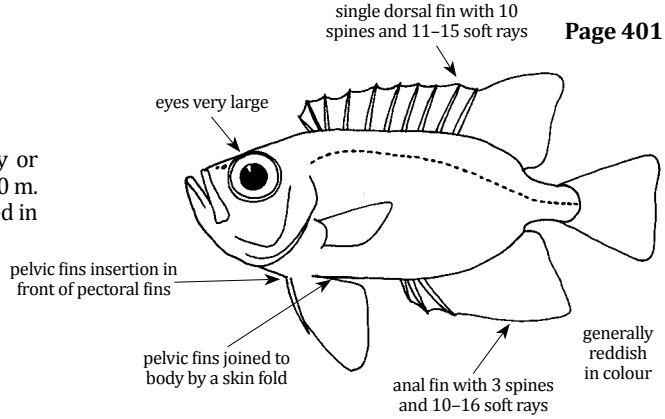



**Page 400**

## PRIACANTHIDAE

**Bigeyes**

To about 68 cm, most less than 40. Over rocky or coral reef bottoms at depths from 5 to at least 400 m. Of little interest to fisheries. Eight species included in the Guide to Species.

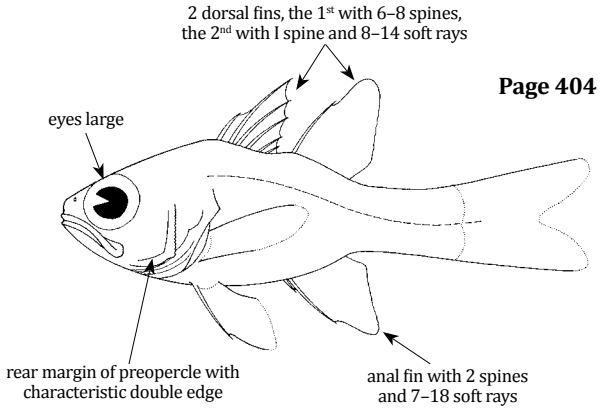



**Page 401**

## APOGONIDAE

**Cardinalfishes**

To about 14 cm, most species less than 12 cm. On rocky and coral reefs and adjacent habitats such as sand flats and seagrass beds. Of interest to the aquarium trade. Twenty-one species (including 1 undescribed) included in the Guide to Species. *Apogonichthyoides miniatus* Fraser, 2010, *Rhabdamia gracilis* (Bleeker, 1856) and *Siphamia tubifer* Weber, 1909 have been identified in bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar.

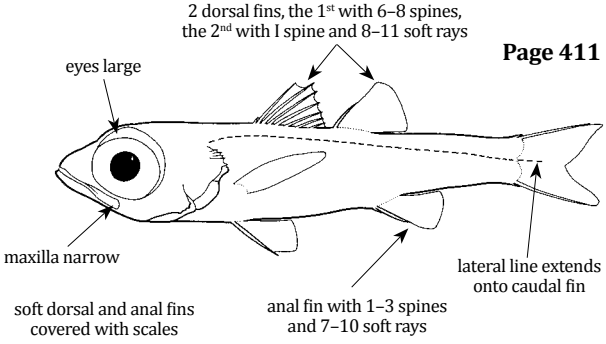



**Page 404**

## EPIGONIDAE

**Deepwater cardinalfishes**

To about 15 cm. Found near the bottom at depths from 75 to 3 700 m. The family Epigonidae has been recently moved to the newly erected order Acropomatiformes. A single species included in the Guide to Species.

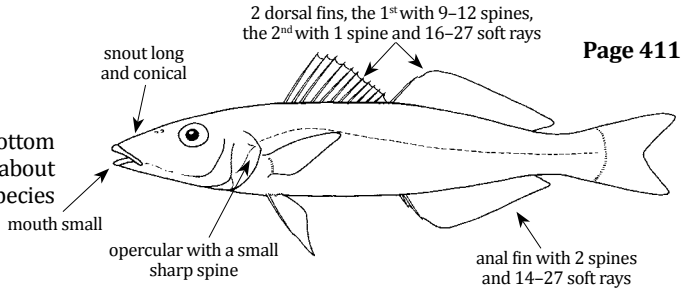



**Page 411**

## SILLAGINIDAE

**Sillagos**

To about 45 cm, most less than 30. Inshore, bottom dwelling from the intertidal zone to a depth of about 180 m. Of little interest to fisheries. Five species included in the Guide to Species.

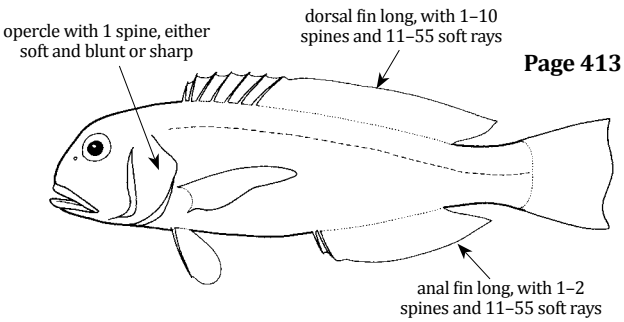



Page 411

## MALACANTHIDAE

**Tilefishes**

To about 60 cm. Mostly on soft bottoms, often burrowing, usually at depths between 60 and 200 m. The family sometimes referred to as Branchiostegidae. Of little interest to fisheries. Three species included in the Guide to Species.

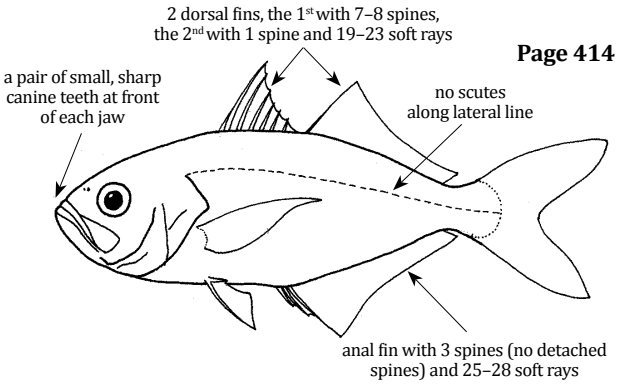



Page 413

## LACTARIIDAE

**False trevally**

To 40 cm. Schooling over soft bottoms at depths down to 100 m. Of interest to fisheries. This family contains only one known species which is included in the Guide to Species.

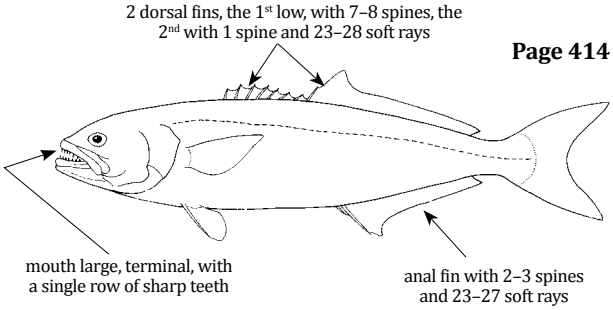



Page 414

## POMATOMIDAE

**Bluefish**

To 110 cm. Schooling voracious predators throughout the epipelagic water column, including inshore. Of interest to fisheries. This family contains a single widespread species which is included in the Guide to Species.

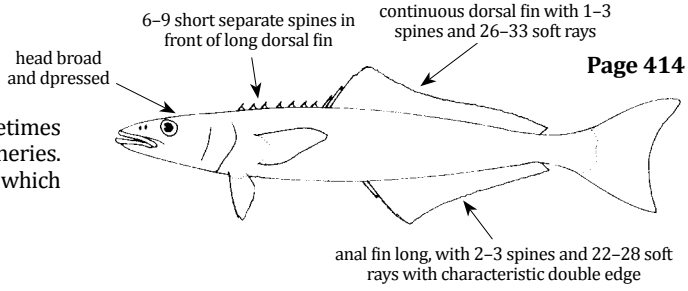



Page 414

## RACHYCENTRIDAE

**Cobia**

To 200 cm. Pelagic in open ocean, but sometimes approaching the coast. Of major interest to fisheries. This family contains only one known species which is included in the Guide to Species.



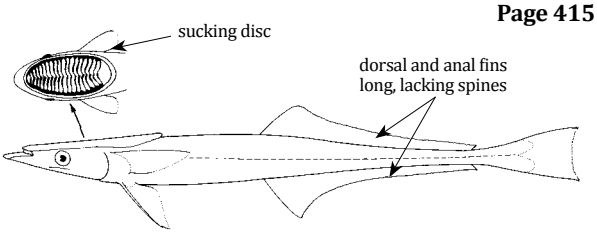

Page 414

## ECHENEIDAE

Page 415

**Remoras**

To about 100 cm. Pelagic, attaches to larger marine animals such as sharks, turtles, and marine mammals. Of no interest to fisheries. Two species included in the Guide to Species.

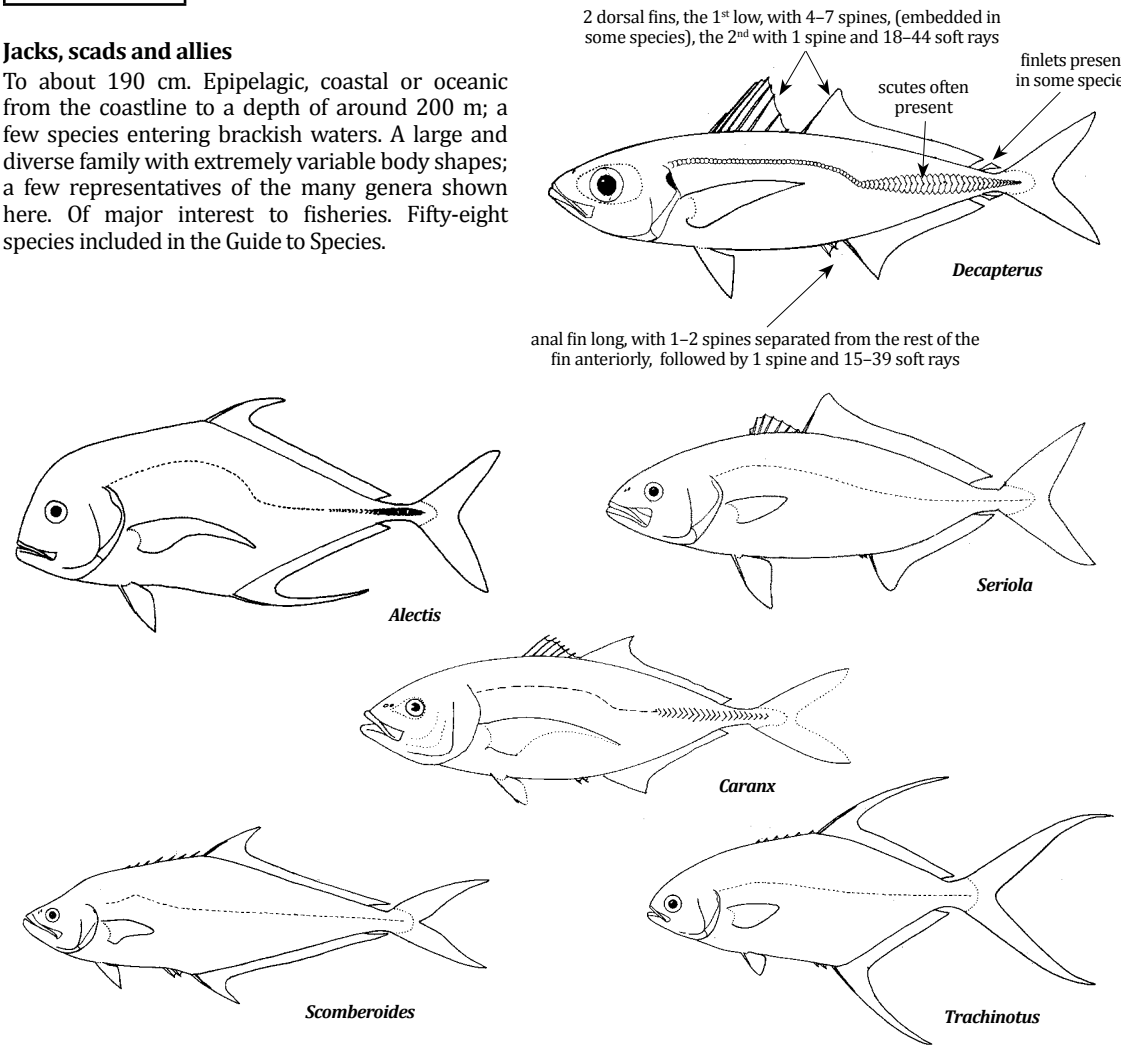



## CARANGIDAE

Page 415

**Jacks, scads and allies**

To about 190 cm. Epipelagic, coastal or oceanic from the coastline to a depth of around 200 m; a few species entering brackish waters. A large and diverse family with extremely variable body shapes; a few representatives of the many genera shown here. Of major interest to fisheries. Fifty-eight species included in the Guide to Species.

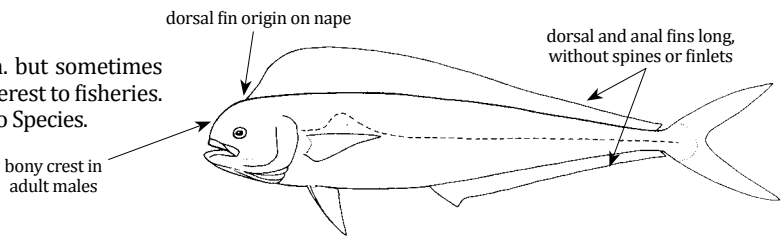



## CORYPHAENIDAE

Page 435

**Dolphinfishes**

To 200 cm. Epipelagic, open ocean. but sometimes approaching the coast. Of major interest to fisheries. Two species included in the Guide to Species.

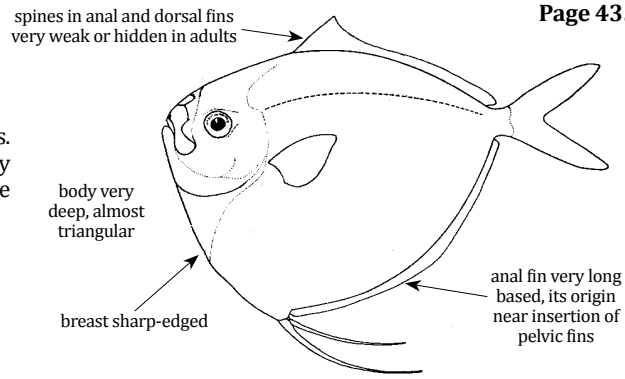


## MENIDAE

**Moonfish**

To 30 cm. In marine coastal waters, entering estuaries. Of little interest to fisheries. This family contains only one known species which is included in the Guide to Species.

Page 435

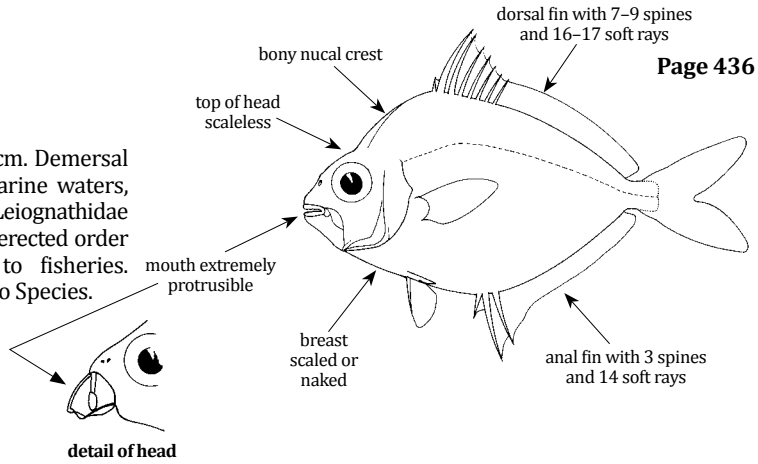



## LEIOGNATHIDAE

**Ponyfishes**

To 25 cm, but seldom larger than 15 cm. Demersal over soft bottoms, some also in estuarine waters, to depths of around 25 m. The family Leiognathidae has been recently moved to the newly erected order Acanthuriformes. Of little interest to fisheries. Twenty species included in the Guide to Species.

Page 436

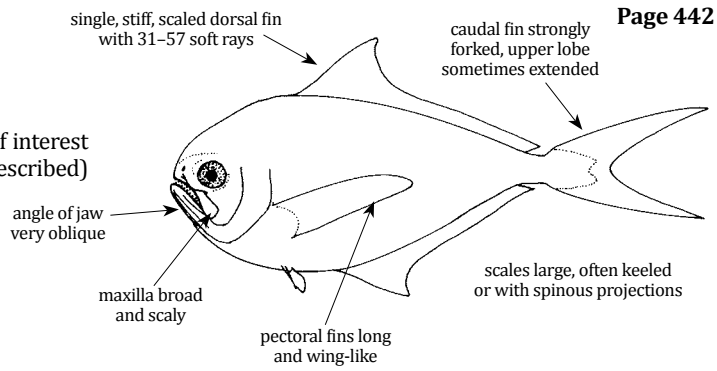



## BRAMIDAE

**Pomfrets**

To about 60 cm. Open ocean, epipelagic. Of interest to fisheries. Four species (including 1 undescribed) included in the Guide to Species.

Page 442

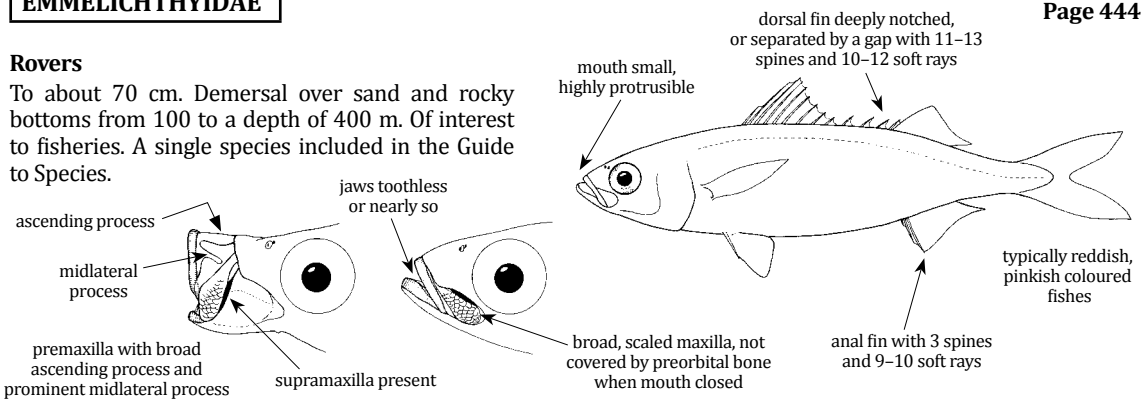



## EMMELICHTHYIDAE

**Rovers**

To about 70 cm. Demersal over sand and rocky bottoms from 100 to a depth of 400 m. Of interest to fisheries. A single species included in the Guide to Species.

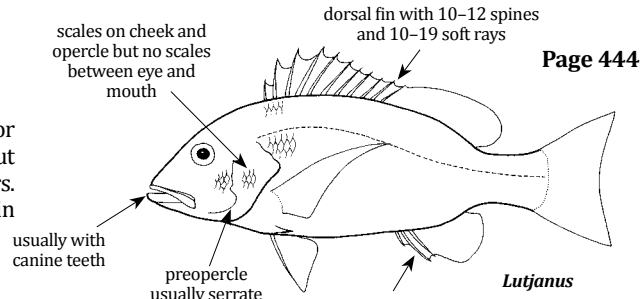
Page 444



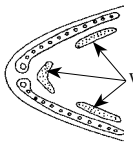
## LUTJANIDAE

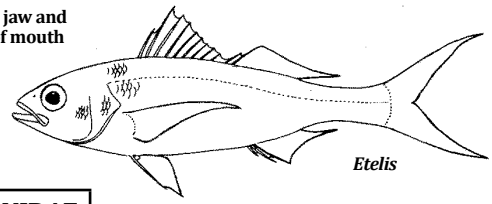
**Snappers**

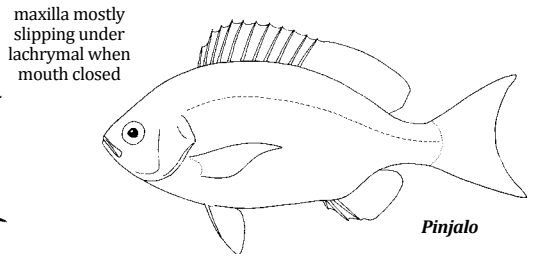
To 150 cm. Demersal, mostly inshore over reef or rocky bottom from the coastline to a depth of about 500 m; some species enter estuaries and even rivers. Of interest to fisheries. Forty-two species included in the Guide to Species.




Page 444



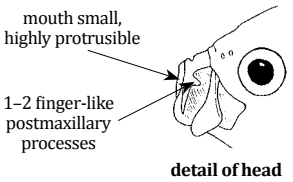



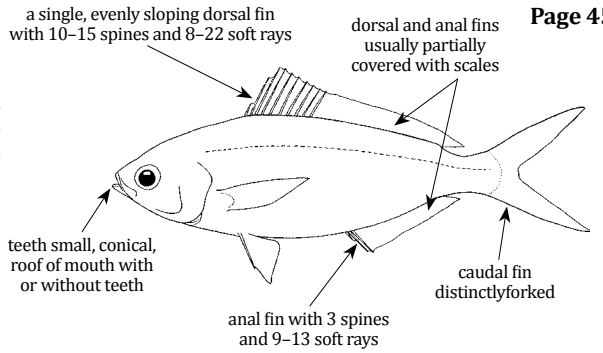




## CAESIONIDAE

**Fusiliers**

To about 50 cm. Schooling around and between coral reefs, to a depth of about 60 m. Of interest to fisheries. Thirteen species included in the Guide to Species.



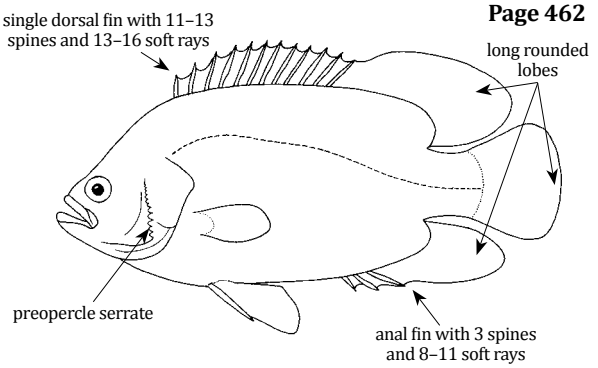




Page 458

## LOBOTIDAE

**Tripletails**

To 100 cm. In coastal waters and estuaries, some entering fresh water. Also found offshore around floating objects. Of little interest to fisheries. A single species included in the Guide to Species.

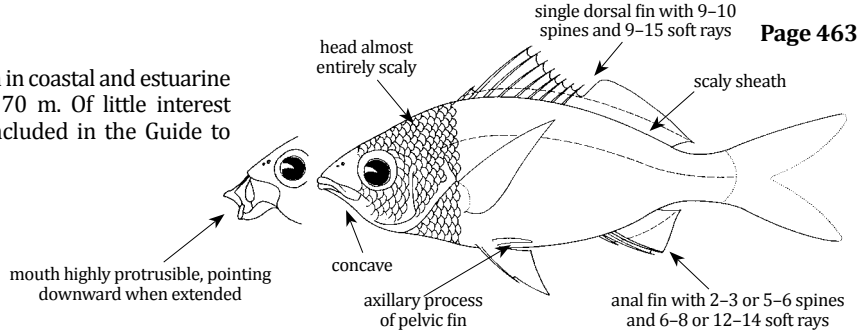



Page 462

## GERREIDAE

**Silverbiddies, mojarras**

To about 45 cm. Near bottom in coastal and estuarine waters to depths of about 70 m. Of little interest to fisheries. Eight species included in the Guide to Species.



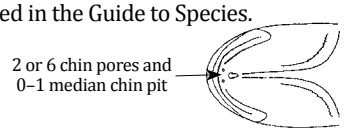

Page 463

## HAEMULIDAE

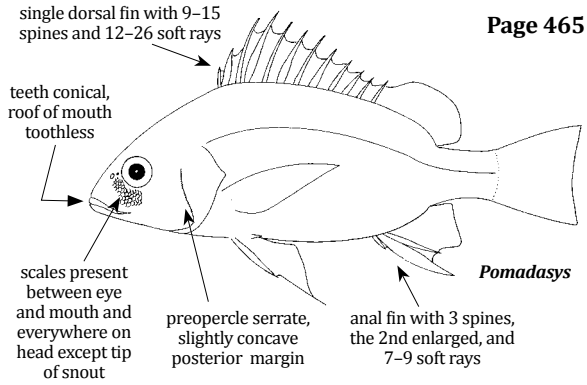
Page 465

### Grunts and allies

To 100 cm. Near bottom in estuaries and in coastal waters on reefs or over soft bottom. Of interest to fisheries. Members of the the genus *Hapalogenys* included in a distinct family Hapalogenyidae or Lobotidae by some authors. Twenty-three species included in the Guide to Species.




**ventral view of head (*Pomadasys*)**

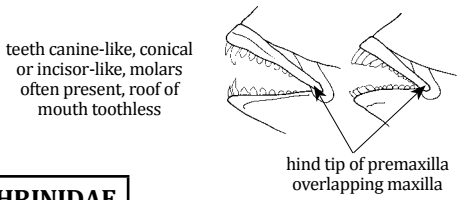


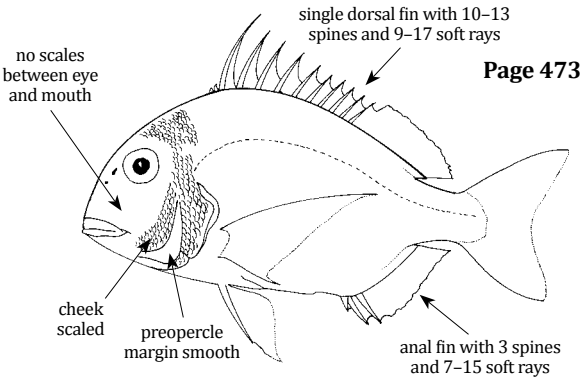

## SPARIDAE

Page 473

### Porgies

To 80 cm. Coastal, demersal to a depth of about 150 m. Of interest to fisheries. Three species included in the Guide to Species.



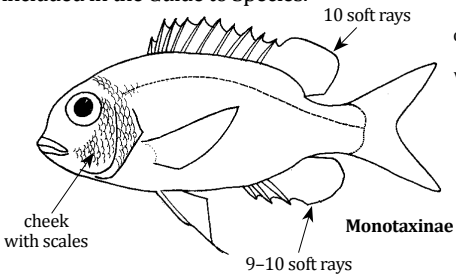



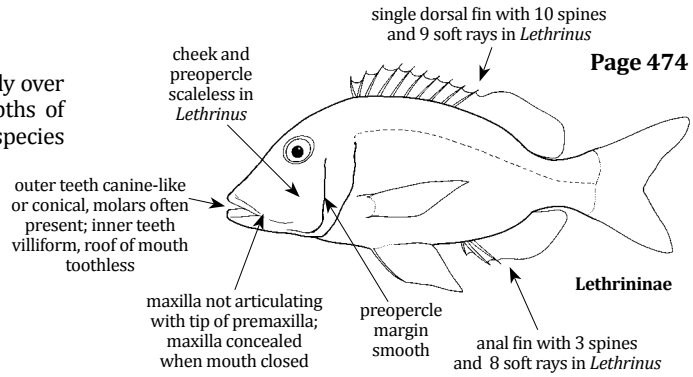

## LETHRINIDAE

Page 474

### Emperors

To 100 cm. Demersal in coastal waters, mostly over sandy, rocky, and coral reef bottoms to depths of 180 m. Of interest to fisheries. Seventeen species included in the Guide to Species.



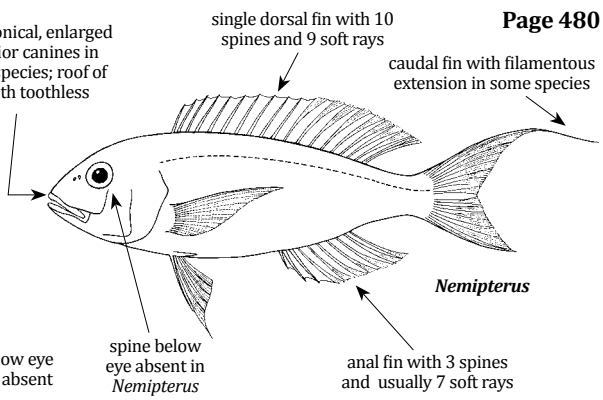



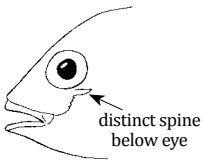

## NEMIPTERIDAE

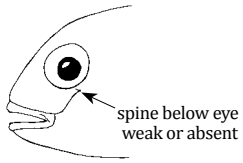
Page 480

### Threadfin breams

To about 30 cm. Demersal in coastal continental shelf waters, mostly over sand and mud bottom to a depths of about 300 m. Of interest to fisheries. Twenty-three species (including 3 undescribed) included in the Guide to Species.



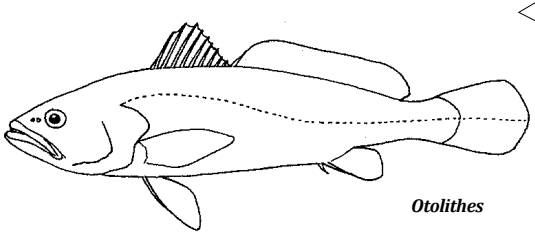



## SCIAENIDAE

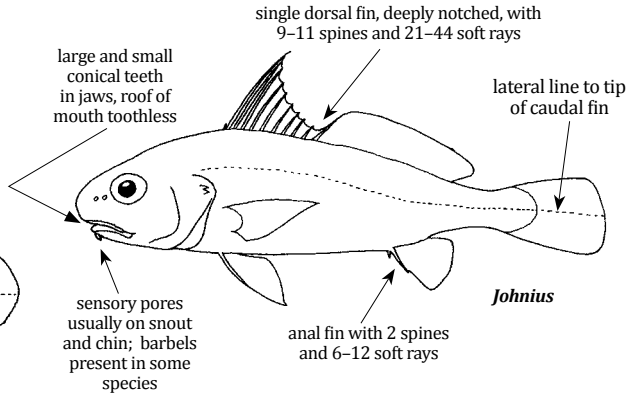
Page 487

**Croakers**

To 160 cm. Demersal, coastal on continental shelves, mostly over soft bottoms; some also in estuaries and in fresh water. Of interest to fisheries. Twenty-seven species included in the Guide to Species.



*Otolithes*



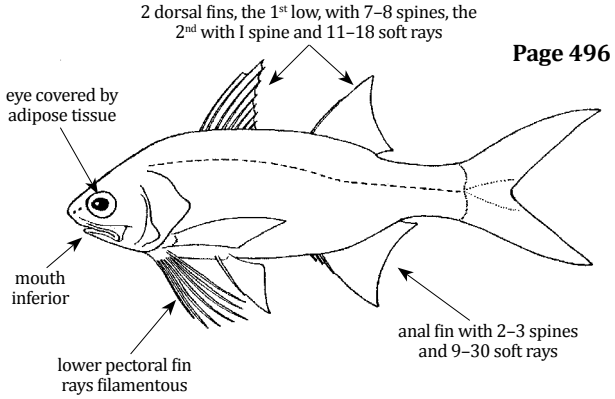

*Johnius*

## POLYNEMIDAE

Page 496

**Threadfins**

To 200 cm. Coastal marine waters, estuaries and coastal lagoons; fresh river mouths; demersal. Of interest to fisheries. Twelve species included in the Guide to Species.

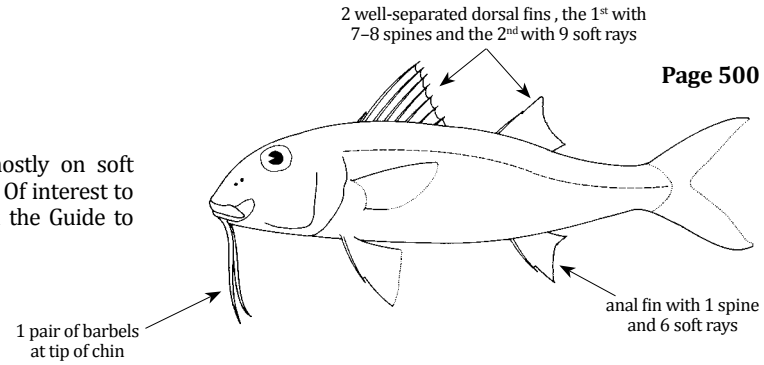



## MULLIDAE

Page 500

**Goatfishes**

To 50 cm. Bottom coastal fishes, mostly on soft bottoms or sandy areas around reefs. Of interest to fisheries. Twenty species included in the Guide to Species.

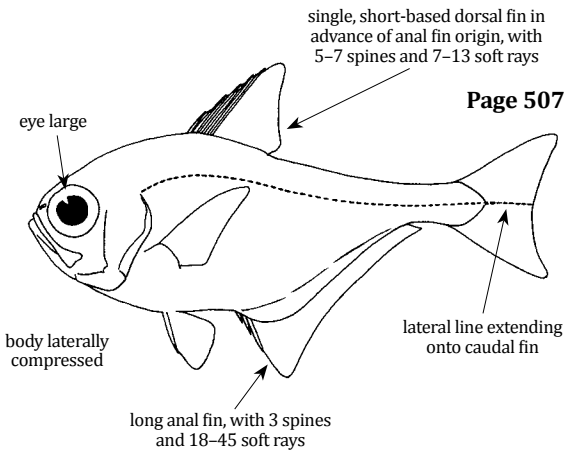



## PEMPHERIDAE

Page 507

**Sweepers**

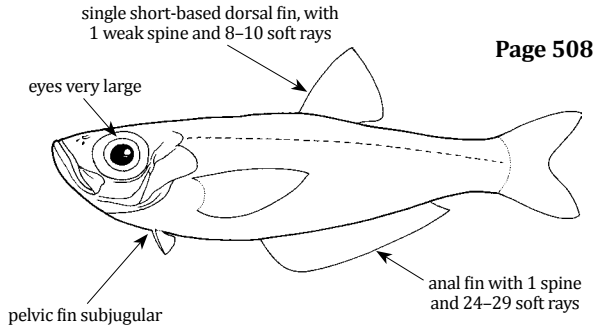
To about 20 cm. Bottom coastal fishes, most common around coral reefs and down to a depth of around 100 m. Of no interest to fisheries. The family Pempheridae has been recently moved to the newly erected order Acropomatiformes. Four (including 1 undescribed) species included in the Guide to Species.



## BATHYCLUPEIDAE

**Bathyclupeids**

To 30 cm. Deep-sea fishes on the continental slope and oceanic waters; meso-, bathy-, or benthopelagic. Of no interest to fisheries. The family Bathyclupeidae has been recently moved to the newly erected order Acropomatiformes. Two species included in the Guide to Species.

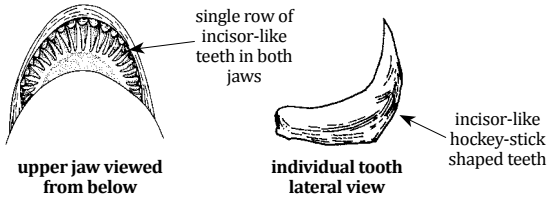


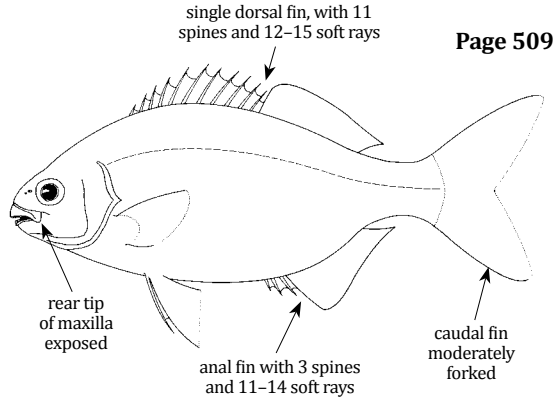

**Page 508**

## KYPHOSIDAE

**Seachubs**

To 75 cm. Mostly on rocky or coral reefs. The family Kyphosidae has been recently moved to the newly erected order Centrarchiformes. Three species included in the Guide to Species.



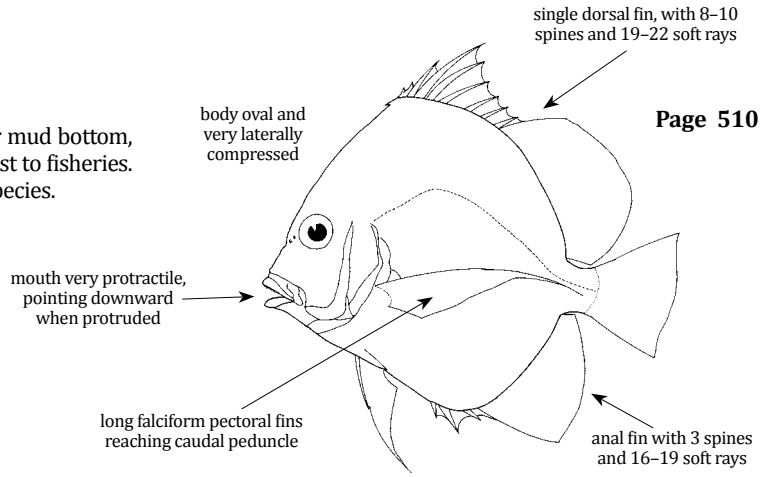




**Page 509**

## DREPANEIDAE

**Sicklefishes**

To 50 cm. Coastal, mostly over sand or mud bottom, also on reefs and in estuaries. Of interest to fisheries. Two species included in the Guide to Species.

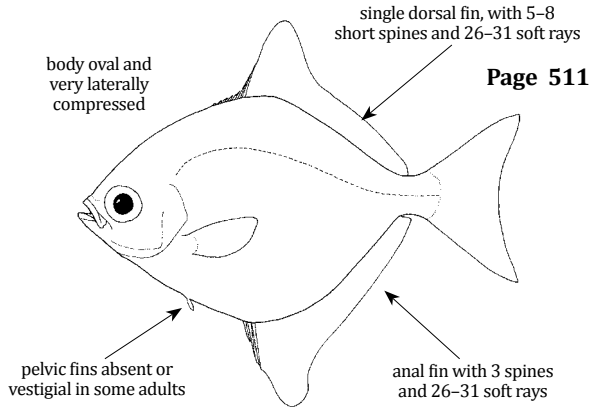



**Page 510**

## MONODACTYLIDAE

**Moonies**

To about 30 cm. Coastal waters, estuaries and entering freshwater. Of little interest to fisheries. One species included in the Guide to Species.

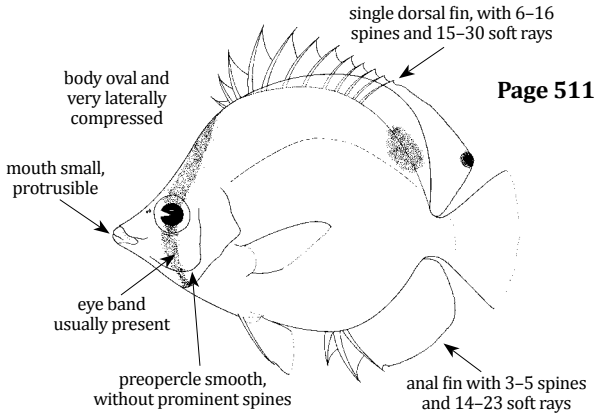



**Page 511**

## CHAETODONTIDAE

**Butterflyfishes**

To about 25 cm. Mostly on shallow coral reefs to a depth of 60 m; some species restricted to deep water below 60 m. Of no interest to fisheries; some species of interest of the aquarium trade. The family Chaetodontidae has been recently moved to the newly erected order Acanthuriformes. Seven species included in the Guide to Species.

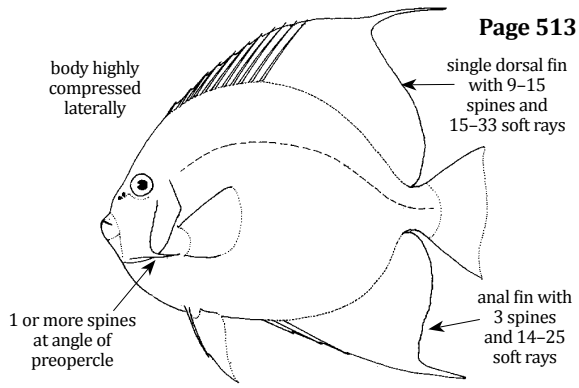



Page 511

## POMACANTHIDAE

**Angelfishes**

To 50 cm. Most closely associated with coral reefs at depths between 5 and 60 m. Of little interest to fisheries; some species of interest of the aquarium trade. The family Pomacanthidae has been recently moved to the newly erected order Acanthuriformes. Four species included in the Guide to Species.

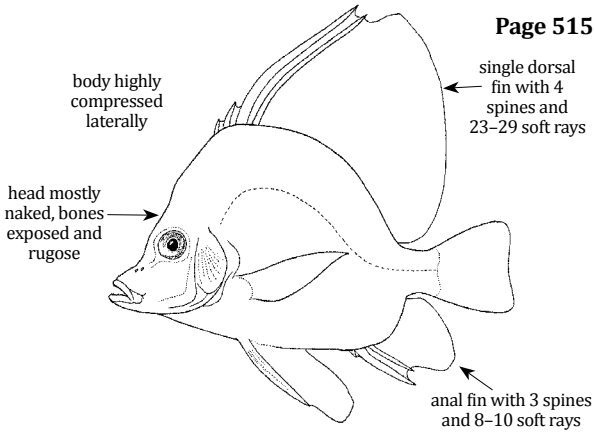



Page 513

## PENTACEROTIDAE

**Armorheads**

To 35 cm. On hard bottom at depths from 40 to 400 m. Of no interest to fisheries. The family Pentacerotidae has been recently moved to the newly erected order Acropomatiformes. One species included in the Guide to Species.

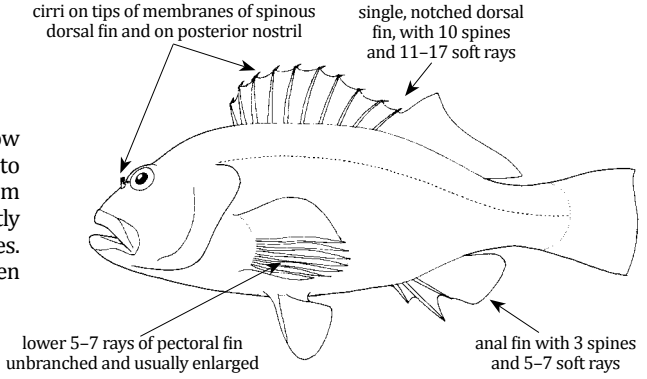



Page 515

## CIRRHITIDAE

**Hawkfishes**

To about 30 cm. On the bottom, mostly in shallow waters on coral or rocky reefs. Of no interest to fisheries; some species of interest of the aquarium trade. The family Cirrhitidae has been recently moved to the newly erected order Centrarchiformes. *Cirrhitus pinnulatus* (Forster, 1801) has been recorded from Myeik coastal waters.

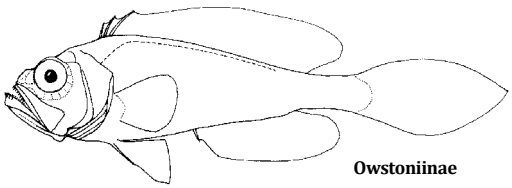


## CEPOLIDAE

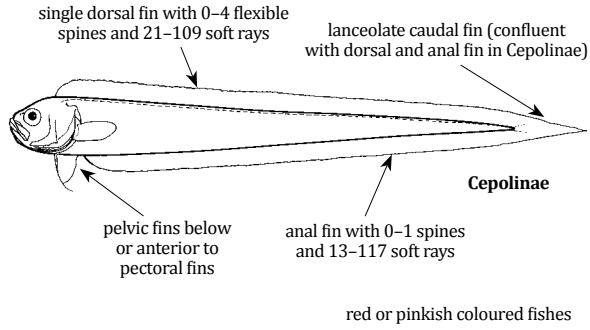
Page 515

**Bandfishes**

To about 50 cm. In burrows in sand or mud bottom from shallow waters to a depth of 475 m. Of little interest to fisheries. Three species included in the Guide to Species.



Owstoniinae




## Order PERCIFORMES: Suborder MUGILOIDEI – Mullets

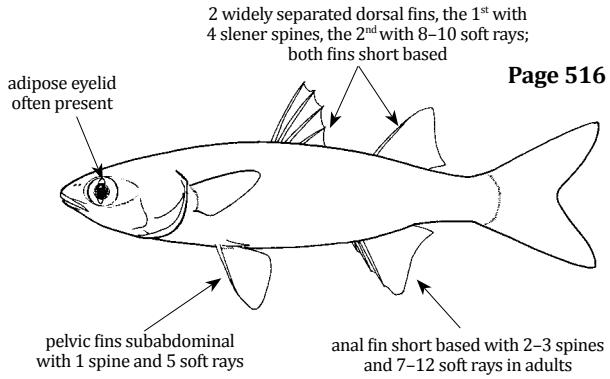
Body elongate and subcylindrical; head often broad and flattened dorsally; mouth small or moderate in size, terminal or inferior; pectoral fins high on body; 2 widely separated dorsal fins; sides silvery; no lateral line.

## MUGILIDAE

Page 516

**Mullets**

To 90 cm. Coastal marine, estuaries and freshwater, at shallow depths (less than 20 m); mostly benthic in food habits, but usually swim near the surface. Of interest to fisheries. Fourteen species included in the Guide to Species.




## Order PERCIFORMES: Suborder LABROIDEI – Wrasses and allies

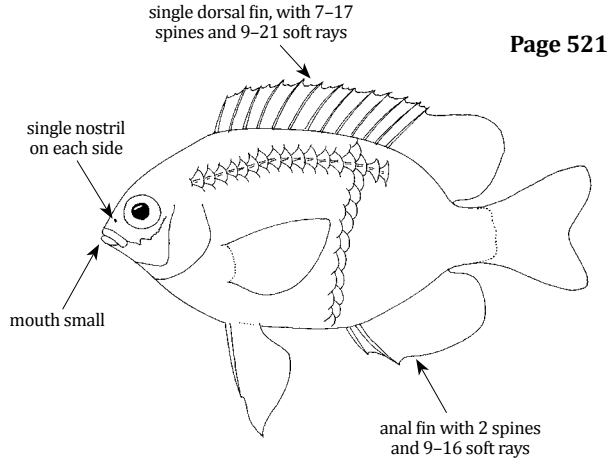
Well developed teeth, coalesced into plates in the Scaridae; scales usually large and cycloid (smooth); body compressed; usually colourful species; pelvic fins thoracic, with 1 spine and 5 soft rays (in families in the area).

## POMACENTRIDAE

Page 521

**Damselfishes**

To about 25 cm. Very common on coral and rocky reefs and also occurring in other shallow habitats such as sand, rubble, silty, and seagrass beds. Of no interest to fisheries, some species of interest to the aquarium trade. Five species included in the Guide to Species.

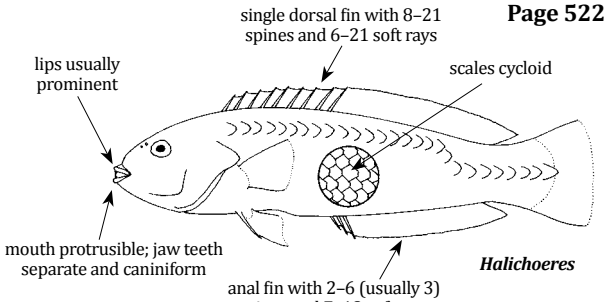


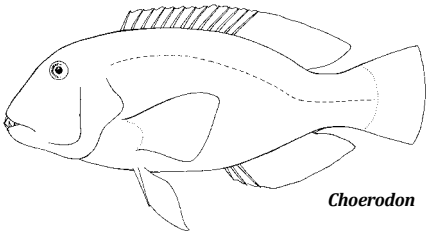
## LABRIDAE

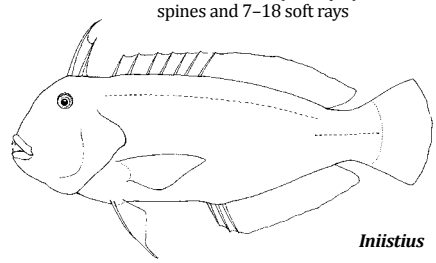
**Page 522**

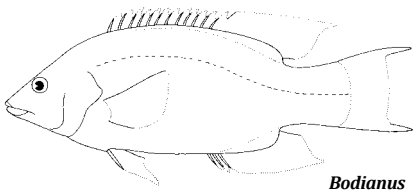
### Wrasses

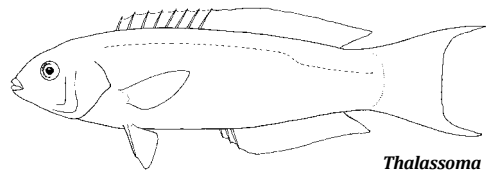
To about 50 cm, but most species less than 20 cm. Very common on coral reefs and also found on rocky, sand, and seaweed bottoms down to a depth of at least 100 m. Of interest to fisheries. A large and diverse family with extremely variable body shapes; a few representatives of the many genera shown here. Seventeen species included in the Guide to Species.



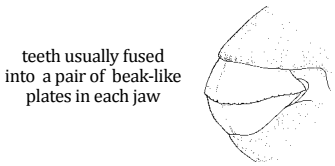



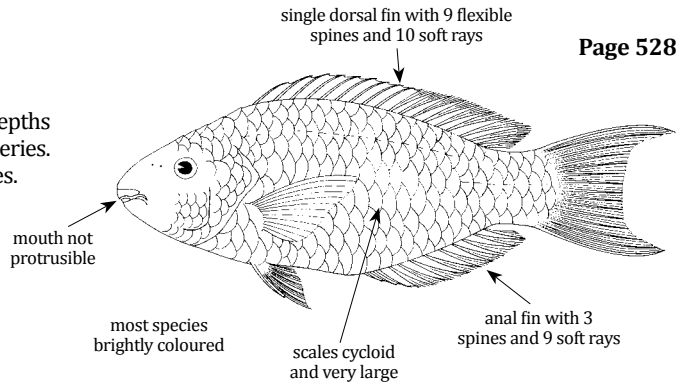

## SCARIDAE

**Page 528**

### Parrotfishes

To 50 cm. Most common on coral reefs at depths shallower than 30 m. Of major interest to fisheries. Fourteen species included in the Guide to Species.




## Order PERCIFORMES: Suborder TRACHINOIDEI – Stargazers and allies

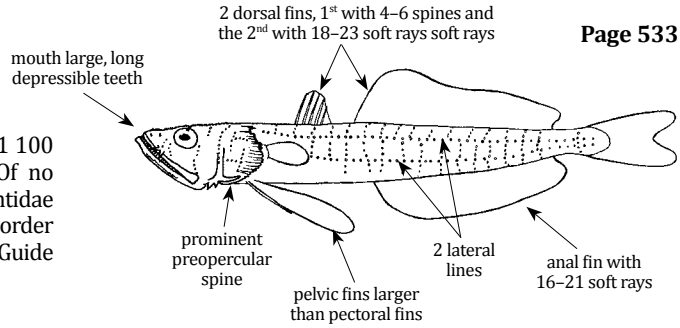
A diverse assemblage of families difficult to characterize as a group; the composition of this suborder is provisional.

## CHAMPSODONTIDAE

**Page 533**

### Gapers

To about 11 cm. Pelagic at depths from 34 to 1 100 m, reaching shallow depths only at night. Of no interest to fisheries. The family Champsodontidae has been recently moved to the newly erected order Acropomatiformes. One species included in the Guide to Species.

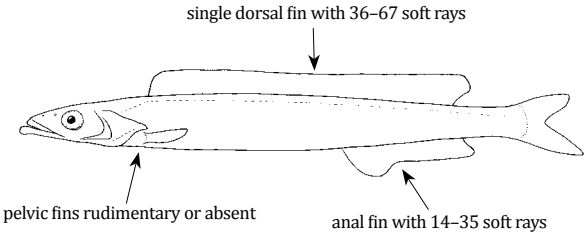


## AMMODYTIDAE

Page 533

**Sandlances**

To about 15 cm. On sandy coastal bottoms. Four species (including 2 undescribed) included in the Guide to Species).

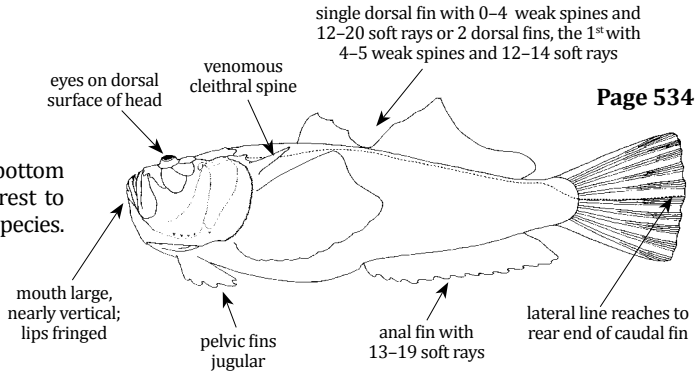



## URANOSCOPIDAE

Page 534

**Stargazers**

To about 60 cm. Burrowing in sand or mud bottom in coastal and estuarine areas. Of little interest to fisheries. Six species included in the Guide to Species.

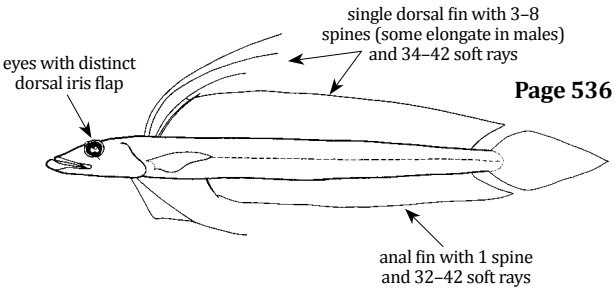



## TRICHONOTIDAE

Page 536

**Sand divers**

To about 20 cm. Over sand bottom in shallow water to depths of about 50 m. Members of the subfamily Hemerocoetinae have been moved from the family Percophidae to Trichonotidae by Smith & Johnson (2007). Three species included in the Guide to Species.

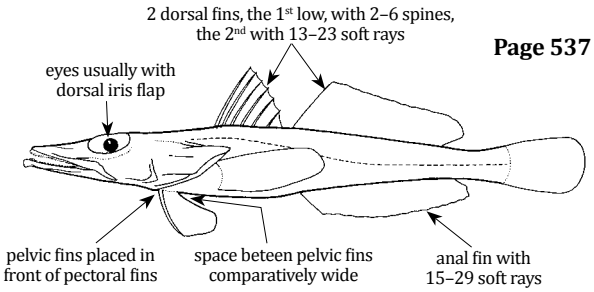



## PERCOPHIDAE

Page 537

**Duckbills**

To about 25 cm. Benthic, from shallow water to a depth of 600 m. Four species (including 1 undescribed) included in the Guide to Species.

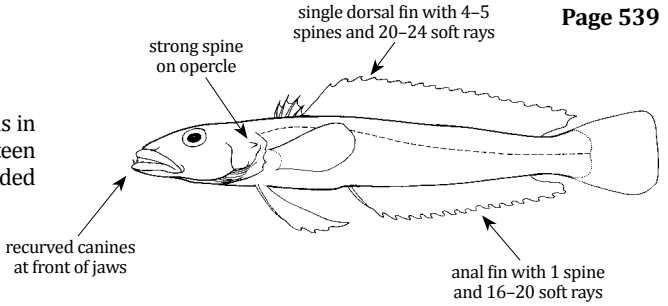



## PINGUIPEDIDAE

Page 539

**Sandperches**

To about 28 cm. On sand, rubble, or mud bottoms in coastal waters. Of little interest to fisheries. Fourteen species (including 3 possibly undescribed) included in the Guide to Species.



## Order PERCIFORMES: Suborder BLENNIOIDEI – Blennies and allies

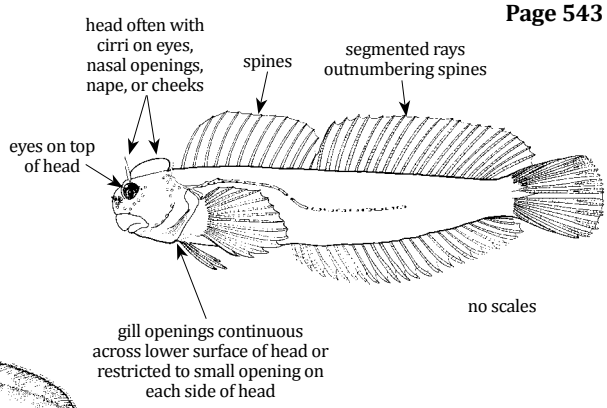
Dorsal fin long; pelvic fins reduced, with 1 hidden spine and 2 to 4 soft rays, located ahead of pectoral fins; tentacles often present on head; 2 anal fin spines (one of them often difficult to see).

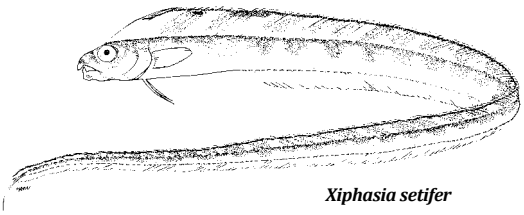
### BLENNIIDAE

**Page 543**

**Blennies**

To about 60 cm, but most species much less than 15 cm. Coastal and estuarine, usually at depths less than 20 m, mostly on rocky and coral reefs, tidepools, and among seaweeds; a few in freshwater. Of no interest to fisheries; some species of interest to the aquarium trade. One eel-like species *Xiphasia setifer* Swainson, 1839 included in the Guide to Species.



*Xiphasia setifer*

## Order PERCIFORMES: Suborder CALLIONYMOIDEI – Dragonets

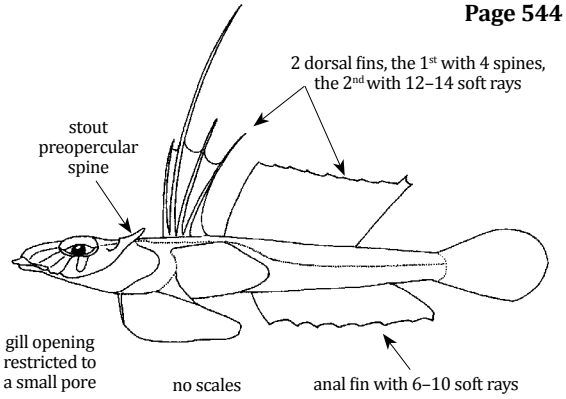
Head broad and depressed; sharp spine on either preopercle or, opercle and subopercle; pelvic fins jugular in position with 1 spine and 5 soft rays; body scaleless.

### CALLIONYMIDAE

**Page 544**

**Dragonets**

To about 16 cm. Benthic on sandy, muddy, rocky, or coral bottom, from the intertidal zone to a depth of 800 m. Of no interest to fisheries; some species of interest to the aquarium trade. Six species (including 1 possibly undescribed) included in the Guide to Species.

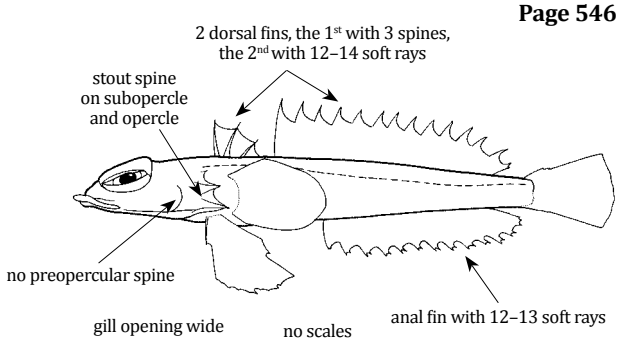



### DRACONETTIDAE

**Page 546**

**Deepwater dragonets**

To about 13 cm. On sandy or muddy bottoms at depths between about 130 and 600 m. Of no interest to fisheries; some species of interest to the aquarium trade. A single species included in the Guide to Species.



## Order PERCIFORMES: Suborder GOBIOIDEI – Gobies and allies

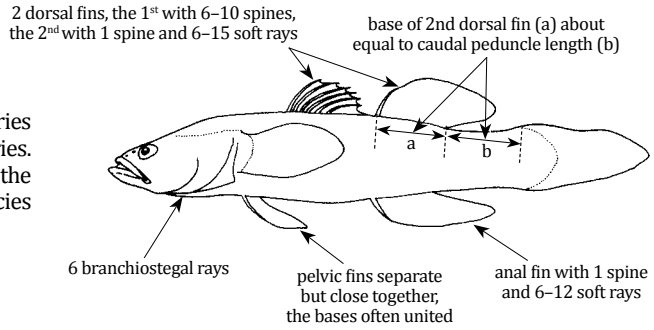
Usually small fishes with pelvic fins thoracic, close together or united into a single cup-like structure; no lateral line on body, sensory pores restricted to head.

**Page 546**

### ELEOTRIDAE

**Sleepers**

To about 11 cm. Bottom-living in lagoons, estuaries and freshwater ecosystems. Of no interest to fisheries. The family Eleotridae has been recently moved to the newly erected order Gobiiformes. A single species included in the Guide to Species.

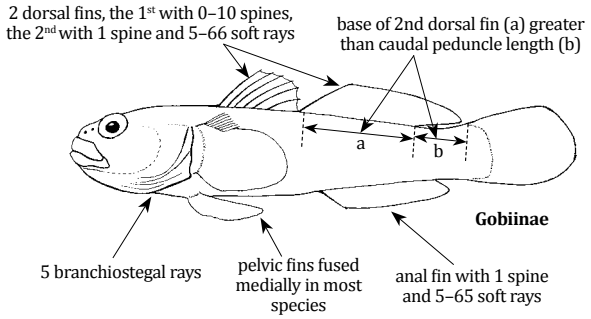


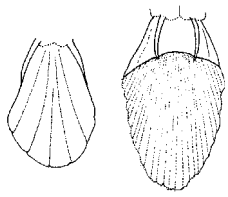

### GOBIIDAE

**Page 546**

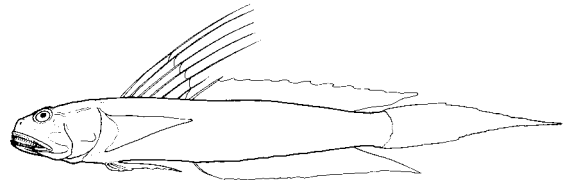
**Gobies**

To about 50 cm, but most species below 15 cm. The largest family of fishes. Bottom-living in fresh, brackish, and marine waters; some species amphibious. The family Gobiidae has been recently moved to the newly erected order Gobiiformes. Three of the 4 recognized subfamilies included in the guide. Of little interest to fisheries. Sixteen species (including 2 undescribed) included in the Guide to Species. *Istigobius diadema* (Steindachner, 1876) has been recorded from Myeik coastal waters.



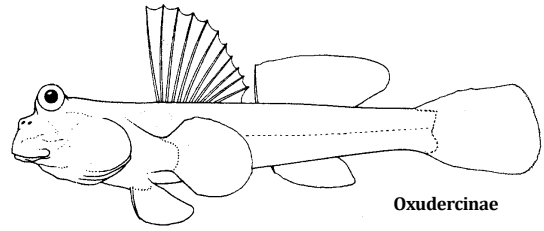
**pelvic fins (ventral view)**



**Gobionellinae**



**Amblyopinae**

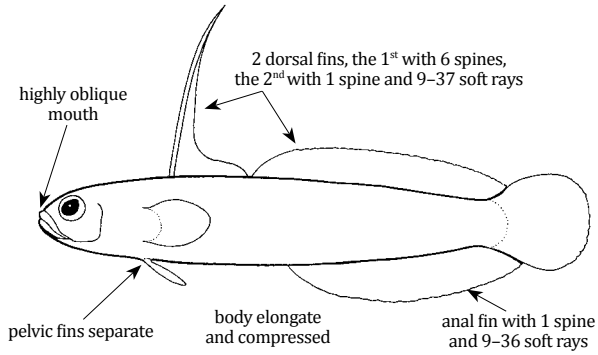


**Oxudercinae**

### PTERELEOTRIDAE

**Dart-gobies**

To about 8 cm. Near bottom on coral reefs or sandy areas near coral reefs. Of no interest to fisheries; some species of interest to the aquarium trade. The family Ptereleotridae has been recently moved to the newly erected order Gobiiformes. A possible undescribed species of *Ptereleotris* in addition to *Ptereleotris microlepis* (Bleeker, 1856) have been recorded from Myanmar.

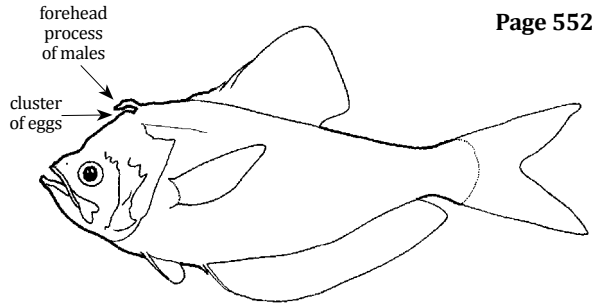


## Order PERCIFORMES: Suborder KURTOIDEI – Nurseryfishes

Head humped, especially in males which have a prominent protuberance on forehead; lateral line short; short dorsal fin with 5–7 small spines, followed by 2 long spines and 12–14 soft rays; anal fin with 2 spines and 12–14 soft rays.

### KURTIDAE

Page 552




**Nurseryfishes**

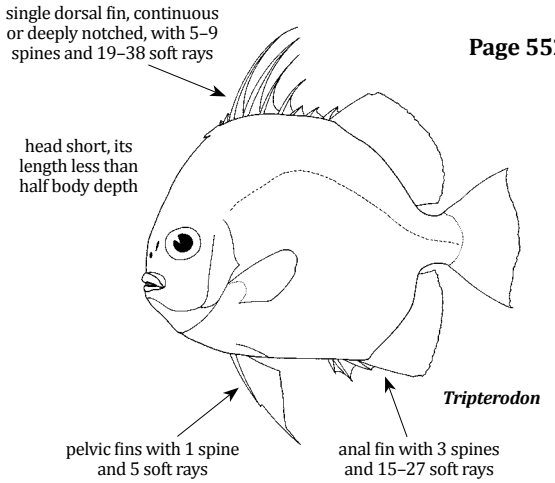
To about 13 cm. Coastal marine, estuaries and freshwater, at shallow depths. Of little interest to fisheries. The family Kurtidae has been recently moved to the newly erected order Kurtiformes. A single species included in the Guide to Species.

## Order PERCIFORMES: Suborder ACANTHUROIDEI – Surgeonfishes and allies

Body deeply compressed laterally; scales small in most species; mouth small, slightly or non-protrusible; gill membranes broadly united to isthmus, restricting gill opening ventrally; pelvic fins with 1–2 spines and 3–5 soft rays.

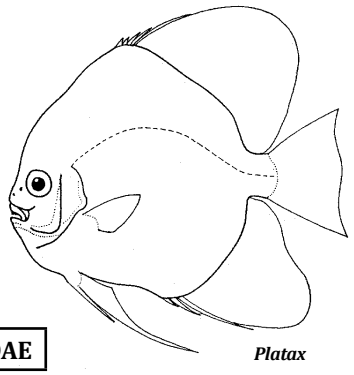
### EPHIPPIDAE

Page 552



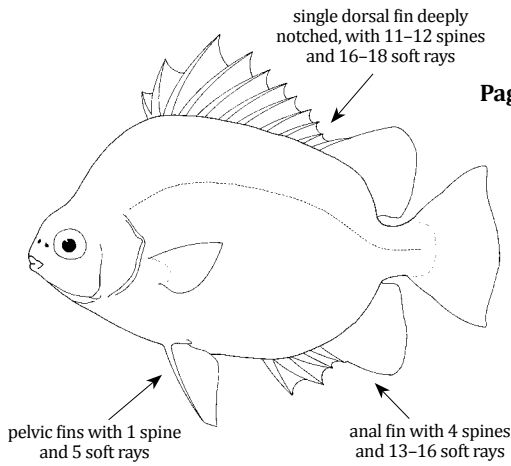

**Spadefishes**

To 65 cm. Nearshore shallow water in estuaries, on coral reefs, sandy, or muddy bottom. Of interest to fisheries. The family Ephippidae has been recently moved to the newly erected order Acanthuriformes. Three species included in the Guide to Species.




### SCATOPHAGIDAE

Page 553




**Scats**

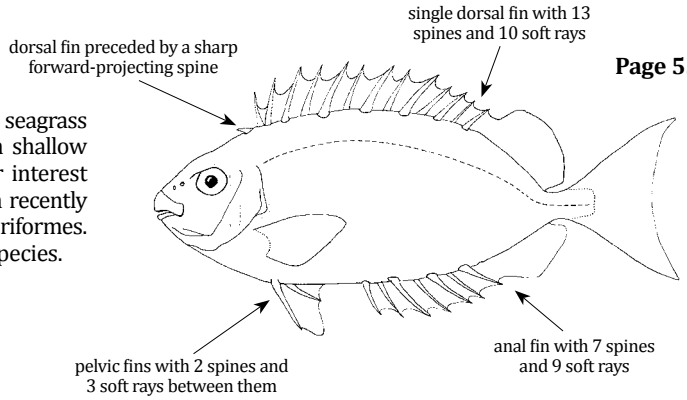
To about 38 cm. Mostly in estuaries, but also entering fresh water. Of little interest to fisheries. The family Scatophagidae has been recently moved to the newly erected order Acanthuriformes. One species included in the Guide to Species.

## SIGANIDAE

**Rabbitfishes**

To 55 cm. Bottom dwelling on coral reefs, seagrass beds, estuaries, and mangrove swamps, in shallow water to depths of around 50 m. Of major interest to fisheries. The family Siganidae has been recently moved to the newly erected order Acanthuriformes. Thirteen species included in the Guide to Species.

**Page 553**

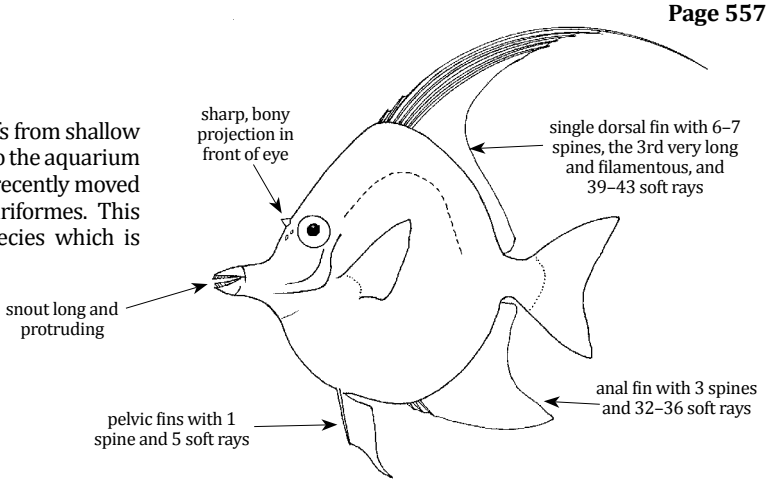



## ZANCLIDAE

**Moorish idol**

To about 23 cm. On coral or rocky reefs from shallow water to a depth of 180 m. Of interest to the aquarium trade. The family Zanclidae has been recently moved to the newly erected order Acanthuriformes. This family contains only one known species which is included in the Guide to Species.

**Page 557**

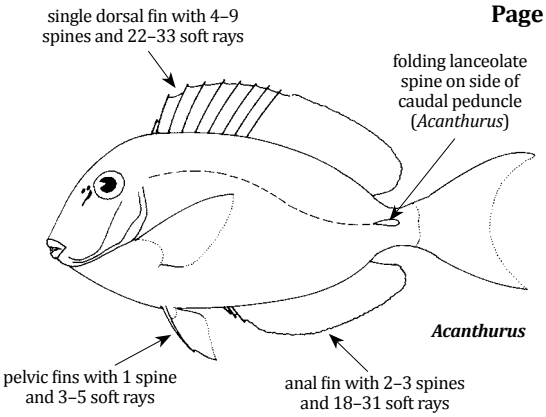


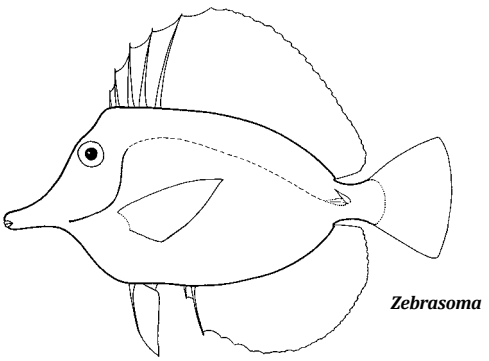

## ACANTHURIDAE

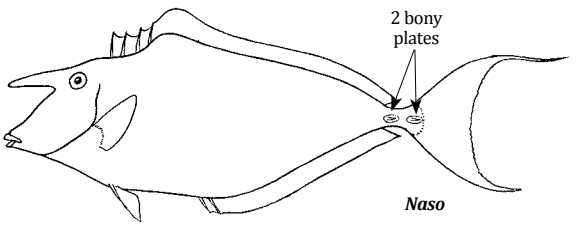
**Surgeonfishes**

To about 100 cm. On coral or rocky reefs, generally at depths less than 100 m. Of interest to fisheries. The family Acanthuridae has been recently moved to the newly erected order Acanthuriformes. Sixteen species included in the Guide to Species.

**Page 558**



## Order PERCIFORMES: Suborder SCOMBROLABRACOIDEI – Longfin escolar

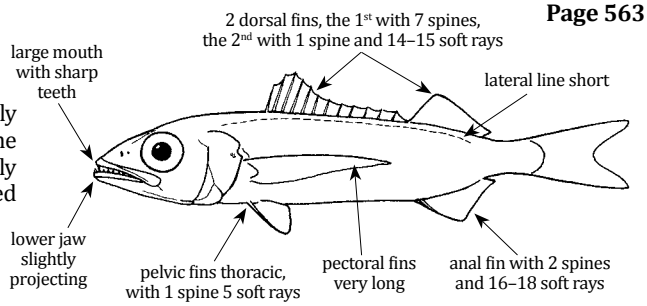
Eye very large; a single lateral line running closely to dorsal profile, ending before end of 2nd dorsal fin; pelvic fins with 1 spine and 5 soft rays; pectoral fin very long, nearly reaching to anal fin origin; mouth large, a little protrusible.

### SCOMBROLABRACIDAE

**Page 563**

**Longfin escolar**

To 30 cm. Of little interest to fisheries. The family Scombrolabracidae has been recently moved to the newly erected order Scombriformes. This family contains only one known species which is included in the Guide to Species.




## Order PERCIFORMES: Suborder SPHYRAENOIDEI – Barracudas

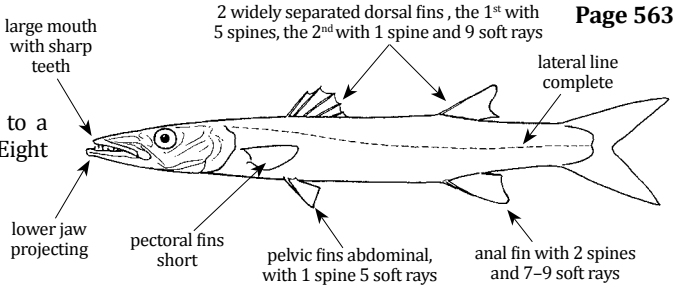
Body elongate, slightly compressed; head long and pointed; upper jaw not protrusible, premaxilla fixed; large, sharp teeth of unequal size on jaws and palatines; 2 short-based, widely separate dorsal fins; lateral line well-developed.

### SPHYRAENIDAE

**Page 563**

**Barracudas**

To 200 cm. Nearshore, from near to surface to a depth of about 100 m. Of interest to fisheries. Eight species included in the Guide to Species.




## Order PERCIFORMES: Suborder SCOMBROIDEI – Tunas and allies

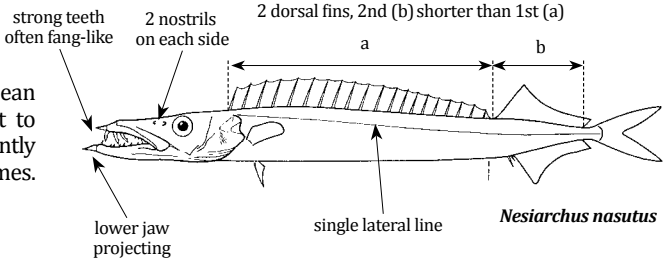
Upper jaw not protrusible, premaxilla fixed; finlets usually present at posterior ends of dorsal and anal fins and keels on either side of caudal peduncle (except in most species of Gempylidae); pelvic fins with 0–1 spine, and 0–6 rays, often reduced or absent.

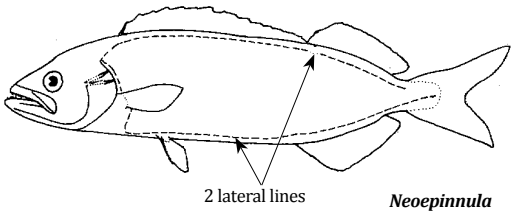
### GEMPYLIDAE

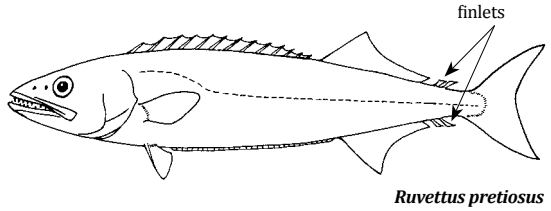
**Page 566**

**Snake mackerels**

To about 200 cm. Continental slope and open ocean to below a depth of about 500 m. Of interest to fisheries. The family Gempylidae has been recently moved to the newly erected order Scombriformes. Four species included in the Guide to Species.



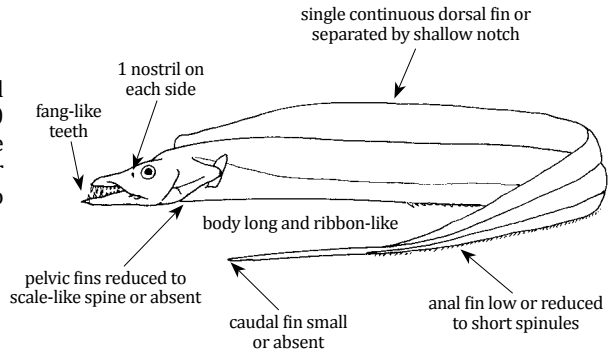



## TRICHIURIDAE

Page 567

**Cutlassfishes**

To 120 cm. Benthopelagic on continental shelves and slopes from the surface to a depth of about 2 000 m. Of interest to fisheries. The family Trichiuridae has been recently moved to the newly erected order Scombriformes. Five species included in the Guide to Species.

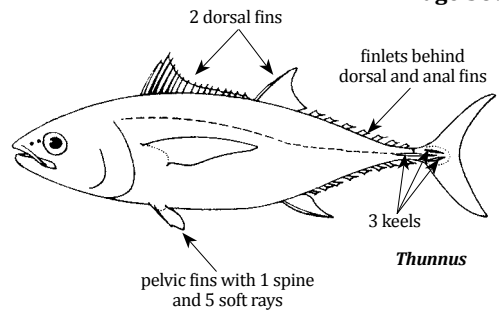



## SCOMBRIDAE

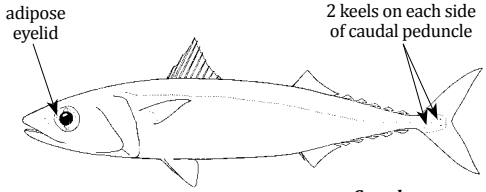
Page 569

**Tunas, mackerels and allies**

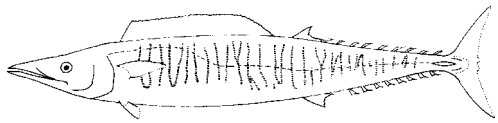
To 250 cm. Epipelagic nearshore and oceanic. Of major interest to fisheries. The family Scombridae has been recently moved to the newly erected order Scombriformes. Eighteen species included in the Guide to Species.



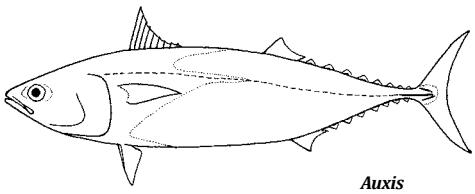

***Thunnus***



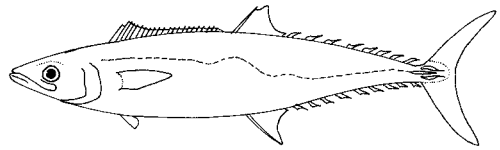

***Scomber***



***Acanthocybium solandri***



***Auxis***



***Scomberomorus***

## Order PERCIFORMES: Suborder XIPHIOIDEI – Billfishes

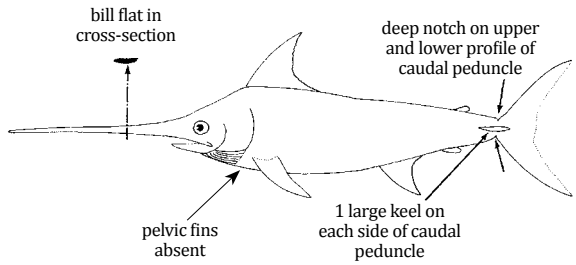
Characterized by the prolongation of the upper jaw, much beyond the lower jaw into a long rostrum which is flat and sword-like (swordfish) or rounded and spear-like (sailfishes, spearfishes and marlins).

## XIPHIIDAE

Page 575

**Swordfish**

To 500 cm. Pelagic, oceanic, from surface waters to a depth of 550 m. Of major interest to fisheries. The family Xiphiidae has been recently moved to the newly erected order Istiophoriformes. A single species worldwide, included in the Guide to Species.

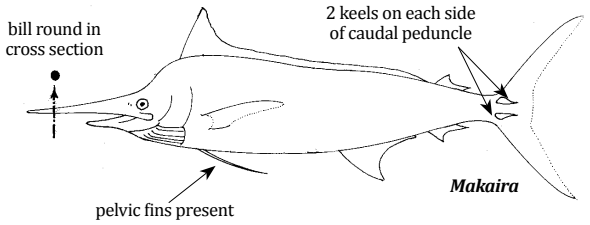


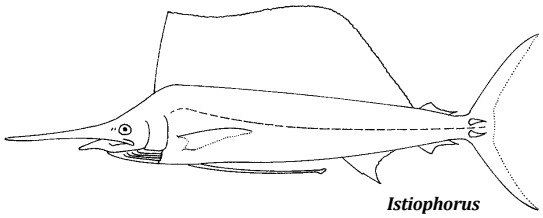
## ISTIOPHORIDAE

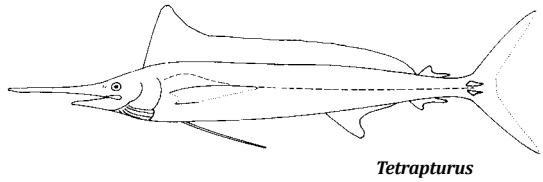
Page 575

**Billfishes**

To 500 cm. Epipelagic in oceanic waters. Of major interest to fisheries. The family Istiophoridae has been recently moved to the newly erected order Istiophoriformes. Five species included in the Guide to Species.




## Order PERCIFORMES: Suborder STROMATEOIDEI – Butterfishes and allies

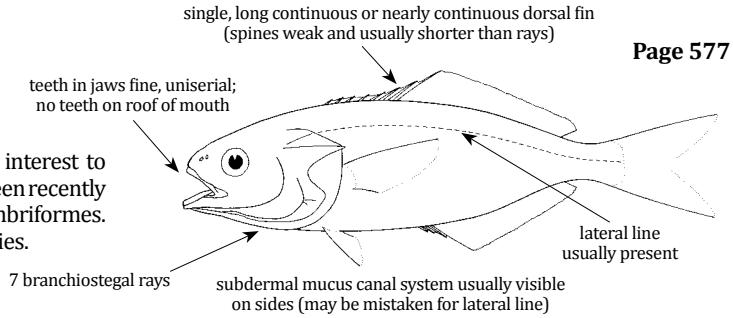
Elongate to deep body; snout typically blunt and thick; maxilla mostly covered by bone; teeth small, approximately uniserial; toothed saccular outgrowths (pharyngeal sacs) present in the gullet immediately behind the last gill arch.

## CENTROLOPHIDAE

Page 577

**Medusafishes**

To 25 cm. Epi- and mesopelagic Of little interest to fisheries. The family Centrolophidae has been recently moved to the newly erected order Scombriformes. Two species included in the Guide to Species.

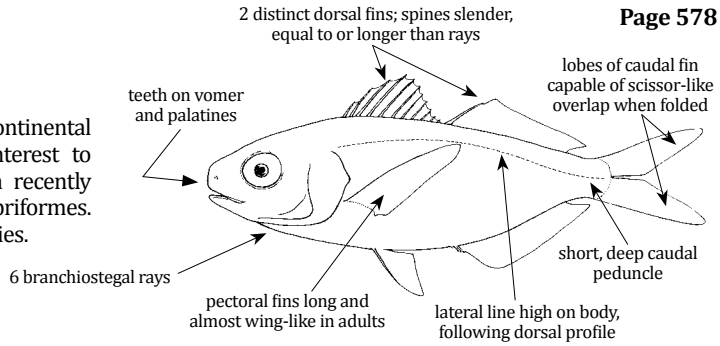



## NOMEIDAE

Page 578

**Driftfishes**

To 80 cm. Marine, deeper waters of the continental slope; epi– and mesopelagic. Of little interest to fisheries. The family Nomeidae has been recently moved to the newly erected order Scombriformes. Seven species included in the Guide to Species.

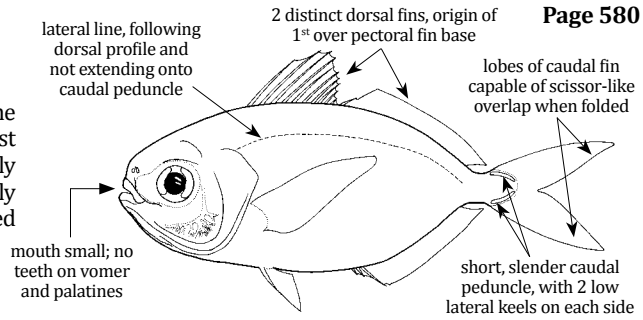



## ARIOMMATIDAE

Page 580

**Ariommas**

To 25 cm. Offshore over soft bottoms on the continental shelf and slope to a depth of at least 750 m. Of little interest to fisheries. The family Ariommatidae has been recently moved to the newly erected order Scombriformes. One species included in the Guide to Species.

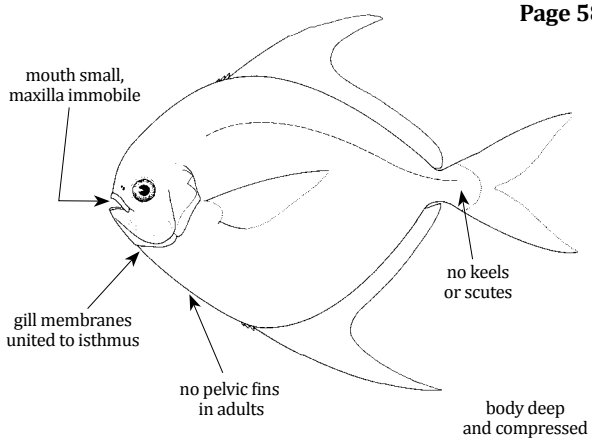


**STROMATEIDAE**

**Page 580**

**Silver pomfrets**

To about 60 cm. Coastal, pelagic usually at depths shallower than 100 m. Of interest to fisheries. The family Stromateidae has been recently moved to the newly erected order Scombriformes. Two species included in the Guide to Species.




## Order PERCIFORMES: Suborder CAPROIDEI – Boarfishes

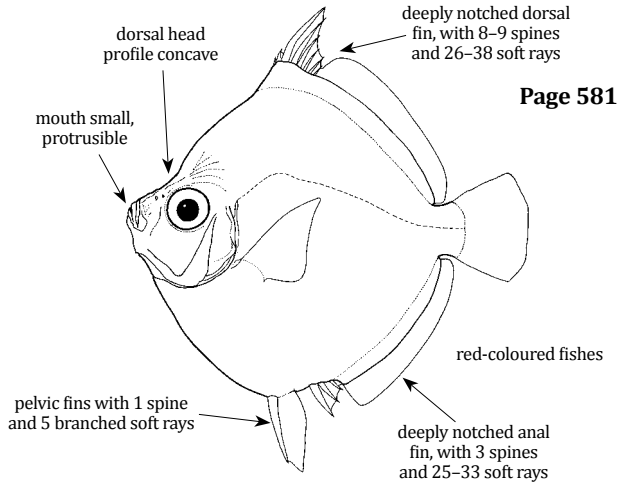
Body deep, greatly compressed; head short, about one third body depth; mouth, small, protrusible; head bones rugose and spiny; body covered with adherent spinoid scales; caudal fin with 10 branched caudal rays (12 principal rays and 7–8 procurrent rays.

**CAPROIDAE**

**Page 581**

**Deep boarfishes**

To about 15 cm. Demersal over sandy and rocky bottoms from 50 to 600 m. Of little interest to fisheries. Members of the genus *Antigonia* have now been placed in their own family Antigoniidae and moved to the newly erected order Acanthuriformes. Three species (including 1 undescribed) included in the Guide to Species.




## Order PLEURONECTIFORMES – Flatfishes

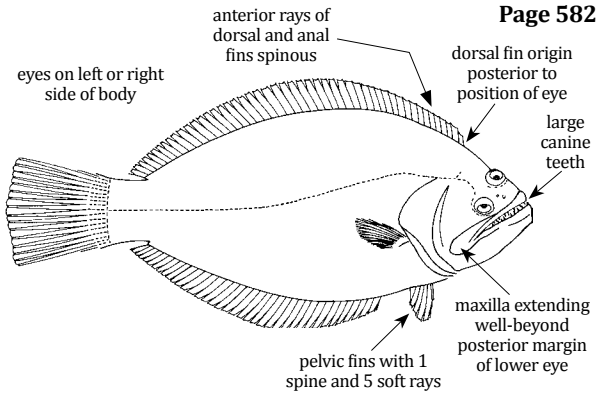
Flattened body shape; eyes present only on one side of body.

**PSETTODIDAE**

**Page 582**

**Spiny turbots**

To 64 cm. Benthic in coastal waters to depths of 100 m; Of interest to fisheries. One species included in the Guide to Species.

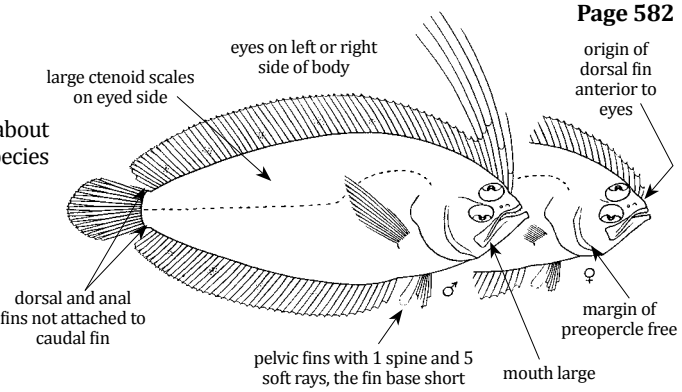


## CITHARIDAE

**Largescale flounders**

To about 15 cm. Benthic on soft bottoms to about 300 m. Of little interest to fisheries. One species included in the Guide to Species.

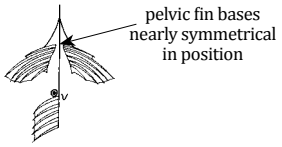
**Page 582**




## PARALICHTHYIDAE

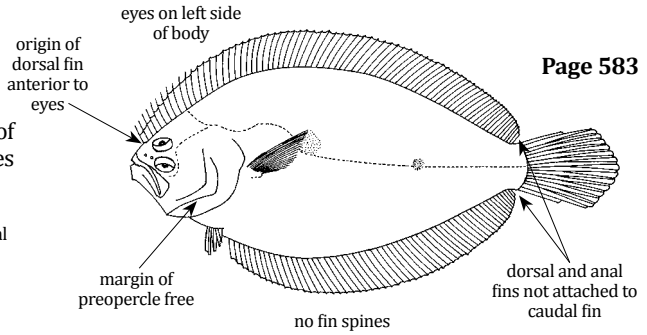
**Sand flounders**

To about 45 cm. Benthic on soft bottoms to depths of 200 m. Of little interest to fisheries. Thirteen species included in the Guide to Species.




**ventral view of pelvic fins**

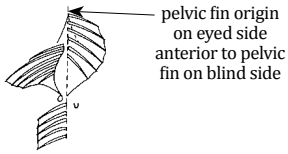
**Page 583**




## BOTHIDAE

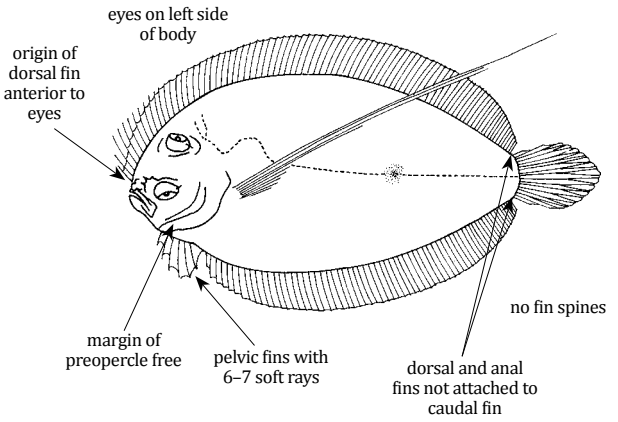
**Lefteye flounders**

To 30 cm, most smaller than 20 cm. Benthic from the coastline to a depth of about 980 m. Of little interest to fisheries. Seventeen species included in the Guide to Species.




**ventral view of pelvic fins**

**Page 587**

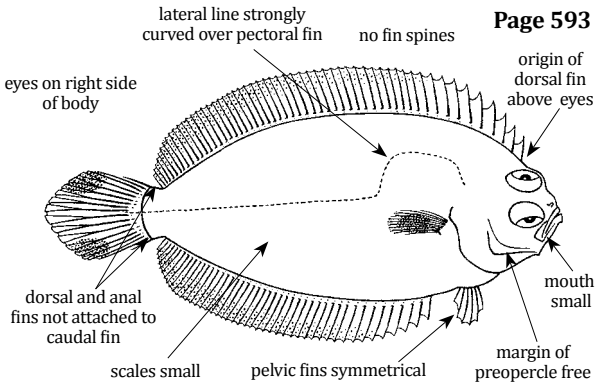



## POECILOPSETTIDAE

**Bigeye flounders**

To about 30 cm. Benthic on soft bottoms, primarily in deep water. Of little interest to fisheries. The family Poecilopsettidae has been considered as a subfamily of the family Pleuronectidae by some authors. Two species included in the Guide to Species.

**Page 593**

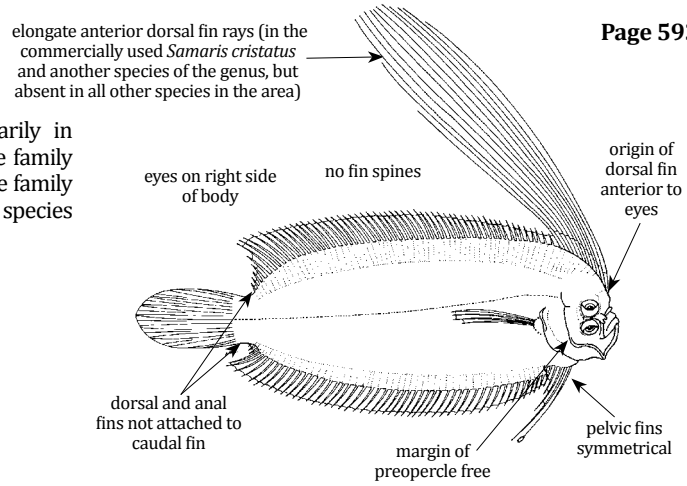


## SAMARIDAE

Page 593

**Crested flounders**

To 22 cm. Benthic on soft bottom, primarily in deep water. Of little interest to fisheries. The family Samaridae is considered as a subfamily of the family Pleuronectidae by some authors. Four species included in the Guide to Species.

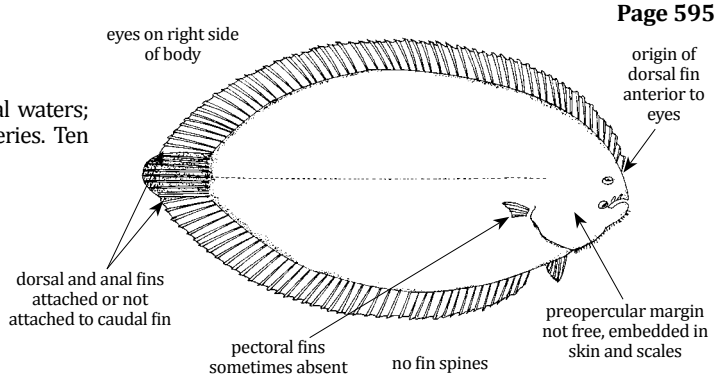



## SOLEIDAE

Page 595

**Soles**

To about 30 cm. Benthic in shallow coastal waters; some species in estuaries. Of interest to fisheries. Ten species included in the Guide to Species.

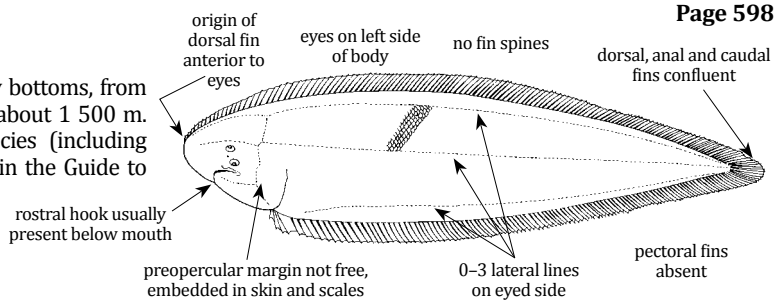



## CYNOGLOSSIDAE

Page 598

**Tonguesoles**

To 50 cm. Benthic, mostly on muddy bottoms, from shallow coastal waters to depths of about 1 500 m. Of interest to fisheries. Eleven species (including one possibly undescribed) included in the Guide to Species.




## Order TETRAODONTIFORMES – Pufferfishes and allies

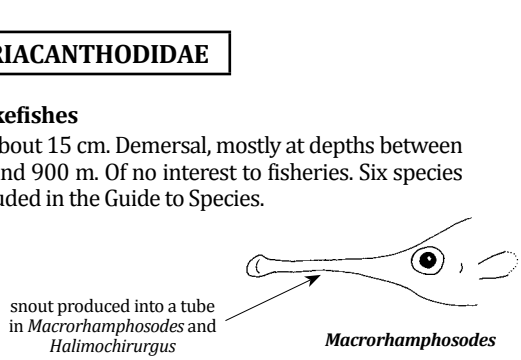
Pelvic fins absent or strongly reduced; a small mouth with strong teeth, frequently coalesced into a biting plate; a small gill opening; skin thick or rough, sometimes with prickles, spines or scaly plates.

## TRIACANTHODIDAE

Page 602

**Spikefishes**

To about 15 cm. Demersal, mostly at depths between 35 and 900 m. Of no interest to fisheries. Six species included in the Guide to Species.

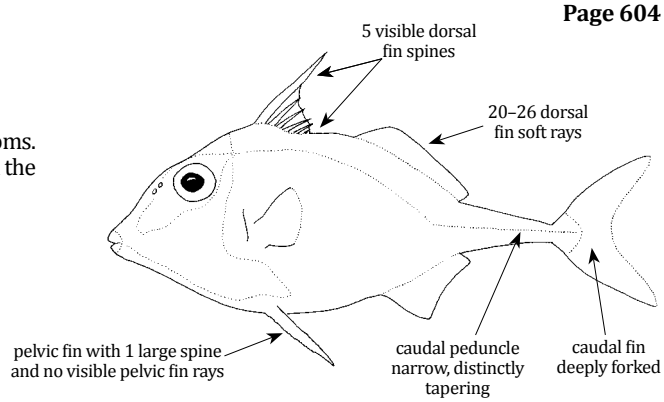


## TRIACANTHIDAE

**Tripodfishes, triplespines**

To 30 cm. Mostly on flat, sandy, or seaweed bottoms. Of no interest to fisheries. Five species included in the Guide to Species.

**Page 604**

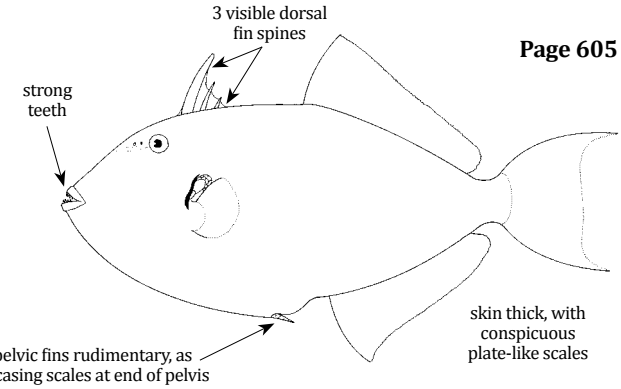



## BALISTIDAE

**Triggerfishes**

To about 60 cm. Mostly bottom dwelling on coral or rocky reefs from the coastline to a depth of about 100 m. Some species primarily pelagic in open water Of interest to fisheries. Thirteen species included in the Guide to Species.

**Page 605**

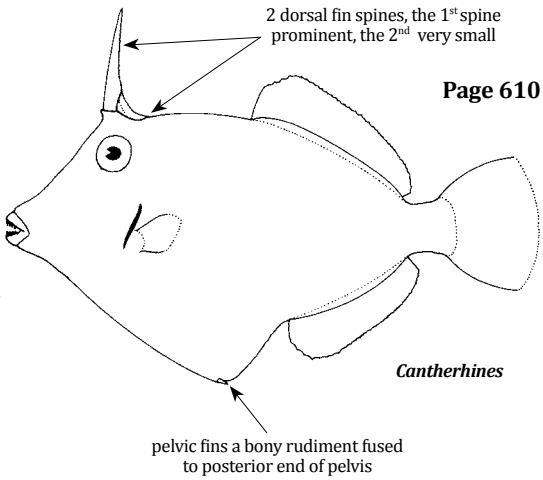


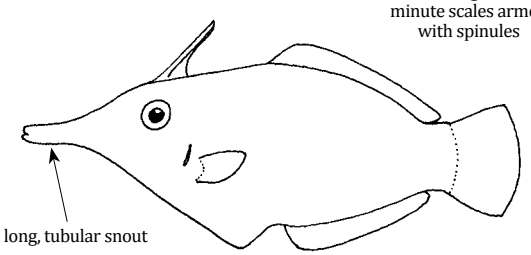

## MONACANTHIDAE

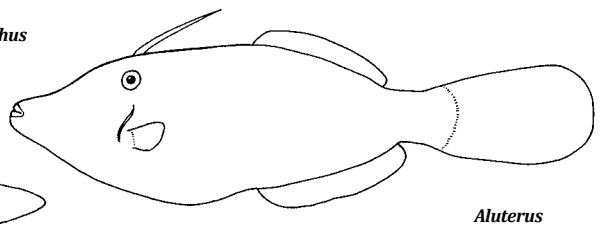
**Filefishes, leatherjackets**

To 100 cm, but most smaller than 10 cm. Mostly on coral and rocky reefs, seagrass beds, and sandy bottom at depths to over 200 m. Of little interest to fisheries. Twelve species included in the Guide to Species

**Page 610**



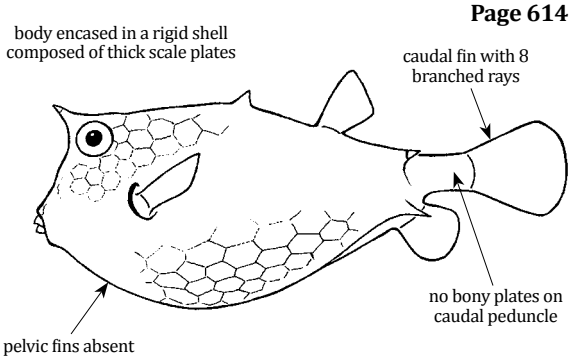






## OSTRACIIDAE

**Page 614**

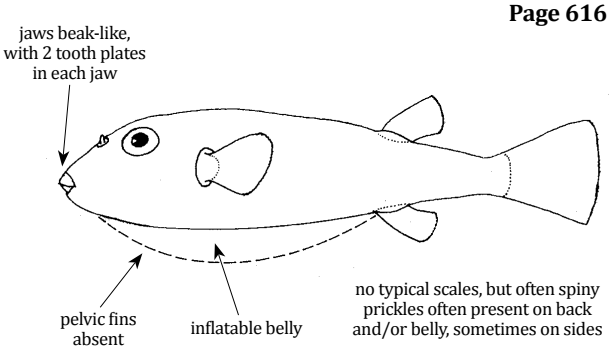



**Boxfishes**

To 50 cm. Bottom dwelling on rocky and coral reefs, and sandy bottoms, from the coastline to a depth of 100 m. Of no interest to fisheries, but of interest of the aquarium trade. Eight species included in the Guide to Species.

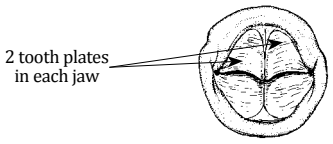
## TETRAODONTIDAE

**Page 616**




**Puffers**

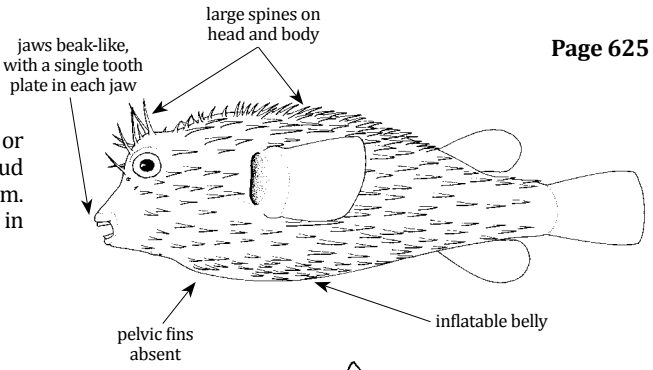
To 120 cm, but most between 50 and 10 cm. Coastal marine waters, estuaries, brackish lagoons, and occasionally freshwater; from the coastline to a depth of about 180 m. **The viscera, skin and blood of most species are poisonous. Pufferfishes should not be eaten unless prepared by a professional chef in a licensed restaurant.** Twenty-seven species included in the Guide to Species.




**frontal view of mouth**

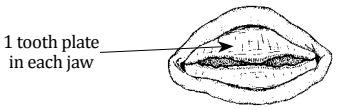
## DIODONTIDAE

**Page 625**




**Porcupinefishes**

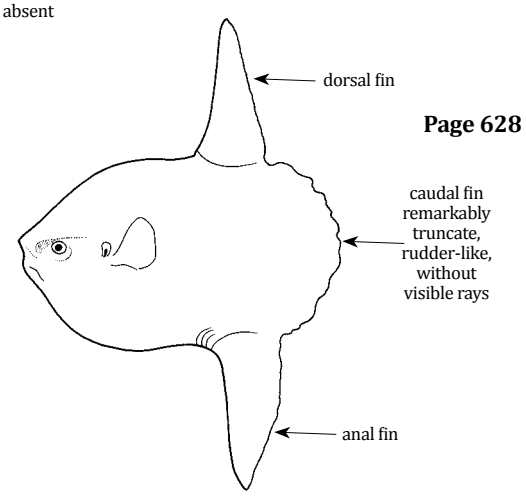
To 75 cm. Mostly near the bottom around coral or rocky reefs, sometimes over seaweed, sand, or mud bottoms, from the coastline to a depth of about 100 m. Of no interest to fisheries. Seven species included in the Guide to Species.




**frontal view of mouth**

## MOLIDAE

**Page 628**




**Molas**

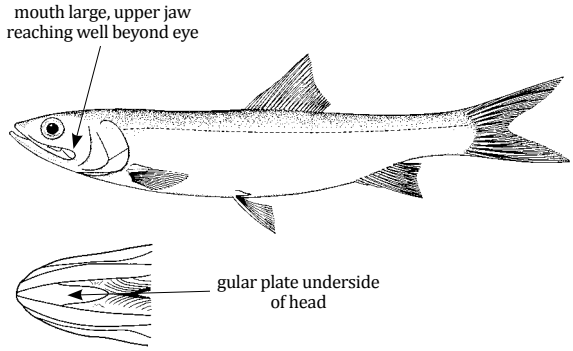
To 330 cm or more. Open ocean, pelagic, from the surface to about a depth of 360 m. Of little interest to fisheries. Four species included in the Guide to Species.

## ELOPIDAE
Tenpounders

***Elops machnata*** (Forsskål, 1775)

**FAO names:** Tenpounder (En)

**Local name(s):** A Shin Poke.
**Habitat:** Pelagic in coastal waters entering lagoons and estuaries.
**Fisheries:** Gillnets.
**Distinctive Characters:** Teeth on jaws villiform; no spines in fins; single dorsal fin with 20–27 rays, its origin a little behind mid-point of body; anal fin short, with 14–17 rays, its origin well behind dorsal fin base; pelvic fins slightly in front of dorsal fin origin; scales very small, about 100 on lateral line.
**Colour:** Back blue-grey, sides silvery with a yellow tinge; fins faint yellow.
**Remarks:** This is probably a complex of species that have not yet been sorted out.



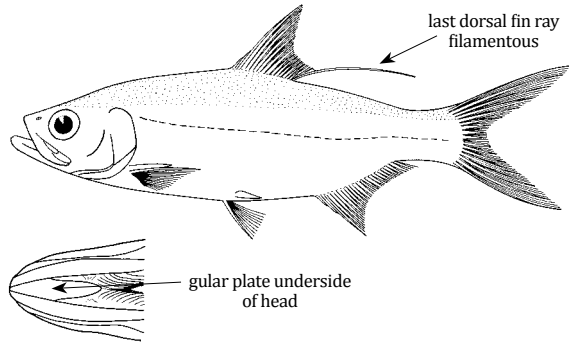

**Size:** To 100 cm, common 50 cm (TL)

## MEGALOPIDAE
Tarpons

***Megalops cyprinoides*** (Broussonet, 1782)

**FAO names:** Indo-Pacific tarpon (En)
Tarpon Indo-Pacifique (Fr)

**Local name(s):** Ka Law Le'.
**Habitat:** Pelagic in coastal waters entering lagoons and estuaries.
**Fisheries:** Gillnets.
**Distinctive Characters:** Lower jaw projecting; fins lacking spines; dorsal fin origin at about midpoint of body; anal fin origin a little behind end of dorsal fin base; 26–27 branchiostegal rays; large scales, 30–40 on lateral line.
**Colour:** Back blue-green, flanks silvery.



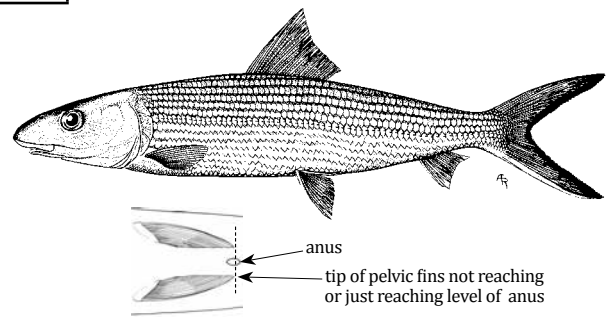

**Size:** To 150 cm (TL), common 30 cm (SL)

## ALBULIDAE
Bonefishes

***Albula oligolepis*** Hidaka, Iwatsuki & Randall, 2008

**FAO names:** Smallscale bonefish (En)

**Local name(s):** Nga Gyee Seik.
**Habitat:** Inshore, shallow waters on sandy and muddy bottoms.
**Fisheries:** Gillnets.
**Distinctive Characters:** Lower jaw angular, with a pointed symphysis; maxilla not reaching anterior margin of eye; 61–65 (mode 63) pored lateral line scales; 7½–8 scale rows above lateral line.
**Colour:** Head and body bright silvery, white on side and below; posterior margin of caudal fin black; base of pectoral and pelvic fins slightly yellow.




**pelvic fins (ventral view)**

**Size:** To about 70 cm (SL)

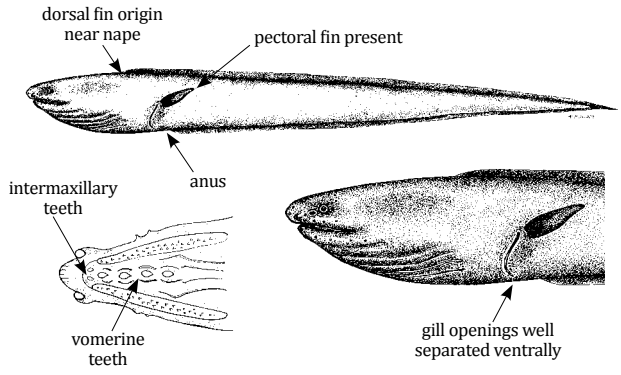
# SYNAPHOBRANCHIDAE

Cutthroat eels

***Dysomma bucephalus*** Alcock, 1889

**FAO names:** Large-head cutthroat eel (En)

**Local name(s):** Pin Le' Nga Shint Gaung Gyi.
**Habitat:** Benthopelagic from 161 to 353 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Eyes small; pectoral fins present; dorsal fin origin well in front of anus; scales absent; 2 intermaxillary teeth present; a row of 4 large, compound teeth on vomer; anterior dentary teeth enlarged; branchial region expanded; gill openings well-separated on ventral midline; no open pores on lateral line; vertebrae 107.
**Colour:** Body dirty pale greyish tan, darker on branchial region; margins of dorsal, anal and caudal fins black; pectoral fin black basally.



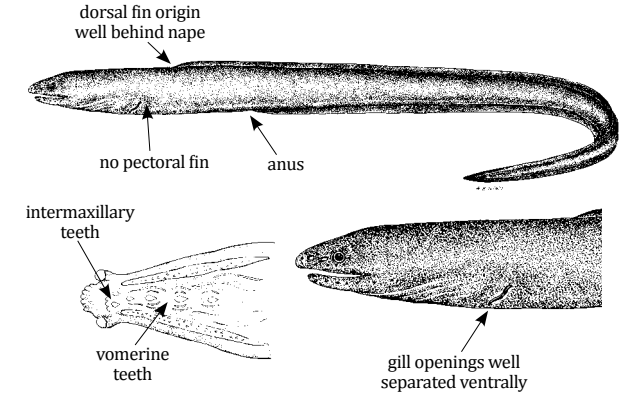

**dentition of upper jaw**

**Size:** To 25 cm (TL)

***Dysomma muciparus*** (Alcock, 1891)

**FAO names:** Finless cutthroat eel (En)

**Local name(s):** Pin Le' Nga Shint Ye Yet Pyork.
**Habitat:** Benthopelagic from 432 to 505 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Eyes relatively small; pectoral fins absent; dorsal fin origin well in front of anus; scales absent; 2 intermaxillary teeth present; a row of 4-5 large, compound teeth on vomer; widely spaced large canines on anterior half of dentary (lower jaw), followed by a row of tiny conical, closely set teeth on posterior half; gill openings well-separated on ventral midline; no open pores on lateral line; vertebrae 153–157.
**Colour:** Head and body uniformly medium brown with paler snout; margins of dorsal, anal and caudal fins black.



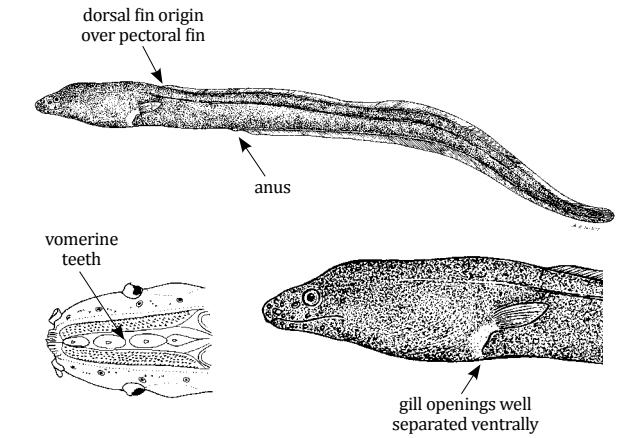

**dentition of upper jaw**

**Size:** To 25.7 cm (TL)

***Dysommina*** sp. *

**FAO names:** Long-trunk cutthroat eel (En)

**Local name(s):** Pin Le' Nga Shint Ko Lone Shae.
**Habitat:** Benthopelagic at 260 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Eyes relatively small; dorsal fin origin over pectoral fin; anus about one head length behind pectoral fin; gill opening relatively small, below and separated from pectoral fin; intermaxillary teeth absent; vomer with a few enlarged, compound teeth in a single row; maxillary and mandibular teeth small, multiserial; no open pores on lateral line; vertebrae 120+ (tip of tail missing).
**Colour:** Medium brown or grey, ventral surface near tip of tail darker.
**Remarks:** Possibly undescribed. It needs to be critically compared to other *Dysommina* specimens held in museun collections worldwide (D.G. Smith pers. comm., 2017).



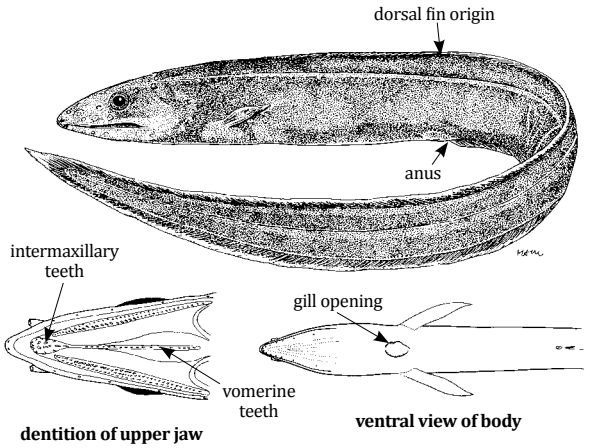

**dentition of upper jaw**

**Size:** To at least 25.5 cm (TL)

***Synaphobranchus affinis*** Günther, 1877

**FAO names:** Grey cutthroat (En)

**Local name(s):** Pin Le' Nga Shint Nyo.
**Habitat:** Benthopelagic from 290 to 2 334 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Eyes relatively large; gill openings united ventrally; dorsal fin origin at or just posterior to level of anus; pectoral fin present; musculature very firm; scales oval, not so regularly arranged; vomerine teeth uniserial without enlarged teeth anteriorly (largest teeth only subequal to smallest tooth in intermaxillary tooth patch); 25–29 lateral line pores to level of anus; vertebrae 128–140.
**Colour:** Uniformly blackish purple.



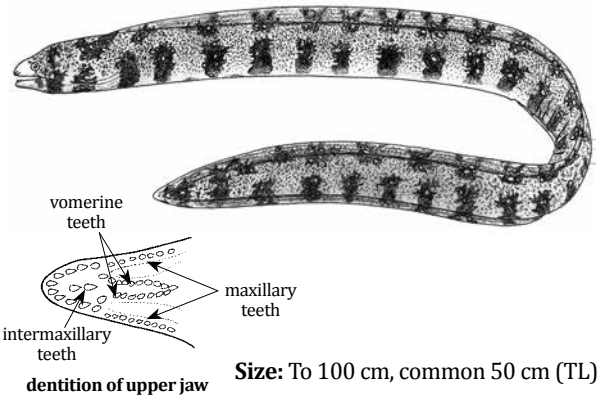

**Size:** To 50 cm (TL)

## MURAENIDAE
Morays

***Echidna nebulosa*** (Ahl, 1789)

**FAO names:** Snowflake moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Kyar.
**Habitat:** Shallow reef areas from 2 m to 48 m.
**Fisheries:** Line gears, baited traps.
**Distinctive Characters:** Anus in about middle of body; head length 8.6–8.9 in TL; trunk length 2.6–2.7 in TL; body depth at gill opening 19.1–26.5 in TL; teeth broadly conical, blunter with age; teeth uniserial on jaws (maxillary and mandibular), becoming biserial with age; a patch on intermaxillary; teeth on vomer molariform in 2 rows; 120–125 vertebrae.
**Colour:** Variable, but body typically milky yellow with 2–3 rows of large black vertical blotches, sometimes reduced to star-like patterns, on the body; anterior nostrils and iris yellowish.

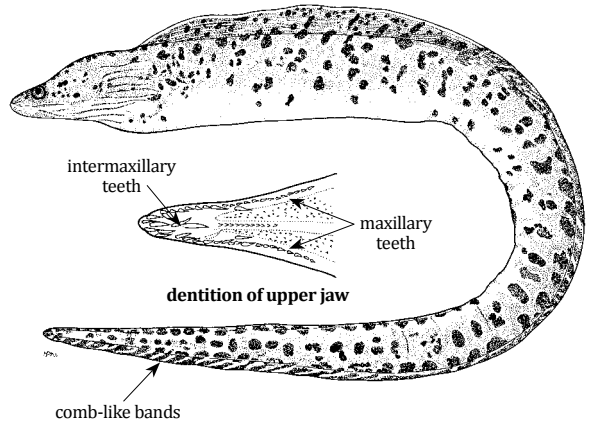



**Size:** To 100 cm, common 50 cm (TL)

***Gymnothorax fimbriatus*** (Bennett, 1832)

**FAO names:** Fimbriated moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Set.
**Habitat:** Occurs in lagoons, reef flats and seaward reefs. Depth range 7–50 m.
**Fisheries:** Line gears, baited traps.
**Distinctive Characters:** Anus before midbody; head length 6.7–7.1 in TL; trunk length 2.9–3.4 in TL; body depth at gill opening 14–20 in TL; teeth in jaws (maxillary and mandibular) uniserial with large canines anteriorly; intermaxillary teeth a single median row, longer than lateral canines; 128–142 vertebrae.
**Colour:** Pale yellowish white to brownish with numerous, blackish brown spots in 3–4 longitudinal rows (spots may link vertically forming several wavy bars); comb-like bands on posterior part of median fins.

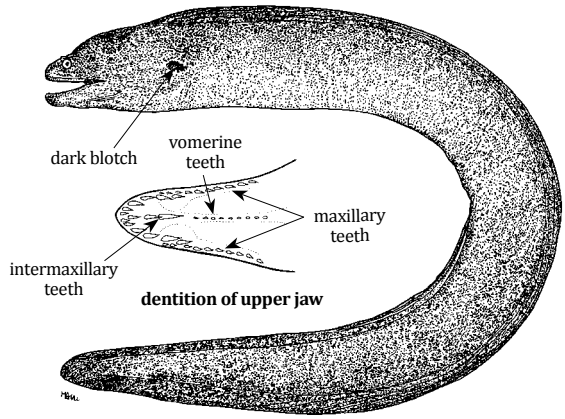



**Size:** To 80 cm (TL)

## *Gymnothorax flavimarginatus* (Rüppell, 1830)

**FAO names:** Yellow-edged moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint War.
**Habitat:** Occurs in coral or rocky areas of reef flats and protected shorelines to seaward reefs.
**Fisheries:** Line gears, baited traps.
**Distinctive Characters:** Anus before midbody; head length 6.5–10 in TL; trunk length 2.9–3.2 in TL; body depth at gill opening 11–18 in TL; teeth in jaws uniserial with large canines anteriorly; intermaxillary teeth a single median row of large canines; vertebrae 129–137.
**Colour:** Body yellowish to brownish, densely mottled with dark brown spots; front of head purplish grey; a black spot on gill opening; posterior margin of median fins with a yellow green margin; juveniles are plain brown (sometimes bright yellow with brown blotches).

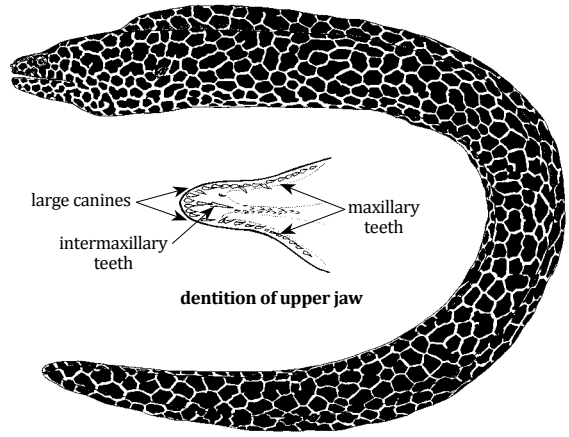



**Size:** To 240 cm (TL)

## *Gymnothorax isingteena* (Richardson, 1845)

**FAO names:** None (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Kyar.
**Habitat:** Inhabits reef flats and outer reef slopes of continental reefs from 3 to 30 m.
**Fisheries:** Line gears, baited traps.
**Distinctive Characters:** Anus before midbody; head length 7.2–9 in TL; trunk length 2.7–3.1 in TL; body depth at gill opening 10.8–17 in TL; maxillary teeth uniserial; usually 4 large canines anteriorly on each side, the more posterior teeth much smaller and angling backward; intermaxillary teeth a single median row, longer than lateral canines; 138–144 vertebrae.
**Colour:** Pale yellowish white to light brownish with numerous close-set large rounded or polygonal black spots, the pale interspaces forming a honeycomb-like pattern.

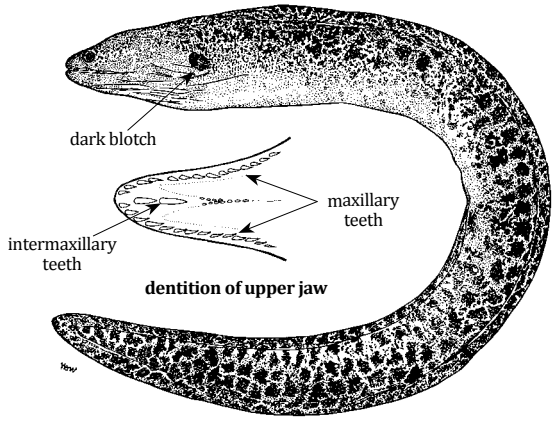



**Size:** To 180 cm (TL)

## *Gymnothorax javanicus* (Bleeker, 1859)

**FAO names:** Giant moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Gyi.
**Habitat:** Found in lagoon and seaward reefs.
**Fisheries:** Line gears, baited traps.
**Distinctive Characters:** Anus before midbody; head length 7.5–7.8 in TL; trunk length 2.9–3.0 in TL; body depth at gill opening 14.4–17.7 in TL; teeth in jaws uniserial all of equal size (small specimens, less than 30 cm TL, may have a few inner maxillary teeth); intermaxillary teeth a single median row of 2–3 large canines; 140–143 vertebrae.
**Colour:** Brownish, with many large irregular dark brownish blotches, separated from each other by a paler net-like pattern; lower jaw and abdomen paler; blackish corners of mouth and a black spot on gill openings.

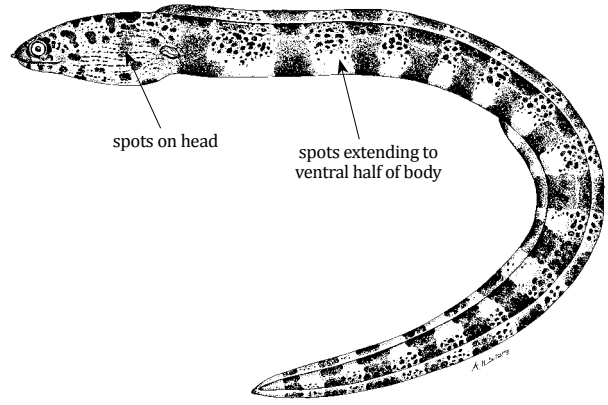



**Size:** To 300 cm (TL)

***Gymnothorax minor*** (Temminck & Schlegel, 1846)

**FAO names:** Barspotted moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Line Zin.
**Habitat:** Caught at depths from 67 to 175 m on sandy gravel bottom.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Anus before midbody, head length 6.6–10 in TL; trunk length 3.0–3.1 in TL; body depth at gill openings 16–22 in TL; teeth in jaws with fine serrations on anterior and posterior edges; maxillary teeth usually in a single row (small specimens sometimes with 1 or 2 inner rows anteriorly); 0–3 intermaxillary teeth; 129–143 vertebrae.
**Colour:** Body behind gill opening with 15–22 bars, well defined on ventral half of body, obscured and nearly lost by spots on dorsal half; spots on head more or less round, not in form of horizontal lines.

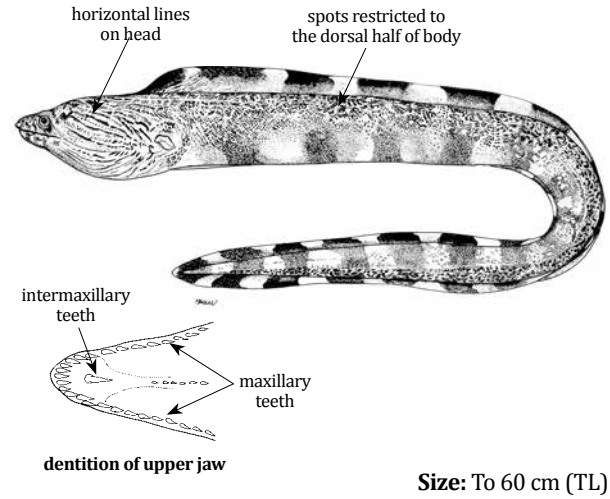



**Size:** To 54.5 cm (TL)

***Gymnothorax reticularis*** Bloch, 1795

**FAO names:** Ventral-barred moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Gaung Line Zin.
**Habitat:** Caught at depths to 100 m on sandy gravel bottom.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Anus slightly before midbody; head length 6.5–8.2 in TL; trunk length 3.1–3.3 in TL; body depth at gill openings 16–18.4 in TL; teeth in jaws with fine serrations on anterior and posterior edges; maxillary teeth usually in a single row (small specimens sometimes with 1 or 2 inner rows anteriorly); 0–3 intermaxillary teeth; 114–138 vertebrae.
**Colour:** Body behind gill opening with 15–20 bars, more prominent on ventral half of body, obscured by spots on dorsal half; head and chin with closely spaced brown spots separated by narrow pale interspaces giving the impression of horizontal lines, especially in branchial region.

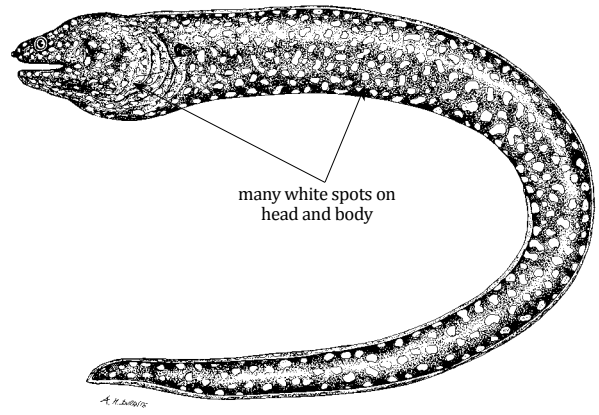



**Size:** To 60 cm (TL)

***Gymnothorax*** cf. ***sokotrensis*** Kotthaus, 1968 *

**FAO names:** Sokotra moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Phyu Set.
**Habitat:** Depth range: 173–200 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Anus in about middle of body; head length 6.8–9.4 in TL; trunk length 2.8 in TL; body depth at gill opening 9–14 in TL; teeth in jaws uniserial, tall, strong, serrated; median intermaxillary teeth absent; teeth on vomer hidden in folds of skin; 140–143 vertebrae.
**Colour:** Reddish brown, with many white spots, the largest about the size of the eye.
**Remarks:** Possibly undescribed. The Myanmar specimen needs to be checked against the holotype of *Gymnothorax sokotrensis*, known from a single specimen trawled off Socotra (Arabian Sea).




**Size:** To at least 61 cm (TL)

## *Gymnothorax thyrsoideus* (Richardson, 1844)

**FAO names:** White-eye moray (En)

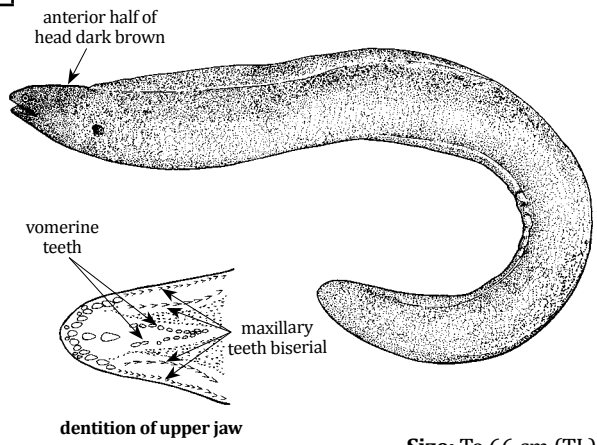
**Local name(s):** Nga Kywet, Pin Le' Nga Shint Myet Lone Phyu.

**Habitat:** Occurs on reef flats where it is usually encountered in shallow tidal pools.

**Fisheries:** Line gears, baited traps.

**Distinctive Characters:** Anus before midbody; head length 9.1–9.9 in TL; trunk length 2.6–3.4 in TL; body depth at gill openings 16.5–17.4 in TL; teeth in jaws biserial (in two rows) with large canines anteriorly; vomerine teeth biserial and diverging anteriorly with the posterior most 3–4 teeth forming a single row; 125–137 vertebrae.

**Colour:** Cream brownish with many dark brown spots; anterior half of head uniformly dark brown; small individuals with white median fin margins and pale snout; eye white in life.




**Size:** To 66 cm (TL)

## *Strophidon sathete* (Hamilton, 1822)

**FAO names:** Slender giant moray (En)

**Local name(s):** Nga Kywet, Pin Le' Nga Shint Lone.

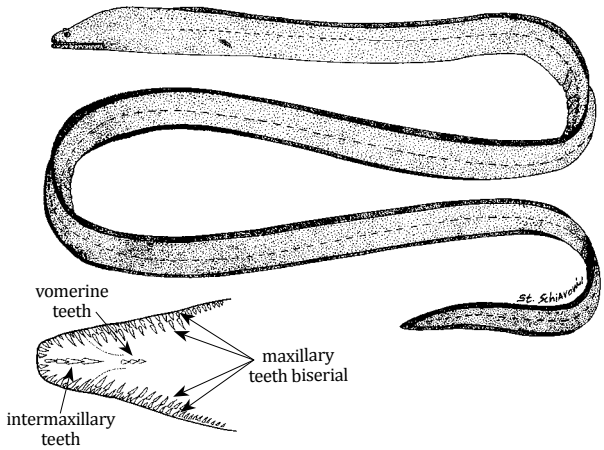
**Habitat:** Benthic, in shallow coastal waters, muddy areas, estuaries and river mouths.

**Fisheries:** Line gears, bottom trawls.

**Distinctive Characters:** Body very elongated; anus well before midbody; head length 8.5–14 in TL; trunk length 2.6–3.4 in TL; body depth at gill openings 25–49 in TL; eye far forward over anterior third of gape; jaw (maxillary and mandibular) teeth biserial for most of their extent; vomerine teeth uniserial, short and sharp; 183–212 vertebrae.

**Colour:** Head, body and fins uniform brown.

**Remarks:** This is most probably a complex of species that have not yet been sorted out (D.G. Smith pers. comm., 2017).




**Size:** To 400 cm, common 200 cm (TL)

## *Uropterygius xanthopterus* Bleeker, 1859

**FAO names:** Freckleface reef-eel (En)

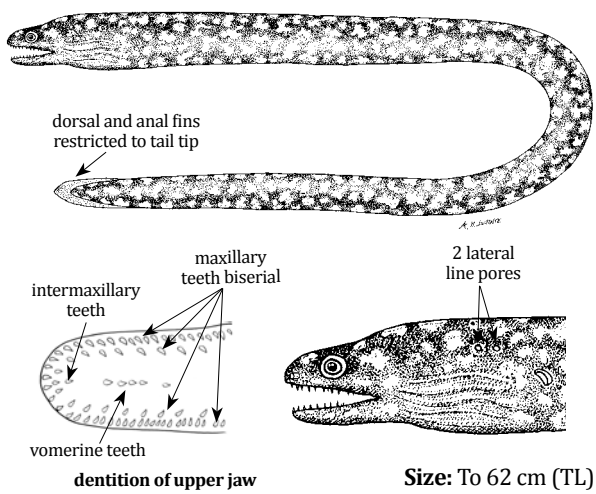
**Local name(s):** Nga Kywet, Tin Teik Myet Hnar Nga Shin.

**Habitat:** Found in crevices of shallow reefs, as well as drop-offs.

**Fisheries:** Line gears, baited traps.

**Distinctive Characters:** Dorsal and anal fins restricted to tail tip; 2 lateral line pores above and ahead of gill opening; anus near midlength; head length 7.5 in TL; body depth at gill openings 25–30 in TL; teeth in jaws biserial with inner teeth larger and depressible; intermaxillary with few depressible fangs; vomerine teeth small and uniserial; 118–126 vertebrae.

**Colour:** Mottled brown with prominent white specks especially on the head; caudal tip yellow.



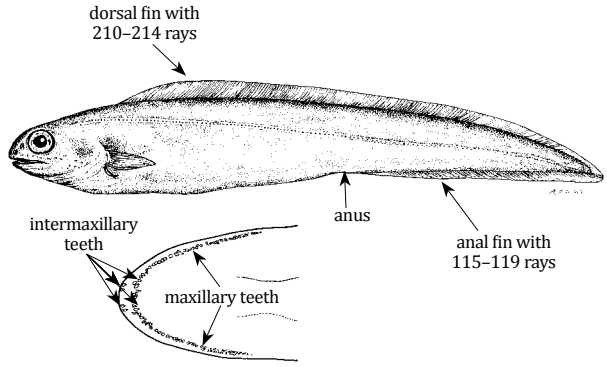

**Size:** To 62 cm (TL)

## COLOCONGRIDAE
Colocongrids

***Coloconger raniceps*** Alcock, 1889

**FAO names:** Froghead eel (En)

**Local name(s):** Phar Gaung Nga Shint.
**Habitat:** Depth range 300–1 134 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body short and stubby; snout blunt and short, its length 3/4 of eye diameter; anus placed well behind mid-length; maxillary and mandibular teeth uniserial; intermaxillary teeth in 2 transverse rows, the posterior row continuous with maxillary teeth; no vomerine teeth; dorsal fin origin over base of pectoral or slightly further back; dorsal fin considerably higher than anal fin; 22 pectoral fin rays; 69 lateral line pores before anus; 145 vertebrae.
**Colour:** Blackish purple; peritoneum black.



**dention of upper jaw**

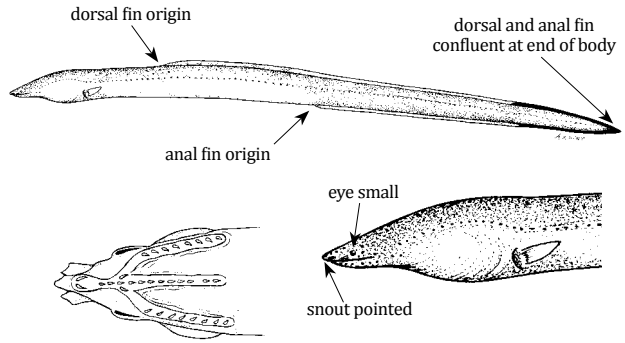
**Size:** To 50 cm (TL)

## OPHICHTHIDAE
Snake eels

***Neenchelys buitendijki*** Weber & de Beaufort, 1916

**FAO names:** Fintail serpent eel (En)

**Local name(s):** Mway Nga Shint Hmee Chun.
**Habitat:** Benthic, in shallow coastal waters down to 72 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body robust, its depth at anus 19–32 in TL; head length 7.8–8.5 in TL; pectoral fin longer than snout, 4.0-4.8 in HL; anterior nostril tubular, posterior nostril above lip, opening entirely outside mouth (true of all *Neenchelys* species); origin of dorsal fin well before anal fin origin; predorsal length 5.7–6.0 in TL; large gill opening, its height 6.8–8.5 in HL; teeth conical, slender, uniserial in jaws and vomer; total vertebrae 135–148.
**Colour:** Light brown dorsally; throat and abdomen pale; posterior portions of dorsal and anal fins black.



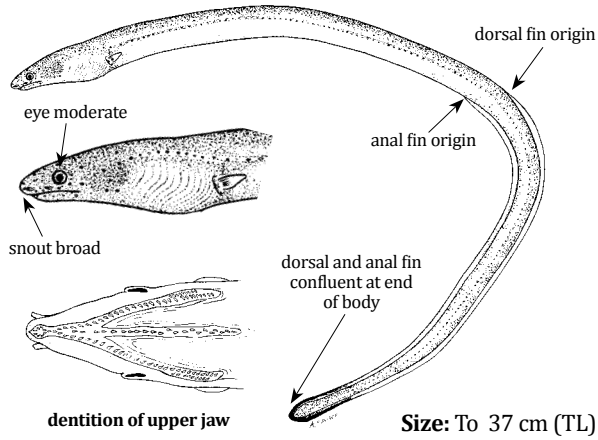
**dention of upper jaw**

**Size:** To 30 cm (TL)

***Neenchelys cheni*** (Chen & Weng, 1967)

**FAO names:** Chen's worm eel (En)

**Local name(s):** Tee Gaung Mway Nga Shint.
**Habitat:** Benthic, in shallow coastal waters down to 72 m depth. Adults apparently have a pelagic lifestyle.
**Fisheries:** Bottom and midwater trawls.
**Distinctive Characters:** Body moderately elongate, its depth at anus 29–40 in TL; head length 10.1–11.6 in TL; pectoral fin shorter than snout, 7.0-7.8 in HL; origin of dorsal fin slightly posterior to anal fin origin; predorsal length 2.4–2.7 in TL; teeth conical, slender, uniserial in jaws and vomer; total vertebrae 180–183.
**Colour:** Ligth brown greyish dorsally; throat ad abdomen pale; posterior portions of dorsal and anal fins black.



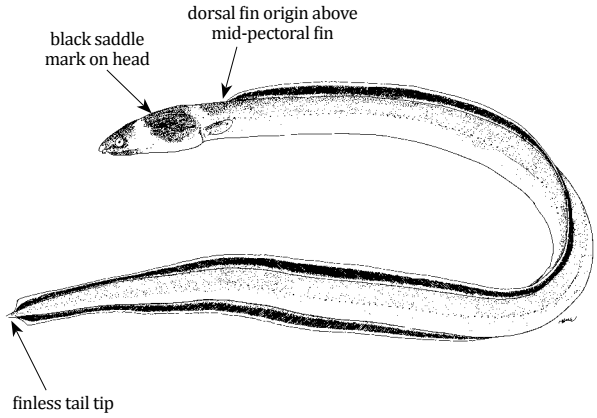
**dention of upper jaw**

**Size:** To 37 cm (TL)

## *Ophichthus cephalozona* Bleeker, 1864

**FAO names:** Dark-shouldered snake eel (En)

**Local name(s):** Mway Nga Shint Kywe Su Mae.
**Habitat:** Burrows in muddy to sandy inshore areas.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body moderately elongate, cylindrical, tapering and laterally compressed posteriorly; snout and tail tip pointed; body depth behind gill openings 30 in TL; anus slightly before midbody; head length 11 in TL; pectoral fin 4 in head length; eye ending before corner of jaw; posterior nostril in upper lip, opening into mouth, not visible externally; teeth pointed, small, numerous and uniserial; vertebrae 154–157.
**Colour:** Body and tail uniform brown, belly paler; snout and jaw black, a pale band behind eye, followed by a black saddle followed by a pale band; median fins black with a thin white margin; pectoral fins dark.

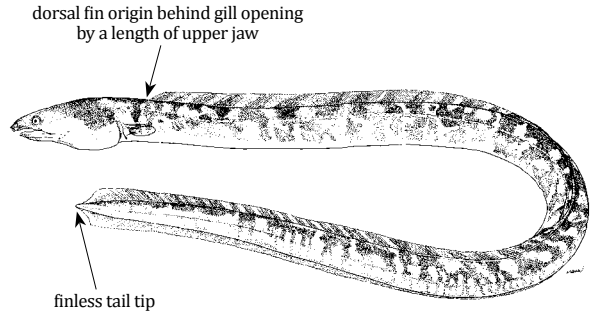



**Size:** To 115 cm (TL)

## *Ophichthus lithinus* (Jordan & Richardson, 1908)

**FAO names:** Evermann's snake eel (En)

**Local name(s):** Mway Nga Shint Kyarr.
**Habitat:** Burrows in muddy to sandy inshore areas.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate, cylindrical, tapering and laterally compressed posteriorly; snout and tail tip pointed; body depth behind gill openings 26–39 in TL; anus at midbody; head length 9.5 –10.8 in TL; pectoral fin 8 in HL; notable barbel beneath mid-snout; eye ending before corner of jaw; posterior nostril in upper lip, opening into mouth, not visible externally; teeth pointed, uniserial, medium-sized and retrorse; vertebrae 147–157.
**Colour:** Head and body brownish yellow, overlain dorsally by irregular brown saddles; a large dark spot at mid-head; fins pale.

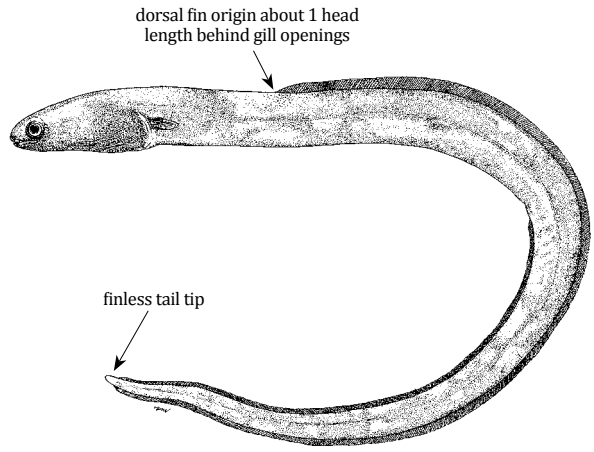



**Size:** To 148 cm (TL)

## *Ophichthus naga* McCosker & Psomadakis, 2018

**FAO names:** Deepwater demonic snake eel (En)

**Local name(s):** Ye Net Mway Nga Shint.
**Habitat:** Depth range: 455–459 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body stout, cylindrical, slightly compressed posteriorly; snout and tail tip not notably pointed; body depth behind gill openings 23 in TL; anus at midbody; HL 8.5 in TL; pectoral fin 3.5 in HL; snout short, lower jaw reaches ahead of anterior nostril bases; eye ending above corner of jaw; posterior nostril a hole above upper lip, covered by a flap; teeth small, pointed, numerous and mostly uniserial; vertebrae 153.
**Colour:** Head and body dark brown; inner margin of lips pale; median fins dark with a pale margin; pectoral fins dark with a pale ventral margin; tail tip, anal opening, inside of mouth, and peritoneum pale.

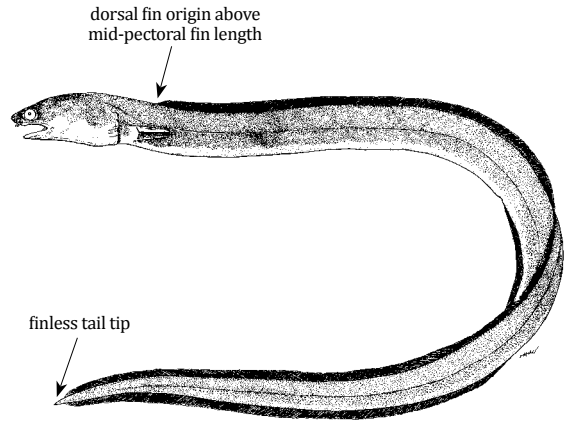



**Size:** At least to 57 cm (TL)

***Ophichthus nansen*** McCosker & Psomadakis, 2018

**FAO names:** Nansen's snake eel (En)

**Local name(s):** Nansen Mway Nga Shint.
**Habitat:** Depth range: 103–106 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, cylindrical tapering and laterally compressed posteriorly; snout acute but not sharply pointed; tail tip sharply pointed; body depth behind gill openings 29 in TL; tail longer tan body, 1.6 in TL; head length 12 in TL; pectoral fin 2.8 in head length; a notable barbel behind anterior nostril base; eye large, ending before corner of jaw; posterior nostril a hole above upper lip, covered by a flap; teeth pointed, small, numerous and biserial; vertebrae 146.
**Colour:** Head and body dark grey-brown, paler in throat region and from mid-flanks to belly; median fins black; pectoral fins black, their upper margin pale.



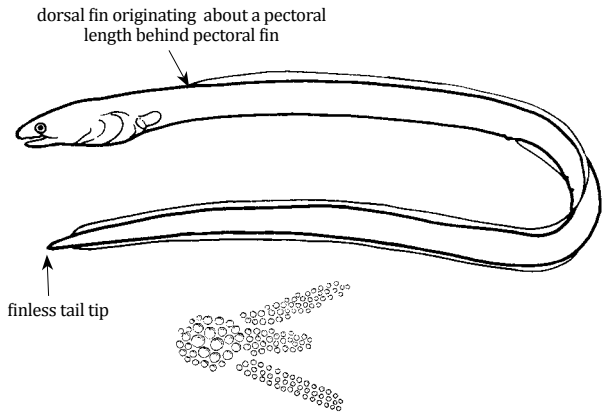

**Size:** To 40 cm (TL)

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***Pisodonophis boro*** (Hamilton, 1822)

**FAO names:** Rice-paddy eel (En)
Serpenton des rizières (Fr)

**Local name(s):** Sapar Khin Mway Nga Shint.
**Habitat:** Lagoons and estuaries, enters freshwater and paddy fields.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical, compressed only along extreme tail tip; anterior nostril tubular, posterior along lower edge of lip; teeth granular to molariform, multiserial bands in jaws and vomer, but sharper in jaws; vertebrae 167–170.
**Colour:** Uniformly brownish olive above, lighter below; dorsal fin with a narrow black edge.



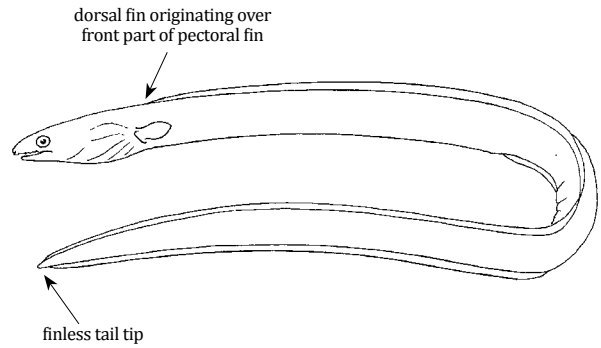

**Size:** To 100 cm (TL)

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***Pisodonophis cancrivorus*** (Richardson, 1848)

**FAO names:** Longfin snake-eel (En)

**Local name(s):** Kyaw Suu Shae Mway Nga Shint.
**Habitat:** Lagoons and estuaries, enters freshwater.
**Fisheries:** .
**Distinctive Characters:** Body cylindrical, compressed only along extreme tail tip; anterior nostril tubular, posterior along lower edge of lip; teeth granular to molariform, multiserial bands in jaws and vomer, but sharper in jaws; vertebrae 152–163.
**Colour:** Uniformly brownish olive above, light yellow below; dorsal fin with a narrow black edge.

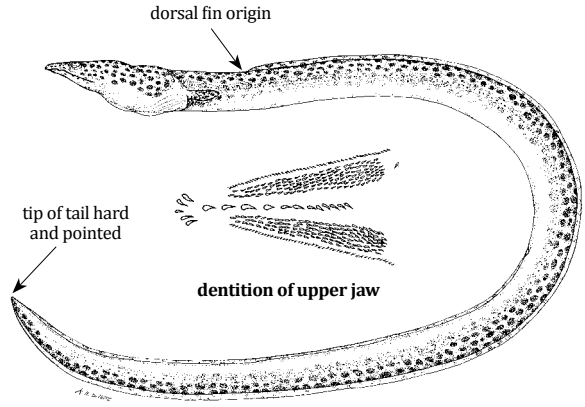



**Size:** To 108 cm, common 50 cm (TL)

***Xyrias revulsus*** Jordan & Snyder, 1901

**FAO names:** Strict snake eel (En)

**Local name(s):** Mway Nga Shint Kyaw Set Pyouk.
**Habitat:** Benthic, on soft bottoms between a few to 300 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical, compressed only along extreme tail tip; head length 9.1–9.6 in TL; pectoral fin 5.3–6.1 in HL; snout length more than twice in upper jaw; posterior margin of orbit above middle of upper jaw; anterior nostril in a short tube; posterior nostril in upper lip; teeth strong, conical, not extremely enlarged, those of vomer largest, uniserial and widely spaced; inner row of maxillary teeth in a broad patch; vertebrae 155–160.
**Colour:** Body and head covered with numerous small to medium brown spots.



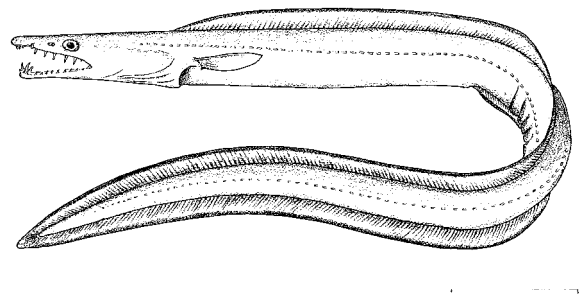

**Size:** To 113 cm (TL)

## MURAENESOCIDAE
Pike congers

***Congresox talabon*** (Cuvier, 1829)

**FAO names:** Yellow pike conger (En)

**Local name(s):** Nga Shwe War.
**Habitat:** Lives in coastal waters down to about 100 m and in estuaries, over soft bottoms.
**Fisheries:** Bottom trawls, line gears.
**Distinctive Characters:** similar to *Congresox talabanoides* (see below) but length of pectoral fins longer, about 3.2 in head; dorsal fin rays before anus 70–75; lateral line pores before anus 41–42; vertebrae 143–149
**Colour:** Head and body yellow, tinged with bronze, white below; dorsal and anal fins with narrow, black edges.

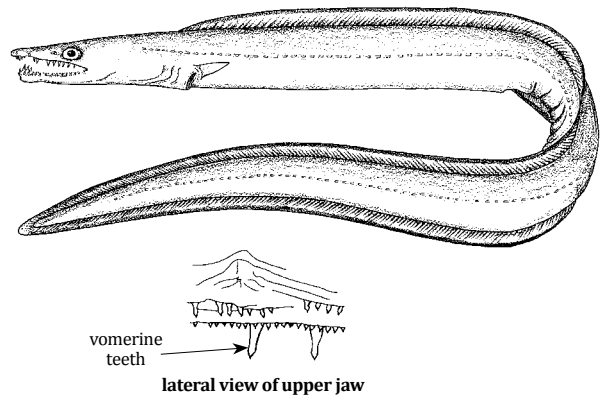


**Size:** To 80 cm, common 50 cm (TL)

***Congresox talabonoides*** (Bleeker, 1853)

**FAO names:** Indian pike conger (En)

**Local name(s):** India Nga Shwe.
**Habitat:** Benthic, on soft bottoms, in estuaries, lagoons and shallow coastal waters down to 100 m.
**Fisheries:** Bottom trawls, line gears.
**Distinctive Characters:** Body elongate, cylindrical in front, compressed along tail; gill openings almost meeting at ventral midline of body; large vomerine teeth needle-like, without basal cusps; pectoral fins relatively small, about 4 times in head length; 57–68 dorsal fin rays and 35–40 lateral line pores before level of anus, respectively; vertebrae 132–145.
**Colour:** Head and body yellow, tinged with bronze, white below; dorsal and anal fins with narrow black edges.

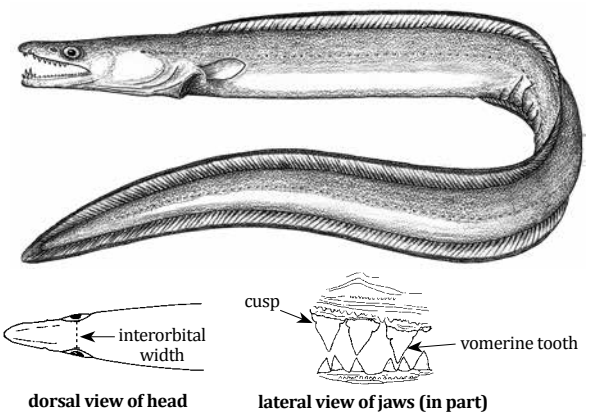



**Size:** To 250 cm, common 180 cm (TL)

## ***Muraenesox bagio*** (Hamilton, 1822)

**FAO names:** Common pike conger (En)
Morénésoce commun (Fr)

**Local name(s):** Nga Shwe Nyo.
**Habitat:** Benthic on soft bottoms in deeper waters down to 100 m.
**Fisheries:** Bottom trawls, line gears.
**Distinctive Characters:** Body elongate, cylindrical in front, compressed along tail; gill openings almost meeting at ventral midline of body; large vomerine teeth compressed, "blade-like" with 1–2 basal cusps; principal teeth in lower jaw triangular; snout long; eye diameter 3 in snout length; interorbital width about 10.7 in HL; posterior nostrils only slightly nearer to eye than to anterior nostrils; 47–59 dorsal fin rays and 33–39 lateral line pores before level of anus, respectively.
**Colour:** Light greyish brown with olive bronze above, lighter below; dorsal and anal fins with narrow black edges.



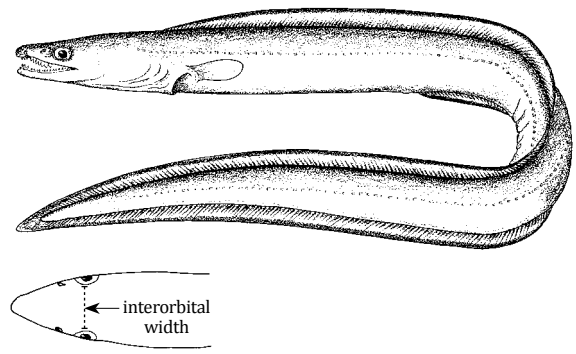
**dorsal view of head** **lateral view of jaws (in part)**

**Size:** To 200 cm, common 150 cm (TL)

## ***Muraenesox cinereus*** (Forsskål, 1775)

**FAO names:** Daggertooth pike conger (En)
Murénésoce-dague (Fr)

**Local name(s):** Nga Shwe Thwar Seik.
**Habitat:** Benthic, on soft bottoms, in estuaries, lagoons and shallow coastal inlets down to about 100 m.
**Fisheries:** Bottom trawls, line gears.
**Distinctive Characters:** Similar to *Muraenesox bagio* but snout longer, eye diameter 2.0–2.5 in snout length; interorbital width about 8 times in HL; 66–78 dorsal fin rays and 40–47 lateral line pores before level of anus, respectively.
**Colour:** Light to dark greyish brown above, lighter below; dorsal and anal fins with narrow black edges.



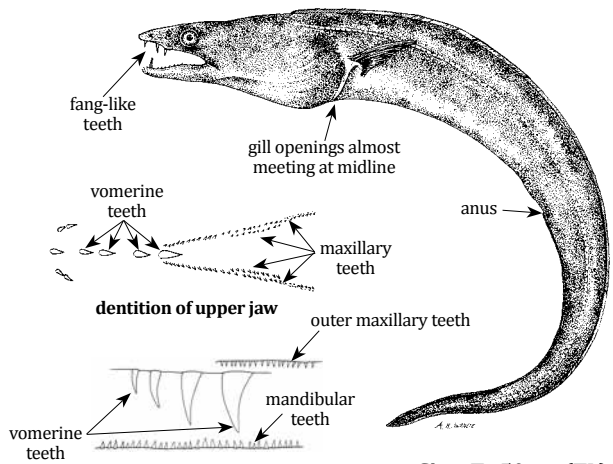
**dorsal view of head**

**Size:** To 220 cm, common 80 cm (TL)

## ***Sauromuraenesox vorax*** Alcock, 1889

**FAO names:** Large-head pike conger (En)

**Local name(s):** Nga Shwe Gaung Gyi.
**Habitat:** Benthopelagic between 274–469 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Trunk high and well marked off from the head and tail; snout long, pointed; upper jaw overlapping the lower; complete row of teeth in each jaw and a 2nd incomplete row in the maxilla; intermaxillary teeth and those at the mandibulary symphysis fang-like; 4 large conical teeth slightly recurved, increasing in size from anterior to posterior, in a row in the vomer; dorsal and anal fins poorly developed; dorsal fin origin well anterior to gill opening; pectoral fin longer than snout; lateral line well developed.
**Colour:** Head and dorsum blackish purple; abdomen pale silvery slate.



**dentition of upper jaw** **lateral view of jaws (in part)**

**Size:** To 50 cm (TL)

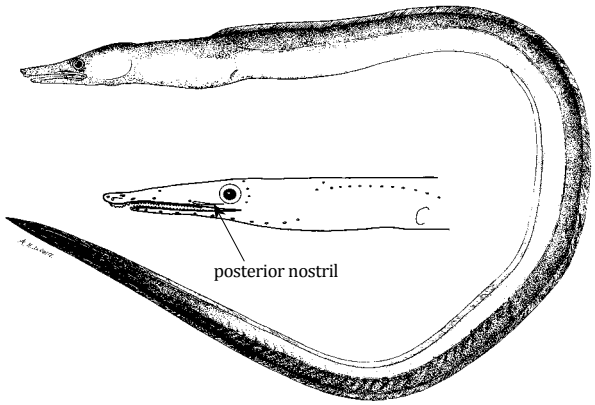
# NETTASTOMATIDAE

Duckbill eels

***Facciolella*** sp. *

**FAO names:** Hidden-nostril duckbill eel (En)

**Local name(s):** Be' Hnote Thee Nga Shint.
**Habitat:** Bentopelagic between 288–291 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, cylindrical anteriorly, compressed near tail; pectoral fin absent; dorsal fin origin slightly before gill opening; anterior nostril tubular, near tip of snout; posterior nostril opening as a slit in upper lip before eye; teeth small, conical, multiserial; intermaxillary tooth patch longer than broad, separated from vomer; vomerine tooth patch elongate, about ¾ length of maxillary patch.
**Colour:** Brown-grey above lateral line, pale below.
**Remarks:** Generic revision needed to establish the specific identity of the *Facciolella* specimen collected in Myanmar (D.G. Smith pers. comm., 2017).

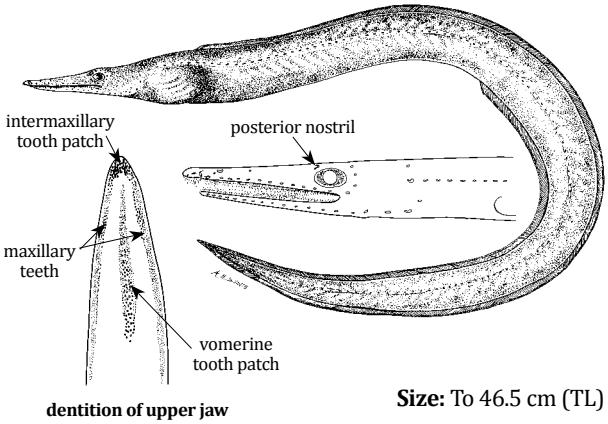



**Size:** To at least 67 cm (TL)

***Nettastoma solitarium*** Castle & Smith, 1981

**FAO names:** Solitary duckbill eel (En)

**Local name(s):** Be' Hnote Thee Tago Taw Nga.
**Habitat:** Bentopelagic between 415–610 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, round in cross section; tail slender and attenuate, tip delicate and easily damaged; pectoral fin absent; dorsal fin origin above gill opening; posterior nostril near anterodorsal corner of eye; lateral line pores before anus 42–45; maxillary and mandibular teeth in bands; intermaxillary tooth patch short, continuous with maxillary teeth; vomerine tooth patch elongate, reaching level of eye, median vomerine teeth somewhat enlarged.
**Colour:** Brownish purple; opercular region darker; vertical fins and tip of caudal region black-edged.

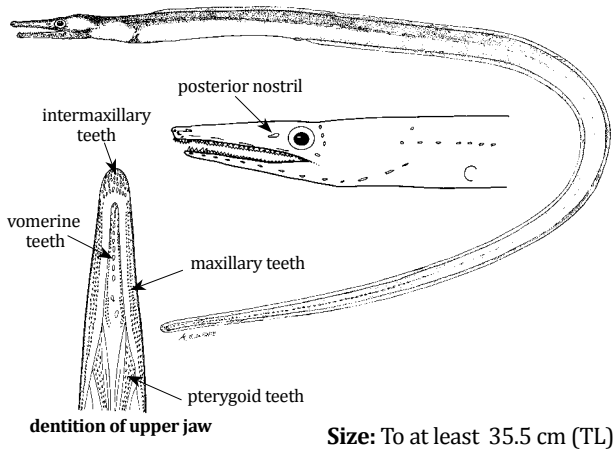



**Size:** To 46.5 cm (TL)

***Saurenchelys*** sp. *

**FAO names:** Sawtooth duckbill eel (En)

**Local name(s):** Be' Hnote Thee Hlwa Thwar Nga.
**Habitat:** Benthopelagic between 80–106 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, cylindrical anteriorly, compressed near tail; preanal length about 1/4 TL; dorsal fin origin slightly behind gill opening; pectoral fin absent; posterior nostril in front of mid-eye; maxillary and mandibular teeth in bands; vomerine tooth patch elongate, with a median series of large teeth and a series of much smaller teeth on each side; teeth present on pterygoid.
**Colour:** Light tan or grey, sometimes with dark pigment on fins and around head.
**Remarks:** Generic revision needed to establish the specific identity of the *Saurenchelys* specimens collected in Myanmar (D.G. Smith pers. comm., 2017).



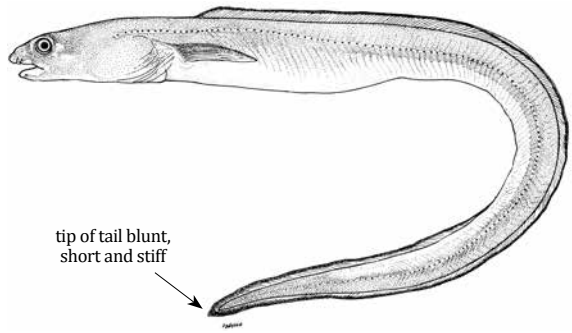

**Size:** To at least 35.5 cm (TL)

# CONGRIDAE
Conger eels

***Ariosoma*** cf. ***gnanadossi*** Talwar & Mukherjee, 1977

**FAO names:** Indian conger (En)

**Local name(s):** India Pin Lae Nga Shint.
**Habitat:** Soft bottoms downs to 250 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Dorsal fin origin approximately over gill opening; eye diameter equal to length of snout; well developed flanges on lips; vertical fin rays unsegmented; posterior nostril somewhat below mid-eye level; teeth minute, conical in 2–5 irregular rows on each jaw; intermaxillary tooth patch scarcely visible in front of closed mouth; 44–47 preanal lateral line pores; 141–145 total vertebrae.
**Colour:** Light brown above, paler below; dorsal and anal fins with a narrow blackish border; pectoral fins usually dusky.
**Remarks:** Generic revision needed (D.G. Smith pers. comm., 2017).

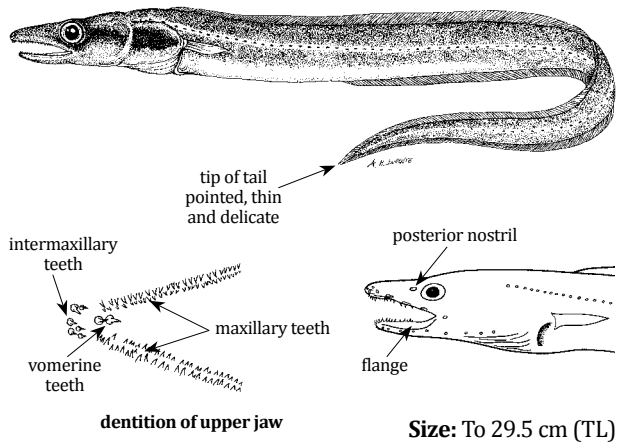



**Size:** To 37.6 cm (TL)

***Bathycongrus nasicus*** (Alcock, 1894)

**FAO names:** None (En)

**Local name(s):** Pin Lei Hmee Chun Nga Shint.
**Habitat:** Depth range 230–1 040 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin origin over base of pectoral fins; snout projecting in front of lower jaw, its length about twice horizontal eye diameter; flange only on lower lip; vertical fin rays segmented; posterior nostril at mideye level; maxillary and mandibular teeth multiserial; vomerine teeth in a small cluster of sharp teeth anteriorly; intermaxillary and anterior mandibular teeth slightly enlarged, but not fang-like; 29–32 preanal lateral line pores; cephalic pores along upper lip enlarged; 149–152 total vertebrae.
**Colour:** Head and dorsum brownish purple; abdomen ivory white; opercular region darker; black peritoneum.



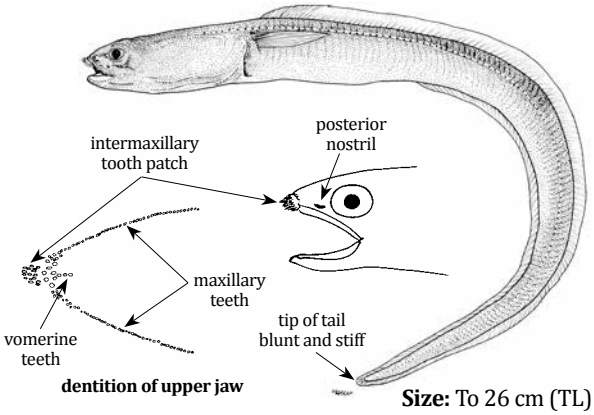

**dentition of upper jaw**

**Size:** To 29.5 cm (TL)

***Bathymyrus echinorhynchus*** Alcock, 1889

**FAO names:** Rough-nose conger (En)

**Local name(s):** Pin Lei Hnar Gyan Nga Shint.
**Habitat:** Benthic on sandy or muddy bottoms; depth range: 78–300 m.
**Fisheries:** Bottoms trawls.
**Distinctive Characters:** Dorsal fin origin slightly behind the base of pectoral fins; eye diameter equal to length of snout; well-developed flanges on lips; posterior nostril below mid-eye level; vertical fin rays unsegmented; uniserial incisiform teeth on each side of jaws; intermaxillary tooth patch fully exposed and curving upward on anterior face of snout, its height less than half of eye diameter; cephalic pores small.
**Colour:** Uniformly brownish yellowish; fins light.



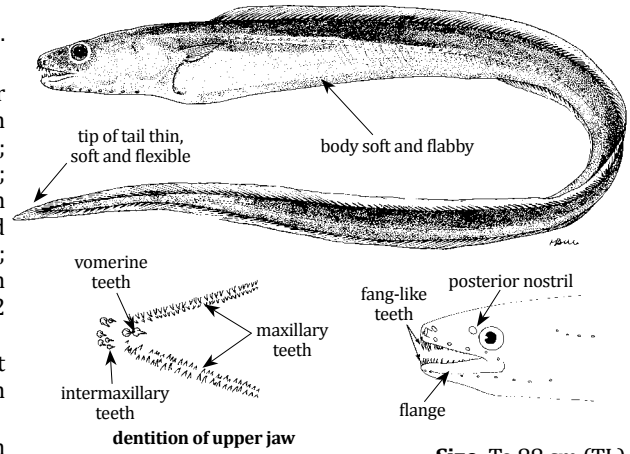

**dentition of upper jaw**

**Size:** To 26 cm (TL)

## ***Bathyuroconger*** cf. ***vicinus*** (Vaillant, 1888)

**FAO names:** Long tooth conger (En)

**Local name(s):** Pin Lei Thwar Shae Nga Shint.
**Habitat:** Benthopelagic; depth range 120–1 318 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin originating over pectoral fin; pectoral fins small and delicate; mouth terminal; cephalic pores along upper lip enlarged; flange only on lower lip; vertical fin rays segmented; posterior nostril at about mideye level; teeth on maxillary and dentary biserial; intermaxillary and anterior mandibular teeth enlarged and fang-like; vomerine teeth in a small cluster of sharp teeth anteriorly; 42–47 preanal lateral line pores; ca. 182 (for Myanmar specimens) total vertebrae.
**Colour:** Myanmar specimens uniformly light purple; opercle with bluish tinge; lining of mouth and gill slits jet-black.
**Remarks:** Generic revision needed (D.G. Smith pers. comm., 2017).

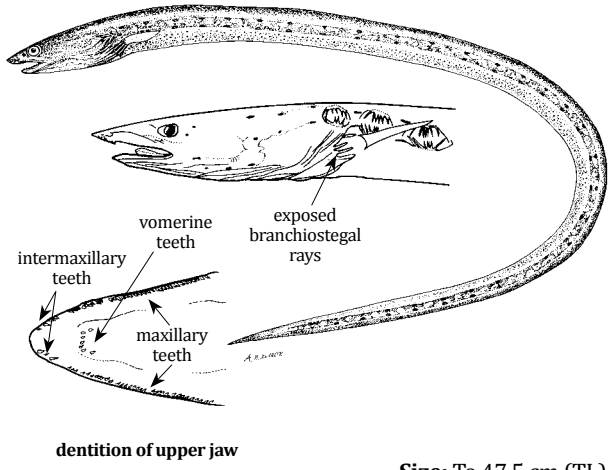



**Size:** To 88 cm (TL)

## ***Blachea xenobranchialis*** Karrer & Smith, 1980

**FAO names:** Frillgill conger (En)

**Local name(s):** Pin Lei Pa Hat Shae Nga Shint.
**Habitat:** Benthic on soft bottom of the continental slope and shelf; depth range: 178–400 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin originating behind base of pectoral fin; well-developed flanges on lips; vertical fin rays segmented; posterior nostril at mideye level; pectoral fins slightly longer than snout; tail very tapered, its point flexible; ends of some branchiostegal rays protruding freely through gill opening; maxillary and mandibular teeth small, conical, always uniserial; 3–5 enlarged intermaxillary teeth anteriorly on each side; a transverse series of teeth on head of vomer; lateral line very broad, nearly 1/3 the height of the body; pores at the centre of lateral line greatly enlarged.
**Colour:** Silvery grey with scattered melanophores on ventral side; dark blotch behind gill opening.

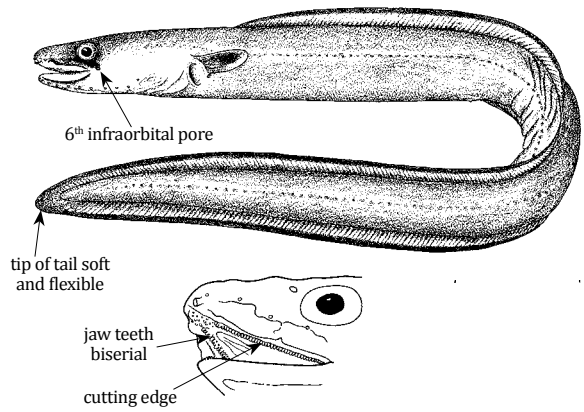



**Size:** To 47.5 cm (TL)

## ***Conger cinereus*** Rüppell, 1871

**FAO names:** Longfin conger (En)

**Local name(s):** Pin Lei Suu Taung Shae Nga Shint.
**Habitat:** Benthic on reefs and active at night.
**Fisheries:** Bottom trawls, line gears.
**Distinctive Characters:** Dorsal fin originating over middle of pectoral fins; well-developed flanges on lips; vertical fin rays segmented; posterior nostril at mideye level; 2 rows of teeth in jaws, those of outer row larger, closely set and compressed to form a cutting edge; 6th infraorbital pore located close and slightly above posterior angle of jaw; 36–39 preanal lateral line pores.
**Colour:** Grey to brown with a broad black margin on median fins; a black spot on pectoral fins (absent on juveniles) and a black bar under the eye; in life with dark crossbars (only at night).

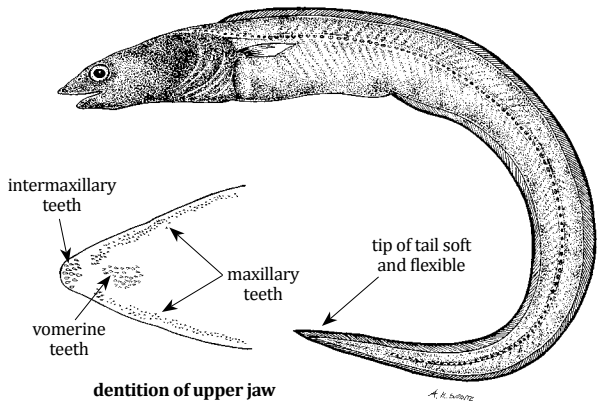



**Size:** To 140 cm, common 50 cm (TL)

## *'Congromuraena' musteliceps* Alcock, 1894

**FAO names:** Sharknose conger (En)

**Local name(s):** Hnar Chun Pin Lei Nga Shint.
**Habitat:** Depth range 265–469 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal origin slightly ahead of gill opening; pectoral fins slender; snout acutely pointed, much longer than eye; no flange on upper lip, a narrow flange on lower lip; vertical fin rays segmented; posterior nostril at mideye level; teeth minute, conical, those on intermaxillary and particularly vomer much blunter than jaw teeth; outermost jaw teeth larger than remaining; all teeth multiserial; 33–34 preanal lateral line pores; cephalic pores reduced.
**Colour:** Dark purple-brown becoming silvery on the abdomen; opercle black; edges of dorsal and anal fins black; peritoneum pale.
**Remarks:** This species is provisionally included under the genus '*Congromuraena*', with quotation marks indicating its unknown generic position.

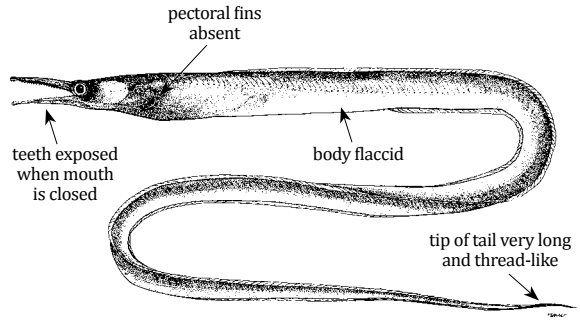



**Size:** To 45 cm (TL)

## *Gavialiceps taeniola* (Alcock, 1889)

**FAO names:** Gavial eel (En)

**Local name(s):** Hmee Thway Nga Shint.
**Habitat:** Benthopelagic on continental slope between 350–1 046 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Snout long and slender with upper jaw strongly protruding over the lower jaw; lips reduced; vertical fin rays segmented; posterior nostril at mideye level; teeth conical, tightly spaced in 3 rows on jaws; vomer with large median teeth; pectoral fins absent or reduced to a rudiment; 40–43 (usually 40) preanal lateral line pores; 46–51 abdominal vertebrae.
**Colour:** Head black, body dark brown; peritoneum pigmented.

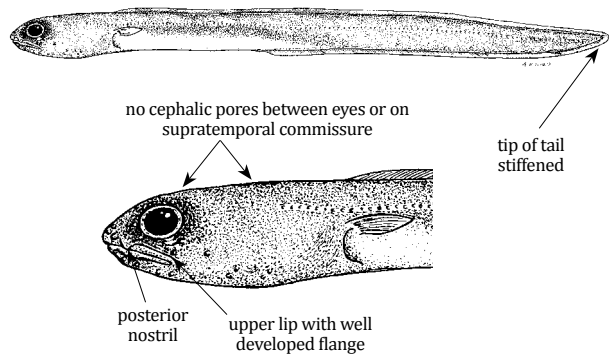



**Size:** To 85 cm (TL)

## *Parabathymyrus* sp. *

**FAO names:** Shortnose conger (En)

**Local name(s):** Hnar To Pin Le' Nga Shint.
**Habitat:** Depth range: 109–113 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin origin over base of pectoral fin; snout relatively short and blunt; eye large; preanal length about 2.5 in TL; anterior nostril tubular, near tip of snout; posterior nostril on upper lip, covered by a flap; vertical fin rays unsegmented; teeth small, conical; intermaxillary tooth patch slightly longer than broad; maxillary and mandibular teeth uniserial for most of length; vomerine teeth in a short median row, cephalic pores reduced.
**Colour:** Light brown, paler below, vertical fins edged in black posteriorly.
**Remarks:** Generic revision needed to establish the specific identity of the *Parabathymyrus* specimen collected in Myanmar (D.G. Smith pers. comm., 2017).

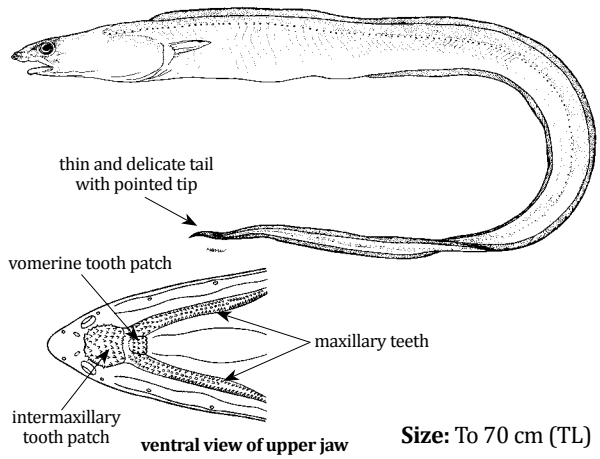



**Size:** To at least 28 cm (TL)

## ***Rhynchoconger squaliceps*** (Alcock, 1894)

**FAO names:** Small-toothed conger (En)

**Local name(s):** Thwar Thae Pin Le' Nga Shint.
**Habitat:** Found on soft bottoms down to 500 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Dorsal fin origin in front of base of pectoral fins; upper jaw projects in front of lower jaw, leaving intermaxillary teeth exposed; small flange on upper lip; vertical fin rays segmented; posterior nostril at mideye level; intermaxillary teeth small, conical, in a multiserial patch; vomerine teeth similar in shape; maxillary and dentary teeth minute in irregular rows; no enlarged teeth present; 27–33 preanal lateral line pores.
**Colour:** Dorsal side of head and body olive-grey, ventral side white; edges of dorsal and anal fins black; peritoneum pale.



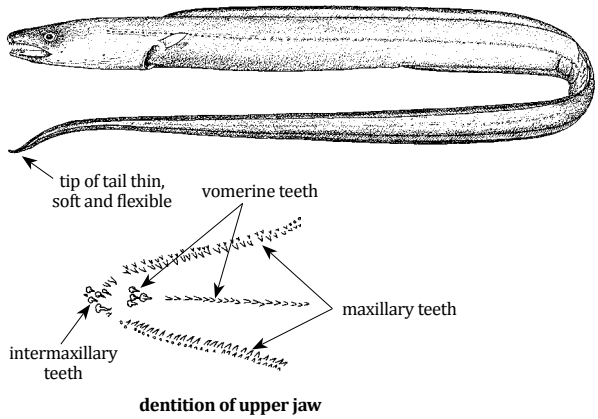
**ventral view of upper jaw**

**Size:** To 70 cm (TL)

## ***Uroconger*** cf. ***lepturus*** (Richardson, 1845)

**FAO names:** Slender conger (En)

**Local name(s):** Ko Lone Thway Pin Le' Nga Shint.
**Habitat:** Offshore on soft sand-mud bottoms.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Dorsal fin originating over base of pectoral fin; pectoral fins small and delicate; flanges on lips poorly developed; vertical fin rays segmented; posterior nostril at mideye level; teeth very sharp and prominent, those on maxillary and dentary biserial, forming a band, but no cutting edge; vomerine teeth with a small patch at anterior end followed by a single row extending far back on roof of mouth; 42–44 preanal lateral line pores.
**Colour:** Light greyish brown, darker on opercle, the lower surface of head and trunk white; lateral line pores white; posterior part of dorsal and anal fins black; peritoneum pale.
**Remarks:** Generic revision needed (D.G. Smith pers. comm., 2017).



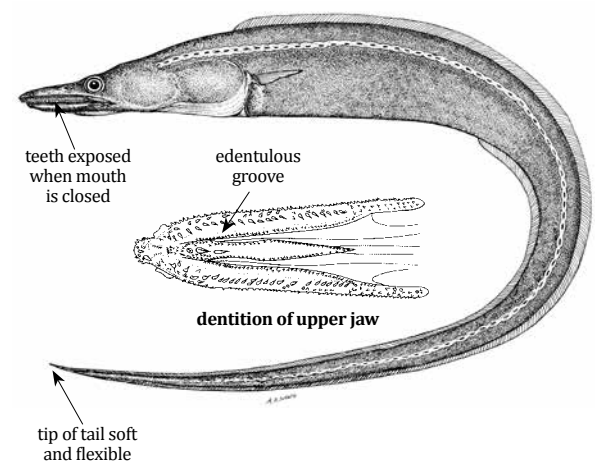
**dentition of upper jaw**

**Size:** To 52 cm, common 30 cm (TL)

## ***Xenomystax trucidans*** Alcock, 1894

**FAO names:** Bristletooth conger (En)

**Local name(s):** Thwar Gyan Pin Lei Nga Shint.
**Habitat:** Bathydemersal between 767–1 316 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin origin slightly ahead of gill opening; pectoral fins narrow, pointed, more than half the snout length; snout depressed and sharply pointed, nearly 4 times eye diameter; lips reduced; vertical fin rays segmented; posterior nostril at mideye level; teeth caniniform in broad bands, mostly depressible; inner row of maxillary and mandibular teeth separated from outer rows by an edentulous groove; maxillary and lateral mandibular teeth exposed when mouth closed; gill opening wide, separated by a very narrow interspace.
**Colour:** Uniformly blue-black; pores of head and lateral line white.



**dentition of upper jaw**

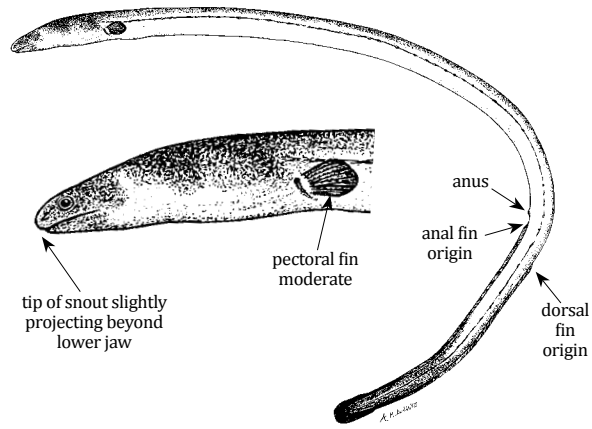
**Size:** To 78 cm (TL)

# MORINGUIDAE
Spaghetti eels

***Moringua*** sp. *

**FAO names:** Short-body spaghetti eel (En)

**Local name(s):** Ko Lone To Pin Le' Nga Shint.
**Habitat:** Depth range: 51–53 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Dorsal fin origin behind anus; anal fin origin slightly but distinctly behind anus; anus far behind midlength, preanal length about 2/3 TL; anterior nostril with a short raised rim, near tip of snout; posterior nostril with a raised rim, in front of mid-eye; teeth conical, moderate in size; intermaxillary teeth arranged in a lateral series on each side continuous with maxillary teeth, and one or two median teeth continuous with vomerine teeth; vomerine teeth biserial, extending nearly to end of maxillary teeth; maxillary and mandibular teeth uniserial; pores not evident on head or body.
**Colour:** Dark brown, lighter on underside of head and throat, fins nearly black at posterior end.
**Remarks:** The Moringuidae is a poorly understood family, and the number and distribution of species is uncertain. The Myanmar specimen resembles *Moringua raitaborua* (Hamilton, 1822), found from India to Indonesia, in the moderately elongate body (compared to other species) and the slightly protruding upper jaw, but further studies are necessary to define that species adequately (D.G. Smith pers. comm., 2017).



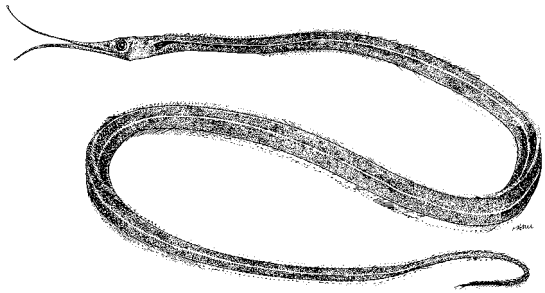

**Size:** To at least 38.5 cm (TL)

# NEMICHTHYIDAE
Snipe eels

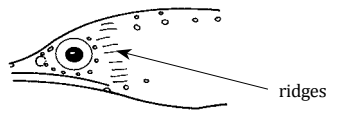
***Avocettina infans*** (Günther, 1878)

**FAO names:** Avocet snipe eel (En)

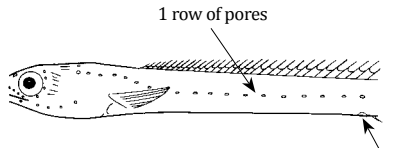
**Local name(s):** Hnote Thee Lan Nga Shint.
**Habitat:** Bathypelagic; depth range 785–4 580 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Jaws and snout produced into a long, non-occlusible beak in females and immatures, short in males; caudal region well developed (not thread-like); 1 row of pores in lateral line; small, longitudinal dermal ridges on head; anus located behind pectoral fins; 176–201 lateral line pores.
**Colour:** Uniform dusky brown, except jaws, pectoral fins, and lower abdomen which are paler.



**female**




**lateral view of head (snout not shown)**




**lateral view of head and trunk (snout not shown)**

**Size:** To 80 cm (TL)

***Nemichthys scolopaceus*** Richardson, 1848

**FAO names:** Slender snipe eel (En)

**Local name(s):** Hnote Thee Lan Ko Lone Thway Nga Shint.

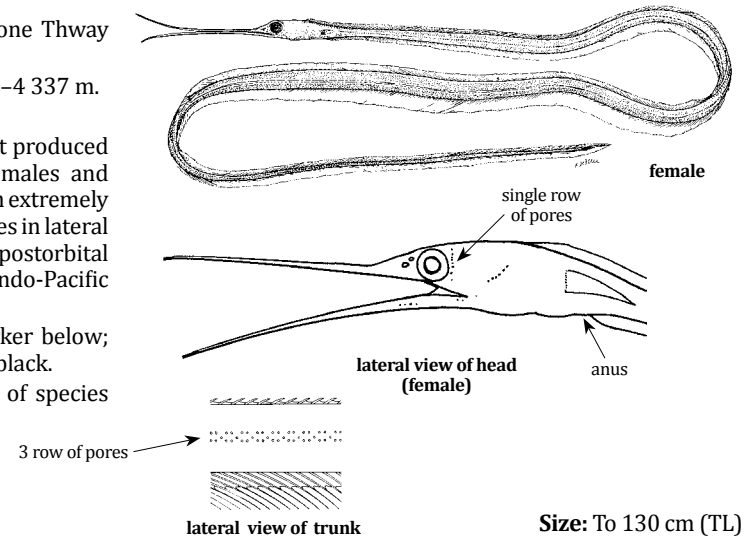
**Habitat:** Bathypelagic; depth range 100–4 337 m.

**Fisheries:** Deep bottom trawls.

**Distinctive Characters:** Jaws and snout produced into a long, non-occlusible beak in females and immatures, short in males; caudal region extremely elongated and thread-like; 3 rows of pores in lateral line; no dermal ridges on head; 6–17 postorbital pores arranged in a single row (Indo-Pacific populations); preopercular pores 6–13.

**Colour:** Dark brown or grey, often darker below; anal fin and tips of pectoral fins almost black.

**Remarks:** This is probably a complex of species that have not yet been sorted out.




**Size:** To 130 cm (TL)

## ANGUILLIDAE

Freshwater eels

***Anguilla bengalensis*** (Gray, 1831)

**FAO names:** Tropical mottled eel (En)

**Local name(s):** A Pu Paing Nga Mee Toung.

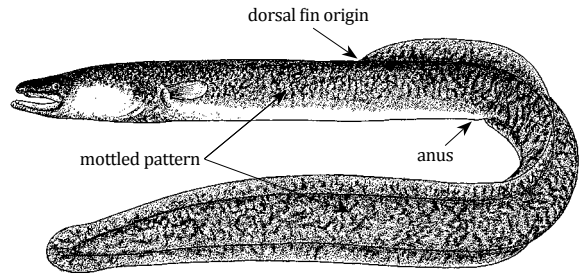
**Habitat:** Lives in freshwaters, but also occurs in estuaries and in the sea during early life and near maturity.

**Fisheries:** Bottom trawls, baited traps.

**Distinctive Characters:** Body elongate, head conical and dorsally flattened; lips thick and prominent; teeth in narrow bands in jaws; distance between verticals through anus and origin of dorsal fin 9.1 to 13.7% TL.

**Colour:** Brown yellowish with mottled pattern.

**Remarks:** Widespread throughout the Indo-Pacific and divisible in two subspecies: *A. bengalensis bengalensis* and *A. bengalensis labiata* occurring in the eastern and western Indian Ocean, respectively.




**Size:** To 200 cm, common 80 cm (TL)

***Anguilla bicolor*** McClelland, 1844

**FAO names:** Indonesian shortfin eel (En)

**Local name(s):** Indo Su To Nga Shint.

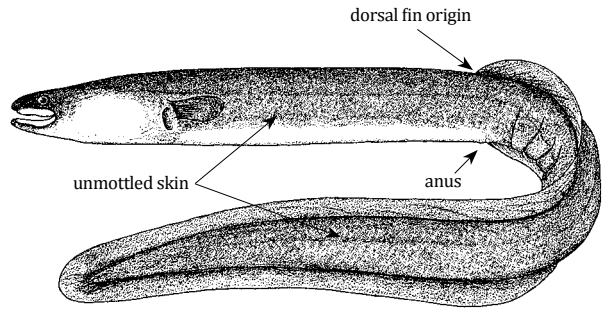
**Habitat:** Lives in fresh water areas as an adult, in estuaries and seas as young.

**Fisheries:** Bottom trawls, baited traps.

**Distinctive Characters:** Similar to *Anguilla bengalensis* but distance between verticals through anus and origin of dorsal fin –3 to 3.9% TL; colour pattern unmottled.

**Colour:** Olive to dark bluish brown dorsally, lighter ventrally from jaw to anus.

**Remarks:** Widespread throughout the Indo-Pacific and divisible in two subspecies: *A. bicolor bicolor* in the Indian Ocean and *A. bicolor pacifica* in the Pacific Ocean and Indonesian seas.




**Size:** To 123 cm, common 65 cm (TL)

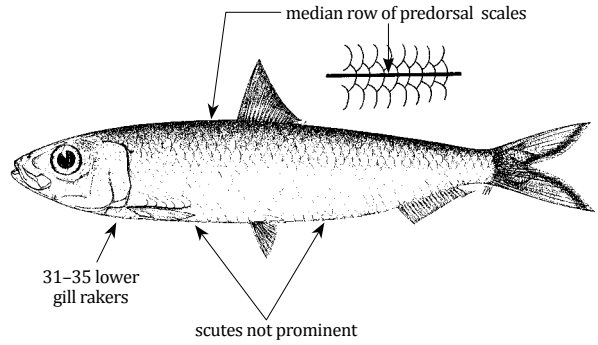
# CLUPEIDAE

Herrings, sardinellas, shads and allies

## *Amblygaster leiogaster* (Valenciennes, 1847)

**FAO names:** Smoothbelly sardinella (En)
Sardinella daniva (Fr)

**Local name(s):** Nga Than Than.
**Habitat:** Coastal, pelagic, schooling.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Body subcylindrical, abdomen rather rounded, prepelvic and postpelvic scutes not prominent; a median series of predorsal scales; 2 fleshy outgrowths on posterior margin of gill opening; opercle smooth, without bony striae; pelvic fin insertion about equal with point between verticals through bases of 1st and 3rd dorsal fin rays.
**Colour:** Blue-green above and silvery below, without spots along flanks; dorsal fin blackish (or dusky when fully extended).

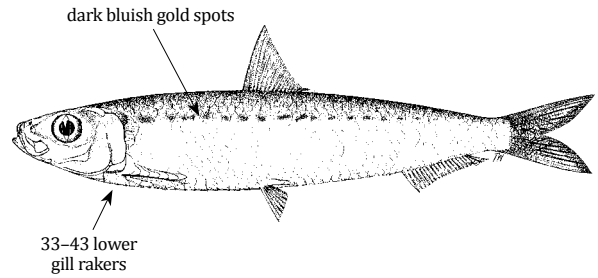



**Size:** To 23 cm, common 18 cm (SL)

## *Amblygaster sirm* (Walbaum, 1792)

**FAO names:** Spotted sardinella (En)
Sardinella tachetee (Fr)

**Local name(s):** Nga Than Than Kyaw Set.
**Habitat:** Coastal, pelagic, schooling. Inhabits coral reef lagoons and adjacent waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Amblygaster leiogaster* but series of 10–20 dark bluish gold spots on flanks; pelvic fin insertion about equal with point between verticals through bases of 6th to 10th dorsal fin rays; 33–43 lower gill rakers.
**Colour:** Dorsum darkly coloured blue-green, flanks silvery; lower head gold, and usually with a lateral series of 10–20 dark bluish gold spots (black in preservation); dorsal and caudal fins dusky yellow and other fins pale.

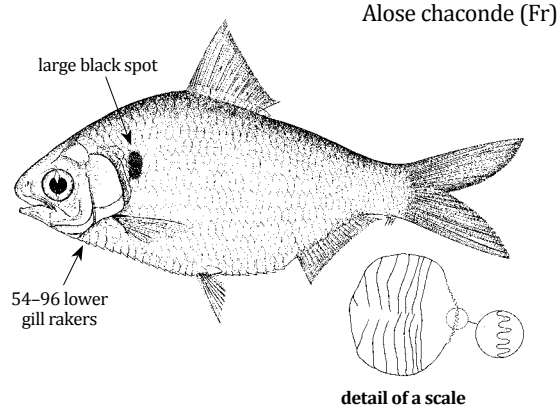



**Size:** To 23 cm, common 20 cm (SL)

## *Anodontostoma chacunda* (Hamilton, 1822)

**FAO names:** Chacunda gizzard shad (En)
Alose chaconde (Fr)

**Local name(s):** Nga Wun Pu.
**Habitat:** Pelagic in inshore waters; also in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Body depth 1.4–2.5 in SL in fishes over 10 cm; last dorsal fin ray not produced; abdomen fully scuted; 2nd supramaxilla splint-shaped; mouth inferior; longest gill rakers on lower part of arch less than corresponding gill filaments; hind edges of scales denticulated, the teeth slightly wider than gaps between them.
**Colour:** Large part of nape yellowish, flanks silvery, fins generally pale, caudal fin yellowish.

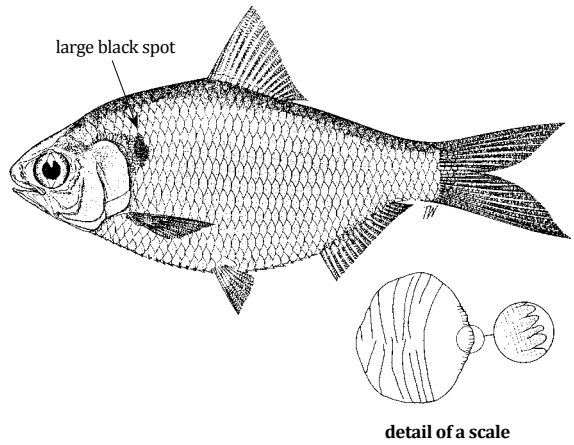



**Size:** To 18 cm, common 14 cm (SL)

## *Anodontostoma thailandiae* Wongratana, 1983

**FAO names:** Thai gizzard shad (En)

**Local name(s):** Thai Nga Wun Pu.
**Habitat:** Marine, pelagic, and inshore, probably entering estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Anodontostoma chacunda* but longest gill rakers on lower part of arch equal to or longer than corresponding gill filaments; hind edges of scales denticulated, with very narrow gaps between them.
**Colour:** A large dark blotch on shoulder posterior to gill opening.




**detail of a scale**

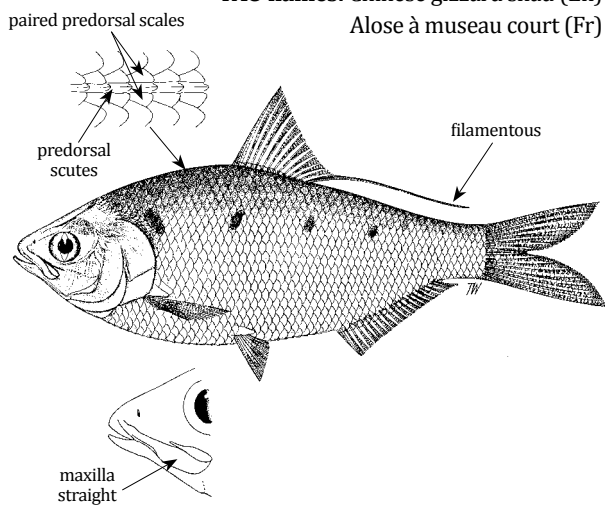
**Size:** To 18 cm, common 10–14 cm (SL)

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## *Clupanodon thrissa* (Linnaeus, 1758)

**FAO names:** Chinese gizzard shad (En)
Alose à museau court (Fr)

**Local name(s):** Nga Par Sharr Kyaw Suu Shae.
**Habitat:** Coastal and in rivers, presumably tolerating brackish water, if not fully fresh conditions.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Body compressed, its depth 2.7–3.0 in SL; mouth subterminal; maxilla straight; predorsal scales paired, but not overlapping in midline; last dorsal fin ray filamentous; abdomen fully scuted, with 17–18 (usually 18) prepelvic and 11–12 postpelvic scutes.
**Colour:** A dark spot behind gill opening, followed by additional spots on flank.
**Remarks:** Recorded at the border with Thailand. Most likely occurring also in Myanmar (at least in the south-eastern part).




**head (lateral view)**

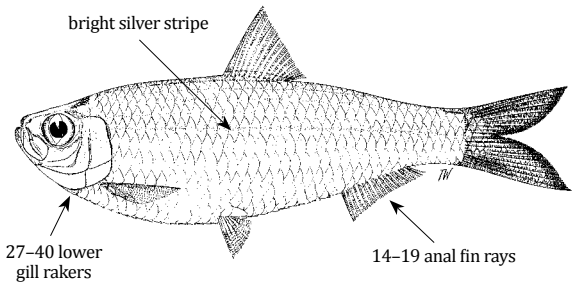
**Size:** To 26 cm (SL)

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## *Escualosa thoracata* (Valenciennes, 1847)

**FAO names:** White sardine (En)
Alose blanche (Fr)

**Local name(s):** Nga Par Sharr A Phyu.
**Habitat:** Coastal, pelagic, schooling species; juveniles apparently entering the lower parts of rivers.
**Fisheries:** Seines, gillnets, bagnet, bottom trawls.
**Distinctive Characters:** Body depth 2.7–3.7 in SL; abdomen with 29 scutes (rarely 28–30); 7 pelvic fin rays; 2nd supramaxilla almost rectangular; opercle smooth; no fleshy outgrowths on posterior margin of gill opening.
**Colour:** Body white to pale grey, inner edges of caudal fin darkish.

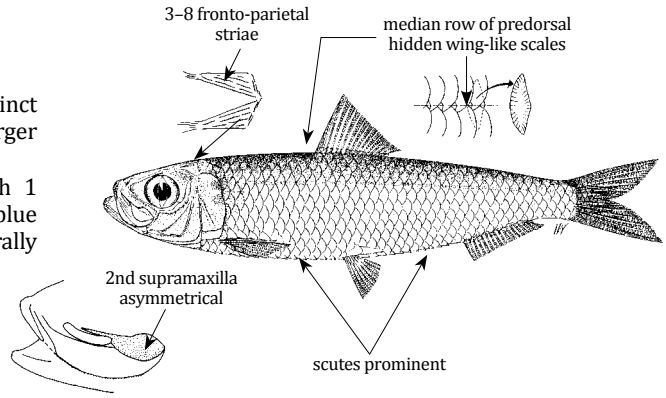



**Size:** To 10 cm, common 8 cm (SL)

## *Herklotsichthys quadrimaculatus* (Rüppell, 1837)

**FAO names:** Bluestripe herring (En)
Hareng à bande bleue (Fr)

**Local name(s):** Nga Par Sharr A Pyar Sin.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Gillnets, seines, bottom trawls.
**Distinctive Characters:** Abdomen with a distinct keel of scutes; lower part of 2nd supramaxilla larger than upper; 30–36 lower gill rakers.
**Colour:** Back blue-green; flanks silvery with 1 or 2 orange spots behind gill opening and a blue midlateral stripe (in life); no black spots laterally on body.



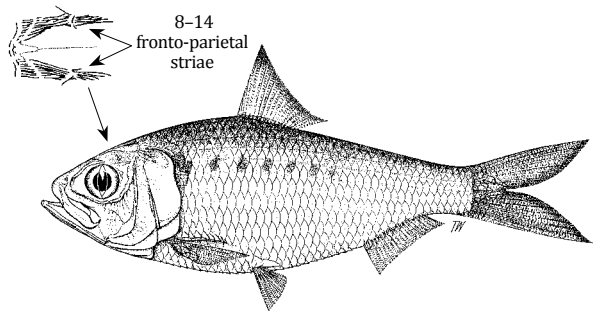

**lateral view of mouth**

**Size:** To 14 cm, common 10 cm (SL)

## *Hilsa kelee* (Cuvier, 1829)

**FAO names:** Kelee shad (En)
Alose palli (Fr)

**Local name(s):** Nga Tha Lauk Yauk Pha.
**Habitat:** Pelagic in coastal waters, enters estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen with 27–31 scutes; mouth terminal; upper jaw with a distinct median notch; gill rakers on inner arches distinctly curled outward; a series of small triangular scales above axil of pectoral fins; hind part of body scales perforated.
**Colour:** Back blue-green, flanks silvery; a black spot behind gill cover, usually followed by up to 10 spots along flank.

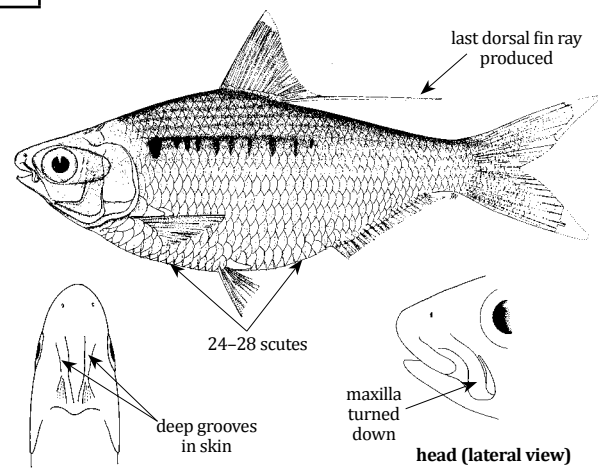



**Size:** To 35 cm (TL), common 16.5 cm (SL)

## *Nematalosa galatheae* Nelson & Rothman, 1973

**FAO names:** Galathea gizzard shad (En)

**Local name(s):** Nga Kyo Nyo Kyaw Su Shae.
**Habitat:** Marine, but may also penetrate and presumably breed in fresh water.
**Fisheries:** Gillnets, seines, bottom trawls.
**Distinctive Characters:** Body compressed, its depth 2.3–2.7 in SL; mouth inferior; maxilla curved downward; pair of grooves in spongy skin on top of head, converging posteriorly; posterior edge of scales not toothed; anterior arm of preoperculum with 3rd infra-orbital bone immediately above it, no fleshy gap between; last dorsal fin ray filamentous.
**Colour:** A dark spot behind gill opening followed by a series of smaller spots along flank



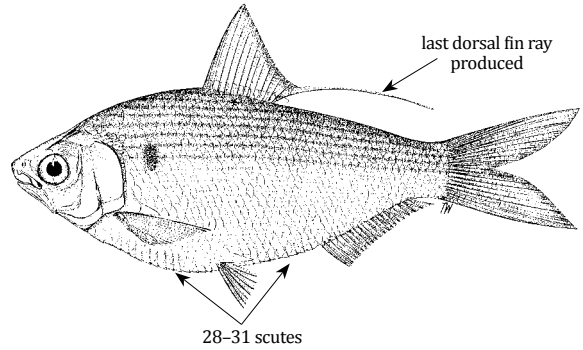

**dorsal view of head** **head (lateral view)**

**Size:** To 16.3 cm (SL)

***Nematalosa nasus*** (Bloch, 1795)

**FAO names:** Bloch's gizzard shad (En)
Chardin gros nez (Fr)

**Local name(s):** Nga Kyo Nyo Nyo Bae Me' Set.
**Habitat:** A pelagic species known from estuaries and coastal areas.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Nematalosa galatheae* but no grooves on top of head; anterior arm of preopercle with third infraorbital bone immediately above it, no fleshy gap between; posterior edge of scales distinctly toothed; more scutes along abdomen; dark spot present behind gill opening not followed by spots along flanks.
**Colour:** Dark bluish dorsally, silvery below; a dark spot behind gill opening.



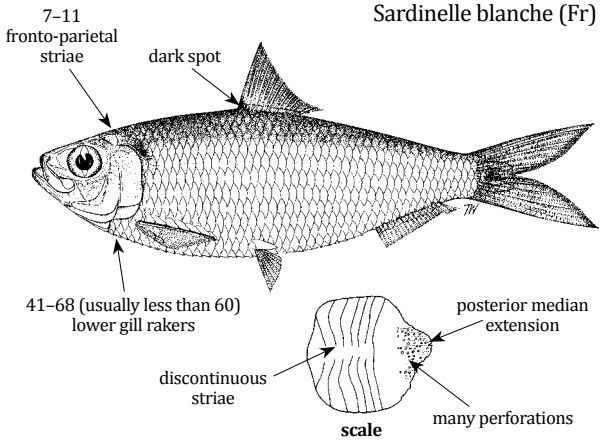

**Size:** To 22 cm (TL), common 13–15 cm (SL)

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***Sardinella albella*** (Valenciennes, 1847)

**FAO names:** White sardinella (En)
Sardinelle blanche (Fr)

**Local name(s):** Nga Kone Nyo A Phyu.
**Habitat:** Pelagic in coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen with a sharp keel of 30–32 scutes; predorsal scales paired and overlapping; 41–68 (usually less than 60) lower gill rakers; scales with somewhat developed posterior median extensions; pelvic fin with 1 unbranched and 7 branched rays.
**Colour:** Dorsum and head blue-green above shading to silvery white below; flanks silvery; no spots on body; a dark spot at dorsal fin origin, otherwise fins pale yellow.



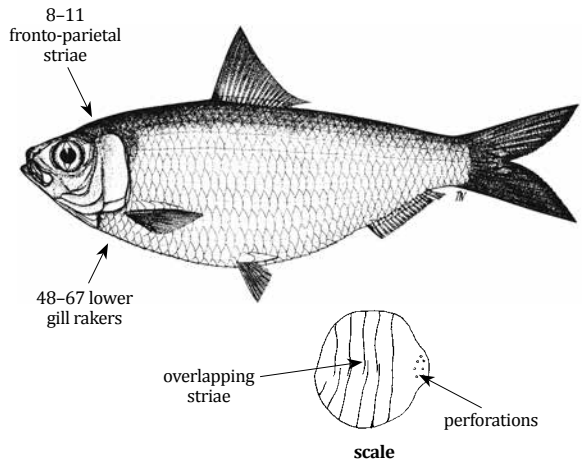

**Size:** To 14 cm, common 10 cm (SL)

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***Sardinella brachysoma*** Bleeker, 1852

**FAO names:** Deepbody sardinella (En)

**Local name(s):** Nga Kone Nyo Wa Toke.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen keeled with 29–32 scutes; predorsal scales paired and overlapping; vertical striae on scales overlapping or sometimes continuous at centre of scale; numerous small perforations on posterior part of scale; pelvic fin with 1 unbranched and 7 branched rays; 48–67 lower gill rakers.
**Colour:** Back blue-green, flanks silvery; a dark spot at dorsal fin origin; no dark markings on dorsal and caudal fins.

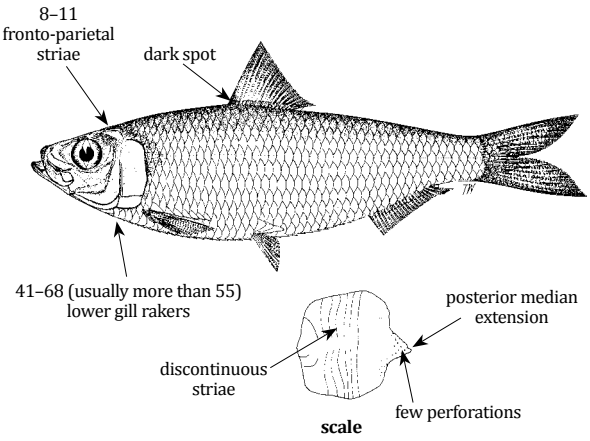



**Size:** To 13 cm, common 12 cm (SL)

## *Sardinella fimbriata* (Valenciennes, 1847)

**FAO names:** Fringescale sardinella (En)

**Local name(s):** Nga Kone Nyo A Gyee Phwar.
**Habitat:** Pelagic in coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen with a sharp keel of 29–33 scutes; predorsal scales paired and overlapping; 54–82 (usually more than 55) lower gill rakers; scales with well-developed posterior median extensions (Indian Ocean populations); pelvic fin with 1 unbranched and 7 branched rays.
**Colour:** Back blue-green, flanks silvery; a dark spot at dorsal fin origin; tips of caudal and dorsal fins blackish.

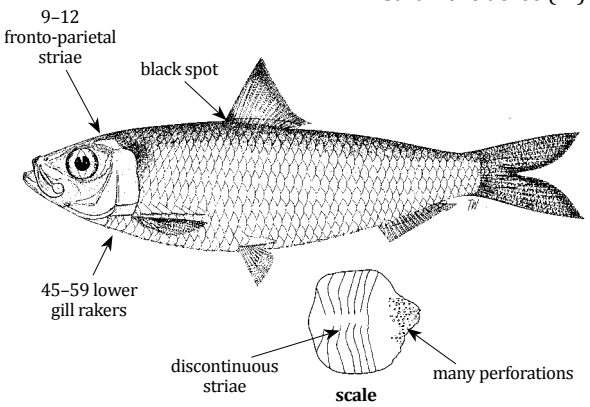



**Size:** To 13 cm, common 11 cm (SL)

## *Sardinella gibbosa* (Bleeker, 1849)

**FAO names:** Goldstripe sardinella (En)
Sardinelle dorée (Fr)

**Local name(s):** Nga Kone Nyo Shwe Zinn.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen with a sharp keel of 32–34 scutes; predorsal scales paired and overlapping; discontinuous striae on body scales; pelvic fin with 1 unbranched and 7 branched rays; 45–59 lower gill rakers.
**Colour:** Back blue-green, flanks silvery; tip of dorsal fin and margin of caudal fin dusky, remainder of caudal faintly yellow, other fins clear; a small black spot at dorsal fin origin.

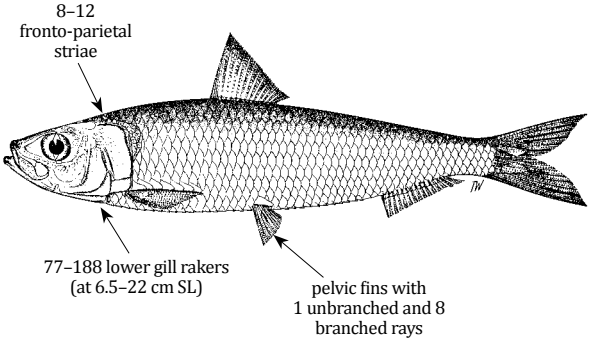



**Size:** To 17 cm, common 15 cm (SL)

## *Sardinella lemuru* Bleeker, 1853

**FAO names:** Bali sardinella (En)

**Local name(s):** Bali Nga Kone Nyo.
**Habitat:** Coastal, pelagic, schooling, strongly migratory.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen keeled with 32–35 scutes; predorsal scales paired and overlapping; pelvic fins with 1 unbranched and 8 branched rays; discontinuous striae on body scales, without small perforations on posterior part of scale.
**Colour:** No dark spot at dorsal fin origin; a faint golden spot behind gill opening, followed by a faint golden midlateral line; also with a distinct black spot at posterior border of gill cover.

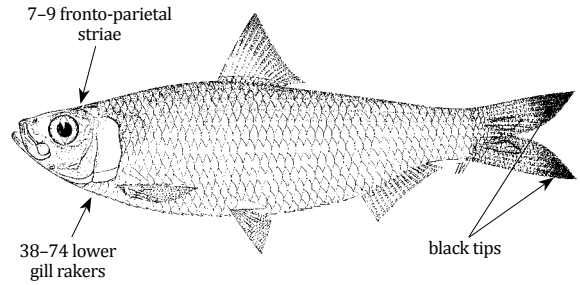



**Size:** To 23 cm, common 20 cm (SL)

## *Sardinella melanura* (Cuvier, 1829)

**FAO names:** Blacktip sardinella (En)
Sardinelle queue noire (Fr)

**Local name(s):** Nga Kone Nyo Hmee Me'.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen with a sharp keel of 27–31 scutes; predorsal scales paired and overlapping; no perforations on posterior part of scales; discontinuous striae on body scales; pelvic fin with 1 unbranched and 7 branched rays; 38–74 lower gill rakers.
**Colour:** Back blue-green, flanks silvery; tips of caudal fin black distinguish this species from all other *Sardinella* species in the area.

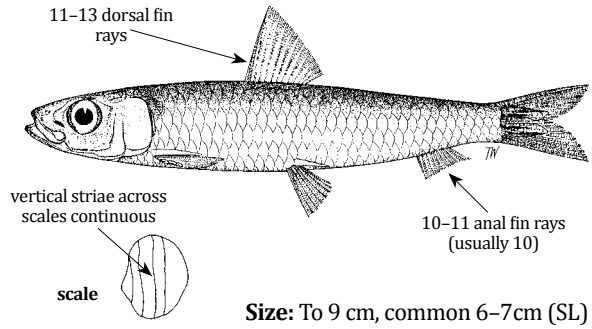



**Size:** To 15 cm, common 10 cm (SL)

## *Spratelloides delicatulus* (Bennett, 1832)

**FAO names:** Delicate round herring (En)
Hareng ronde (Fr)

**Local name(s):** Nga Kone Nyo Lone Thway.
**Habitat:** Pelagic in shallow waters, bottom trawls.
**Fisheries:** Seines, gillnets.
**Distinctive Characters:** No pre-pelvic or post-pelvic scutes, except for a W-shaped pelvic scute; 6–7 branchiostegal; 26–32 lower gill rakers.
**Colour:** No bright silver band along flanks; 2 prominent dark streaks on caudal fin base.

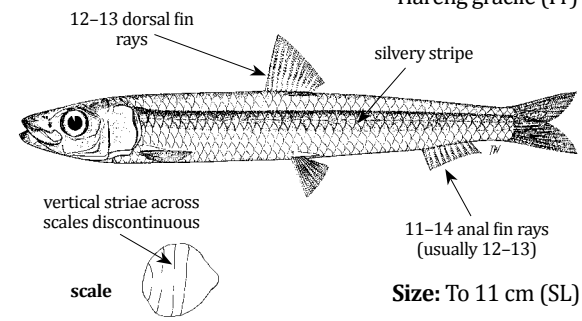



**Size:** To 9 cm, common 6–7cm (SL)

## *Spratelloides gracilis* (Temminck & Schlegel, 1846)

**FAO names:** Silver-stripe round herring (En)
Hareng gracile (Fr)

**Local name(s):** Nga Kone Nyo Ngwe Sinn.
**Habitat:** Pelagic in shallow waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** No pre-pelvic or post-pelvic scutes, except for a W-shaped pelvic scute; usually 7 branchiostegal rays; dorsal fin at about mid-point of body; anal fin very short and far behind dorsal fin base.
**Colour:** Back blue-green, flanks with a distinct silvery stripe.

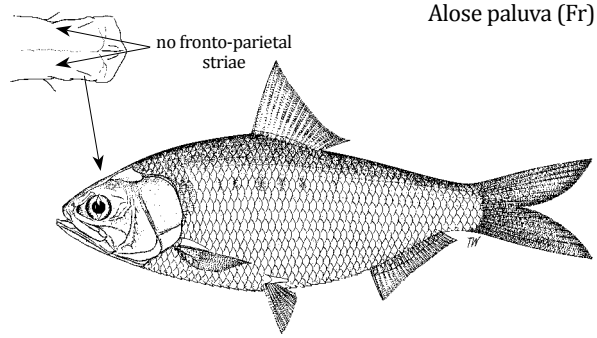



**Size:** To 11 cm (SL)

## *Tenualosa ilisha* (Hamilton, 1822)

**FAO names:** Hilsa shad (En)
Alose paluva (Fr)

**Local name(s):** Nga Tha Lauk.
**Habitat:** Schooling in coastal waters and ascending rivers as much as 1 200 km (usually 50–100 km).
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Head length 3.1–3.6 in SL; mouth terminal; belly with 30–33 scutes; distinct median notch in upper jaw; gill rakers on inner arches straight; scales not perforated; last dorsal fin ray not produced.
**Colour:** Back blue-green, flanks silvery, with a dark blotch behind gill opening, followed by a series of small spots along flanks in juveniles.

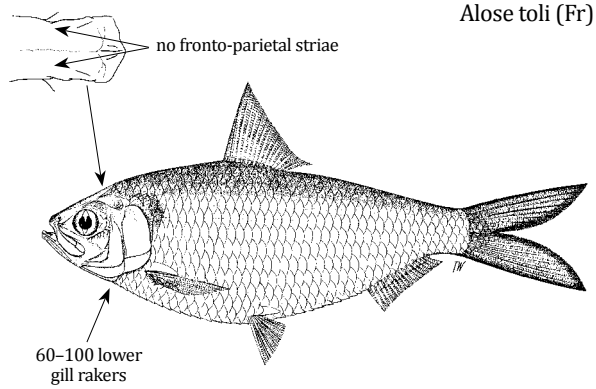



**Size:** To 60 cm, common 35–40 cm (SL)

***Tenualosa toli*** (Valenciennes, 1847)

**FAO names:** Toli shad (En)
Alose toli (Fr)

**Local name(s):** Nga Tha Lauk Yauk Pha.
**Habitat:** Schooling in coastal waters, euryhaline and perhaps anadromous, ascending rivers to breed.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Head length 3.7–4.0 in SL; mouth terminal; belly with 28–30 scutes, distinct median notch in upper jaw, gill rakers on inner arches straight, scales not perforated; last dorsal fin ray not produced.
**Colour:** Back blue-green, flanks silvery, with a dark blotch behind gill opening.



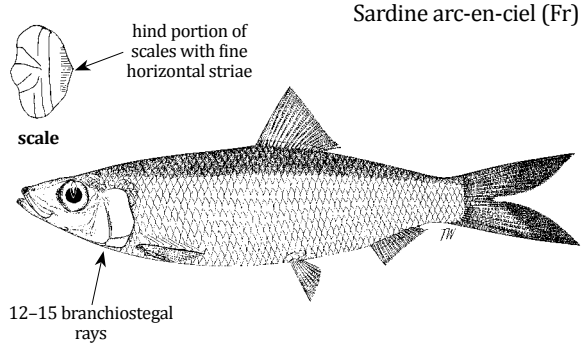

**Size:** To 60 cm, common 40 cm (TL)

## DUSSUMIERIIDAE
Round herrings

***Dussumieria acuta*** Valenciennes, 1847

**FAO names:** Rainbow sardine (En)
Sardine arc-en-ciel (Fr)

**Local name(s):** Thet Tant Nga Kway Nyo.
**Habitat:** Pelagic in inshore waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Body elongate, elliptical, its depth 3.4–4.5 in SL; belly rounded without scutes; dorsal fin origin behind mid-point of body; pelvic fins below dorsal fin base; 19–26 gill rakers on lower limb of 1st arch.
**Colour:** Back iridescent blue with a shiny golden brass line below; flanks silvery; caudal fin with a dark hind margin.

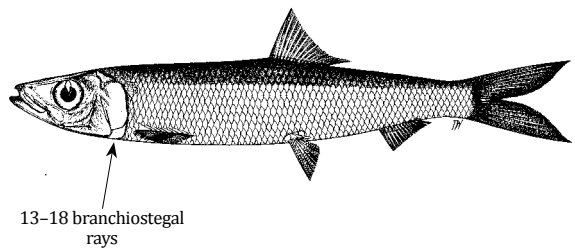



**Size:** To 20 cm, common 10–15 cm (SL)

***Dussumieria elopsoides*** Bleeker, 1849

**FAO names:** Slender rainbow sardine (En)
Sardine arc-en-ciel gracile (Fr)

**Local name(s):** Nga Kyaw Nyo Pein Thaye.
**Habitat:** A Pelagic inshore species.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Body elongate, slender, depth usually 4.5–6.3 in SL; belly rounded without scutes; no striae on posterior part of scales; 21–32 gill rakers on lower limb of 1st arch.
**Colour:** Back iridescent greenish blue with a narrow lateral band of silvery grey below; flanks and abdomen silvery white; upper surface of eye and head emerald-green; snout strongly pigmented; fins pale; caudal fin dusky with dark posterior margin.



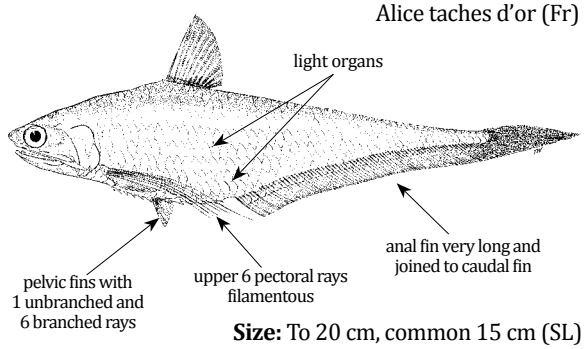

**Size:** To 23 cm, common 20 cm (SL)

# ENGRAULIDAE
Anchovies

## *Coilia dussumieri* (Valenciennes, 1848)

**FAO names:** Goldspotted grenadier anchovy (En)
Alice taches d'or (Fr)

**Local name(s):** Shwe Kwayt Mee Tan Thwe.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Anal fin very long and joined to caudal fin; caudal fin small, pointed (true of all *Coilia* species); belly with 12–15 total scutes; maxilla tip pointed, not quite reaching to edge of gill cover.
**Colour:** Flanks and belly with golden or pearly spots (light organs) in rows below scales also along isthmus, lower jaw, on cheek and gill cover.

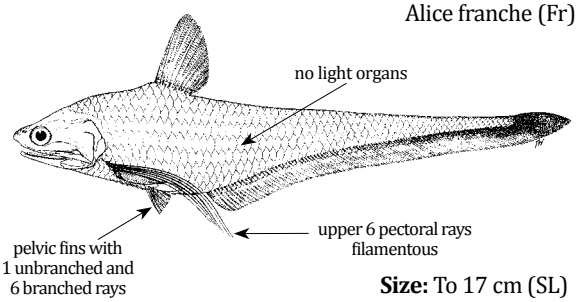



**Size:** To 20 cm, common 15 cm (SL)

## *Coilia neglecta* Whitehead, 1968

**FAO names:** Neglected grenadier anchovy (En)
Alice franche (Fr)

**Local name(s):** U Pet Khar Hmee Tan Thwe.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 12–16 total scutes; maxilla tip pointed, almost or just reaching to edge of gill cover.
**Colour:** Back light brown, flanks silvery, without golden or pearly spots.

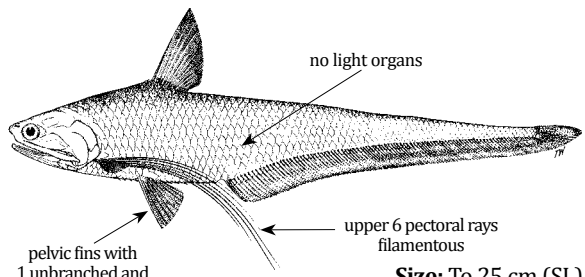



**Size:** To 17 cm (SL)

## *Coilia ramcarati* (Hamilton 1822)

**FAO names:** Ramcarat grenadier anchovy (En)

**Local name(s):** Yan Kha Rat Hmee Tan Thwe.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 15–16 total scutes; maxilla tip pointed, not reaching to edge of gill cover.
**Colour:** Overall golden bronze metallic; fins orange-yellow (dorsal and pelvic with black tips); distal half of anal and caudal fins with black margin.

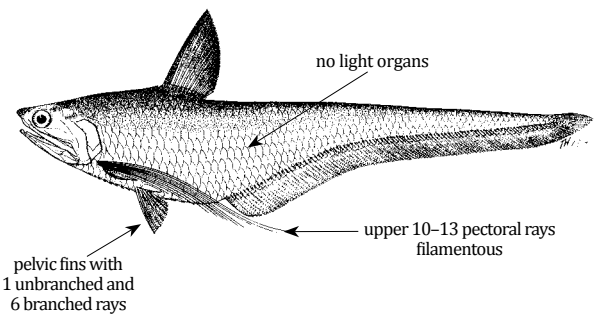



**Size:** To 25 cm (SL)

## *Coilia reynaldi* Valenciennes, 1848

**FAO names:** Reynald's grenadier anchovy (En)

**Local name(s):** Yay Nalt Hmee Tan Thwe.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 13–19 total scutes; maxilla tip pointed, not reaching to edge of gill cover.
**Colour:** Overall light brown, flanks silvery; dorsum with some black pigment; fins white or unpigmented.

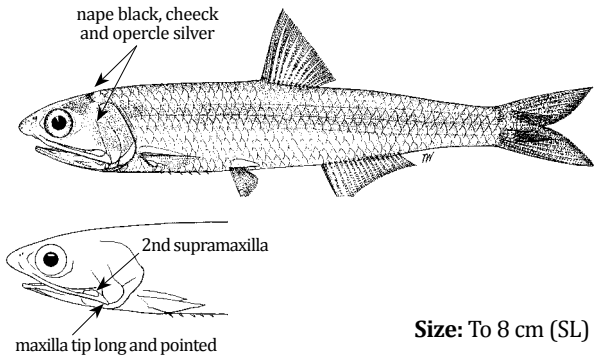



**Size:** To 11.6 cm (SL)

## *Encrasicholina heteroloba* (Rüppell, 1837)

**FAO names:** Devis' anchovy (En)

**Local name(s):** Gaung Toe Nga Ni Tu.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Head length, 3.5–4.0 in SL; abdomen rounded with 3–7 (usually 5) sharp needle-like prepelvic scutes; no postpelvic scutes; maxilla tip pointed, projecting posteriorly beyond 2nd supramaxilla; dorsal and anal fins with 3 unbranched fin rays; 20–26 lower gill rakers.
**Colour:** In life, body milky white, with a silver band on flank, its width subequal to pupil diameter; a narrow blue-black band along silver band dorsally.

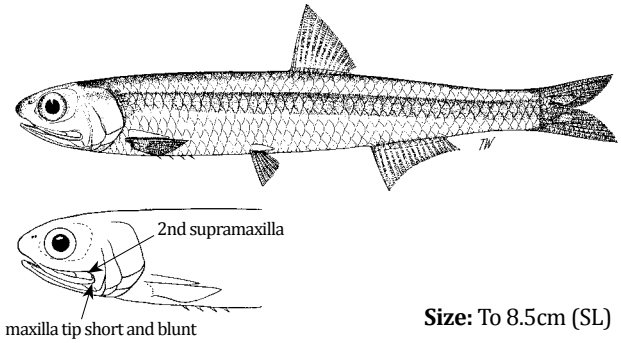



**Size:** To 8 cm (SL)

## *Encrasicholina punctifer* (Fowler, 1938)

**FAO names:** Buccaneer anchovy (En)

**Local name(s):** Nga Ni Tuu Ngwe Zinn.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen rounded, with 3–6 (rarely 2 or 7) sharp needle-like prepelvic scutes; no postpelvic scutes; maxilla tip blunt, scarcely projecting posteriorly beyond 2nd supramaxilla, not reaching to anterior border of preopercle; dorsal and anal fins with 3 unbranched fin rays; 23–26 lower gill rakers.
**Colour:** Body pale cream (when scales lost), with a bright silver lateral stripe along flanks.

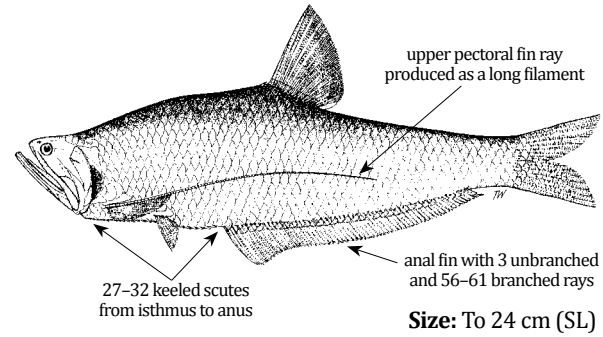



**Size:** To 8.5cm (SL)

## *Setipinna breviceps* (Cantor, 1849)

**FAO names:** Shorthead hairfin anchovy (En)

**Local name(s):** Nga Pa Sharr Zet Lan.
**Habitat:** Marine or estuarine, perhaps also ascending into fresh water.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Lower gill rakers 11–12, without clumped serrae except some enlarged and spiky at either end of each raker; pectoral fins with 1st fin ray produced as a long filament (true of all *Setipinna*) with its tip reaching posteriorly to base of 35th to 41st anal fin ray.
**Colour:** No dark pigment on gill cover or pectoral fin.

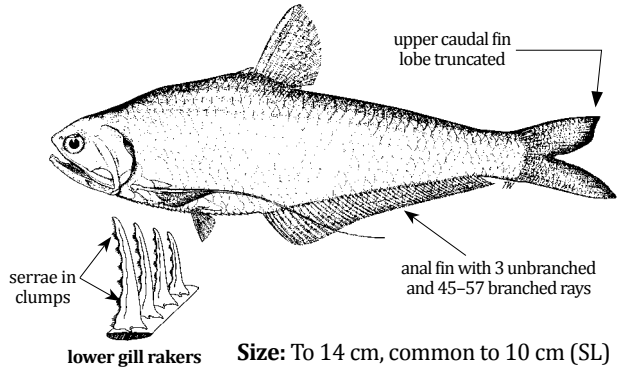



**Size:** To 24 cm (SL)

## *Setipinna taty* (Valenciennes, 1848)

**FAO names:** Scaly hairfin anchovy (En)

**Local name(s):** Nga Pa Sharr Par Hmwe Shay.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Abdomen with 32–40 (mostly 33–39) keeled scutes from isthmus to anus; lower gill rakers 17–21 (mostly 18–20), their serrae distinctly clumped; pectoral fins with 1st fin ray produced as a long filament with its tip reaching posteriorly to base of 23rd to posteriormost anal fin ray.
**Colour:** Dorsum brown or blue, flanks silvery; caudal fin yellowish with black margin.

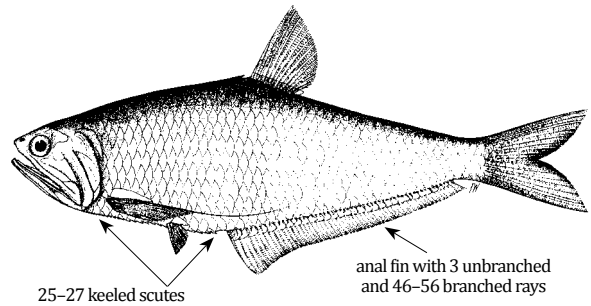



**Size:** To 14 cm, common to 10 cm (SL)

***Setipinna tenuifilis*** (Valenciennes, 1848)

**FAO names:** Common hairfin anchovy (En)

**Local name(s):** Nga Pa Sharr Shwe Gaung.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Lower gill rakers 13–17, their serrae uneven, with slight or sometimes distinct clumps of larger serrae; pectoral fins with 1st fin ray produced as a long filament which reaches posteriorly to base of 1st to 31st anal fin ray.
**Colour:** Head gold, body yellow and stippled above, silver-white below.

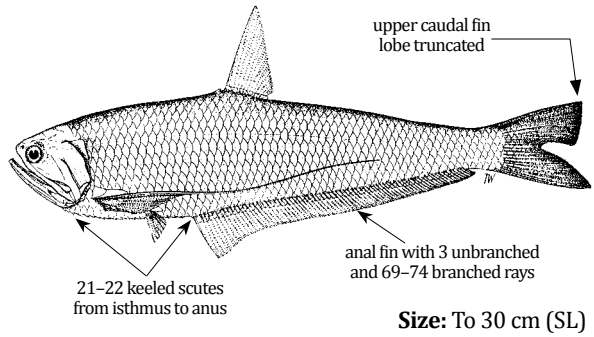



**Size:** To 14 cm, common to 10 cm (SL)

***Setipinna wheeleri*** Wongratana, 1983

**FAO names:** Burma hairfin anchovy (En)

**Local name(s):** Ba Mar Nga Pa Sharr.
**Habitat:** A riverine species, but probably tolerating some salinity in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Lower gill rakers 21–22, their serrae in distinct clumps; pectoral filament long, reaching to base of 45th to 51st anal fin ray; upper caudal fin lobe truncated, shorter than lower.
**Colour:** Dorsum yellowish brown, flanks silvery; dorsal, pelvic and anal fin unpigmented; pectoral fin black, long filaments whitish; caudal fin yellowish with black margin.

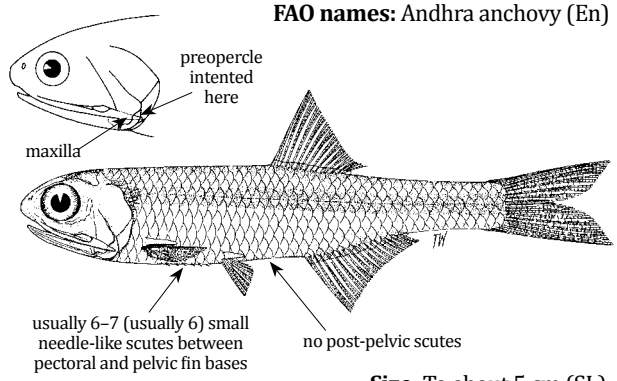



**Size:** To 30 cm (SL)

***Stolephorus andhraensis*** Babu Rao, 1966

**FAO names:** Andhra anchovy (En)

**Local name(s):** Andra Nga Nga Ni Tu Ngwe Zinn.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior border of preopercle concave, indented near maxilla tip; maxilla tip pointed, reaching posteriorly to or beyond posterior border of preopercle; pelvic fin tips reaching beyond dorsal fin origin; 20–21 lower gill rakers.
**Colour:** A silver stripe along flanks; no double pigment line on dorsum posterior to dorsal fin; otherwise no distinctive colour patterns.

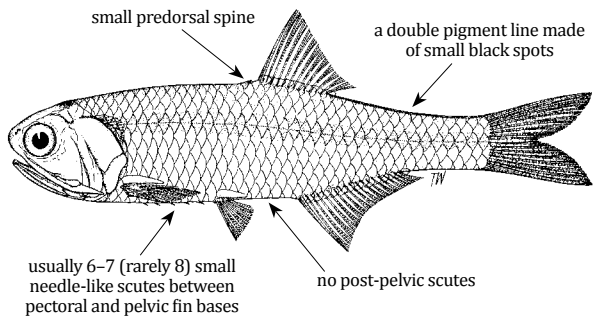



**Size:** To about 5 cm (SL)

***Stolephorus baganensis*** Delsman, 1931

**FAO names:** Bagan anchovy (En)

**Local name(s):** Bagan Nga Par Sharr.
**Habitat:** Inhabits coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior border of preopercle rounded, indented near maxilla tip; maxilla tip pointed, reaching posteriorly to or beyond posterior border of preopercle; a small predorsal spine-like scute and a spine on pelvic scute; 20–23 (rarely 18, 19 or 24) lower gill rakers.
**Colour:** A silver stripe along flanks; a double pigment line on back behind dorsal fin; caudal fin yellowish with upper, lower and posterior margins black.

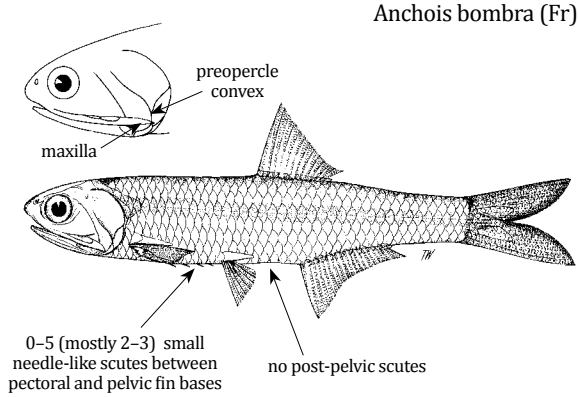



**Size:** To about 6.8 cm (SL)

***Stolephorus commersonnii*** Lacepède, 1803

**FAO names:** Commerson's anchovy (En)
Anchois bombra (Fr)

**Local name(s):** Nga Ni Tu Kyaw Me'.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior border of preopercle convex, rounded; maxilla tip pointed, reaching posteriorly to or slightly beyond posterior border of preopercle; pelvic fin tips reaching beyond dorsal fin origin; 23–28 lower gill rakers.
**Colour:** Body light transparent fleshy brown, with silvery band down flanks; back with 2 pigmented areas behind head; a double pigmented line before dorsal fin origin.



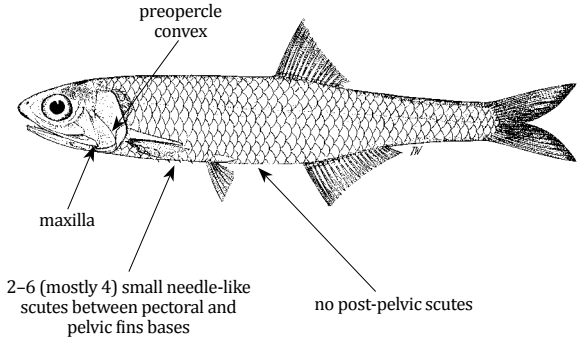

**Size:** To 10 cm, common 8 cm (SL)

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***Stolephorus indicus*** (van Hasselt, 1823)

**FAO names:** Indian anchovy (En)
Anchois indien (Fr)

**Local name(s):** India Nga Ni Tu.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior border of preopercle convex, rounded; maxilla tip short, not reaching anterior border of preopercle; pelvic fin tips not reaching to dorsal fin origin; 20–28 lower gill rakers.
**Colour:** Light transparent fleshy brown, with a silver band down flanks; no dark pigment lines on back between head and dorsal fin origin.



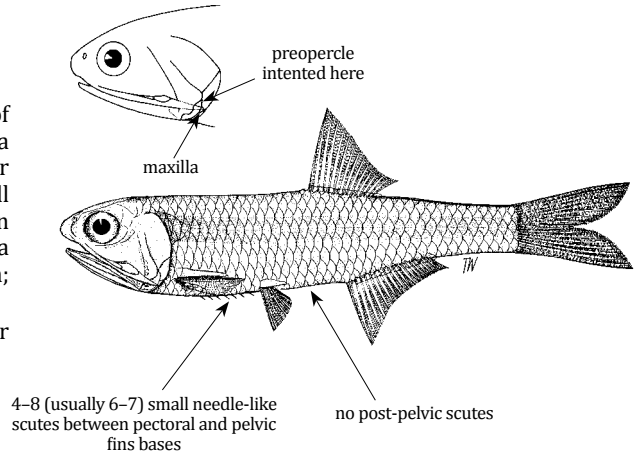

**Size:** To 15.5 cm, common 12 cm (SL)

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***Stolephorus insularis*** Hardenberg, 1933

**FAO names:** Hardenberg's anchovy (En)

**Local name(s):** Nga Ni Tu aung Gyi.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior border of preopercle slightly concave, indented near maxilla tip; maxilla tip pointed, reaching posteriorly to or beyond posterior border of preopercle; a small predorsal spine in some specimens; no spine on pelvic scute; pelvic fin tips reaching posteriorly to a point equal with vertical through dorsal fin origin; 21–28 lower gill rakers.
**Colour:** A double pigment line on dorsum posterior to dorsal fin; tail deep yellow.

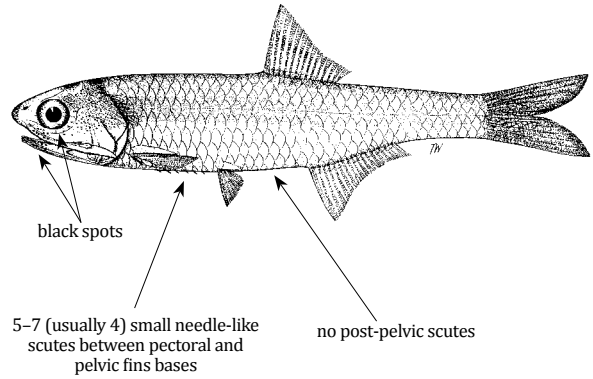



**Size:** To 6.4 cm (SL)

***Stolephorus waitei*** Jordan & Seale, 1926

**FAO names:** Spotty-face anchovy (En)
Anchois joues tachetées (Fr)

**Local name(s):** Nga Ni Tu Parr Set Pyauk.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior border of preopercle almost always convex, rounded; maxilla tip pointed, reaching to posterior border of preopercle; pelvic fin tips only rarely reaching posteriorly to vertical through dorsal fin origin; 19–25 (usually 20–21) lower gill rakers.
**Colour:** Body pale with numerous black spots below level of eye and on tip of lower jaw and underside of snout; a dark patch posterior to occiput.



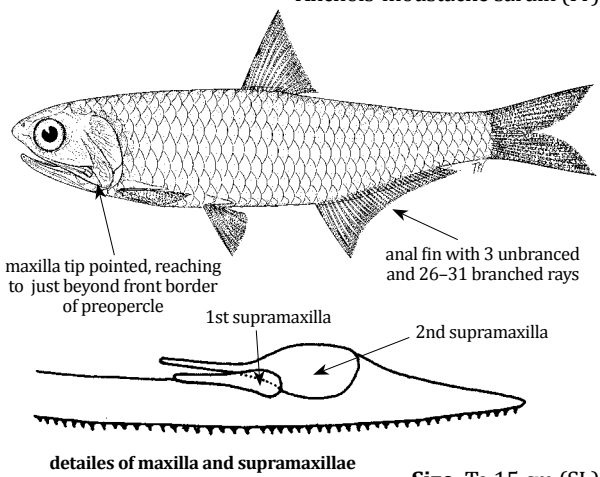

**Size:** To 9.4 cm (SL)

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***Thryssa baelama*** (Forsskål, 1775)

**FAO names:** Baelama anchovy (En)
Anchois-moustache sardin (Fr)

**Local name(s):** Nga Ni Tu Pyar Mae Chun.
**Habitat:** Pelagic in coastal waters and estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 12–18 (usually 14–17) scutes from about below pectoral fin base to anus; usually 18–26 (mostly 20–24) lower gill rakers; 1st and 2nd supramaxillae relatively long; pseudobranch very short, with about 20 filaments.
**Colour:** Dorsum dark blue, brown to olive above, flanks silvery below, with dark patch on shoulder; no silver lateral stripe; head golden.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*. Recorded at the border with Thailand. Most likely occurring also in Myanmar (at least in the south-eastern part).




**detailes of maxilla and supramaxillae**

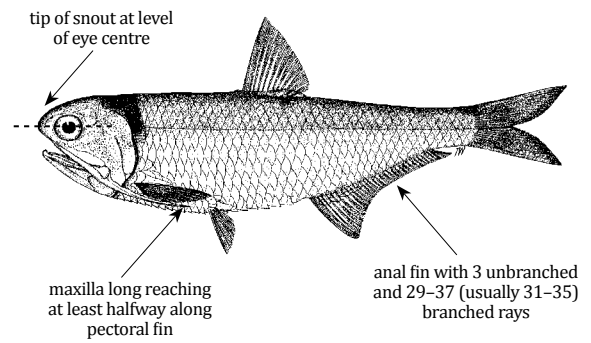
**Size:** To 15 cm (SL)

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***Thryssa dussumieri*** (Valenciennes, 1848)

**FAO names:** Dussumier's thryssa (En)
Anchois-moustache mandeli (Fr)

**Local name(s):** Nga Tha Pyar Par Yoe Shae.
**Habitat:** Pelagic in coastal waters, perhaps also in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 21–24 scutes from isthmus to anus; usually 17–19 lower gill rakers; 1st supra-maxilla absent; pseudobranch hidden under skin.
**Colour:** Dorsum dark, flanks silvery with yellowish tinge; a dark blotch behind upper part of gill opening, sometimes joined to a dark saddle on nape; caudal fin yellowish basally.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.

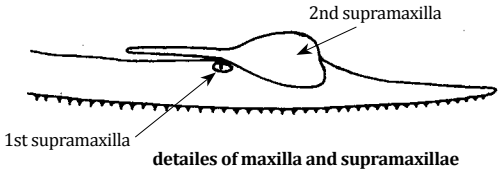



**Size:** To 11 cm (SL)

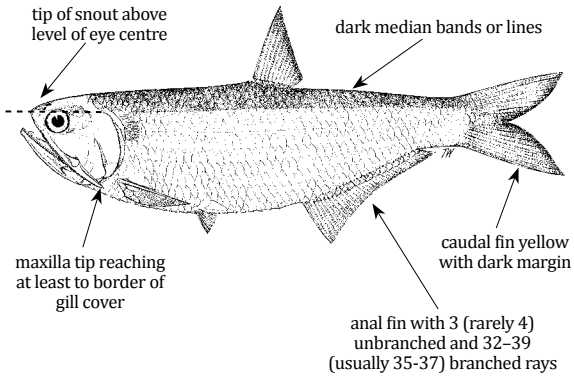
## *Thryssa hamiltonii* (Gray, 1835)

**FAO names:** Hamilton's thryssa (En)
Anchois-moustache mamata (Fr)

**Local name(s):** Nga Tha Pyar Kyaw Me'.
**Habitat:** Pelagic, in coastal waters, perhaps also in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 26–31 scutes from isthmus to anus; usually 12–14 lower gill rakers; 1st supra-maxilla oval, minute; pseudobranch hidden under skin.
**Colour:** A dark blotch of horizontal wavy black lines behind upper part of gill opening.



**detailes of maxilla and supramaxillae**



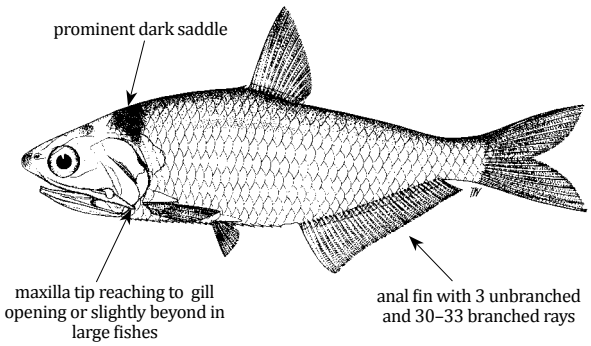

**Size:** To 20 cm, common 17 cm (SL)

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## *Thryssa kammalensis* (Bleeker, 1849)

**FAO names:** Kammal thryssa (En)

**Local name(s):** Nga Tha Pyar Gote Myee Kywet.
**Habitat:** Pelagic in coastal waters, perhaps also in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 23–25 (rarely 22 or 26) scutes from isthmus to anus; 26–32 (usually 29 or more) lower gill rakers; 1st supramaxilla large, about 1/2 as long as 2nd; pseudobranch very short, with only 4 to 10 filaments.
**Colour:** A prominent but diffuse dark saddle on nape; caudal fin dark.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.



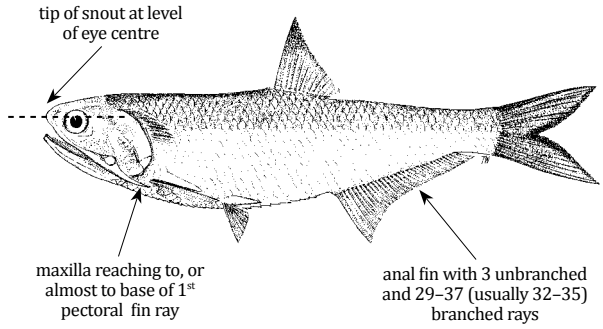

**Size:** To 8.3 cm (SL)

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## *Thryssa mystax* (Bloch & Schneider, 1801)

**FAO names:** Moustached thryssa (En)
Anchois-moustache sardelle (Fr)

**Local name(s):** Nga Tha Pyar Kyaw Tachan Me'.
**Habitat:** Pelagic coastal schooling species, also in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 24–32 scutes from isthmus to anus; 1st supra-maxilla oval, minute; usually 14–16 lower gill rakers; pseudobranch hidden under skin.
**Colour:** A dark blotch of wavy lines behind of gill opening; gill cavity ligth orange in life; dorsal fin tip black, upper, lower and posterior border of caudal fin black.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.

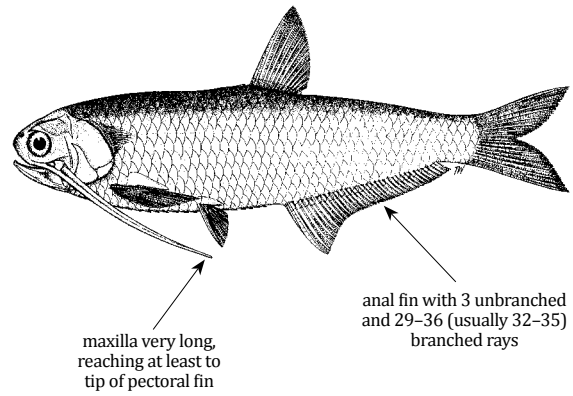



**Size:** To 15.5 cm (SL)

***Thryssa setirostris*** (Broussonet, 1782)

**FAO names:** Longjaw thryssa (En)
Anchois-moustache cornu (Fr)

**Local name(s):** Nga Tha Pyar Myee Yoe Shae.
**Habitat:** Pelagic, in coastal waters, also in estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 25–28 scutes from isthmus to anus; 10–12 lower gill rakers; pseudobranch hidden under skin.
**Colour:** Head with gold tints; anal and caudal fins deep yellow; dark horizontal lines behind upper part of gills.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.



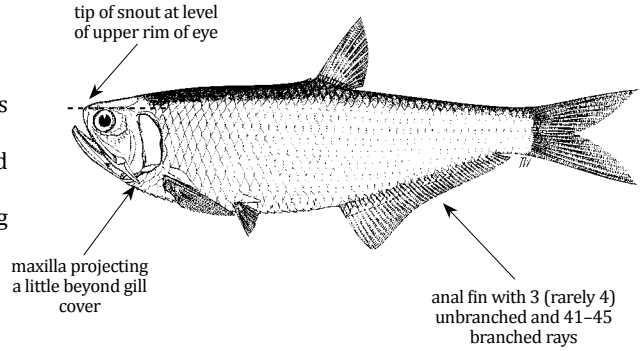

**Size:** To 18 cm (SL)

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***Thryssa spinidens*** (Jordan & Seale, 1925)

**FAO names:** Bengal thryssa (En)

**Local name(s):** Bin Ga Lar Nga Tha Pyar.
**Habitat:** Pelagic, in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 27–29 scutes from isthmus to anus; 13–15 lower gill rakers.
**Colour:** A dark blotch indistinct or absent behind upper part of gill opening; no dark lines on back.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.



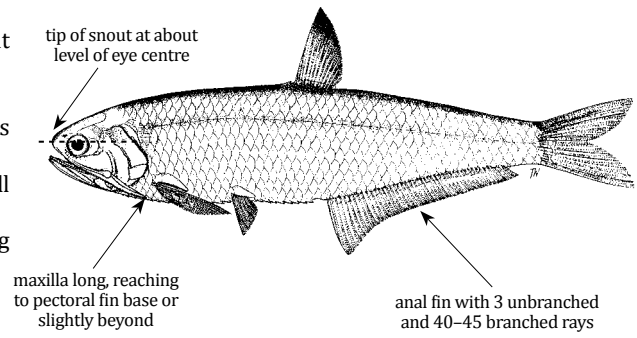

**Size:** To 16.5 cm (SL)

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***Thryssa stenosoma*** Wongratana, 1983

**FAO names:** Slender thryssa (En)

**Local name(s):** Nga Tha Pyar Pain Thway.
**Habitat:** Pelagic, mainly in estuaries, but presumably also in coastal waters.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 26–28 scutes from isthmus to anus; 17–19 lower gill rakers.
**Colour:** No blotch behind upper part of gill openings, a pair of dark lines along back.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.

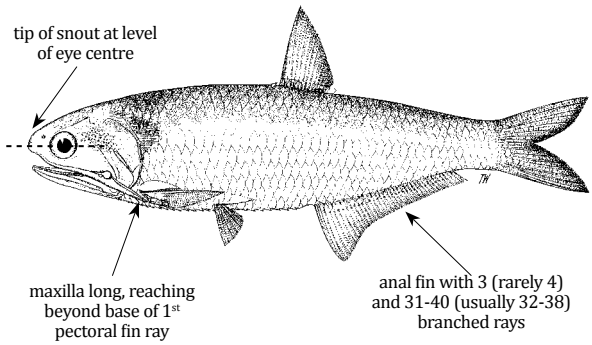



**Size:** To 15 cm (SL)

***Thryssa vitrirostris*** (Gilchrist & Thompson, 1908)

**FAO names:** Orangemouth anchovy (En)
Anchois-moustache cristal (Fr)

**Local name(s):** Lein Maw Pa Sat Nga Tha Pyar.
**Habitat:** Pelagic in inshore areas, enters estuaries and lagoons.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly with 24–30 scutes from isthmus to anus; 1st supra-maxilla minute, oval; 18–24 lower gill rakers.
**Colour:** Back blue-green, flanks silvery; a dark blotch behind upper part of gill opening; inside of gill cavity bright orange.
**Remarks:** Some authors treated correct spelling *Thryssina* instead of *Thryssa*.



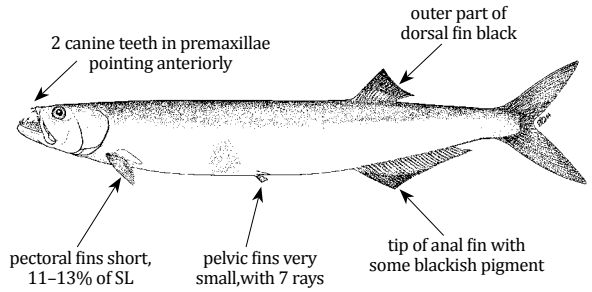

**Size:** To 20 cm (TL)

## CHIROCENTRIDAE
Wolf-herrings

***Chirocentrus dorab*** (Forsskål, 1775)

**FAO names:** Dorab wolf-herring (En)
Chirocentre dorab (Fr)

**Local name(s):** Nga Da Lwe Kyaw Su Me'.
**Habitat:** Pelagic in coastal waters down to 120 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body elongate, strongly compressed; mouth large, directed upward; large canine teeth in jaws; belly sharp, but without scutes; dorsal and anal fin located posterior to vertical through body midpoint; caudal fin forked.
**Colour:** Blue-green with a tinge of violet on back; flanks silvery; tip of dorsal fin and front of anal fin black.

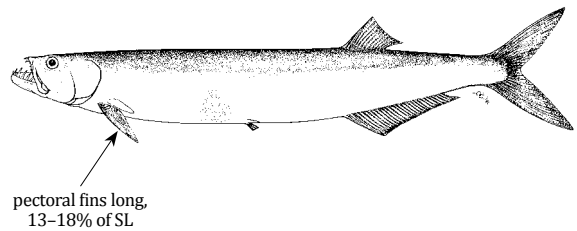



**Size:** To 100 cm, common 30–60cm (SL)

***Chirocentrus nudus*** Swainson, 1839

**FAO names:** Whitefin wolf-herring (En)
Chirocentre sabre (Fr)

**Local name(s):** Nga Da Lwe Kyaw Su Phyu.
**Habitat:** Pelagic in coastal waters down to 150 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Chirocentrus dorab* but pectoral fin longer, 13–18% of SL; dorsal and anal fins entirely white or colourless.
**Colour:** Body blue-green on back; flanks silvery; dorsal and anal fins colourless.




**Size:** To 100 cm, common 30–50 cm (SL)

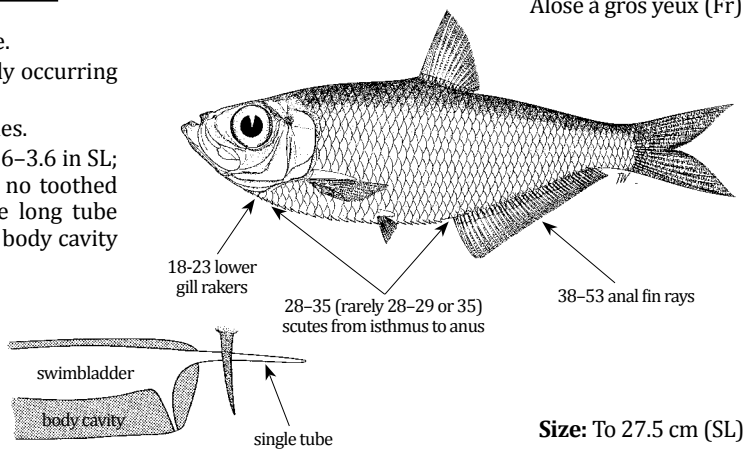
# PRISTIGASTERIDAE

Ilishas, pellonas

## *Ilisha megaloptera* (Swainson, 1839)

**FAO names:** Bigeye ilisha (En)
Alose à gros yeux (Fr)

**Local name(s):** Nga Zin Bya Myet Pyue.
**Habitat:** An inshore species, apparently occurring also in rivers.
**Fisheries:** Gillnets, bottom trawls, seines.
**Distinctive Characters:** Body depth 2.6–3.6 in SL; edge of maxilla without distinct lobe; no toothed hypomaxilla; swimbladder with single long tube passing posteriorly down right side of body cavity above anal fin base.
**Colour:** No distinctive colour pattern.

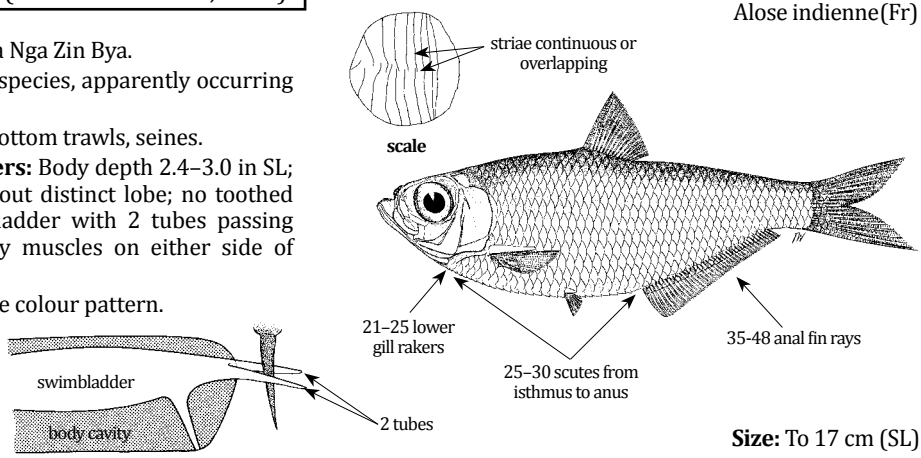



**Size:** To 27.5 cm (SL)

## *Ilisha melastoma* (Bloch & Schneider, 1801)

**FAO names:** Indian ilisha (En)
Alose indienne(Fr)

**Local name(s):** India Nga Zin Bya.
**Habitat:** An inshore species, apparently occurring also in rivers.
**Fisheries:** Gillnets, bottom trawls, seines.
**Distinctive Characters:** Body depth 2.4–3.0 in SL; edge of maxilla without distinct lobe; no toothed hypomaxilla; swimbladder with 2 tubes passing posteriorly into body muscles on either side of haemal spine.
**Colour:** No distinctive colour pattern.

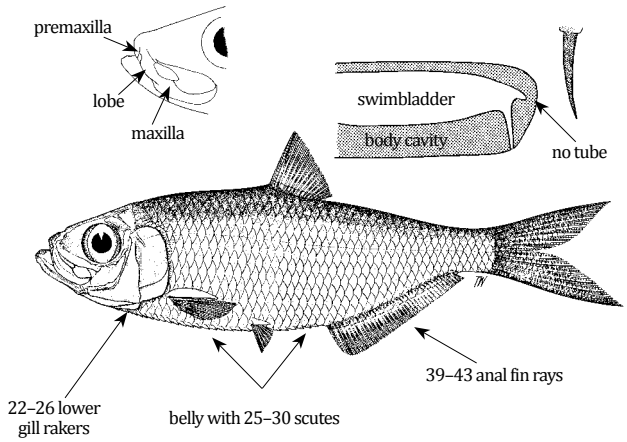



**Size:** To 17 cm (SL)

## *Ilisha sirishai* Seshagiri Rao, 1975

**FAO names:** Lobejaw ilisha (En)

**Local name(s):** Nga Zin Bya Myee Yoe Gyi.
**Habitat:** An inshore species, apparently occurring also in rivers.
**Fisheries:** Gillnets, bottom trawls, seines.
**Distinctive Characters:** Body depth 2.7–3.1 in SL; edge of maxilla with distinct lobe; no toothed hypomaxilla; swimbladder without posterior tube (or tubes) passing posteriorly into body muscles.
**Colour:** No distinctive colour pattern.
**Remarks:** Recorded in the Bay of Bengal and Andaman coast of Thailand. Most likely occurring also in Myanmar (at least in the south-eastern part).

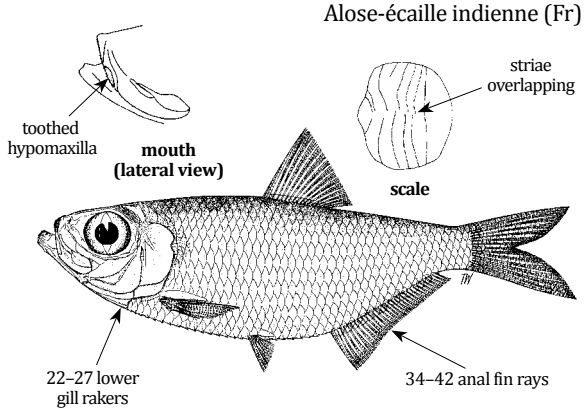



**Size:** To 23 cm (TL)

***Pellona ditchela*** Valenciennes, 1847

**FAO names:** Indian pellona (En)
Alose-écaille indienne (Fr)

**Local name(s):** India Pelona Zin Bya.
**Habitat:** Pelagic in coastal waters, in estuaries, lagoons and rivers.
**Fisheries:** Gillnets, bottom trawls, seines.
**Distinctive Characters:** Belly with 26–28 scutes; toothed hypomaxilla present; scales with upper and lower vertical striae slightly overlapping each other at center of scales; swimbladder without posterior tube (or tubes) passing posteriorly into body muscles.
**Colour:** Head gold, snout and chin dusky; body dusky above, gold on flanks and silvery below.



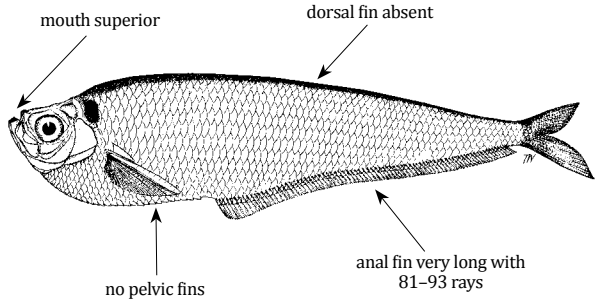

**Size:** To 16 cm, common 13 cm (SL)

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***Raconda russeliana*** Gray, 1831

**FAO names:** Raconda (En)

**Local name(s):** Nga Da La.
**Habitat:** Marine, close to shore, also entering estuaries.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Belly convex in front with 33–38 scutes; dorsal fin absent; no toothed hypomaxilla; 60–68 scales in lateral series; uppermost pectoral fin ray enlarged, bony; pelvic fins absent; anal fin origin well in advance of vertical through midpoint of body; caudal fin small.
**Colour:** A dark spot posterior to gill opening.
**Remarks:** A similar species, *Opisthopterus tardoore* (Cuvier, 1829) with small dorsal fin also occurs in Myanmar.




**Size:** To 19 cm (SL)

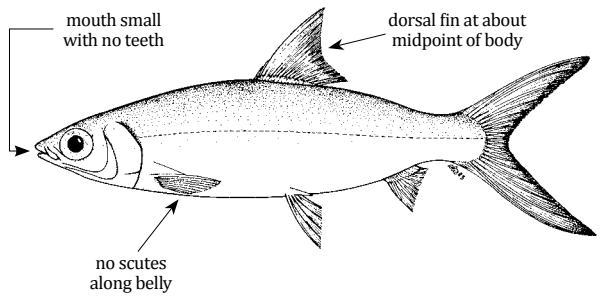
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## CHANIDAE
Milkfish

***Chanos chanos*** (Forsskål, 1775)

**FAO names:** Milkfish (En)
Chano (Fr)

**Local name(s):** Nga Tein.
**Habitat:** Coastal pelagic, entering estuaries, rivers and lakes.
**Fisheries:** Gillnets; important to fisheries for culture in fresh and brackish waters.
**Distinctive Characters:** Lower jaw with a small tubercle at tip; dorsal fin with 13–17 rays; anal fin with 8–11 rays; scales small; lateral line present.
**Colour:** Back olive green, flanks silvery; dorsal, anal and caudal fins with dark margins.



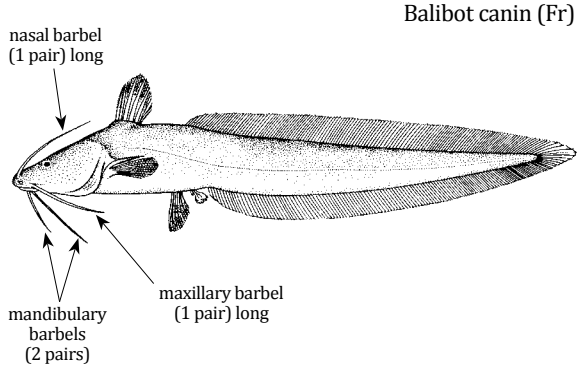

**Size:** To 150 cm, common 70–100 cm (TL)

# PLOTOSIDAE
Eel catfishes

***Plotosus canius*** Hamilton, 1822

**FAO names:** Eel-catfish (En)
Balibot canin (Fr)

**Local name(s):** Pinlae Nga Khu.
**Habitat:** Usually in lagoons and estuaries, and sometimes found in rivers.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Profile straight from tip of snout to dorsal fin origin; anterior nostrils located on end of snout at edge of upper lip; eyes small, 7 to 8.3 in head length; nasal and maxillary barbels long, reaching at least to pectoral fin base; total fin rays in confluent median fins 247 to 281.
**Colour:** Plain dusky brown with a black dorsal fin tip; banded pattern at night.
**Remarks:** First dorsal and pectoral spines are venomous (true of all *Plotosus* species).

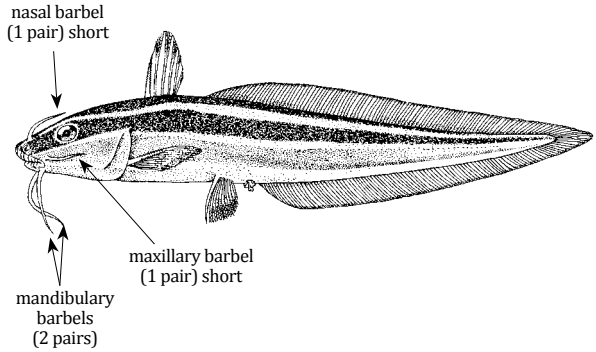



**Size:** To 150 cm, common 80 cm (TL)

***Plotosus lineatus*** (Thunberg, 1787)

**FAO names:** Striped eel catfish (En)
Balibot rayé (Fr)

**Local name(s):** Pinlae Nga Kjee.
**Habitat:** Reefs, estuaries and tidal pools; juvenils in schools.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Profile slightly arched from tip of snout to dorsal fin origin; anterior nostrils located on end of snout at edge of upper lip; eyes moderate to large, 3.8–8.3 in head length; nasal and maxillary barbels short, reaching to, or only slightly past, posterior margin of eye; total fin rays in confluent median fins 139 to 200.
**Colour:** Body usually with 2 or 3 whitish stripes, 2 of which extend onto head; margins of median fins blackish; small juveniles may have a dark belly.



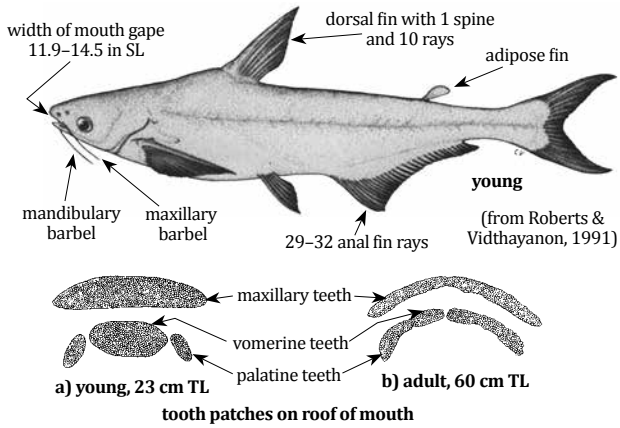

**Size:** To 30 cm (TL)

# PANGASIIDAE
Pangasiid catfishes

***Pangasius myanmar*** Roberts & Vidthayanon, 1991

**FAO names:** Myanmar pangasius (En)

**Local name(s):** Nga Tan.
**Habitat:** Irrawadi River; also in coastal waters.
**Fisheries:** Mostly gillnets.
**Distinctive Characters:** Two pairs of barbels, 1 mandibulary (extending past gill openings ventrally) and 1 maxillary (nearly reaching to or extending beyond pectoral spine origin); eye diameter 5.2–8.7 in SL; vomerine and palatine teeth villiform, contiguous as short oval patches in young, and elongate rectangular patches in adults; vomerine patches more or less separated at the midline in adults; 20–21 gill rakers on 1st arch; 46–47 vertebrae.
**Colour:** Dorsum steel-blue to greenish grey shading to white on flankes and belly; median and paired fins bright red to orange yellowish; maxillary barbels dark, mandibulary barbels pale.



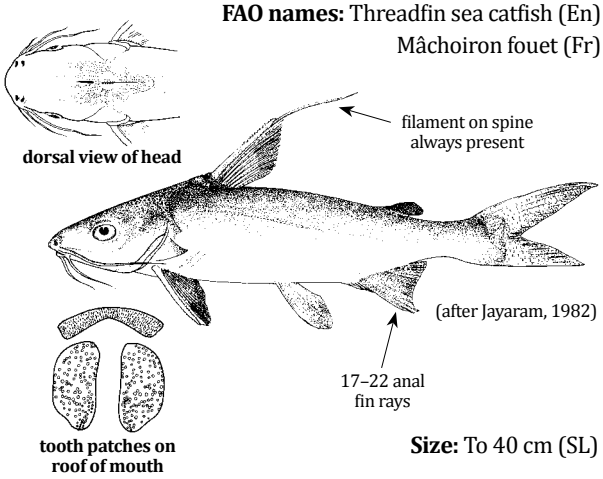

**Size:** To 100 cm (TL)

# ARIIDAE
## Sea catfishes

### *Arius arius* Hamilton, 1822

**FAO names:** Threadfin sea catfish (En)
Mâchoiron fouet (Fr)

**Local name(s):** Nga Yaung Sue Gyi.
**Habitat:** Estuaries and inshore waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded to acute, about twice eye diameter; 3 pairs of barbels; head shield smooth anteriorly, a series of granules and rugae posteriorly; palatine teeth peg-like or molariform, in 2 oval-elliptical patches, 1 on each side, placed forward on palate and usually parallel to each other; 14–17 total gill rakers on 1st gill arch; lateral line bifurcates at tail base.
**Colour:** Body bluish brown above, white below; fins yellow; dorsal and caudal fins with dark margins; adipose fin with large black spot.

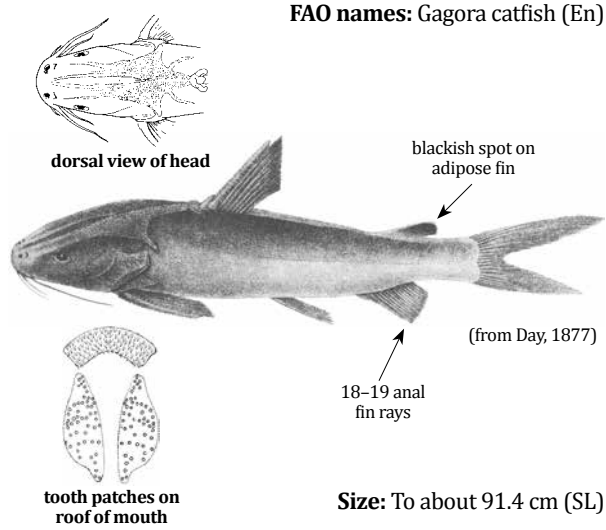



**Size:** To 40 cm (SL)

### *Arius gagora* (Hamilton, 1822)

**FAO names:** Gagora catfish (En)

**Local name(s):** Nga Yaung Hnar Lone.
**Habitat:** Inshore waters, tidal reaches of rivers and fresh waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded, 3 times eye diameter; 3 pairs of barbels; head shield extensive and granular; palatine teeth molariform in 2 oval-oblong patches, 1 on each side, placed well forward on palate and usually parallel to each other, extensive.
**Colour:** Purplish above, white below; fins dusky; adipose fin with blackish spot.

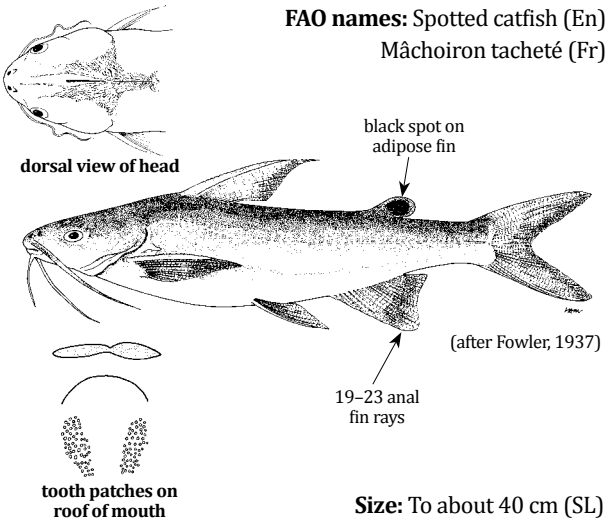



**Size:** To about 91.4 cm (SL)

### *Arius maculatus* (Thunberg, 1792)

**FAO names:** Spotted catfish (En)
Mâchoiron tacheté (Fr)

**Local name(s):** Nga Yaung Baik Kywet.
**Habitat:** Estuaries and inshore waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded; 3 pairs of barbels; head shield and supraoccipital process striate, rugose, and finely granular; palatine teeth peg-like or molariform, in 2 oval patches, 1 on each side, placed well back on palate, their long axes tending to converge posteriorly; 17–21 total gill rakers on 1st gill arch; lateral line bifurcates at tail base; dorsal fin spine with a filament on its tip.
**Colour:** Body bluish brown above, white below; fins yellow, dorsal and caudal fins with dark margins; adipose fin with a large black spot.

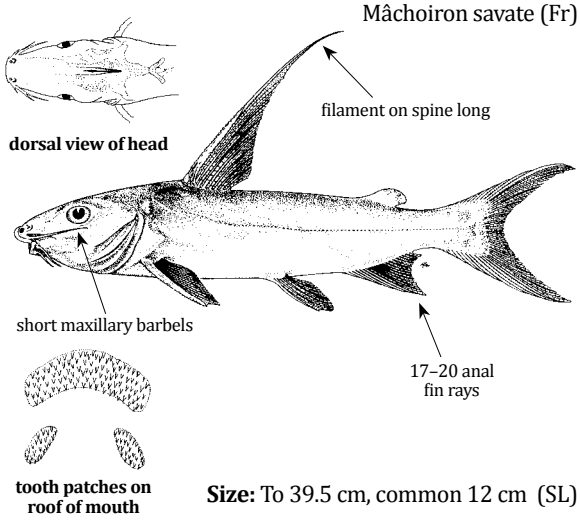



**Size:** To about 40 cm (SL)

## *Arius subrostratus* Valenciennes, 1840

**FAO names:** Shovelnose sea catfish (En)
Mâchoiron savate (Fr)

**Local name(s):** Nga Yaung Hnar Toe.
**Habitat:** Estuaries, tidal rivers and marine waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout long, spatulate; 3 pairs of barbels, the maxillary barbels scarcely reach eye; palatine teeth villiform or peg like, in a single small ovate patch on each side, each patch as long as eye diameter; dorsal fin filament often long.
**Colour:** Silvery blue above, becoming lighter on sides and belly; series of vertical bands on the body; fins edged with grey.
**Remarks:** Recorded at the Andaman Islands and east coast of Thailand. Most likely occurring also in Myanmar.

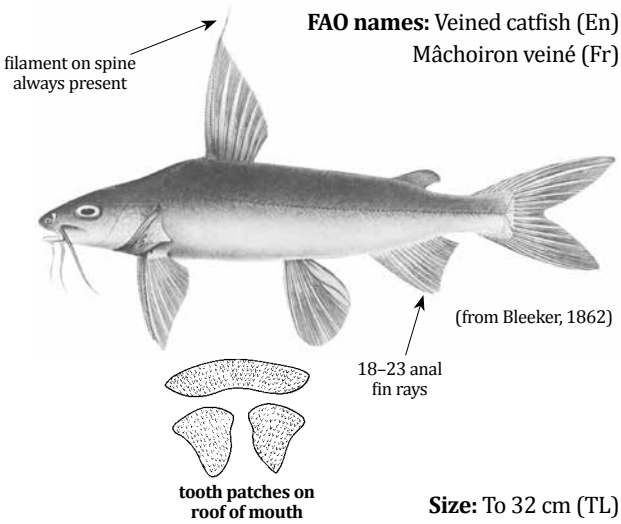



**Size:** To 39.5 cm, common 12 cm (SL)

## *Arius venosus* Valenciennes, 1840

**FAO names:** Veined catfish (En)
Mâchoiron veiné (Fr)

**Local name(s):** Nga Yaung A Kyaw Mar.
**Habitat:** Coastal waters and estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded; 3 pairs of barbels; head shield smooth and venulose to slightly granular; teeth in 1 patch on each side of palate, tooth patches triangular, their base anterior, apex posterior; long axes of patches almost parallel longitudinally on palate, at about 80° to curve of the mouth; palatal teeth conical, slender, and sharp; lateral line bifurcates at tail base; dorsal fin spine with a filament on its tip.
**Colour:** Body reddish brown to bluish green above, white below; fins with grey or brown margins and pectoral and pelvic fins dark above.

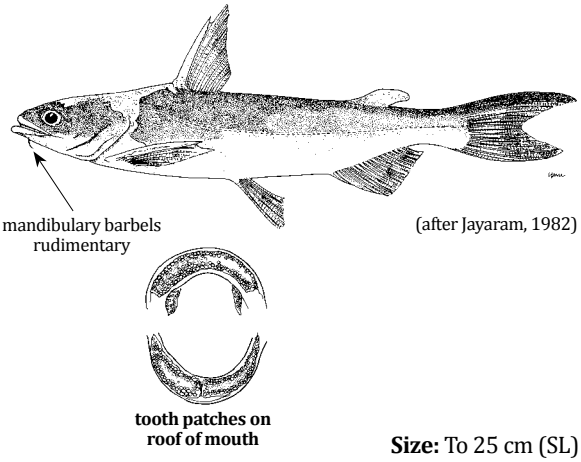



**Size:** To 32 cm (TL)

## *Batrachocephalus mino* (Hamilton, 1822)

**FAO names:** Beardless sea catfish (En)
Mâchoiron imberbe (Fr)

**Local name(s):** Out Hnote Kham Hmway Toe Nga Yaung.
**Habitat:** Marine coastal waters, also in estuaries and tidal rivers.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Mouth gape wide, lower jaw prominent; only mandibulary barbels present; wide band of conical, blunt teeth in both jaws; palatine teeth conical and blunt tipped, in a short longitudinal band on each side of palate, close to jaw teeth; eyes placed well forward; head shield exposed; fin spines strong and flattened, denticulated.
**Colour:** Body dark brown above, white below; fins dusky yellow, upper lobe of caudal fin dark.

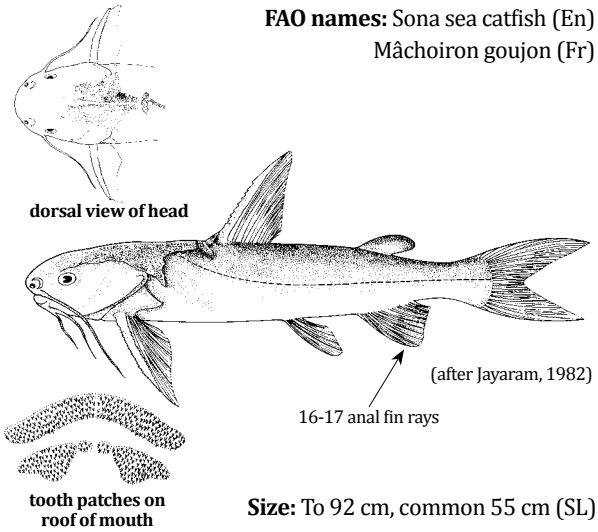



**Size:** To 25 cm (SL)

***Hemiarius sona*** (Hamilton, 1822)

**FAO names:** Sona sea catfish (En)
Mâchoiron goujon (Fr)

**Local name(s):** Sona Nga Yaung.
**Habitat:** Coastal marine waters and estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Palatine teeth strong and sharp, in 2 patches placed side by side, the middle patch much smaller than the outer triangular patches; head shield and dorsal fin spine strong, granulated.
**Colour:** Brownish above, dashed with gold on sides, dull white below; outer adipose, caudal and anal fins bluish black.

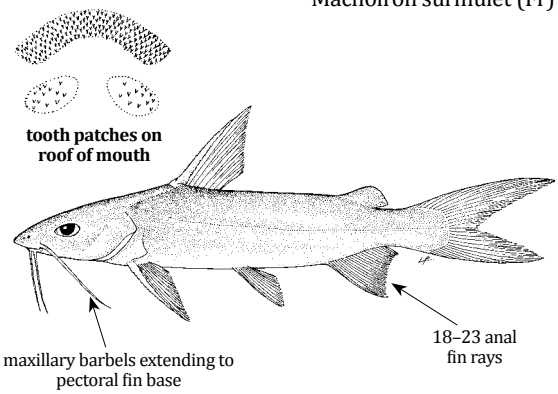



**Size:** To 92 cm, common 55 cm (SL)

***Hemiarius sumatranus*** (Anonymous [Bennett], 1830)

**FAO names:** Goat catfish (En)
Mâchoiron surmulet (Fr)

**Local name(s):** Seik Nga Yaung.
**Habitat:** Marine coastal waters, also in estuaries and tidal rivers.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Palatine teeth slender and sharp, in a single ovate or triangular patch on each side; head shield smooth to slightly granular; dorsal and pectoral fin spines denticulate along hind edges.
**Colour:** Dark brown, reddish, or bluish green above, lighter on sides and belly; fins grey-edged; pectoral and pelvic fins dark above.

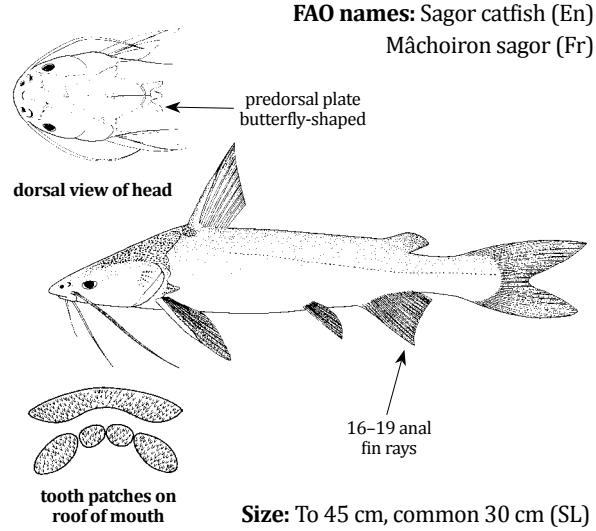



**Size:** To 32 cm , common 12 cm (SL)

***Hexanematichthys sagor*** (Hamilton, 1822)

**FAO names:** Sagor catfish (En)
Mâchoiron sagor (Fr)

**Local name(s):** Leik Pyar Gaung Pone Nga Yaung.
**Habitat:** Marine coastal waters, also in estuaries and tidal rivers.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Head shield striate and rugose; 4 oval patches of villiform teeth across front of palate, 2 on each side, inner patches smaller than outer patches; all spines with short filament; barbels flattened and strap-like, maxillary barbels often long.
**Colour:** Body bluish brown above, white below; fins dusky, paired fins with white margin; peritoneum fawn or dark grey.

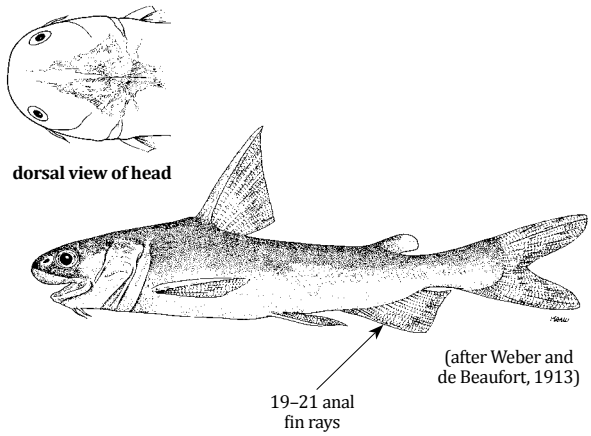



**Size:** To 45 cm, common 30 cm (SL)

***Ketengus typus*** Bleeker, 1846

**FAO names:** Largemouthed catfish (En)

**Local name(s):** Nga Yaung Pa Zat Pyae.
**Habitat:** Nearshore coastal and brackish waters to tidal reaches of rivers.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded; eye situated well forward; mouth inferior, its opening wide, extending behind eye; single series of incisor-like, compressed teeth in each jaw, teeth blunt or with a central tip; no teeth on smooth palate; 3 pairs of barbels, all of them very short, equal to or shorter than eye diameter; 15 gill rakers on 1st gill arch; gill opening restricted, closed across isthmus from level of lower pectoral fin base.
**Colour:** Body dark blue above, white below, iridescent grey on back and sides.
**Remarks:** Presence of this species in Myanmar needs confirmation.

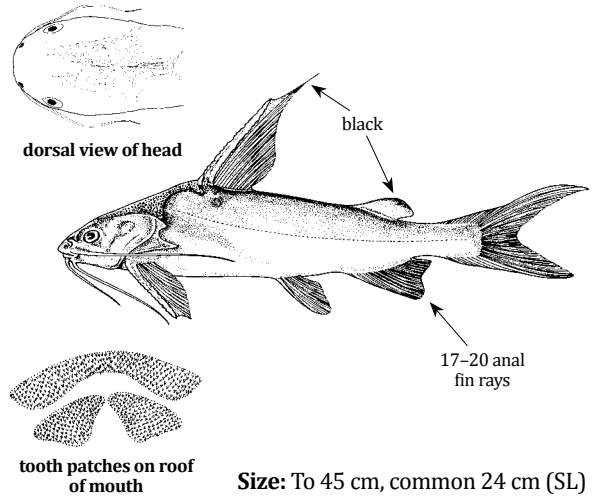



**Size:** To 24 cm (SL)

***Nemapteryx nenga*** (Hamilton, 1822)

**FAO names:** Engraved catfish (En)

**Local name(s):** Nga Yaung Si Phuu Net.
**Habitat:** Mostly marine, enters estuaries and tidal rivers.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Head shield granulated in series; palatine teeth sharp and strong and densely packed in a single small, roughly triangular patch on each side; jaws strong, mouth gape wide; fin spines strong, rugose, serrated, dorsal tipped with filament.
**Colour:** Body bronze above; fins yellow; barbels and fin filaments black.

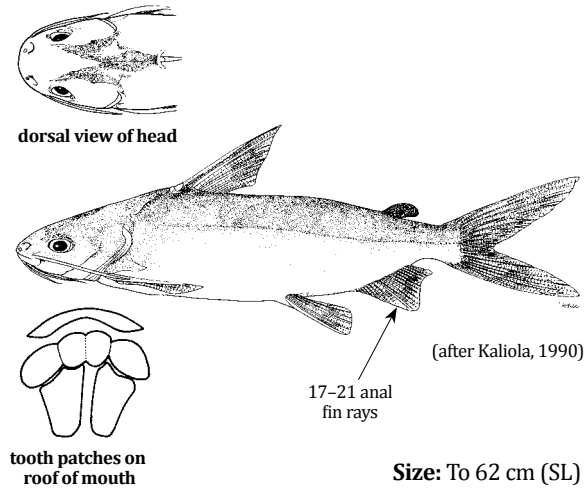



**Size:** To 45 cm, common 24 cm (SL)

***Netuma bilineata*** (Valenciennes, 1840)

**FAO names:** Bronze catfish (En)

**Local name(s):** Kjee Ni Yaung Nga Yaung.
**Habitat:** Coastal marine waters and estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded; mouth subterminal; fine sharp teeth arranged in 3 patches on each side of palate; patches usually forming a large triangle; inner patches fusing in older fish; adipose fin short-based and situated posteriorly; caudal fin lobes slender and tapered.
**Colour:** Body reddish or bluish brown, with bronze iridescence over back and sides; adipose fin dark brown.

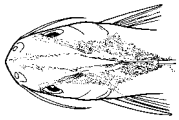


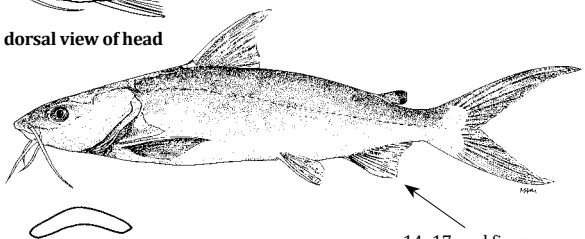

**Size:** To 62 cm (SL)

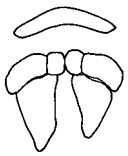
## *Netuma thalassina* (Ruppell, 1837)

**FAO names:** Giant sea catfish (En)
Mâchoiron titan (Fr)

**Local name(s):** Nga Yaung Belu Gyi.
**Habitat:** Coastal marine waters and estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout prominent and somewhat pointed; mouth inferior; fine sharp teeth arranged in 3 patches on each side of palate; patches generally forming a large triangle; inner patches always separated at midline; adipose fin short-based and situated posteriorly; caudal fin lobes slender and distinctly tapered.
**Colour:** Body greyish blue to fawn, back and sides iridescent coppery or golden.


dorsal view of head





tooth patches on roof of mouth

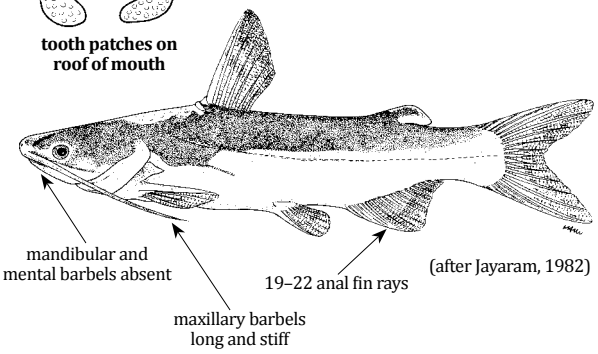
**Size:** To 185 cm, common 70 cm (SL)

## *Osteogeneiosus militaris* (Linnaeus, 1758)

**FAO names:** Soldier catfish (En)
Mâchoiron soldat (Fr)

**Local name(s):** Sit Thar Nga Yaung.
**Habitat:** Lower courses of rivers, coastal-lake systems, and inshore waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Head strongly depressed and head shield smooth; palatine teeth conical with blunt tips, grouped into 2 large, elliptical patches, 1 on each side; no mental nor mandibulary barbels; stiff maxillary barbel reaching at least to pectoral fin base; thin fin spines.
**Colour:** Bluish above, white or cream below; margins of dorsal and adipose fins dark blue.


tooth patches on roof of mouth

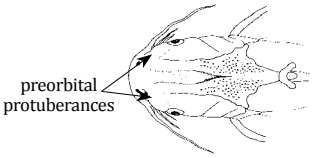



**Size:** To 35 cm , common 23 cm (SL)

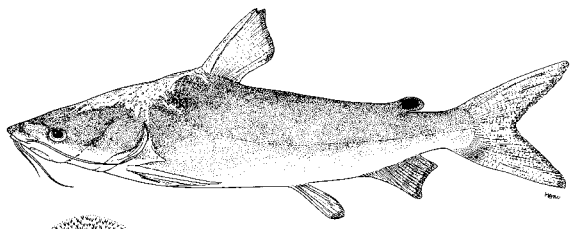
## *Plicofollis dussumieri* (Valenciennes, 1840)

**FAO names:** Blacktip sea catfish (En)

**Local name(s):** Asi Phuu Mae Nga Yaung.
**Habitat:** Purely marine waters down to 100 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Palatine teeth stout and peg-like, in 2 separate patches on each side, placed one behind the other, anterior patches much smaller and ovate; anal fin with 14–18 rays.
**Colour:** Bluish black on dorsal surface and sides, dull white below; fin tips edged with black.



dorsal view of head



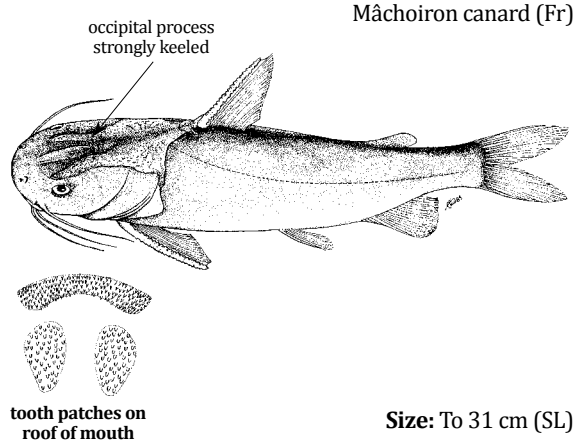

tooth patches on roof of mouth

**Size:** To 62 cm (SL)

***Plicofollis platystomus*** (Day, 1877)

**FAO names:** Flatmouth sea catfish (En)
Mâchoiron canard (Fr)

**Local name(s):** Nga Yaung Gaung Pyar.
**Habitat:** Coastal marine waters and estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Snout rounded, mouth gape wide; palatine teeth conical or peg-like, in a single large oval patch on each side, rather longer than broad; occipital process strongly keeled; 19 anal fin rays.
**Colour:** Bluish black above, lighter below; fins yellowish green; no distinctive markings.



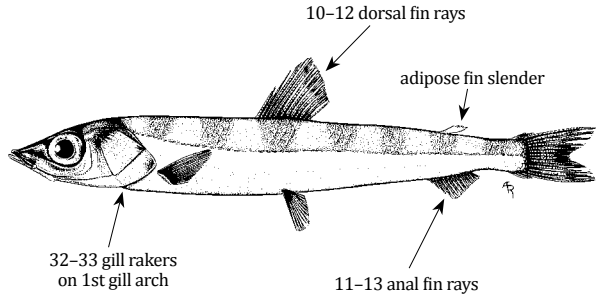

**Size:** To 31 cm (SL)

## ARGENTINIDAE
Argentines

***Glossanodon*** sp. *

**FAO names:** Andaman deep-sea argentine (En)

**Local name(s):** Pin Lei Nga Mywe Doe A Kyarr.
**Habitat:** Depth range 197–257 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body slender, moderately deep; head length (HL) length 3.1–3.3 in SL; eye diameter 3.7–4.0 in HL; small conical teeth on vomer, palatines, lower jaws (6–15 teeth entirely), and tongue (3–7 teeth on tip); no teeth on upper jaws; 19–20 pectoral fin rays; 11–12 pelvic fin rays; 46 vertebrae.
**Colour:** Body whitish with a silver band on sides and some faint dark blotches on dorsum; no longitudinal black stripe on sides; snout and upper jaw blackish; fin bases and caudal fin partly blackish.
**Remarks:** An undescribed species presently being described by Endo *et al*.



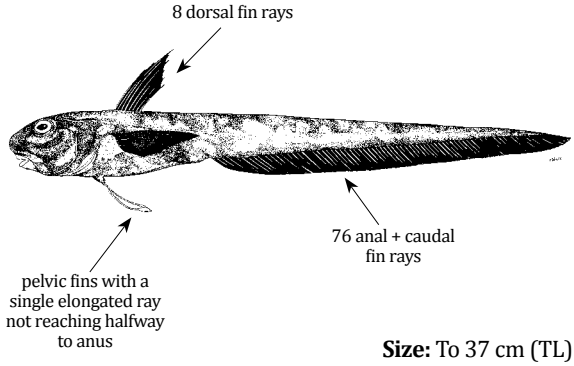

**Size:** To 18.5 cm (SL)

## ATELEOPODIDAE
Jellynose fishes

***Ateleopus indicus*** Alcock, 1891

**FAO names:** Indian jellynose fish (En)

**Local name(s):** Hnar Pyawt Nga.
**Habitat:** Bathydemersal in depths of 344–494 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body soft and flabby; snout broad, depressed, marginally rounded, its length twice the greatest diameter of eye; mouth strongly protractile; maxilla reaching nearly to vertical through middle of eye; narrow band of minute teeth in upper jaw; lower jaw toothless; pelvic fin consisting of one elongated ray not reaching halfway to the anus; 12 pectoral fin rays.
**Colour:** Mottled dark brown to purple-black; fins black, except the ventrals.



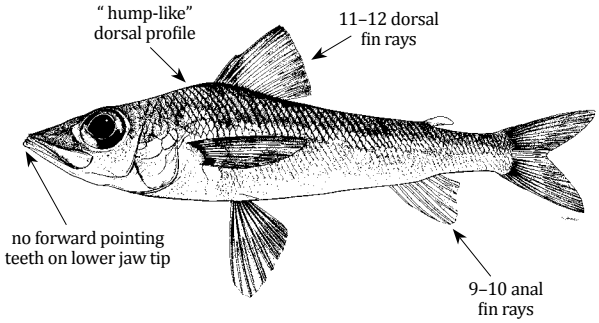

**Size:** To 37 cm (TL)

# CHLOROPHTHALMIDAE
Greeneyes

***Chlorophthalmus acutifrons*** Hiyama, 1940

**FAO names:** Humpback greeneye (En)

**Local name(s):** Myet Lone Sein Nga Kyaw Khone.
**Habitat:** Benthic in deep water between 250–500 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate and compressed; "hump-like" dorsal profile (in large adults); no horizontal forward directed spine-like teeth on lower jaw tip; 18–19 gill rakers on 1st gill arch.
**Colour:** Brown-grey above, pink-white ventrally; sides silvery; oblong dark patches on sides of body; caudal and paired fins darkish; dorsal fin darker distally and basally; anal fin; opercle with a golden blotch in fresh condition.

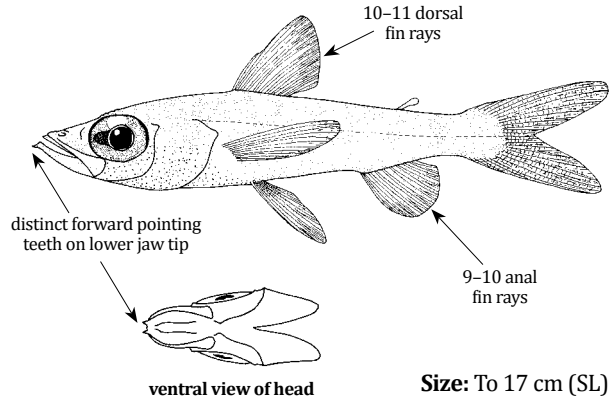



**Size:** To 25 cm (SL)

***Chlorophthalmus corniger*** Alcock, 1894

**FAO names:** Spinyjaw greeneye (En)

**Local name(s):** Myet Lone Sein Mae Chun Nga.
**Habitat:** Benthic in deep water between 265–458 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate and compressed; lower jaw terminating in a distinctly projecting horizontal plate with a pair of strong, forward pointing spine-like teeth; 22–26 gill rakers on 1st gill arch.
**Colour:** Silvery grey with minute black dots, fine oblique lines and traces of broad darker crossbars; opercle dark dorsally; dorsal fin darker distally and basally; caudal and pectoral fin black.



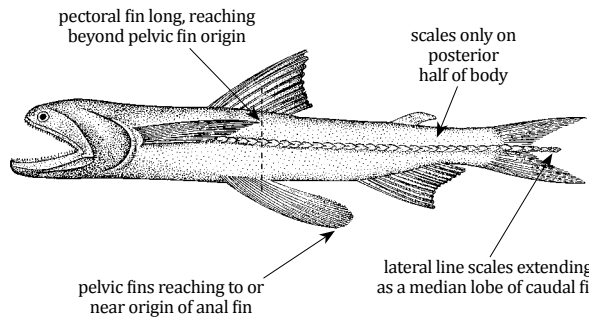

**Size:** To 17 cm (SL)

# SYNODONTIDAE
Lizardfishes

***Harpadon nehereus*** (Hamilton, 1822)

**FAO names:** Bombay duck (En)
Bumalo (Fr)

**Local name(s):** Nga Hnut.
**Habitat:** Benthic in offshore waters, also in deltas of rivers to feed during monsoons.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate and compressed; 9 pelvic fin rays subequal in length (true of all *Harpadon* species); scales present only on posterior half of body; snout rounded; mouth very wide, armed with slender, recurved and depressible teeth of unequal size; vomerine and palatine teeth present; 12–13 dorsal fin rays.
**Colour:** Uniform ligth grey or brownish; semitransparent in appearance; caudal fin darkish distally.

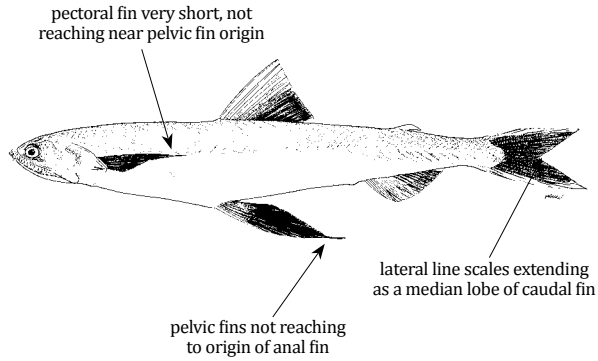



**Size:** To 40 cm, common 25 cm (TL)

***Harpadon*** sp. *

**FAO names:** None (En)

**Local name(s):** Nga Hnut Hnar Chunn.
**Habitat:** Benthic in deeper offshore waters. Caught at 498 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, slender and compressed, its depth 8–10 in SL; snout pointed; nostrils in a single pair; small embedded scales (not visible) over whole of body; 12 dorsal fin rays; mouth very wide, armed with slender recurved and depressible teeth of unequal size; vomerine teeth absent.
**Colour:** Silvery grey, semitransparent in appearance; caudal fin dusky; dorsal and anal fins darkish basally and distally; pelvic fins jet-black.
**Remarks:** Possibly undescribed. This species appears to be close to *Harpadon nudus* Ganga, Thomas & Sukumaran, 2015, recently described from deeper waters of the Arabian Sea. The Myanmar specimen is being presently studied by B.C. Russell.

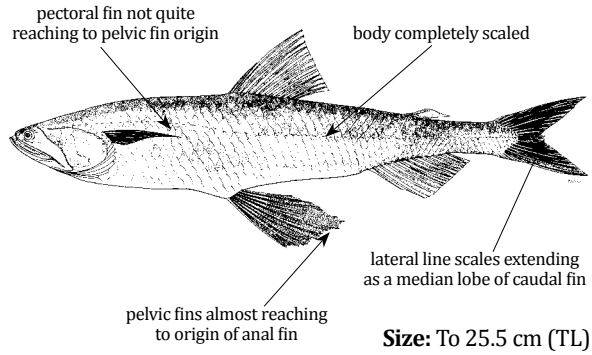



**Size:** To about 29 cm (TL)

***Harpadon squamosus*** Alcock, 1891

**FAO names:** Scaly Bombay duck (En)

**Local name(s):** Nga Hnut Kjee Htuu.
**Habitat:** Benthic in deeper offshore waters between 439–777 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate and compressed, its depth 5.8 in SL; snout rounded; nostrils in 2 pairs; vomerine and palatine teeth present; body completely scaled; 12–14 dorsal fin rays; pelvic fins almost reaching origin of anal fin.
**Colour:** Body greyish with caudal, pectoral and pelvic fins black; peritoneum black.

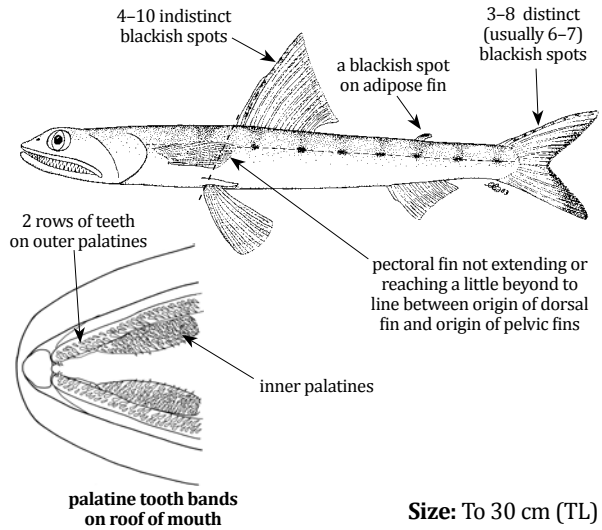



**Size:** To 25.5 cm (TL)

***Saurida lessepsianus*** Russell, Golani & Tikochinski, 2015

**FAO names:** Lessespian lizardfish (En)

**Local name(s):** Nga Pulway Suu Taung Kyarr.
**Habitat:** Muddy bottoms from 20 m to 350 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Cigar-shaped, rounded or slightly compressed; the head pointed and depressed; snout rounded; several rows of teeth visible in both jaws even when mouth is closed; pectoral fin long, its length less than 5.6 in SL; 11–12 dorsal fin rays; 14–15 pectoral fin rays.
**Colour:** Back and sides brown, belly pale or silvery; 8–10 elongate spots often visible along lateral line; pelvic fins and anal fin translucent whitish.
**Remarks:** Previously recorded as *Saurida undosquamis* (Richardson, 1848), but now identified as a distinct species. The latter was recently described from the Red Sea, but appears to be widespread in the Indian Ocean.

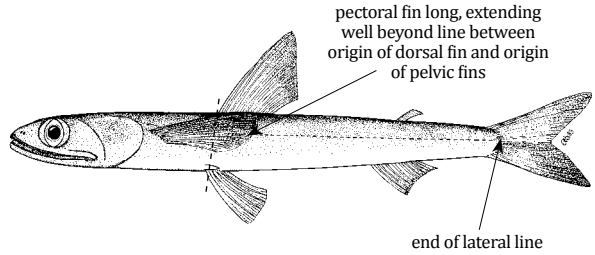



**Size:** To 30 cm (TL)

***Saurida longimanus*** Norman, 1939

**FAO names:** Longfin lizardfish (En)
Anoli aile longue (Fr)

**Local name(s):** Nga Pulway Suu Taung Shae.
**Habitat:** Muddy bottoms from 58–280 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body cylindrical; several rows of teeth visible in both jaws even when mouth is closed; pectoral fin long, its length 4.2–5.6 in SL; 9 pelvic fin rays subequal in length; lateral line extending to caudal fin base (true of all *Saurida* species); 11–12 dorsal fin rays; 14 pectoral fin rays.
**Colour:** Brownish above, silvery white below; upper half of pectoral fin and distal parts of dorsal fin and lower caudal lobe, dusky.
**Remarks:** A *S. longimaus*-like form with shorter pectoral fins was also collected during bottom trawls carried out by the RV *Dr. Fridtjof Nansen* off Myanmar. The specimen is being presently studied by B.C. Russell.



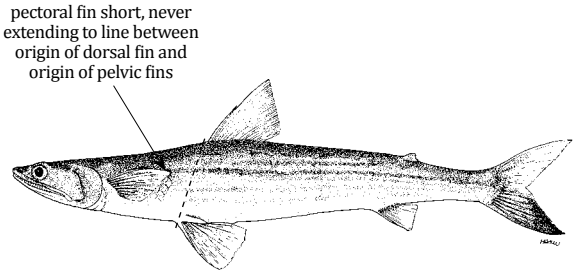

**Size:** To 25 cm (TL)

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***Saurida micropectoralis*** Shindo & Yamada, 1972

**FAO names:** Shortfin lizardfish (En)

**Local name(s):** Nga Pulway Suu Taung To.
**Habitat:** Muddy bottoms from 20 m to 330 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body cylindrical; head and caudal peduncle somewhat depressed; several rows of teeth visible in both jaws even when mouth is closed; pectoral fin short, its length less than 8.7 in SL; 12 (rarely 11–13) dorsal fin rays; 14–15 pectoral fin rays; 3 rows of teeth on outer palatines.
**Colour:** Back and sides brown or coppery brown, belly pale or silvery; distal parts of dorsal, paired fins and particularly caudal fin, dusky; otherwise, no markings.
**Remarks:** This species has previously been misidentified in the Indo-West Pacific as *Saurida tumbil* (Bloch, 1795).



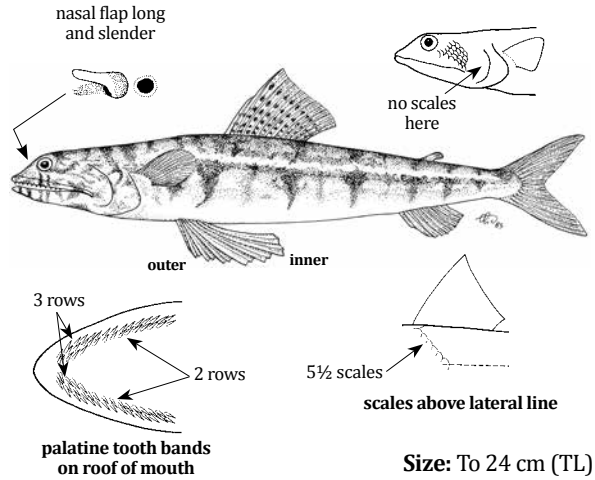

**Size:** To 60 cm (FL)

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***Synodus dermatogenys*** Fowler, 1912

**FAO names:** Banded lizardfish

**Local name(s):** Nga Pulway Ko Gyarr.
**Habitat:** Occurs on sandy bottoms adjacent to rocks or coral in depths of 1 to 91 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Eight pelvic fin rays, inner rays about 2 to 3 times longer than outermost rays (true of all *Synodus* species); anterior palatine teeth longer than more posterior teeth, forming a discrete group; 5½ scales above lateral line; nasal flap on anterior nostrils long and slender; posterior portion of cheeks naked; >62 lateral line scales; pectoral fins not reaching a line connecting origins of dorsal and pelvic fins.
**Colour:** Body brownish above, with 7 irregular darker bars, and a pale mauve band above lateral line.

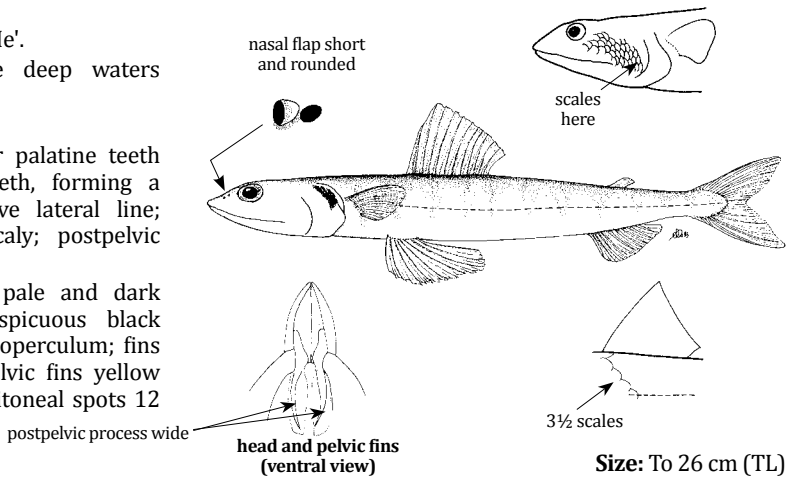



**Size:** To 24 cm (TL)

## *Synodus hoshinonis* Tanaka, 1917

**FAO names:** Blackear lizardfish

**Local name(s):** Nga Pulway Nar Me'.
**Habitat:** Benthic in moderrate deep waters between 60 to 96 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anterior palatine teeth longer than more posterior teeth, forming a discrete group; 3½ scales above lateral line; posterior portion of cheeks scaly; postpelvic process wide.
**Colour:** Body with alternating pale and dark saddle blotches above; a conspicuous black blotch on upper distal corner of operculum; fins pale; branchiostegal rays and pelvic fins yellow sometimes; peritoneum pale; peritoneal spots 12 or 13.

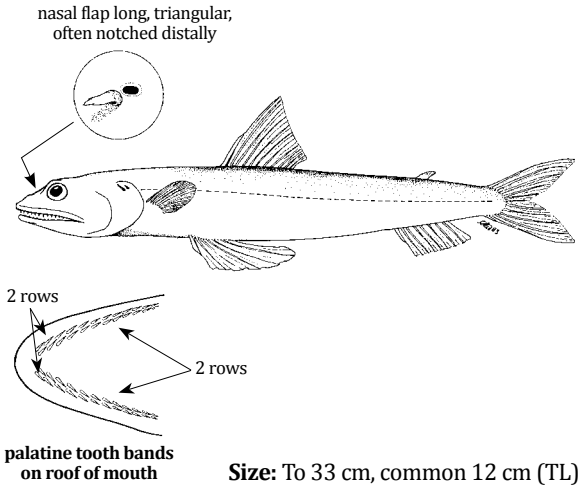



**Size:** To 26 cm (TL)

## *Synodus indicus* (Day, 1873)

**FAO names:** Indian lizardfish (En)
Anoli indien (Fr)

**Local name(s):** India Nga Pulway.
**Habitat:** Coastal waters from 20 m to 100 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anterior palatine teeth not longer than others, not forming a discrete group; 3½ scales above lateral line; posterior portion of cheeks scaly; posterior pelvic process wide.
**Colour:** Body dusky pink above, with pale blue-grey blotches and stripes; two small pigmented spots at dorsoposterior corner of operculum; peritoneum pale; 9–11 peritoneal spots.

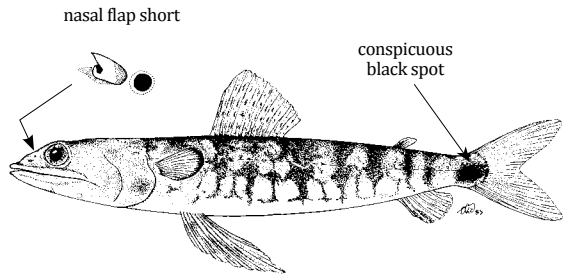



**Size:** To 33 cm, common 12 cm (TL)

## *Synodus jaculum* Russell & Cressey, 1979

**FAO names:** Lighthouse lizardfish (En)
Anoli phare (Fr)

**Local name(s):** Nga Pulway Hmee Me' Set.
**Habitat:** A benthic species, frequently found swimming high above the substrate on mixed sand and coral rubble bottoms in depths of 10 to 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anterior palatine teeth longer than more posterior teeth, forming a discrete group; 5½ scales above lateral line; posterior portion of cheeks naked; postpelvic process wide.
**Colour:** Body with a series of 8 or 9 dark brown, saddle-like bars, widest dorsally; a conspicuous black spot on caudal peduncle; peritoneum pale; peritoneal spots 11 to 13.

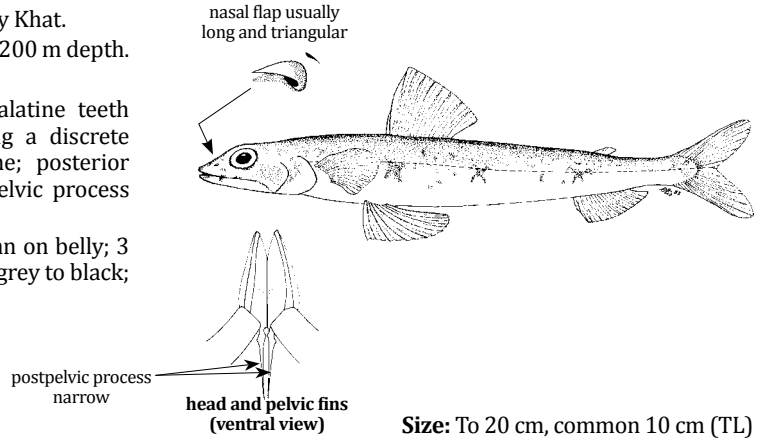



**Size:** To 20 cm (TL)

***Synodus macrops*** Tanaka, 1917

**FAO names:** Triplecross lizardfish (En)
Anoli croix (Fr)

**Local name(s):** Nga Pulway Kyet Chay Khat.
**Habitat:** Coastal waters from 35 m to 200 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anterior palatine teeth not longer than others, not forming a discrete group; 3½ scales above lateral line; posterior portion of cheeks scaly; posterior pelvic process narrow.
**Colour:** Body tan, darker on back than on belly; 3 X-shaped spots on sides; peritoneum grey to black; peritoneal spots 5 or 6.

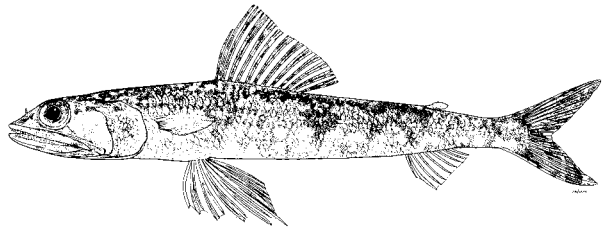



**Size:** To 20 cm, common 10 cm (TL)

***Synodus*** cf. ***randalli*** Cressey, 1981

**FAO names:** Randall's lizardfish (En)

**Local name(s):** Nga Pulway Kywet Kyarr.
**Habitat:** Benthic in depths of 146–250 m.
**Distinctive Characters:** Anterior palatine teeth longer than more posterior teeth, forming a discrete group; nasal flap of anterior nostrils long and triangular; 3½ scales above lateral line; posterior portion of cheeks scaly; posterior pelvic process wide.
**Colour:** A series of reddish brown saddle-like bands; dorsal fin with 3–4 similarly colored bars; a conspicuous spot on the adipose fin; peritoneum pale; 14 peritoneal spots.
**Remarks:** This species, previously known only from the Red Sea, requires further study.

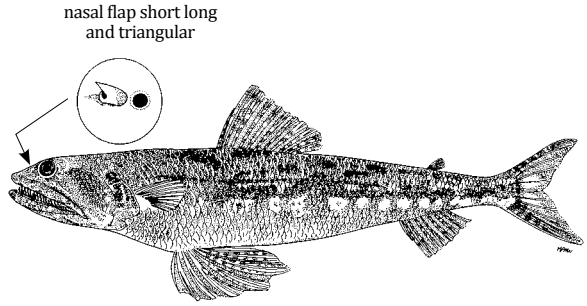


**Size:** To 11.3 cm (SL)

***Synodus variegatus*** (Lacepède, 1803)

**FAO names:** Variegated lizardfish (En)
Anoli bigarré (Fr)

**Local name(s):** Nga Pulway Nyo Gyar.
**Habitat:** A benthic species, frequently found on or close to rock and coral bottoms in depths of 5 to 60 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anterior palatine teeth longer than more posterior teeth, forming a discrete group; 5½ scales above lateral line; posterior portion of cheeks scaly; postpelvic process wide.
**Colour:** Body with a series of 8 or 9 dark brown, saddlelike bars, widest dorsally; peritoneum pale; peritoneal spots 10 to 11.

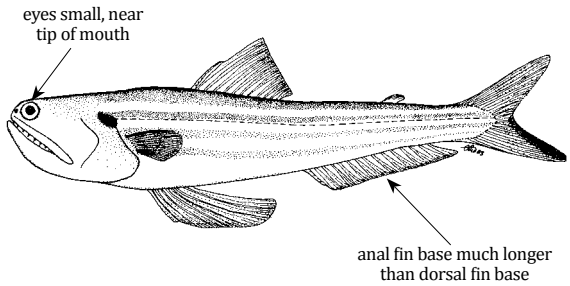



**Size:** To 40 cm (TL)

***Trachinocephalus trachinus*** (Temminck & Schlegel, 1846)

**FAO names:** Bluntnose lizardfish (En)

**Local name(s):** Nga Pulway Hnar Tone.
**Habitat:** Sand, shell, rock or mud bottoms from the shoreline down to 400 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Snout very short; mouth oblique with a single row of teeth on upper jaw visible even when mouth is closed; 13–18 anal fin rays.
**Colour:** A series of longitudinal blue and yellow stripes cover back and sides; belly pale yellow or gold; a large, dark, oblique black spot at upper corner of gill cover.
**Remarks:** Previously recorded as *Trachinocephalus myops* (Forster, 1801).



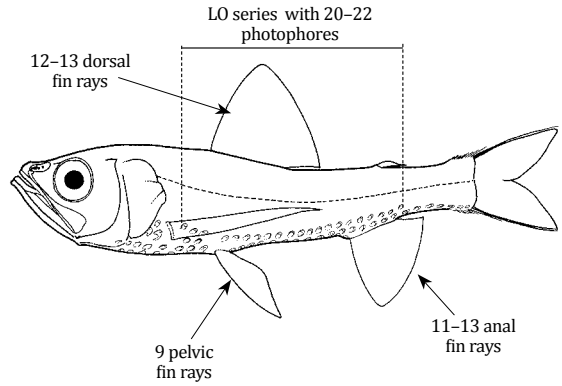

**Size:** To 40 cm, common 20 cm (TL)

## NEOSCOPELIDAE
Blackchins

***Neoscopelus 'microchir'*** Matsubara, 1943

**FAO names:** Shortfin neoscopelid (En)

**Local name(s):** Nga Mee Eain Suu Taung To.
**Habitat:** Benthopelagic; depth range 250–700 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Photophores of lateral series (LO) continuous from pectoral fin base to the end of anal fin base; 14–18 (usually 16) gill rakers on 1st gill arch; 15–16 pectoral fin rays.
**Colour:** Head and sides of body dark red, silvery white below; fins pink.
**Remarks:** Non-Pacific Ocean specimens of *Neoscopelus 'microchir'* most likely belong to a new species. Quotation marks on the specific name indicate its provisional taxonomic position.



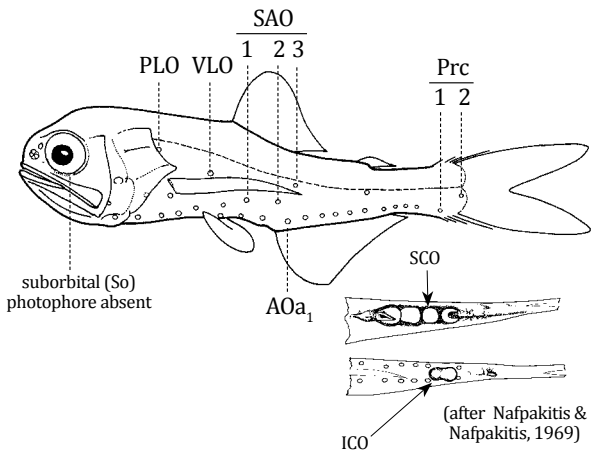

**Size:** To 30.5 cm (SL)

## MYCTOPHIDAE
Lanternfishes

***Benthosema fibulatum*** (Gilbert & Cramer, 1897)

**FAO names:** Spinycheek lanternfish (En)

**Local name(s):** Nga Mee Eain Suu Me'.
**Habitat:** Benthopelagic and mesopelagic in slope waters and oceanic waters, but usually not high oceanic.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** $Prc_2$ much higher than $Prc_1$, at or less than its diameter below lateral line; So photophore absent; $SAO_3$ on or behind vertical through $AOa_1$; 1st gill arch with 21–24 (rarely 19) total gill rakers; $SAO_1$ well below line connecting VLO and $SAO_2$; PLO closer to lateral line than base of pectoral fins; both SCO and ICO well developed and present in males and females over 3 cm long.
**Colour:** Silvery with metallic green or blue scales; body photophores yellow.

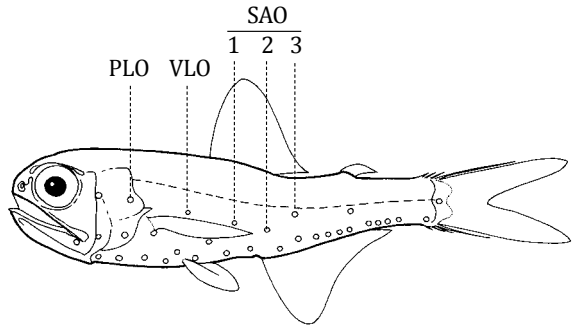



**Size:** To 9 cm (SL)

***Benthosema pterotum*** (Alcock, 1890)

**FAO names:** Skinnycheek lanternfish (En)

**Local name(s):** Nga Mee Eain Parr A Yay Htuu.
**Habitat:** Benthopelagic and mesopelagic in continental and insular slope waters; one of the shallowest dwelling species in the family, with day captures as shallow as 100 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Similar to *Benthosema fibulatum* but $SAO_1$ on line connecting VLO and $SAO_2$; PLO midway between lateral line and upper pectoral fin base or lower; caudal luminous organs poorly developed, SCO in males, ICO in females, or absent.
**Colour:** Silvery with metallic green or blue scales.

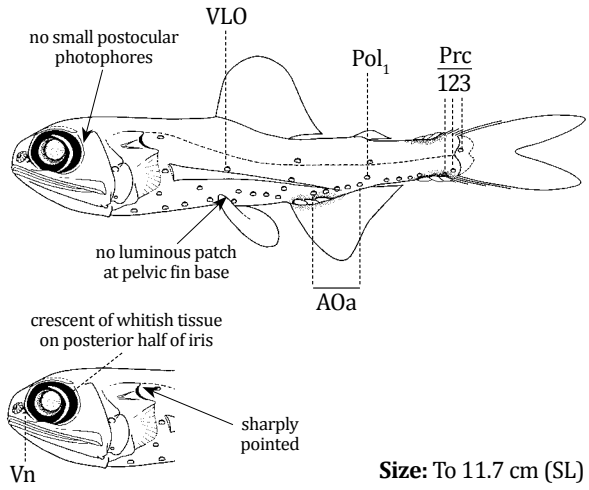



**Size:** To about 7 cm (TL)

***Bolinichthys supralateralis*** (Parr, 1928)

**FAO names:** Stubby lanternfish (En)

**Local name(s):** Nga Mee Eain Ja Pu.
**Habitat:** Benthopelagic and mesopelagic in slope and oceanic waters; depth range 40–850 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** VLO 3–5 photophore diameters below lateral line; luminous patch at pelvic fin base absent; small postocular photophores absent; 19–22 (usually 20) total gill rakers on 1st gill arch; $Pol_1$ well above line through last 2 AOa photophores; Vn at anterior margin of orbit.
**Colour:** Cheeks metalic-blue; scales deciduous, but scale pockets chocolate-brown.

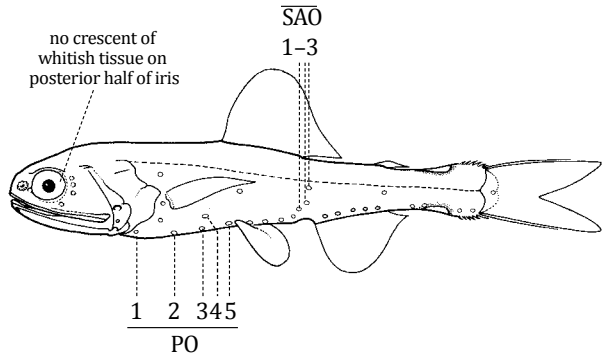



**Size:** To 11.7 cm (SL)

***Lampadena luminosa*** (Garman, 1899)

**FAO names:** Luminous lanternfish (En)

**Local name(s):** Nga Mee Eain Tauk Pa.
**Habitat:** Benthopelagic and mesopelagic in slope waters and oceanic waters; depth range 50–1 021 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Dorsal fin origin on or somewhat in advance of vertical through outer pelvic fin base; $PO_4$ highly elevated and anteriorly displaced towards vertical through $PO_3$
**Colour:** No information on fresh colour for this species. Preserved material is always dark-brown (P.A. Hulley pers. comm., 2019).

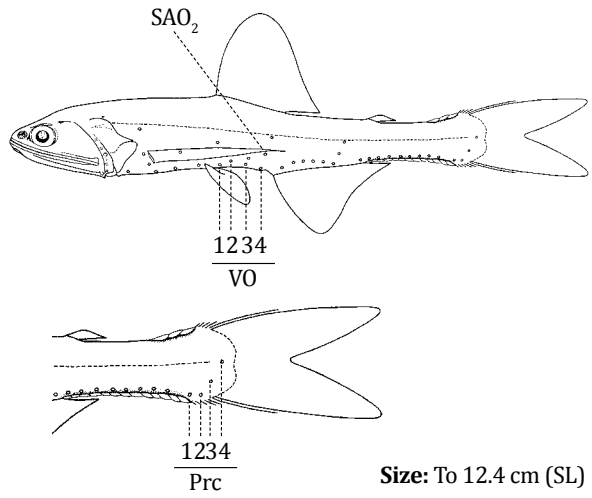



**Size:** To 20 cm (SL)

***Lampanyctus*** cf. ***nobilis*** Tåning, 1928

**FAO names:** Noble lanternfish (En)

**Local name(s):** Myit Myat Nga Mee Eain.
**Habitat:** Benthopelagic and mesopelagic in slope waters and oceanic waters; depth range 50–1 021 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Pectoral fins long, reaching beyond $SAO_2$; $VO_2$ elevated but not anteriorly displaced to above $VO_1$; no photophores on cheek; 13 (rarely 12 or 14) total gill rakers on 1st gill arch; eye diameter 3.5–3.9 in upper jaw length; $Prc_2$–$Prc_4$ forming straight oblique line, with $Prc_3$ on or touching $Prc_2$–$Prc_4$ line.
**Colour:** No information available.
**Remarks:** Taxonomy of the *L. nobilis*-complex presently under investigation (P.A. Hulley pers. comm., 2019).

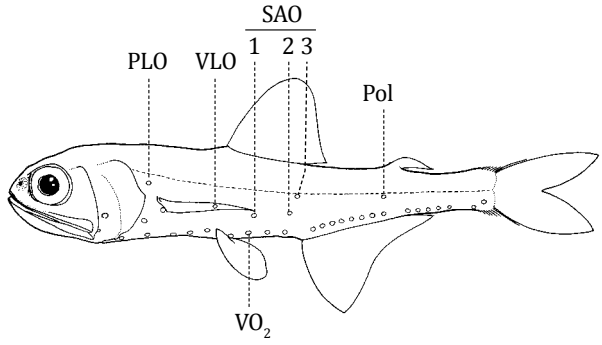



**Size:** To 12.4 cm (SL)

***Symbolophorus evermanni*** (Gilbert, 1905)

**FAO names:** Evermann's lanternfish (En)

**Local name(s):** Htar Wa Ya Nga Mee Eain.
**Habitat:** Benthopelagic and mesopelagic in slope waters and oceanic waters; depth range 100–500 m.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Pectoral fin extending to about $SAO_1$; SAO series strongly angulate, with $SAO_1$ on or slightly posterior to vertical through $VO_2$, about midway between VLO and $SAO_2$; VLO slightly anterior to vertical through outer pelvic fin base, and on or slightly above line connecting PLO and $SAO_1$.
**Colour:** No information available.



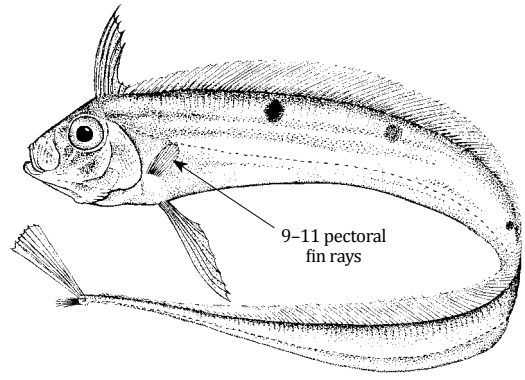

**Size:** To 8 cm (SL)

## TRACHIPTERIDAE
Ribbonfishes

***Trachipterus*** cf. ***trachypterus*** (Gmelin, 1789)

**FAO names:** Mediterranean dealfish (En)

**Local name(s):** Maditer Yae Nga Dagon.
**Habitat:** Epi- and mesopelagic species.
**Fisheries:** Pelagic trawls.
**Distinctive Characters:** Body elongate, ribbon-like, compressed; ventral body margin gently tapering to tail; small teeth in jaws, vomer and sometimes on palatines; posterior portion of lateral line well above the ventral edge of tail; lateral line with small forwardly-projecting spines; dorsal fin with 145–184 elements.
**Colour:** Head and body silvery with polka-dotted or a few large dark spots or longitudinal lines on sides; front of head, interorbital area, dorsal part of upper jaw, and tip of lower jaw black.
**Remarks:** Inclusion based on photographic record.



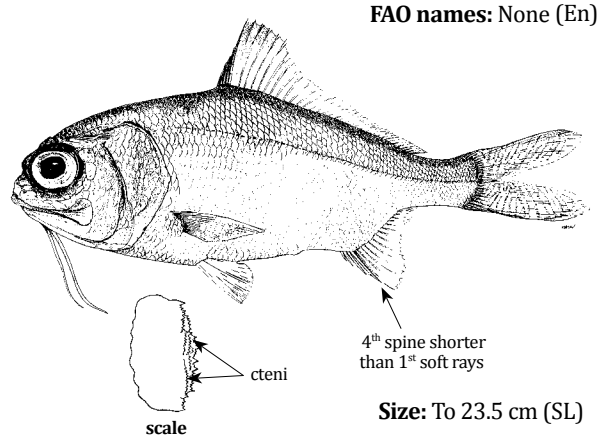

**Size:** To 300 cm (TL)

## POLYMIXIIDAE
Beardfishes

***Polymixia fusca*** Kotthaus, 1970

**FAO names:** None (En)

**Local name(s):** Nga Moke Seik.
**Habitat:** Bathydemersal in depths of 19–455 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Two long barbels inserted well behind tip of lower jaw; snout not protruding over upper jaw; dorsal fin with 5–6 spines and 30–34 soft rays; anal fin with 3–5 spines and 13–15 soft rays; scales with ctenii distributed in vertical rows of uneven shape; length of 4th dorsal fin spine less than eye diameter.
**Colour:** Dusky above, silvery below; tips of dorsal, caudal and pectoral (sometimes) fins blackish; anal and pelvic fins withish.



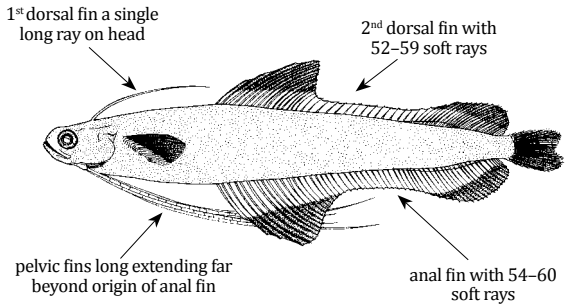

**Size:** To 23.5 cm (SL)

## BREGMACEROTIDAE
Codlets

***Bregmaceros mcclellandi*** Thompson, 1840

**FAO names:** Unicorn cod (En)
Bregmacère de l'océan Indien (Fr)

**Local name(s):** Moke Seik Phyu Pyauk.
**Habitat:** Pelagic in coastal waters, in estuaries; also in the open ocean.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Caudal fin slightly forked; no scales on cheek; 18–20 pectoral rays; 14–15 transverse scales on body; 52–55 vertebrae.
**Colour:** Upper part of pectoral fins black or rather dark; dark pigment usually present on caudal fin, anterior and posterior lobes of 2nd dorsal fin, and sometimes anterior and posterior lobes of anal fin (pigments often faint or absent, especially in young); body cromatophores present mainly at the dorsal part.



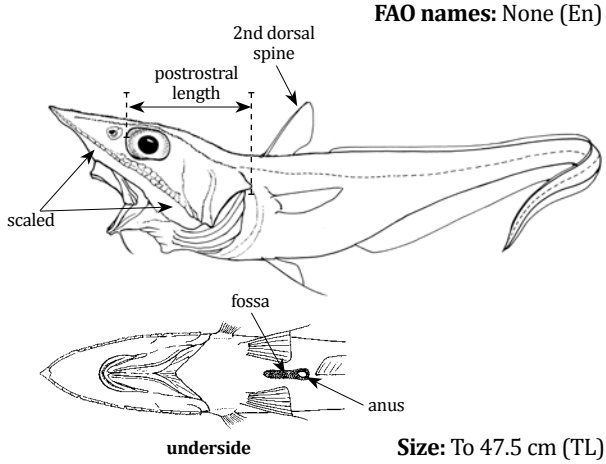

**Size:** To 10 cm, common 7 cm (SL)

## MACROURIDAE
Grenadiers

***Coelorinchus flabellispinis*** (Alcock, 1894)

**FAO names:** None (En)

**Local name(s):** Nga Kywet, Nagar Gaung Nga.
**Habitat:** Benthopelagic in depths of 767–1 300 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** A distinct blackish fossa (light organ) between anal fin origin and pelvic fin insertion and closer to latter; snout long, 2.4–2.6 times in HL; scales on body with sharp and keel-like spinules, usually in 3–6 radiating rows (median row enlarged); outer series of upper jaw teeth enlarged; spinous 2nd dorsal fin spine smooth and shorter than postrostral length; underside of head completely scaled; 7 pelvic fin rays.
**Colour:** Body dark stone-grey except bluish over abdomen; fins blue-black.

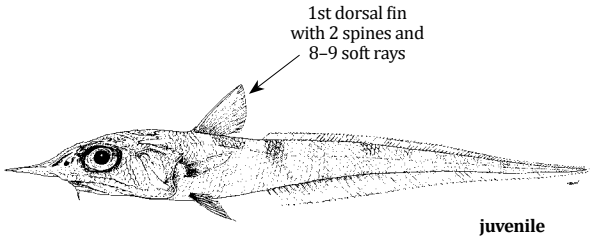



**Size:** To 47.5 cm (TL)

***Coelorinchus*** cf. ***mycterismus*** McMillan & Paulin, 1993

**FAO names:** Upturned snout rattail (En)

**Local name(s):** Nga Kywet, Nagar Gaung Chun Nga.
**Habitat:** Benthopelagic in depths of 833–1 150 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** No external evidence of blackish fossa (light organ) on belly; snout long, slender, sharply pointed and upturned, 2.0–2.3 in HL; body scales with 4–9 parallel rows of spinules, the median row larger, lateral rows often incomplete; underside of head completely scaled; 7 pelvic fin rays.
**Colour:** Body uniformly greyish brown, abdomen with bluish tinge; paired fins and anal fin light dusky; anal fin pale posteriorly; juveniles with vertical bands on body and tail.
**Remarks:** A single specimen collected off the Myanmar coast apparently conforming to this species. Additional specimens are required to determine whether these two forms are conspecific (T. Iwamoto pers. comm., 2017).

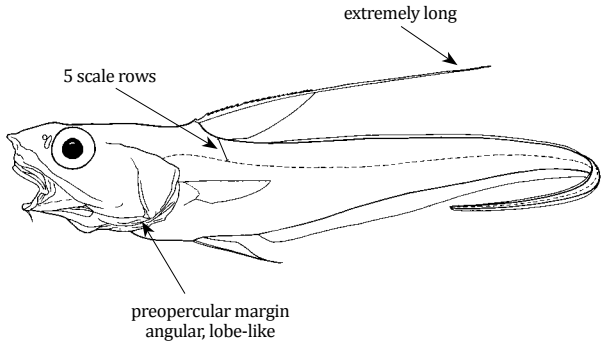



**Size:** To 50 cm (TL)

***Coryphaenoides macrolophus*** (Alcock, 1889)

**FAO names:** None (En)

**Local name(s):** Nga Kywet, Nagar Gaung To Nga.
**Habitat:** Benthopelagic in depths of 522–1 322 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout bluntly angled extending beyond mouth; upper jaw not reaching below posterior 1/3 of eye; teeth villiform in broad bands in each jaw (an outer row of sligthly enlarged teeth in upper jaw); barbel less than half the length of eye; underside of head completely scaled; 8 (rarely 9) pelvic fin rays; 2nd dorsal fin ray serrated and extremely long, nearly twice the length of the head; outer pelvic ray with a filament at tip; anus immediately before anal fin origin.
**Colour:** Body overall dark; fins and gill cavity black; mouth dark grey, lips and gums pale.

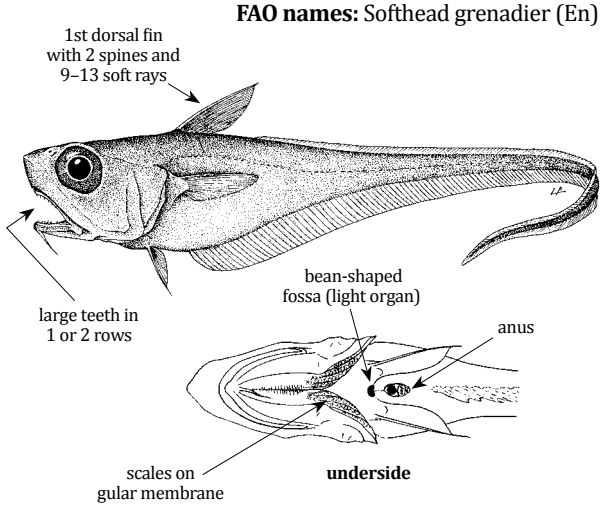



**Size:** To about 32 cm (TL)

***Malacocephalus laevis*** (Lowe, 1843)

**FAO names:** Softhead grenadier (En)

**Local name(s):** Nga Kywet, Nagar Gaung Pyawt Nga.
**Habitat:** Benthopelagic in depths of 200–1 000 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout rounded, 3.2–3.8 in HL; 2 distinct rows of teeth in upper jaw, 1 wide-spaced row of canines in lower jaw; usually a patch of scales on gular membrane; interorbital width (usually 3.0–3.3 in HL) equal to or shorter than eye diameter; dorsal fin spine smooth; pectoral fins with 16–22 rays; 9 pelvic fin rays; anus at a distance from anal fin origin situated at posterior end of a oval patch of black skin.
**Colour:** Body uniformly greyish brown, abdomen with bluish tinge; fins and gill cavity black.

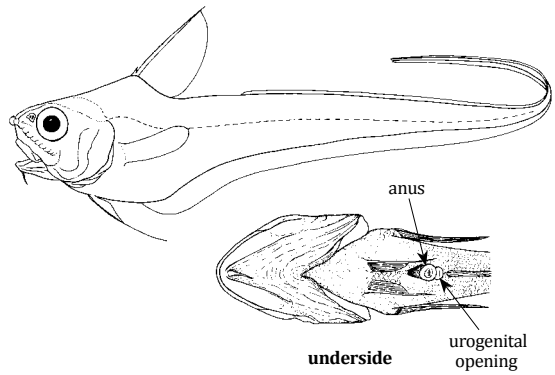



**Size:** To 60 cm, common 40 cm (TL)

***Sphagemacrurus richardi*** (Weber, 1913)

**FAO names:** Richard's whiptail (En)

**Local name(s):** Nga Kywet Kyar Put Hmee.
**Habitat:** Benthopelagic in depths of 538–1 260 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout short (its length 2.7–3.3 in HL), high, scarcely protruding beyond steeply oblique mouth; underside of head naked; jaw teeth small in narrow bands; barbel about half or less of greatest orbit diameter; pelvic fins anteriorly placed, about under preopercle; anal fin origin about under 1st dorsal fin origin; anus and urogenital opening large, immediately before anal fin origin, the naked area surrounding anus extending to about half distance to pelvic fin insertion; 8–11 pelvic fin rays.
**Colour:** Body overall dark (head pale along sides); abdomen and chest with violet tinge; dorsal, pectoral and anal fins dusky; pelvic fins black.



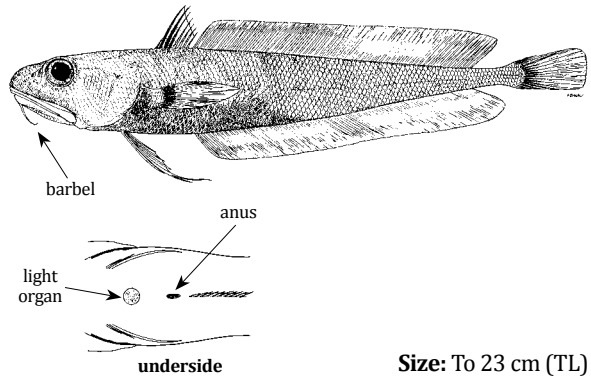

**Size:** To 23 cm (TL)

## MORIDAE
Moras

***Physiculus roseus*** Alcock, 1891

**FAO names:** Rosy cod (En)

**Local name(s):** Hnin Si Yaung Kyauk Nga.
**Habitat:** Bathypelagic; depth range 274–549 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Teeth villiform, equal sized; vomer without teeth; light organ placed slightly closer to the level of pelvic fin insertion than anus, distance between rear margin of light organ and anus slightly more than one and a half times diameter of light organ; 3+10–11 gill rakers on 1st gill arch; 8 scales between origin of 1st dorsal fin and lateral line; 46–49 vertebrae.
**Colour:** Head and body pale pinkish tan, abdomen bluish; branchiostegal membranes, snout, orbit rim and remaining scale pockets brown; vertical fins dusky near tips, axil of pectoral fin dark brown; light organ and anus black.



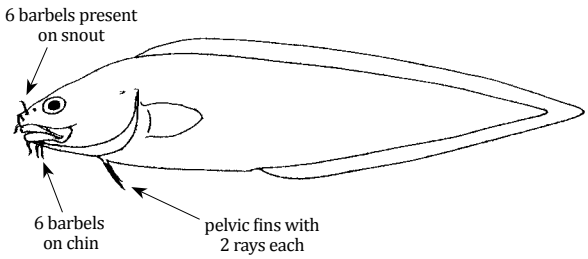

**Size:** To 23 cm (TL)

## OPHIDIIDAE
Cusk eels

***Brotula multibarbata*** Temminck & Schlegel, 1846

**FAO names:** Goatsbeard brotula (En)
Brotula barbe-de-boue (Fr)

**Local name(s):** Mote Seik Shae Mway Nga Shint.
**Habitat:** Benthic on continental shelf and slope in deeper waters. Maximum depth 650 m.
**Fisheries:** Bottom trawls.
**Distinctive characters:** Body elongate with a tapering caudal fin; fine teeth present on jaws and on palate; dorsal and anal fins long, continuous with caudal fin; body completely covered with small, cycloid (smooth) scales.
**Colour:** Dark brown with a submarginal black band; narrow white border on the dorsal and anal fins.

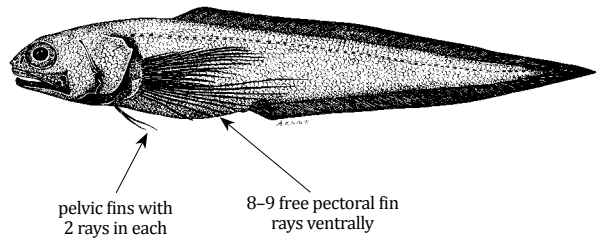



**Size:** To 100 cm, common 30 cm (SL)

***Dicrolene*** aff. ***mesogramma*** Shcherbachev, 1980 *

**FAO names:** None (En)

**Local name(s):** Mway Nga Shint.
**Habitat:** Benthopelagic in depths of 767–777 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout somewhat acute; hind margin of preopercle with 2–3 rather flat spines; villiform teeth in jaws and basibranchial tooth patches; 1 median and a pair of basibranchial tooth patches; pectoral fin with 8–9 free rays ventrally of which the lower 2–3 short, and 14–15 rays dorsally joined by membrane in their proximal half.
**Colour:** Body overall dark; opercle with bluish tinge; dorsal, anal and pectoral fins black.
**Remarks:** The Myanmar specimens differ from *Dicrolene mesogramma* by the pattern of basibranchial tooth patches and length and number of free ventral pectoral fin (J. Nielsen pers. comm., 2017).

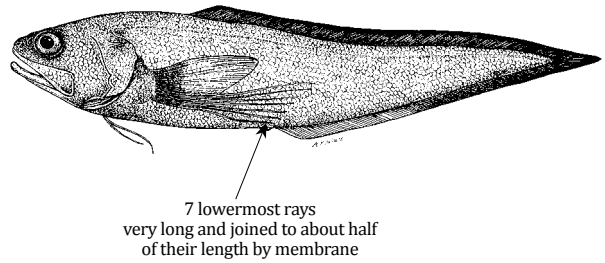



**Size:** To at least 21 cm (SL)

***Dicrolene*** aff. ***nigricaudis*** (Alcock, 1891) *

**FAO names:** None(En)

**Local name(s):** Mway Nga Shint Bae Hmwe Shae.
**Habitat:** Benthopelagic in depths of 506–523 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout broad and rounded; 2 median and a pair of basibranchial tooth patches 7 free pectoral fin rays ventrally.
**Colour:** Body overall dark; opercle with bluish tinge.
**Remarks:** The Myanmar specimen keys out as *Dicrolene* sp. (from the eastern Indian Ocean) rather close to *Dicrolene nigricaudis*. Generic revision needed to establish the taxonomic status of *Dicrolene* specimens collected in Myanmar (J. Nielsen pers. comm., 2017).

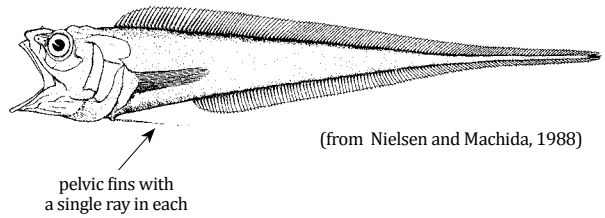



**Size:** To at least 23 cm (SL)

***Glyptophidium argenteum*** Alcock, 1889

**FAO names:** None(En)

**Local name(s):** Mway Nga Shint.
**Habitat:** Benthopelagic in depths of 295–815 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Prominent head and body with an attenuate caudal part; head bones with large, thin crests; horizontal diameter of orbit 3.5–4.7 in HL; opercular spine broad, flat and weak; basibranchial with 1 median and a pair of tooth patches; 14–23 long gill rakers on 1st gill arch; 7–12 pseudobranchial filaments; 20–24 pectoral fin rays.
**Colour:** Head, body and median fins dark grey blackish.

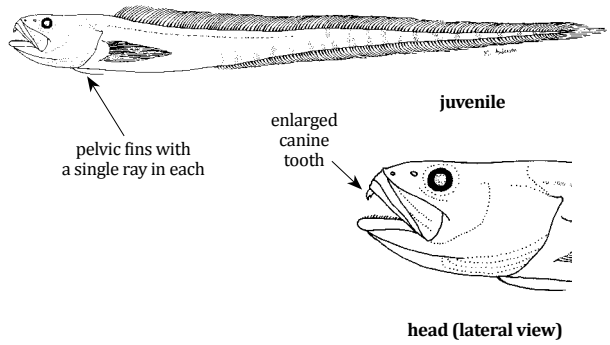



**Size:** To 29 cm (SL)

***Hypopleuron caninum*** Smith & Radcliffe, 1913

**FAO names:** None (En)

**Local name(s):** Thwar Ta Chaung Mway Nga Shint.
**Habitat:** Benthopelagic in depths of 300–575 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Jaws equal in length or lower jaw slightly protruding; no spines on opercle or subopercle; a canine tooth at the front of each upper jaw bone; 1 median basibranchial tooth patch; 8 branchiostegal rays; lateral line with small scales that overlie an inner series of larger scales that bear neuromasts; 26 pectoral fin rays.
**Colour:** Overall greyish brown (upper parts of head and body darker), abdomen and underside of head withish; median and pectoral fins blackish.



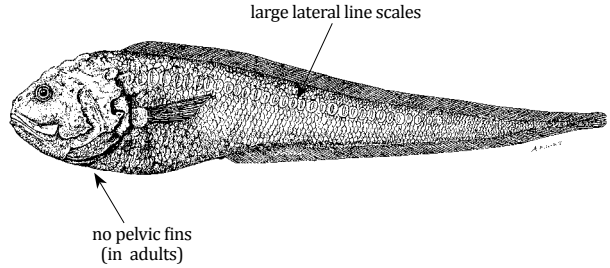

**Size:** To at least 57 cm (SL)

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***Lamprogrammus fragilis*** Alcock, 1892

**FAO names:** None (En)

**Local name(s):** Mway Nga Shint Gaung Gyi.
**Habitat:** Benthopelagic in depths of 745–1 240 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Body short, depth at anus 5.2–6.3 in SL; snout broad and rounded; mouth terminal; body and head covered with decidous (easily shed) cycloid scales of moderate size; lateral line scales distinctly larger than other scales; 14–17 developed gill rakers on lower limb of 1st arch; 8 branchiostegal rays; 17 pectoral fin rays; 1 median basibranchial tooth patch; teeth granular, none enlarged; posterior margin of opercle smooth; 8–9 caudal fin rays; anal fin origin below dorsal fin ray no. 20.
**Colour:** Head, body and fins jet-black.



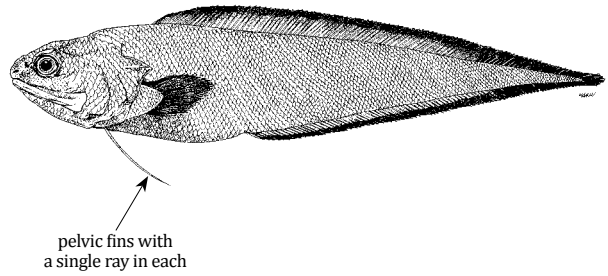

**Size:** To at least 57 cm (SL)

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***Monomitopus*** sp. *

**FAO names:** None (En)

**Local name(s):** Mway Nga Shint Mote Sheik.
**Habitat:** Benthopelagic in depths of 767–777 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Head small, scaly, lower that the body; eye diameter almost equal to snout; opercular spine strong; preopercle with 1 weak spine on lower angle; 1 median basibranchial tooth patch; 24 developped rakers of 1st gill arch.
**Colour:** Body overall dark; opercle and abdomen with bluish tinge; vertical fins with black margin.
**Remarks:** This genus is much in need of a revision (J. Nielsen pers. comm., 2017).

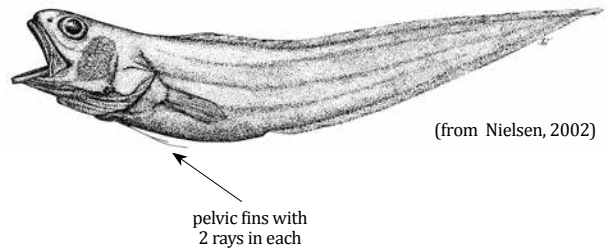



**Size:** To at least 14 cm (SL)

***Neobythites alcocki*** Nielsen, 2002

**FAO names:** Alcock's cusk eel (En)

**Local name(s):** Myay Nga Shint Myet Lone Pyar.
**Habitat:** Benthopelagic in depths of 344–366 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout pointed, equal in length to eye diameter; 2 median basibranchial tooth patches; 1–2 spines on hind margin of preopercle; 27–29 pectoral fin rays; 11–12 developed rakers on 1st gill arch; 5–7 (usually 6) pseudobranchial filaments; 100–104 dorsal fin rays; 84–87 anal fin rays; teeth granular; vomer subtriangular.
**Colour:** Light brown with darker brown pigment along lateral line; no ocelli on fins or dark bands on body; abdomen, gill cover and eye bluish.



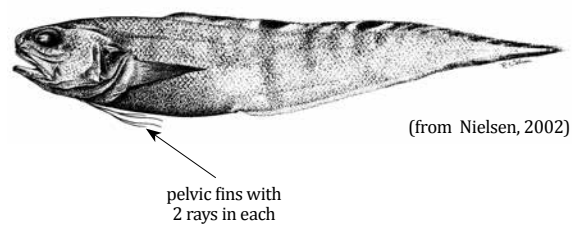

**Size:** To 18.5 cm (SL)

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***Neobythites andamanensis*** Nielsen, 2002

**FAO names:** Andaman cusk eel (En)

**Local name(s):** Andaman Mway Nga Shint.
**Habitat:** Benthopelagic in depths of 290–465 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout blunt, shorter than horizontal diameter of eye diameter; 2 median basibranchial tooth patches; 2–3 spines on hind margin of preopercle; 25–27 pectoral fin rays; 13 developed rakers on 1st gill arch; 5 pseudobranchial filaments; 101–102 dorsal fin rays; 84–86 anal fin rays; teeth granular; vomer boomerang shaped.
**Colour:** Body and head light brown; dorsal fin with about 8 more or less distinct ocelli or black blotches with corresponding vertical, brown bars on body; black blotches on posterior half of anal fin; eye, gill cover and abdomen bluish.



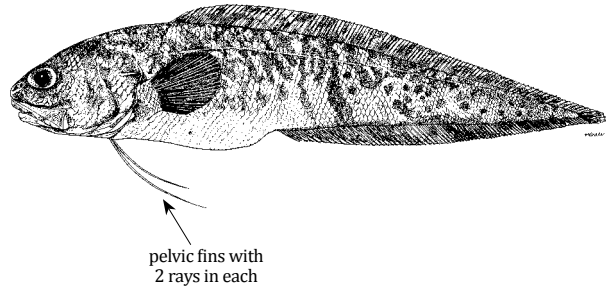

**Size:** To 19.5 cm (SL)

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***Neobythites*** aff. ***pallidus*** Nielsen, 1997 *

**FAO names:** None (En)

**Local name(s):** Mway Nga Shint Kyaw Set Pyauk.
**Habitat:** Benthopelagic in depths of 374–376 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout blunt, shorter than horizontal diameter of eye diameter; 2 median basibranchial tooth patches; 28 pectoral fin rays; 13–15 developed rakers on 1st gill arch; 4–6 pseudobranchial filaments; 102 dorsal fin rays; 83 anal fin rays; anal fin origin below dorsal fin ray no. 20; teeth granular; vomer boomerang shaped.
**Colour:** Head, body and vertical fins mottled dark brown; pectoral fins dark brown; pelvic fin dirty white.
**Remarks:** The Myanmar specimen differs from *Neobythites pallidus* mainly by the intense body pigmentation and by having a larger size (28.5 vs. 8.8–14.8 cm SL) (J. Nielsen & F. Uiblein pers. comm., 2018).

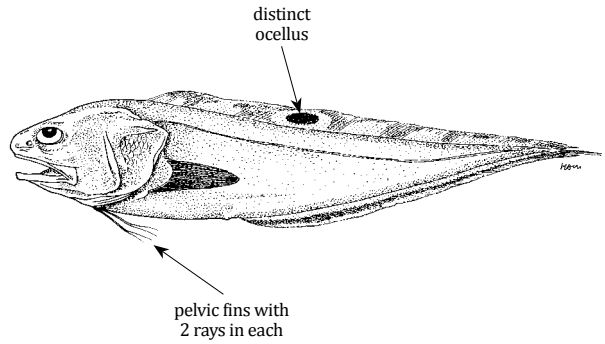



**Size:** To at least 28.5 cm (SL)

## *Neobythites steatiticus* Alcock, 1894

**FAO names:** Barred cusk eel (En)

**Local name(s):** Mway Nga Shint Kyaw Me' Hmat.
**Habitat:** Benthopelagic in depths of 193–450 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Snout blunt; mouth subterminal; horizontal eye diameter about equal to snout; opercular spine strong and straight; no spine on hind margin of preopercle; 2 median basibranchial tooth patches; 2–3 pseudobranchial filaments; 11–14 developed rakers on anterior gill arch; 88–94 dorsal fin rays; 73–77 anal fin rays; 24–27 pectoral fin rays; teeth mostly granular (sometimes needle-like teeth on premaxilla); vomer boomerang shaped.
**Colour:** Distinct ocellus on dorsal fin well behind vertical through anus; black part of ocellus covers 7–10 dorsal fin rays; middle part of anal fin black with a pale band both proximally and distally.

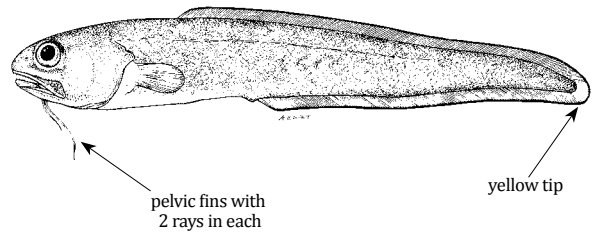



**Size:** To 16 cm (SL)

## *Ophidion* sp. *

**FAO names:** None (En)

**Local name(s):** Mway Nga Shint Hmee Lone.
**Habitat:** Benthic on soft bottoms in depths of 97–129 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Body elongate; elliptical scales arranged at oblique angles to each other, scales absent on head; 159–163 dorsal fin rays; 130–131 anal fin rays; base of pelvic fins below orbit; anal fin origin below dorsal fin ray no. 29–30.
**Colour:** Head and body pale brown; tip of caudal region yellow; dorsal and anal fins with a thin black margin; pelvic fins milky white.
**Remarks:** Generic revision needed to establish the taxonomic status of *Ophidion* specimens collected in Myanmar (J. Nielsen pers. comm., 2017).

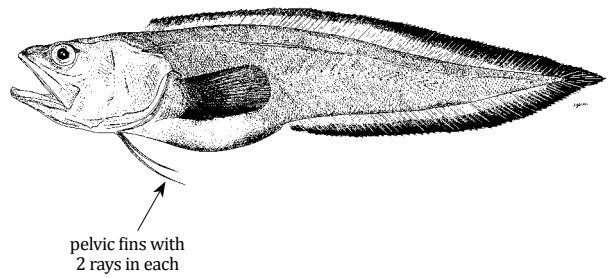



**Size:** To at least 15 cm (SL)

## *Pycnocraspedum* cf. *squamipinne* Alcock, 1889

**FAO names:** None (En)

**Local name(s):** Mote Seik Hnit Chaun Mway Nga Shint.
**Habitat:** Benthopelagic in depths of 280–469 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Body short with large head; upper jaw ending behind eye; opercular spine strong but not always visible; hind margin of opercle with 2–3 spines; eye slightly smaller than snout; 2 median basibranchial tooth patches; 4 developed rakers on 1st gill arch; 0–2 pseudobranchial filaments; 90–91 dorsal fin rays; 57–62 anal fin rays; anal fin origin below dorsal fin ray no. 25–31; 27–30 pectoral fin rays.
**Colour:** Head greenish grey; body uniform dirty green-chocolate; vertical fins with black margin.
**Remarks:** The Myanmar specimens differ from *P. squamipinne* mainly in having fewer rays in dorsal and anal fins (J. Nielsen pers. comm., 2017).

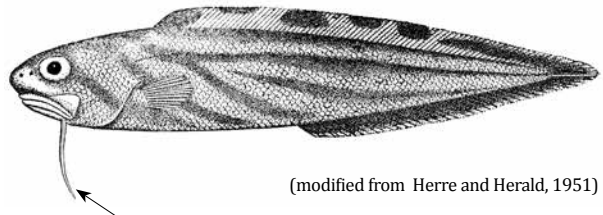



**Size:** To at least 23 cm (SL)

***Sirembo jerdoni*** (Day, 1888)

**FAO names:** Brown banded cusk eel (En)

**Local name(s):** Mway Nga Shint Kyaw Sinn.
**Habitat:** Benthic or benthopelagic in continental shelf waters.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Body robust, deepest behind tip of pectoral fin; horizontal diameter of eye slightly greater than snout; no spine on preopercle; spine on opercle short, not reaching rear margin of head; 22–24 pectoral fin rays; 5–7 scale rows between origin of dorsal fin and lateral line; 3–4 developed gill rakers on 1st arch; pseudobranch large, with 18–27 filaments; single median basibranchial tooth patch.
**Colour:** Two to 4 broad, black oblique bands on head and anterior body, which connect over the predorsal and head to the other side; 3–4 black spots on dorsal fin.



(modified from Herre and Herald, 1951)

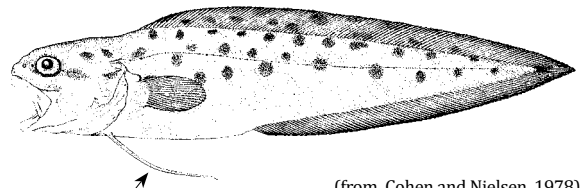
pelvic fins with 2 rays in each bound by tough skin inserted below or slightly behind the eyes

**Size:** To 43 cm (SL)

***Spottobrotula mahodadi*** Cohen & Nielsen, 1978

**FAO names:** None (En)

**Local name(s):** Mway Nga Shint Kyaw Set Pyauk.
**Habitat:** Benthopelagic in depth of 40–129 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Body robust, its depth at anus about 5 times in SL; prepelvic length 5.7 in SL; horizontal diameter of eye smaller than snout; no spine on preopercle; a prominent skin flap above base of pectoral fins; opercle with a strong spine not reaching hind margin of opercle; 30 pectoral fin rays; 18 scale rows between origin of dorsal fin and lateral line; pelvic fin length 4.4 in SL; teeth granular; 11 developed gill rakers on 1st arch; 35 pseudobranch filaments; single median basibranchial tooth patch; 104–105 dorsal fin rays; 78–79 anal fin rays.
**Colour:** Dark stone-grey with dark brown spots on head and body; fins jet-black.



(from Cohen and Nielsen, 1978)

pelvic fins with 2 rays in each bound by tough skin inserted below opercle, reaching almost to anus

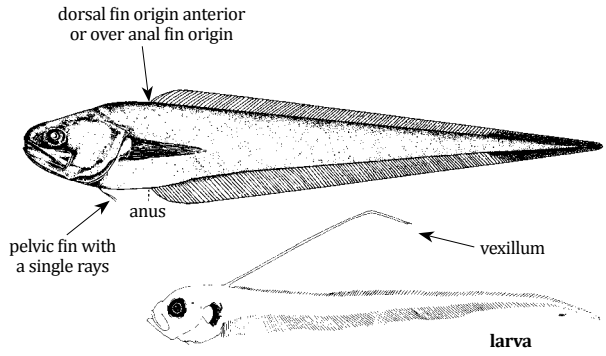
**Size:** To 22 cm (TL)

## CARAPIDAE
Pearlfishes

***Pyramodon ventralis*** Smith & Radcliffe, 1913

**FAO names:** Pallid pearlfish (En)

**Local name(s):** Pa Le' Nga.
**Habitat:** Benthopelagic in depth of 184–470 m.
**Fisheries:** Deep bottom trawls.
**Distinctive characters:** Eel-like, moderate to relatively deep body depth; jaw teeth cardiform; a large single vomerine fang; pelvic fin rays present; 3 developed gill rakers on 1st gill arch; anus anterior, preanal length 0.8–1.0 in head length; 24–26 pectoral fin rays; larvae easily recognizable by their vexillifer stage.
**Colour:** Body lightly pigmented with dorsal and anal fin margins pigmented over posterior quarter.



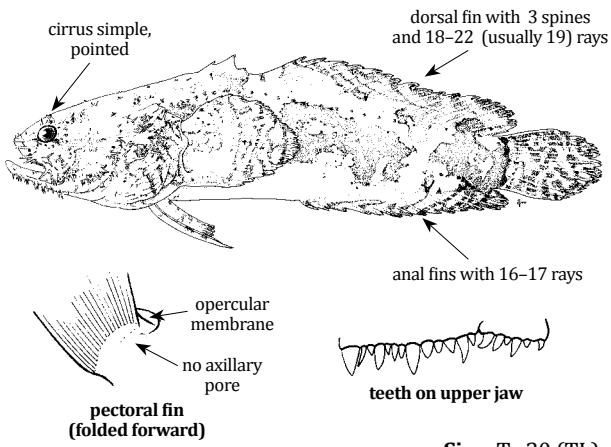

**Size:** To at least 36 cm (TL)

# BATRACHOIDIDAE
Toadfishes

## *Allenbatrachus grunniens* (Linnaeus, 1758)

**FAO names:** Grunting toadfish (En)

**Local name(s):** Nga Oat Pharr.
**Habitat:** Inhabits coastal waters and estuaries over sandy and muddy bottoms.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Lower jaw terminal, projecting beyond upper jaw; eyes not raised above profile and diameter less than snout length; interorbital width greater than eye diameter; no pore present in pectoral fin axil; teeth on jaws, vomer, and palatines all pointed; anterior orbital cirrus simple, tip pointed; gill slit extending from upper 3/4 to 4/5 of pectoral fin base.
**Colour:** Head, body and fins greyish to brownish or blackish, mottled with pale or dark irregular blotches.

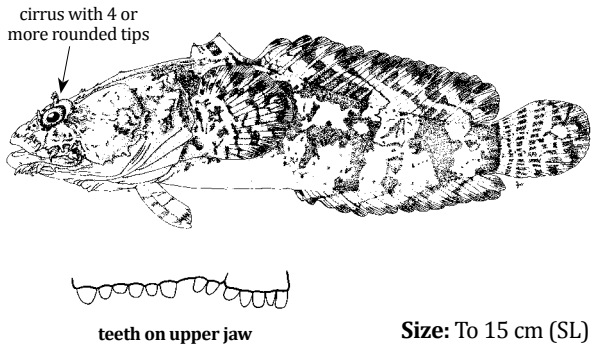



**Size:** To 30 (TL)

## *Allenbatrachus reticulatus* (Steindachner, 1870)

**FAO names:** Singapore toadfish (En)

**Local name(s):** Singapore Nga Oat Pharr.
**Habitat:** Inhabits coastal waters and estuaries over sandy and muddy bottoms.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Allenbatrachus grunniens* but teeth on jaws, vomer, and palatines all blunt and rounded; anterior orbital cirrus with 4 or more rounded tips.
**Colour:** Head and body light brown, crossed by four irregular dark blotches; all fins with dark brown bands (yellowish color between bars).

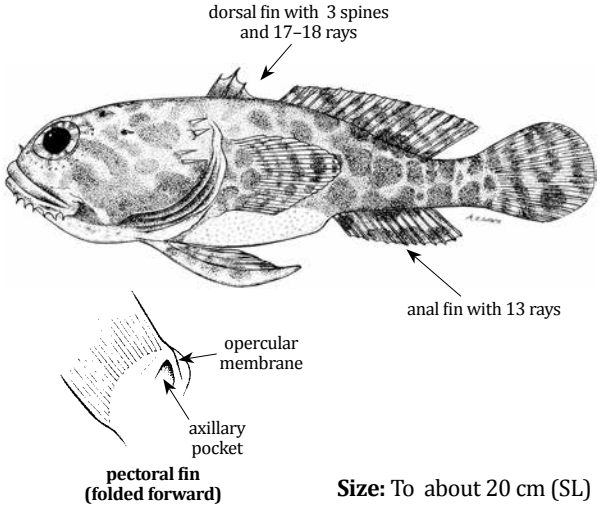



**Size:** To 15 cm (SL)

## *Perulibatrachus* cf. *aquilonarius* Greenfield, 2005

**FAO names:** None (En)

**Local name(s):** Gaung Gyi Nga Oat Pharr.
**Habitat:** Benthic on continental slope; depth range 10–40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Head large and wide, moderately depressed, its width 2.3–3.2 in SL; a shallow, funnel-shaped pocket in pectoral fin axil; teeth on jaw biserial anteriorly and uniserial posteriorly; a single row of curved teeth on vomer and palatine; 21–23 pectoral fin rays.
**Colour:** Body and fins light brown with large irregular dark brown spots, those on head fused partly; ventral surface pale.
**Remarks:** The Myanmar specimen has a narrower head and different spotting pattern compared to the two previously known specimens (southwestern India). However, it is a much smaller individual and these differences may relate to growth.



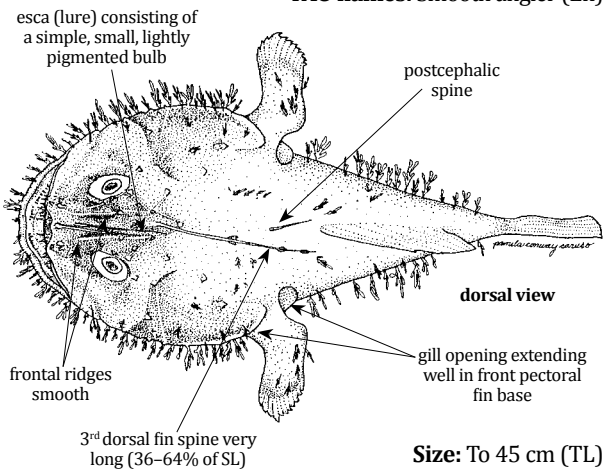

**Size:** To about 20 cm (SL)

# LOPHIIDAE
Anglerfishes

## *Lophiodes mutilus* (Alcock, 1894)

**FAO names:** Smooth angler (En)

**Local name(s):** Nga Kyauk Pha.
**Habitat:** Benthic on continental slope; depth range 300–495 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Head and body depressed; 1st dorsal fin consisting of 3 isolated spines on head (cephalic spines), and 1 or 2 very short slender spines behind head (postcephalic spines); frontal ridges smooth; gill opening extending well in front of pectoral fin base.
**Colour:** Dorsal surface uniform light to dark brown, fleshy tendrils darker brown or black; ventral surface lighter brown or tan; pectoral fins darker brown distally, but tips of rays pale; peritoneum black.

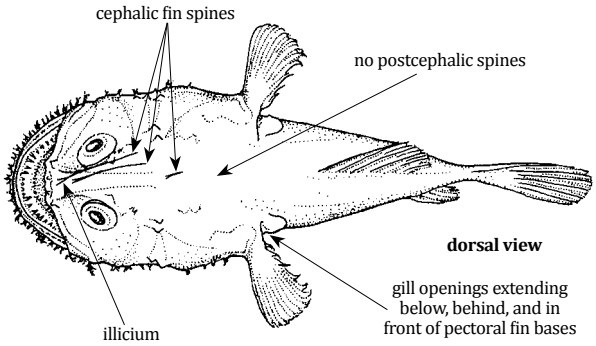



**Size:** To 45 cm (TL)

## *Lophiodes triradiatus* (Lloyd, 1909)

**FAO names:** Shortspine monkfish (En)

**Local name(s):** Nga Kyauk Pha Suu Toe.
**Habitat:** Benthic on continental slope; depth range 494–1 560 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Lophiodes mutilus* but no post-cephalic dorsal fin spines; esca (lure) consisting of a leaf-like appendage; all 3 cephalic fin spines (including illicium) relatively short.
**Colour:** Dorsal surface uniform medium to dark brown, fleshy tendrils absent from body and fins; ventral surface lighter brown or tan, but darker in some specimens; peritoneum pale.

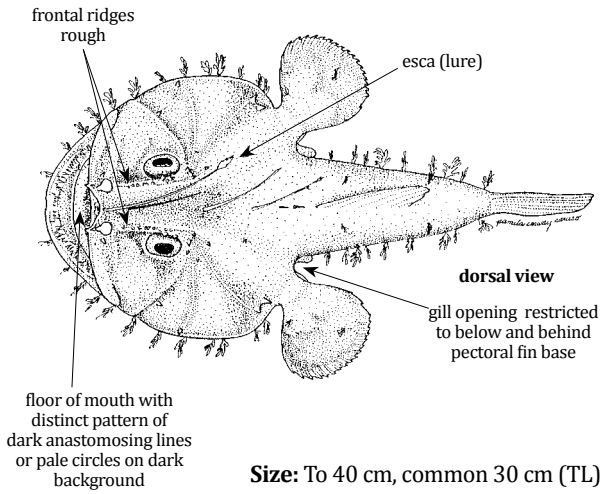



**Size:** To 45 cm (TL)

## *Lophiomus setigerus* (Vahl, 1797)

**FAO names:** Blackmouth angler (En)

**Local name(s):** Nga Kyauk Pha Ar Me'.
**Habitat:** Benthic on outer continental shelf and upper continental slope; depth range 72–238 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Head and body depressed; 1st dorsal fin consisting of 3 isolated spines on head (cephalic spines), and a group of 3 short slender spines behind head (postcephalic spines); esca (lure) consisting of a pennant-like flap, long cirri, and usually 2 small, dark, stalked shrimp-like "eyes".
**Colour:** Light to dark brown above, lighter below; dorsal surface frequently mottled; all fin rays with pale tips; pigmentation of peritoneum variable, usually dusky, light and dark extremes rare.



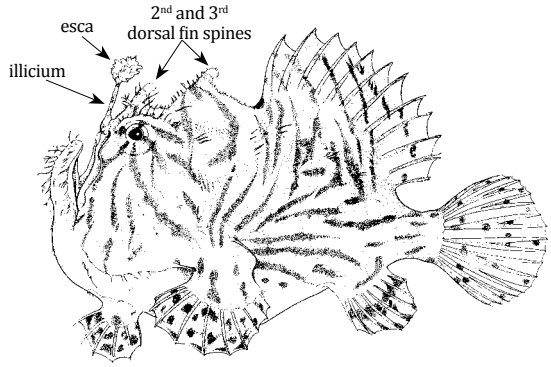

**Size:** To 40 cm, common 30 cm (TL)

## ANTENNARIIDAE
Frogfishes

***Antennarius hispidus*** (Bloch & Schneider, 1801)

**FAO names:** Shaggy angler (En)

**Local name(s):** Nga Tan Nga, Nga Ga Lone.
**Habitat:** Inhabits still muddy habitats that are either deep or offshore or shallow rocky and coral reefs.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body short and globose; mouth large with many small, villiform teeth; skin rough; illicium (rod) banded, equal to or slightly longer than 2nd dorsal spine; esca (lure, bait) with large oval-shaped tuft with slender filaments.
**Colour:** Ground color of head and body light-tan with narrow blackish brown streaks, some radiating from eye; all fins with blackish brown spots; belly without stripes.

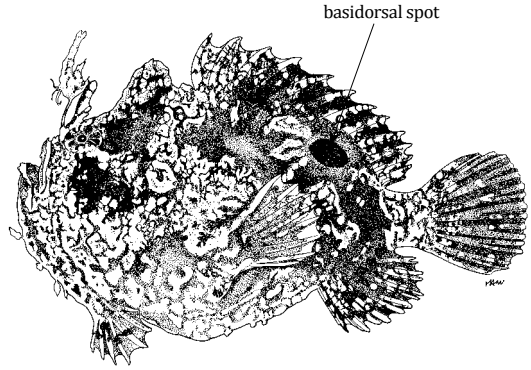



**Size:** To about 20 cm (TL)

***Antennatus nummifer*** (Cuvier, 1817)

**FAO names:** Spotfin frogfish (En)

**Local name(s):** Nga Tan Nga, Nga Ga Lone Kyaw Set.
**Habitat:** Inhabits intertidal zone to depths of at least 25 m on both lagoon and seaward reefs.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body short and globose; mouth large with many small, villiform teeth; skin rough; illicium (rod) about equal to length of 2nd dorsal spine; esca (lure, bait) large and variable, but often resembling a small shrimp; posterior end of dorsal and anal fin not broadly connected to caudal peduncle.
**Colour:** Ground colour may be yellow, orange, pink, red, olive, brown, or brown mixed with another colour; a prominent ocellated black spot usually present at base of soft dorsal fin.



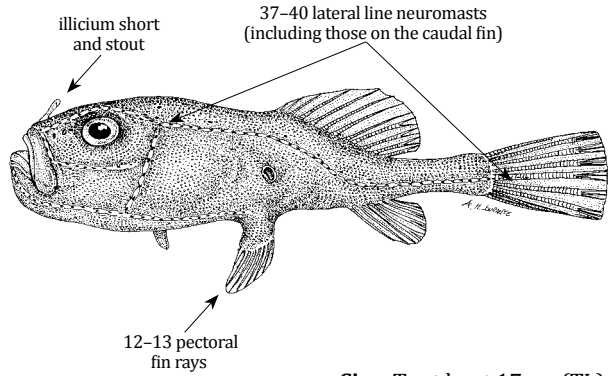

**Size:** To 13 cm (TL)

## CHAUNACIDAE
Sea toads

***Chaunax apus*** Lloyd, 1909

**FAO names:** None

**Local name(s):** Pin Lei Nga Oat Pharr.
**Habitat:** Benthic on continental shelf to continental slope; depth range ca. 200–969 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Head and body globular, tail short and conical; body covered by loose skin; dermal spinules slender and simple, slightly curved; no cirri on head and dorsal surface; 37–40 lateral line neusomasts on body, including 4–5 on caudal fin; 12–13 pectoral fin rays.
**Colour:** Body and esca uniformly pinkish with ventral surface paler when fresh; gill chamber and mouth cavity white.

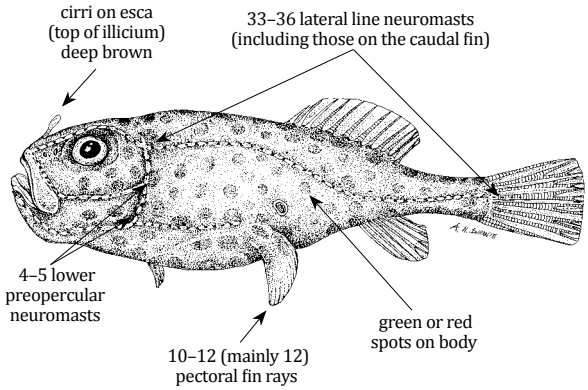



**Size:** To at least 17 cm (TL)

***Chaunax multilepis*** Ho, Meleppura & Bineesh, 2016

**FAO names:** None

**Local name(s):** Pin Lei Nga Oat Pharr War Set.
**Habitat:** Benthic on continental shelf to continental slope; depth range ca. 200–350 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Chaunax apus* but dermal spinules stout, straight and simple; 33–36 lateral line neuromasts on body, including 3–5 on caudal fin; 4–5 neuromasts on lower preopercular series; vomerine teeth forming a continue narrow patch; spots on body.
**Colour:** Dorsal surface reddish with large green or deep red spots when fresh; cirri on esca deep brown; gill chamber, gill arches, mouth cavity white; peritoneum black.

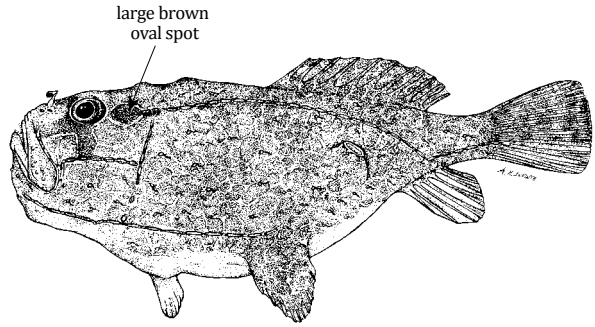



**Size:** To at least 15.2 cm (SL)

***Chaunax*** aff. ***nebulosus*** Ho & Last, 2013 *

**FAO names:** None

**Local name(s):** Pin Lei Nga Oat Pharr Kywet Kyar.
**Habitat:** Benthic on continental shelf to continental slope; depth range 218–380 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Head and body globular, tail short and conical; body covered by loose skin; cirri on head and dorsal surface.
**Colour:** Body pinkish with large irregular green patches, forming pale reticulate patterns; cirri on esca deep brown; a large oval brown spot behind the eye.
**Remarks:** Based on photo only. The specimen is clearly a member of *Chaunax fimbriatus*-group and similar to *C. nebulosus*, however, it has only one large brown spot behind eye (vs. 5 similar marks on body) and may represent an undescribed species ( H.-C. Ho pers. comm., 2017).



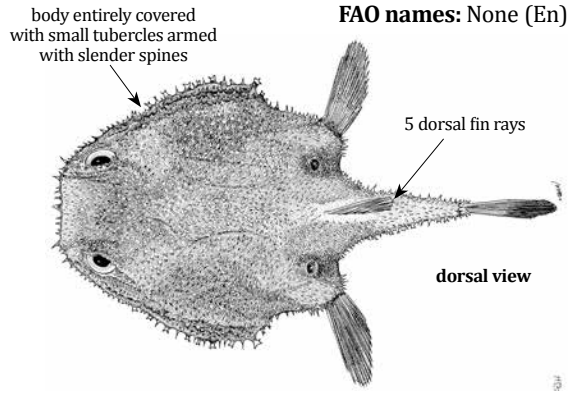

**Size:** To at least 21 cm (SL)

## OGCOCEPHALIDAE
Batfishes

***Coelophrys micropus*** (Alcock, 1891)

**FAO names:** None (En)

**Local name(s):** Nga Lin Noah, Nga Oat Phar.
**Habitat:** Bathypelagic around continental slope; depth range 395–1 880m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head box-like, flattened on ventral side; tail slender, longer than pectoral fin; pelvic fins minute; interorbital space very wide, slightly more than twice of eye diameter; illicial trough (cavity at front of snout) deep and broad; esca (bait) with two rounded ventral lobes and a dorsal flap, housing in the illicial trough.
**Colour:** Head and body grey to dark brown; paired fins black peritoneum black.

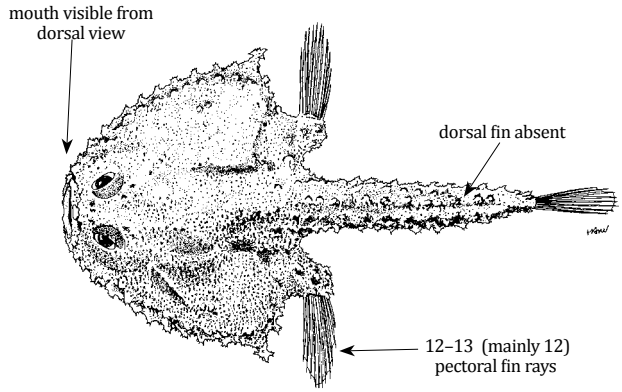



**Size:** To 12 cm (SL)

## ***Halicmetus*** cf. ***ruber*** Alcock, 1891

**FAO names:** None (En)

**Local name(s):** Nga Lin Noah.
**Habitat:** Depth range 344–552 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc subtriangular and truncated anteriorly; rostrum short, not overhanging snout; eye diameter 12.0–13.3 in SL; interorbital space 12.3–16.7 in SL; 3–4 anal fin rays; teeth on vomer and palatines forming 3 equal square patches; tubercles on dorsal surface mainly bifurcated; illicial trough small, relatively flatten; esca a small flat lobe, ventral broader than dorsal, with two cirri on dorsal margin.
**Colour:** Dorsal surface creamy white, with irregular reddish pattern; ventral surface paler; fins translucent and pale.
**Remarks:** The Myanmar specimen needs to be checked against the types of *H. ruber.*

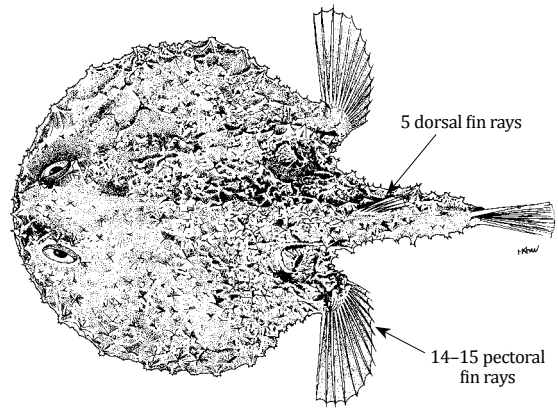



**Size:** To 9 cm (SL)

## ***Halieutaea coccinea*** Alcock, 1889

**FAO names:** Scarlet seabat (En)

**Local name(s):** Nga Lin Noah, Nga Oat Phar.
**Habitat:** Benthic on continental shelf to continental slope; depth range 300–1 125 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc oval, not markedly rounded; body thicker than in *Halieutaea fumosa*; tail much shorter than disc; head elevated, higher than rest of body; illicial trough broad, esca very wide; dorsal surface covered by large granular tubercles, each with 4–5 facets, interspaces covered by tiny tubercles or not; ventral surface densely covered by pyramid-like tubercles, each with 3–4 facets.
**Colour:** Body uniformly pinkish or reddish when fresh; dorsal surface covered by scattered vermicular pattern.

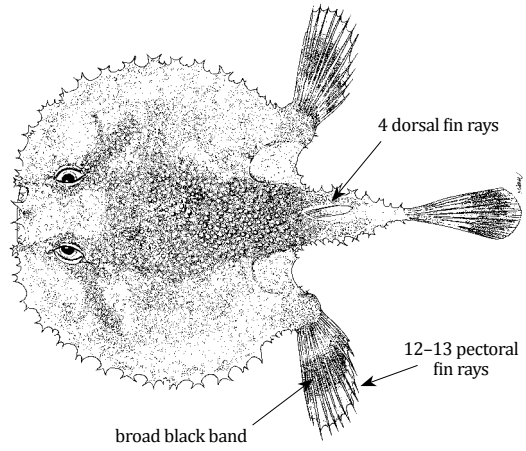



**Size:** To 28 cm (TL)

## ***Halieutaea fumosa*** Alcock, 1894

**FAO names:** Smoky seabat (En)

**Local name(s):** Nga Lin Noah, Nga Oat Phar.
**Habitat:** Benthic on continental shelf to continental slope; depth range 70–457 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Disc rounded, slightly wider than long; body more flattened than in *Halieutaea coccinea*; dorsal surface covered by low and small tubercles, each with 3–4 facets, interspaces naked; ventral surface usually naked or at most covered by few scattered small tubercles on belly; 6 pairs of slightly enlarge, equal sized tubercles on lateral side of caudal peduncle.
**Colour:** Body reddish to brownish when fresh, few spots or short vermiculates on dorsal surface; ventral surface red; eyes circled by thin black line; broad black bands on pectoral fin.

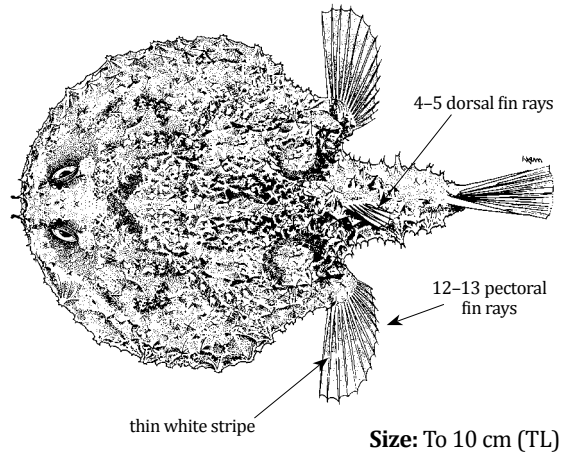



**Size:** To 13 cm (TL)

***Halieutaea indica*** Annandale & Jenkins, 1910

**FAO names:** Indian handfish (En)

**Local name(s):** Nga Lin Noah, India Nga Oat Phar.
**Habitat:** Benthic, offshore on continental shelves and upper continental slopes.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Disk distinctly rounded; rostrum extending slightly beyond mouth; dorsal surface covered with medium-sized, simple or bifurcated tubercles; ventral surface from completely naked to many scattered granular spinules; teeth on tongue forming two paddle-shaped patches, each with a long inner prolongation.
**Colour:** Disk brownish yellow with symmetrical dark reticulations across dorsal surface; pectoral fin orange yellowish, with thin white line across middle of fin; 2 pale bars on caudal fin; ventral surface reddish.

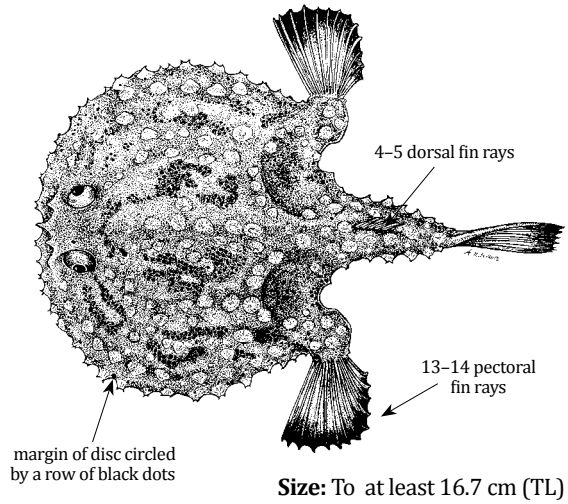



**Size:** To 10 cm (TL)

***Halieutaea*** sp. *

**FAO names:** None (En)

**Local name(s):** Nga Lin Noah, Nga Oat Phar Nyo.
**Habitat:** Benthic on continental shelf; depth range ca. 50–150 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Disk markedly rounded; body flattened; dorsal surface covered by large, point tubercles, each with 4–5 facets, interspace naked or with small forked tubercles; ventral surface covered by small simple or forked tubercles; lateral side of caudal peduncle with 2 pairs of enlarged tubercles, each with broad base and 3 strong spines distally.
**Colour:** Body reddish when fresh; irregular dark brown patches with many black dots on them on dorsal surface; ventral surface paler; all fins with broad black margin.
**Remarks:** This is a new species being presently described by H.-C. Ho ( H.-C. Ho pers. comm., 2017).

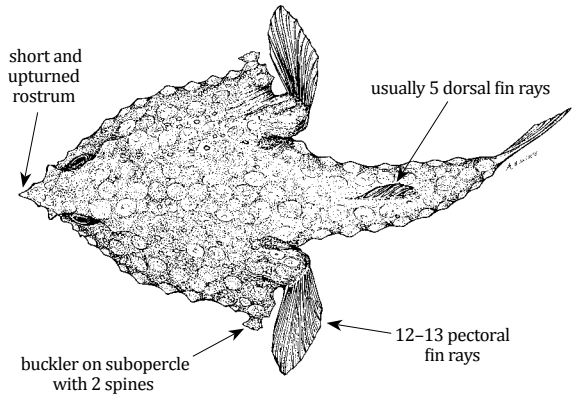



**Size:** To at least 16.7 cm (TL)

***Malthopsis*** cf. ***annulifera*** Tanaka, 1908 *

**FAO names:** None (En)

**Local name(s):** Nga Lin Noah, Nga Oat Phar Hnar.
**Habitat:** Benthic on continental shelf to continental slope; depth range 200–944 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body markedly triangular; tail stout, about as long as the body; illicial trough a small triangular cavity, with a simple bulb-like esca inside; dorsal surface and tail covered by low and small bucklers; ventral surface of body covered by scattered, small flattened bucklers, interspaces naked; 1 enlarged buckler on margin of each subopercle, bearing 2 spines, one directed forward and one directed upward;
**Colour:** Yellowish to brownish when fresh; ventral surface greyish.
**Remarks:** The only specimen lacks ocellate spots on dorsal surface and has an upturned rostrum, which may represent a different species.

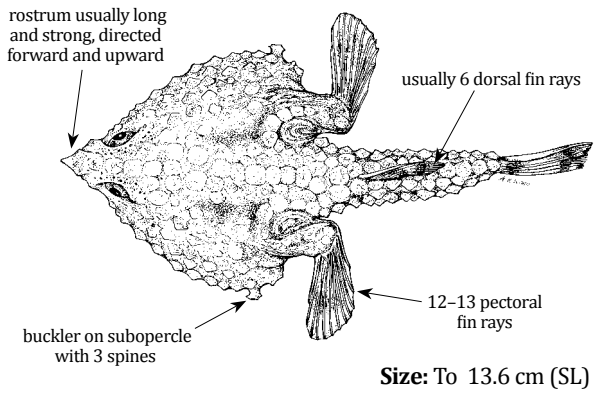



**Size:** To 9 cm (SL)

***Malthopsis gigas*** Ho & Shao, 2010

**FAO names:** Giant triangular batfish (En)

**Local name(s):** Nga Lin Noah, Nga Oat Phar Gyi.
**Habitat:** Benthic on continental shelf to continental slope; depth range ca. 200 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body markedly triangular; tail stout, about as long as the body; illicial trough a small triangular cavity, with a simple bulb-like esca inside; dorsal surface and tail covered by strong, conical bucklers; ventral surface of body densely covered small flattened bucklers, no prickles; 1 enlarged buckler on margin of each subopercle, bearing 3 spines, each directed forward, outward (or upward) and upward.
**Colour:** Body uniformly yellowish brown to dark grey, sometimes ventral surface whitish.

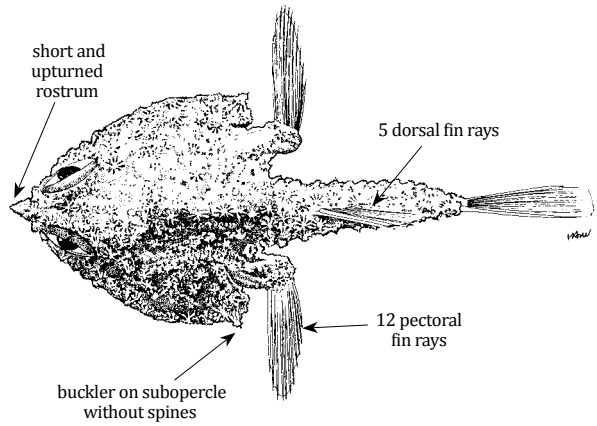



**Size:** To 13.6 cm (SL)

***Malthopsis*** cf. ***lutea*** Alcock, 1891

**FAO names:** Longnose seabat (En)

**Local name(s):** Nga Oat Phar Hnar Shae.
**Habitat:** Benthic on continental shelf to continental slope; depth range ca. 200 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body markedly triangular; tail stout, about as long as the body; rostrum short and small, directed upward and forward; illicial trough a small triangular cavity, with a simple bulb-like esca inside; dorsal surface covered by low, flat bucklers; ventral surface loosely covered by small bucklers, interspaces completely naked; subopercle buckler dull, without any enlarged spines.
**Colour:** Body brownish grey.
**Remarks:** Ho & Shao (2010) redescribed this species and selected a lectotype. Lloyd (1909) reported that the type series of *Malthopsis lutea* comprises three forms, one of them, with photos taken from Myanmar, may not have a name.



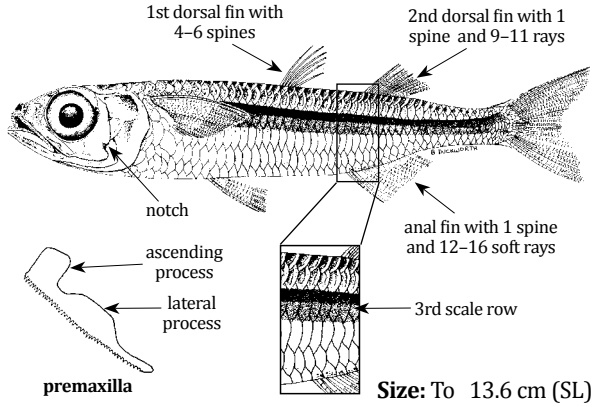

**Size:** To 10 cm (SL)

## ATHERINIDAE
Silversides

***Atherinomorus pinguis*** (Lacepède, 1803)

**FAO names:** Narrow-banded hardyhead silverside(En)

**Local name(s):** Ngwe Sin Chaung Nga.
**Habitat:** Reef-associated. Forms large schools.
**Fisheries:** Seines.
**Distinctive Characters:** Posterior tip of upper jaw reaching to or slightly beyond a vertical through anterior margin of pupil; notch on anterior edge of preopercle; anus at or little anterior to pelvic fins tip; ascending process of premaxilla short and broad; lower margin of midlateral band reaching to the ventral end of the 3rd scale row.
**Colour:** Greenish grey dorsally; a broad (1 scale width or less) silvery longitudinal band on side; 1–2 rows of dark spots usually present below midlateral band.



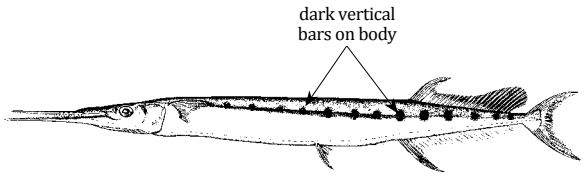

**Size:** To 13.6 cm (SL)

# BELONIDAE
Needlefishes

***Ablennes hians*** (Valenciennes, 1846)

**FAO names:** Flat needlefish (En)
Orphie plate (Fr)

**Local name(s):** Nga Phaung Yoe Bae Set.
**Habitat:** Pelagic, inhabiting offshore surface waters, abundant around islands.
**Fisheries:** Gillnets.
**Distinctive Character:** Body strongly laterally compressed; dorsal fin with 23–26 (usually 24–25 rays); anal fin with 24–28 (usually 26–27 rays); gill rakers absent; pectoral fins falcate with 13–15 rays; anterior part of dorsal and anal fins with high falcate lobes; caudal peduncle without lateral keels.
**Colour:** Bluish green above, silvery white below; 12–14 prominent dark vertical bars on body.



(from Collette and Parin, 1970)

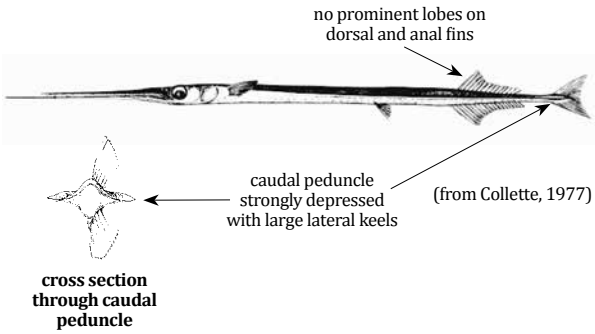
**Size:** To 140 cm (TL)

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***Platybelone argalus*** (Lesueur, 1821)

**FAO names:** Keeltail needlefish (En)
Orphie carénée (Fr)

**Local name(s):** Nga Phaung Yoe Suu Line Ahmee.
**Habitat:** Pelagic in offshore waters.
**Fisheries:** Gillnets.
**Distinctive Character:** Body rounded in cross-section; dorsal fin with 12–15 rays; anal fin with 17–20 rays; gill rakers present; pectoral fins not falcate; caudal fin forked, upper and lower lobes of about equal length.
**Colour:** Bluish green above, silvery below; a dark blue stripe along sides; fins unpigmented; scales and bones green.
**Remarks:** Circumglobal in tropical seas; divisible into five subspecies according to some authors. *Platybelone argalus platyura* extends throughout the Indo-Pacific (with the exception of the Red Sea).



(from Collette, 1977)

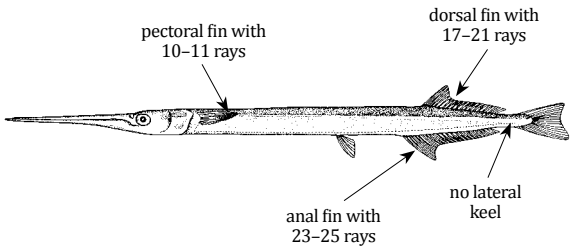
**Size:** To 50 cm, common 35 cm (TL)

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***Strongylura leiura*** (Bleeker, 1850)

**FAO names:** Yellowfin needlefish (En)

**Local name(s):** Nga Phaung Yoe Suu War.
**Habitat:** In coastal areas, also in estuaries.
**Fisheries:** Gillnets.
**Distinctive Character:** Body elongate, laterally compressed, almost rectangular in cross section; origin of dorsal fin over 7$^{th}$ to 10$^{th}$ ray of anal fin; predorsal scales moderately small, 130 to 180; caudal fin emarginate (not deeply forked); gill rakers absent.
**Colour:** Back greenish, sides silvery, white ventrally; a black bar on cheek between opercle and preopercle; pectoral fins dark distally, the tip yellow.

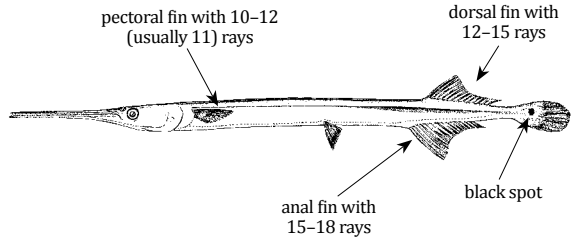



**Size:** To 73 cm (TL)

## *Strongylura strongylura* (van Hasselt, 1823)

**FAO names:** Spottail needlefish (En)
Aiguillette ocelée (Fr)

**Local name(s):** Nga Phaung Yoe A Me' Set.
**Habitat:** In coastal areas and estuaries, also enters fresh water.
**Fisheries:** Gillnets, seines.
**Distinctive Character:** Body rounded in cross-section; caudal peduncle without lateral keels; caudal fin rounded or truncate; gill rakers absent.
**Colour:** Back greenish, sides silvery, white ventrally; pectoral, pelvic and anal fins light; dorsal fin lobe and distal margin of caudal fin yellow in live adults; caudal fin with a prominent round black spot near its base; anterior margin of anal fin orange.

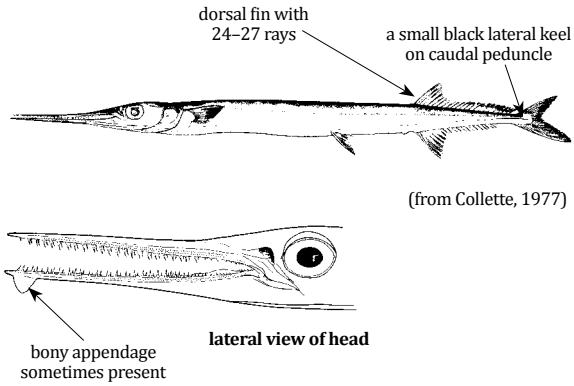



**Size:** To 40 cm (SL)

## *Tylosurus acus* (Lacepède, 1803)

**FAO names:** Agujon needlefish (En)
Aiguille voyeuse (Fr)

**Local name(s):** Nga Phaung Yoe A Hmeen Keel.
**Habitat:** Pelagic in offshore waters, also found in coastal waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body rounded in cross-section; caudal fin deeply forked, lower lobe much longer than upper; upper jaw curved producing a gap between upper and lower jaws; teeth straight at all sizes; anal fin with 22–24 (usually 23) rays; gill rakers absent; left gonad absent or greatly reduced.
**Colour:** Dark bluish above, silvery white below; juveniles with elevated black lobe in posterior part of dorsal fin which is lost with growth.
**Remarks:** Circumglobal in tropical seas and divisible into four subspecies: *T. acus melanotus* extends from South Africa through the Central and South Pacific.

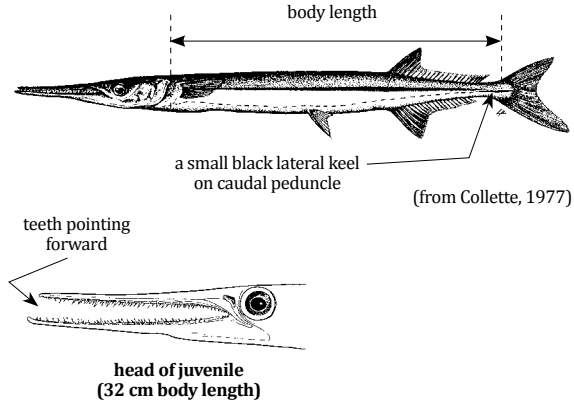



**Size:** To 153 cm (TL), common 90 cm (SL)

## *Tylosurus crocodilus* (Péron & Lesueur, 1821)

**FAO names:** Hound needlefish (En)
Aiguille crocodile (Fr)

**Local name(s):** Nga Phaung Yoe Mote Soe.
**Habitat:** Pelagic in coastal waters, but also offshore.
**Fisheries:** Gillnets.
**Distinctive Character:** Similar to *Tylosurus acus* but upper jaw straight (so there is no appreciable gap between jaws); teeth pointing anteriorly in juveniles (to 40 cm body length); dorsal fin with 21–24 (usually 22 or 23) rays; anal fin with 19–22 (usually 21 or 22) rays; both gonads are present.
**Colour:** Dark bluish green above, silvery below; a dark blue stripe along sides; juveniles (to 20 cm body length) with elevated black lobe in posterior part of dorsal fin which is lost with growth.
**Remarks:** Circumglobal in tropical seas and divisible in two subspecies: *T. crocodilus crocodilus* ranges in the Atlantic and Indo-West Pacific.

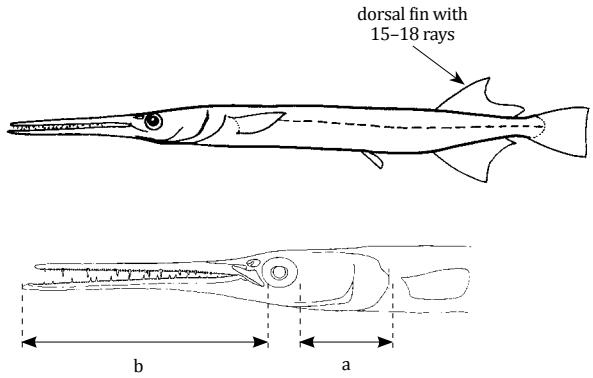



**Size:** To 124 cm, common 90 (SL)

***Xenentodon*** cf. ***cancila*** (Hamilton, 1822)

**FAO names:** Freshwater garfish (En)

**Local name(s):** Ye Gyo Nga Phaung Yoe.
**Habitat:** Pelagic in fresh and brackish waters.
**Fisheries:** Gillnets, seines.
**Distinctive Character:** Body rounded in cross-section, its depth 8–10 in SL; caudal fin truncate; dorsal fin inserted above a vertical through anal fin origin; anal fin with 16–19 rays; postorbital length of head (a) 2.5 in preorbital length (b).
**Colour:** Green-silvery dorsally, grading to whitish below; a silvery band with a dark margin along the side; a series of 4 or 5 blotches (absent in young specimens) on sides between the pectoral and anal fins; dorsal and anal fins with dark edges.
**Remarks:** Inclusion based on photographic documentation.



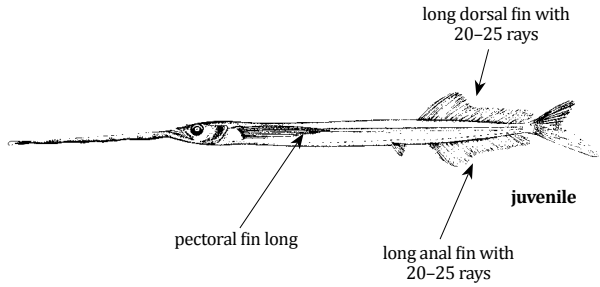

**Size:** To 40 cm (TL)

## HEMIRAMPHIDAE
Halfbeaks

***Euleptorhamphus viridis*** (van Hasselt, 1823)

**FAO names:** Longfinned halfbeak (En)

**Local name(s):** Nga Phaung Yoe Su Taung Shae.
**Habitat:** Oceanic species occurring in superficial waters.
**Fisheries:** Mostly taken with seines and pelagic trawls.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short, triangular and scaly; body very elongated, compressed and ribbon-shaped; teeth present on vomer and tongue; 20–25 dorsal fin rays; 20–25 anal fin rays; pectoral fins long, 3.6–4.0 in SL; usually 7–9 pectoral fin rays.
**Colour:** Back iridescent blue green; belly silvery; fins unpigmented; juveniles with black blotches on fleshy folds on each side of beak.

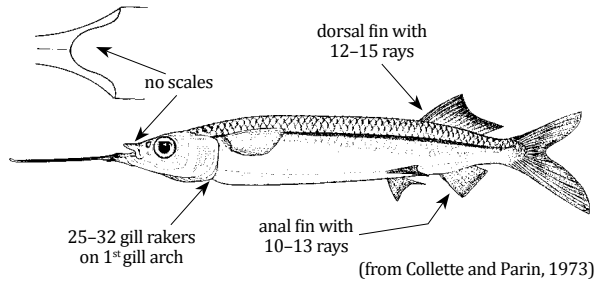



**Size:** To 53 cm (TL)

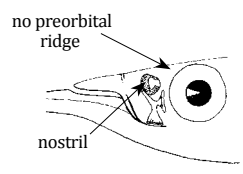
***Hemiramphus archipelagicus*** Collette & Parin, 1978

**FAO names:** Jumping halfbeak (En)
Demi-bec saltou (Fr)

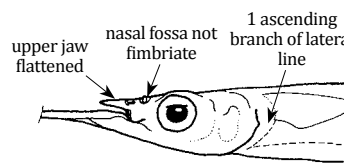
**Local name(s):** Nga Phaung Yoe Hnote Thee To.
**Habitat:** Inhabits the immediate vicinity of coasts, but juveniles sometimes found in offshore waters.
**Fisheries:** Mostly taken with seines and gillnets.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short triangular and scaleless; preorbital ridge (bony ridge behind nostril) absent (true of all *Hemiramphus* species); pectoral fins short, not reaching past nasal pit when folded forward; predorsal scales 32–37 (usually fewer than 37) caudal fin deeply forked.
**Colour:** Dark bluish on back; a midlateral silvery stripe edged dorsally in dark green; silvery white on ventral side of body; beak dark, with a bright red fleshy tip; margin of caudal fin blackish as well as outer part of median fins.
**Remarks:** An Indo-West Pacific species recorded off the west coast of southern Thailand. Most likely occurring also in Myanmar.




(from Collette and Parin, 1973)




**head (lateral view)**



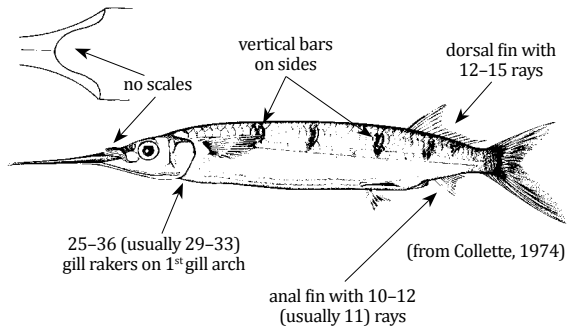

**anterior part of body (lateral view)**

**Size:** To about 34 cm (TL)

## *Hemiramphus far* (Forsskål, 1775)

**FAO names:** Black-barred halfbeak (En)

**Local name(s):** Nga Phaung Yoe Bae Kywet.
**Habitat:** Found in proximity of continental coasts and islands, chiefly in areas of rich submerged vegetation.
**Fisheries:** Mostly taken with gillnets.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short triangular and scaleless; preorbital ridge (bony ridge behind nostril) absent (true of all *Hemiramphus* species); pectoral fins short, not reaching past nasal pit when folded forward; predorsal scales 32–39 (usually fewer than 37) caudal fin deeply forked.
**Colour:** Dark bluish above, silvery white below, with 3–9 (usually 4–6) vertical bars on sides; beak dark, with a bright red fleshy tip.

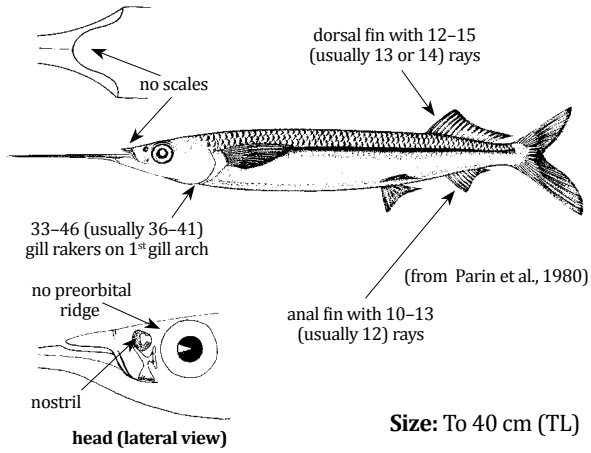



**Size:** To about 45 cm, common to 27 cm (TL)

## *Hemiramphus lutkei* Valenciennes, 1847

**FAO names:** Lutke's halfbeak (En)

**Local name(s):** Nga Phaung Yoe Bae Sinn.
**Habitat:** Found more offshore than other species of *Hemiramphus* in the area.
**Fisheries:** Mostly taken with seines and pelagic trawls.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short, triangular and scaleless; preorbital ridge (bony ridge behind nostril) absent (true of all *Hemiramphus* species); pectoral fins long, reaching beyond anterior margin of nasal pit when folded forward; predorsal scales 35–43 (usually more than 37); caudal fin deeply forked.
**Colour:** Dark bluish above, silvery white below, with no spots or vertical bars on sides; beak dark with a bright red fleshy tip; upper lobe of caudal fin bluish.

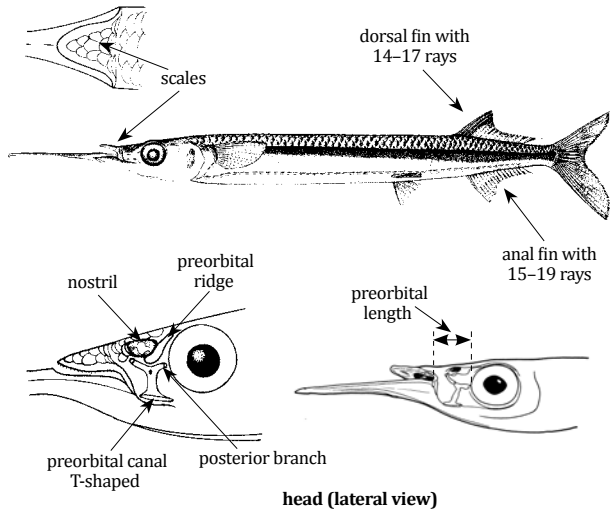



**Size:** To 40 cm (TL)

## *Hyporhamphus affinis* (Günther, 1866)

**FAO names:** Coral reef halfbeak (En)

**Local name(s):** Thandar Nga Phaung Yoe.
**Habitat:** Found chiefly around coral reefs and islands.
**Fisheries:** Mostly taken with gillnets and seines.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short, triangular and scaly; preorbital ridge (bony ridge behind nostril) present (true of all *Hyporhamphus* species); pectoral fin small, its length 7.7–10 in SL; preorbital canal T-shaped, with posterior branch; preorbital length 1.4–1.9 in orbit diameter; number of gill rakers on 1st gill arch 31–36; caudal fin distinctly forked.
**Colour:** Body deep blue above, silvery stripe on side, silvery white below; caudal fin bluish, other fins unpigmented; tip and distal half of underside of lower jaw bright carmine red.
**Remarks:** Recorded off the west coast of southern Thailand. Most likely occurring also in Myanmar.

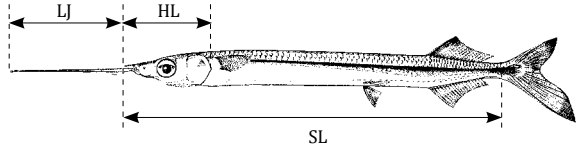



**Size:** To 38 cm (SL)

## *Hyporhamphus balinensis* (Bleeker, 1858)

**FAO names:** Balinese garfish (En)

**Local name(s):** Nga Phaung Yoe Hnote Thee To.
**Habitat:** Reef-associated occurring in superficial waters.
**Fisheries:** Mostly taken with seines and gillnets.
**Distinctive Characters:** Similar to *H. affinis* but preorbital length 1.0–1.2 in orbit diameter; lower jaw (LJ) long, its length 0.7–0.9 in head length (HL).
**Colour:** Greenish above, silvery white below, fleshy tip of beak red.



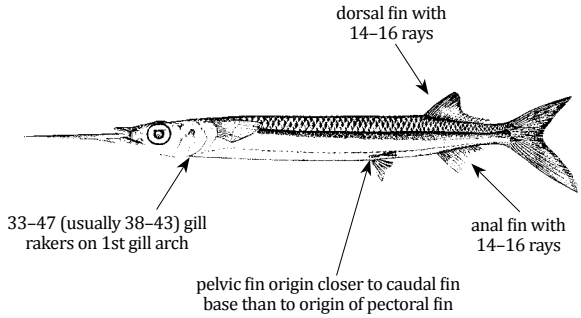

(from Parin et al., 1980)

**Size:** To 16.5 cm (SL)

## *Hyporhamphus dussumieri* (Valenciennes, 1847)

**FAO names:** Dussumier's halfbeak (En)

**Local name(s):** Datsu Nga Phaung Yoe Hnote Thee To.
**Habitat:** Most common around islands and coral reefs.
**Fisheries:** Mostly taken with gillnets and seines.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short, triangular and scaly; preorbital ridge (bony ridge behind nostril) present (true of all *Hyporhamphus* species); pectoral fins small, not reaching past nasal pit when folded forward; preorbital canal T-shaped, with posterior branch; preorbital length 1.7–2.2 in orbit diameter; distance from pelvic fin origin to caudal fin base contained 1–1.3 in distance from pectoral fin origin to pelvic fin origin; lower jaw length moderate, in large fishes up to 1.4 in head length caudal fin distinctly forked.
**Colour:** Greenish above, silvery white below; fleshy tip of beak red.

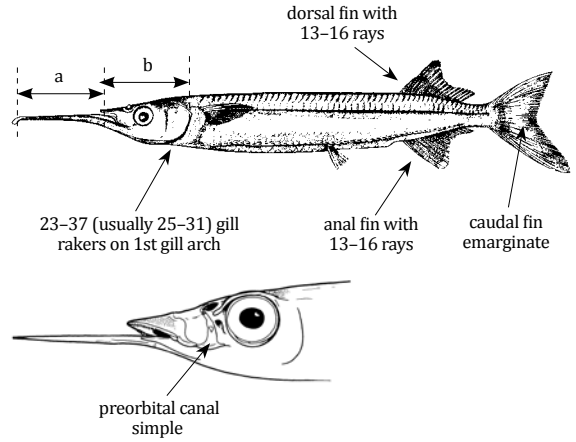



**Size:** To 38 cm (SL)

## *Hyporhamphus limbatus* (Valenciennes, 1847)

**FAO names:** Congaturi halfbeak (En)
Demi-bec congaturi (Fr)

**Local name(s):** Nga Phaung Yoe Hnote Thee To.
**Habitat:** In coastal areas and estuaries, also enters fresh water.
**Fisheries:** Gillnets, cast nets, bagnets, beach seine.
**Distinctive Characters:** Lower jaw very prolonged; upper jaw short, triangular and scaly; preorbital ridge (bony ridge behind nostril) present (true of all *Hyporhamphus* species); lower jaw (a) long, its length 0.7–1.3 in head length (b); preorbital canal simple, without posterior branch; preorbital length 1.3–2.1 in orbit diameter; caudal fin emarginate, not strongly forked.
**Colour:** Greenish above, the silvery lateral stripe widening posteriorly, white ventrally; fleshy tip of beak reddish.




**Size:** To 22 cm, common to 13 cm (SL)

## *Hyporhamphus quoyi* (Valenciennes, 1847)

**FAO names:** Quoy's halfbeak (En)

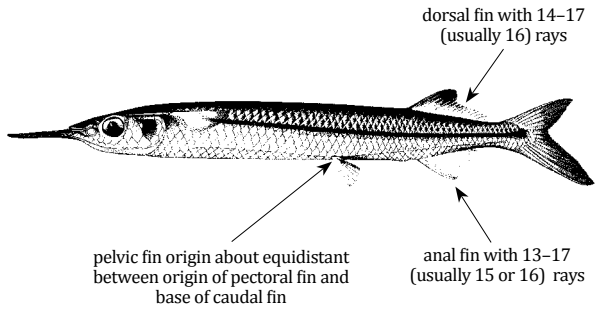
**Local name(s):** Nga Phaung Yoe Hnote Thee To.

**Habitat:** Inhabits more turbid and estuarine situations than does *H. dussumieri* and is not found around oceanic islands.

**Fisheries:** Gillnets, cast nets, bagnets, beach seine.

**Distinctive Characters:** Similar to *H. dussumieri* but upper jaw tip blunt and rounded (vs pointed in *H. dussumieri*); gill rakers on 1st gill arch 26–34 (up to 39 in Australian populations); distance from pelvic fin origin to caudal fin base 0.9–1.0 in distance from pectoral fin origin to pelvic fin origin; lower jaw short, in large fishes contained up to 2 times in head length.

**Colour:** Greenish above, silvery white below; fleshy tip of beak red.




**Size:** To 31.2 cm (SL)

## *Oxyporhamphus convexus* (Weber & de Beaufort, 1922)

**FAO names:** Flying halfbeak (En)

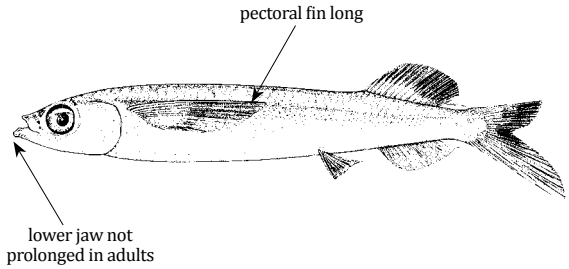
**Local name(s):** Nga Phaung Yoe Pyan.

**Habitat:** A coastal species frequently found near islands.

**Fisheries:** Mostly taken with seines and pelagic trawls.

**Distinctive Characters:** Adults without the prolonged lower jaw characteristic of most halfbeaks, but lower jaw up to 4 times in SL in young (specimens between 3.5 and 4.5 cm SL); pectoral fins elongate, 2.8–3.3 in SL, barely reaching origin of pelvic fins, with 11–13 rays; distance from pelvic fin origin to caudal fin base 1.1–1.4 in distance from pectoral fin origin to pelvic fin origin.

**Colour:** Pelvic fins intensively pigmented, with exception of innermost ray; pelvic fins always intensively pigmented distally in young at 2.5–3 cm SL and larger; skin folds along sides of lower jaw black in juveniles, with expanded lobes anteriorly (noticeably only in undamaged fish).




**Size:** To 17.6 cm (SL)

## *Rhynchorhamphus georgii* (Valenciennes, 1847)

**FAO names:** George's halfbeak (En)

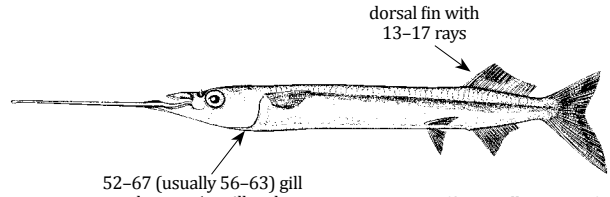
**Local name(s):** Jort Nga Phaung Yoe Hnote Thee To.

**Habitat:** Mostly inshore.

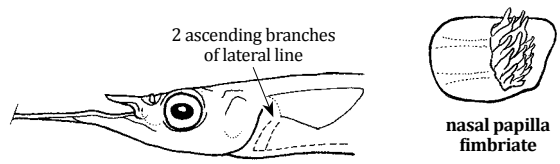
**Fisheries:** Mostly taken with seines.

**Distinctive Characters:** Lower jaw very prolonged; upper jaw moderately long, arched, and scaly; preorbital ridge (bony ridge behind nostril) present; nasal papillae fimbriate; 13–16 anal fin rays; lateral line with 2 branches ascending behind opercle and pectoral fin origin; caudal fin distinctly forked.

**Colour:** Greenish above, silvery below.




(from Collette, 1974)




**anterior part of body (lateral view)**

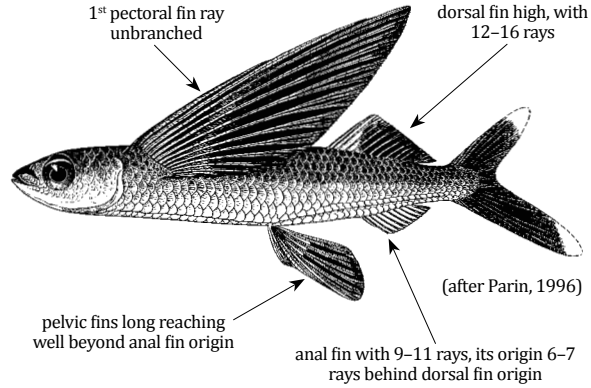
**Size:** To 23.1 cm (SL)

# EXOCOETIDAE
Flyingfishes

## *Cheilopogon abei* Parin, 1996

**FAO names:** Abe's flyingfish (En)

**Local name(s):** Abe Nga Pyan.
**Habitat:** Pelagic in neritic and oceanic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw slightly projecting; palatine teeth present; 22–29 predorsal scales; pelvic fins insertion closer to hind margin of head than to origin of lower caudal fin lobe; juveniles with a pair of short to medium chin barbels with lateral flap.
**Colour:** Dorsal and pelvic fins with a bright black spot; anal fin without pigmentation; pectoral fins black with an oblique light stripe (usually bright yellow in life, sometimes greyish); caudal fin evenly dark grey.

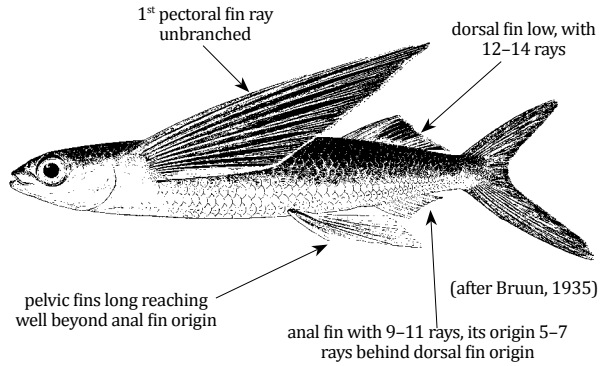



**Size:** To 25 cm (SL)

## *Cheilopogon cyanopterus* (Valenciennes, 1846)

**FAO names:** Margined flyingfish (En)
Exocet codène (Fr)

**Local name(s):** Bae line Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head about equal to distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; jaws of equal length; palatine teeth usually present; 33–41 predorsal scales; pelvic fins insertion closer to hind margin of head than to origin of lower caudal fin lobe; Juveniles with a pair of long chin barbels without lateral flaps.
**Colour:** Dorsal fin with a prominent black spot; pectoral fins dark (blue in life) without a pale transverse stripe or dark spots; pelvic fins without spots (with a dark spot in juveniles)

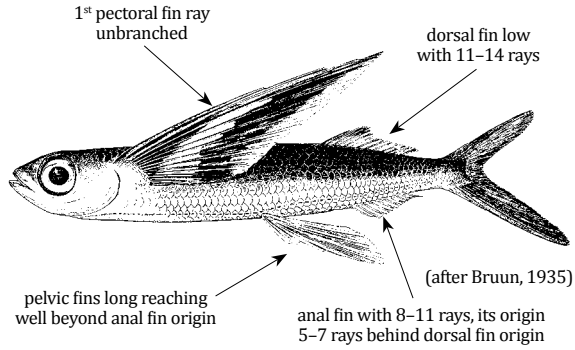



**Size:** To 34 cm (SL)

## *Cheilopogon furcatus* (Mitchill, 1815)

**FAO names:** Spotfin flyingfish (En)
Exocet tacheté (Fr)

**Local name(s):** Taung Pan Mae Set Nga Pyan.
**Habitat:** Pelagic in oceanic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw slightly projecting; palatine teeth absent; 25–34 predorsal scales; pelvic fins insertion closer to hind margin of head than to origin of lower caudal fin lobe; juveniles with a pair of rather long (up to 50% SL) chin barbels, without lateral flaps.
**Colour:** Pectoral fins light or dark grey with a pale margin, the central portion crossed by a pale stripe becoming narrower toward anterior fin margin; pelvic fins pale.

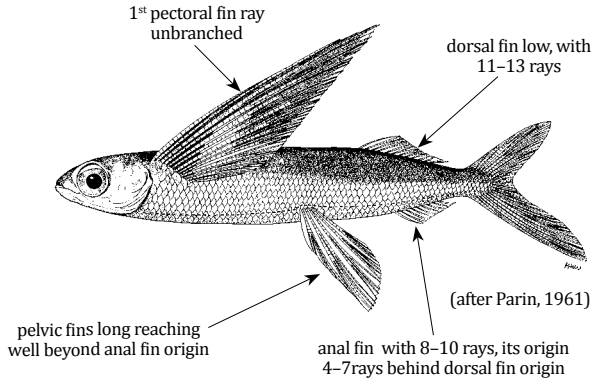



**Size:** To 30 cm (TL)

***Cheilopogon intermedius*** Parin, 1961

**FAO names:** Intermediate flyingfish (En)

**Local name(s):** Ale Alat Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; palatine teeth present or absent; jaws subequal; 25–30 predorsal scales; pelvic fins inserted about midway between head and origin of lower caudal fin lobe; juveniles with a pair of short barbels.
**Colour:** Pectoral fins dark grey with pale basal triangle and pale posterior margin; pelvic fins pale with traces of dark pigmentation along fin rays, sometimes entirely pale (in larger fishes); dorsal fin grey.

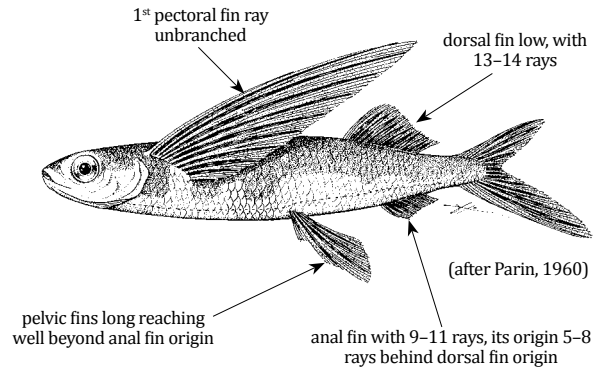



**Size:** To 22 cm (SL)

***Cheilopogon spilonotopterus*** (Bleeker, 1865)

**FAO names:** Stained flyingfish (En)
Exocet marbré (Fr)

**Local name(s):** Shunn Htin Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; jaws of equal length or lower jaw is longer; 28–35 predorsal scales; pelvic fins insertion closer to hind margin of head than to origin of lower caudal fin lobe; juveniles with a pair of very long tapering chin barbels.
**Colour:** Pectoral fins dark brown; dorsal fin with a large black spot, pelvic fins pale (dark in juveniles); dorsal fin grey.

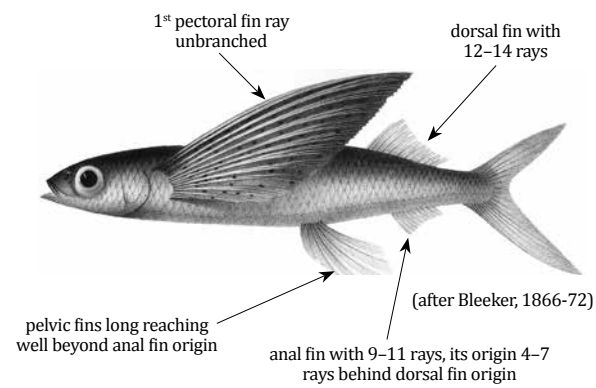



**Size:** To 38 cm (SL)

***Cheilopogon spilopterus*** (Valenciennes, 1847)

**FAO names:** Manyspotted flyingfish (En)

**Local name(s):** Set Pyauk Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw projecting; palatine teeth sparse or (rarely) absent; 28–34 predorsal scales; pelvic fins insertion closer to hind margin of head than to origin of lower caudal fin lobe; juveniles with a pair of elongated and flattened barbels connecting at their base.
**Colour:** Pectoral fins with varying number of small dark spots, usually not arranged in regular transverse bands; dorsal and pelvic fins pale.

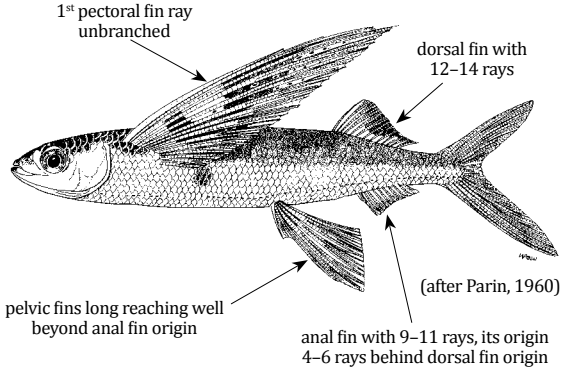



**Size:** To 25 cm (SL)

***Cheilopogon suttoni*** (Whitley & Colefax, 1938)

**FAO names:** Sutton's flyingfish (En)
Exocet de Sutton (Fr)

**Local name(s):** Sutton Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head subequal to distance from dorsal fin origin to origin of upper caudal fin lobe; upper jaw not protrusible; jaws of equal length or lower jaw is longer; palatine teeth present; 34–42 predorsal scales; pelvic fins inserted about midway between head and origin of lower caudal fin lobe; juveniles with 2 flattened chin barbels connecting at their base.
**Colour:** Dorsal fin usually with a black spot; pectoral fins grey or brownish with numerous scattered dark spots (spots may vary in number and size); pelvic fins usually without spots (spotted in juveniles).

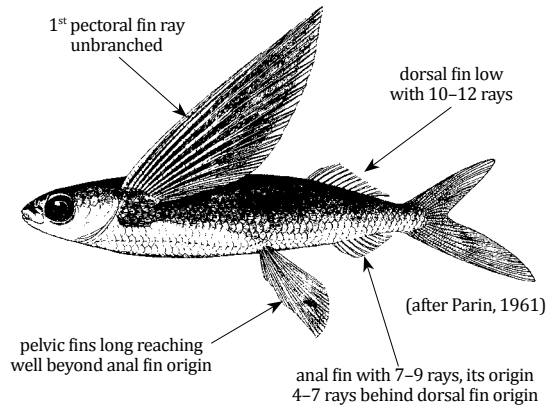



**Size:** To 29 cm (SL)

***Cypselurus naresii*** (Günther, 1889)

**FAO names:** Pharao flyingfish (En)
Exocet pharaon (Fr)

**Local name(s):** Pharoa Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head approximately equal distance to between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw usually a little shorter than the upper; palatine teeth present; 28–32 predorsal scales; pelvic fins inserted about midway between head and origin of lower caudal fin lobe or slightly closer to the latter; juveniles with a single long barbel, its basal portion 3-edged in cross-section.
**Colour:** Dorsal fin greyish; pectoral fins brownish, unpigmented below the 9th ray; pelvic fins usually with a dark spot (entirely dark in juveniles).

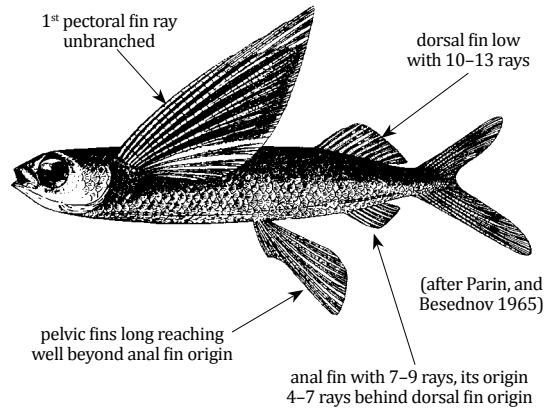



**Size:** To 21 cm (SL)

***Cypselurus oligolepis*** (Bleeker, 1865)

**FAO names:** Largescale flyingfish (En)
Exocet à grandes écailles (Fr)

**Local name(s):** A Kjee Gyi Nga Pyan.
**Habitat:** Pelagic in nearshore surface waters, never spread to open sea.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head much shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw a little shorter than the upper; palatine teeth present; 22–28 predorsal scales; pelvic fins inserted nearer to hind margin of head than to origin of lower caudal fin lobe; juveniles without barbels on chin.
**Colour:** Dorsal fin greyish; pectoral fins greyish brown, their lower portion and hinder tip colourless; pelvic fins without spots (dark in juveniles).

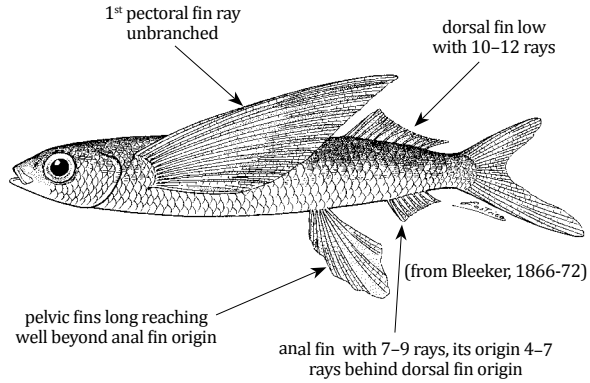



**Size:** To 18 cm (SL)

***Cypselurus opisthopus*** (Bleeker, 1865)

**FAO names:** Rearfin flyingfish (En)

**Local name(s):** Ahmee Paing Nga Pyan.
**Habitat:** Pelagic in open ocean and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head approximately equal to distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw a little shorter than the upper; palatine teeth present; 25–33 predorsal scales; pelvic fins inserted much nearer origin of lower caudal fin lobe than head; juveniles with a single short barbel.
**Colour:** Dorsal fin grey, pectoral fins brown with lower portion transparent; pelvic fins usually without spots (dark in juveniles).

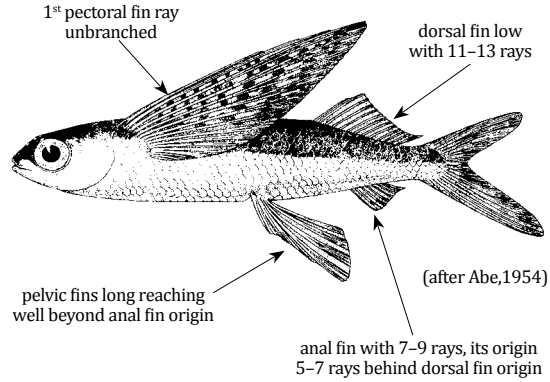



**Size:** To 18 cm (SL)

***Cypselurus poecilopterus*** (Valenciennes, 1847)

**FAO names:** Yellowing flyingfish (En)
Exocet aile jaune (Fr)

**Local name(s):** Awar Yaung Nga Pyan.
**Habitat:** Pelagic, mostly in neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; upper jaw not protrusible; lower jaw a little shorter than the upper; palatine teeth present; 23–29 predorsal scales; pelvic fins inserted nearer to hind margin of head than to origin of lower caudal fin lobe; juveniles without barbels on chin.
**Colour:** Dorsal fin greyish, sometimes with small dark spots (yellow with reddish spots in life); pectoral fins brownish grey with numerous dark spots (yellowish brown with black or brown spots in life) arranged in nearly regular transverse bands; pelvic fins greyish brown, sometimes with numerous small dark spots (yellow with brown spots in life).

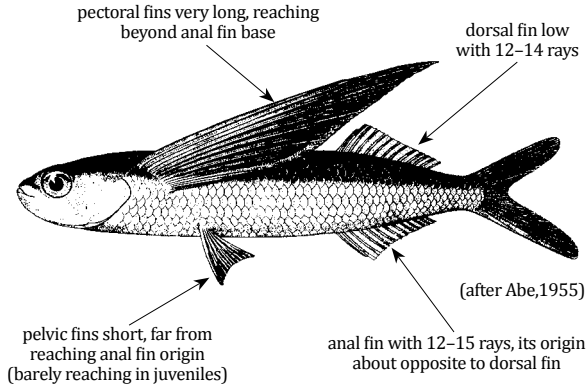



**Size:** To 20 cm (SL)

***Exocoetus monocirrhus*** Richardson, 1846

**FAO names:** Barbel flyingfish (En)
Exocet boue (Fr)

**Local name(s):** Mote Seik Nga Pyan.
**Habitat:** Pelagic mostly in oceanic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw protrusible; 21–29 gill rakers on 1st gill arch; usually 7– 7½ transverse rows of scales between dorsal fin origin and lateral line; juveniles hump-backed, with a single chin barbel and with black pelvic fins.
**Colour:** Body dark iridescent blue above, silvery white below; pectoral fins brown or dark brown and caudal fin greyish or brownish, other fins unpigmented.

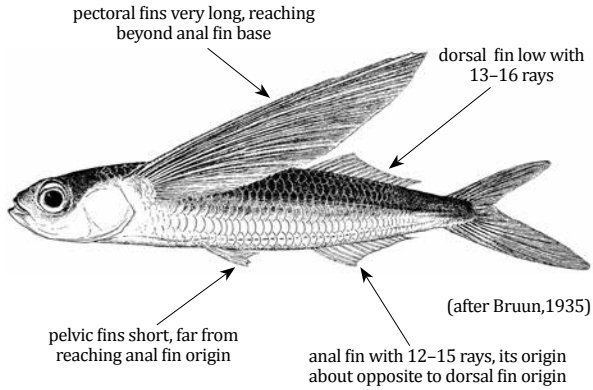



**Size:** To 20 cm (SL)

***Exocoetus volitans*** Linnaeus, 1758

**FAO names:** Tropical two-wing flyingfish (En)
Exocet volant (Fr)

**Local name(s):** Taung Pan Hnit Htut Nga Pyan.
**Habitat:** Pelagic, both near and far from the coast.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw protrusible; 29–37 (usually 32–34) gill rakers on 1st gill arch; usually 6–6½ transverse rows of scales between dorsal fin origin and lateral line; juveniles elongated, without chin barbel and with unpigmented pelvic fins.
**Colour:** Dark above, pale below (dark colour usually iridiscent blue in life); dorsal fin greyish; pectoral fins grey.



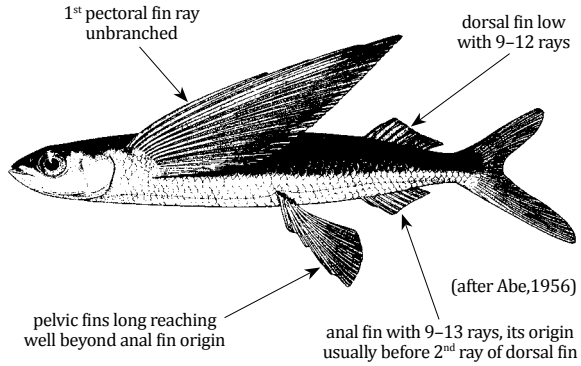

**Size:** To 18 cm (SL)

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***Hirundichthys oxycephalus*** (Bleeker, 1853)

**FAO names:** Bony flyingfish (En)
Exocet casque (Fr)

**Local name(s):** Bony Nga Pyan.
**Habitat:** Pelagic in nearshore and neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw not protrusible; jaws of equal length or lower jaw is larger; 25–38 (usually 27–34) gill rakers on first gill arch; pectoral fins with 14–18 rays; palatine teeth usually absent; juveniles without chin barbels.
**Colour:** Dorsal fin unpigmented or greyish; pectoral fins dark with a small non contrast pale basal triangle and narrow pale margin.



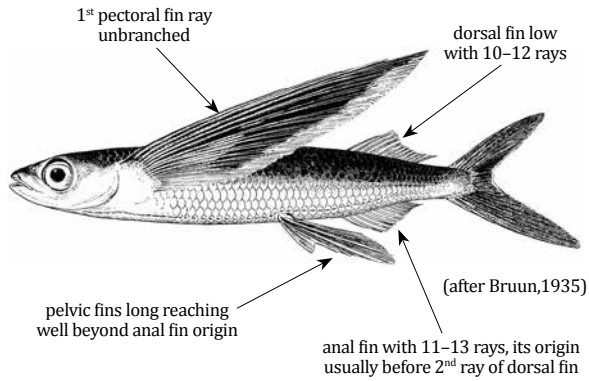

**Size:** To 23 cm (SL)

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***Hirundichthys speculiger*** (Valenciennes, 1846)

**FAO names:** Mirrorwing flyingfish (En)
Exocet miroir (Fr)

**Local name(s):** Hman Yaung Nga Pyan.
**Habitat:** Pelagic in oceanic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw not protrusible; jaws of equal length or lower jaw is longer; 22–30 (usually 24–28) gill rakers on 1st gill arch; pectoral fins with 16–19 rays; palatine teeth usually present; juveniles without chin barbels.
**Colour:** Dorsal fin unpigmented or greyish; pectoral fins dark with a contrast pale triangle "mirror" reaching up to 4th to 7th ray and wide pale margin.

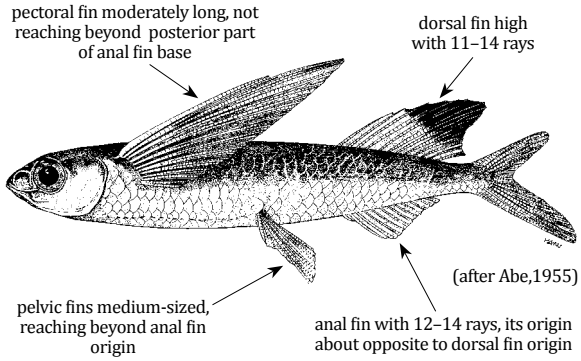



**Size:** To 25 cm (SL)

***Parexocoetus brachypterus*** (Richardson, 1846)

**FAO names:** Sailfin flyingfish (En)
Exocet voilier (Fr)

**Local name(s):** Ywet Teik Nga Pyan.
**Habitat:** Pelagic in neritic surface waters, rare in the open ocean.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw protrusible; predorsal scales 19–25; longest dorsal fin rays reaching far beyond origin of upper caudal fin lobe; juveniles with a pair of short chin barbels, which often remain even in adults.
**Colour:** Dark above, pale below, the dark colour usually iridescent greenish blue in life; dorsal fin with much black pigment in upper part; pectoral fins transparent.



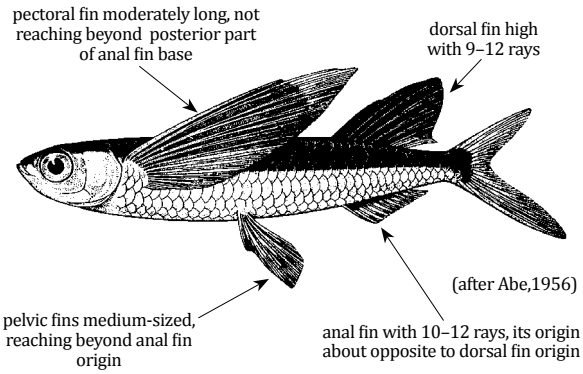

**Size:** To 14 cm (SL)

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***Parexocoetus mento*** (Valenciennes, 1847)

**FAO names:** African sailfin flyingfish (En)
Exocet voilier africain (Fr)

**Local name(s):** Africa Ywet Tike Nga Pyan.
**Habitat:** Pelagic in neritic surface waters, never spread to the open sea.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw protrusible; predorsal scales 16–21; longest dorsal fin rays scarcely reaching origin of upper caudal fin lobe; juveniles without chin barbels.
**Colour:** Dark above, pale below, the dark colour usually iridescent greenish blue in life; dorsal fin with much black pigment; pectoral fins greyish with pale tips.



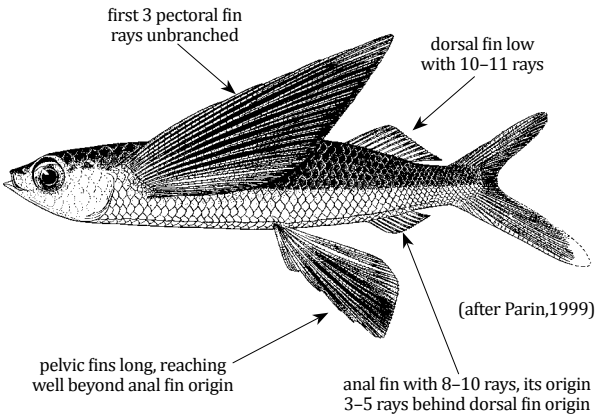

**Size:** To 11 cm (SL)

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***Prognichthys brevipinnis*** (Valenciennes, 1847)

**FAO names:** Shortfin flyingfish (En)
Exocet alle courte (Fr)

**Local name(s):** Su Taung Toe Nga Pyan.
**Habitat:** Usually in neritic surface waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; lower jaw usually a little shorter than the upper; upper jaw not protrusible; palatine teeth absent; juveniles without chin barbels.
**Colour:** Dark above, pale below, the dark colour usually iridescent blue in life; dorsal fin greyish; pectoral fins grey above, lower part and tip transparent; pelvic fins unpigmented or with dark pigment between 2$^{th}$ to 5$^{th}$ rays (in juveniles both pectoral and pelvic fins black).



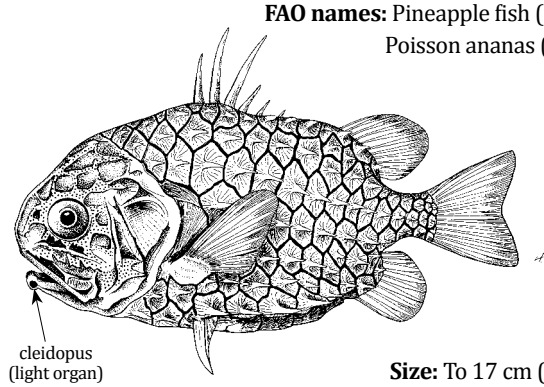

**Size:** To 19 cm (SL)

# MONOCENTRIDAE
Pinecone fishes

***Monocentris japonica*** (Houttuyn, 1782)

**FAO names:** Pineapple fish (En)
Poisson ananas (Fr)

**Local name(s):** Nga Su Pyan, Nga Nar Nat.
**Habitat:** Demersal from 3 m to about 300 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body covered with enlarged scales rigidly united to form rough armour; 1st dorsal fin with 5–6 free spines; 2nd dorsal fin with 11–12 rays; anal fin with 9–11 rays; pelvic fins with 1 large spine and 2–3 very small rays; a pair of light organs on each side of chin.
**Colour:** Yellow with black between scale plates, lateral light organ (cleidopus) red.



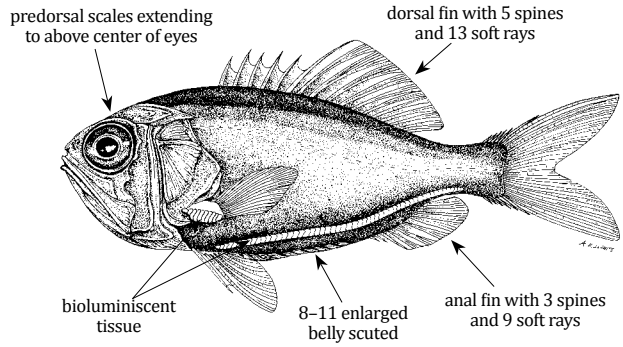

**Size:** To 17 cm (TL)

# TRACHICHTHYIDAE
Slimeheads

***Aulotrachichthys*** sp. *

**FAO names:** Andaman luminous roughy (En)

**Local name(s):** Pin Le' Nga Gaung Pwa.
**Habitat:** Depth range: 121–129 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.3–2.4 in SL; eye diameter 3.0–3.4 in HL; anus positioned between pelvic fin bases, circled by black membrane; bioluminescent tissue before pectoral fin base and in a narrow striated strip along ventral profile of body; 13 pectoral fin rays; 27 small, spineless lateral line scales.
**Colour:** Dorsal surface of head and body olivaceous; sides violet silvery; bioluminescent tissue silvery; fins, snout, tip of lips reddish orange; iris yellow.
**Remarks:** Possibly undescribed. Generic revision needed (M.F. Gomon pers. comm., 2018).

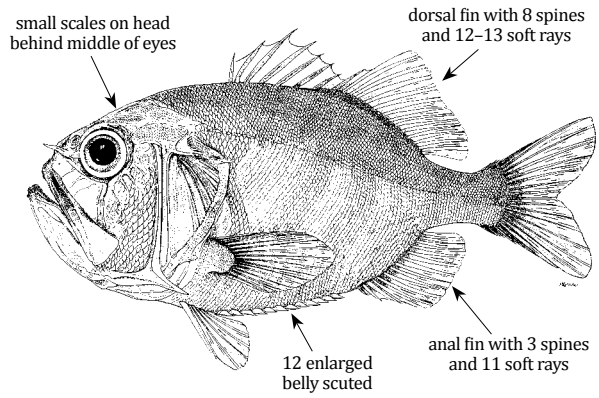



**Size:** At least to 9 cm (TL)

***Gephyroberyx*** sp. *

**FAO names:** Finescale roughy (En)

**Local name(s):** Kjee Chaw Pin Le' Nga Gaung Pwa.
**Habitat:** Depth range: 288–291 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2 in SL; eye diameter 3.4 in HL; nasal bone with forward directed spine; anus positioned immediately in advance of anal fin; dorsal fin spines robust, middle spines longest, last spine distinctly shorter than middle spines and soft rays; 15 pectoral fin rays; 27 small, spiny lateral line scales; no obvious luminous tissue.
**Colour:** Dorsal surface of head and body dark rosy; sides silvery; fins, snout, tips of lips reddish orange.
**Remarks:** Possibly undescribed. Generic revision needed (M.F. Gomon pers. comm., 2018).

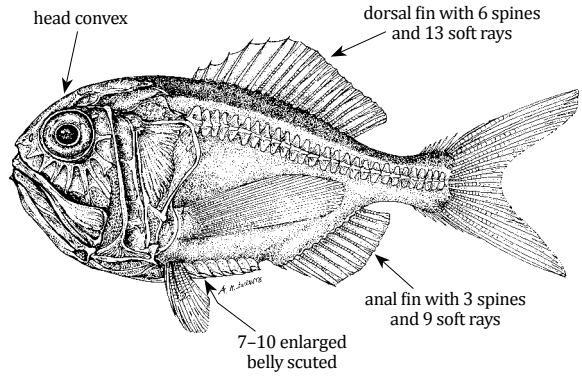



**Size:** At least to 10 cm (TL)

***Hoplostethus druzhinini*** Kotlyar, 1986

**FAO names:** Arabian roughy (En)

**Local name(s):** Arabya Pin Le' Nga Gaung Pwa.
**Habitat:** Bathypelagic from 288 to 498 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.1–2.3 in SL; eye diameter 3.3–3.6 in HL; 26–27 enlarged diamond-shaped lateral line scales; 20–22 predorsal scales; 7+1+13–14 gill rakers on 1st gill arch; 17–21 pyloric caeca; pectoral fins extending well beyond anal fin origin with 18–19 rays; no obvious luminous tissue; scales easily shed.
**Colour:** Dorsal surface of head and body pinkish purple; sides violet; belly silvery; fins, snout, tip of lips reddish orange; caudal fin lobes dark.
**Remarks:** Previously known only from the southern shores of the Arabian peninsula. The Myanmar records extend the species range to the Bay of Bengal (Eastern Indian Ocean).

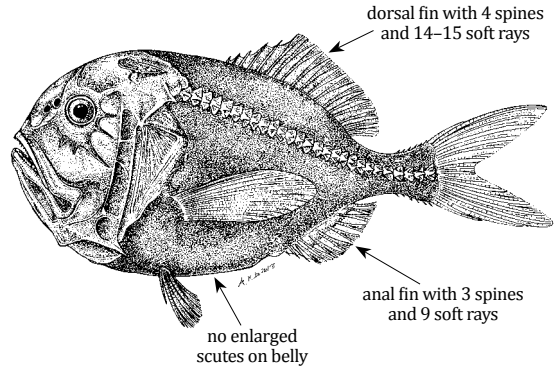



**Size:** To 17 cm (TL)

***Hoplostethus shubnikovi*** Kotlyar, 1980

**FAO names:** Metavay sawbelly (En)

**Local name(s):** Pin Le' Nga Gaung Pwa.
**Habitat:** Bathypelagic from 800 to 875 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.1–2.4 in SL; eye diameter 3.8–4.8 in HL; 26–27 enlarged lateral line scales; 23–25 predorsal scales; 7+1+13–14 gill rakers on 1st gill arch; pectoral fins extending well beyond anal fin origin with 19 rays; no obvious luminous tissue.
**Colour:** Head and body overall black; sides silvery; fins jet-black except caudal which is hyalin.



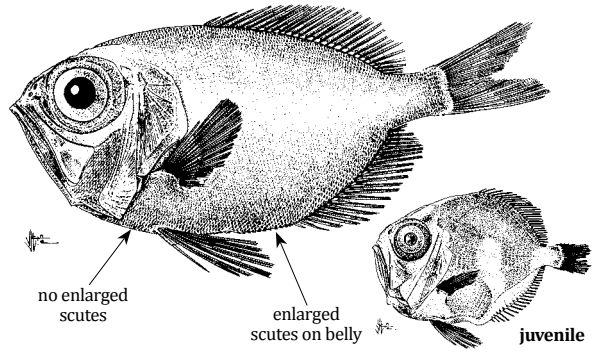

**Size:** To 20.3 cm (SL)

## DIRETMIDAE
Spinyfins

***Diretmichthys parini*** (Post & Quéro, 1981)

**FAO names:** Parin's spinyfish (En)

**Local name(s):** Suu Htuu Pin Le' Nga Gaung Pwa.
**Habitat:** Bathypelagic from the surface down to 2100 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body shape elliptic in adults; anus distinctly separated from 1st anal fin ray by a series of more than 5 scutes; no scutes anteriorly to pelvic fins; no true fin spines; pelvic fins extending to or beyond 1st anal fin ray; 26–29 dorsal fin rays; 20–23 anal fin rays; 16–20 gill rakers on 1st gill arch in adults (>25 cm SL).
**Colour:** Adults overall black; juveniles silvery with horseshoe-shaped dark band on sides.



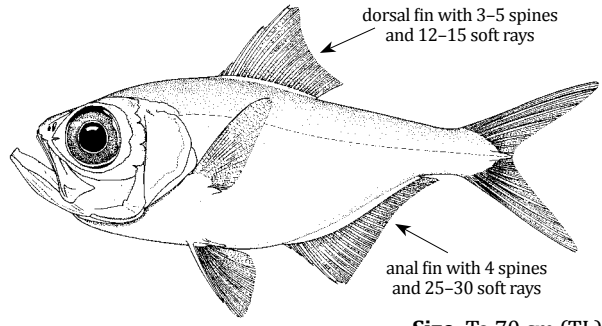

**Size:** To 40 cm (TL)

# BERYCIDAE
Alfonsinos

***Beryx splendens*** Lowe, 1834

**FAO names:** Slender alfonsino (En)
Beryx long (Fr)

**Local name(s):** Ye Net Ko Lone Thway Nga Ni.
**Habitat:** Benthopelagic of outer shelf and slope to at least 1 300 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body moderately deep, its depth about equal to head length and 2.4–2.8 in SL; head with only 1 spine on snout, most pronounced in juveniles; pelvic fins with 1 spine and 9–13 rays; 69–82 lateral line scales, extending onto caudal fin; 23–34 pyloric caecae; anterior rays of dorsal and pelvic fins may be elongate in smaller specimens.
**Colour:** Upper head and body, all fins and iris of eye bright red, becoming silvery pink below.



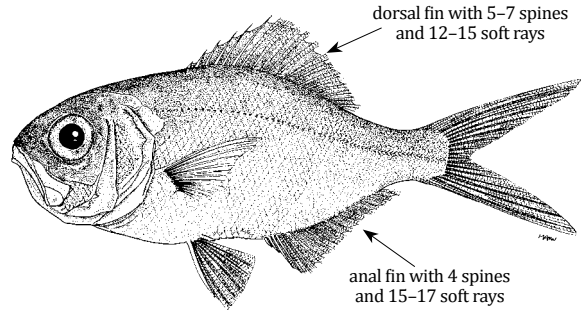

**Size:** To 70 cm (TL)

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***Centroberyx druzhinini*** (Busakhin, 1981)

**FAO names:** Druzhinin's alfonsino (En)

**Local name(s):** Kyaw Su Taung Waing Ye Net Nga.
**Habitat:** Benthopelagic from 100 to 300 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Cheek with 5 rows of scales; pelvic fin origin under dorsal fin origin; pelvic fins with 1 spine and 7 soft rays; 13 pectoral fins rays; 53–62 lateral line scales, not extending onto caudal fin.
**Colour:** Head and upper body and all fins except pectoral fins bright red, becoming silvery white below; pectoral fins pink; iris of eye yellow.




**Size:** To 28.5 cm (TL)

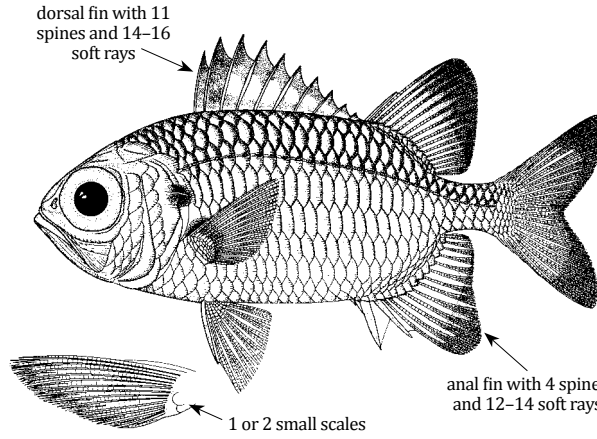
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# HOLOCENTRIDAE
Squirrelfishes – Soldierfishes

***Myripristis adusta*** Bleeker, 1853

**FAO names:** Shadowfin soldierfish (En)
Marignan ombré (Fr)

**Local name(s):** A Yeik Htwet Nga Kjee Mar.
**Habitat:** Occurs on coral reefs and rocky areas in relatively shallow water.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** A single pair of tooth patches at front of lower jaw outside mouth (rarely a smaller 2nd pair below); no sharp spine at corner of preopercle (true of all *Myripristis* species); 27–29 (usually 28) lateral line scales; a single scale (occasionally 2) on lower part of pectoral fin axil; 35–40 gill rakers on 1st gill arch.
**Colour:** Pale salmon pink; scales rimmed with black dorsally on body; a large blackish spot posteriorly on gill cover; distal third of soft dorsal fin, anal fin, and caudal fin lobes black; spinous dorsal fin reddish black with a median whitish band.

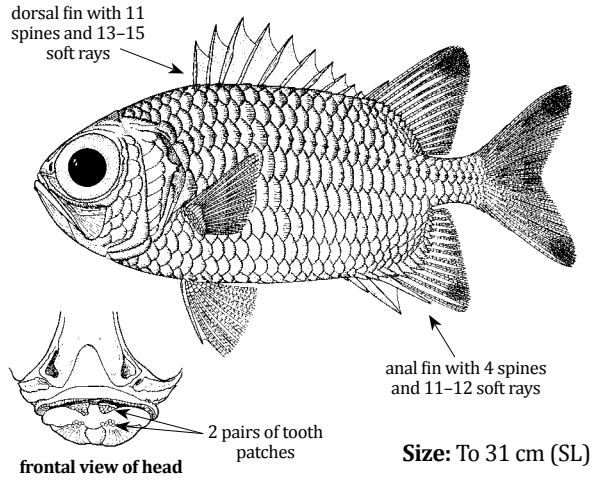



**Size:** To cm 35 (TL)

## *Myripristis botche* Cuvier, 1829

**FAO names:** Blacktip soldierfish (En)
Marignan poklé (Fr)

**Local name(s):** Suu Hteik Me' Nga Kjee Mar.
**Habitat:** Inhabits protected waters at depths greater than 25 m, often in silty reef areas.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Two pairs of tooth patches at front of lower jaw outside mouth; interorbital width width 4.5–5.7 in head length; 27–29 (modally 28) lateral line scales; no small scales in pectoral fin axil; 32–38 gill rakers on 1st gill arch.
**Colour:** Light red; opercular margin black to or below level of lower edge of eye; median fins red, the leading edges white, the elevated part of soft dorsal, anal and caudal fins lobes tipped with black.
**Remarks:** Presence of this species in Myanmar needs confirmation.

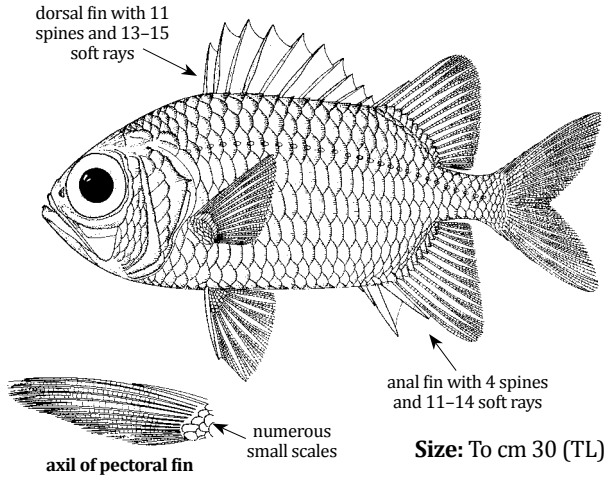



**Size:** To 31 cm (SL)

## *Myripristis hexagona* (Lacepède, 1802)

**FAO names:** Doubletooth soldierfish (En)

**Local name(s):** Khwar Hnit Htut Nga Kjee Mar.
**Habitat:** Occurs on coral reefs and rocky areas in relatively shallow water.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Two pairs of tooth patches at front of lower jaw outside mouth; interorbital width 4.4–5.2 in head length; 25–29 (modally 27) lateral line scales; small scales in pectoral fin axil; 36–50 gill rakers on 1st gill arch.
**Colour:** Light red; spinous dorsal fin light red and whitish basally, broadly bright red distally; soft dorsal, anal and caudal fins pale red; pelvic fins with withish rays, tinged basally with light red and clear membranes.
**Remarks:** Presence of this species in Myanmar needs confirmation.

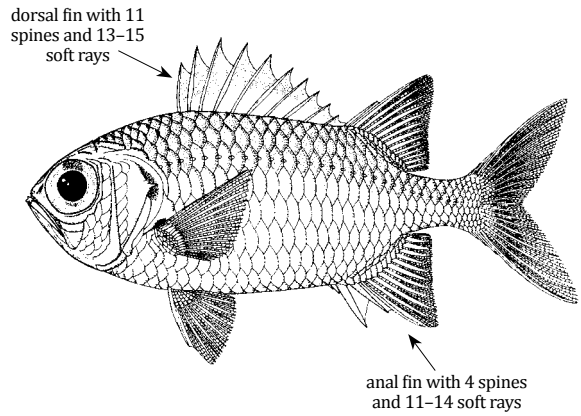



**Size:** To cm 30 (TL)

## *Myripristis murdjan* (Forsskål, 1775)

**FAO names:** Pinecone soldierfish (En)

**Local name(s):** Nga Kjee Mar Gaung Thae.
**Habitat:** Reef-associated species, usually found in less than 10 m, but known to depths of at least 50 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** A single pair of tooth patches at front of lower jaw outside mouth; interorbital width 4.4–5.2 in head length; 28–30 (modally 29) lateral line scales; small scales on lower 1/4 to 3/4 of pectoral fin axil; 36–44 gill rakers on 1st gill arch.
**Colour:** Light red; opercular membrane dark brown to black to about level of middle of eye; axil of pectoral fins dark brown to black; spinous dorsal fin light red on basal 2/3, bright red on outer 1/3.
**Remarks:** Presence of this species in Myanmar needs confirmation.

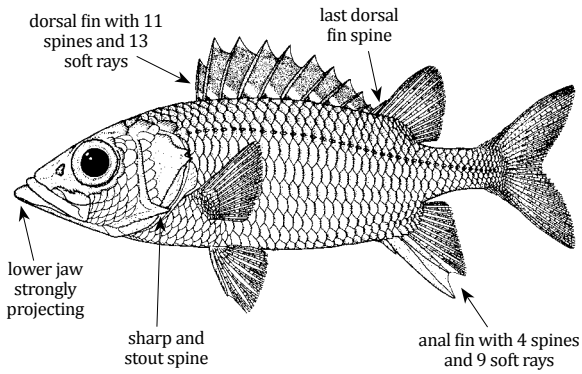



**Size:** To cm 23 (TL)

***Neoniphon opercularis*** (Valenciennes, 1831)

**FAO names:** Blackfin squirrelfish (En)
Marignan aile noire (Fr)

**Local name(s):** Suu Taung Mae Nga Kjee Mar.
**Habitat:** A reef species which may be found in shallow to moderate depths.
**Fisheries:** Gillnets.
**Distinctive Characters:** Corner of preopercle with a sharp stout spine; lower jaw strongly projecting when mouth closed; last dorsal fin spine longer than penultimate spine, much closer to first soft ray than to penultimate spine (true of all *Neoniphon* species); 38–40 lateral line scales.
**Colour:** Silvery pink (scale centres light red, the edges broadly silver); snout and top of head light red; spinous dorsal fin black, the membranes tipped with white, with a diagonal white spot near base of each membrane.
**Remarks:** Presence of this species in Myanmar needs confirmation.



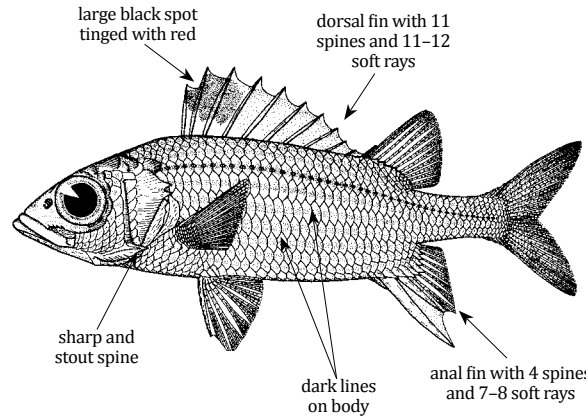

**Size:** To 32 cm (TL)

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***Neoniphon sammara*** (Forsskål, 1775)

**FAO names:** Sammara squirrelfish (En)
Marignan tacheté (Fr)

**Local name(s):** Ko Lone Thway Nga Kjee Mar.
**Habitat:** Associated with coral reefs; most often seen in shallow water of protected bays and lagoons.
**Fisheries:** Gillnets.
**Distinctive Characters:** Corner of preopercle with a sharp stout spine; lower jaw projecting when mouth closed; last dorsal fin spine longer than penultimate spine, much closer to first soft ray than to penultimate spine; 39–43 lateral line scales.
**Colour:** Silvery, each scale with a horizontally elongate dark reddish brown spot, thus forming longitudinal dark lines on body; snout and top of head light red; spinous portion of dorsal fin with a large black spot tinged with red on membranes between first and fourth spines.
**Remarks:** Presence of this species in Myanmar needs confirmation.



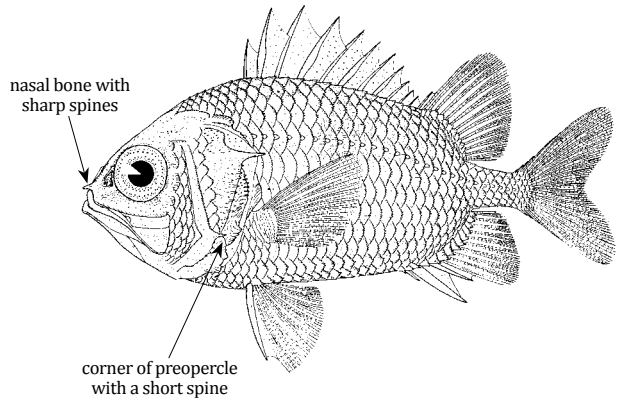

**Size:** To 32 cm (TL)

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***Ostichthys acanthorhinus*** Randall, Shimizu & Yamakawa, 1982

**FAO names:** Spinysnout squirrelfish (En)

**Local name(s):** Suu Hnar Hteik Nga Kjee Mar.
**Habitat:** A benthic species at depths from 272 m to 600 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Anterior end of each nasal bone with a sharp forward-directed spine projecting to or beyond median part of upper of upper lip; 3½ scale rows above lateral line to middle of spinous portion of dorsal fin; short stout spine at corner of preopercle; 29 lateral line scales; 16–17 (usually 16) pectoral fin rays; gill rakers on 1st gill arch 10–12 on upper limb and 16–18 on lower limb.
**Colour:** Color uniformly red, with no white markings.

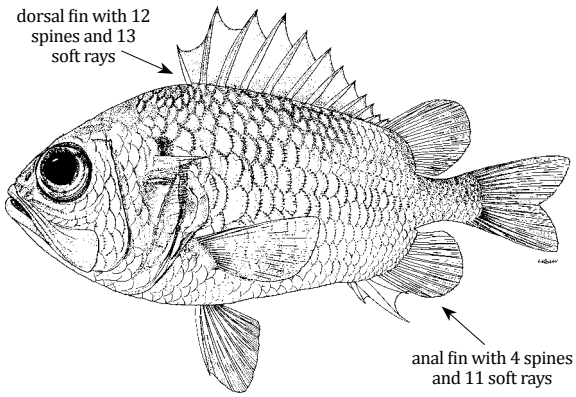



**Size:** To 22 cm (TL)

***Ostichthys convexus*** Greenfield, Randall & Psomadakis, 2017

**FAO names:** Roundhead soldierfish (En)

**Local name(s):** Gaung Lone Nga Kjee Mar.
**Habitat:** Depth range: 116–129 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Profile of head convex; no spine at corner of preopercle; lower margin of maxilla to top of eye 1.6–2.0 in HL; caudal peduncle length 8.3–9.5 in SL; 3½ scale rows above lateral line to middle of spinous portion of dorsal fin; 28–29 lateral line scales; height of suborbital bone below center of eye about 1/4–1/3 of eye diameter; last dorsal fin spine shorter than penultimate spine; 16–17 pectoral fin rays; 13 (including rudiments) gill rakers on lower limb of 1st gill arch.
**Colour:** Body pinkish red on dorsal half of head and body, ventral half silvery.

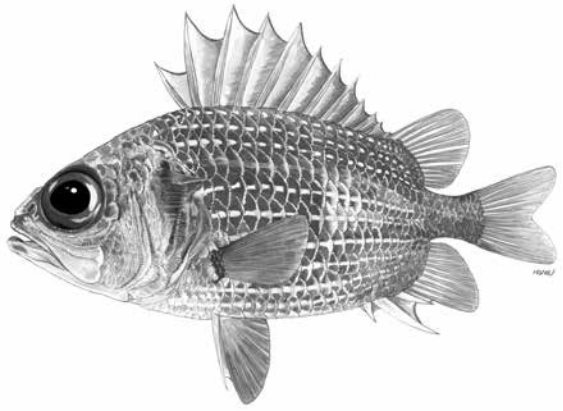



**Size:** At least to 16.4 cm (SL)

***Ostichthys daniela*** Greenfield, Randall & Psomadakis, 2017

**FAO names:** Daniela's soldierfish (En)

**Local name(s):** Danilar Nga Kjee Mar.
**Habitat:** Depth range: 116–129 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Ostichthys convexus* but head slopes more steeply; lower margin of maxilla to top of eye 2.2 in HL; caudal peduncle length 12.0 in SL; 28 lateral line scales; height of suborbital bone below center of eye 1/3 of eye diameter; 16 pectoral fin rays; 5 opercular scale rows (vs 4 in *O. convexus*).
**Colour:** Body carmine red with white lines running along centers of scales along length of body.

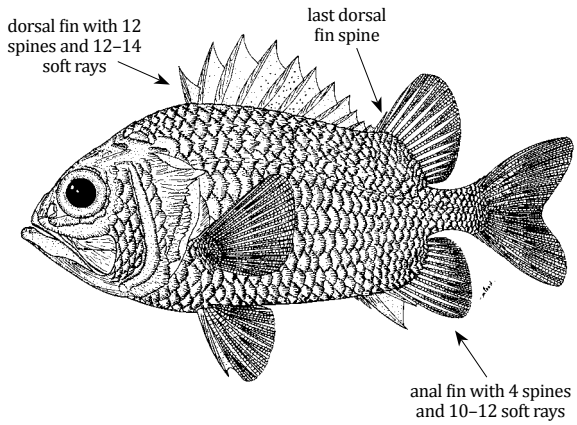


**Size:** At least to 10.5 cm (SL)

***Ostichthys japonicus*** (Cuvier, 1829)

**FAO names:** Japanese soldierfish (En)

**Local name(s):** Japan Nga Kjee Mar.
**Habitat:** Depth range: 90–240 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Profile of head convex; no spine at corner of preopercle; 3½ scale rows above lateral line to middle of spinous portion of dorsal fin; 28–30 (usually 28) lateral line scales; height of suborbital bone below center of eye 1/2 of eye diameter; last dorsal fin spine distinctly longer than penultimate spine; 15–17 (usually 17) pectoral fin rays; gill rakers on 1st gill arch 7–10 on upper limb and 12–14 on lower limb.
**Colour:** Body overall reddish, edges of scales red, the centers silvery pink.
**Remarks:** A specimen with slight differences in the relative lengths of the dorsal fin spines and thickness of 2nd anal fin spine was documented in Myanmar (see Greenfield *et al*. 2017).

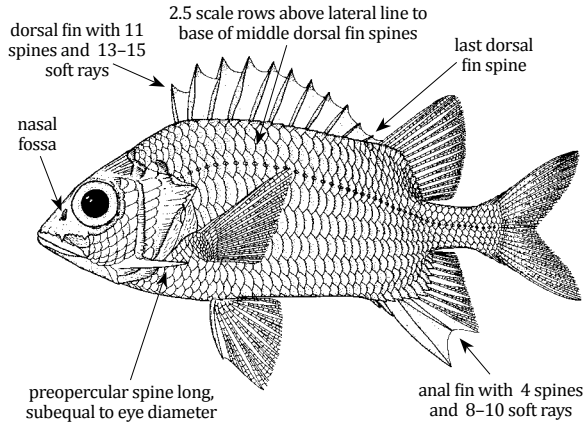



**Size:** To 45 cm (TL)

## *Sargocentron caudimaculatum* (Rüppell, 1838)

**FAO names:** Silverspot squirrelfish (En)
Marignan rouge et argent (Fr)

**Local name(s):** Ngwe Yaung Set Nga Kjee Mar.
**Habitat:** A reef-associated species.
**Fisheries:** Gillnets, hook and line.
**Distinctive Characters:** Corner of preopercle with a sharp long spine; last dorsal fin spine shortest, equidistant between penultimate spine and first soft ray (true of all *Sargocentron* species); nasal fossa with 1 (rarely 2) spinules on anterior margin; 38–43 lateral line scales; 5 scale rows on cheek.
**Colour:** Head and body red without stripes, the scales rimmed posteriorly with silvery white; a saddle-like silvery white spot dorsally on caudal peduncle; in life, posterior third of body may be silvery white.
**Remarks:** Presence of this species in Myanmar needs confirmation.

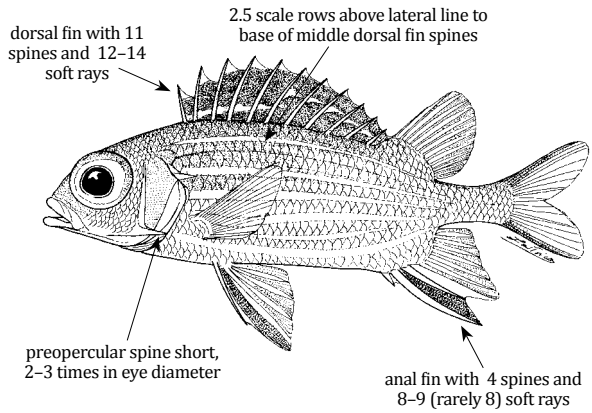



**Size:** To 24 cm (TL)

## *Sargocentron diadema* (Lacepède, 1802)

**FAO names:** Crown squirrelfish (En)

**Local name(s):** Thaya Phu Nga Kjee Mar.
**Habitat:** A reef-associated species.
**Fisheries:** Gillnets, hook and line.
**Distinctive Characters:** Corner of preopercle with a sharp spine; body depth 2.8–3.3 in SL; nasal fossa without spinules; 44–49 lateral line scales; usually 14 pectoral fin rays; 5–6 scale rows on cheek.
**Colour:** Body with alternating broad red and narrower silvery white stripes; head read with 2 vertical white streaks on the opercle, 1 on its edge and an oblique one below the eye; distinctive reddish black to black dorsal fin with a disjunct longitudinal whitish band (lower in anterior part of fin and higher in posterior part) and whitish tips.
**Remarks:** Presence of this species in Myanmar needs confirmation.

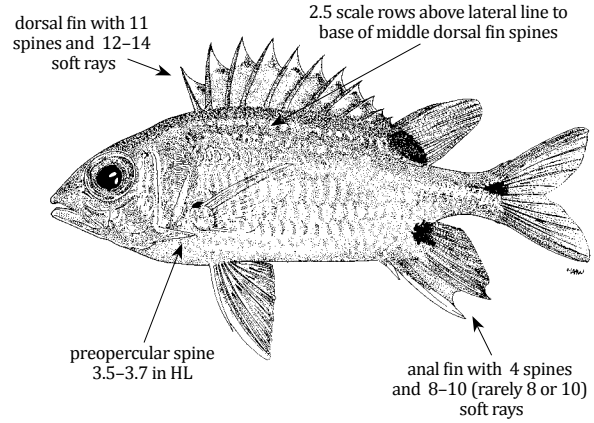



**Size:** To 17 cm (TL)

## *Sargocentron melanospilos* (Bleeker, 1858)

**FAO names:** Blackblotch squirrelfish (En)

**Local name(s):** A Ni Yaung Nga Kjee Mar.
**Habitat:** Reef-associated; depth range 5–90 m.
**Fisheries:** Bottom trawls, gillnets, hook and line.
**Distinctive Characters:** Corner of preopercle with a sharp spine; body depth 2.6–3.0 in SL; membranes of spinous portion of dorsal fin deeply incised; nasal fossa with 1–4 spinules on posterior edge; 33–36 lateral line scales; 5 scale rows rows on cheek.
**Colour:** Body with red and white stripes following the scale rows; black blotch at base of soft dorsal, anal, and caudal fins, but may be faint or absent in caudal and anal fins.
**Remarks:** Presence of this species in Myanmar needs confirmation. Records of *Sargocentron rubrum* (Forsskål, 1775) outside the Red Sea are based on misidentification with this species (S. Bogorodsky pers. comm., 2019).

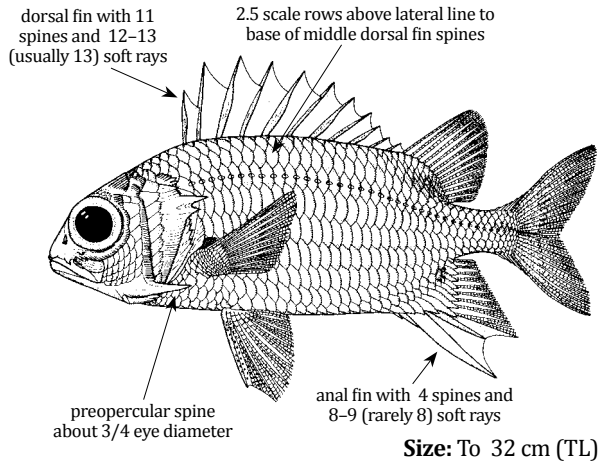



**Size:** To 25 cm (TL)

***Sargocentron praslin*** (Lacepède, 1802)

**FAO names:** Dark-striped squirrelfish (En)

**Local name(s):** A Mee Zin Nga Kjee Mar.
**Habitat:** Reef-associated species.
**Fisheries:** Gillnets, hook and line.
**Distinctive Characters:** Corner of preopercle with a sharp spine; body depth 2.5–2.8 in SL; nasal fossa without spinules; 33–36 lateral line scales; usually 14 pectoral fin rays; 4 scale rows on cheek.
**Colour:** Body with alternate stripes of silvery white and reddish brown; often a concentration of pigment forming an elongate brown spot beneath soft portion of dorsal fin and a roundish blotch above base of soft portion of anal fin; spinous portion of dorsal fin red with a median band of cojoined whitish spots, the membranes tipped with white; a large dark brown spot in axil of pectoral fins; front edge of pelvic fins dark.

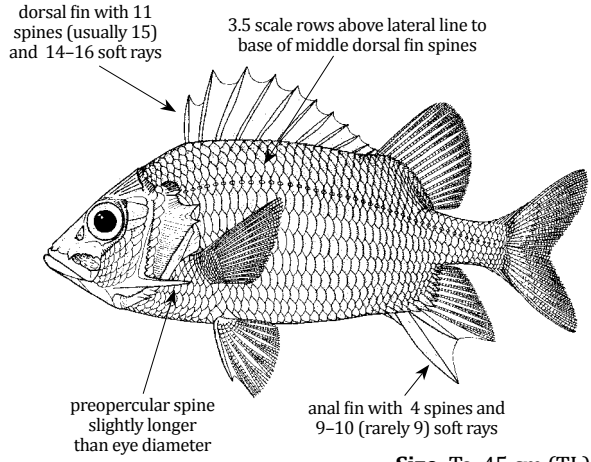



**Size:** To 32 cm (TL)

***Sargocentron spiniferum*** (Forsskål, 1775)

**FAO names:** Sabre squirrelfish (En)

**Local name(s):** Sabre Nga Kjee Mar.
**Habitat:** Reef-associated species.
**Fisheries:** Gillnets, hook and line.
**Distinctive Characters:** Corner of preopercle with a sharp spine; body depth 2.4–2.6 in SL; nasal fossa without spinules; 41–46 lateral line scales; usually 15 pectoral fin rays; 5 scale rows on cheek.
**Colour:** Head and body red, darker dorsally than ventrally, the scales rimmed with silvery white; a large vertically elongate deep red spot behind eye; pectoral axil and region above pectoral fin base deep red; spinous portion of dorsal fin solid deep red; remaining fins yellowish.
**Remarks:** Presence of this species in Myanmar needs confirmation.



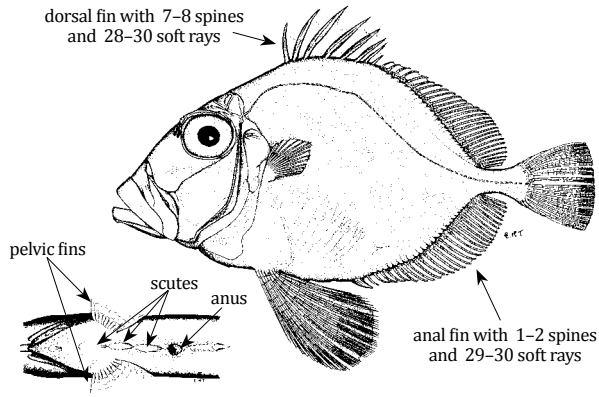

**Size:** To 45 cm (TL)

## ZEIDAE
Dories

***Cyttopsis rosea*** (Lowe, 1843)

**FAO names:** Rosy dory (En)

**Local name(s):** Hnin Si Daw Yi Nga.
**Habitat:** Bathypelagic; depth range 150 –730 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body oval, stronqly compressed, covered with small, thin, deciduous, cycloid scales; chest flattened and broad; 2 large keeled scutes, each ending in a spine, between pelvic fins, and another scute midway between pelvic fins and anus; a row of low bony ridges or bumps along bases of soft dorsal and anal fins; pelvic fins with 9–10 soft segmented, branched rays and no spine.
**Colour:** Rosy pink and silvery in life; pelvic fins reddish, the membranes black.

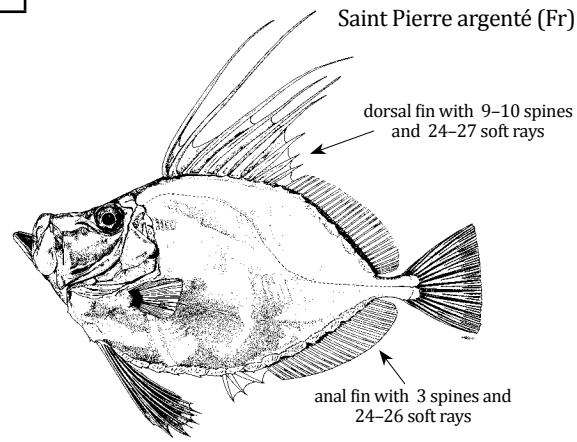



**Size:** To 31 cm (TL)

***Zenopsis nebulosa*** (Temminck & Schlegel, 1845)

**FAO names:** Silvery John dory (En)
Saint Pierre argenté (Fr)

**Local name(s):** Ngwe Yaung Daw Li Nga.
**Habitat:** Benthopelagic in depths of 30 to 800 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body oval, strongly compressed, without scales; 7 pairs of keeled bony scutes between pelvic fins and first anal spine; 1 to 3 bony plates at base of first dorsal fin, 4 or 5 along base of soft dorsal, and 5 to 7 along base of anal fin; pelvic fins with 6 or 7 rays, their origin in front of vertical throuqh front edge of eye; caudal peduncle length about 3 times its least depth.
**Colour:** Adults silvery grey, with a faint dusky midlateral blotch just behind head; first dorsal and pelvic fins blackish; juveniles silvery, with several dark blotches.



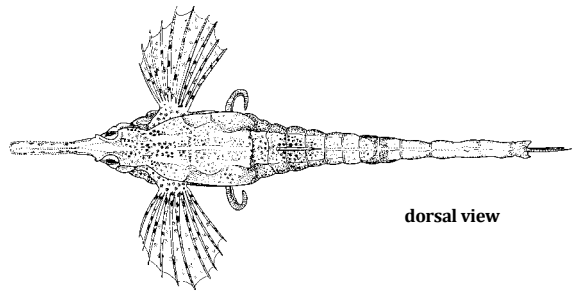

**Size:** To 70 cm (TL)

## PEGASIDAE
Seamoths

***Pegasus volitans*** Linnaeus, 1758

**FAO names:** Longtail seamouth (En)

**Local name(s):** Poe Pha Lan Nga.
**Habitat:** Benthic in marine and brackish waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body depressed, completely encased in fused dermal plates; rostrum sword-like; 4 pairs of dorsolateral body plates; 5 pairs of ventrolateral body plates; 12 tail rings, anteriormost 9 mobile, last 3 fused; a lateral pair of posteriorly directed spines on terminal tail rings; suborbital shelf convex obscuring eye from ventral view.
**Colour:** Brownish, sometimes banded or spotted, fins with darker spots, lighter ventrally.



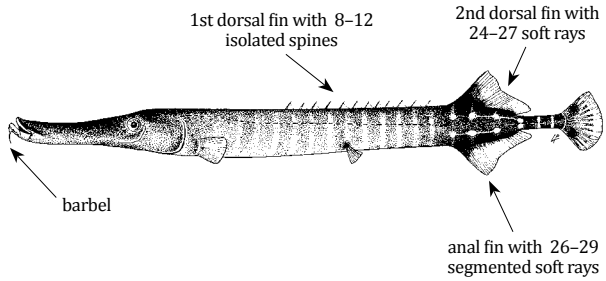

**Size:** To 20 cm (TL)

## AULOSTOMIDAE
Trumpetfishes

***Aulostomus chinensis*** (Linnaeus, 1766)

**FAO names:** Chinese trumpetfish (En)
Trompette chinoise (Fr)

**Local name(s):** Pa Lway Hmote Nga Paung Yoe.
**Habitat:** Reef-associated; depth range: 3–122 m.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body elongate and compressed; mouth located at tip of elongate snout; single barbel on chin; 2nd dorsal fin and anal fin opposite to each other and similarly shaped.
**Colour:** Overall colour variable; body most commonly brownish with irregular light vertical bars, or with several white horizontal stripes, or uniform yellow colour; a black maxillary stripe usually present, but may be reduced; dorsal and anal fins light, but with a dark basal bar; caudal fin usually with 2 round black spots; a black spot at base of each pelvic fin.



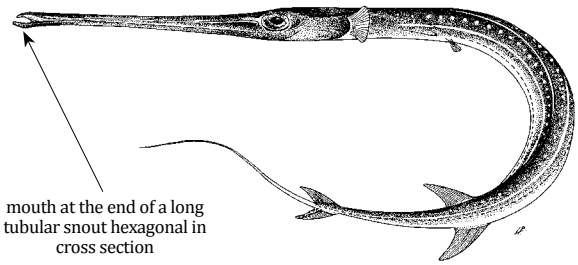

**Size:** To 80 cm (TL)

# FISTULARIIDAE
Cornetfishes

***Fistularia commersonii*** Rüppell, 1838

**FAO names:** Bluespotted cornetfish (En)
Cornette à taches bleues (Fr)

**Local name(s):** A Pyar Set Nga Phaung Yoe.
**Habitat:** Seagrass beds and coral reefs in shallow waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal and anal fins short-based and opposite, with 15–17 and 14–16 segmented soft rays, respectively; pectoral fins with 13–15 rays; pelvic fins small and abdominal, with 6 rays.
**Colour:** Brownish to olive above, lighter to silvery below; a pair of blue stripes or a row of blue spots along back; dorsal and anal fins with an orange cast becoming transparent at base; caudal filament white.

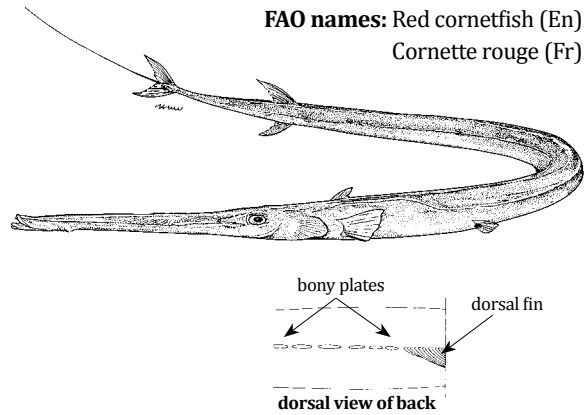



**Size:** To 160 cm, common 100 cm (TL)

***Fistularia petimba*** Lacepède, 1803

**FAO names:** Red cornetfish (En)
Cornette rouge (Fr)

**Local name(s):** Nga Phaung Yoe Ni.
**Habitat:** In coastal areas over soft beds down to more than 10 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Fistularia commersonii* but with a row of elongate bony plates embedded in skin along midline of back anterior to dorsal fin; posterior lateral line ossifications ending in a sharp spine.
**Colour:** Background colour red to orange-brown above, silvery below; vertical fins also have an orange cast.



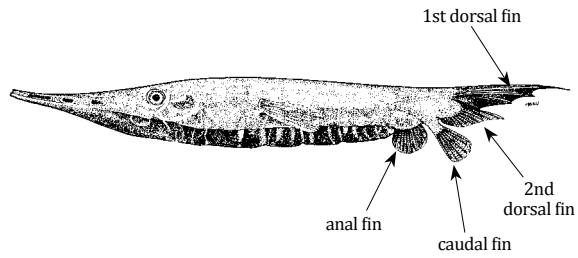

**Size:** To 200 cm, common 100 cm (TL)

# CENTRISCIDAE
Shrimpfishes

***Centriscus scutatus*** Linnaeus, 1758

**FAO names:** Serrate razorfish (En)

**Local name(s):** Mi Kyaung Thwar Kyar Htoe Nga.
**Habitat:** On muddy bottoms near mangroves to inshore coral reefs.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** First dorsal fin spine fused with body armour plate, without a movable spinous ray at its end; interorbital space with a groove continued to crown of head; sutures of lateral plates serrated; postorbital part of head 1/2 or more than 1/2 distance of operculum from base of pectoral fins.
**Colour:** Silvery, with a dusky lateral streak running length of body; 7–8 silvery crossbars on ventral plates.



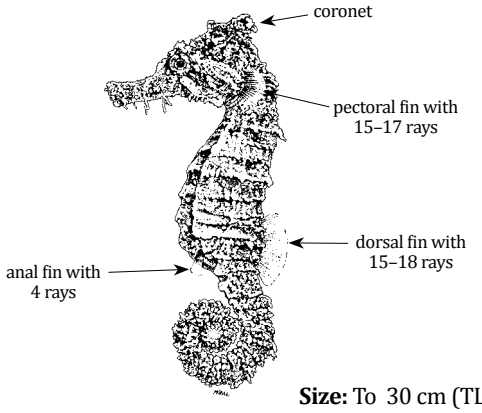

**Size:** To 14 cm (TL)

## SYNGNATHIDAE
Pipefishes, seahorses

***Hippocampus kuda*** Bleeker, 1852

**FAO names:** Yellow seahorse (En)

**Local name(s):** Ye Na gar, Ye Myin War.
**Habitat:** In coastal areas on seagrass, also in sandy and coral areas, to a depth of about 30 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body encased in 11 trunk and 34–37 tail bony rings; caudal fin absent; tail usually coiled distally, clearly prehensile; snout length variable, about equal to postorbital length; coronet low, distally bifid; 3 prominent tubercles below dorsal fin base.
**Colour:** Ranges from dirty yellow over reddish brown to black, and may be blotched or banded.



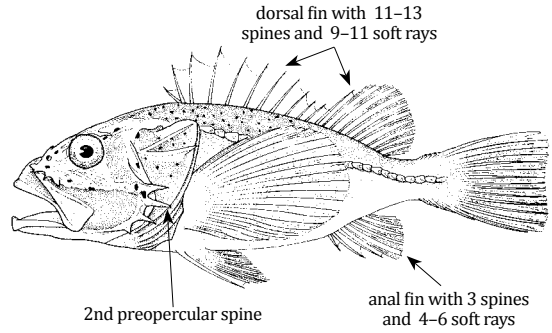

**Size:** To 30 cm (TL)

## SETARCHIDAE
Deepsea bristly scorpionfishes

***Setarches guentheri*** Johnson, 1862

**FAO names:** Deepwater scorpionfish (En)
Rascasse serran (Fr)

**Local name(s):** Nga Su Khet.
**Habitat:** Found on or near the bottom between 150–780 m depth; feeds in the water column.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head cavernous, with weak ossification; top of head scaleless; interorbital width 11.1–14.3 in SL; 2nd preopercular spine subequal to, or longer than 1st and 3rd preopercular spines; body covered with tiny cycloid scales; lateral line a continuous trough covered by thin membranous scales which lack distinct tubes (often lost during capture).
**Colour:** Body greyish or pinkish.

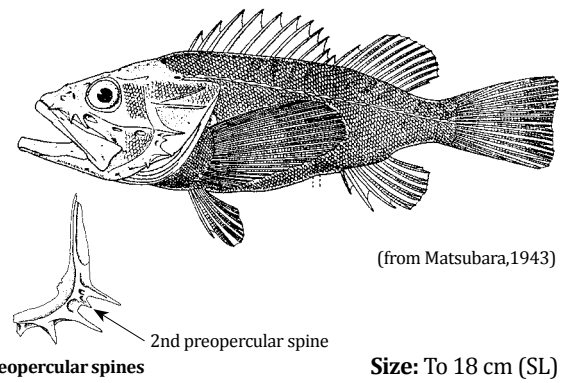



**Size:** To 31.4 cm (TL)

***Setarches longimanus*** (Alcock, 1894)

**FAO names:** Redsmooth scorpionfish (En)

**Local name(s):** Paset Ni Nga Su Khet.
**Habitat:** Found on the continental shelf and continental slope between 180 and 704 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Setarches guentheri* but interorbital width 8.3–12.5 in SL; 2nd preopercular spine reduced or absent, much shorter than 1st and 3rd preopercular spines.
**Colour:** Body bright crimson-red.



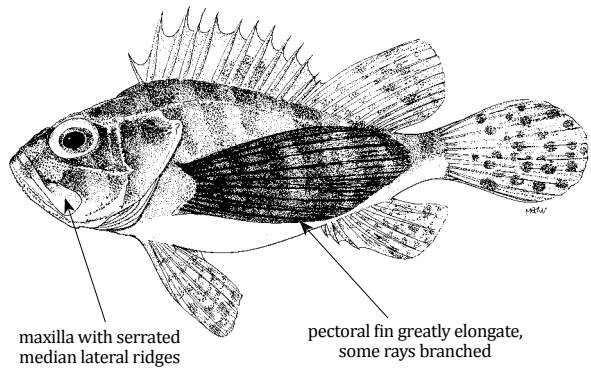

**Size:** To 18 cm (SL)

# SCORPAENIDAE
Scorpionfishes

***Brachypterois serrulifer*** Fowler, 1938

**FAO names:** Sawmaxilla scorpionfish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Hlwa Mae Yoe.
**Habitat:** Benthic on muddy bottoms down to 82 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal fin spines short, nearly equal to length of dorsal fin soft rays; dorsal fin membrane moderately incised; dorsal fin with 13 spines and 10–11 soft rays; anal fin with 3 spines and 5–6 soft rays; usually 16 pectoral fin rays; posterior lacrimal spine usually directed downward.
**Colour:** Reddish with five dark bars on body; a blackish blotch on opercle; pectoral fin membranes black; soft dorsal, anal, caudal and pelvic fins with orange-red to brownish spots.

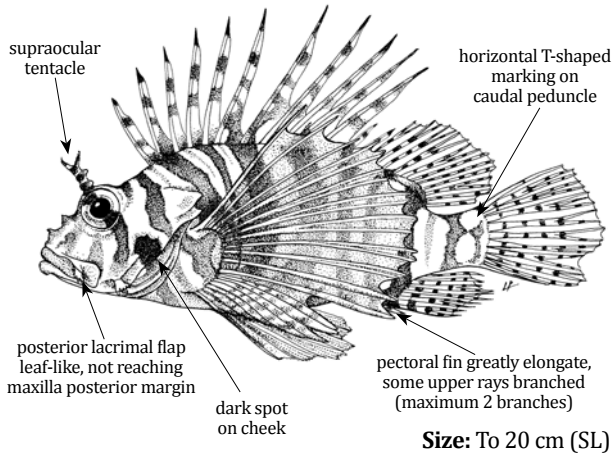



**Size:** To 13 cm (TL)

***Dendrochirus zebra*** (Cuvier, 1829)

**FAO names:** Zebra lionfish (En)

**Local name(s):** Nga Kein Ta Yar, Zebra Ye Nat Tha Mee.
**Habitat:** Reef-accociated to depths of about 73 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal fin spines elongate with deeply incised membrane; membrane between upper pectoral fin rays only slightly incised; dorsal fin with 13 spines and 9–11 (usually 10) soft rays; anal fin with 3 spines and 5–7 (usually 6) soft rays; 15–18 (usually 17) pectoral fin rays; supraoccular tentacles greater than orbit diameter (tentacles reduced with growth); 3 (rarely 4) barbels on snout tip, subequal in size.
**Colour:** Body with broad red vertical bars that alternate with thinner red or reddish brown bars; median fins with small dark spots; dark spot on cheek.

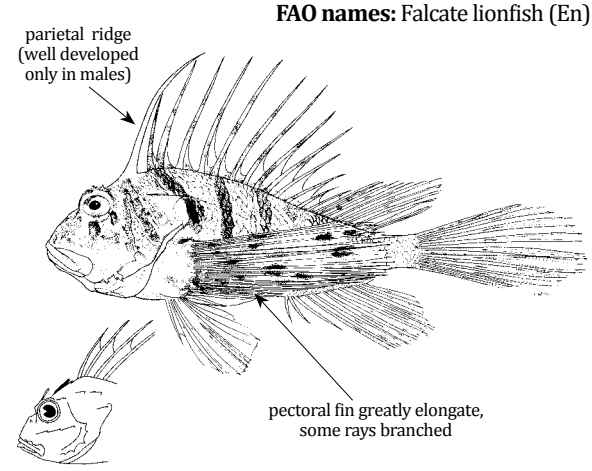



**Size:** To 20 cm (SL)

***Ebosia falcata*** Eschmeyer & Rama-Rao, 1978

**FAO names:** Falcate lionfish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Gyo Taung.
**Habitat:** Benthic at depths from 47 to 243 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal fin spines elongate with deeply incised membrane; membrane between upper pectoral fin rays only slightly incised; dorsal fin with 12–13 spines and 9–11 soft rays; anal fin with 3 spines and 7–9 (usually 8) soft rays; 17–18 pectoral fin rays; scales ctenoid.
**Colour:** Two prominent bars radiate from eye ventrally; 1 oblique bar posterior to eye; 5 broad vertical bands on body below dorsal fin; a dark patch above base of pectoral fin; soft dorsal, caudal and anal fins with small dark spots; pectoral fins with large spots.

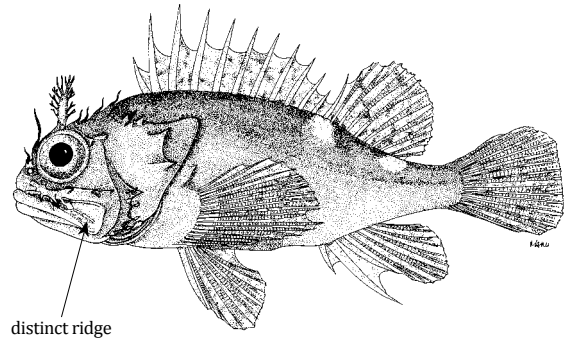



**Size:** To 12.1 cm (SL)

## *Neomerinthe erostris* (Alcock, 1896)

**FAO names:** Round scorpionfish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Pu To.
**Habitat:** Benthic on soft bottoms between 52–505 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Occipital pit flat or nearly so (true of all *Neomerinthe* species); dorsal profile of head strongly rounded; orbit diameter greater than snout length; distinct longitudinal ridge on the lateral surface of the maxilla; dorsal fin with 12 spines and 8–9 soft rays; anal fin with 3 spines and 4–6 soft rays; 17–18 pectoral fin rays; 33–41 (mode 37) scale rows in longitudinal series; lateral lacrimal spine absent; 3 suborbital spines; distinct 2nd preopercular spine present.
**Colour:** Body strongly variegated, mainly brownish red, suffused with irregular grey, dark red, and reddish white blotches; spinous portion of dorsal fin with indistinct, broad, longitudinal, grey band, with poorly defined black blotch posteriorly.

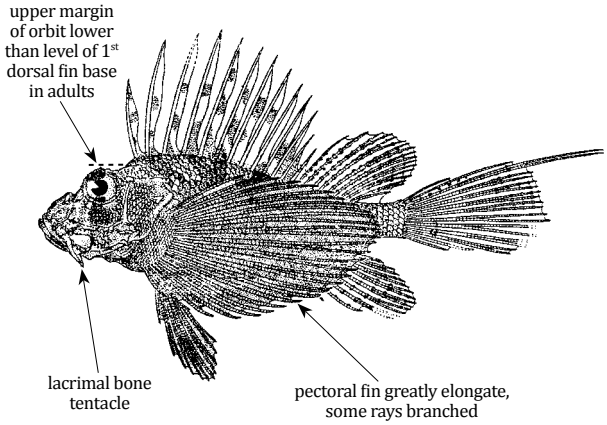



**Size:** To 11.6 cm (SL)

## *Parapterois heterura* (Bleeker, 1856)

**FAO names:** Blackfoot firefish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Nauk Mee Shae.
**Habitat:** Benthic on sandy and muddy bottoms down to 300 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Dorsal fin spines elongate with deeply incised membrane; membrane between upper pectoral fin rays only slightly incised; dorsal fin with 13 spines and 9 soft rays; anal fin with 2 spines and 7 soft rays; head length 2.5–2.9 in SL; midline of interorbital space with scales; 45–51 scales in logitudinal series; tip of lacrimal bone tentacle usually extending beyond level of posterior margin of maxilla.
**Colour:** Head and body reddish brown with narrow vertical dark bands beneath eye and on sides.

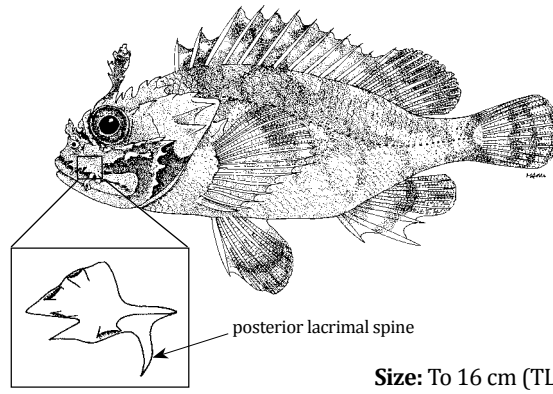



**Size:** To 38 cm (TL)

## *Parascorpaena picta* (Cuvier, 1829)

**FAO names:** Painted scorpionfish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Sae Chal.
**Habitat:** Quite common in nearshore waters on reefs and over rocky bottoms.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Posterior lacrimal spine hooked forward in adults (true of all species of *Parascorpaena*); dorsal fin with 12 spines and 9 soft rays; anal fin with 3 spines and 5 soft rays; 1st and 2nd suborbital ridges fused, forming a single ridge with 2 spines behind level of orbit and no spines below orbit; occipital pit nearly flat; scales mostly cycloid (smooth).
**Colour:** Body usually brownish, mottled with blackish poorly defined blotches.

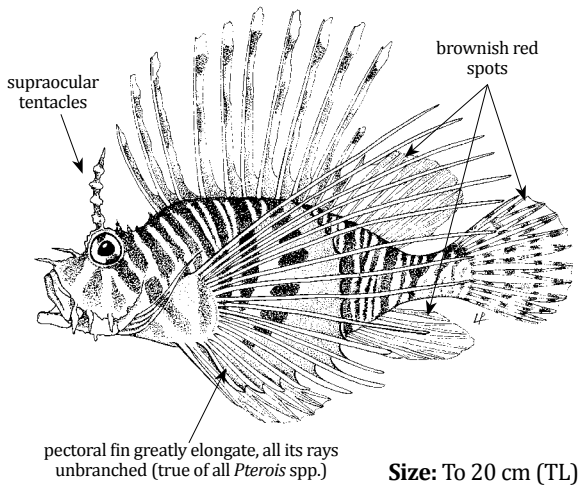



**Size:** To 16 cm (TL)

## *Pterois antennata* (Bloch, 1787)

**FAO names:** Broadbared lionfish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Pyar Kje.
**Habitat:** Found in lagoons and on outer reef slope habitats down to depths of 76 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal fin spines elongate with deeply incised membrane; membrane between upper pectoral fin rays incised to about 1/2–3/4 of their length; supraocular tentacles well developed; dorsal fin with 12 spines and 11–12 soft rays; anal fin with 3 spines and 6 soft rays; pectoral fins with 16–18 soft rays.
**Colour:** Numerous dark bars on body; thin diagonal bars on caudal peduncle; soft-rayed portion of dorsal and anal fins as well as caudal fin translucent with small brownish red spots scattered on rays; supraocular tentacles with alternating light and dark bands.

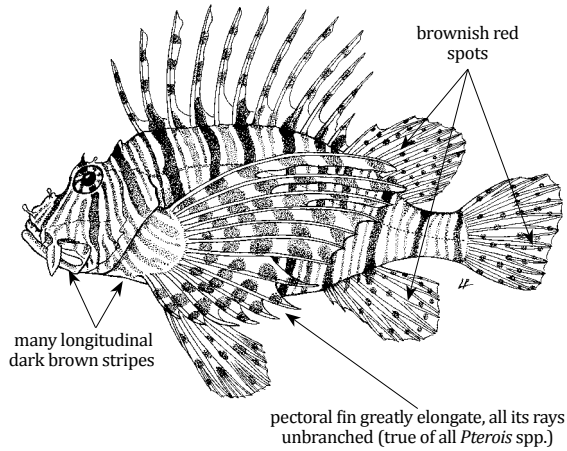



**Size:** To 20 cm (TL)

## *Pterois miles* (Bennett, 1828)

**FAO names:** Devil firefish (En)

**Local name(s):** Nga Kein Ta Yar, Nat Soe Ye Nat Tha Mee.
**Habitat:** Benthic on soft bottoms and reefs at depths between 25 and 85 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal fin spines elongate with deeply incised membrane; membrane between upper pectoral fin rays incised nearly to base of ray; dorsal fin with 12–13 spines and 9–11 soft rays; anal fin with 3 spines and 5–6 soft rays; pectoral fins with 13–14 soft rays.
**Colour:** Numerous dark brown to reddish brown of variable width bars on body; ventral surface of mandible and chest with numerous longitudinal dark brown stripes; soft rayed portion of dorsal and anal fins as well as caudal fin translucent with small brownish red spots scattered on rays; tentacle above eye may be faintly banded.

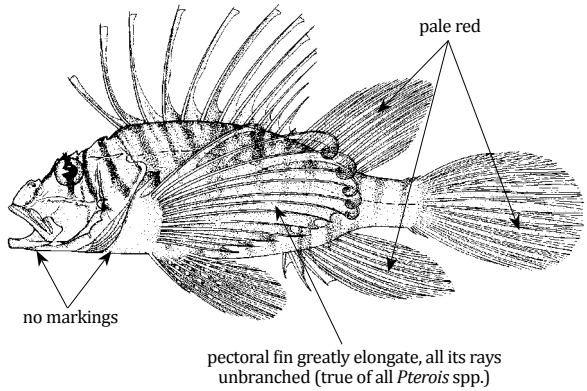



**Size:** To 35 cm (SL)

## *Pterois russelii* Bennett, 1831

**FAO names:** Plaintail turkeyfish (En)

**Local name(s):** Nga Kein Ta Yar, Ye Nat Tha Mee Hmee Pyaung.
**Habitat:** Benthic on soft bottoms down to 60 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal fin spines elongate with deeply incised membrane; membrane between upper pectoral fin rays incised nearly to base of ray; dorsal fin with 13 spines and 10–11 soft rays; anal fin with 3 spines and 7–8 soft rays; pectoral fins with 12–14 soft rays; caudal fin rounded; scales small and cycloid.
**Colour:** Body with about 12 dark reddish bars; pectoral fin membrane usually covered with dark spots; pelvic fins mostly dusky, with light round spots on proximal half.




**Size:** To 30 cm (SL)

## *Scorpaenopsis neglecta* Heckel, 1837

**FAO names:** Yellowfin scorpionfish (En)

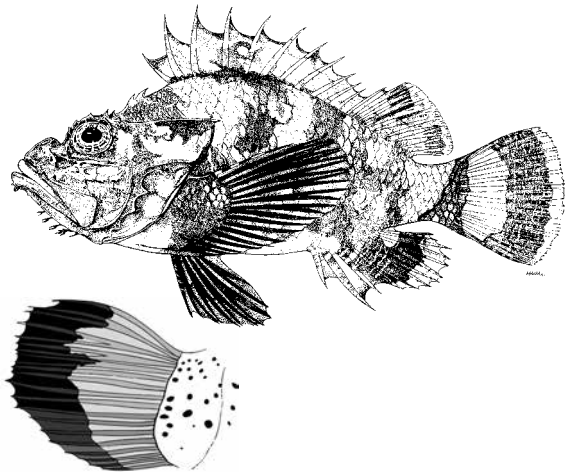
**Local name(s):** Nga Kein Ta Yar, Su Taung War Ye Nut Tha Mee.

**Habitat:** Occurs in areas with mixed rock, coral and soft substrates down to 80 m depth.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Nape and anterior body highly arched, giving a humpback appearence; dorsal fin with 12 spines and 9 soft rays; anal fin with 3 spines and 5 soft rays (true of all species of *Scorpaenopsis*); interorbital space 3.8–4.4 in HL; orbit diameter 1.7–2.0 in snout length; supraorbital and suborbital ridges serrated; upper opercular spine double (divided to 2 spinous points).

**Colour:** Usually strongly mottled with yellowish to reddish and greyish blotches; axil of pectoral fins pale with small black spots inwardly, then yellow in the middle and a broad black band marginally; pelvic fins black; caudal fin reddish with two dark brown bars: one at base and a broader one submarginally.



pectoral fin (inner side)

**Size:** To 19 cm (SL)

## *Scorpaenopsis obtusa* Randall & Eschmeyer, 2001

**FAO names:** Shortsnout scorpionfish (En)

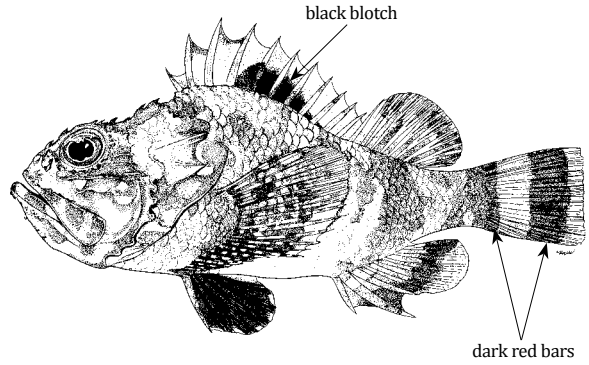
**Local name(s):** Nga Kein Ta Yar, Hnar Toe Ye Nat Tha Mee.

**Habitat:** Occurs in areas with mixed rock, coral and soft substrates down to 40 m depth.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Nape and anterior body highly arched, giving a humpback appearence; snout very short, about equal to orbit diameter; body depth of adults 2.0–2.2 in SL; longitudinal scale series 37–41; interorbital space 3.9–4.5 in HL; ascending process of premaxilla extending into interorbital space; suborbital ridge with 4 spines; upper opercular spine double.

**Colour:** Mottled brown to reddish brown with a broad irregular black blotch on basal spinous portion of dorsal fin; pelvic fins black; caudal fin pinkish with two dark red bars: one at base and a broader one submarginally.




**Size:** To 10 cm (TL)

## *Scorpaenopsis oxycephala* (Bleeker, 1849)

**FAO names:** Smallscale scorpionfish (En)

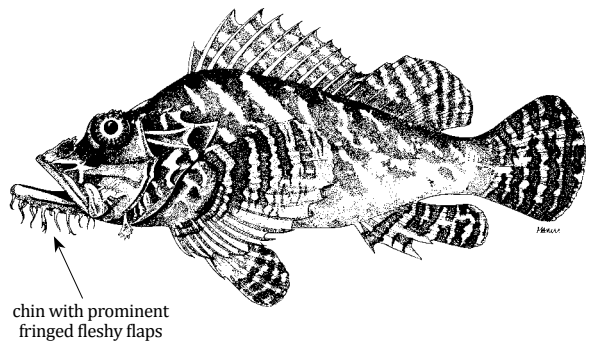
**Local name(s):** Nga Kein Ta Yar, A Kjee Thae Ye Nut Tha Mee.

**Habitat:** Benthic on coral, rocky and mixed bottoms down to 400 m depth.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Nape and anterior body not highly arched; snout very long, 2.7–3.0 in HL interorbital space 5.7–7.0 in HL; 18–20 (usually 20) pectoral fin rays; occipital pit absent or very shallow; 3rd dorsal fin spine longest, 2.1–2.5 in HL; suborbital ridge with 3 spines; upper opercular spine single.

**Colour:** Mottled dark reddish brown to brownish red blotches; a triangular bar often present below lower edge of orbit expanding ventrally on cheek.

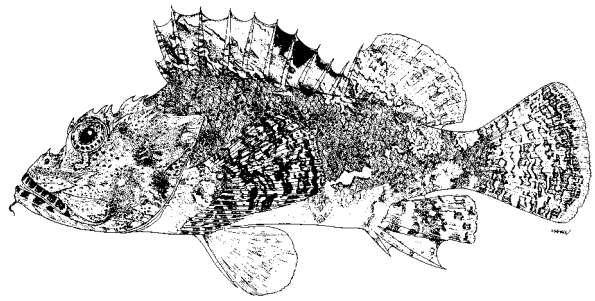



**Size:** To 36 cm (TL)

***Scorpaenopsis possi*** Randall & Eschmeyer, 2001

**FAO names:** Poss's scorpionfish (En)

**Local name(s):** Nga Kein Ta Yar, Poss Ye Nat Tha Mee.
**Habitat:** Benthic on rock or coral bottoms down to 40 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nape and anterior body not highly arched; snout length 3.1–3.2 in HL; interorbital space 5.8–7.1 in HL; 17–18 (rarely 18) pectoral fin rays; occipital pit shallow; pre-tympanic spines present; 43–50 scales in longitudinal series; upper opercular spine single; supraocular tentacles of adults absent or very small.
**Colour:** Red mottled with dark brown, with dark-edged blue dots.

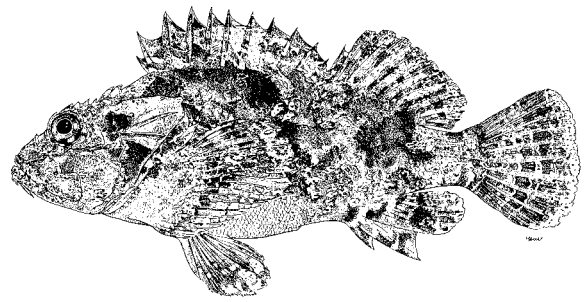


**Size:** To 19.4 cm (TL)

***Scorpaenopsis ramaraoi*** Randall & Eschmeyer, 2001

**FAO names:** Rama Rao's scorpionfish

**Local name(s):** Nga Kein Ta Yar, Rama Ye Nat Tha Mee.
**Habitat:** Benthic on silty sand and rocky bottom down to 60 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nape and anterior body not highly arched; snout length 3.2–3.5 in HL interorbital space 6.4–7.9 in HL; 17–19 (usually 18) pectoral fin rays; occipital pit shallow; interorbital ridges prominent; a well developped depression below front of eye; 45–49 scales in longitudinal series; ridge above lacrimal spine sharp-edged with a pointed tip; upper opercular spine single.
**Colour:** Dark reddish to brownish grey, strongly mottled with dark brown.



**Size:** To 20.8 cm (TL)

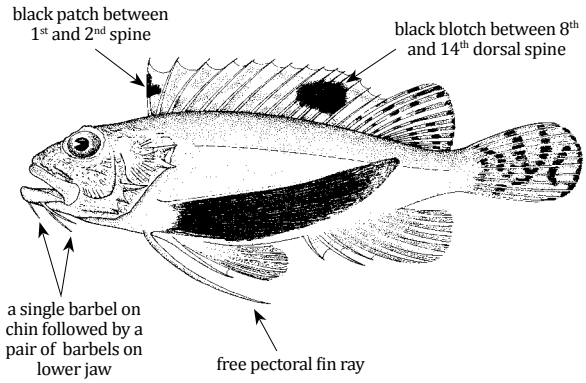
## APISTIDAE

Wasp scorpionfishes

***Apistus carinatus*** (Bloch & Schneider, 1801)

**FAO names:** Ocellated waspfish (En)

**Local name(s):** Na Kje Ye Nat Tha Me.
**Habitat:** Benthic on soft bottoms down to a depth of 60 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Preopercle with a strong spine and 2–3 shorter spines below; dorsal fin with 14–15 spines and 8–10 soft rays; anal fin with 3 spines and 7–8 soft rays; pectoral fins elongate, longest rays reaching to or beyond posterior end of anal fin; ventralmost pectoral fin ray free from remainder of fin; scales on body.
**Colour:** Body greyish dorsally and rosy ventrally; spiny part of dorsal fin grey, darker grey distally, with a black patch between; pectoral fins black, uppermost pectoral fin ray white; inner side of pectoral fin yellow.



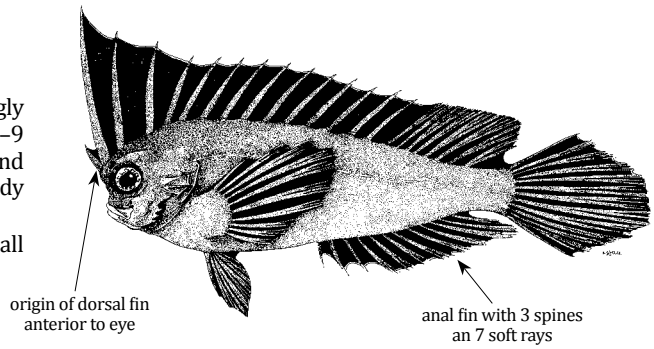

**Size:** To 20 cm (TL)

# TETRAROGIDAE
Waspfishes

***Ablabys macracanthus*** (Bleeker, 1852)

**FAO names:** Spiny waspfish (En)

**Local name(s):** Suu Na Kjee Nga.
**Habitat:** Demersal; depth range 60–90 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body strongly compressed; dorsal fin with 15–16 spines and 8–9 soft rays; pelvic fin with 1 spine and 5 soft rays; 2nd dorsal fin spine markedly longer than 3rd; body with small embedded cycloid scales.
**Colour:** Head and body uniformly dark brown; all fins dark brown with the tips of rays white.



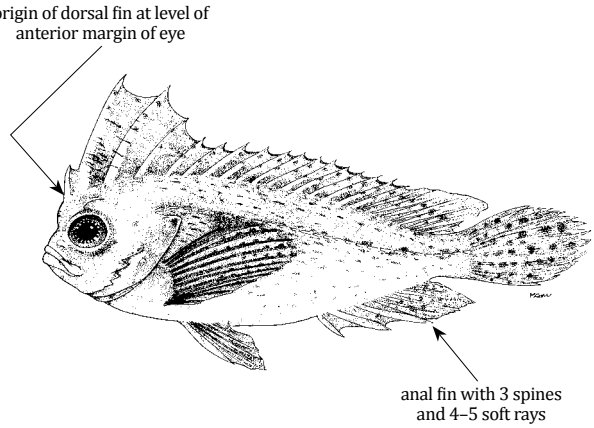

**Size:** To 20 cm (TL)

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***Ablabys taenianotus*** (Cuvier, 1829)

**FAO names:** Cockatoo waspfish (En)

**Local name(s):** Kyet Pha Na Kjee Nga.
**Habitat:** Among seaweeds in rocky intertidal or littoral habitats to depths of nearly 40 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body strongly compressed; dorsal fin with 17–18 spines and 6–7 soft rays; pectoral fins with 11–12 (rarely 12) rays; 2nd and 3rd dorsal fin spines subequal in length; body with small embedded cycloid scales.
**Colour:** Uniformly light brown with poorly defined irregular dark spots on upper lateral surface of body; all fins darker than body with a thin white border.
**Remarks:** Slight variations in the relative lengths of the dorsal fin spines and colour pattern observed in one Myanmar specimen may represent geographic variation or species-level differences.



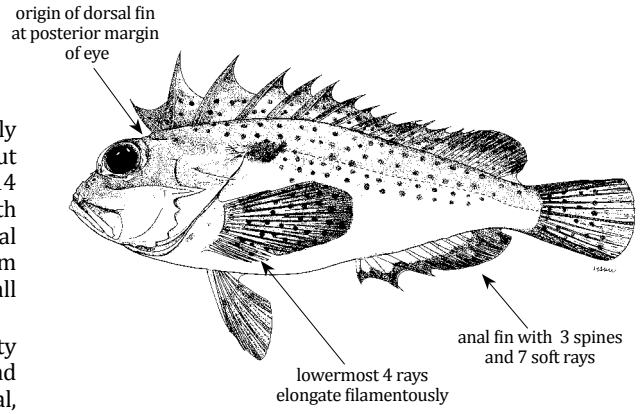

**Size:** To 15 cm (TL)

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***Neocentropogon affinis*** (Lloyd, 1909)

**FAO names:** Andaman waspfish (En)

**Local name(s):** Andaman Na Kjee Nga.
**Habitat:** Demersal; depth range 84–172 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body robust not strongly compressed, its depth 3.0–3.4 in SL; scales about 85–95 vertical rows on body; dorsal fin with 13–14 spines and 7–8 (rarely 8) soft rays; pelvic fin with 1 spine and 5 soft rays; 15 pectoral fin rays; dorsal fin membrane strongly incised; minute villiform teeth in jaws, vomer and palatine; body with small embedded cycloid scales.
**Colour:** Body greyish brown dorsally and dirty white ventrally; a large dark blotch behind head above pectoral fins; small dark spots on dorsal, pectoral and caudal fins and on upper half of body.

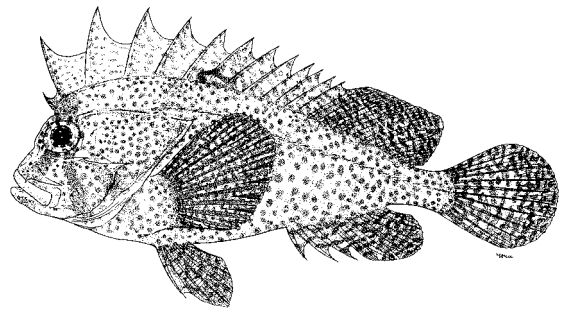



**Size:** To 13 cm (TL)

***Snyderina guentheri*** (Boulenger, 1889)

**FAO names:** Günther's waspfish (En)

**Local name(s):** Set Pyauk Na Kjee Nga.
**Habitat:** Demersal; depth range 90–129 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body compressed, its depth 2.4–2.9 in SL; origin of dorsal fin above middle of eye; dorsal fin with 13 spines and 10–11 soft rays; anal fin with 3 spines and 5–6 soft rays; pectoral fins with 13–14 rays; pectoral fin extending to 1st soft anal fin ray; body with small embedded cycloid scales; palatine teeth absent; caudal peduncle slender; caudal fin long and broadly rouded.
**Colour:** Mottled dark reddish brown with small dark brown to red spots on fins.



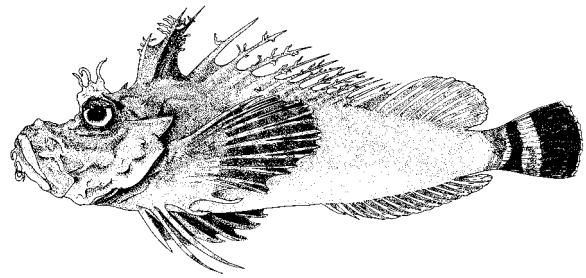
**Size:** To 24 cm (TL)

## SYNANCEIIDAE
Stonefishes

***Inimicus cuvieri*** (Gray, 1835)

**FAO names:** Longsnout stinger (En)

**Local name(s):** Nga Kyauk Tone Hnar Shae.
**Habitat:** Benthic on sandy or mud-sand bottoms down to a depth of 81 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Snout length usually equal to or longer than postorbital length; dorsal fin membrane from 4th spine backwards less than one fourth spine height; dorsal fin with 15–18 spines and 5–9 soft rays; anal fin with 2 spines and 10–13 soft rays; lowermost 2 pectoral fin rays free (true of all species of *Inimicus*); body scaleless.
**Colour:** Body brown or greyish brown dorsally, paler ventrally; inner surface of pectoral fin plain brown (sometimes a few scattered dark spots).

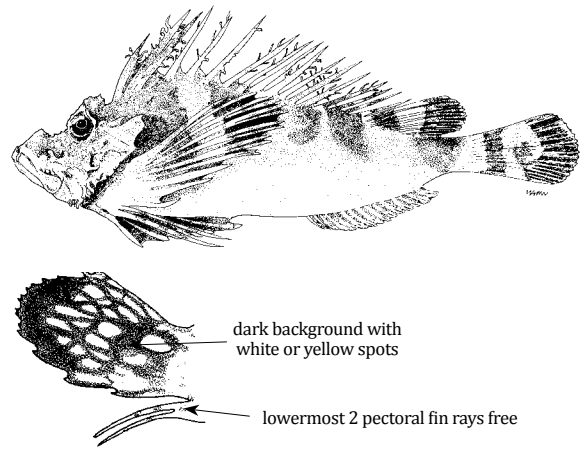


**Size:** To 24 cm (TL)

***Inimicus sinensis*** (Valenciennes, 1833)

**FAO names:** Spotted stinger(En)

**Local name(s):** Nga Kyauk Tone Set Pyauk.
**Habitat:** Benthic on coral, rocky and mixed bottoms down to a depth of 90 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Snout length equal to or longer than postorbital length; dorsal fin membrane from 4th spine backwards less than one fourth spine height; dorsal fin with 16–18 spines and 6–9 soft rays; anal fin with 2 spines and 10–13 soft rays; body scaleless.
**Colour:** Body brown or greyish brown dorsally, paler ventrally; inner surface of pectoral fin dark grey with various sized white or yellow spots.

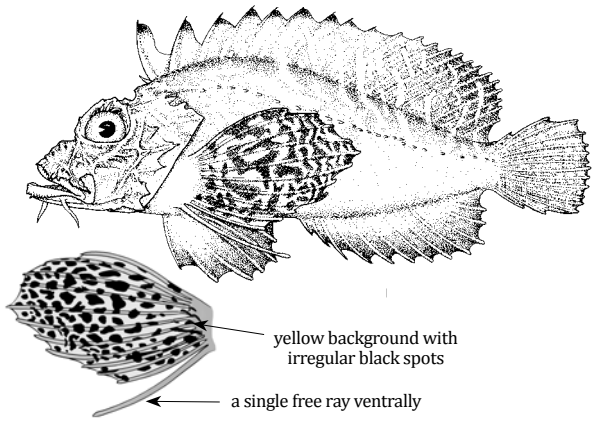



**Size:** To 26 cm (TL)

***Minous coccineus*** Alcock, 1890

**FAO names:** Onestick stingfish (En)

**Local name(s):** Nga Kyauk Tone Pa War Kyarr.
**Habitat:** Found on mud or silty sand from near shore between 20 and 80 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** First dorsal fin spine notably shorter than second dorsal fin spine, close to base of the second; dorsal fin with 10–12 spines and 11–12 soft rays; anal fin with 2 spines and 9–11 soft rays; 11–15 gill rakers on 1st gill arch; pectoral fin with a single free ray ventrally (true of all species of *Minous*); body scaleless.
**Colour:** Body with numerous irregular bands dorsally, no markings ventrally; inner surface of pectoral fins yellowish with irregular black spots; caudal fin pale without markings.



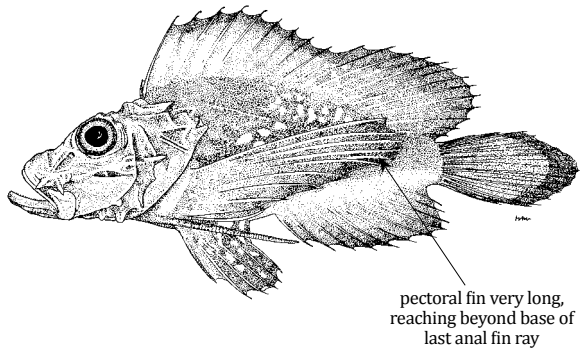

**pectoral fin (inner side)**

**Size:** To 10.5 cm (TL)

***Minous inermis*** Alcock, 1889

**FAO names:** Alcock's scorpionfish (En)

**Local name(s):** Alcock Nga Kyauk Tone.
**Habitat:** Depth range 35–420 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** First dorsal fin spine much shorter than 2nd spine and close to its base; dorsal fin with 9–10 spines and 12–14 soft rays; anal fin with 2 spines and 10–14 soft rays; 14–18 gill rakers on 1st gill arch; body scaleless; pectoral fins very long (3rd or 4th rays longest), reaching beyond base of last anal ray.
**Colour:** Dark grey, the young with pale spots, shading to white ventrally; outer part of median fins dark grey; pectoral fins increasingly dark distally; inside of pectoral fins light grey; pelvic fins dark grey with pale spots.

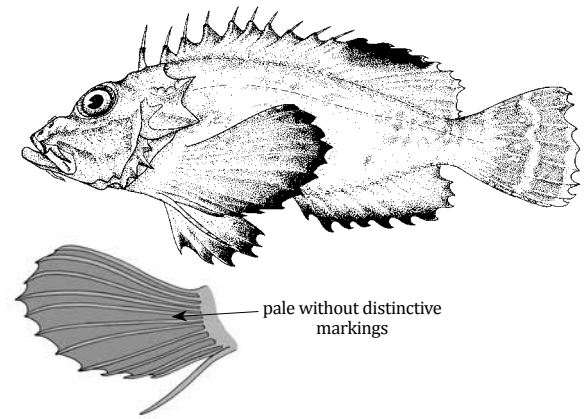



**Size:** To 14 cm (TL)

***Minous monodactylus*** (Bloch & Schneider, 1801)

**FAO names:** Grey stingfish (En)
Poisson pierre gris (Fr)

**Local name(s):** Nga Kyauk Tone Pa War Nyo.
**Habitat:** Found on mud or silty sand from near shore to at least 57 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** First dorsal fin spine equal to or longer than the 2nd, well separated from the second; dorsal fin with 9–11 spines and 9–13 soft rays; anal fin with 2 spines and 8–11 soft rays; 15–19 gill rakers on 1st gill arch; body scaleless.
**Colour:** Mottled ligth grey, pale ventrally; a large black spot distally on anterior part of soft rayed portion of dorsal fin; anal and paired fins dark brown distally; inner surface of pectoral fins pale, without distinctive markins; caudal fin usually with two broad dark bars.



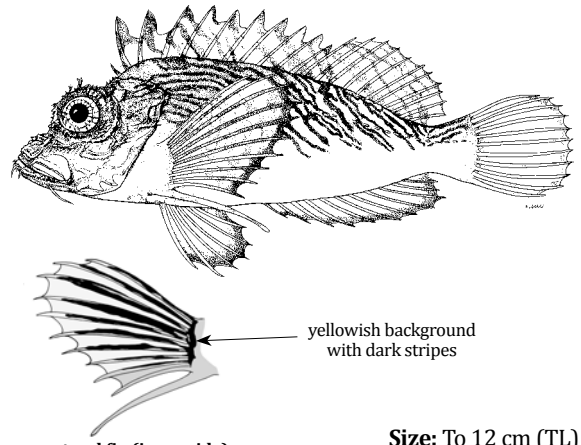

**pectoral fin (inner side)**

**Size:** To 15 cm (TL)

***Minous radiatus*** Matsunuma & Motomura, 2018

**FAO names:** Radial stinger (En)

**Local name(s):** Nga Kyauk Tone Ni Sin Kyar.
**Habitat:** Found in estuaries to offshore mud-sand habitats between 34 and 116 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** First dorsal fin spine notably shorter than second dorsal fin spine, close to base of the second; dorsal fin with 10–12 spines and 11–13 soft rays; anal fin with 2 spines and 8–11 soft rays; 11–17 gill rakers on 1st gill arch; body scaleless.
**Colour:** Body reddish brown with numerous irregular bands dorsally, no markings ventrally; inner surface of pectoral fins yellowish with black to dark brown stripes radiating distally along the entire fin rays; posterior edge of maxilla white; caudal fin pale without markings.



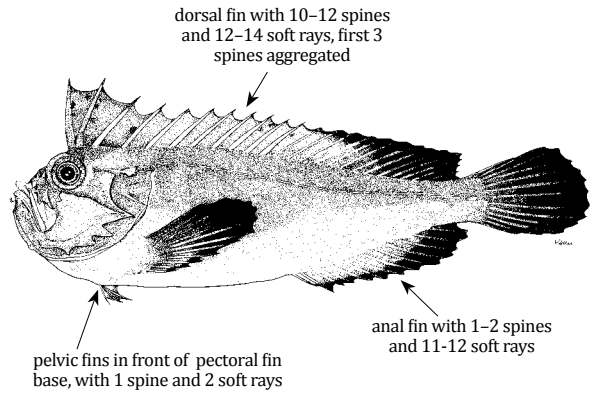

**Size:** To 12 cm (TL)

## APLOACTINIDAE
Velvetfishes

***Erisphex*** cf. ***aniarus*** (Thomson, 1967)

**FAO names:** Dark-finned velvetfish (En)

**Local name(s):** Nga Gati Par, Nga Kutt Pali.
**Habitat:** Benthic, from depths of 48 to 152 m
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body compressed; head and body covered with prickly scales; lacrymal with 2 sharp spines, 2nd large and extending down over maxilla; 4 spines on preopercular margin; upper and lower jaws with small conical teeth; dorsal fin origin above eye.
**Colour:** Body uniform dark brown; fins darker distally and posteriorly.
**Remarks:** *Erisphex aniarus* is known only from Indonesia and northwestern Australia and the specific identity of the Myanmar specimens need confirmation.



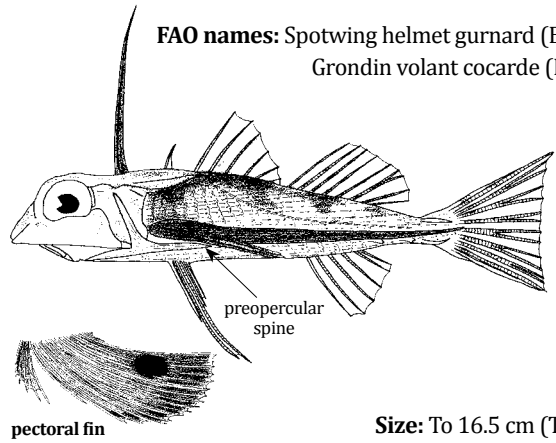

**Size:** To 8.5 cm (TL)

## DACTYLOPTERIDAE
Flying gurnards

***Dactyloptena macracantha*** (Bleeker, 1855)

**FAO names:** Spotwing helmet gurnard (En)
Grondin volant cocarde (Fr)

**Local name(s):** Kywe Pa Done Taung Pan Mee Set.
**Habitat:** Benthic on sandy bottoms in coastal waters. from depths of 45 to 177 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Interorbital width 6.7–8.3 in SL; interorbit weakly concave, with depth 12.5–16.7 in HL; preopercular spine usually extending further posteriorly than posttemporal spine; lateral line present, extending to caudal fin.
**Colour:** Dusky violet above and pinkish below; an oblong black blotch over middle of pectoral fins.

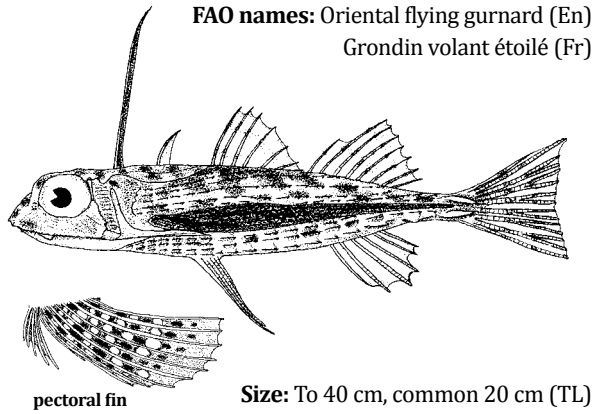



**Size:** To 16.5 cm (TL)

***Dactyloptena orientalis*** (Cuvier, 1829)

**FAO names:** Oriental flying gurnard (En)
Grondin volant étoilé (Fr)

**Local name(s):** Kywe Pa Donn Taung Pan Set.
**Habitat:** Benthic on sandy bottoms in coastal waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Interorbital width 6.7–7.7 in SL; interorbit moderately concave, with depth 9.1–12.5 in HL; lateral line absent or greatly obscured.
**Colour:** Usually yellowish brown above, light brown below, with small orange spots over top of head and back; dusky, golden spots on pectoral fins (larger distally).



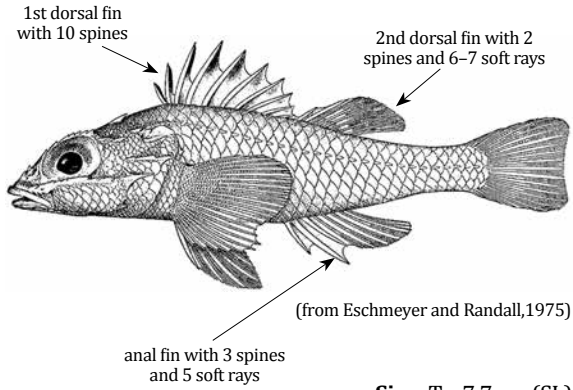

**Size:** To 40 cm, common 20 cm (TL)

## PLECTROGENIIDAE
Stinger flatheads

***Plectrogenium nanum*** Gilbert, 1905

**FAO names:** Dwarf thronyhead (En)

**Local name(s):** Ye Net Suu Nga Gaung Pyar.
**Habitat:** Deep-water species occurring between 250–650 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin divided into two fins, 2nd fin headed by 2 spines; dorsal fin with 12 spines and 6–7 soft rays; anal fin with 3 spines and 5 soft rays; pectoral fins with 20–24 rays; scales ctenoid; about 30–35 vertical scales rows on body; suborbital ridge with very well developed flat spines; a number of extra spines on lachrymal bone and above orbits.
**Colour:** Overall red-orange with a black or dark red blotch on 2nd dorsal fin.



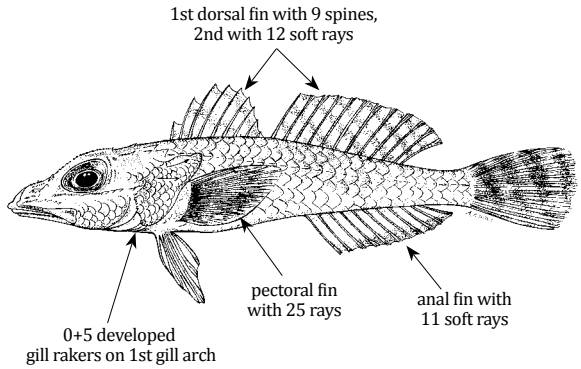

**Size:** To 7.7 cm (SL)

## BEMBRIDAE
Deepwater flatheads

***Bembradium*** cf. ***magnoculum*** Kishimoto, Kawai, Tashiro & Aungtonya, 2019

**FAO names:** None (En)

**Local name(s):** Ye Net Suu Nga Gaung Pyar.
**Habitat:** Bathydemersal; depth range 184–376 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head length 2.1–2.2 in SL; orbit diameter 3.1–3.3 in HL; pelvic fin rays with 1 spine and 5 soft rays; 28 lateral line scales, anterior 4 scales with a distinct ridge; pectoral fin reaching to anus; body mostly covered with ctenoid scales; villiform teeth present on jaws, vomer and palatine; tongue pointed.
**Colour:** Head, body and fins except for pelvic fin reddish; body whitish on ventral side; dorsal and caudal fins with reddish oblique bands.
**Remarks:** Morphometric and meristic differences with *B. magnoculum* may be due to intraspecific variability and/or sexual dimorphism.

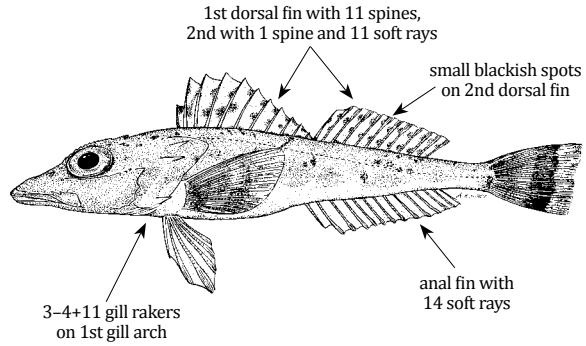



**Size:** At least to 12 cm (SL)

***Bembras andamanensis*** Imamura, Psomadakis & Htun Thein, 2018

**FAO names:** Andaman Sea deepwater flathead (En)

**Local name(s):** Andaman Ye Net Suu Nga Gaung.
**Habitat:** Demersal; depth range 69–205 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Dorsal fin divided into two fins, 2nd fin headed by 1 spine; anal fin lacking spines (true of all *Bembras* species); head length 2.4–2.6 in SL; snout length 7.1–7.2 in SL; orbit diameter 9.2–11.1 in SL; 20–21 pectoral fin rays; 74 forward slanting body scale rows above lateral line.
**Colour:** Dorsal and lateral surfaces of head and body red-orange, with small scattered blackish spots; ventral surface white; 1st and 2nd dorsal fins pale with many small scattered blackish spots; caudal fin with a broad blackish band.

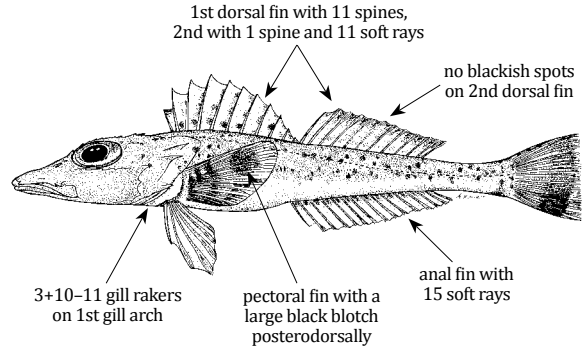



**Size:** At least to 26 cm (TL)

***Bembras leslieknappi*** Imamura, Psomadakis & Htun Thein, 2018

**FAO names:** Leslie Knapp's deepwater flathead (En)

**Local name(s):** Set Pyauk Ye Net Suu Nga Gaung.
**Habitat:** Demersal; depth range 69–184 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head length 2.4–2.6 in SL; snout length 7.0–7.5 in SL; orbit diameter 9.6–10.8 in SL; 20 pectoral fin rays; 80 forward slanting body scale rows above lateral line.
**Colour:** Similar to *B. andamanensis* but small scattered blackish spots only on 1st dorsal fin; 2nd dorsal fin, except for basal area and tips of rays, dusky; interradial of anal fin rays blackish basally.
**Remarks:** Morphological and colour differences with *B. andamanensis* may be due to sexual dimorphism. Requires further study.




**Size:** At least to 24.5 cm (TL)

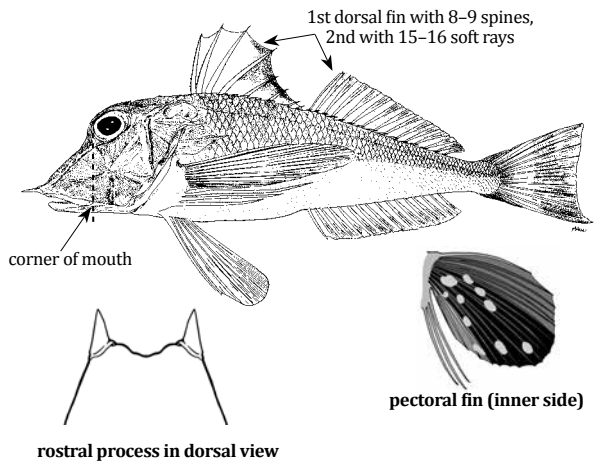
## TRIGLIDAE

Gurnards – Searobins

***Lepidotrigla longipinnis*** Alcock, 1890

**FAO names:** Stellar gurnard (En)

**Local name(s):** Set Pyauk Ye Net Kywe Pa Done.
**Habitat:** Bottom dweller that occurs at depths between 9 and 115 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Bony plates with sharp spines posteriorly along entire length of both dorsal fins (true of all *Lepidotrigla* species); lateral profile of body with gradual convexly curved taper to caudal peduncle; corner of mouth anterior to front edge of orbit; rostral process with broad obtuse angle or straight, with prominent forward directed blade-like spine at each corner; anal fin with 14–16 rays; 56–61 lateral line scales; 13–15 scale rows below lateral line.
**Colour:** Mostly pinkish orange with belly and lower flanks white; inner surface of pectoral fin dark with scattered pale blue spots.

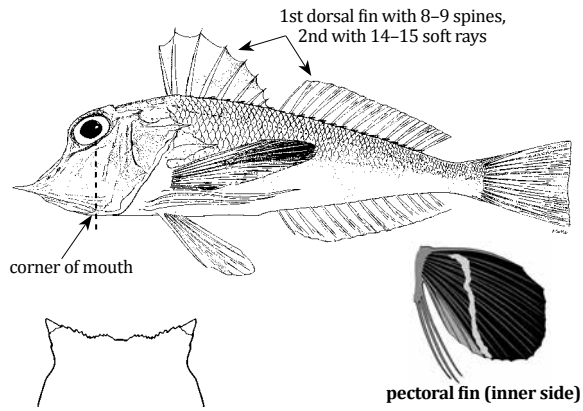



**Size:** To 12.5 cm (SL)

## *Lepidotrigla omanensis* Regan, 1905

**FAO names:** Oman gurnard (En)
Grondin d'Oman (Fr)

**Local name(s):** Ye Yet Sin Gyaung Ye Net Kywe Pa Done.
**Habitat:** Bottom dweller that occurs in rather deep waters from 56 m to 220 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lateral profile of body with gradual convexly curved taper to caudal peduncle; corner of mouth posterior to front edge of orbit; rostral process with broad obtuse angle or straight and with moderately sized divergent blade-like spine at each corner; anal fin with 14–15 rays; 55–58 lateral line scales; 12–13 scale rows below lateral line.
**Colour:** Mostly pinkish orange with belly and lower flanks white; inner surface of pectoral fin dark with a diagonal narrow pale blue band.

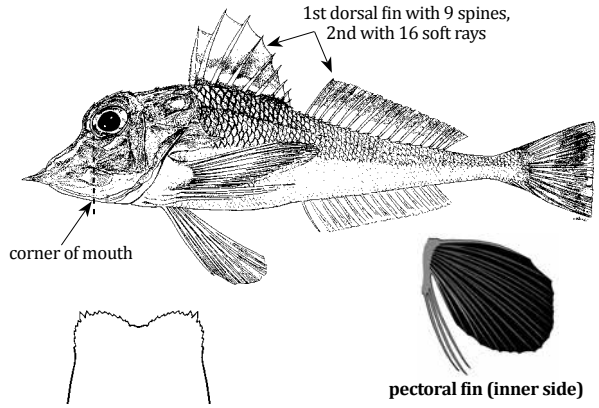



**Size:** To 12.7 cm (TL)

## *Lepidotrigla psolokerkos* Gomon & Psomadakis, 2018

**FAO names:** Skinny gurnard (En)

**Local name(s):** Ye Yet Me' Ye Net Kywe Pa Done.
**Habitat:** Bottom dweller that occurs at depths between 151 and 255 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lateral profile of body with straight taper to caudal peduncle; corner of mouth anterior to front edge of orbit; rostral process with broad medial notch edged with small spines; anal fin with 15–17 rays; 61–62 lateral line scales; 15–16 scale rows below lateral line.
**Colour:** Mostly red with belly and lower flanks white; inner surface of pectoral fin blackish overall; upper 2/3 of caudal fin broadly grey distally, red below.

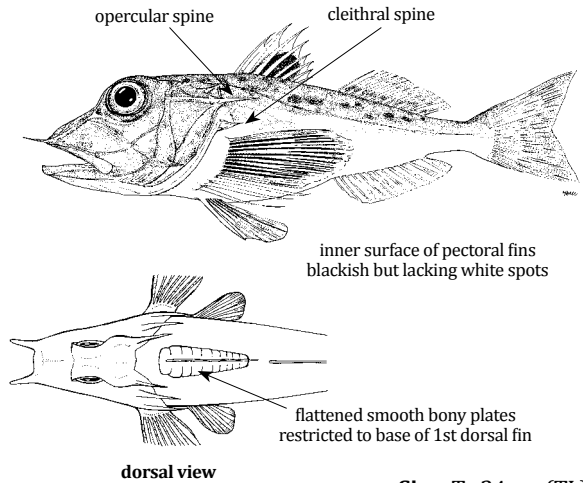



**Size:** To 14.2 cm (SL)

## *Pterygotrigla* cf. *arabica* (Boulenger, 1888)

**FAO names:** Arabian gurnard (En)

**Local name(s):** Arabya Ye Net Kywe Pa Done.
**Habitat:** Inhabits mud bottoms at depths between 26 and 280 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Bony plates only along base of 1st dorsal fin (true of all *Pterygotrigla* species); opercular spine long, extending well past cleithrum; pectoral fin with 12 connected rays; nasal spine absent; rostral process with a single pair of prominent, blade-like spines; snout length, 5.3–6.7 in SL.
**Colour:** Head and upper half of body ligth orange red with small dark spots; lower half of body silvery white; 1st dorsal fin with a large black blotch; 2nd dorsal fin with a series of small black spots.
**Remarks:** This species, previously known only from the Western Indian Ocean, requires further study. Not collected below 88 m depth in Myanmar.

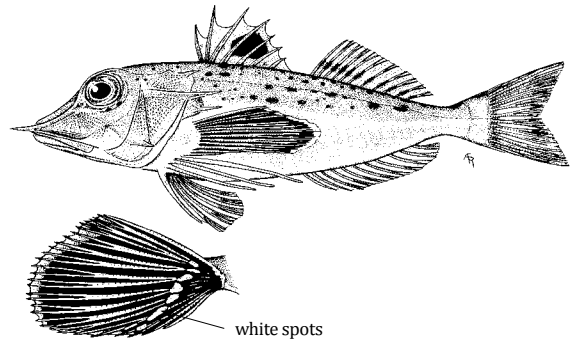



**Size:** To 24 cm (TL)

***Pterygotrigla hemisticta*** (Temminck & Schlegel, 1843)

**FAO names:** Blackspotted gurnard (En)
Grondin encré (Fr)

**Local name(s):** Kyaw Mee Set Ye Net Kywe Pa Done.
**Habitat:** Inhabits mud bottoms at depths between 10 and 420 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Pterygotrigla* cf. *arabica* but with shorter snout 6.7–7.7 in SL and a diagonal band of white spots on inner surface of pectoral fin.
**Colour:** Mostly red with prominent black spots and large black spot in first dorsal fin; inner surface of pectoral fins with large dark area and diagonal band of separate white spots.
**Remarks:** Not collected below 101 m depth in Myanmar.



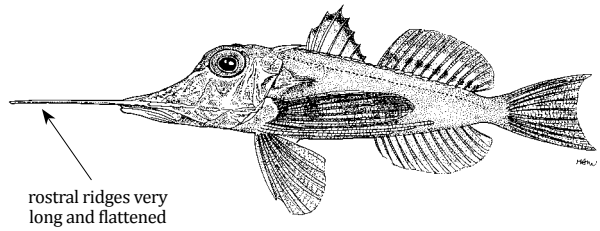
**pectoral fin (inner side)**

**Size:** To 30 cm (TL)

***Pterygotrigla macrorhynchus*** Kamohara, 1936

**FAO names:** Longnose gurnard (En)

**Local name(s):** Hnar Shae Ye Net Kywe Pa Done.
**Habitat:** Inhabits mud bottoms at depths between 250 and 500 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Bony plates only along base of 1st dorsal fin (true of all *Pterygotrigla* species); rostral spines very long and flattened, snout long, 4.5–5.9 in SL; opercular spine short, barely extending to cleithrum; nasal spine present; nuchal spine long; cleithral spine long; base of first dorsal fin with 10 flat plates; breast and nape scaleless.
**Colour:** Mostly ligth orange red with belly and lower flanks silvery white; 1st dorsal fin membrane with a thin black margin; distal third of 2nd dorsal fin red and a row of small dark brown spots on rays basally; pectoral fins black.



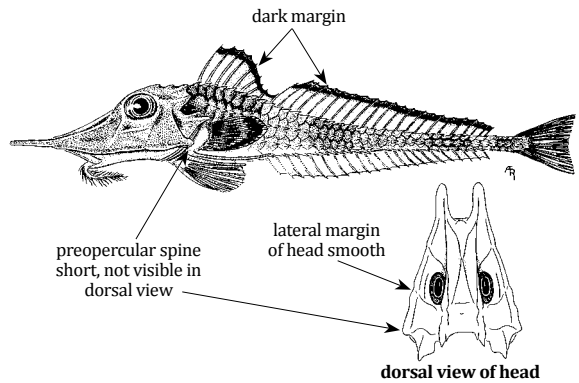

**Size:** To 20 cm (TL)

## PERISTEDIIDAE
Armored gurnards

***Peristedion liorhynchus*** (Günther, 1872)

**FAO names:** None (En)

**Local name(s):** Suu Line Net Nga Mi Gyaung.
**Habitat:** Inhabits mud bottoms at depths between 140 and 380 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Upper jaw teeth absent; lateral margin of head smooth; posterior pairs of bony plates in lower lateral rows contralaterally sutured; preopercular spine small, not visible in dorsal view (true of all *Peristedion* species); rostral projections short and parallel to each other; dorsal fin with 8 spines and 21 soft rays; anal fin with no spines and 20 soft rays.
**Colour:** Mostly brownish red with dark margin on dorsal fins and banded pectoral fins.



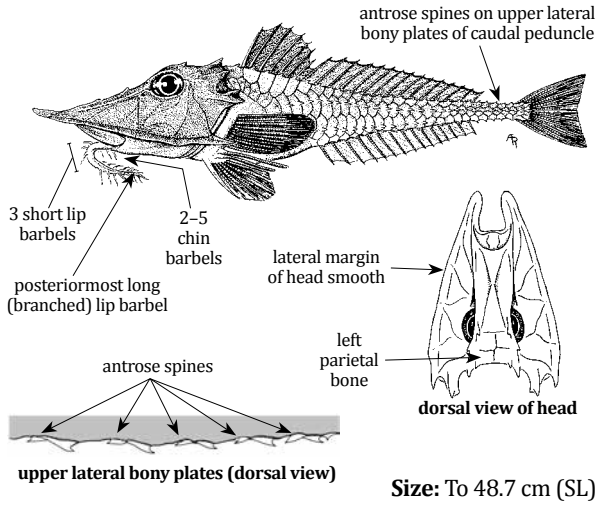
**dorsal view of head**

**Size:** To 40 cm (TL)

## *Satyrichthys laticeps* (Schlegel, 1852)

**FAO names:** None (En)

**Local name(s):** Than Ma Ni Nga Mi Gyaung.
**Habitat:** Inhabits mud bottoms at depths between 58 and 325 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Upper jaw teeth absent; lateral margin of head smooth; rostral projections long and inwardly directed; 4 (rarely 3 or 5) barbels on lip, 3 unbranched and 1 posteriormost longest and branched, reaching beyond level of orbit; 2–5 unbranched barbels on chin; parietal bones unequal in size on midline; upper lateral bony plates of caudal peduncle with forwardly directed (antrose) spines; preopercular spine long; dorsal fin with 6–8 spines and 13–17 soft rays; anal fin with no spines and 14–17 soft rays.
**Colour:** Head and body red, ventral surface paler; fins and barbels reddish; no dusky spots on dorsal fin.

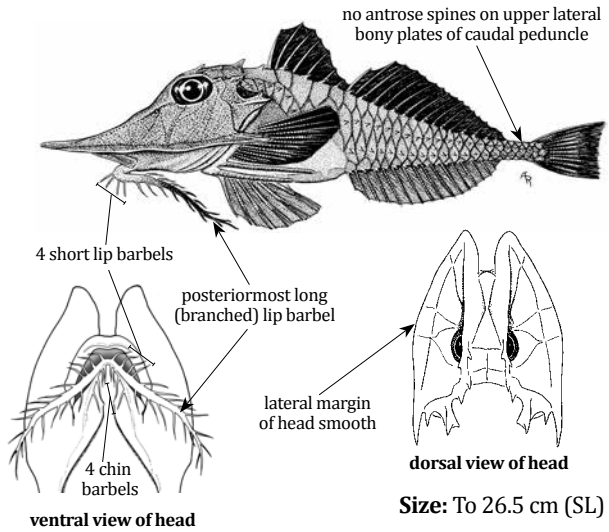



**Size:** To 48.7 cm (SL)

## *Satyrichthys milleri* Kawai, 2013

**FAO names:** Miller's armored gurnard (En)

**Local name(s):** Milar Than Ma Ni Nga Mi Gyaung.
**Habitat:** Inhabits mud bottoms at depths between 259 and 860 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Upper jaw teeth absent; lateral margin of head smooth; equilateral triangular rostral projections; 4–5 barbels on lip, 3 unbranched and 1 posteriormost longest and branched, reaching beyond level of orbit; 4 unbranched barbels on chin; preopercular spine long; dorsal fin with 7–8 spines and 15–17 soft rays; anal fin with no spines and 15–17 soft rays.
**Colour:** Head and body dark brown; dorsal and pectoral fins, except for free rays, and posterior half of longest barbel blackish; anal, pelvic and caudal fins dark brown; 2 free pectoral fin rays brown.

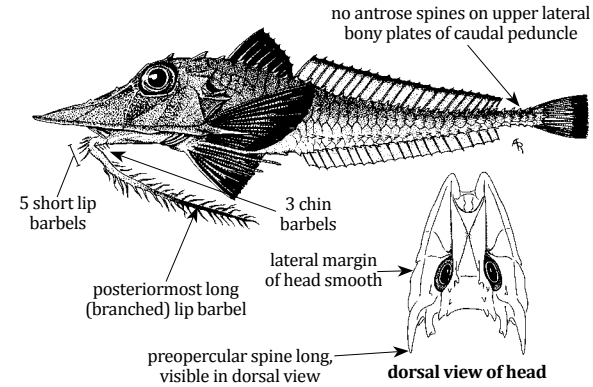



**Size:** To 26.5 cm (SL)

## *Scalicus investigatoris* (Alcock, 1898)

**FAO names:** None (En)

**Local name(s):** Than Ma Ni Nga Mi Gyaung.
**Habitat:** Inhabits mud bottoms at depths between 200 and 658 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Upper jaw teeth absent; lateral margin of head smooth; equilateral triangular rostral projections; 6 barbels on lip, 5 unbranced and 1 posteriormost longest and branched, reaching to anal fin origin; 3 unbranched barbels on chin; preopercular spine long; dorsal fin with 7 spines and 20–23 soft rays; anal fin with no spines and 20–22 soft rays.
**Colour:** Head and body red; pectorals, first dorsal, and distal half of longest barbel blackish; dorsal fin rays with black edge, pelvic black.

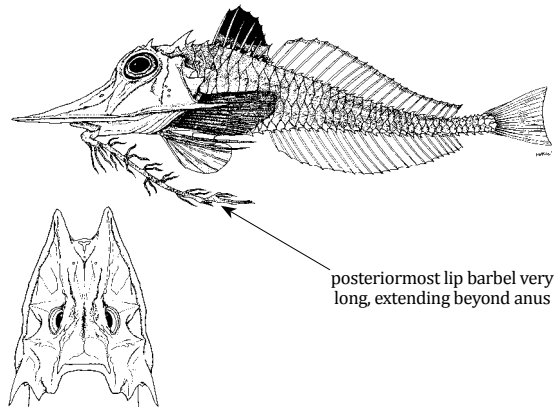



**Size:** To 23 cm (TL)

***Scalicus orientalis*** (Fowler, 1938)

**FAO names:** None (En)

**Local name(s):** Mote Seik Shae Nga Me Gyaung.
**Habitat:** Inhabits mud bottoms at depths between 350 and 510 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Scalicus investigatoris* but posteriormost lip barbel with blackish flaps and extending beyond anus; antrose spines present on upper lateral bony plates of caudal peduncle.
**Colour:** Head and body red, ventral surface paler; all fins red including detached lowermost pectoral rays; spinous dorsal fin and distal half of longest barbel blackish.



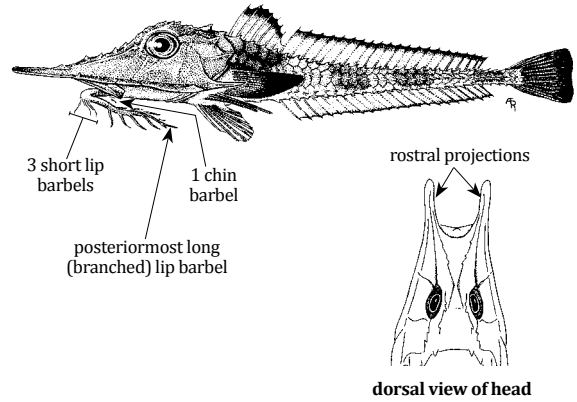

**dorsal view of head**

**Size:** To 15.4 cm (SL)

***Scalicus serrulatus*** (Alcock, 1898)

**FAO names:** None (En)

**Local name(s):** Than Ma Ni Suu Thwar Nga Mi Gyaung.
**Habitat:** Inhabits mud bottoms at depths between 300 and 376 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Scalicus investigatoris* but rostral projections long and parallel to each other; 4 lip and 1 chin barbel; posteriormost lip barbel not reaching to anal fin origin; antrose spines present on upper lateral bony plates of caudal peduncle; all bony ridges of head finely serrulate.
**Colour:** Head and body red with small greenish markings; all fins deep red including detached lowermost pectoral rays; edges of dorsal fins and distal part of pectoral and caudal fins black.




**dorsal view of head**

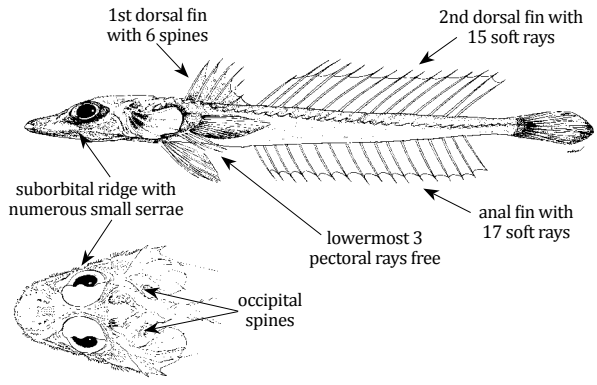
**Size:** To 27 cm (TL)

## HOPLICHTHYIDAE
Ghost flatheads

***Hoplichthys gregoryi*** (Fowler, 1938)

**FAO names:** None (En)

**Local name(s):** Nga Sin Ninn Tha Ye'.
**Habitat:** Inhabits mud bottoms at depths between 329 and 332 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head and body extremely depressed; bones of head finely serrate; lowermost 3 pectoral fin rays free; 1 spine present immediately behind each eye and a small pair of spines on occiput; lateral line scutes with 1 large spine directed up and back (sometimes auxillary small spines in interspaces between scutes); interorbital width less than 1/2 eye length.
**Colour:** Mostly ligth orange red with an horizontal row of yellowish oval spots along ventral side of body; lateral line scutes yellowish.




**dorsal view of head**

**Size:** To 25 cm (TL)

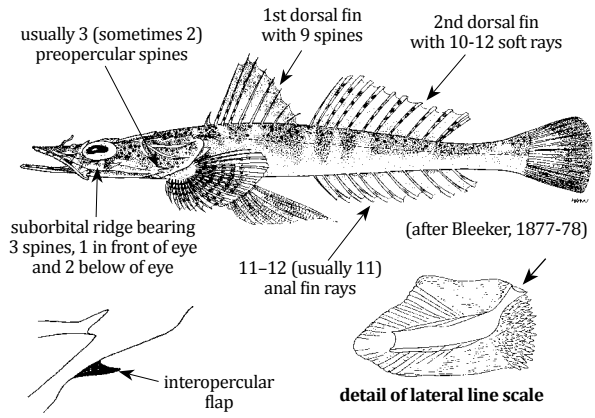
# PLATYCEPHALIDAE

Spiny flatheads

***Cociella punctata*** (Cuvier, 1829)

**FAO names:** Spotted flathead (En)

**Local name(s):** Nga Sin Ninn Set Pyauk.
**Habitat:** Benthic in depths of 10 m or less.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; uppermost preopercular spine longest, reaching only about half-way to opercular margin; iris lappet simple; lateral line scales with a single opening to exterior; teeth on vomer in 2 separate patches.
**Colour:** Numerous small dark spots on back reaching to below lateral line; caudal fin usually with a broad dark marginal band or series of dark spots; 1st dorsal fin with a submarginal dark band.
**Remarks:** The presence of this species in Myanmar needs confirmation.

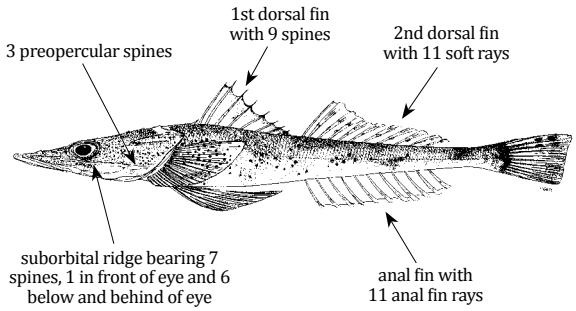



**Size:** To 35 cm, common 25 cm (TL)

***Cociella*** sp. *

**FAO names:** Largehead flathead (En)

**Local name(s):** Nga Sin Ninn Gaung Gyi.
**Habitat:** Mud bottoms at 116 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Cociella punctata* but head larger, 2.7 in SL (2.8–3.1 in SL in *C. punctata*); 7 spines (including 1 preorbital spine) on the suborbital ridge (usually 3 spines in *C. punctata*); no interopercular flap (usually present in *C. punctata*).
**Colour:** Similar to *Cociella punctata* but darker especially on back and sides; belly and anal fin white.
**Remarks:** An undescribed species presently being described by Imamura *et al*.

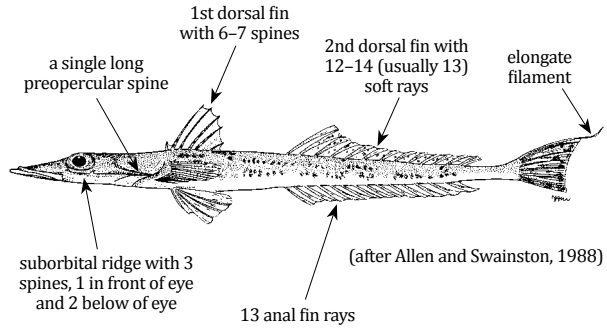



**Size:** To at least 26. 6 cm (TL)

***Elates ransonnettii*** (Steindachner, 1876)

**FAO names:** Dwarf flathead (En)

**Local name(s):** Hmee Ta Chaung Shae Nga Sin Nin.
**Habitat:** Benthic, over mud and sand bottoms at depths to about 57 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body extremely slender; head moderately depressed; preopercular spine long, extending beyond the margin of the opercle; caudal fin emarginate, upper lobe longest, a single upper caudal fin ray ending in an elongate filament.
**Colour:** Head and body pale brown dorsally with some small brown spots but no distinct bands, paler ventrally; a series of brown to grey spots arranged in a single row laterally; all fins with dark brown spots.
**Remarks:** The record of *Elates ransonnettii* off Myanmar represents the first record of the species from the Andaman Sea, Indian Ocean.

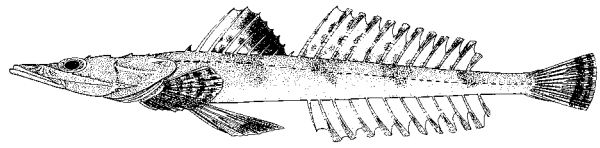



**Size:** To 19 cm, common 15 cm (TL)

***Grammoplites knappi*** Imamura & Amaoka, 1994

**FAO names:** Smallspined flathead (En)

**Local name(s):** Suu To Nga Sin Ninn.
**Habitat:** Benthic, over mud and sand bottoms to depths of about 32 m.
**Fisheries:** Bottom trawls, gillnets, beach seine.
**Distinctive Characters:** Similar to *Grammoplites scaber* (Linnaeus, 1758) but lateral line scale spines weak, not extending beyond rear margin of scale on posterior part of the body; interorbital width less than 11.0 in head length.
**Colour:** Head and body brown, with about 4 dark bands crossing back; spinous dorsal fin dusky or with a broad dark marginal band; caudal fin frequently with 2 dark bands posteriorly.
**Remarks:** Recorded from Ranong, Thailand (most probably occurring also in Myanmar).



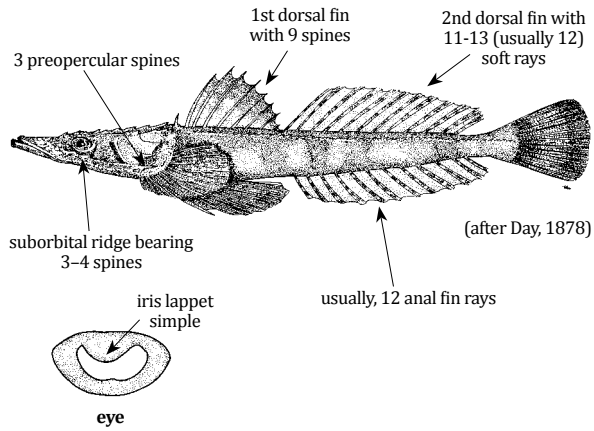
(after Imamura and Amaoka, 1994)

**Size:** To 30 cm, common 25 cm (TL)

***Grammoplites scaber*** (Linnaeus, 1758)

**FAO names:** Rough flathead (En)

**Local name(s):** Nga Sin Ninn Lu Gyan.
**Habitat:** Benthic, over mud and sand bottoms at depths to about 55 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; upper preopercular spine longest, not reaching to opercular margin, bearing a small accessory spine on base; lateral line scales with a single opening to exterior, each with a backward directed spine that extends beyond rear margin of scale (especially noticeable along caudal peduncle); interorbital width 11 or more of head length; teeth on vomer in 2 separate patches; interopercular flap absent.
**Colour:** Head and body brownish above, whitish below; back crossed by about 6 dark bands (sometimes obscure or absent).

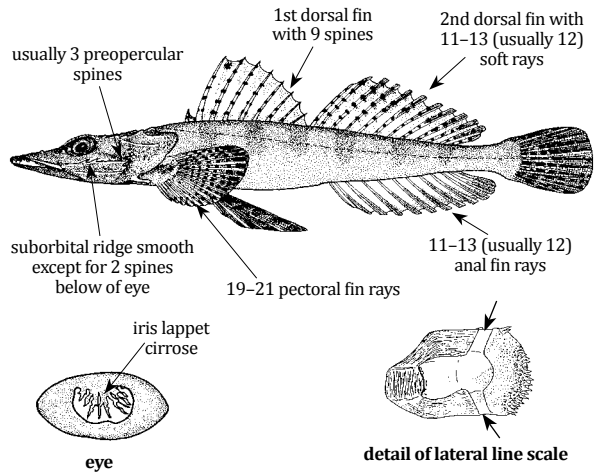



**Size:** To 30 cm, common 20 cm (TL)

***Inegocia japonica*** (Cuvier, 1829)

**FAO names:** Japanese flathead (En)

**Local name(s):** Japan Nga Sin Ninn.
**Habitat:** Benthic, over mud and sand bottoms at depths to about 85 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; upper preopercular spine short, subequal with next, small accessory spine usually present; lateral line scales with 2 openings to exterior; teeth on vomer in 2 separate patches; interopercular flap present.
**Colour:** Head and body brown or grey above, whitish below, back crossed by about 6 obscure dark bands; dorsal fins clear, with small brown spots on rays; caudal fin pale, with large dark spots, some elongated.
**Remarks:** The presence of this species in Myanmar needs confirmation.

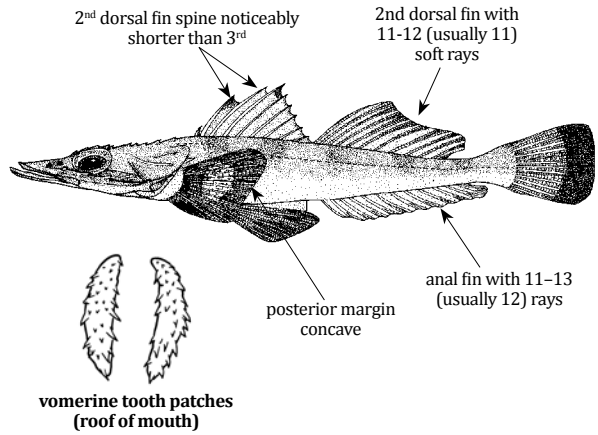



**Size:** To 35 cm, common 20 cm (TL)

## *Kumococius rodericensis* (Cuvier, 1829)

**FAO names:** Spiny flathead (En)

**Local name(s):** Hmee Hteik Me' Nga Sin Ninn.
**Habitat:** Benthic, over sand and mud bottoms at depths from 18 to 130 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 3 preopercular spines, uppermost longest, reaching nearly to or just past opercular margin; pectoral fins slightly falcate (posterior margin concave); suborbital ridge bearing numerous strong spines and serrations; iris lappet simple or slightly bilobed; lateral line scales with a single opening to exterior; teeth on vomer in 2 separate patches; interopercular flap present.
**Colour:** Brown with 4–5 faint dark bars on back; pectoral fins dark brown, with a clear or whitish central area; pelvic fins dark brown with a light edge; caudal fin dusky on posterior half.

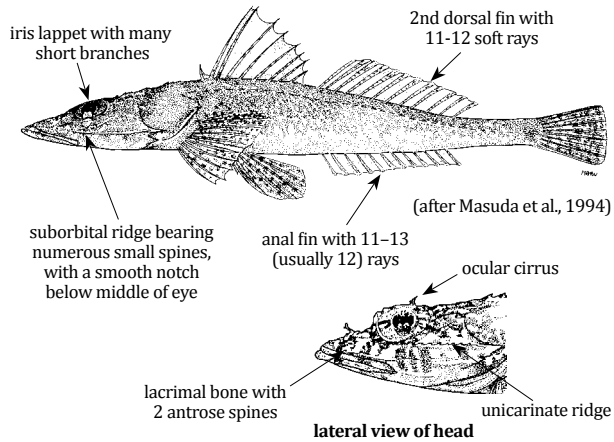



**Size:** To 25 cm, common 20 cm (TL)

## *Onigocia macrolepis* (Bleeker, 1854)

**FAO names:** Notched flathead (En)

**Local name(s):** Bhu Htit Nga Sin Ninn.
**Habitat:** Benthic, over sand and mud bottoms to depths of 130 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 3 preopercular spines, uppermost longest with an accessory spine on base; lateral line scales with 2 openings to exterior; teeth on vomer in 2 separate patches; interopercular flap absent; eye with a short, branched cirrus; lower side of head unicarinate.
**Colour:** Body light brown above, pale below; back crossed by about 4 dark bands; anal fin pale, other fins mostly with brown spots or blotches forming bands.
**Remarks:** The presence of this species in Myanmar needs confirmation.

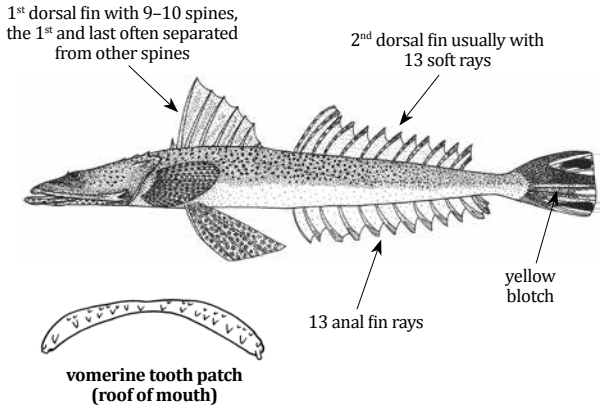



**Size:** To 15 cm, common 12 cm (TL)

## *Platycephalus indicus* (Linnaeus, 1758)

**FAO names:** Bartail flathead (En)
Platycéphale indien (Fr)

**Local name(s):** Nga Sin Ninn Hmee Sin Kyar.
**Habitat:** Benthic on sandy bottoms in shallow areas, also in estuaries. Maximum depth 25 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate with head stongly depressed; head with smooth bony ridges; iris lappet a simple elongated lobe; 2 preopercular spines, the upper a little shorter than the lower; 7–10 (usually 8 or 9) total gill rakers on 1st gill arch; lateral line scales with a single opening to exterior; vomerine teeth in one transverse patch (true of all *Platycephalus* species).
**Colour:** Brownish or greyish above, whitish below; small dark blotches on back and head; pectoral and pelvic fins with numerous brown blotches; caudal fin centrally yellow with black stripes on upper and lower margins.




**Size:** To 50 cm, common 35 cm (TL)

## *Rogadius melanopterus* (Knapp & Wongratana, 1987)

**FAO names:** Obscure flathead (En)

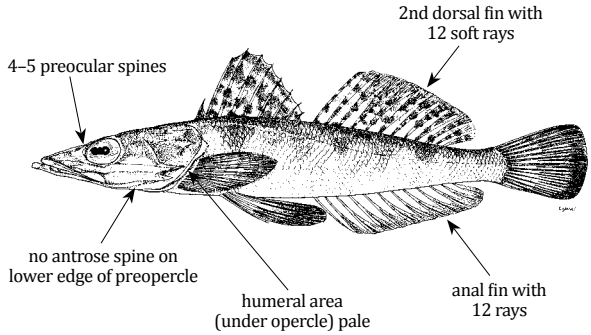
**Local name(s):** Gaung Chaw Nga Sin Ninn.

**Habitat:** Benthic over sand or mud bottoms from depths of 15 to 117 m.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Body elongate, head moderately depressed; 3 preopercular spines; lateral line scales with 2 exterior openings; suborbital ridge with fine serrations; teeth on vomer in 2 separate patches; 10–11 total gill rakers on 1st gill arch; interopercular flap absent; iris lappet slightly bilobed; lower side of head unicarinate (single ridge on side of head).

**Colour:** Brown shading to paler ventrally; pelvic, 1st dorsal and caudal fin uniformely dusky; 2nd dorsal fin rays with dark blotches; humeral area under opercle pale.




**Size:** To 14.5 cm (TL)

## *Rogadius pristiger* (Cuvier, 1829)

**FAO names:** Thorny flathead (En)

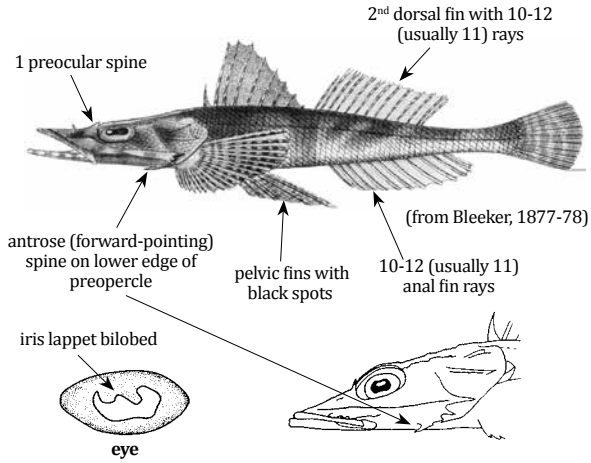
**Local name(s):** Suu Gaung Nga Sin Ninn.

**Habitat:** Benthic, over mud and sand bottoms from depths of 15 to 95 m.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Body elongate, head moderately depressed; 3–6 (usually 4–5) preopercular spines, uppermost longest, with an accessory spine on base; lateral line scales with 2 openings to exterior; suborbital ridges bearing many fine serrations; teeth on vomer in 2 separate patches; 5–8 (usually 7) total gill rakers on 1st gill arch; interopercular flap absent; iris lappet bilobed; lower side of head unicarinate (single ridge on side of head).

**Colour:** Body brown above, pale below, 3–4 dusky bands crossing back; lower lip dusky, with 4–6 dark bands; caudal fin with a white basal band, a broad dusky submarginal band and a narrow white edge.




**Size:** To 21 cm, common 15 cm (TL)

## *Rogadius serratus* (Cuvier, 1829)

**FAO names:** Serrated flathead (En)

**Local name(s):** Khway Thwar Seik Nga Sin Nin.

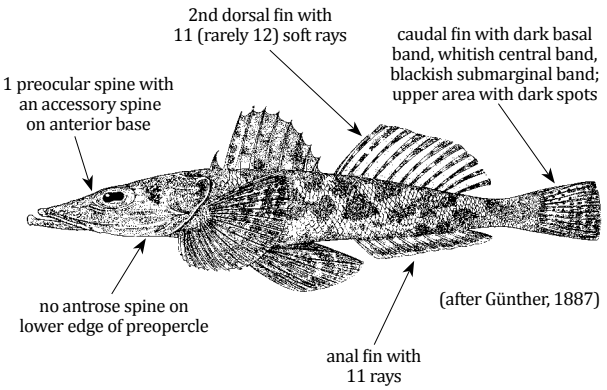
**Habitat:** Benthic over sand or mud bottoms from depths of 15 to 117 m.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Body elongate, head moderately depressed; 4–5 (usually 4) preopercular spines; lateral line scales with 2 exterior openings; supraorbital and suborbital ridges bearing many fine serrations; teeth on vomer in 2 separate patches; 6–8 (usually 7) total gill rakers on 1st gill arch; interopercular flap absent; iris lappet bilobed; lower side of head unicarinate (single ridge on side of head).

**Colour:** Body with a series of 7–8 dark bands on back; sides with a series of dark blotches.

**Remarks:** The presence of this species in Myanmar needs confirmation.

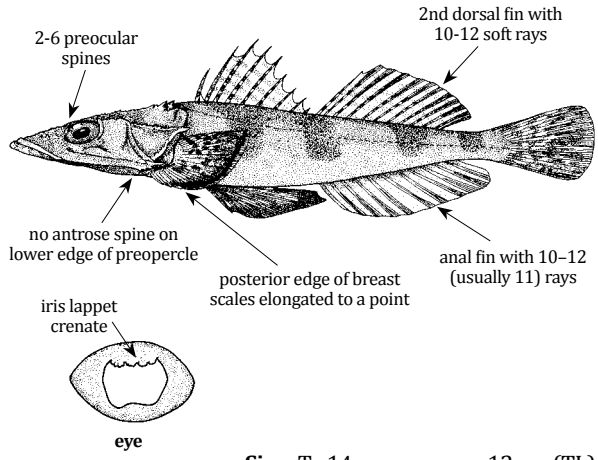



**Size:** To 24 cm (TL)

***Rogadius tuberculatus*** (Cuvier, 1829)

**FAO names:** Tuberculated flathead (En)

**Local name(s):** Nga Sin Ninn Lone Chaw.
**Habitat:** Benthic, over sand and mud bottoms to a depth of about 80 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 4–9 preopercular spines, decreasing in size ventrally, accessory spine on base of upper; lateral line scales with 2 exterior openings; suborbital ridge with fine serrations; iris lappet crenate; teeth on vomer in 2 separate patches; 7–9 (usually 8) total gill rakers on 1st gill arch; interopercular flap absent; lower side of head unicarinate (single ridge on side of head).
**Colour:** Body light olive or tan above, whitish below, with 3 or 4 dark bands crossing back.
**Remarks:** Recorded from Ranong, Thailand (most probably occurring also in Myanmar).

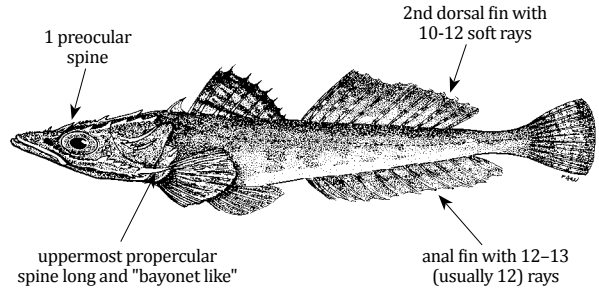



**Size:** To 14 cm, common 12 cm (TL)

***Suggrundus macracanthus*** (Bleeker, 1869)

**FAO names:** Largespined flathead (En)

**Local name(s):** Nga Sin Ninn Suu Gyi.
**Habitat:** Benthic, over sand and mud bottoms to a depth of 132 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 3 preopercular spines, uppermost long, bayonet-like, reaching to or past opercular margin, with an accessory spine on base; lateral line scales with 2 exterior openings; iris lappet bilobed in adults, crenate in juveniles; finger-like interopercular flap present; teeth on vomer in 2 separate patches; 7–9 (usually 8) total gill rakers on 1st gill arch.
**Colour:** Brown above, whitish below, with about 7 vague dark bands crossing back in some specimens.

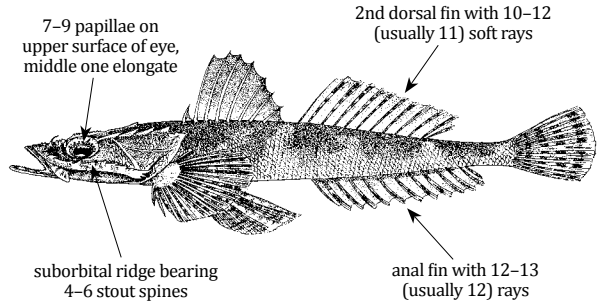



**Size:** To 26 cm, common 18 cm (TL)

***Sunagocia carbunculus*** (Valenciennes, 1833)

**FAO names:** Papillose flathead (En)

**Local name(s):** Myet Taung Hmyay Nga Sin Ninn.
**Habitat:** May be associated with aquatic vegetation at shallow depths.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 2–3 preopercular spines, uppermost longest, not reaching to opercular margin, accessory spine present in most; lateral line scales with 2 exterior openings; iris lappet crenate; interopercular flap absent; teeth on vomer in 2 separate patches; 6 total gill rakers on 1st gill arch.
**Colour:** Body greenish above, whitish below, back crossed by 4 or 5 dark bands, a series of small dark blotches along lower side; spinous dorsal fin with a broad submarginal dark band.
**Remarks:** The presence of this species in Myanmar needs confirmation.

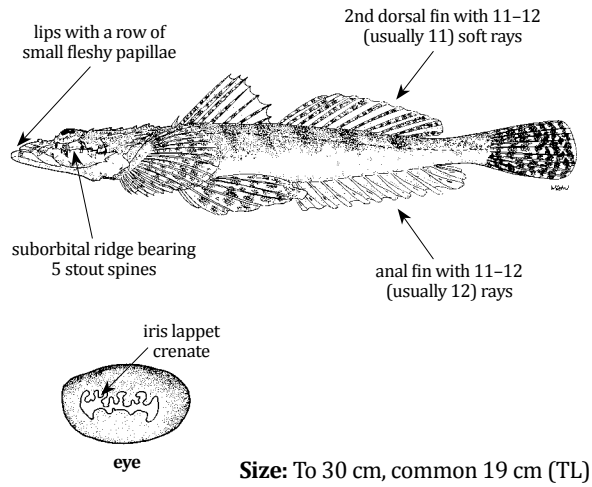



**Size:** To 40 cm, common 15 cm (TL)

## *Sunagocia otaitensis* (Cuvier, 1829)

**FAO names:** Fringelip flathead (En)

**Local name(s):** Let Chaung Hnote Kham Nga Sin Nin.
**Habitat:** Benthic, over sand and mud bottoms to a depth of about 40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 2–3 preopercular spines, uppermost longest, extending about half-way to opercular margin, accessory spine absent; lateral line scales with 2 exterior openings; iris lappet bearing short branches with bifurcate tips; interopercular flap absent; teeth on vomer in 2 separate patches; 5–7 (usually 6) total gill rakers on 1st gill arch.
**Colour:** Back tan, mottled with white flecks or spots, 4 or 5 vague cross bands crossing back, undersides whitish.
**Remarks:** Recorded from the Andaman Sea of Thailand (most probably occurring also in Myanmar).

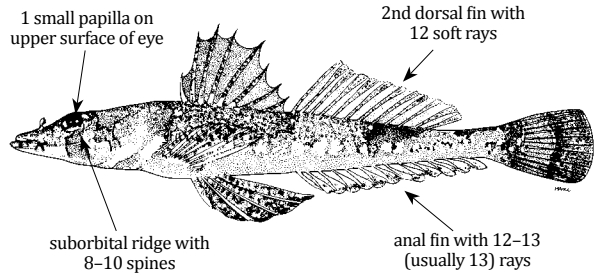



**Size:** To 30 cm, common 19 cm (TL)

## *Thysanophrys celebica* (Bleeker, 1855)

**FAO names:** Celebes flathead (En)

**Local name(s):** Celebe Nga Sin Ninn.
**Habitat:** Benthic over sand or mud bottoms from depths of 10 to 45 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, head moderately depressed; 3 preopercular spines, uppermost longest, not reaching half-way to opercular margin, accessory spine present on base; lateral line scales with 2 exterior openings; iris lappet with very short branches; interopercular flap absent; teeth on vomer in 2 separate patches; 5–7 (usually 5 or 6) total gillrakers on 1st gill arch.
**Colour:** Body brownish or greenish above, whitish below, back crossed by 4 or 5 dark bands.
**Remarks:** Recorded from the Andaman Sea of Thailand (most probably occurring also in Myanmar).

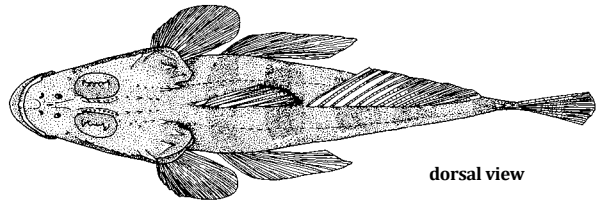



**Size:** To 20 cm, common 10 cm (TL)

## *Thysanophrys chiltonae* (Schultz, 1966)

**FAO names:** Longsnout flathead (En)

**Local name(s):** Hnar Shae Nga Sin Ninn.
**Habitat:** Inhabits sand areas adjacent to coral reefs to a depth of about 38 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Thysanophrys celebica* (Bleeker, 1855) but no papilla on upper surface of eye; usually 11 soft dorsal fin rays; usually 12 anal fin rays; 6–7 spines on suborbital ridge; bifurcate tips on iris lappet short branches.
**Colour:** Body light tan mottled with numerous white spots, white below, with about 5 to 7 brown bands crossing back.
**Remarks:** Recorded from the Andaman Sea of Thailand (most probably occurring also in Myanmar).



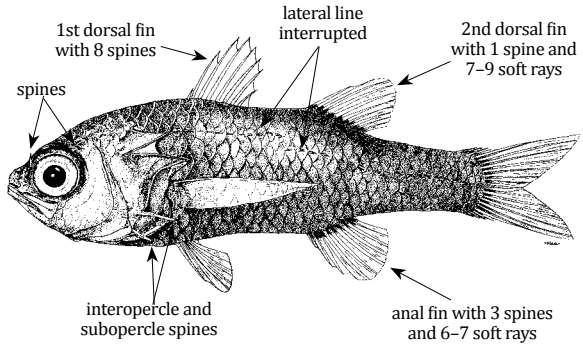

**Size:** To 22 cm, common 16 cm (TL)

## HOWELLIDAE
Oceanic basslets

***Howella*** cf. ***brodiei*** Ogilby, 1899 *

**FAO names:** Pelagic basslet (En)

**Local name(s):** Ye Paw Hlwar Nga Mee Pyar.
**Habitat:** Depth range: 520–522.
**Fisheries:** Midwater trawls.
**Distinctive Characters:** Body depth 3.1–3.5 in SL; head length 2.4–2.9 in SL; eye diameter 8.3–8.5 in SL; 1st and 2nd dorsal spines 50.0–62.5 and 6.8–8.8 in SL, respectively; opercle with 2 well-separated simple spines; subopercle and interopercle each with a single spine; posterior preopercular edge with 5–10 short spines; jaws with single series of small conical teeth; vomer with few small teeth; palatines with few teeth or naked.
**Colour:** Head and body, including caudal fin uniformly black, lower part of head and fins paler.
**Remarks:** This is a complex of species that requires further research (O. Gon pers. comm., 2018).



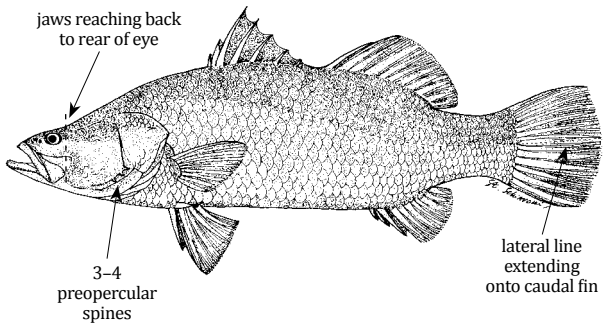

**Size:** To 7.1 cm (SL)

## LATIDAE
Sea perches

***Lates calcarifer*** (Bloch, 1790)

**FAO names:** Barramundi (En)
Barramundi (Fr)

**Local name(s):** Ka Ka Dit.
**Habitat:** Found in coastal waters, estuaries and lagoons, usually at depths between 10 and 40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile concave anteriorly; jaws reaching to behind eye; teeth villiform, no canines; tongue smooth; dorsal fin with 7–9 spines and 10–11 soft rays; anal fin with 3 spines and 7–8 soft rays; lower edge of preopercle with 3–4 large flat triangular spines.
**Colour:** Two phases, either olive brown above with silver sides and belly (usually juveniles) or green blue above and silver below; eyes bright pink, glowing at night.

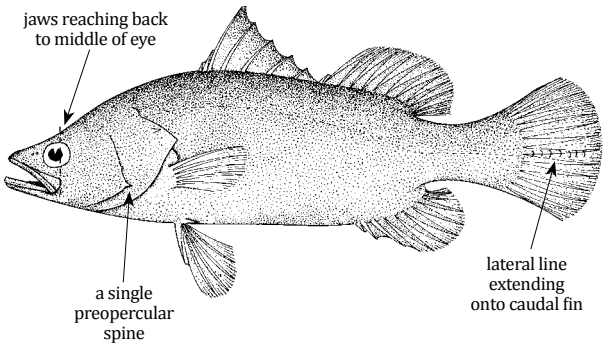



**Size:** To 200 cm, common 25–100 cm (TL)

***Psammoperca waigiensis*** (Cuvier, 1828)

**FAO names:** Waigieu seaperch (En)
Brochete de mer (Fr)

**Local name(s):** Ka Ka Dit.
**Habitat:** Coastal, marine, found on shallow rocky or coral reefs especially near algal beds.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile concave anteriorly; lower edge of preopercle smooth, 1 large flat spine at rear angle of preopercle; jaws reaching to below middle of eyes; dorsal fin with 7–8 spines and 12–14 soft rays; anal fin with 3 spines and 8–9 soft rays.
**Colour:** Light silvery grey to dark brown, usually coppery brown, paler ventrally, darker brown lines may follow scale rows along length of body; eyes golden-brown with distinct red reflection.



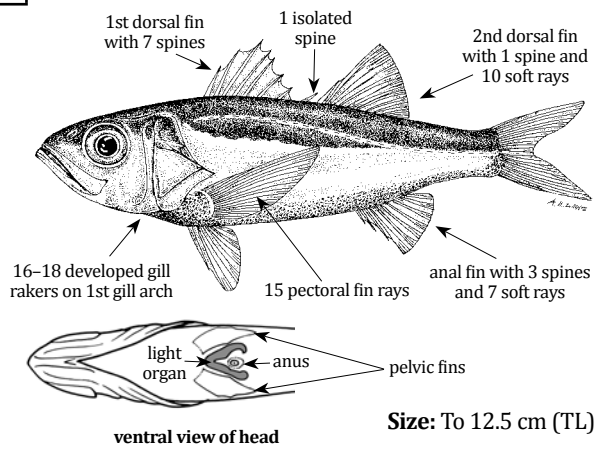

**Size:** To 47 cm, common 20–30 cm (TL)

# ACROPOMATIDAE
Lanternbellies

***Acropoma argentistigma*** Okamoto & Ida, 2002

**FAO names:** Silver-spotted lanternbelly (En)

**Local name(s):** Ngwe Yaung Beik Nga Mee Eain.
**Habitat:** Depth range: 77–93 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body depth 3.2–3.8 in SL; interorbital width 13.3–15.2 in SL; both jaws with a single row of well-developed conical teeth and a pair of canine teeth near symphysis; bands of villiform teeth on inner part of upper jaw only; a short U-shaped light organ embedded in muscles between pelvic fins, its anterior edge not reaching level of pelvic fin insertion; scales on body weakly ctenoid; pelvic fin spine smooth.
**Colour:** Upper part of head and back pinkish red; opercle and lower half of head and body silvery white; small black dots on ventral surface.

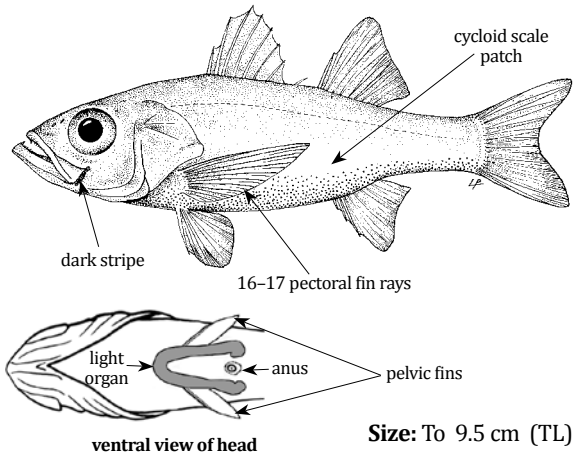



**Size:** To 12.5 cm (TL)

***Acropoma splendens*** (Lloyd, 1909)

**FAO names:** Indian lanternbelly (En)

**Local name(s):** Nga Mee Eain Mae Yinn Me'.
**Habitat:** Depth range: 45–113 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Acropoma argentistigma* but deeper body, its depth 2.5–3.1 in SL; interorbital width 11.8–13.7 in SL; 16–17 pectoral fin rays; U-shaped light organ exceeding pelvic fin origin; 20–24 gill rakers on 1st gill arch; a dark stripe under wider posterior end of the maxilla; patch of cycloid or weakly ctenoid scales on side of body.
**Colour:** Body and fins pink, ventral surface abruptly silver and covered with dark dots.
**Remarks:** *Acropoma lacrima* Okamoto & Golani, 2017 is a junior synonym.

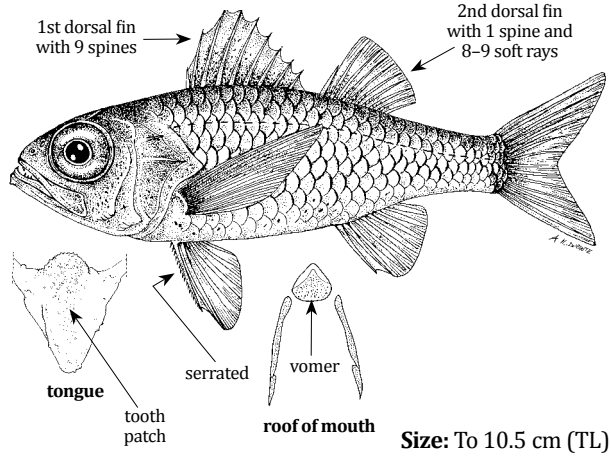



**Size:** To 9.5 cm (TL)

***Parascombrops glossodon*** Schwarzhans & Prokofiev, 2017

**FAO names:** Rasp-tongue splitfin (En)

**Local name(s):** Shar Gyan Mee Eain Wun Bike.
**Habitat:** Depth range: 156–320 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** No light organ; body depth 3.1–3.3 in SL; orbit diameter 7.2–8.5 in SL; jaws with canine teeth at symphyses, but also laterally on mandible; dense, elongate tooth patch on tongue; large diamond-shaped vomerine tooth patch with granular teeth only; anal fin with 2 spines and 7 soft rays; pelvic fin spine serrated.
**Colour:** Head and body, including caudal fin brownish black, belly paler; lower part of head with a golden yellow sheen when fresh; pectoral fin dusky basally, yellowish distally; body scales easily shed, trawled fishes usually appearing pinkish white with a darker mid-lateral stripe.

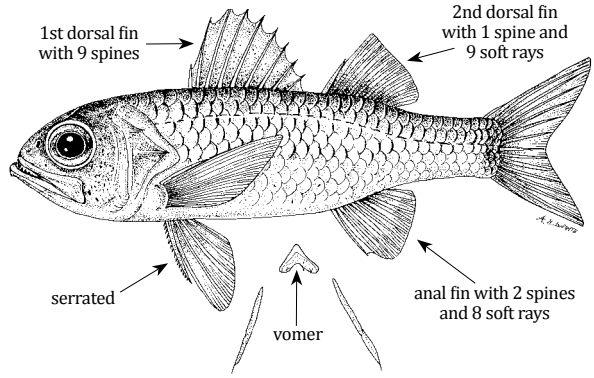



**Size:** To 10.5 cm (TL)

***Parascombrops*** sp. *

**FAO names:** None (En)

**Local name(s):** Mee Eain Wun Bike Nga.
**Habitat:** Depth range: 121–125 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Parascombrops glossodon* but body more slender, its depth 3.7 in SL; 8 soft anal fin rays; orbit diameter 8.9 in SL; tongue toothless; vomerine tooth patch V-shaped; 12 developed gill rakers on 1st gill arch (vs 18–19 in *P. glossodon*); 17 pectoral fin rays (vs 16 in *P. glossodon*).
**Colour:** Similar to *P. glossodon* but no golden yellow sheen on lower part of head and yellowish pectoral fin.
**Remarks:** Most probably an undescribed species, presently being studied by Gon *et al*.

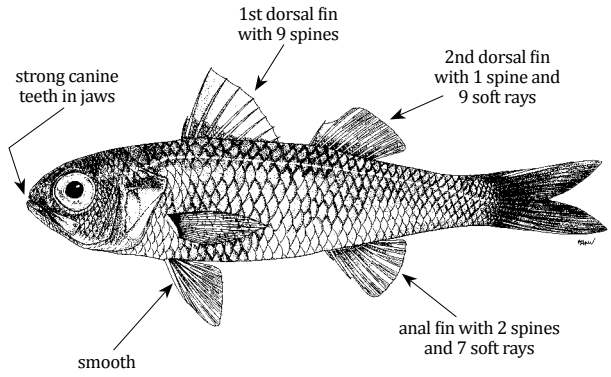



**Size:** To 6.4 cm (SL)

***Synagrops*** aff. ***japonicus*** (Döderlein, 1883) *

**FAO names:** Japanese splitfin (En)

**Local name(s):** Mee Eain Wun Bike Nga, Nga Mee Eain Me' Tuu.
**Habitat:** Depth range: 265–272 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** No light organ; scales cycloid; 15 developed gill rakers on 1st gill arch; band of villiform teeth in upper jaw, separated by a gap at symphysis, with a large canine on each side of gap; lower jaw with a narrow band of small teeth anteriorly, 3–5 canines laterally, and a large pair of backward-pointing canines at symphysis; no spines on preopercular ridge; anus closer to anal fin than to pelvic fin origin.
**Colour:** Head, body and fins blackish brown.
**Remarks:** Possibly undescribed. Myanmar specimens with scales on top of head and on proximal part of dorsal, anal and caudal fins.



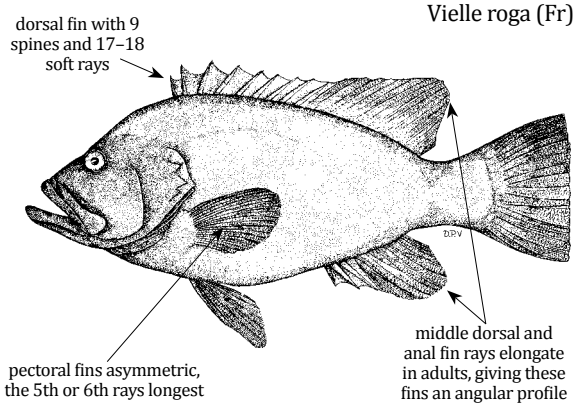

**Size:** To 13.5 cm (SL)

## SERRANIDAE
Groupers and allies

***Aethaloperca rogaa*** (Forsskål, 1775)

**FAO names:** Redmouth grouper (En)
Vielle roga (Fr)

**Local name(s):** Ar Ni Kyauk Nga.
**Habitat:** Well-developed coral reefs in depths of 3 to at least 60 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body deep and compressed, its depth greater than head length and 2.1–2.4 in SL; caudal fin truncate, with 8 branched rays in upper lobe and 7 in lower lobe.
**Colour:** Dark brown to black, occasionally with an orange cast, usually with a pale vertical bar on side of abdomen; inside of mouth, gill cavity and upper jaw membranes reddish orange; juveniles with a broad white posterior margin on caudal fin and a narrow white margin on soft dorsal fin.

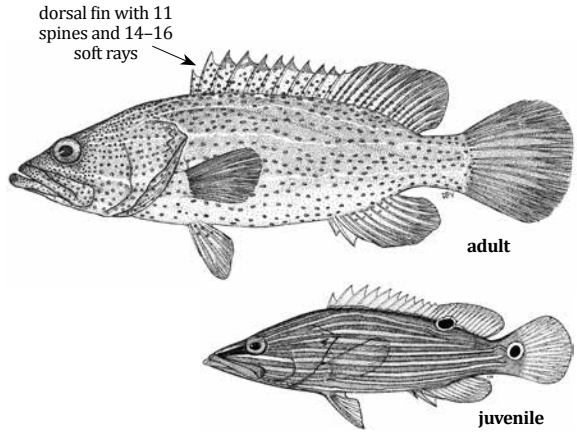



**Size:** To 60 cm (TL)

***Anyperodon leucogrammicus*** (Valenciennes, 1828)

**FAO names:** Slender grouper (En)
Mérou élégant (Fr)

**Local name(s):** Kyauk Nga Ko Lone Thwe.
**Habitat:** A coral-reef species usually found on protected reefs in depths of 5 to 80 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body and head elongate and markedly compressed, its depth distinctly less than head length, 3.1–3.7 in SL; body width 2.3–2.8 in body depth; head pointed; dorsal head profile almost straight; no teeth on palatines; anal fin with 3 spines and 8–9 soft rays.
**Colour:** Adults greenish to brownish grey with numerous orange-red spots on head (becoming smaller anteriorly), body, dorsal fin, and basally on caudal fin; juveniles with longitudinal pale bluish grey stripes on a gold background; a blue-edged black spot (or double spot) at base of caudal fin and another at base of soft dorsal fin.

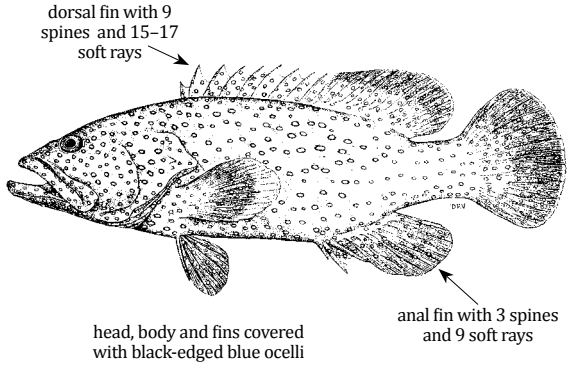



**Size:** To 60 cm (TL)

***Cephalopholis argus*** Schneider, 1801

**FAO names:** Peacock hind (En)
Vielle ciosomoer (Fr)

**Local name(s):** Kyauk Nga Kyet Pha.
**Habitat:** Found in a variety of coral reef habitats from tide pools to depths of at least 40 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body depth distinctly less than head length, 2.7–3.2 in SL (for specimens 10–40 cm SL); 16–18 pectoral fin rays; lateral line scales 46–51; lateral scale series 95–110.
**Colour:** Dark brown, covered with small black-edged blue ocelli; often with 5–6 pale bars on rear part of body and a large pale area over the chest; distal part of pectoral fins sometimes maroon brown; triangular membranes at tips of dorsal fin spines orange-gold.

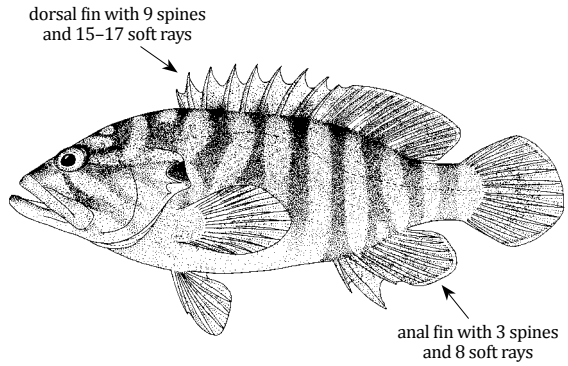



**Size:** To 55 cm (TL)

***Cephalopholis boenak*** (Bloch, 1790)

**FAO names:** Chocolate hind (En)
Vielle chocolat (Fr)

**Local name(s):** Chaw Kalet Kyauk Nga.
**Habitat:** Reef-associated species down to 64 m depth.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body depth 2.6–3.0 in SL, less than head length; pectoral fins 1.3–1.6 in head length with 15–17 rays; lateral line scales 46–51; lateral scale series 86–100.
**Colour:** Head, body and fins dark brown; body with indications of slightly irregular blackish brown bars; head with irregular, broad dark bands radiating from eye and a blackish spot between upper 2 opercular spines; soft portions of median fins with a narrow bluish white margin (except centrally on caudal fin); no blue spots.

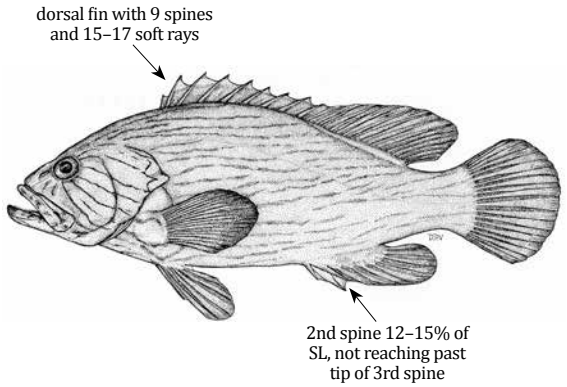



**Size:** To 30 cm (TL)

***Cephalopholis formosa*** (Shaw, 1812)

**FAO names:** Bluelined hind (En)
Vielle lignes bleues (Fr)

**Local name(s):** Kyauk Nga Pyar Sin.
**Habitat:** Reef-associated species down to 30 m depth.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body depth 2.5–2.9 in SL (for specimens 10–26 cm SL); anal fin with 3 spines and 8 (rarely 7) soft rays; 16–18 pectoral fin rays; lateral line scales 47–51; lateral scale series 91–109.
**Colour:** Dark brown to yellowish brown, with slightly irregular dark blue lines on head, body and fins (those on body and fins sometimes absent); snout, lips, and ventral part of head and chest with small dark blue spots (blue markings become black in preservative, and may be lost on some specimens, especially older museum material).



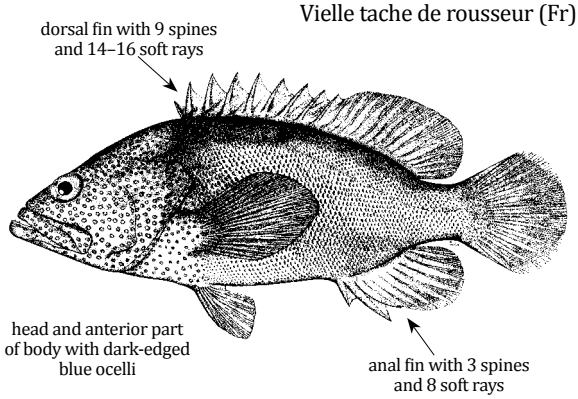

**Size:** To 34 cm (TL)

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***Cephalopholis microprion*** (Bleeker, 1852)

**FAO names:** Freckled hind (En)
Vielle tache de rousseur (Fr)

**Local name(s):** Kyauk Nga Set Pyauk.
**Habitat:** Reef-associated species down to 52 m depth.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body depth 2.5–2.8 in SL; pectoral fins 1.4–1.6 in head length with 14–16 rays; lateral line scales 45–51; lateral scale series 84–98.
**Colour:** Dark brown with indistinct dark bars on the body; head and anterior part of the body with numerous small dark-edged blue ocelli; soft dorsal, anal and caudal fins usually with a greyish blue margin.



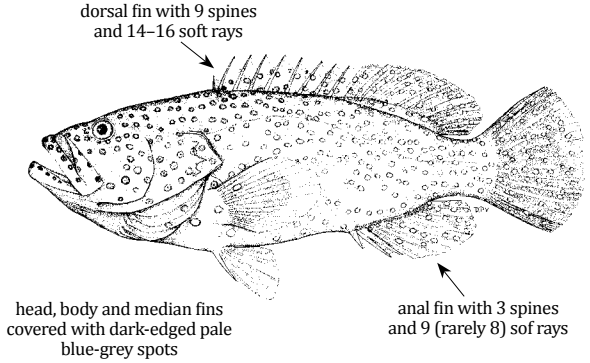

**Size:** To 25 cm (TL)

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***Cephalopholis miniata*** (Forsskål, 1775)

**FAO names:** Coral hind (En)
Vielle de corail (Fr)

**Local name(s):** Thandar Kyauk Nga.
**Habitat:** Well-developed exposed coral reefs in clear water at depths of 2 to 150 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body depth 2.6–3.0 in SL; pectoral fins 1.4–1.7 in head length with 17–18 rays; lateral line scales 47–56; lateral scale series 94–114.
**Colour:** Orange-red to reddish brown, covered with small (usually dark-edged) pale blue-grey spots; pectoral fins orange-yellow distally; soft dorsal, caudal, and anal fins often with a narrow blue margin and blackish submarginal line; pelvic fins orange-red, the distal edge dark bluish grey; juveniles more yellowish.

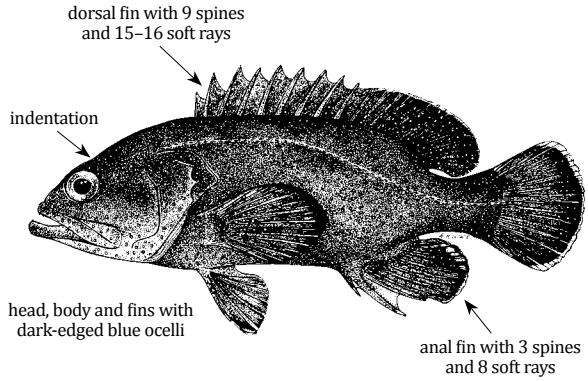



**Size:** To 45 cm (TL)

## *Cephalopholis polyspila* Randall & Satapoomin, 2000

**FAO names:** Andaman hind (En)
Vielle Andaman (Fr)

**Local name(s):** Andaman Kyauk Nga.
**Habitat:** Well-developed exposed coral reefs in clear water at depths of 3 to 20 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body compressed, its depth 2.7–3.0 in SL; dorsal profile of head convex with slight indentation above posterior edge of orbit; pectoral fins with 16–17 rays; lateral line scales 47–50 (plus 3–4 scales on caudal fin base); lateral scale series 91–109.
**Colour:** Brown with numerous small black-edged blue spots on the head, body and fins; margin of the soft portions of dorsal and anal fins and posterior margin of caudal fin pale bluish grey with a broad dark brown submarginal band free of blue spots.

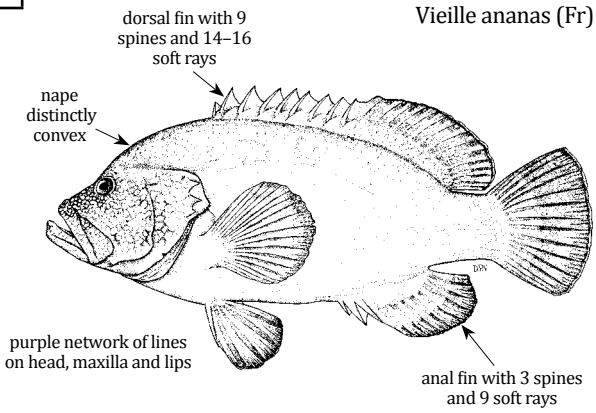



**Size:** To 18 cm (SL)

## *Cephalopholis sonnerati* (Valenciennes, 1828)

**FAO names:** Tomato hind (En)
Vieille ananas (Fr)

**Local name(s):** Kyauk Nga A Ni Taung.
**Habitat:** Reef-associated species down to 100 m depth.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body depth greater than or subequal to head length, 2.3–2.8 in SL; pectoral fins subequal to pelvic fins, with 18–20 rays; lateral line scales 66–80; lateral scale series 115–134.
**Colour:** Adults from Indian Ocean with orange-red to reddish brown body, often with scattered small whitish or purple spots; purple network on head, maxilla, and lips; pectoral fins orange distally; membranes of soft dorsal, caudal, anal, and pelvic fins dusky; dorsal fin rays orange distally.

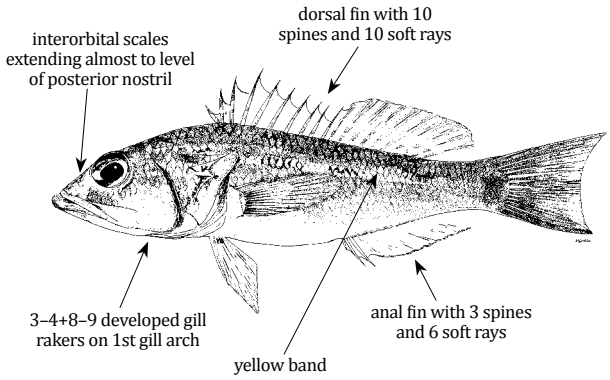



**Size:** To 57 cm (TL)

## *Chelidoperca investigatoris* (Alcock, 1890)

**FAO names:** Redblotched perchlet (En)

**Local name(s):** Kyauk Nga Ni Kywet.
**Habitat:** Usually found on continental shelf and slope muddy bottoms from 140 to 340 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body moderately elongate, cylindrical, its depth 3.6–4.3 in SL; 3 scale rows above lateral line to dorsal fin origin; 42–43 lateral line scales; 25–37 serrae on margin of preopercle; both caudal fin lobes slightly elongate and pointed.
**Colour:** Head and body light red, belly and throat white; a yellow band passing from tip of snout to caudal fin; 2 longitudinal rows of dark blotches on dorsal half of body; anal fin white with a thin red margin, other fins yellowish red.
**Remarks:** Some Myanmar specimens with larger head, fewer gill rakers, and lower number or absence of serrations on sub- and interopercle, and posttemporal are presently under study.

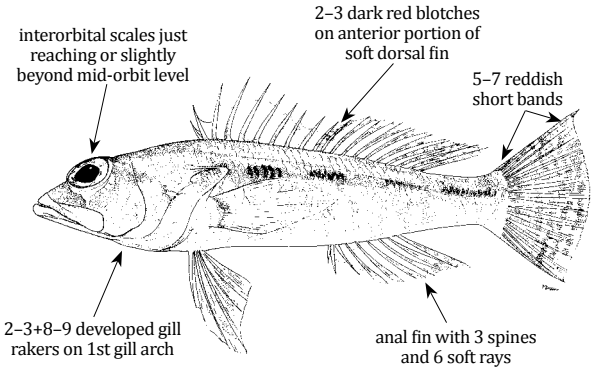



**Size:** To 17.8 cm (TL)

## *Chelidoperca* cf. *occipitalis* Kotthaus, 1973

**FAO names:** Arabian perchlet (En)

**Local name(s):** Kyauk Nga Bae Zin.
**Habitat:** Found on continental shelf and slope muddy bottoms from 190 to 290 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body moderately elongate, cylindrical, its depth 3.3–4.4 in SL; 3 scale rows above lateral line to dorsal fin origin; dorsal fin with 10 spines and 10 soft rays; 42–43 lateral line scales; 19–33 serrae on margin of preopercle; upper caudal fin lobe slightly elongate and pointed, but lower lobe truncate.
**Colour:** Body light red with white irrugular bands arising from ventral profile; a longitudinal dark stripe (sometimes dashed) on body; upper caudal fin ray with 5–7 short reddish bands; caudal fin with distinct yellow spots.
**Remarks:** Myanmar specimens need confirmation.

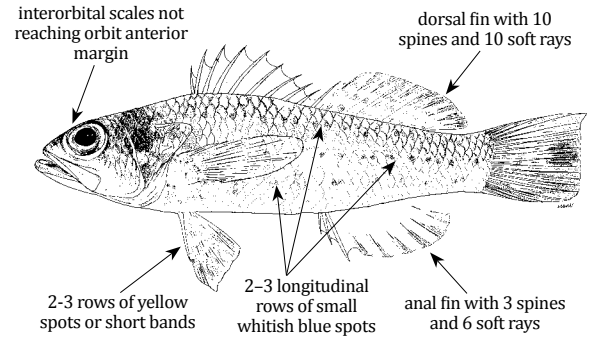



**Size:** To 17.8 cm (TL)

## *Chelidoperca stella* Matsunuma & Motomura, 2016

**FAO names:** Stellar Perchlet (En)

**Local name(s):** Kyauk Nga Phyu Pyar Set.
**Habitat:** Found on continental shelf muddy bottoms from 58 to 94 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body moderately elongate, cylindrical, its depth 3.6–4.5 in SL; 3 scale rows above lateral line to dorsal fin origin; 33–36 lateral line scales; 24–52 (mode 37) serrae on margin of preopercle; only upper caudal fin lobe slightly elongate and pointed; 2+6–7 developed gill rakers on 1st gill arch; 1st and 2nd pelvic fin soft rays elongate.
**Colour:** Head and body pinkish orange with 3 longitudinal rows of small whitish blue spots on the flanks containing numerous minute melanophores; dorsal, pelvic and caudal fins with several rows of small yellow spots; distal third of anal fin yellow.

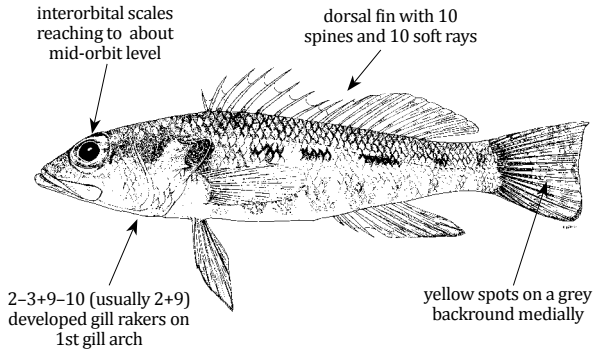



**Size:** To 7.7 cm (SL)

## *Chelidoperca* sp. A *

**FAO names:** Mya Than Tun's perchlet (En)

**Local name(s):** Mya Than Tun Kyauk Nga Set.
**Habitat:** Found on continental shelf muddy bottoms from 121 to 184 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body moderately elongate, cylindrical, its depth 3.9–4.9 in SL; 3 scale rows above lateral line to dorsal fin origin; 43–45 lateral line scales; anal fin with 3 spines and 6 soft rays; 18–31 serrae on margin of preopercle; caudal fin truncate.
**Colour:** Head and body red with white irrugular bands arising from ventral profile; a longitudinal dashed dark stripe on body; dorsal fin yellow with small reddish spots on base; pectoral, pelvic, anal and caudal fins mostly reddish yellow.
**Remarks:** An undescribed species presently being described by Gon *et. al.*

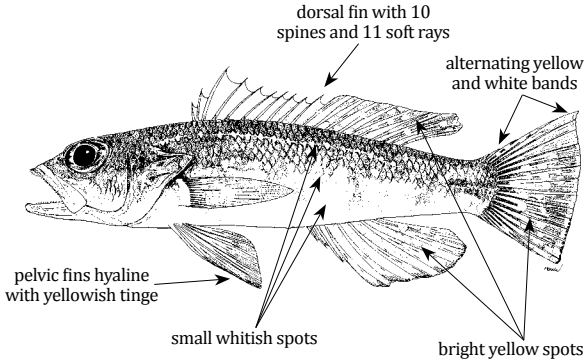



**Size:** To 17 cm (TL)

## *Chelidoperca* sp. B *

**FAO names:** Andaman perchlet (En)

**Local name(s):** Kyauk Nga Hmee War Set.
**Habitat:** Collected between 84–131m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body moderately elongate, cylindrical, its depth 4.0–4.7 in SL; 3 scale rows above lateral line to dorsal fin origin; 43 lateral line scales; anal fin with 3 spines and 6 soft rays: 40 serrae on margin of preopercle; 16–23 gill rakers on 1st gill arch; 2+7 developed gill rakers on 1st gill arch.
**Colour:** Head and body reddish, paler on ventral side; silvery area of breast extending to pectoral fin base on sides; 3 poorly defined rows of small whitish spots on flanks, 1 running along curved part of lateral line, 1 along midbody and 1 along ventral half of body; dorsal, anal and caudal fins with bright yellow spots; upper caudal fin ray with alternating yellow and white bands.
**Remarks:** An undescribed species presently being described by Gon *et al*.

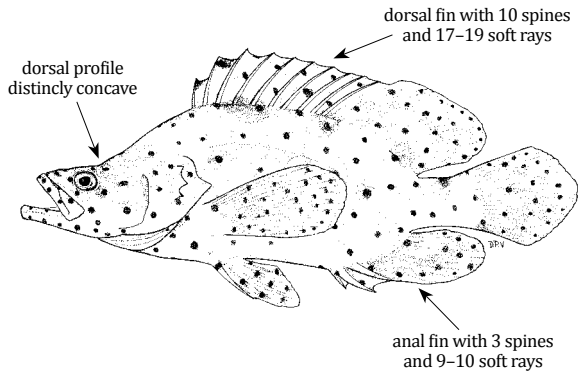



**Size:** At least to 8.2 cm (TL)

## *Cromileptes altivelis* (Valenciennes, 1828)

**FAO names:** Humpback grouper (En)
Mérou bossu (Fr)

**Local name(s):** Nga Kywet, Kyauk Nga Khar Kone.
**Habitat:** Well-developed coral reefs as well as dead or silty reef areas down to depths of 40 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body compressed, its depth 2.6–3.0 in SL; head depressed anteriorly, the dorsal profile distinctly concave, rising steeply at the nape; posterior nostril a large, crescentic, vertical slit; 54–62 lateral line scales; 106–122 lateral scale series.
**Colour:** Pale greenish brown, with widely spaced small black spots on head, body, and fins; some spots on body and base of median fins overlain by a large dusky blotch.

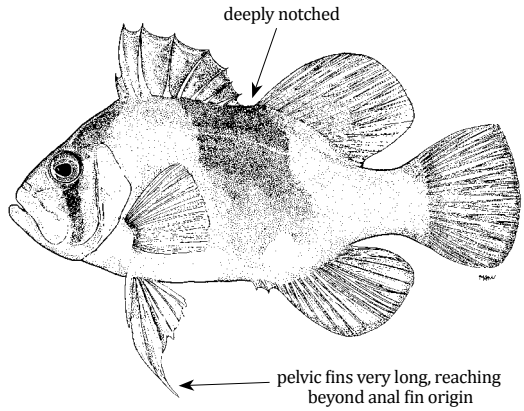



**Size:** To 70 cm (TL)

## *Diploprion bifasciatum* Cuvier, 1828

**FAO names:** Barred soapfish (En)

**Local name(s):** Sat Pyar Kyauk Nga.
**Habitat:** Found in coral reefs and adjacent habitats in depths between 5 and 50 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body deep and compressed; body depth greater than head length, depth 2.0–2.4 in SL; dorsal fin deeply notched with 8 spines and 13–16 soft rays; anal fin with 2 spines and 12–13 soft rays; 71–76 lateral line scales; preopercular, subopercular and interopercular margins serrated; tip of pelvic extending beyond anal fin origin; caudal fin rounded.
**Colour:** Body yellow with a black bar through eye and a broad one in middle of body continuing onto posterior 2/3 of spnious portion of dorsal fin; occasional individuals entirely black.

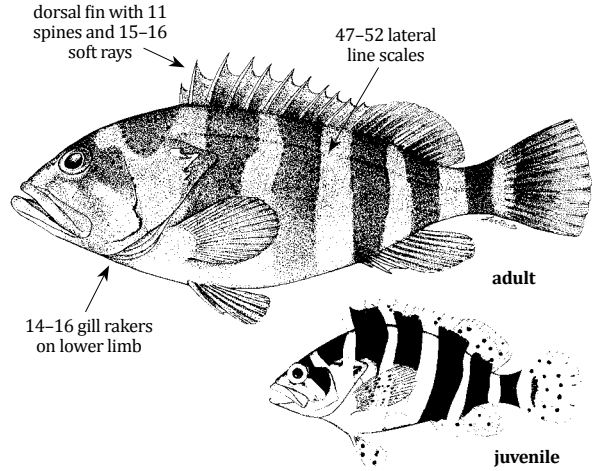



**Size:** To 25 cm (TL)

## *Epinephelus amblycephalus* (Bleeker, 1857)

**FAO names:** Banded grouper (En)
Mérou bande (Fr)

**Local name(s):** Kyauk Nga Sinn Kyar.
**Habitat:** Usually found on offshore coral and rocky reefs in depths of 80 to 130 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth less than head length, 2.5–3.0 in SL (for specimens 12–35 cm SL); preopercle serrate with 3–6 large serrae at the angle; anal fin with 3 spines and 8 soft rays; 18–19 pectoral fin rays; caudal fin rounded; lateral body scales ctenoid, with a few auxiliary scales in adults.
**Colour:** Body with 4 broad dark brown bars, the first 2 extending into spinous part of dorsal fin, the third and fourth bars extending into soft dorsal and anal fins; a fifth dark bar at base of caudal fin; small black spots on dorsal parts of body bars (mainly along the edges of the bars); dark brown saddle blotch on nape, with small black spots mainly along edge of this blotch.

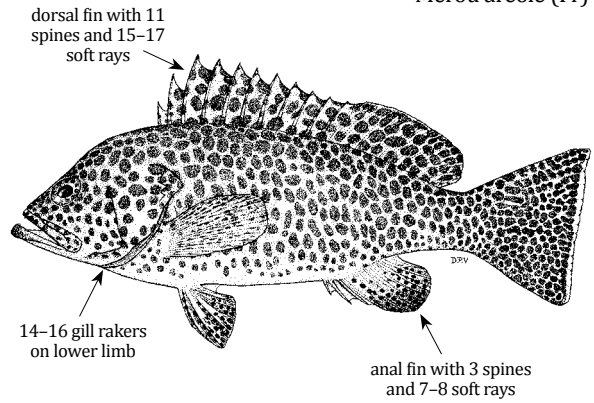



**Size:** To 50 cm (TL)

## *Epinephelus areolatus* (Forsskål, 1775)

**FAO names:** Areolate grouper (En)
Mérou aréolé (Fr)

**Local name(s):** Kyauk Nga A War Set.
**Habitat:** Usually in sea grass beds near rocky reefs from 6 m to 200 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth less than head length, 2.8–3.3 in SL (for specimens 14–31 cm SL); preopercle serrate with 2–7 large serrae at the angle; anal fin with 3 spines and 7–8 soft rays; 17–19 pectoral fin rays; caudal fin slightly convex in juveniles, truncate or slightly emarginate in adults; 49–53 lateral line scales; lateral body scales rough; adults with auxiliary scales.
**Colour:** Head, body and fins pale, covered with numerous brown to yellowish brown spots, the largest about the size of pupil; caudal fin with a white posterior margin.

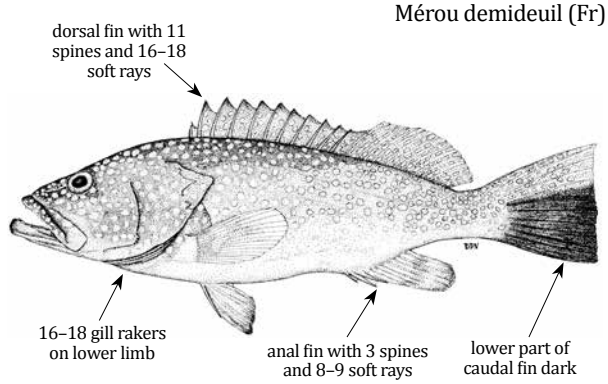



**Size:** To 47 cm (TL)

## *Epinephelus bleekeri* (Vaillant, 1878)

**FAO names:** Duskytail grouper (En)
Mérou demideuil (Fr)

**Local name(s):** Kyauk Nga A Hmee Ta Chan Me'.
**Habitat:** Benthic on shallow banks and adjacent soft substrate in depths of 30–105 m.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body depth 3.0–3.5 in SL; preopercle serrate with 2–9 enlarged serrae at the angle; adults with a notch above preopercle angle; 17–19 pectoral fin rays; caudal fin margin truncate to slightly convex; 49–53 lateral line scales; lateral body scales rough; adults with a few small auxiliary scales.
**Colour:** Brownish to purplish grey with numerous orange-yellow spots (about half pupil diameter in adults) on head, body, dorsal fin and upper third of caudal fin.




**Size:** To 76 cm (TL)

## *Epinephelus chlorostigma* (Valenciennes, 1828)

**FAO names:** Brownspotted grouper (En)
Mérou pintade (Fr)

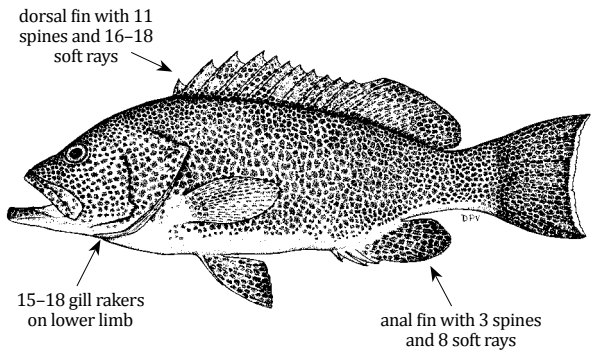
**Local name(s):** Kyauk Nga Nyo Set Pyouk.

**Habitat:** Coral reefs and also on mud bottoms; depth range 4 to 300 m.

**Fisheries:** Bottom trawls, line gears, gillnets.

**Distinctive Characters:** Body depth 2.8–3.3 in SL (for specimens 12 to 51 cm SL); preopercle angular with 4–7 enlarged serrae at the angle; upper edge of operculum straight; caudal peduncle depth 3.0–3.6 in head length; 17–19 pectoral fin rays; caudal fin slightly convex in juveniles, truncate or slightly emarginate in adults; 48–53 lateral line scales; lateral body scales rough, with auxiliary scales.

**Colour:** Head, body, and fins with small, irregular, close-set dark brown spots, the ground colour forming a pale network; caudal fin usually with white line along rear margin; spots on pectoral fins mainly confined to rays.




**Size:** To 80 cm (TL)

## *Epinephelus coeruleopunctatus* (Bloch, 1790)

**FAO names:** Whitespotted grouper (En)
Vielle taches blanches (Fr)

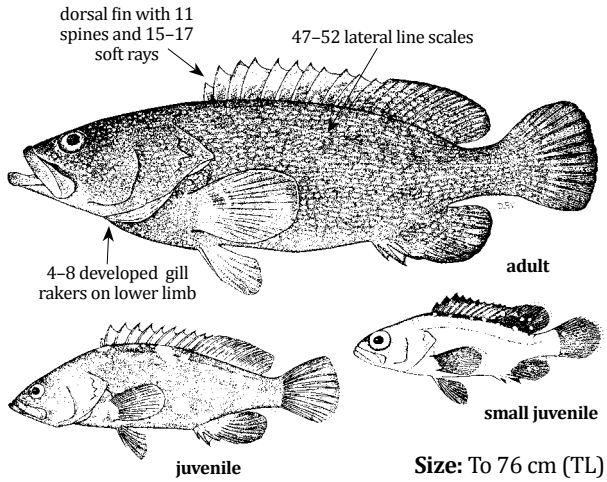
**Local name(s):** Kyauk Nga Phyu Set.

**Habitat:** Coral reefs, usually in or near caves; juveniles found in tidepools.

**Fisheries:** Bottom trawls, line gears, gillnets.

**Distinctive Characters:** Body depth distinctly less than head length, 2.9–3.4 in SL (for specimens 11–47 cm SL); head pointed and the dorsal profile almost straight; preopercle rounded, finely serrate; opercular spines inconspicuous; anal fin with 3 spines and 8 soft rays; pectoral fins large and fleshy, with 17–19 rays; caudal fin rounded; lateral body scales usually rough with auxiliary scales.

**Colour:** Adults brownish grey, the body covered with small pale spots overlain with large pale blotches; prominent black streak on maxillary groove; juveniles (less than 25 cm) dark grey to black, covered with prominent pupil-size white spots and smaller white dots.




**Size:** To 76 cm (TL)

## *Epinephelus coioides* (Hamilton, 1822)

**FAO names:** Orange-spotted grouper (En)
Mérou taches oranges (Fr)

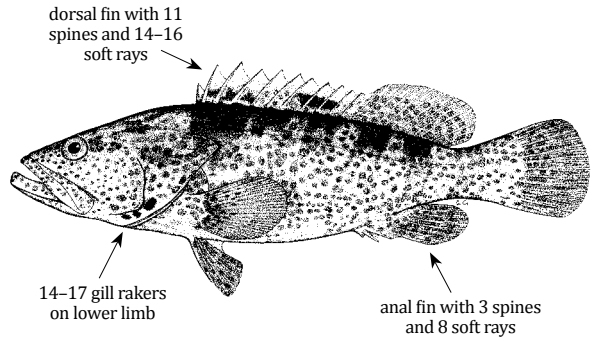
**Local name(s):** Kyauk Nga Lein Maw Set.

**Habitat:** Continental and island shores, also in estuaries; offshore down to 100 m.

**Fisheries:** Bottom trawls; line gears, gillnets.

**Distinctive Characters:** Body depth 2.9–3.7 in SL (for specimens 10–78 cm SL); interorbital width 5.0–6.2 in head length; preopercle with enlarged serrae at the angle and a broad shallow notch just above angle; upper jaw length 17–20% of SL; lateral line tubes of anterior scales branched in adults; pectoral fins with 18–20 rays; caudal fin rounded; 58–65 lateral line scales; lateral body scales rough, with minute auxiliary scales.

**Colour:** Head, body and usually median fins with numerous orange, brownish orange or reddish brown spots; body with 5 faint irregular greyish bars which bifurcate ventrally.

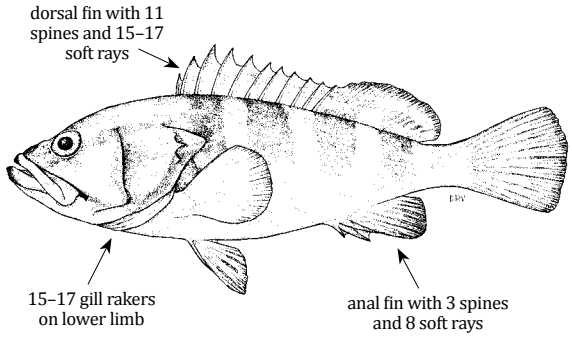



**Size:** To 114 cm (TL)

***Epinephelus diacanthus*** (Valenciennes, 1828)

**FAO names:** Spinycheek grouper (En)
Mérou epineux (Fr)

**Local name(s):** Suu Mae Kyauk Nga.
**Habitat:** Occurs on mud or muddy sand bottoms in depths of 10 to 300 m.
**Fisheries:** Line gears, gillnets, bottom trawls.
**Distinctive Characters:** Body depth 2.8–3.5 in SL (for specimens 10–34 cm SL); preopercle with 1–5 prominent spines at the angle; pectoral fins with 17–20 rays; caudal fin rounded; 52–60 lateral line scales; lateral body scales rough, with auxiliary scales in adults.
**Colour:** Body pale greyish brown, usually with 5 dark vertical bars broader than interspaces; ventral part of the head and body often pink or reddish; fins dusky grey without spots.



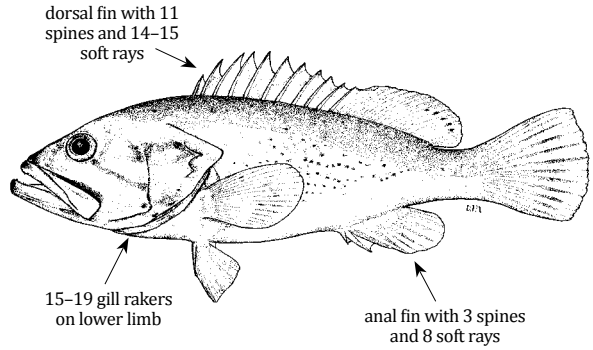

**Size:** To 55 cm (TL)

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***Epinephelus epistictus*** (Temminck & Schlegel, 1842)

**FAO names:** Dotted grouper (En)
Mérou pâle (Fr)

**Local name(s):** Kyauk Nga A Nyo Kyaw Sett.
**Habitat:** Rocky and trawlable bottoms in depths of 71 to 290 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 3.0–3.3 in SL (for specimens 12–50 cm SL); preopercle angle produced, with 3–5 distinctly enlarged serrae; upper edge of operculum straight or slightly convex; pectoral fins with 16–19 rays; caudal fin slightly to moderately rounded; 57–70 lateral line scales; lateral body scales rough, with a few auxiliary scales in adults.
**Colour:** Background colour pale brownish to greyish; faint brownish black dots usually visible on dorso-lateral part of body and sometimes on postorbital part of head; faint dark band from eye to end of operculum.



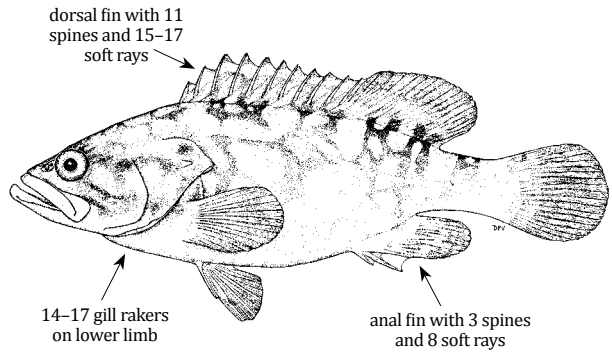

**Size:** To 80 cm (TL)

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***Epinephelus erythrurus*** (Valenciennes, 1828)

**FAO names:** Cloudy grouper (En)
Mérou nébuleux (Fr)

**Local name(s):** Kyauk Nga Tein Kywet.
**Habitat:** Inhabits areas with muddy or silty-sand bottoms; also found in harbours and estuaries.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body depth 2.8–3.2 in SL; membranes of spinous dorsal fin usually not (or slightly incised); preopercle rounded, finely serrate, the lower serrae slightly enlarged; 17–19 pectoral fin rays; caudal fin well rounded; 53–62 lateral line scales; lateral body scales rough, with auxiliary scales.
**Colour:** Head and body dark brown or greenish brown, marbled with irregular pale spots and blotches; 1 or 2 faint dark streaks running posteriorly from eye.

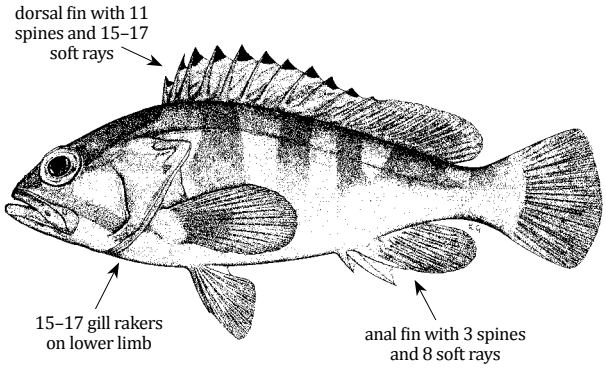



**Size:** To 45 cm (TL)

## *Epinephelus fasciatus* (Forsskål, 1775)

**FAO names:** Blacktip grouper (En)
Mérou oriflamme (Fr)

**Local name(s):** Kyauk Nga A net Zin.
**Habitat:** Coral reefs and rocky bottom from shore to depths of 160 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 2.8–3.3 in SL (for specimens 10–26 cm SL); preopercle rounded, rear edge finely serrate, with lowermost serrae slightly enlarged; 18–20 pectoral fin rays; caudal fin slightly to moderately rounded; 49–75 lateral line scales; lateral body scales rough, with numerous auxiliary scales.
**Colour:** Ground colour pale greenish grey, to pale reddish yellow to scarlet; body often with 5–6 faint dark bars, the last on peduncle; the outer triangular part of interspinous membranes of dorsal fin black with pale yellow or white spot behind tip of each spine.

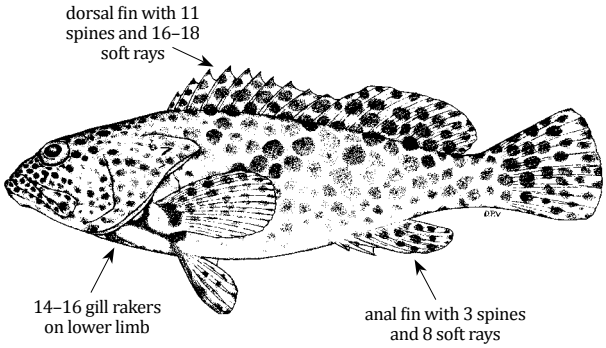



**Size:** To 40 cm (TL)

## *Epinephelus faveatus* (Valenciennes, 1828)

**FAO names:** Barred-chest grouper (En)
Mérou écharpe (Fr)

**Local name(s):** Kyauk Nga Mae Kywet.
**Habitat:** Shallow-water coral reefs and rocky areas.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 3.0–3.5 in SL (for specimens 9–26 cm SL); preopercle rounded, with shallow indentation just above corner and slightly enlarged serrae at the corner; 17–19 pectoral fin rays; caudal fin rounded; 48–52 lateral line scales; lateral body scales smooth (except for area covered by pectoral fin), with numerous auxiliary scales.
**Colour:** Head, body, and fins pale, covered with close-set roundish brown spots of unequal size, most of those on body larger than pupil; 4 groups of 2–3 spots at base of dorsal fin darker than other spots on body; 2 oblique dark bands on side of chest.

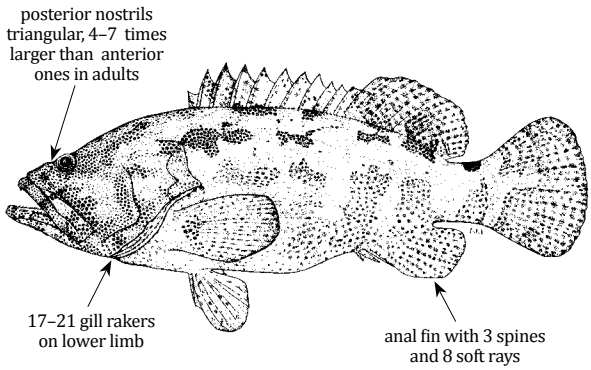



**Size:** To 40 cm (TL)

## *Epinephelus fuscoguttatus* (Forsskål, 1775)

**FAO names:** Brown-marbled grouper (En)
Mérou marron (Fr)

**Local name(s):** Kyauk Nga A Nyo Kwet.
**Habitat:** Coral and rocky bottoms down to 60 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 2.6–2.9 SL (for specimens 11–55 cm SL); preopercle finely serrate, the serrae at the angle not enlarged; dorsal head profile of adults indented at eyes and distinctly convex from there to dorsal fin origin; dorsal fin with 11 spines and 14–15 soft rays; 18–20 pectoral fin rays; caudal fin rounded; 52–58 lateral line scales; lateral body scales smooth, with auxiliary scales.
**Colour:** Generally brownish with many small dark spots on body and fins and large irregular dark blotches on head and body overlying smaller dark spots; a brownish black saddle-blotch on top of caudal peduncle.

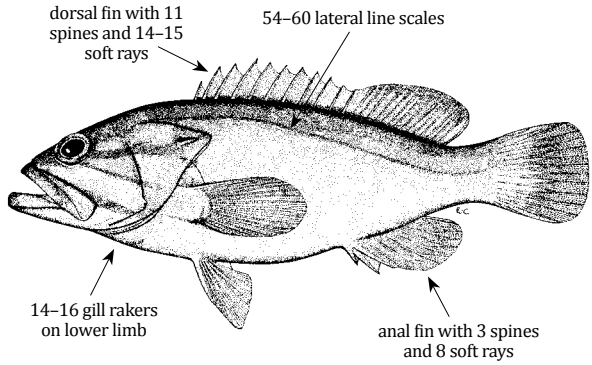



**Size:** To 120 cm (TL)

## *Epinephelus heniochus* Fowler, 1904

**FAO names:** Bridled grouper (En)
Mérou bride (Fr)

**Local name(s):** Parr Zin Kyauk Nga.
**Habitat:** Most specimens have been taken with trawls on mud or silty sand bottom in depths of 40 to 235 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body depth 2.7–3.2 in SL (for specimens 10–27 cm SL); preopercle angular with 2–4 distinctly enlarged serrae at the angle; lower edge of maxilla with a step-like bend in adults; pectoral fins with 16–18 rays; caudal fin rounded; lateral body scales rough, without auxiliary scales.
**Colour:** Head and body pale brown dorsally, shading to whitish or pale pink ventrally; faint dark brown stripe from eye to end of operculum, another darker stripe from lower edge of eye to subopercle and a third from edge of preorbital to interopercle; pectoral fins hyaline greyish yellow.

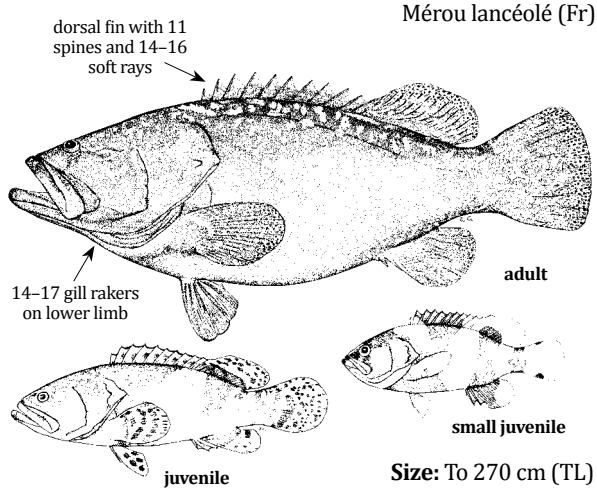



**Size:** To 43 cm (TL)

## *Epinephelus lanceolatus* (Bloch, 1790)

**FAO names:** Giant grouper (En)
Mérou lancéolé (Fr)

**Local name(s):** Kyauk Nga Belu Gyi.
**Habitat:** Shallow and deep waters down to 100 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body robust, its width 1.5–1.8 in body depth; eye small, its diameter 5.8–14 in head length; preopercle subangular, finely serrate; anal fin with 3 spines and 8 soft rays; 18–20 pectoral fin rays; caudal fin rounded; 54–60 lateral line scales; lateral body scales smooth.
**Colour:** Small juveniles (<12 cm SL) yellow, with irregular broad black bars on body; small adults (20–50 cm SL) with irregular white or yellow spots on the black areas and fins with black spots; adults (80–150 cm SL) dark greyish or brown with pale mottlings, the fins with numerous small black spots; large adults (>160 cm SL) dark brown, the fins darker.

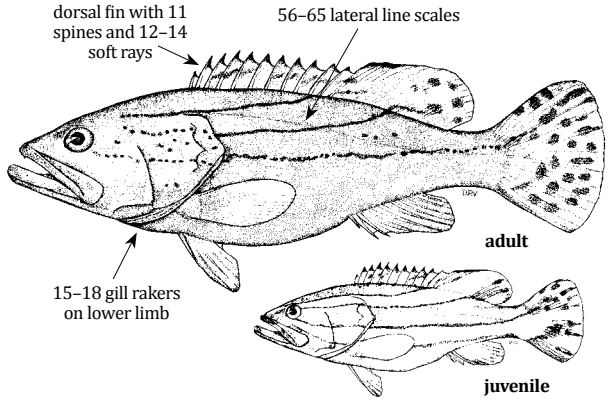



**Size:** To 270 cm (TL)

## *Epinephelus latifasciatus* (Temminck & Schlegel, 1842)

**FAO names:** Striped grouper (En)
Mérou à bandes (Fr)

**Local name(s):** Kyauk Nga Bay Zinn.
**Habitat:** Occurs between 20 and 230 m depth; juveniles on muddy or sandy bottoms, adults in rocky areas.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body depth 2.9–3.4 SL (for specimens 13–62 cm SL); preopercle with 3–7 enlarged serrae at angle; upper edge of operculum distinctly convex; anal fin with 3 spines and 8 soft rays; 17–19 pectoral fin rays; caudal fin truncate in large adults, the rear margin convex in juveniles; lateral body scales smooth.
**Colour:** Juveniles (<20 cm standard length) with 2 broad longitudinal, black-edged whitish bands that disappear in adults; head and body of large adults uniformly grey with dark lines, breaking into dashes and spots.

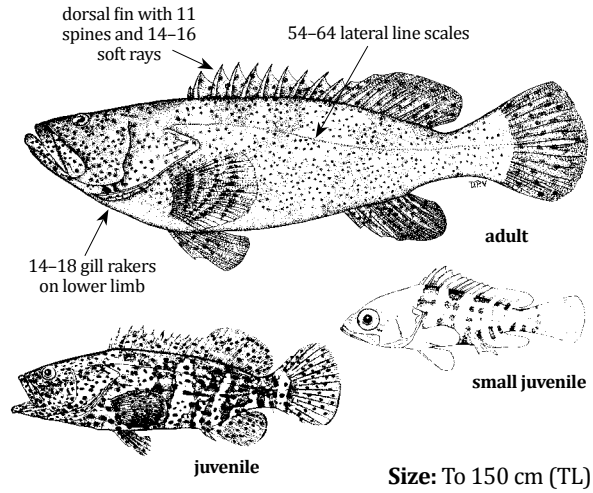



**Size:** To 230 cm (TL)

***Epinephelus malabaricus*** (Bloch & Schneider, 1801)

**FAO names:** Malabar grouper (En)
Mérou Malabar (Fr)

**Local name(s):** Kyauk Nga A Nyo Sett.
**Habitat:** Coral and rocky reefs, tide pools, estuaries, mangrove swamps and sand or mud bottoms from the shore to 150 m.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body elongate, its depth 3.0–3.7 in SL; preopercle with enlarged serrae at the angle; anal fin with 3 spines and 8 soft rays; interorbital width 4.5–6.5 in head length, and 2.1–3.2 in upper jaw length; 18–20 pectoral fin rays; caudal fin rounded; lateral body scales rough, with auxiliary scales.
**Colour:** Head, body and fins brownish covered with small, well separated, blackish brown spots; irregular white or pale spots or blotches usually present on head and body; fins with scattered small black spots; often irregular brown bars visible on body.

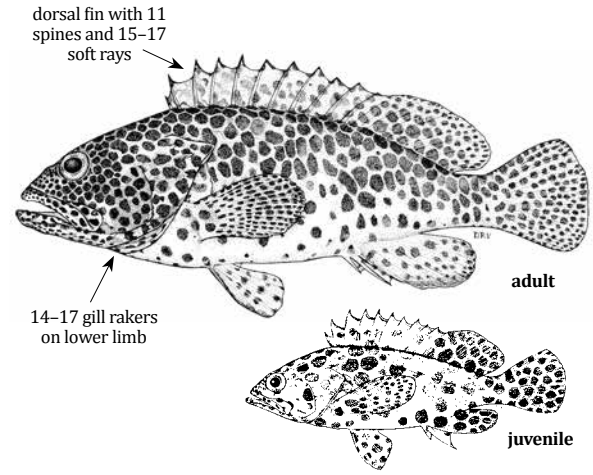



**Size:** To 150 cm (TL)

***Epinephelus merra*** Bloch, 1793

**FAO names:** Honeycomb grouper (En)
Mérou gâteau de cire (Fr)

**Local name(s):** Kyauk Nga Pyar Ohn Kywet.
**Habitat:** A coral-reef species typically found around patch reefs in depths less than 20 m, but occasionally seen at 50 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 2.8–3.3 in SL; preopercle rounded or subangular, the serrae at angle enlarged; caudal peduncle depth 3.2–4.1 in head length; anal fin with 3 spines and 8 soft rays; pectoral fins with 16–18 rays; caudal fin rounded; 48–54 lateral line scales; lateral body scales rough, with auxiliary scales.
**Colour:** Head, body, and fins pale, covered with close-set, dark brown or reddish brown spots, the interspaces forming an irregular pale reticulum; spots on ventral part of body paler, more widely spaced; pectoral fins covered with distinct small black spots, largely confined to the rays.

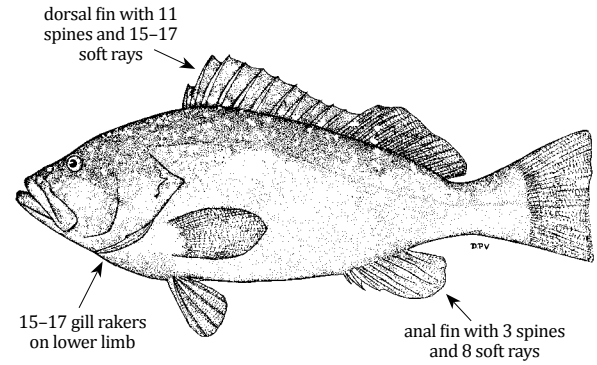



**Size:** To 32 cm (TL)

***Epinephelus multinotatus*** (Peters, 1876)

**FAO names:** White-blotched grouper (En)
Mérou plate grise (Fr)

**Local name(s):** Kyauk Nga Phyu Kywet.
**Habitat:** Juveniles on inshore coral reefs; adults in deeper waters down to 90 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 2.6–2.9 in SL; preopercle finely serrate with a shallow notch just above the angle; the serrae at the angle not or only slightly enlarged; pectoral fins with 18–20 rays; caudal fin truncate to slightly emarginate (rounded in small individuals); 64–81 lateral line scales; lateral body scales rough, with numerous auxiliary scales.
**Colour:** Background colour of head and body purplish grey with whitish spots and blotches; usually dark reddish brown spots ventrally.

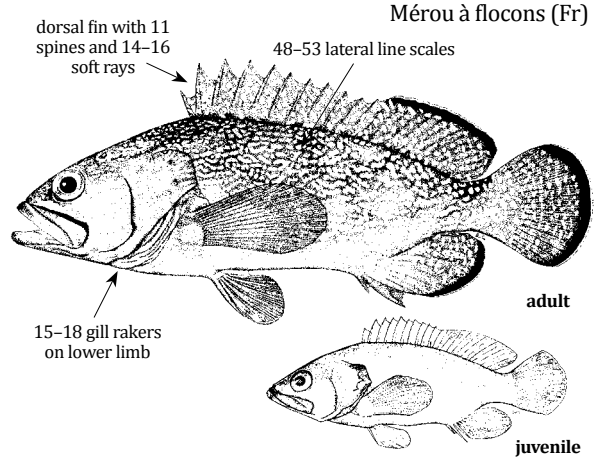



**Size:** To 100 cm (TL)

## *Epinephelus ongus* (Bloch, 1790)

**FAO names:** Whitestreaked grouper (En)
Mérou à flocons (Fr)

**Local name(s):** Kyauk Nga A Phyu Sett Pyauk.
**Habitat:** Occurs on coral reefs and rocky substrata (including brackish water) at depths of 5 to 25 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 2.7–3.3 in SL; preopercle rounded, the serrae small and mostly covered by skin; upper edge of operculum strongly convex, the rear edge almost vertical; anal fin with 3 spines and 8 soft rays; pectoral fins large and fleshy, with 15–17 rays; caudal fin rounded; lateral body scales rough, with auxiliary scales.
**Colour:** Body brown, with numerous small white spots which in adults, tend to form wavy white lines; several round or irregular pale blotches (eye-sized or larger) usually superimposed over small white spots; juveniles of about 6 cm SL are brown, covered with small, dark-edged round white spots.

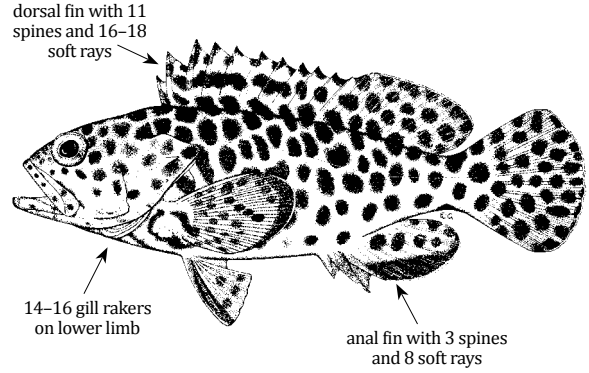



**Size:** To 40 cm (TL)

## *Epinephelus quoyanus* (Valenciennes, 1830)

**FAO names:** Longfin grouper (En)
Mérou longues ailes (Fr)

**Local name(s):** Kyauk Nga Yea Yet Shae.
**Habitat:** Usually found on inshore silty reefs; no records below 50 m.
**Fisheries:** line gears, gillnets.
**Distinctive Characters:** Body depth 2.8–3.2 in SL; preopercle rounded or subangular; upper edge of operculum almost straight; midlateral part of lower jaw with 2–3 rows of teeth; lower jaw barely projecting in front of upper jaw; 17–19 pectoral fin rays; caudal fin rounded; 48–52 lateral line scales; lateral body scales rough, with auxiliary scales.
**Colour:** Head and body pale, with large, close-set, hexagonal to roundish, dark brown spots (some spots reddish brown or black), dorsally the spots are so close together that the pale interspaces form a reticulum, but ventrally the spots are more separated; chest with 2 dark brown bands joining below pectoral fin bases.

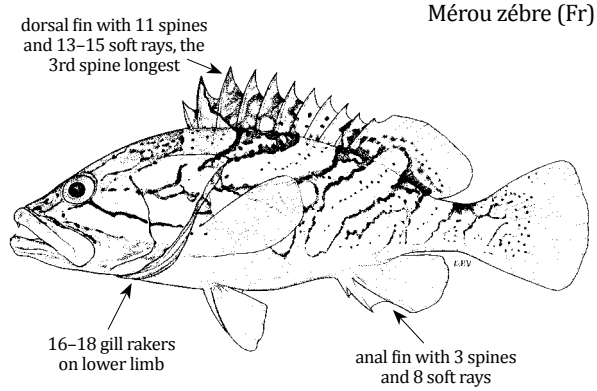



**Size:** To 40 cm (TL)

## *Epinephelus radiatus* (Day, 1868)

**FAO names:** Oblique-banded grouper (En)
Mérou zébre (Fr)

**Local name(s):** Kyauk Nga A Nyo Kwet Kyar.
**Habitat:** Found over hard substrates; adults at depths between 80 to 383 m; juveniles in 18–20 m.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body depth 2.6–3.0 in SL; preopercle angle with 2–5 enlarged serrae; pectoral fins with 17–18 rays; caudal fin convex to moderately rounded; 52–66 lateral line scales; lateral body scales rough, without auxiliary scales.
**Colour:** Pale greyish to yellowish brown with five, irregular, oblique, dark-edged, brown bands which bifurcate ventrally, the first on nape and extending onto head, the second to fourth extending into dorsal fin, and the last on caudal peduncle.

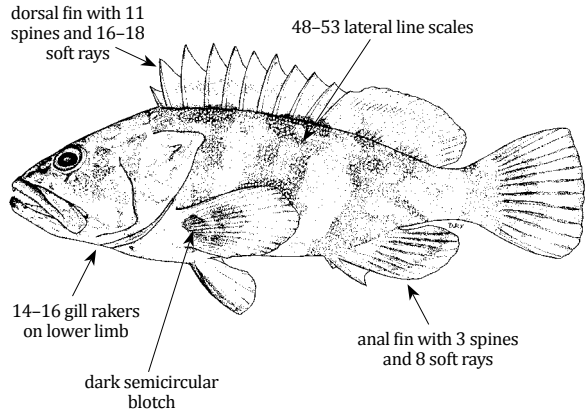



**Size:** To 70 cm (TL)

***Epinephelus rivulatus*** (Valenciennes, 1830)

**FAO names:** Halfmoon grouper (En)
Mérou demi-lune (Fr)

**Local name(s):** Kyauk Nga La Ta Chan.
**Habitat:** Rocky bottoms or coral reefs in depths of 10 to 150 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 2.7–3.2 in SL; preopercle angular, with enlarged serrae at angle; upper edge of operculum straight, almost horizontal; pectoral fins fleshy, with 17–19 rays; caudal fin rounded; lateral body scales rough, with auxiliary scales; nape and front of body above lateral line with minute auxiliary scales and numerous pores.
**Colour:** Body generally reddish to greenish brown, with a small white or pale blue spot on each scale; 4 irregular dark bars usually visible on body and extending onto base of dorsal fin, and a fifth dark bar on peduncle; pectoral fins dusky, with a dark red or reddish brown semicircular blotch on base.

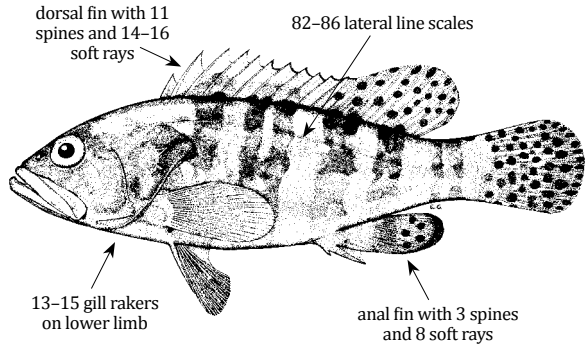



**Size:** To 45 cm (TL)

***Epinephelus sexfasciatus*** (Valenciennes, 1828)

**FAO names:** Sixbar grouper (En)
Mérou six raies (Fr)

**Local name(s):** Kyauk Nga A Sin Chauk Sinn.
**Habitat:** Usually found on silty sand or muddy bottoms at depths of 10 to 80 m.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body depth 2.7–3.2 in SL; preopercle with 2–4 greatly enlarged serrae at the angle; upper edge of operculum straight; 17–19 pectoral fin rays; caudal fin rounded; lateral body scales rough, with a few auxiliary scales.
**Colour:** Head and body pale greyish brown; 5 dark brown bars on body and 1 on nape (dark bars usually more or less divided vertically by a narrow pale bar); scattered pale spots may be present on body, and some faint small brown spots are often visible on the edges of the dark bars; pectoral fins greyish or dusky orange-red; jaws and ventral parts of head sometimes pale reddish brown.

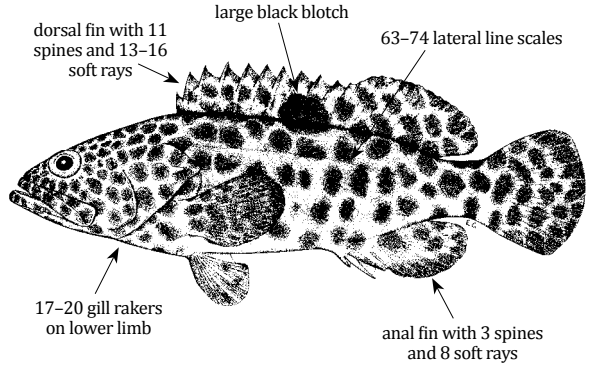



**Size:** To 40 cm (TL)

***Epinephelus tauvina*** (Forsskål, 1775)

**FAO names:** Greasy grouper (En)
Mérou loutre (Fr)

**Local name(s):** Kyauk Nga Nyo Pyauk Gyi.
**Habitat:** Clear water areas on coral reefs; juveniles on reef flats and in tidepools, but adults occur down to 50 m.
**Fisheries:** Line gears, gillnets.
**Distinctive Characters:** Body depth 3.0–3.6 in SL; serrae at corner of preopercle slightly enlarged; greatest width of maxilla about twice suborbital depth (least distance from eye to maxilla); 18–19 pectoral fin rays; caudal fin rounded; lateral body scales rough in juveniles, smooth in adults, except for small patch covered by pectoral fin.
**Colour:** Head and body pale greenish grey or brown, covered with dull orange-red to dark brown spots; spots on head progressively smaller anteriorly.

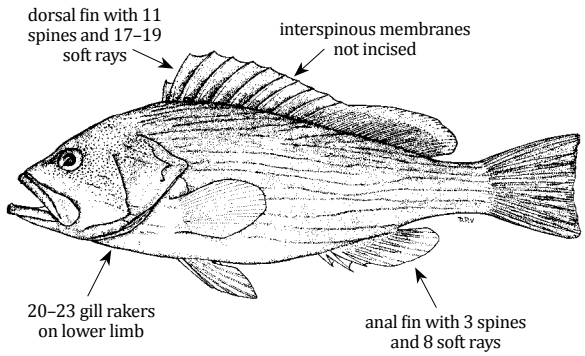



**Size:** To 75 cm (TL)

***Epinephelus undulosus*** (Quoy & Gaimard, 1824)

**FAO names:** Wavy-lined grouper (En)
Mérou ondulé (Fr)

**Local name(s):** Kyauk Nga Hline Zin.
**Habitat:** Usually found on offshore banks (rather than coral reefs) at depths of 24 to 90 m
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body depth 2.7–3.1 in SL; preopercle angular, with a notch above the corner and serrae at the corner enlarged; 18–19 pectoral fin rays; caudal fin truncate to emarginate; 63–76 lateral line scales; lateral body scales distinctly rough, with numerous auxiliary scales.
**Colour:** Head, body, and fins purplish grey to brownish grey, with brown to golden-brown dots on head and wavy longitudinal lines of the same colour on dorsal part of body (lines faint or absent on large specimens); margin of spinous dorsal fin narrowly blackish.

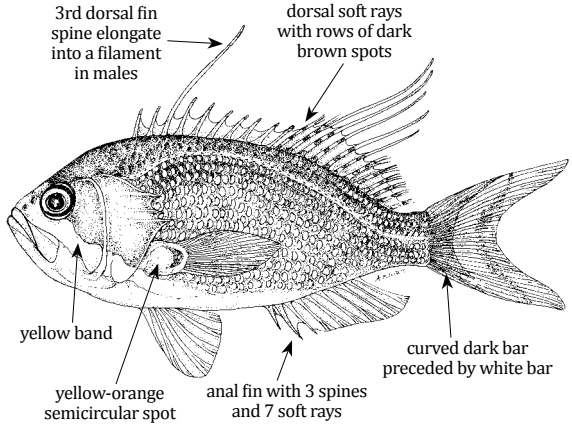



**Size:** To 120 cm (TL)

***Odontanthias rhodopeplus*** (Günther, 1872)

**FAO names:** None (En)

**Local name(s):** Kyauk Nga Hnar Sin Kyar.
**Habitat:** Reef-associated species; depth range 160–176 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.4–2.7 in SL; caudal fin lunate (2.7–3.5 in SL) with filamentous lobes; 5–6 scale rows above lateral line to origin of dorsal fin; 17–19 scale rows below lateral line to origin of anal fin; dorsal fin with 10 spines and 12–13 soft rays; 17–19 pectoral fin rays; 30–33 lateral line scales.
**Colour:** Body light red with a whitish spot on each scale of body; dorsal surface above lateral line (from above the eye to below soft portion of dorsal fin) yellowish; an oblique yellow band from upper lip to lower edge of operculum; fins mostly light red-yellow.

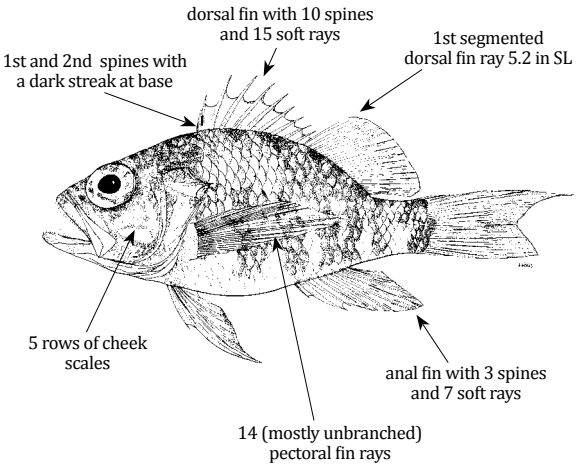



**Size:** To about 20 cm (SL)

***Plectranthias*** sp. 1 *

**FAO names:** Andaman deep-reef perchlet (En)

**Local name(s):** Kyauk Nga Apaw Hmee Chun.
**Habitat:** Collected between 99–310 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.3 in SL; head length 2.0 in SL; predorsal scales extending anteriorly to middle of interorbital area; lateral line complete with 29–30 scales; lower margin of preopercle with 2 enlarged antrorse spines; no scales on maxilla.
**Colour:** Mottled reddish white with yellow tinge on maxilla and opercular bones; 4–5 poorly defined dark saddle marks on back: 1st on nape, others along dorsal fin base and caudal peduncle; a yellow streak along antero-ventral margin of orbit; when fresh; fins mostly orange yellowish.
**Remarks:** Most likely an undescribed species (see Gill and Psomadakis, 2018) presently under study by the latter authors.

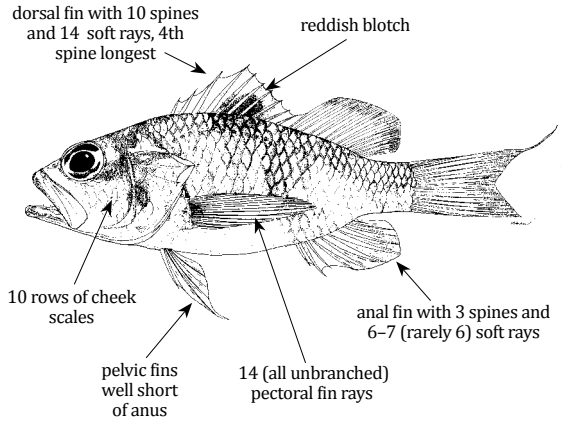



**Size:** To 7.3 cm (TL)

## *Plectranthias* sp. 2 *

**FAO names:** Spotfin perchlet (En)

**Local name(s):** Kyauk Nga Su Taung Ni Set.
**Habitat:** Collected between 181–183 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.6–3.0 in SL; head length 2.1–2.2 in SL; predorsal scales extending anteriorly to middle of interorbital area; no enlarged antrose spines on lower margin of preopercle; lateral line complete with 29 scales; scales below lateral line to anal fin origin ca. 11; 1+9 developed gill rakers; maxilla and chin naked.
**Colour:** Mottled orangish red with yellow tinge on maxilla and opercular bones; belly whitish; ca. 7 dark saddle marks along dorsal profile; fins mostly orange yellowish; large reddish blotch between 5th and 8th dorsal fin spines.
**Remarks:** Most likely an undescribed species (see Gill and Psomadakis, 2018) presently under study by the latter authors.

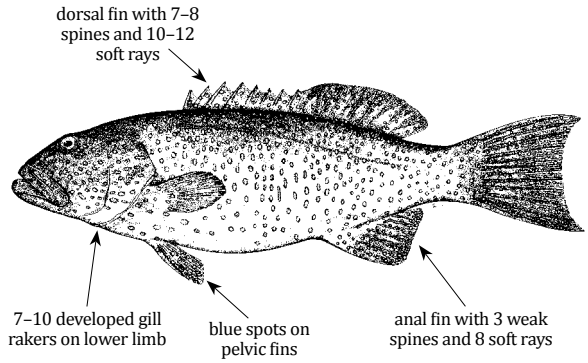



**Size:** To 10.5 cm (TL)

## *Plectropomus pessuliferus* (Fowler, 1904)

**FAO names:** Roving coralgrouper (En)
Mérou-loche vagabonde (Fr)

**Local name(s):** Sett Pyauk Thanda Kyauk Nga.
**Habitat:** Coral reefs at depths of 25 to 147 m.
**Fisheries:** Bottom trawls, line gears, gillnets.
**Distinctive Characters:** Body elongate, robust, its depth 2.9–3.9 in SL; preopercle broadly rounded, with 3 large, ventrally-directed spines along lower half; gill raker at angle shorter than gill filaments at angle; caudal fin emarginate (truncate in juveniles); 15–16 pectoral fin ray; anal fin spines weak.
**Colour:** Head, body, and fins brown to orange red, with numerous small dark-edged blue spots; some spots on head and sides of body of adults are elongated (those on body usually vertically elongate); spots few or absent on ventral part of body; edge of orbit often blue (may be broken into segments).

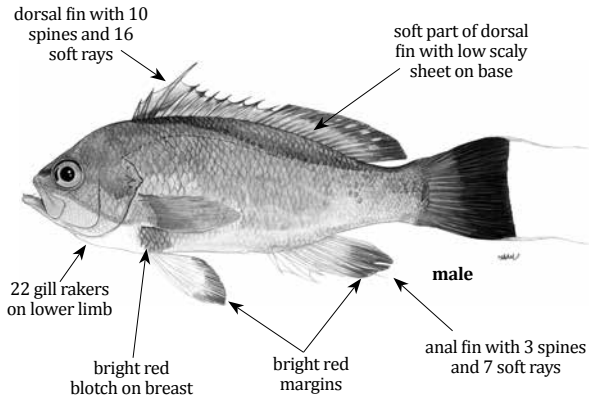



**Size:** To 120 cm (TL)

## *Pseudanthias emma* Gill & Psomadakis, 2018

**FAO names:** Emma's basslet (En)

**Local name(s):** Emma Kyauk Nga.
**Habitat:** Collected at a depth of 105 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.6 in SL; head length 2.9 in SL; subopercle and interopercle indistinctly serrated; caudal peduncle depth 6.1 in SL; 18 pectoral fin rays; 3rd dorsal fin spine longest; no papillae on posterior margin of orbit; 42 lateral line scales; caudal fin weakly concave centrally, with elongate filaments on upper and lower lobes.
**Colour:** Head pink with broad orange bar extending from behind lower half of eye to pectoral fin base; body mostly orange, with bright pink band from dorsal fin origin along dorsal part of body to upper edge of caudal peduncle; anal, pelvic and caudal fins with bright red margins.

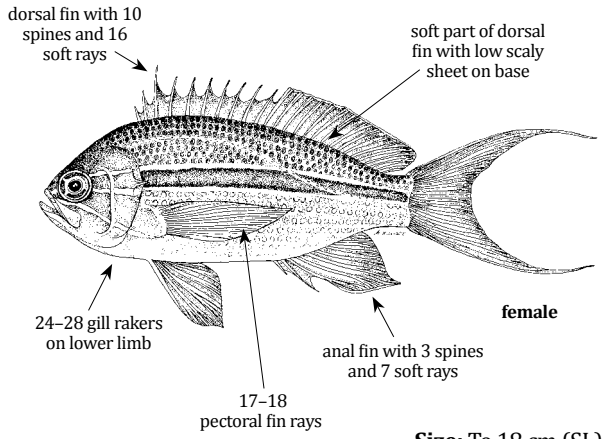



**Size:** To 10.7cm (SL)

***Pseudanthias gibbosus*** (Klunzinger, 1884)

**FAO names:** One-stripe anthias (En)

**Local name(s):** Kyauk Nga Bae Ni Sin.
**Habitat:** Reef associated between 20–150 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, its depth 2.4–3.1 in SL; head length about 3 in SL; subopercle and interopercle indistinctly serrated; 3rd dorsal fin spine longest; no papillae on posterior margin of orbit; 39–43 lateral line scales; caudal fin lunate (forked with broad lobes in large males).
**Colour:** Females: reddish orange dorsally with a red stripe running horizontally from rear edge of opercle to base of caudal fin; ventral part of body pale. Large males (15–18 cm SL): head and body reddish, paler ventrally; dark red area behind opercle from spinous dorsal fin to pectoral fin (small males similar but dorsal part of body pinkish purple).

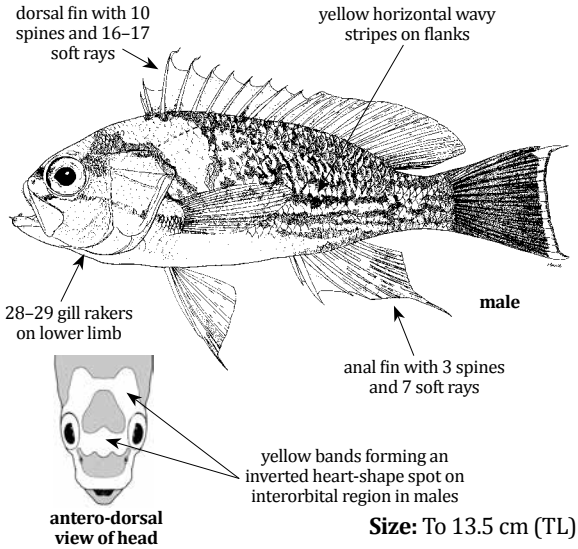



**Size:** To 18 cm (SL)

***Pseudanthias pillai*** Heemstra & Akhilesh 2012

**FAO names:** Pillai's anthias (En)

**Local name(s):** Kyauk Nga Hmee Htik Phyu.
**Habitat:** Reef associated between 120–200 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, its depth 2.6–3.0 in SL; head length 2.6–2.7 in SL; caudal peduncle depth 7.7 in SL; subopercle and interopercle smooth; 18–19 pectoral fin rays; 3rd dorsal fin spine longest, prolonged; no papillae on posterior margin of orbit; 36–39 lateral line scales; caudal fin deeply emarginate with filamentous lobes to convex.
**Colour:** Body orange-red; scales on dorsal half of body usually with dark brown spot; pelvic fins pale pink; anal fin bright pink (yellowish in females); males with the following yellow bars: 1 on nape and extending to pectoral fin, 1 from behind lower half of eye to pectoral fin base, and 2 extending from upper half of eye across interorbital region; caudal fin yellowish in females and pinkish with narrow submarginal yellow band in males.

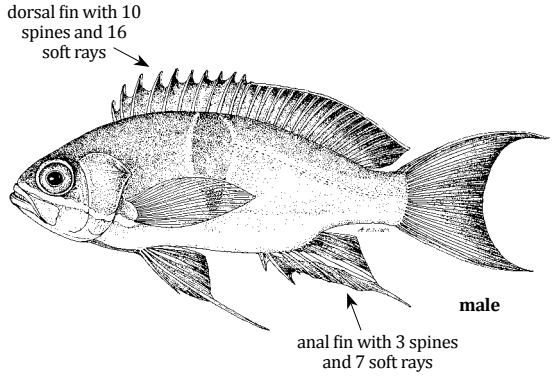



**Size:** To 13.5 cm (TL)

***Pseudanthias rubrizonatus*** (Randall, 1983)

**FAO names:** Red-bar anthias (En)

**Local name(s):** Kyauk Nga Hnar Phyu Sin.
**Habitat:** Reef associated between 10–133 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate, its depth 2.7–3.1 in SL; subopercle and interopercle with a few serrae; 18–20 pectoral fin rays; 4th dorsal fin spine longest but not prolonged; no papillae on posterior margin of orbit; 42–47 lateral line scales; caudal fin deeply emarginate to lunate.
**Colour:** Females with light red body dorsally, whitish ventrally; a narrow violet band from below eye to lower pectoral fin base; posterior tips of caudal fin red. Males with a broad red bar below last four dorsal fin spines; body before bar suffused with lavender and behind bar with yellow.

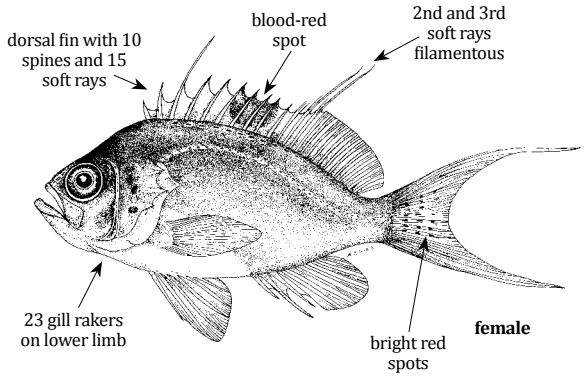



**Size:** To 12 cm (TL)

***Sacura sanguinea*** Motomura, Yoshida & Vilasri, 2017

**FAO names:** Andaman deep-water anthias (En)

**Local name(s):** Kyauk Nga Kyaw Ni Set.
**Habitat:** Reef associated between 124–125 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 2.2–2.3 in SL; lower edge of subopercle smooth; 17 pectoral fin rays; 3th dorsal fin spine longest; no papillae on posterior margin of orbit; anal fin with 3 spines and 7 soft rays; 34 lateral line scales; 3rd dorsal spine elongate into a filament in specimens ranging from 11.1 to 12.4 cm SL; caudal fin lunate.
**Colour:** Head and body reddish with a broad yellow stripe from anterior profile of head, this becoming indistinct and red on the middle of the body and extending to the caudal fin base (stripe less evident in specimens <11 cm SL); belly white; caudal fin yellow with bright red spots on its central portion; females with a large dark red spot on the dorsal fin between the 6th and 10th spines.



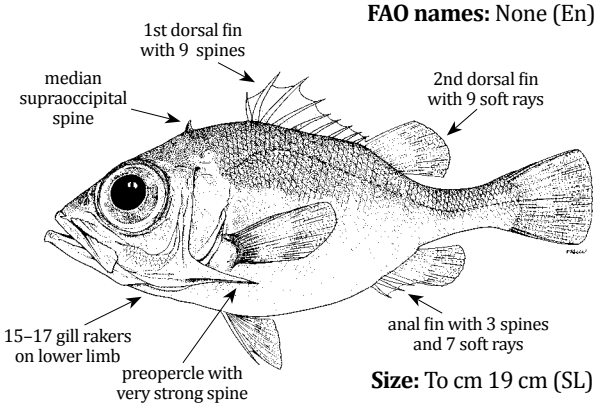

**Size:** To 12.4 cm (SL)

## OSTRACOBERYCIDAE
Ostracoberycids

***Ostracoberyx dorygenys*** Fowler, 1934

**FAO names:** None (En)

**Local name(s):** Barry Nga.
**Habitat:** Demersal or near bottom at depths between 250 and 710 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body ovate, compressed; eye large, longer than snout length; caudal peduncle rather slender, its length twice as long as the depth; 3rd dorsal spine longest; interorbital space flat; juveniles (up to 10 cm) with median supraoccipital spine that curves slightly posteriorly.
**Colour:** Body greyish-brown, ventrally silver-white; fins mostly hyaline, the 1st dorsal fin more dusky.



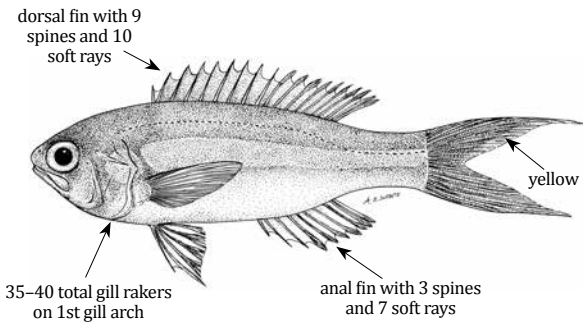

**Size:** To cm 19 cm (SL)

## SYMPHYSANODONTIDAE
Bunquelovelies

***Symphysanodon*** cf. ***katayamai*** Anderson, 1970

**FAO names:** Yellowstripe slopefish (En)

**Local name(s):** A Hmee Nee War Nga Bae War Zin.
**Habitat:** Occurs in depths of 91 to 183 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body oblong, compressed, its depth 3.2–3.7 in SL; length of upper caudal fin lobe >1.7 to ca. 1.9 in SL; length of lower caudal fin lobe >1.8 to ca. 2.2 in SL; length of pelvic fins 3.8–4.0 in SL; 50–52 lateral line scales.
**Colour:** Body reddish dorsally and pinkish white ventrally with a broad longitudinal orange band on side; inner margin of upper caudal fin lobe yellow.
**Remarks:** More material needed for confirmation of specific identity (W.D. Anderson Jr pers. comm.).

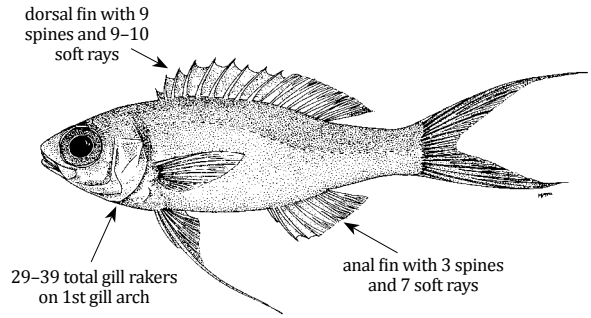



**Size:** To 20 cm (SL)

***Symphysanodon*** cf. ***maunaloae*** Anderson, 1970

**FAO names:** Beautimous wampeejaw (En)

**Local name(s):** A Hmee Nee War Nga.
**Habitat:** Occurs in depths of 130 to 705 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body slender to moderately deep, its depth 3.0–5.0 in SL; length of upper caudal fin lobe 1.3–3.6 in SL; length of lower caudal fin lobe 1.3–3.4 in SL; length of pelvic fins 1.3–4.5 in SL; 42–47 lateral line scales.
**Colour:** Upper body and caudal fin light red; iris pink; dark bar between eyes; dark vertical bar just behind operculum.
**Remarks:** More material needed for confirmation of specific identity (W. D. Anderson Jr pers. comm.).

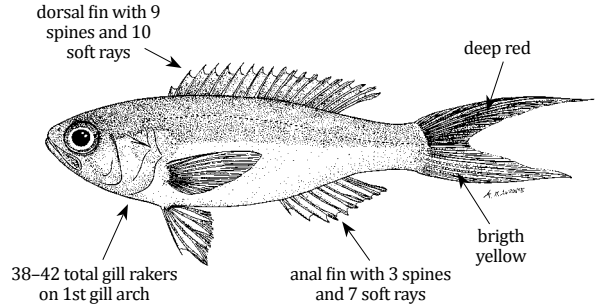



**Size:** To16 cm (SL)

***Symphysanodon*** cf. ***xanthopterygion*** Anderson & Bineesh, 2011

**FAO names:** Indian Bunquelovely (En)

**Local name(s):** India A Hmee Ni War Nga.
**Habitat:** Occurs in depths of 150 to 240 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body oblong, its depth 3.6–4.2 in SL; length of upper caudal fin lobe >2.1 to 3.4 in SL; length of lower caudal fin lobe >2.5 to 3.5 in SL; length of pelvic fins 4.1–4.9 in SL; 54–59 lateral line scales.
**Colour:** Body deep red dorsally and white ventrally; a bright yellow spot usually present on posterior part of opercle; lower caudal fin lobe bright yellow.
**Remarks:** More material needed for confirmation of specific identity (W.D. Anderson Jr pers. comm.).



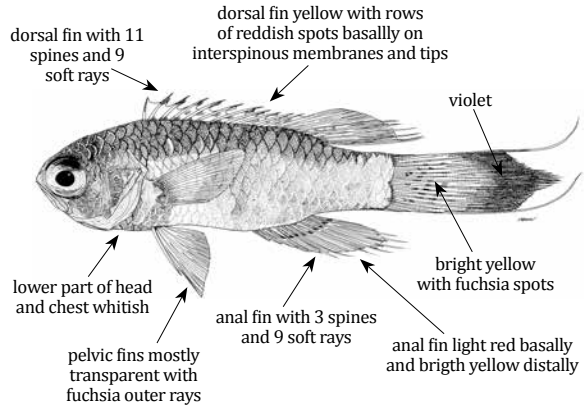

**Size:** To 14.5 cm (SL)

## CALLANTHIIDAE
Splendid perches

***Grammatonotus*** sp. *

**FAO names:** Andaman splendid perch (En)

**Local name(s):** Andaman Yaung Sone Ka Ka Tit.
**Habitat:** Collected between 181–184 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Greatest body depth 3.2 in SL; eye diameter shorter than postorbital length of head, 2.6 in HL; interorbital space narrower than eye diameter; length of caudal peduncle longer than depth of caudal peduncle; length of 3rd anal spine longer than 1st dorsal spine; teeth on jaws small; 1 opercular spine; ca. 20 lateral line scales; ca. 24 scales in longitudinal series; caudal fin with filamentous outer rays.
**Colour:** Body and head reddish orange dorsally and pinkish ventrally; distal third of caudal fin violet (filamentous rays yellow), the rest yellow with small fuchsia spots; pectoral fin uniform light red; iris yellow centrally with purple and red edges above and below, respectively.
**Remarks:** Most probably an undescribed species presently under study by Anderson Jr & Psomadakis.



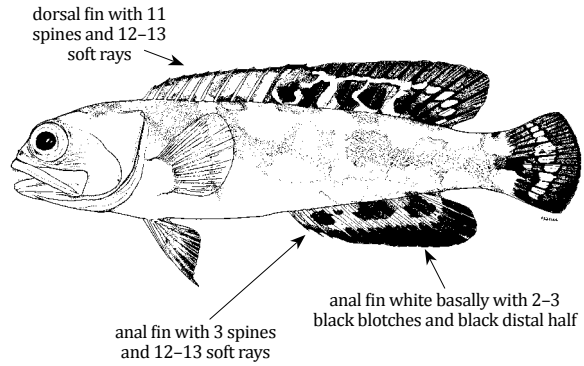

**Size:** To at least 12.1 cm (TL)

# OPISTOGNATHIDAE
Jawfishes

***Opistognathus rosenbergii*** Bleeker, 1856

**FAO names:** Rosenberg's jawfish (En)

**Local name(s):** Yaung Sone Mae Yoe Mar Nga.
**Habitat:** Inhabits soft bottoms to 20 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body compressed; mouth large, upper jaw short, 1.5–1.6 in head length; maxilla widest at the end and slightly truncate; scales absent on head, nape, pectoral fin base, breast and anteriorly above lateral line.
**Colour:** Six irregular brown bands on sides of body forming a wavy midlateral stripe; dorsal fin with 5 black blotches separated by white bands posteriorly; caudal fin brownish shading to black ventrally, crescentic white band in middle of fin.



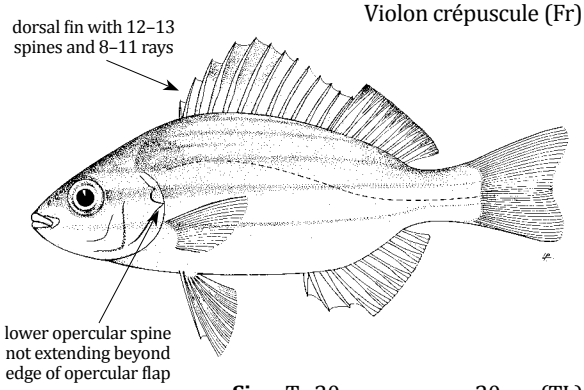

**Size:** To 16 cm (TL)

# TERAPONTIDAE
Grunters

***Pelates quadrilineatus*** (Bloch, 1790)

**FAO names:** Fourlined terapon (En)
Violon crépuscule (Fr)

**Local name(s):** Lay Line Gone Kyarr.
**Habitat:** Inshore areas, sometimes in brackish waters down to 40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anal fin with 3 spines and 9–11 soft rays, the 2nd anal spine subequal to the 3rd and shorter than longest anal rays.
**Colour:** Body silvery grey dorsally, silvery white ventrally; 4–6 narrow, dark brown stripes on body; spiny part of dorsal fin and behind gill opening with blotches; mouth and gill cavity red in life.
**Remarks:** Needs confirmation for Myanmar waters.

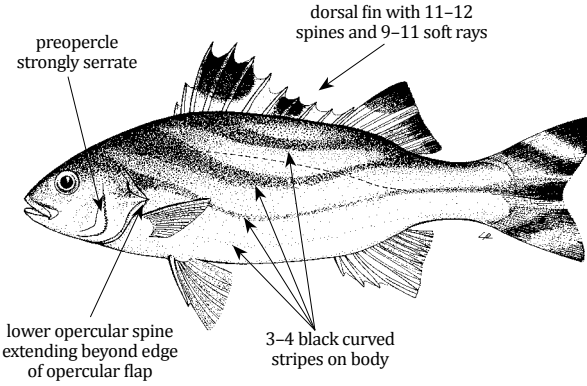



**Size:** To 30 cm, common 20 cm (TL)

***Terapon jarbua*** (Forsskål, 1775)

**FAO names:** Jarbua terapon (En)

**Local name(s):** Line Kauk Gone Kyarr.
**Habitat:** Inhabits coastal, brackish, and fresh waters, but spawns only in the sea.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Anal fin with 3 spines and 7–10 soft rays; 2nd anal spine subequal to 3rd spine and shorter than longest anal rays; caudal fin emarginate.
**Colour:** Body silvery dorsally and silvery white ventrally; dorsal fin with black bands on outer portions of fin membranes; caudal fin with median rays pigmented; both caudal lobes with dark tips and transverse bands.

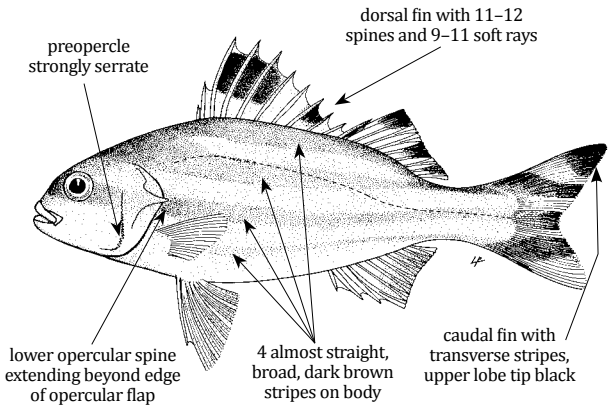



**Size:** To 36 cm, common 25 cm (TL)

***Terapon theraps*** Cuvier, 1829

**FAO names:** Largescaled terapon (En)

**Local name(s):** A Kjee Gyi Gone Kyarr.
**Habitat:** Found in inshore waters, sometimes entering brackish waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body oblong compressed; spiny part of dorsal fin strongly arched and deeply notched; 3rd to 6th dorsal spine longest; anal fin with 3 spines and 7–9 soft rays, 3rd spine longest; caudal fin emarginate.
**Colour:** Body dusky dorsally, silvery white ventrally with 4 horizontal stripes on body; (juveniles with 6–7 vertical bars); dorsal fin with black blotches; soft part of dorsal fin with a dark band along outer portions of anterior rays and a horizontal band on posterior rays.



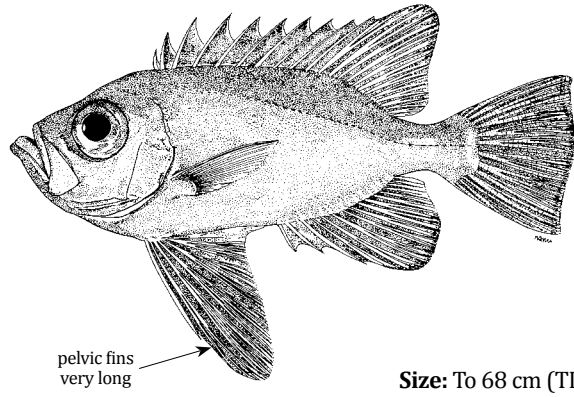

**Size:** To 30 cm (TL)

## PRIACANTHIDAE
Bigeyes

***Cookeolus japonicus*** (Cuvier, 1829)

**FAO names:** Longfinned bullseye (En)

**Local name(s):** Myat Lone Gyi Auk Ye Yet Shae.
**Habitat:** Inhabits waters from 60 m to 400 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Dorsal fin single with 10 spines and 12–13 soft rays; anal fin with 3 spines and 12–14 soft rays; dorsal spines increase progressively in length from 1st to last; 10th spine more than twice length of 2nd spine; soft portions of dorsal and anal fins long and broadly pointed (except in very large specimens); pelvic fins exceeding head length (except in large adults).
**Colour:** Background colour silvery reddish, paler ventrally; membranes of dorsal and anal fins dark anteriorly; ventral membrane blackish, rays pale.

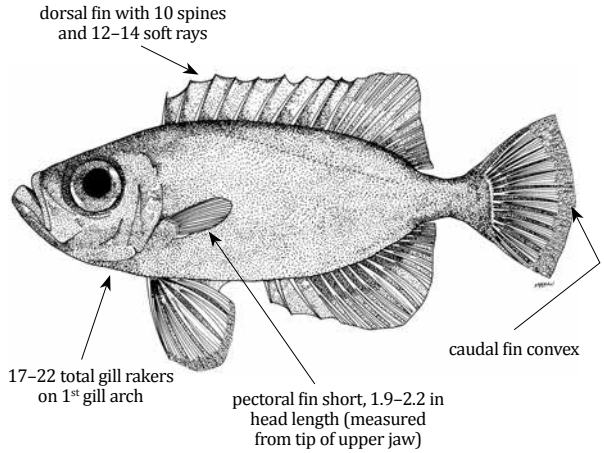



**Size:** To 68 cm (TL)

***Priacanthus blochii*** Bleeker, 1853

**FAO names:** Shortfin bigeye (En)
Beauclaire aile court (Fr)

**Local name(s):** Myat Lone Gyi Ye Yet Toe.
**Habitat:** Coastal in shallow reef and rocky areas at depths of 15 to 30 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body somewhat slender and compressed, its depth at 6th dorsal spine 2.6–2.9 (usually 2.7) in SL; spine at corner of preopercle short in adults; anal fin with 3 spines and 13–15 soft rays; 47–56 vertical scale rows (counted from dorsal fin origin diagonally to the anus).
**Colour:** Bright red on head, iris of eye, body and fins, or, alternately, silvery white on head and body blotched with red; about 15 dark red spots sometimes along lateral line; pectoral fins clear or pink; pelvic fin membranes light dusky to dark, especially distally, with a black spot basally on outer surface; thin black margin on spinous portion of dorsal and anal fins.

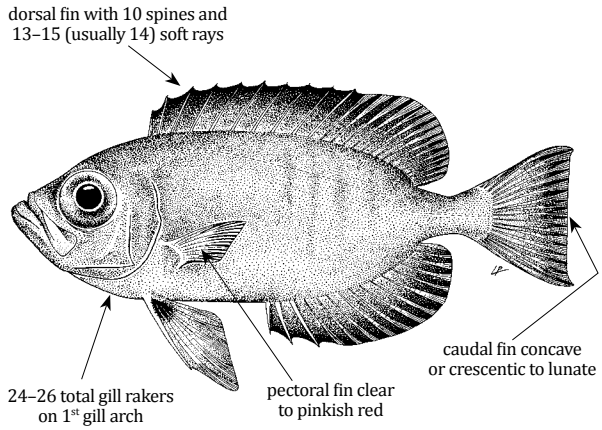



**Size:** To 30 cm (TL)

## *Priacanthus hamrur* (Forsskål, 1775)

**FAO names:** Moontail bullseye (En)
Beauclaire miroir (Fr)

**Local name(s):** Myat Lone Gyi La Wun A Hmee.
**Habitat:** Coral and rocky bootoms in 5–250 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body depth at 6th dorsal spine usually less than 3 in SL; spine at corner of preopercle short in adults, variable in young; anal fin with 3 spines and 13–16 (usually 15) soft rays; 48–57 vertical scale rows (counted from dorsal fin origin diagonally to the anus).
**Colour:** Red with about 15 small dark spots sometimes evident along lateral line; alternately, body may be silvery white with 7 darker red bars; median and pelvic fins red light dusky to nearly black and darkest near margins (dusky spots on dorsal, anal and pelvic fins sometimes present); black spot at base of pelvic fins usually present.



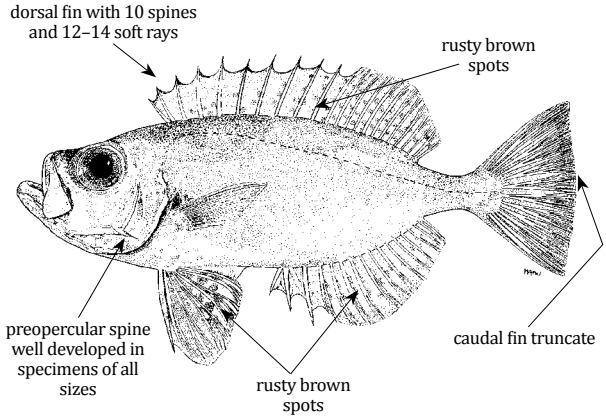

**Size:** To 40 cm, common 20 cm (TL)

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## *Priacanthus macracanthus* Cuvier, 1829

**FAO names:** Brownspot bigeye (En)
Beauclaire Pacifique (Fr)

**Local name(s):** Myat Lone Gyi A Nyo Set.
**Habitat:** Open bottoms from 35 m to 250 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body relatively deep, ovate, and laterally compressed; anal fin with 3 spines and 13–14 soft rays; 23–29 total gill rakers on 1st gill arch; 45–52 vertical scale rows (counted from dorsal fin origin diagonally to the anus).
**Colour:** Body, head, and iris silvery pink to reddish; fins light red to pinkish; dorsal, anal, and pelvic fins with rusty brown spots.



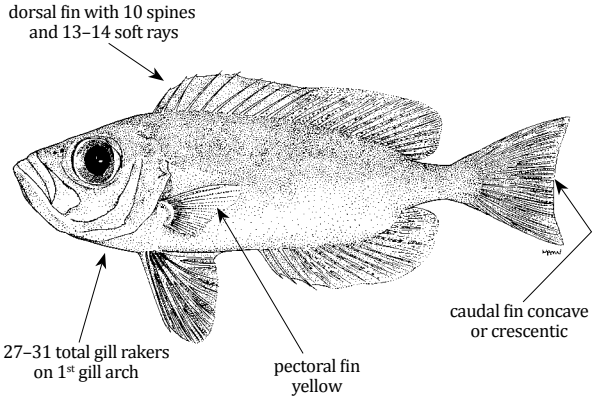

**Size:** To 35 cm (TL)

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## *Priacanthus prolixus* Starnes, 1988

**FAO names:** Elongate bulleye (En)

**Local name(s):** Myat Lone Gyi A Hmee Khwet.
**Habitat:** Open bottoms from 35 m to 250 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body elongate, its depth at 6th dorsal spine usually more than 3 times in SL; spine at corner of preopercle short in adults, variable in young; anal fin with 3 spines and 14–15 soft rays; 44–51 vertical scale rows (counted from dorsal fin origin diagonally to the anus).
**Colour:** Body, head, median and pelvic fins light red with 7 small dark spots along lateral line; black spot at base of pelvic fins usually present; thin black margin on spinous portion of dorsal and anal fins.

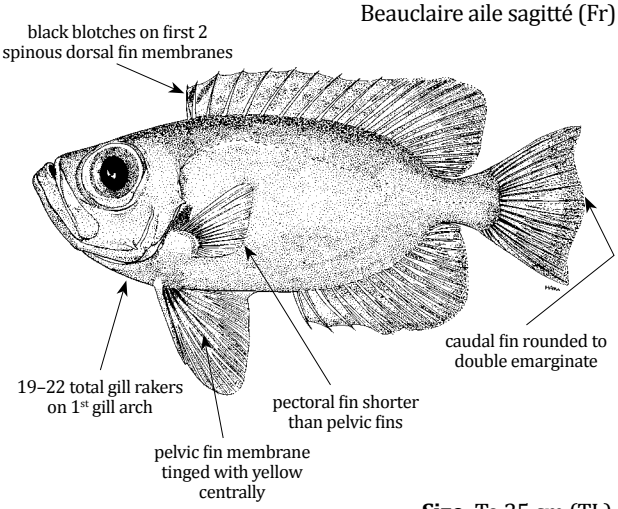



**Size:** To 25 cm (TL)

## *Priacanthus sagittarius* Starnes, 1988

**FAO names:** Arrow bulleye (En)
Beauclaire aile sagitté (Fr)

**Local name(s):** Myat Lone Gyi Hmar Hmee Kway.
**Habitat:** Occurs in rocky and reef areas and occasionally in more open areas at depths of 60 to 100 m or more.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body depth at 6th dorsal spine usually less than 3 in SL; spine at corner of preopercle reduced in adults; dorsal fin with 10 spines and 13–14 soft rays; anal fin with 3 spines and13–15 soft rays; 46–53 vertical scale rows (counted from dorsal fin origin diagonally to the anus); long and pointed soft dorsal and anal fins.
**Colour:** The head and body reddish silvery or, alternately, pale yellowish with grey mottling; iris of the eye pink to bright red; dorsal, anal, and caudal fins pink with reddish brown streaks in the membranes, or yellowish with dusky streaks; black spot at base of pelvic fins usually present.

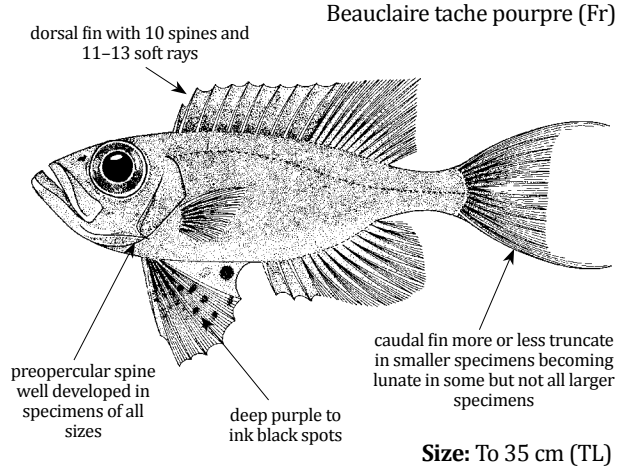



**Size:** To 35 cm (TL)

## *Priacanthus tayenus* Richardson, 1846

**FAO names:** Purplespot bigeye (En)
Beauclaire tache pourpre (Fr)

**Local name(s):** Myat Lone Gyi Hmar Kaing Hmee.
**Habitat:** Inhabits coastal waters in both rocky reef and, occasionally, more open areas at depths of 20 to 200 m or more.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body moderately deep, moderately elongate, and laterally compressed; anal fin with 3 spines and 12–14 soft rays; 40–50 vertical scale rows (counted from dorsal fin origin diagonally to the anus).
**Colour:** Body, head, and iris of eye pink to reddish or silvery white with pink tinges; fins pinkish; pelvic fins with characteristic small deep purple to inky black spots in membranes with 1 or 2 larger spots in connective membrane to belly.

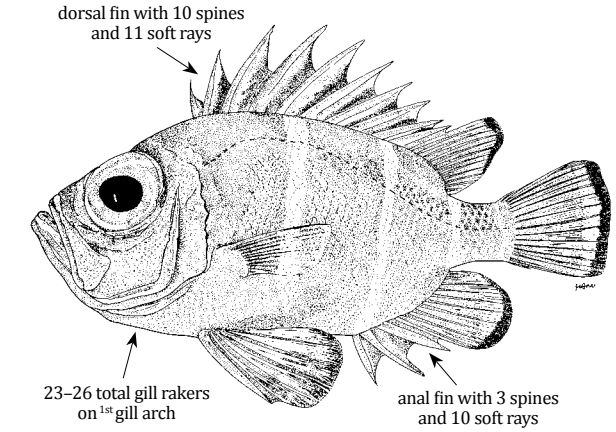



**Size:** To 35 cm (TL)

## *Pristigenys refulgens* (Valenciennes, 1862)

**FAO names:** Blackfringe bigeye (En)

**Local name(s):** Myat Lone Gyi Myat Pyuu.
**Habitat:** Reef associated between 80–129 m depth.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body considerably deep and compressed; dorsal and ventral portions of 3rd vertical band only slightly wider than mid-lateral portion and nearly vertical; caudal fin rounded.
**Colour:** Head, body, and fins red to reddish orange except dusky to black tips of pelvic fins and black margins of caudal and soft vertical fins; iris of eye red to silvery; 5 white or pale bars on head and body, about 1/4–2/5 width of pupil (the bar below the 1st dorsal fin spine may not be visible in some specimens); pectoral fin reddish or pinkish hyaline.

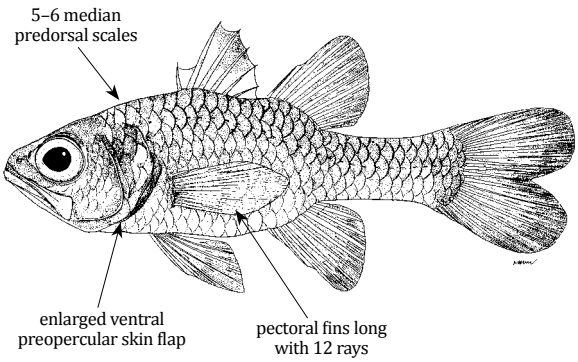



**Size:** To 35 cm (TL)

# APOGONIDAE
Cardinalfishes

## *Apogon* sp. *

**FAO names:** Elusive cardinalfish (En)

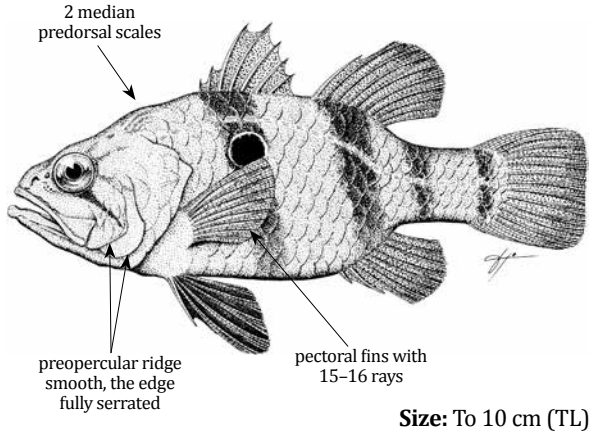



**Local name(s):** Nga Kyarr Ma.
**Habitat:** Depth range: 121–129.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 6 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 11 developed gill rakers on 1st gill arch; caudal fin forked with rounded lobes.
**Colour:** Head, body and fins orangish red; scales on upper part of body with dark edge; distal 1/3 of caudal fin rays dusky to blackish (caudal fin plain in specimens from outside Myanmar); intestine pale; stomach black.
**Remarks:** An undescribed species presently being described by Gon & Bogorodsky.

**Size:** To about 6 cm (SL)

## *Apogonichthyoides nigripinnis* (Cuvier, 1828)

**FAO names:** Bullseye cardinalfish (En)

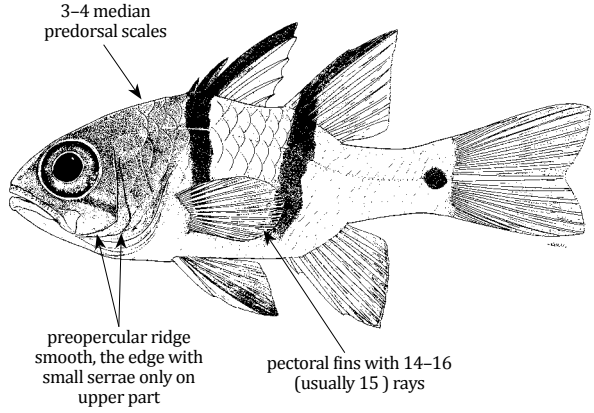



**Local name(s):** Nga Kyar Ma Bae Hmyet.
**Habitat:** Depth range: 1–79 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines (4th spine the longest), the 2nd with 1 spine and 8–9 soft rays; anal fin with 2 spines and 7–8 soft rays; 12–13 developed gill rakers on 1st gill arch; low hump above eye; caudal fin truncate; stomach and intestine with varying amount of dark spots and/or streaks.
**Colour:** Body with a dark vertical bar under each dorsal fin and on caudal base (a 4th bar may be present between the 2nd dorsal and the caudal base); usually a large ocellus above pectoral fins (sometimes present only on 1 side of body); pelvic fins black, pectoral fins light, other fins dusky to dark.

**Size:** To 10 cm (TL)

## *Apogonichthyoides sialis* (Jordan & Thompson, 1914)

**FAO names:** Twinbar cardinalfish (En)



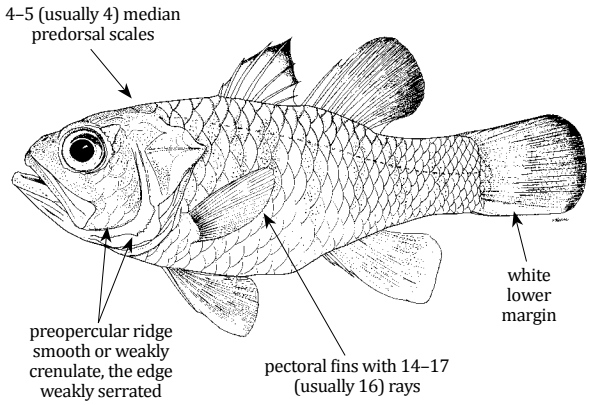

**Local name(s):** Nga Kyarr Ma Bae Hnit Sinn.
**Habitat:** Found in silty coastal reefs around rocks and ledges in 8–15 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines (3rd spine the longest and thickest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 10–12 developed gill rakers on 1st gill arch; caudal fin emarginate; stomach and intestine pale.
**Colour:** Body brownish to greenish grey anteriorly, shading to dark grey posteriorly, the edges of scales pale; two black bars (usually 2 scales wide) below dorsal fins extending ventrally beyond pectoral fin; iris dark: a white ring around pupil; pelvic fins dark brown with white leading edge; distinct dark, small basicaudal spot.

**Size:** To 14 cm (TL)

## *Jaydia novaeguineae* (Valenciennes, 1832)

**FAO names:** New Guinea's cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Mae Chaw.
**Habitat:** Depth range: 22–62 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 9–10 (rarely 8) developed gill rakers on 1st gill arch; caudal fin moderately rounded; intestine pale.
**Colour:** Body pale or with up to 8 faint dark brown bars; scale pockets above and below lateral line with dark edge; dorsal and ventral surface of head with small dark spots; cheek stripe usually indistinct; dorsal and caudal fins with darker distal edge; 2nd dorsal fin sometimes with a dark stripe on proximal third of fin; lower margin of caudal fin white.

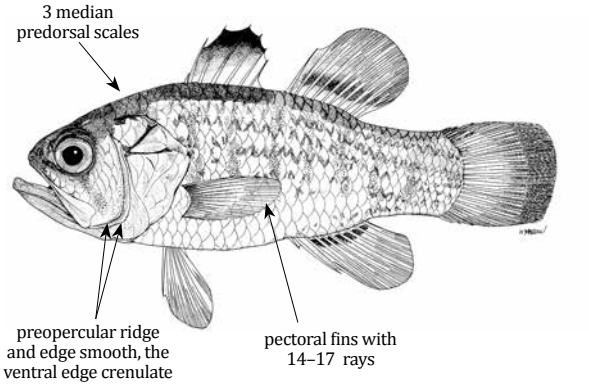



**Size:** To 8.9 cm (SL)

## *Jaydia poeciloptera* (Cuvier, 1828)

**FAO names:** Pearly-finned cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Pale Suu Taung.
**Habitat:** Depth range: 19–146 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 10–12 (1 on upper limb) developed gill rakers on 1st gill arch; caudal fin truncate; intestine with dark spots.
**Colour:** Head and body grey shading to silvery grey ventrally; scales on upper part of body with dark edge; several faint horizontal wavy lines on side of body; outer part of 1st dorsal fin black; 2–3 irregular dark bands along soft dorsal fin; anal and pelvic fins yellow except basal and distal parts; pectoral fin hyaline; distal half of caudal fin dusky; gill chamber, 1st gill arch and its gill rakers, and upper part of lining of inner gill cover black.

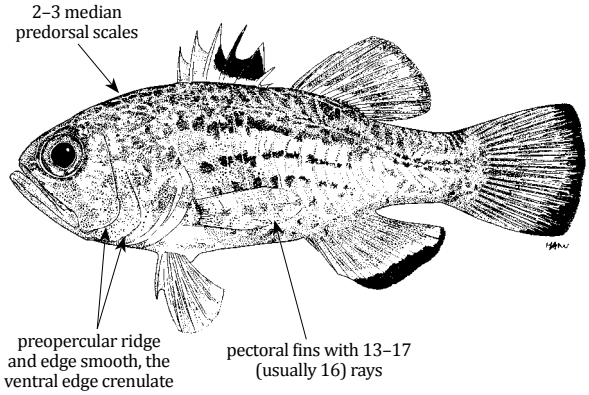



**Size:** To 14 cm (SL)

## *Jaydia queketti* (Gilchrist, 1903)

**FAO names:** Spotfin cardinalfish(En)

**Local name(s):** Nga Kyarr Ma Suu Taung Mae.
**Habitat:** Depth range: 50–92 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 12–14 (2–3 on upper limb) developed gill rakers on 1st gill arch; caudal fin moderately rounded; intestine pale.
**Colour:** Light pinkish grey dorsally shading to silvery on sides and ventrally, with a dark brown spot on scales on side of body below lateral line forming longitudinal rows; 1st dorsal fin with a large black spot in outer posterior part of fin; anal and caudal fins (and to a lesser extent the 2nd dorsal) with a blackish outer margin.

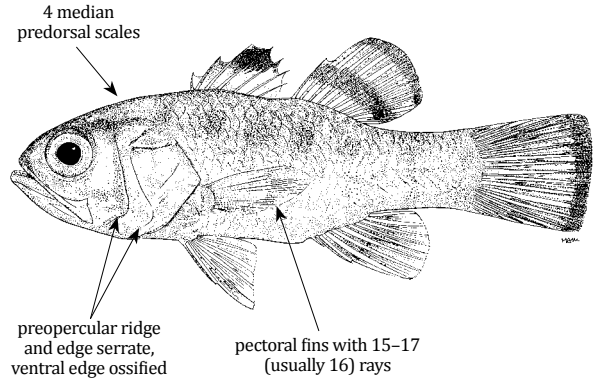



**Size:** To 10.7 cm (SL)

***Jaydia smithi*** Kotthaus, 1970

**FAO names:** Smith's cardinalfish (En)

**Local name(s):** Smith Nga Kyarr Ma.
**Habitat:** Depth range 22–230 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 11–12 (1–2 on upper limb) developed gill rakers on 1st gill arch; caudal fin moderately rounded; intestine pale.
**Colour:** Body silvery white; scales on upper part of body with dark edge; distal third of 1st dorsal fin black; 2 dark bands in soft dorsal fin; pectoral, anal and pelvic fins pale to dusky; caudal fin with a black distal margin.

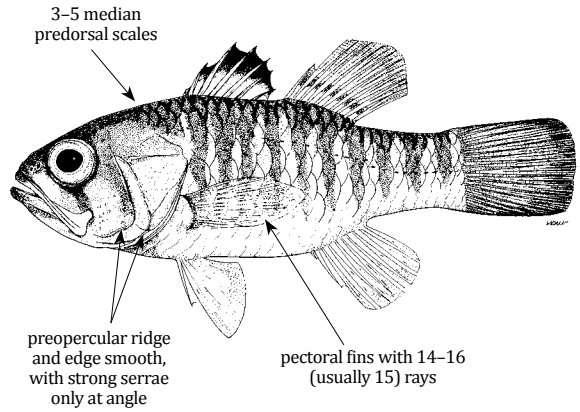



**Size:** To 10 cm (SL)

***Jaydia striata*** (Smith & Radcliffe, 1912)

**FAO names:** Tiger cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Bae Kyarr.
**Habitat:** Found in lagoon reefs from 10 to 82 m depth.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 11–14 (usually 2 on upper limb) developed gill rakers on 1st gill arch; caudal fin rounded; intestine pale.
**Colour:** Body with 7–11 narrow dark brown bars; scale pockets above lateral line with dark edge; cheek stripe usually present; distal half of 1st dorsal fin dusky to dark brown; 2nd dorsal and caudal fins usually with dark distal edge; other fins usually pale; peritoneum silvery white with dusky spots.

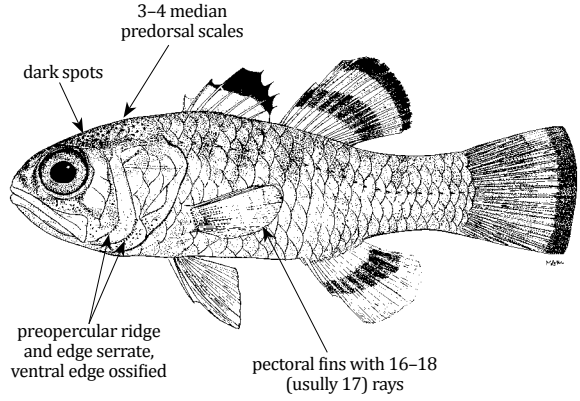



**Size:** To 7.6 cm (SL)

***Jaydia truncata*** (Bleeker, 1854)

**FAO names:** Flagfin cardinalfish (En)

**Local name(s):** Nga Kyarr Ma A Lan Suu Taung.
**Habitat:** Depth range 15–110 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; 10–11 (1 on upper limb) developed gill rakers on 1st gill arch; caudal fin slightly rounded; intestine pale.
**Colour:** Light grey dorsally shading to silvery on side and ventrally, with 4–6 large dusky spots in a longitudinal row above lateral line (sometimes faint or absent); scale pockets above lateral line with dark edge; front of snout and chin blackish; outer half of 1st dorsal fin black; 2nd dorsal and anal fins with a middle blackish band, the 2nd dorsal and caudal with a distal blackish margin.

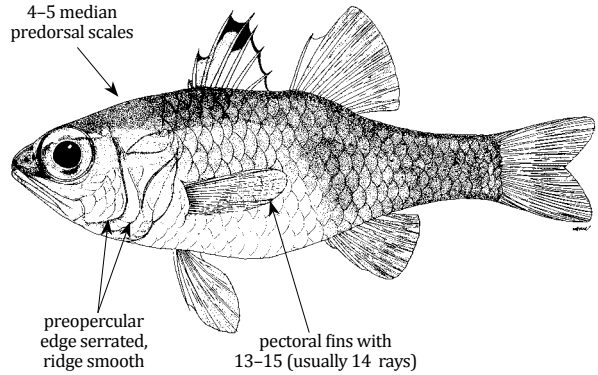



**Size:** To 10 cm (SL)

***Ostorhinchus apogonoides*** (Bleeker, 1856)

**FAO names:** Short-tooth cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Thwar To.
**Habitat:** Depth range 3–60 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (4th spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 15 (3 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate; inner series teeth of lower jaw and upper jaw teeth near symphysis distinctly enlarged, caniniform.
**Colour:** Upper parts of head, back and posterior part of body purplish pink; lower half of head and trunk pale with a golden tinge; snout blackish, edged with faint, bluish broken lines crossing the eye (dusky in preservative) and sometimes continuing onto gill cover and on body as spots between pectoral fin and lateral line; tip of 1st dorsal fin black; intestine and stomach black; 1st gill arch and its gill rakers partially black.

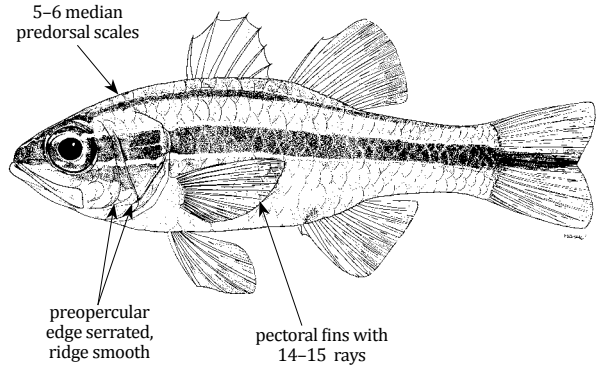



**Size:** To 10.7 cm (SL)

***Ostorhinchus bryx*** (Fraser, 1998)

**FAO names:** Offshore cardinalfish (En)

**Local name(s):** Kan Yoe Tan Nga Kyarr Ma.
**Habitat:** Depth range 14–155 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 6 spines (2nd or 3rd spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 7–8 soft rays; 22–23 (5 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate; inner series teeth posteriorly on lower jaw and upper jaw teeth near symphysis enlarged.
**Colour:** Silvery grey with 3 dark stripes on body; mid-lateral stripe as wide as pupil from tip of snout to tip of caudal fin; narrow stripe (not always visible) immediately above mid-lateral stripe; a better defined stripe from above eye running along dorsal surface to upper caudal peduncle; peritoneum with dark spots; intestine dark brown.

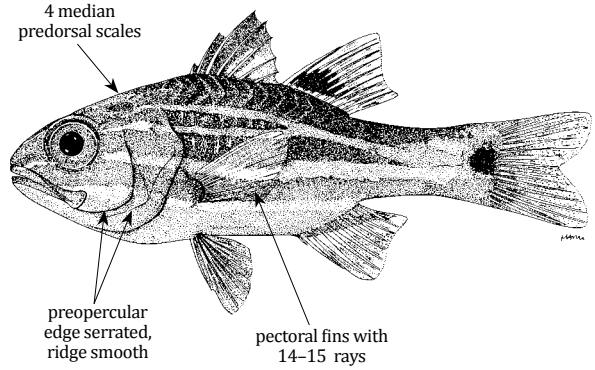



**Size:** To about 6 cm (SL)

***Ostorhinchus cookii*** (Macleay, 1881)

**FAO names:** Cook's cardinalfish (En)

**Local name(s):** Cook Nga Kyarr Ma.
**Habitat:** Depth range 1–10 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (3rd spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 10–13 (2 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Head and body with 6 longitudinal dark brown stripes wider than pale interspaces, the lowest stripe continuing onto base of anal fin; pelvic fins reddish with pale leading edge; a dusky rounded spot (larger that pupil) at caudal fin base; peritoneum with scattered small dark spots; intestine dark.

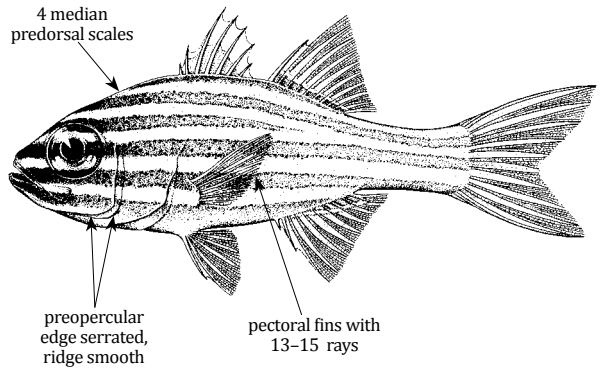



**Size:** To 9 cm (SL)

***Ostorhinchus cyanosoma*** (Bleeker, 1853)

**FAO names:** Yellowstriped cardinalfish (En)

**Local name(s):** Nga Kyarr Ma A War Zin.
**Habitat:** Depth range 1–50 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 spines (3rd spine the longest), the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 18–22 (4–6 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Head and body pale with 6 longitudinal yellow stripes; another short mid-dorsal stripe from interorbital space to origin of dorsal fin; snout and interorbital space frequently dark; fins with orange tinge; pelvic fins with a narrow pale leading edge; peritoneum with scattered small blackish spots; intestine dark brown.

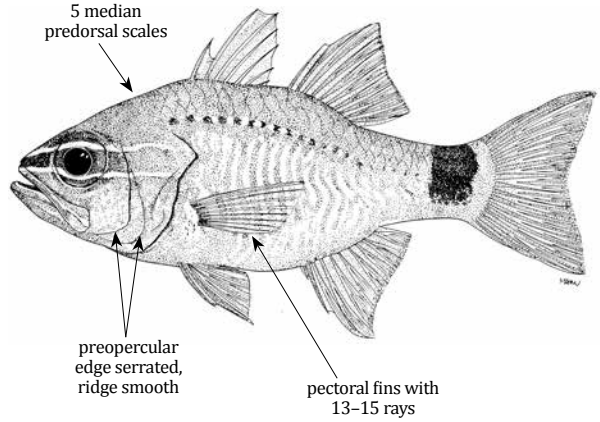



**Size:** To 8 cm (SL)

***Ostorhinchus fleurieu*** Lacepède, 1802

**FAO names:** Cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Hmee Yin Hmat.
**Habitat:** Common in shallow coastal reefs with moderate currents. Also in tidal channels of estuaries.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 18–19 (3–4 on upper limb) developed gill rakers on 1st gill arch; caudal fin slightly emarginate.
**Colour:** Coppery with iridescence; juveniles with peduncular spot, expanding to a broad blackish bar in adults; broad blackish stripe from front of snout to orbit, continuing diffusely behind eye; maxilla with a narrow blue streak; intestine dark brown to black.

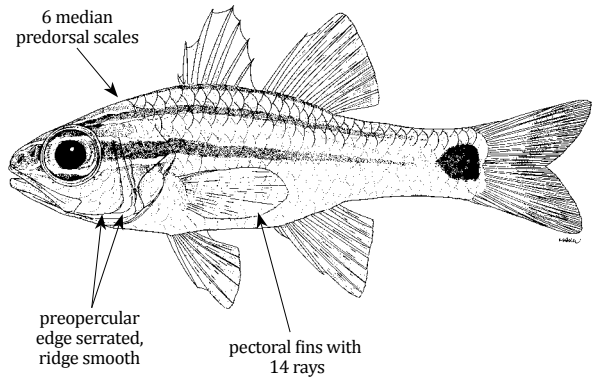



**Size:** To 12.5 cm (SL)

***Ostorhinchus fukuii*** (Hayashi, 1990)

**FAO names:** None (En)

**Local name(s):** Nga Kyarr Ma Hmee Yin Kwet.
**Habitat:** Depth range 35–60 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 12 (3 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Two dark stripes on body; mid-lateral stripe, somewhat narrower than pupil, from tip of snout posteriorly, tapering out on caudal peduncle in front of large dark spot (larger than pupil) at caudal fin base; slightly narrower stripe from above eye along upper edge of lateral line, fading out below 2nd dorsal fin; anal opening black.

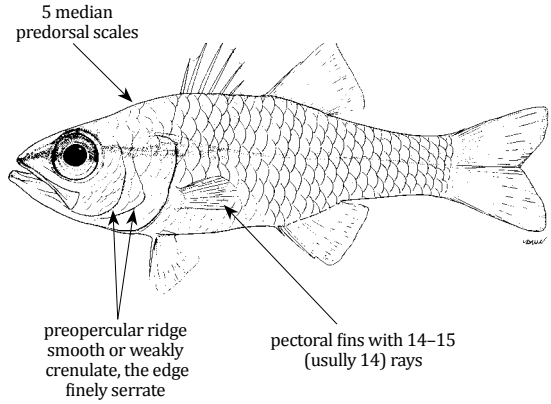



**Size:** To about 10 cm (SL)

***Ostorhinchus gularis*** (Fraser & Lachner, 1984)

**FAO names:** Gular cardinalfish (En)

**Local name(s):** Gular Nga Kyarr Ma.
**Habitat:** Silt or sand bottoms at depths between 30–290 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 6 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 21–24 (4–5 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate; anus is in a forward position near base of pelvic fins.
**Colour:** Body pale, with a narrow blackish stripe from front of snout to eye, sometimes continuing across operculum and onto body as a double line; another dusky narrow stripe below 1st dorsal fin base sometimes present; fins pale; digestive tract and anus black.

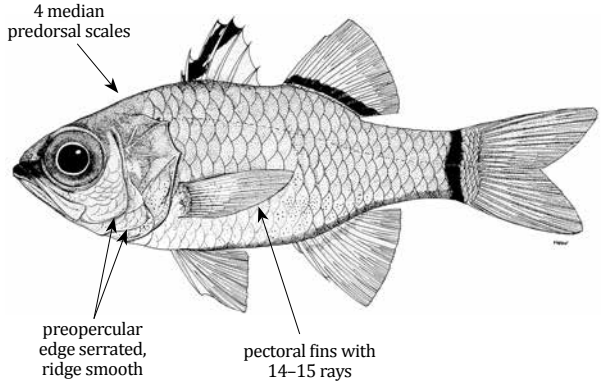



**Size:** To 6.6 cm (TL)

***Ostorhinchus nigrocincta*** (Smith & Radcliffe, 1912)

**FAO names:** Blackbelt cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Kha But Net.
**Habitat:** Depth range 20–40 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 6 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 18–19 (3–4 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Dark brown stripe from tip of lower jaw to eye; narrow dark brown bar across caudal peduncle at caudal fin base; dark brown stripe slightly above base of second dorsal fin, and similar, less distinct stripe along and next to anal fin base; upper gill rakers of 1st gill arch dark; stomach and intestine with dark dots of various sizes.

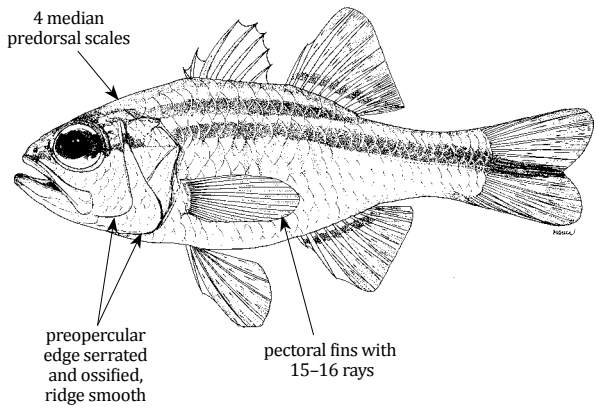



**Size:** To 9.1 cm (SL)

***Ostorhinchus pleuron*** (Fraser, 2005)

**FAO names:** Rib-bar cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Bae Mae Sinn.
**Habitat:** Depth range 3–91 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 6 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 18–19 (3–4 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Body pale with 2 dark stripes on body: the upper stripe extending from snout to upper caudal fin base, the lower (mid-lateral) stripe from snout and across eye to caudal fin margin; 8 narrow dusky bars on anterior part of body extending ventrally from mid-lateral stripe; upper part of 1st gill arch and proximal part of its gill rakers blackish; digestive tract and anus black.

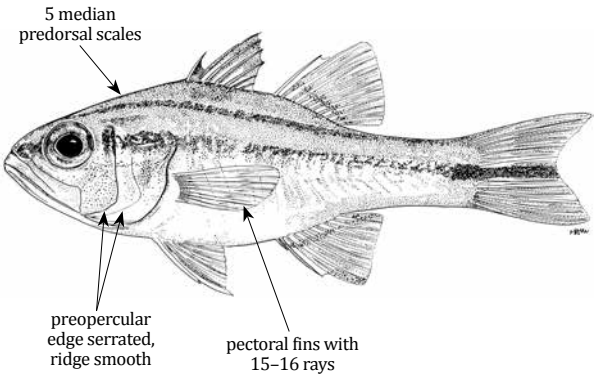



**Size:** To 10.4 cm (SL)

***Ostorhinchus quadrifasciatus*** (Cuvier, 1828)

**FAO names:** Broadbanded cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Bae Line Sinn.
**Habitat:** Depth range 2–128 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 14 (3 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Two distinct dark brown stripes, dorsal one above lateral line from top of eye to upper caudal peduncle; mid-lateral one from tip of snout to posterior edge of middle caudal fin rays; indistinct stripe made of dark dots between mid-lateral stripe and pectoral fin, tapering out below second dorsal fin; middle pelvic fin rays dark brown; intestine and stomach dark brown.

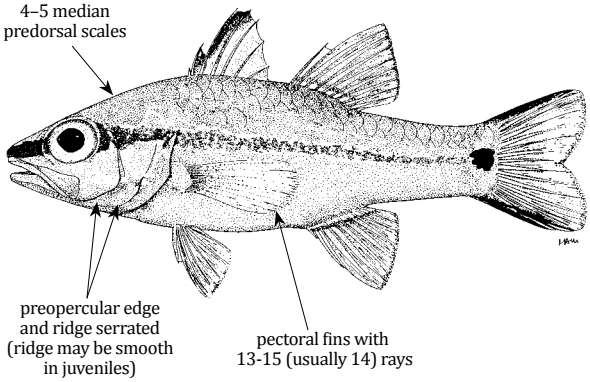



**Size:** To about 9 cm (SL)

***Pristiapogon fraenatus*** (Valenciennes, 1832)

**FAO names:** Bridled cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Hnar Kyar.
**Habitat:** Depth range 3–50 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 7 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 8 soft rays; 10–12 (2 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Body pale with a dark stripe extending from snout and across eye to caudal peduncle just in front of large dark spot at level of caudal fin base; dorsal and ventral margins of caudal fin dark; digestive tract and anus pale.

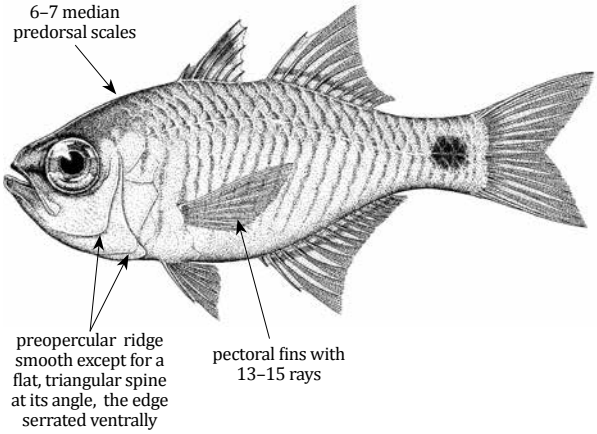



**Size:** To 10.4 cm (SL)

***Taeniamia fucata*** (Cantor, 1849)

**FAO names:** Orangelined cardinalfish (En)

**Local name(s):** Nga Kyarr Ma Lein Maw Line.
**Habitat:** Depth range 2–60 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Two separate dorsal fins, the 1st with 6 visible spines, the 2nd with 1 spine and 9 soft rays; anal fin with 2 spines and 15–17 soft rays; 18–21 (3–4 on upper limb) developed gill rakers on 1st gill arch; caudal fin emarginate.
**Colour:** Body translucent grey with a large black spot (about eye size) at caudal fin base; 20–30 narrow, curved oblique orange lines on sides; fins mostly transparent.




**Size:** To 7 cm (SL)

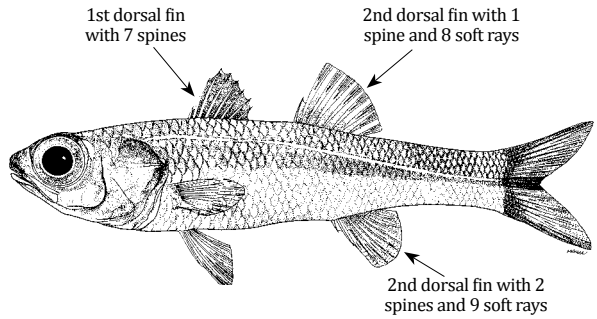
# EPIGONIDAE

Deepwater cardinalfishes

***Epigonus thai*** Prokofiev & Bussarawit, 2012

**FAO names:** Andaman deepwater cardinalfish (En)

**Local name(s):** Andaman Phone Gyi Nga.
**Habitat:** Depth range: 303–527 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body depth 5 in SL; horizontal eye diameter equals postorbital length; 19 pectoral fin rays; 25 gill rakers on 1st gill arch; 11 piloric caeca; ca. 38 lateral line scales; a single well developed opercular spine; tongue toothless; cycloid scales on body; very small teeth in jaws; vomerine tooth patch V-shaped; maxillary mustache-like processes present.
**Colour:** Brown-violet or black: orobranchial cavity, stomach and piloric caeca pale; peritoneum dark.




**Size:** To at least 16.8 cm (TL)

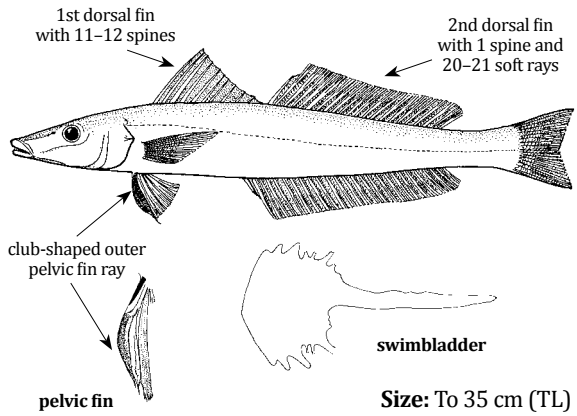
# SILLAGINIDAE

Sillagos

***Sillaginopodys chondropus*** (Bleeker, 1849)

**FAO names:** Clubfoot sillago (En)
Pêche-madame diablotin (Fr)

**Local name(s):** Nga Palway Thae Htoe Chae Pyar.
**Habitat:** Shallow coastal waters and bays; also in estuaries.
**Fisheries:** Bottom trawls, gillnets, bagnets, cast nets.
**Distinctive Characters:** Body elongate; 66–73 lateral line scales; anal fin with 2 spines and 22–23 soft rays; 1st pelvic fin ray modified into a laterally compressed thickened club-like structure; swimbladder reduced in size, no duct-like process from the ventral surface to the urogenital aperture.
**Colour:** Back pale brown; lower ventral flanks and belly paler; adult silver-grey; fins pale, the 1st dorsal fin with dusky tip.

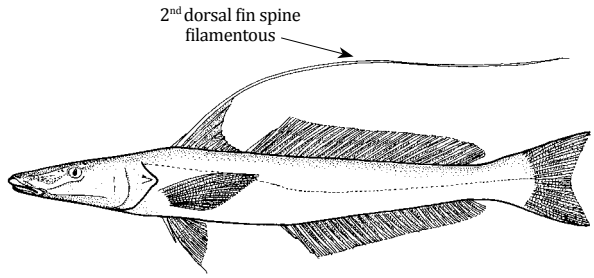



**Size:** To 35 cm (TL)

***Sillaginopsis domina*** (Cuvier, 1816)

**FAO names:** Flathead sillago (En)
Pêche-madame camus (Fr)

**Local name(s):** A Lan Toung Nga Palway.
**Habitat:** Found in shallow, open muddy bays and estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; head greatly flattened; eyes small, covered by adipose tissue; mouth small, terminal; 1st dorsal fin with 10 spines; 2nd dorsal fin with 1 spine and 25–27 rays; anal fin with 2 spines and 24–27 rays; swimbladder vestigal or absent.
**Colour:** Back light brown, lower flanks and belly pale brown to white; fins pale brownish, with a light dusting of fine black spots (Myanmar specimens with yellowish lower flanks and belly).

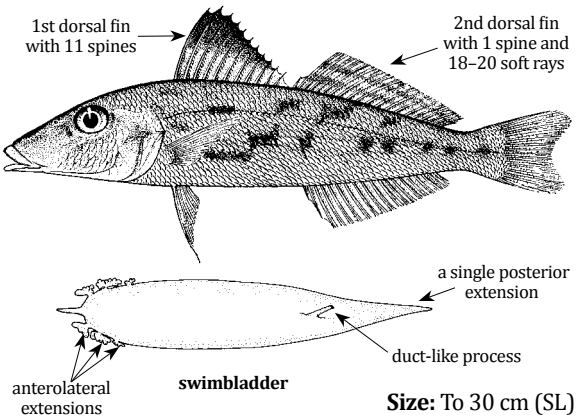



**Size:** To 44 cm, common 25 cm (TL)

## *Sillago aeolus* Jordan & Evermann, 1902

**FAO names:** Oriental sillago (En)
Pêche-madame oriental (Fr)

**Local name(s):** Nga Palway Thae Htoe Bae Kywet.
**Habitat:** Coastal inshore waters, most common in embayments on silty bottom.
**Juveniles burrow in the sand.**
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; anal fin with 2 spines and 17–19 (usually 18) soft rays; swimbladder with 3 rudimentary anterolateral extensions and a single posterior extension below vertebral column and entering the tail section.
**Colour:** Back light brown; lower ventral flanks and belly whitish or silvery with scattered dark brown elongate blotches on back and sides, the most posterior midlateral dark brown blotch elongate and reaching caudal flexure.

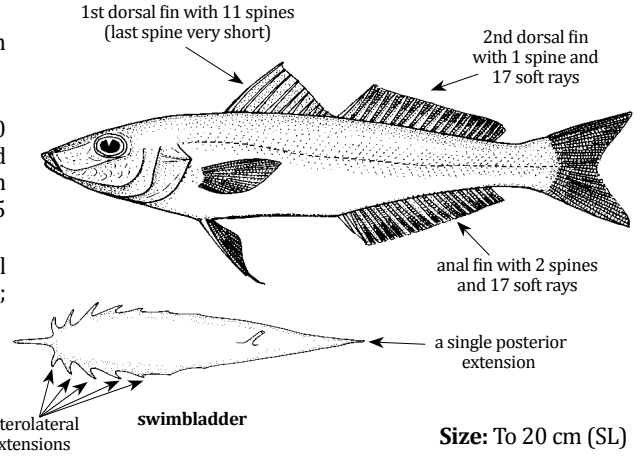



**Size:** To 30 cm (SL)

## *Sillago ingenuua* McKay, 1985

**FAO names:** Bay sillago (En)
Pêche-madame halanda (Fr)

**Local name(s):** Pin Lae Kwe Nga Pulway.
**Habitat:** Inshore coastal waters. Known from depths between 20 and 50 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; 66–70 lateral lie scales; eye diameter 3.9–5.3 in head length; all cheek scales ctenoid; swimbladder with a short median anterior extension and about 5 small, pointed anterolateral projections.
**Colour:** No conspicuous black spot on pectoral base; no wide distinct silvery lateral band; peritoneum black-brown.

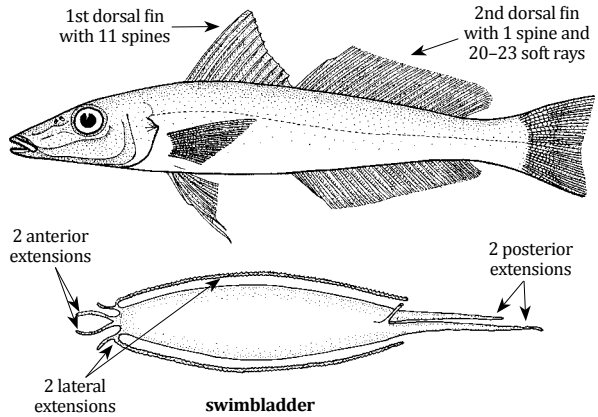



**Size:** To 20 cm (SL)

## *Sillago sihama* (Forsskål, 1775)

**FAO names:** Silver sillago (En)
Pêche-madame argenté (Fr)

**Local name(s):** Ngwe Yaung Nga Palway Thae Htoe.
**Habitat:** Common along beaches, sandbars, mangrove creeks and estuaries; recorded from freshwater. Maximum depth 60 m.
**Fisheries:** Bottom trawls, gillnets, bagnets, cast nets.
**Distinctive Characters:** Body elongate; anal fin with 2 spines and 21–23 soft rays; swimbladder with 2 short anterior extensions, 2 lateral extensions, each sending a blind tubule anterolaterally and then extending backwards along the abdominal wall, 2 posterior tapering extensions projecting into caudal region.
**Colour:** Back light brown; lower ventral flanks and belly whitish or silvery, without dark blotches.



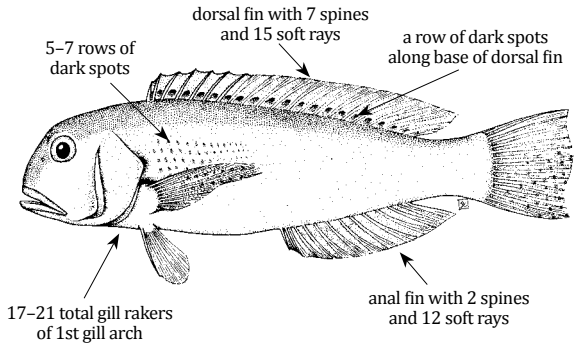

**Size:** To 30 cm, common 15 cm (TL)

# MALACANTHIDAE
Tilefishes

## *Branchiostegus sawakinensis* Amirthalingam, 1969

**FAO names:** Freckled tilefish (En)
Tile taches de son (Fr)

**Local name(s):** A Kyee Kywet Nga.
**Habitat:** Found over muddy bottoms between 45 and 180 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Predorsal ridge present; jaws extending posteriorly to under middle of pupil; dorsal fin low, its height about 7% SL; caudal fin margin double emarginate.
**Colour:** Body with varied reddish and yellow pastel shades and 5–7 rows of dark spots between lateral line and pectoral fin base (spots may be faint); a dark spot on each dorsal fin membrane along base of dorsal fin; lower half of caudal fin grey with yellow spots, and usually with 2 thin yellow stripes in central part of caudal fin.

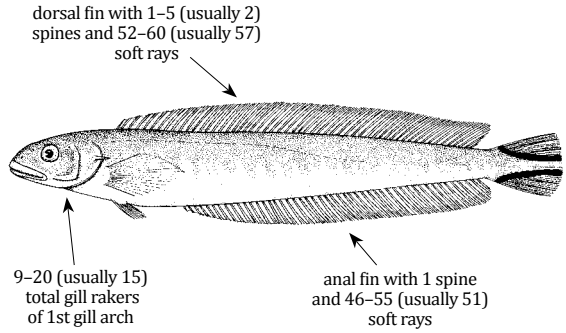



**Size:** To 60 cm, common 25 cm (TL)

## *Malacanthus brevirostris* Guichenot, 1848

**FAO names:** Quakerfish (En)

**Local name(s):** A Hmee Kyar A Kyee Kywet Nga.
**Habitat:** Lives in self-constructed burrows in pairs at depths between 5 and 33 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, its depth 6.3–8.3 in SL; preopercular edge smooth; opercle with a single sharp spine, size about equal to pupil diameter; jaws extending posteriorly to anterior rim of orbit.
**Colour:** Dorsal portions of body light olive green, belly silver-white; dorsal fin faint pink with a narrow yellow upper margin; upper and lower lobes of caudal fin yellow, separated by a central white band and with characteristic 2 dark parallel bands.
**Remarks:** Confirmation needed for Myanmar waters.

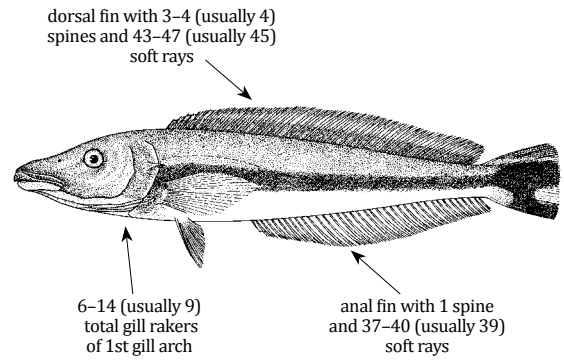



**Size:** To 32 cm, common 26 cm (TL)

## *Malacanthus latovittatus* (Lacepède, 1801)

**FAO names:** Blue tilefish (En)
Matajuel bleu (Fr)

**Local name(s):** A Kyee Kywet Nga Bae Sinn.
**Habitat:** Lives in self-constructed burrows near edges of reefs at depths between 6 and 10 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate, its depth 5.0–6.7 in SL; snout long, its length 2.1–2.7 in head length; jaws extending posteriorly only to below anterior nostril, well in front of eye.
**Colour:** Head blue, iris yellow; body olive-grey to violet-blue above, bluish white on belly; a broad midbody longitudinal band running from operculum to posterior margin of caudal fin, widening on caudal fin on most of middle and lower part.
**Remarks:** Confirmation needed for Myanmar waters.



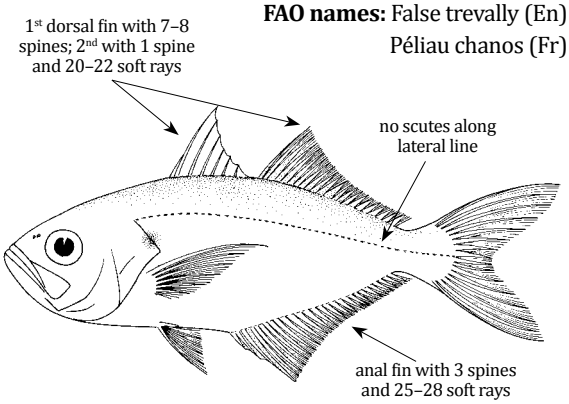

**Size:** To 45 cm, common 35 cm (TL)

## LACTARIIDAE
False trevally

***Lactarius lactarius*** (Bloch & Schneider, 1801)

**FAO names:** False trevally (En)
Péliau chanos (Fr)

**Local name(s):** Nga Tee.
**Habitat:** Coastal deeper waters down to 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Maxilla reaching to posterior 1/3 of eye; mouth large and oblique, with a prominent lower jaw; caudal fin forked.
**Colour:** Silvery grey with blue iridescence above; silvery white below; a dusky spot on upper part of gill cover; fins all pale yellow; dorsal and caudal fins sometimes with dusky margins; the blue iridescence and sometimes the yellow of the fins are lost some hours after death.



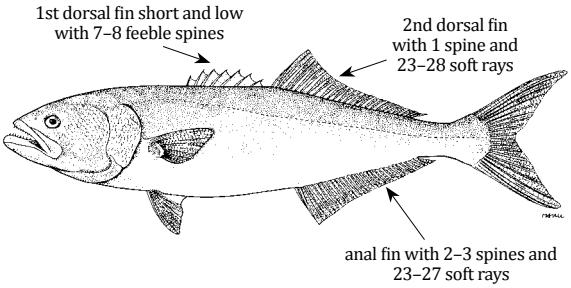

**Size:** To 40 cm, common 20 cm (TL)

## POMATOMIDAE
Bluefish

***Pomatomus saltatrix*** (Linnaeus, 1766)

**FAO names:** Bluefish (En)
Tassergal (Fr)

**Local name(s):** Nga Pyarr Gyi.
**Habitat:** Occurs in oceanic and coastal waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body compressed; mouth large and terminal, lower jaw sometimes slightly projecting; jaw teeth prominent, sharp, compressed, in a single series.
**Colour:** Back greenish blue, sides and belly silvery; dorsal and anal fins pale green tinged with yellow; pectoral fins bluish at base; caudal fin dull greenish tinged with yellow.
**Remarks:** Confirmation needed for Myanmar waters.



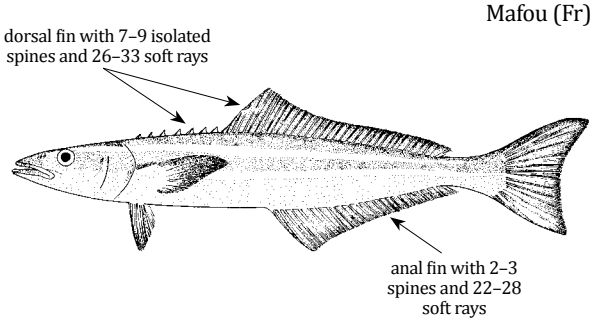

**Size:** To 130 cm, common 60 cm (TL)

## RACHYCENTRIDAE
Cobia

***Rachycentron canadum*** (Linnaeus, 1766)

**FAO names:** Cobia (En)
Mafou (Fr)

**Local name(s):** Pin Lae Nga Yant.
**Habitat:** Pelagic, but also over shallow coral reefs, occasionally in estuaries.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Head broad and depressed; mouth large, terminal, with projecting lower jaw; pectoral fins pointed; caudal fin lunate in adults, upper lobe longer than lower.
**Colour:** Back and sides dark brown, with 2 sharply defined narrow light bands; belly yellowish.



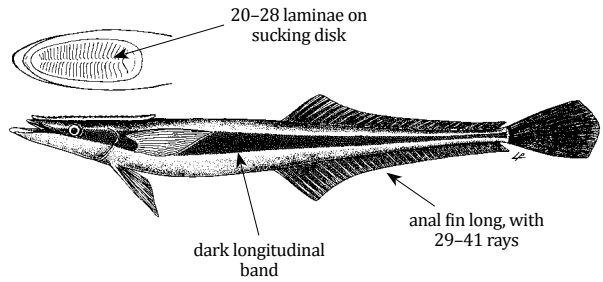

**Size:** To 200 cm, common 80–90 cm (TL)

## ECHENEIDAE
Remoras

***Echeneis naucrates*** Linnaeus, 1758

**FAO names:** Live sharksucker (En)
Rémora commun (Fr)

**Local name(s):** Nga Kutt, Nga Pyin Bae Sin.
**Habitat:** Coastal and oceanic waters.
**Fisheries:** Gillnets, driftnets (captured attached to the body of its host).
**Distinctive Characters:** Body very elongate, its depth contained 8–14 in SL; pectoral fins pointed; caudal fin lanceolate in young, the middle rays elongate and filamentous, almost truncate in adults.
**Colour:** Usually a dark longitudinal band on sides bordered with white; juveniles with upper and lower margins of fins white.

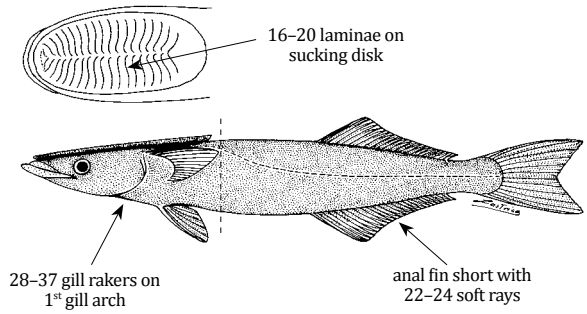



**Size:** To 110 cm (TL)

***Remora remora*** (Linnaeus, 1758)

**FAO names:** Shark sucker (En)
Rémora des requins (Fr)

**Local name(s):** Nga Kutt, Nga Pyin.
**Habitat:** Coastal and oceanic waters.
**Fisheries:** Gillnets, driftnets (captured attached to the body of its host). Usually associated with sharks but also attaches itself to other large fishes, sea turtles and even ships.
**Distinctive Characters:** Body not elongate, its depth contained 5–8 in SL; 21–27 soft dorsal fin rays; pectoral fins rounded; pelvic fins broadly attached to abdomen; posterior border of sucking disc located anterior to tips of adpressed pectoral fins; caudal fin forked in young, becoming emarginate in adults.
**Colour:** Dark brownish grey.



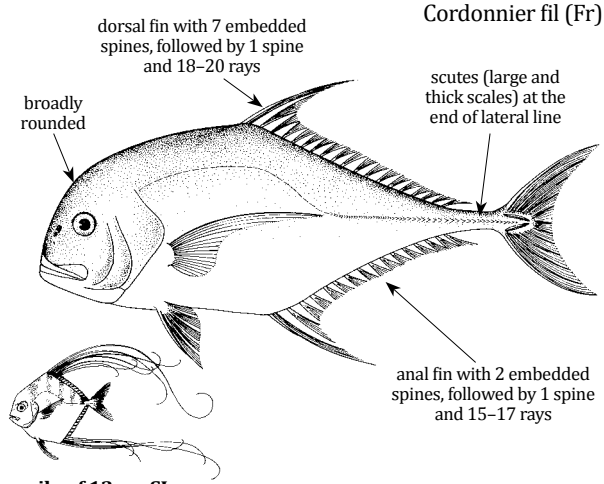

**Size:** To 86.4 cm (TL)

## CARANGIDAE
Jacks, scads and allies

***Alectis ciliaris*** (Bloch, 1787)

**FAO names:** African pompano (En)
Cordonnier fil (Fr)

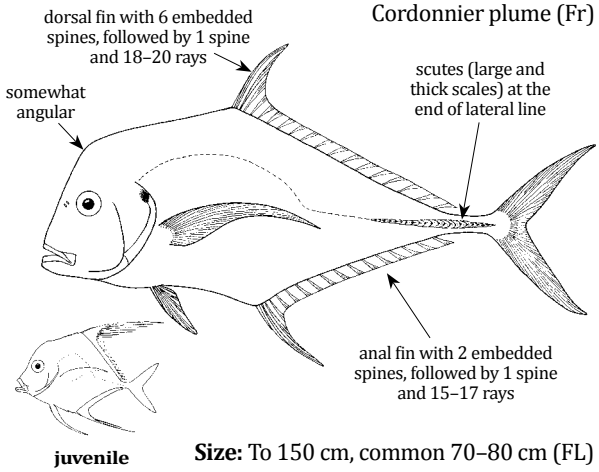
**Local name(s):** Byar San Wike.
**Habitat:** Adults in shallow coastal waters; young are pelagic. Maximum depth 100 m.
**Fisheries:** Gillnets, bottom trawls, line gears.
**Distinctive Characters:** Body deep becoming more elongate with growth, and very compressed; profile of nape and head broadly rounded; suborbital depth relatively narrow, 0.8–1.0 in upper jaw length; pectoral fins falcate, longer than head; pelvic fins elongate in young; 12–17 lower gill rakers; sometimes anal fin rays are filamentous also in adults.
**Colour:** Mostly silvery with a light metallic bluish tinge on upper 1/3 of body and head; juveniles with 5 chevron-shaped dark bars on body, and a black blotch at base of 3rd to 6th soft dorsal fin ray; filaments black distally.




**Size:** To 150 cm; common 70–80 cm (FL)

## *Alectis indica* (Rüppell, 1830)

**FAO names:** Indian threadfish (En)
Cordonnier plume (Fr)



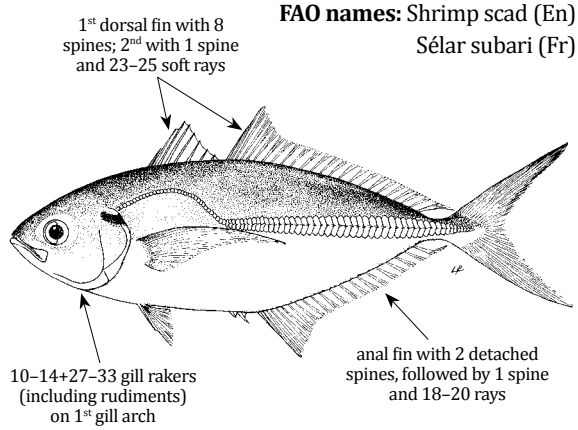

**Local name(s):** Byar San Wike Gaung Lone.
**Habitat:** Adults in coastal waters; juveniles often enter estuaries. Maximum depth more than 60 m.
**Fisheries:** Gillnets, bottom trawls, line gears.
**Distinctive Characters:** Body deep, becoming more elongate with growth, and very compressed; profile of head and nape somewhat angular; suborbital depth relatively broad, 1.7–3.0 in upper jaw length; pectoral fins falcate, longer than head; 21–26 lower gill rakers; sometimes anal fin rays are filamentous also in adults.
**Colour:** Mostly silvery with a dusky green tinge dorsally; juveniles with dark bars on body; dorsal fin pale with leading edges at tips of rays dusky; anal fin pale yellow and caudal fin dusky green.

**Size:** To 150 cm, common 70–80 cm (FL)

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## *Alepes djedaba* (Forsskål, 1775)

**FAO names:** Shrimp scad (En)
Sélar subari (Fr)



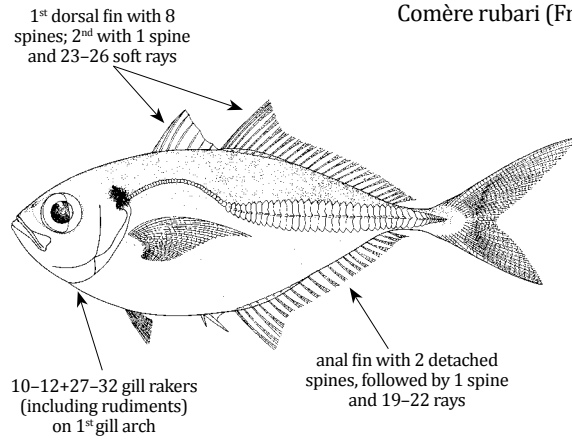

**Local name(s):** Pann Zin Daunt Gyoe Gaung.
**Habitat:** Common in near inshore reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, compressed; snout pointed; adipose eyelid well-developed only on posterior half of eye; straight part of lateral line with 0–2 scales and 39–51 scutes.
**Colour:** Greyish green above, silvery to white below; a distinct black blotch on margin of opercle, bordered above by a smaller white spot; interradial membranes of spinous dorsal fin pale to dark dusky; caudal fin yellowish, except upper lobe often dusky to black distally; other fins pale.

**Size:** To 40 cm, common 20 cm (FL)

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## *Alepes kleini* (Bloch, 1793)

**FAO names:** Razorbelly scad (En)
Comère rubari (Fr)

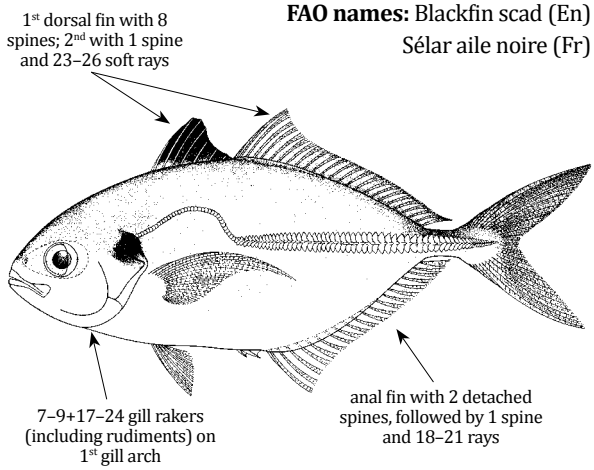



**Local name(s):** Pann Zin Parr Mae Hmat.
**Habitat:** Pelagic species occurring in coastal waters throughout its range.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oval, strongly compressed, with ventral profile distinctly more convex than dorsal profile; snout pointed; upper lobe of caudal fin longer than lower lobe in large adults; adipose eyelid well-developed only on posterior half of eye; straight part of lateral line with 0–2 scales and 35–45 scutes.
**Colour:** Silvery, sometimes with dark bars on upper half of body; a large black spot at upper end of gill opening; caudal fin yellowish, more so on upper lobe which has a narrow dusky edge; tongue dark except tip which is pale.

**Size:** To 16 cm, common 14 cm (FL)

***Alepes melanoptera*** (Swainson, 1839)

**FAO names:** Blackfin scad (En)
Sélar aile noire (Fr)

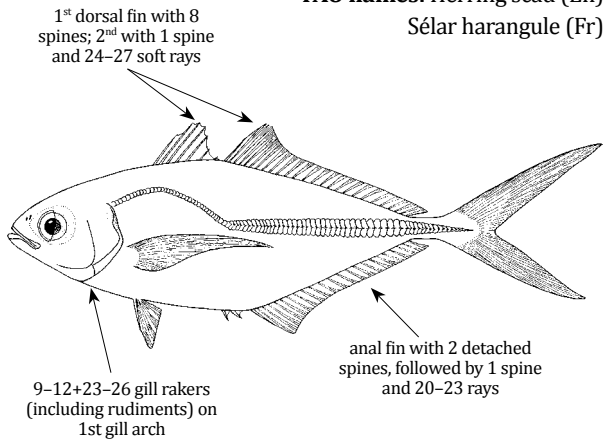



**Local name(s):** Pann Zin Kyaw Taung Me'.
**Habitat:** Pelagic species occurring in coastal waters throughout its range.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, compressed, with dorsal and ventral profiles almost evenly convex; snout bluntly rounded; eyelid well developed only on posterior half of eye; straight part of lateral line with 0–4 scales and 49–69 scutes.
**Colour:** In life, grey-blue above, silvery to white below; a diffuse dusky blotch on margin of opercle; interradial membranes of spinous dorsal fin black; second dorsal fin greyish, lobe pale distally; caudal fin dusky yellow, with darker trailing edges, other fins pale.

**Size:** To 21 cm (FL)

***Alepes vari*** (Cuvier, 1833)

**FAO names:** Herring scad (En)
Sélar harangule (Fr)

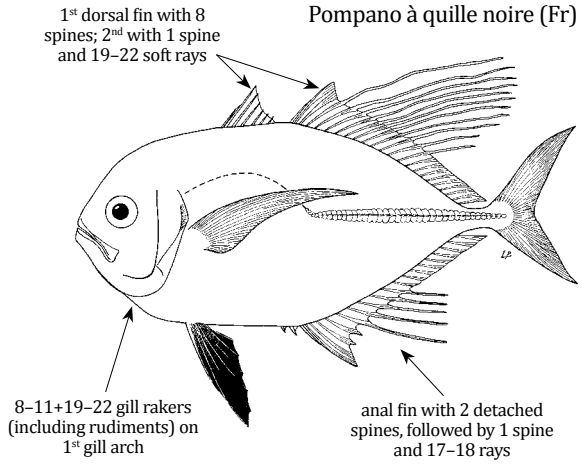



**Local name(s):** Pann Zin.
**Habitat:** Common in shallow coastal waters where it oftens swims near the surface
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, compressed, with dorsal and ventral profiles almost evenly convex; snout pointed; eyelid well-developed only on posterior half of eye; straight part of lateral line with 0–7 scales and 48–69 scutes.
**Colour:** In life, silvery blue above, silvery to white below; a diffuse dusky blotch on margin of opercle; interradial membranes of spinous dorsal fin pale to dusky; second dorsal fin, anal, and caudal fins dusky; mature males develop black pigmentation in spinous dorsal fin, lobes of soft dorsal and anal fins, and in pelvlc fins that is lacking in females.

**Size:** To 46 cm, common 30 cm (FL)

***Atropus atropos*** (Bloch & Schneider, 1801)

**FAO names:** Cleftbelly trevally (En)
Pompano à quille noire (Fr)



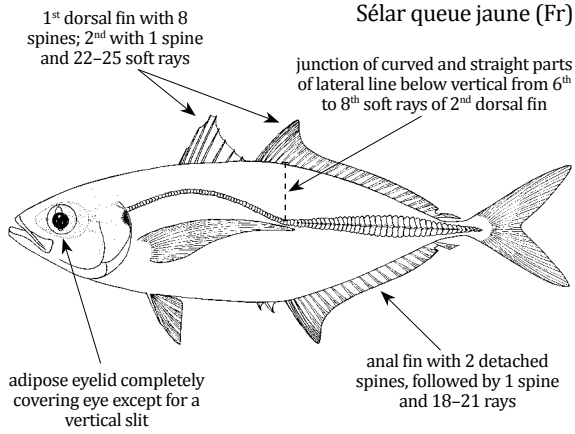

**Local name(s):** Nga Dama Bike Ye Yet Me'.
**Habitat:** Common, in shallow coastal waters where it oftens swims near the surface.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body strongly compressed, almost ovate; nape strongly convex; belly with a deep median groove, accommodating pelvic fins, anus, and anal fin spines; dorsal fin sexually dimorphic, in mature males (only) 6 to 12 of the central rays produced into filaments of greatly varying lengths; pelvic fins conspicuously long, tip of appressed fin extending almost to anal fin origin.
**Colour:** In life, head and body bluish green above, silvery below; membranes of pelvic fins black, with the rays white basally; other fins pale; young with indistinct dark bands and opercular spot, the latter prominent in adults.

**Size:** To 23 cm (FL)

## *Atule mate* (Cuvier, 1833)

**FAO names:** Yellowtail scad (En)
Sélar queue jaune (Fr)

**Local name(s):** Nga Kyi Kann Ahmee War.
**Habitat:** Pelagic species occurring down to 50 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Terminal dorsal and anal fin rays finlet-like in adults, about twice length of adjacent rays and a little more separated but joined by interradial membranes; pectoral fins long and falcate; lateral line gently arched anteriorly, its straight part with 0–10 scales and 36–49 scutes.
**Colour:** Bright olive-green dorsally, yellowish green laterally and whitish ventrally; dorso-laterally, 9 or 10 faint grey bars; a black spot, slightly smaller than eye, on upper margin of opercle and adjacent area of shoulder.

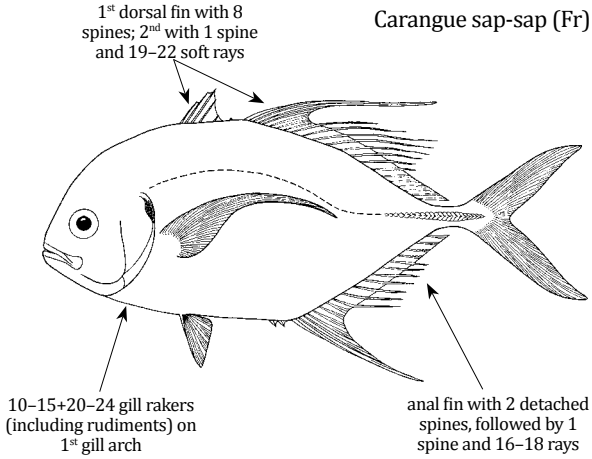



**Size:** To 30 cm, common 26 cm (FL)

## *Carangoides armatus* (Rüppell, 1830)

**FAO names:** Longfin trevally (En)
Carangue sap-sap (Fr)

**Local name(s):** Zar Gyan A Hmyin Shae.
**Habitat:** Adults are found in coastal waters near corals and rocks, also in shallow lagoons; juveniles may enter estuaries.
**Fisheries:** Caught mainly with gillnets
**Distinctive Characters:** Body strongly compressed and deep; head profile very steep in adults but relatively straight from snout to nape; chord of curved part of lateral line longer than straight part; adult males with 3–12 central dorsal filamentous rays.
**Colour:** Bluish grey above, silvery below; blackish blotch on upper margin of opercle; spinous dorsal fin blackish; 2nd dorsal and anal fins pale to dusky, leading edge of lobes dusky to blackish; caudal fin grey with leading and trailing edges black.

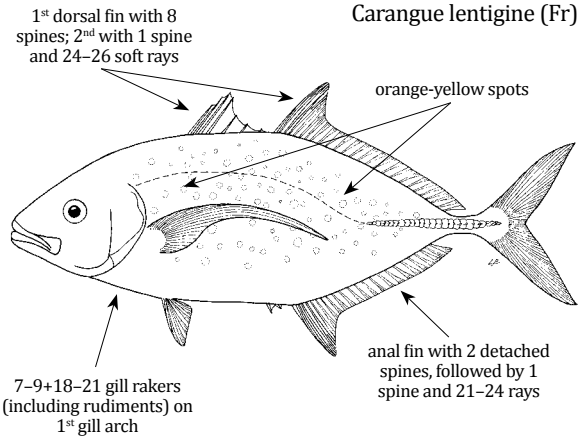



**Size:** To 50 cm (FL)

## *Carangoides bajad* (Forsskål, 1775)

**FAO names:** Orangespotted trevally (En)
Carangue lentigine (Fr)

**Local name(s):** Zar Gyan Lein Maw Pyauk.
**Habitat:** Adults are common along coastal reef slopes or around large coral heads in lagoons
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lobe of 2nd dorsal fin shorter than head length; lateral line anteriorly with moderately regular arch, with junction of curved and straight parts below 11th to 15th soft ray of 2nd dorsal fin; straight part of lateral line with 20–30 scutes and 34–56 total elements (including anterior scales).
**Colour:** Brassy dorsally, shading to silvery white on sides, with numerous conspicuous orange-yellow spots; no dark opercular spot; capable of rapidly changing colour to almost entirely orange.

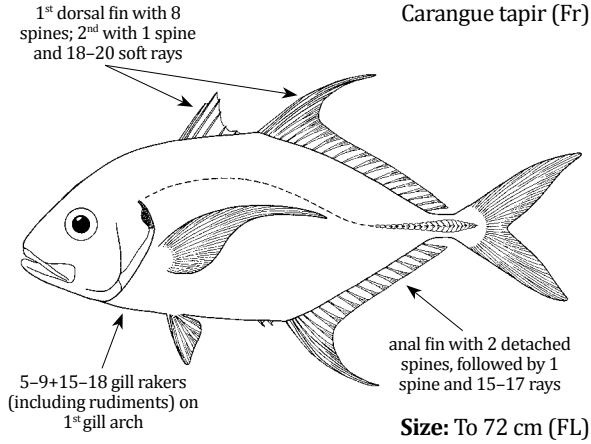



**Size:** To 85 cm (TL)

## *Carangoides chrysophrys* (Cuvier, 1833)

**FAO names:** Longnose trevally (En)
Carangue tapir (Fr)

**Local name(s):** Zar Gyan Hnar Shae.
**Habitat:** Open waters of coastal reefs down to 60 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lobe of 2nd dorsal fin falcate, becoming shorter with age; lateral line anteriorly with moderately regular arch, with junction of curved and straight parts below 12th to 14th soft ray of 2nd dorsal fin; straight part of lateral line with 20 to 37 weak scutes and 32 to 42 total elements (including anterior scales).
**Colour:** Silvery with head and body greenish above; silvery with yellow-green reflections below; a small black blotch on upper edge of opercle; large adults sometimes very dark; head and fins blackish.

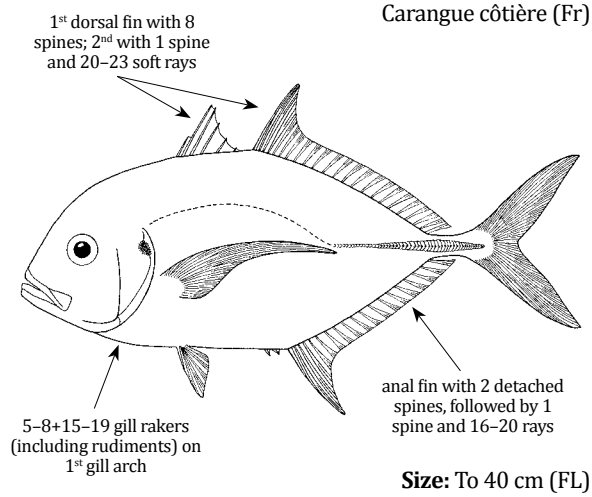



**Size:** To 72 cm (FL)

## *Carangoides coeruleopinnatus* (Rüppell, 1830)

**FAO names:** Coastal trevally (En)
Carangue côtière (Fr)

**Local name(s):** Kan Yoe Tann Byar San Wike.
**Habitat:** Deeper coastal reefs and rarely close to shore. Maximum depth 60 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lobe of 2nd dorsal fin filamentous in young, becoming shorter with age; lateral line anteriorly with moderately regular arch, with junction of curved and straight parts below 12th to 14th soft ray of 2nd dorsal fin; straight part of lateral line with 16 to 20 scutes, and 31 to 50 total elements (including anterior scales).
**Colour:** Bluish green above, silvery grey below; sides with numerous, small yellow spots; small black blotch on upper margin of opercle; 2nd dorsal, anal and caudal fins dusky, the latter sometimes yellowish; pectoral fins pale yellow; pelvic fins hyaline to pale grey.

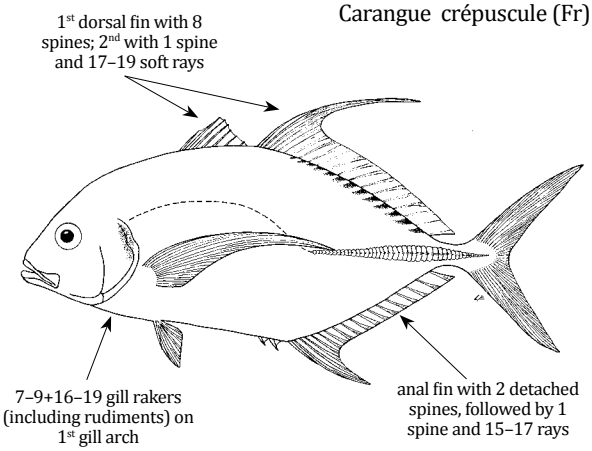



**Size:** To 40 cm (FL)

## *Carangoides dinema* Bleeker, 1851

**FAO names:** Shadow trevally (En)
Carangue crépuscule (Fr)

**Local name(s):** Shadow Zar Gyan.
**Habitat:** Inhabitats coastal waters.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Lateral line anteriorly with a moderate regular arch, with junction of curved and straight parts below vertical from between 10th or 12th soft rays of second dorsal fin; chord of curved part of lateral line slightly longer than straight part of lateral line; straight part of lateral line with 0–6 scales followed by 23–30 scutes.
**Colour:** Bluish green above, silvery white below; small brown blotches (becoming larger posteriorly) on back between bases of 2nd dorsal fin rays; caudal fin with upper lobe yellowish, and with trailing edges and tip of lower lobe pale; pectoral fins hyaline and pelvic fins whitish to dusky.

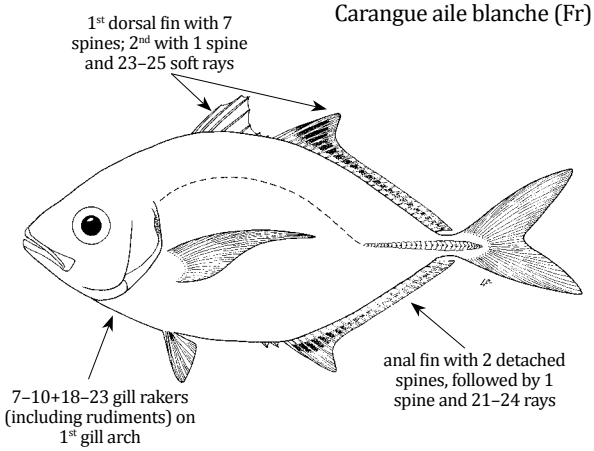



**Size:** To 53 cm (FL)

## *Carangoides equula* (Temminck & Schlegel, 1844)

**FAO names:** Whitefin trevally (En)
Carangue aile blanche (Fr)

**Local name(s):** A Yeik Htwet Zar Gyan.
**Habitat:** Mainly on shelf slope in depths of 100 to 200 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Lateral line anteriorly with a moderate regular arch, with junction of curved and straight parts below vertical from between 12th and 15th soft rays of second dorsal fin; chord of curved part of lateral line longer than straight part of lateral line; straight part of lateral line with 0–6 scales followed by 22–32 scutes.
**Colour:** Head and body bluish grey to green dorsally, silvery white below; juveniles with 5–7 dark bands on sides; second dorsal and anal fins with a submarginal brown to blackish band, white distally; caudal fin dusky yellow; pectoral and pelvic fins pale yellowish to white.

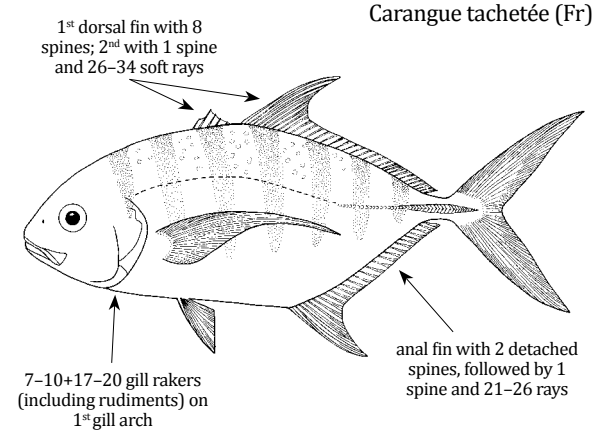



**Size:** To 34.5 cm (FL)

## *Carangoides ferdau* (Forsskål, 1775)

**FAO names:** Blue trevally (En)
Carangue tachetée (Fr)

**Local name(s):** Zar Gyan A Pyar Yaung.
**Habitat:** Coastal waters adjacent to sandy beaches down to 200 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lobe of 2nd dorsal fin falcate, especially in small adults, but usually shorter than head length; snout bluntly rounded; lips of large adults not noticeably fleshy.
**Colour:** Adults typically with 5–6 dusky bands on sides that usually persist in marketed specimens; in life head and body generally silvery, blue-green above, paler below; caudal fin yellow-green with trailing edge and lobe tips dark; pelvic fins hyaline whitish.

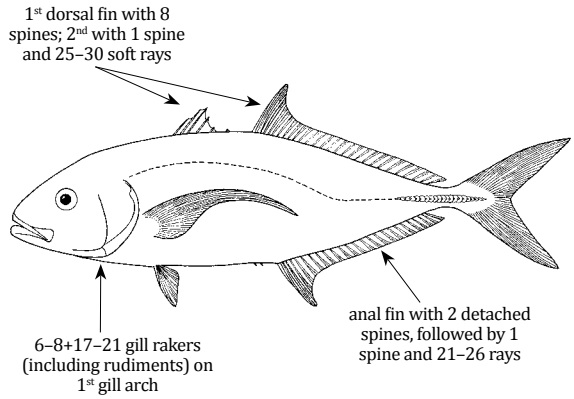



**Size:** To 70 cm (FL)

## *Carangoides fulvoguttatus* (Forsskål, 1775)

**FAO names:** Yellowspotted trevally (En)
Carangue pailletée (Fr)

**Local name(s):** Zar Gyan A War Set.
**Habitat:** Schools along outer reef slopes, rocky coasts and offshore banks.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lateral line anteriorly with a low regular arch, with junction of curved and straight parts below 13th to 16th soft ray of 2nd dorsal fin; straight part of lateral line with 15-21 small scutes; chord of curved part of lateral line longer than straight part.
**Colour:** Adults iridescent blue-green dorsally, shading to silvery on sides, with many small golden or brassy spots mainly above midline; large individuals often with 3 irregular black blotches (sometimes very indistinct or absent) on flanks, the 1st below dorsal fin lobe.

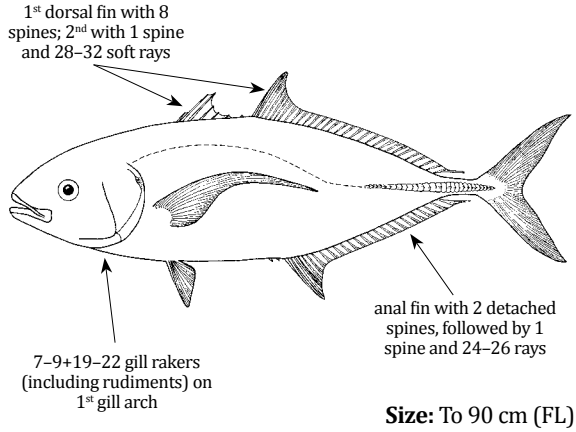



**Size:** To 120 cm (FL)

## *Carangoides gymnostethus* (Cuvier, 1833)

**FAO names:** Bludger (En)
Carangue balo (Fr)

**Local name(s):** Zar Gyan Shwe Kyaw Set.
**Habitat:** Common over deeper offshore reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lateral line anteriorly with a low regular arch, with junction of curved and straight parts below 16th to 20th soft ray of 2nd dorsal fin; straight part of lateral line with 20–31 small scutes; chord of curved part of lateral line longer than straight part.
**Colour:** Adults olive-green above, silvery white below with a few brown or golden spots sometimes present midlaterally; opercular spot dusky and inconspicuous; dorsal, anal and caudal fins pale olive-green to greenish grey; leading edge and distal margin of anal fin white; pelvic and pectoral fins pale green to hyaline.

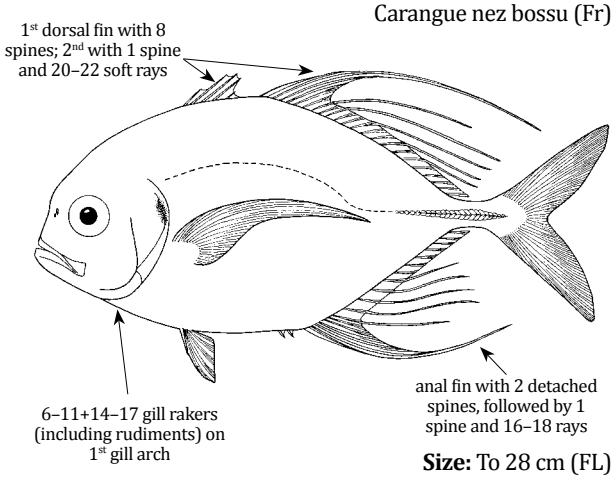



**Size:** To 90 cm (FL)

## *Carangoides hedlandensis* (Whitley, 1934)

**FAO names:** Bumpnose trevally (En)
Carangue nez bossu (Fr)

**Local name(s):** Zar Gyan Hnar To.
**Habitat:** Adults inhabit coastal waters of the continental shelf
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Head profile extremely steep in adults with a distinct "bump" in the interorbital region; chord of curved part of lateral line longer than straight part; adult males with 3–8 central dorsal and anal filamentous rays.
**Colour:** Greenish blue above, silvery grey below; blackish blotch on upper opercular margin; spinous dorsal fin, elongated dorsal rays and edges of caudal fin blackish; interradial of soft anal fin rays often with a white spot basally.

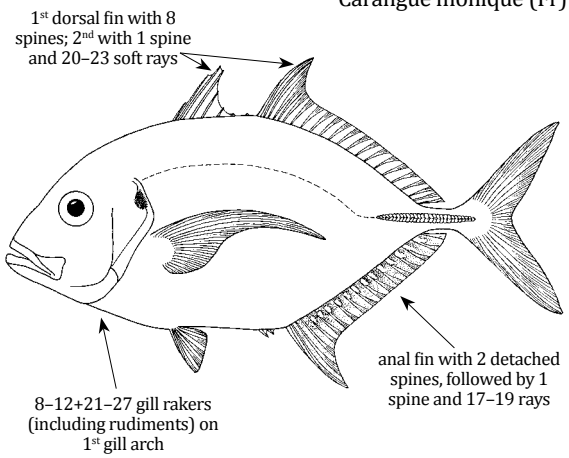



**Size:** To 28 cm (FL)

## *Carangoides malabaricus* (Bloch & Schneider, 1801)

**FAO names:** Malabar trevally (En)
Carangue monique (Fr)

**Local name(s):** Malabar Zar Gyan.
**Habitat:** A benthopelagic species occurring over corals and rocky reefs but also found in shallow sandy bays.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Lateral line anteriorly with a moderate regular arch, with junction of curved and straight parts below 12th to 14th soft ray of 2nd dorsal fin; chord of curved part of lateral line longer than straight part.
**Colour:** Generally silvery with bluish grey above, silvery white below; caudal, soft dorsal and anal fins pale greenish yellow to dusky; interradial of soft anal fin rays often with a white spot basally; tongue greyish brown to brown.

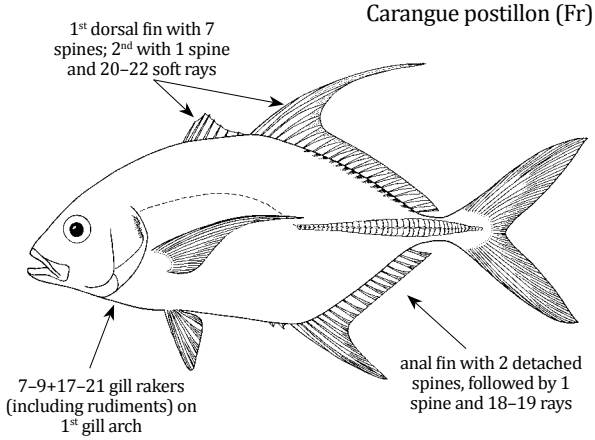



**Size:** To 60 cm, common 20 cm (TL)

## *Carangoides oblongus* (Cuvier, 1833)

**FAO names:** Coachwhip trevally (En)
Carangue postillon (Fr)

**Local name(s):** Ka la Ngu Kyar Put.
**Habitat:** Mainly on shelf slope in depths of 100 to 200 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Lateral line anteriorly with a moderate regular arch, with junction of curved and straight parts below vertical from between eighth or ninth soft rays of second dorsal fin; chord of curved part of lateral line slightly shorter than straight part of lateral line; straight part of lateral line with 0–2 scales followed by 37–45 scutes.
**Colour:** Head and body bluish green above, silvery below, small blue to black blotches on dorsum between bases of second dorsal-fin rays; opercular spot diffuse or absent.

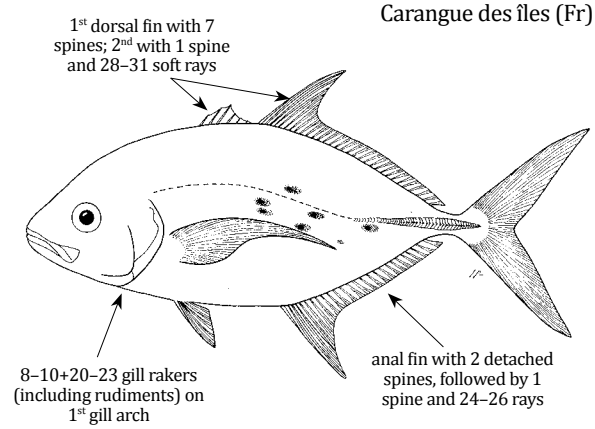



**Size:** To 41 cm (FL)

## *Carangoides orthogrammus* Jordan & Gilbert, 1881

**FAO names:** Island trevally (En)
Carangue des îles (Fr)

**Local name(s):** Zar Gyan Kyun Thar.
**Habitat:** Oceanic islands, in lagoons and seaward reefs to depths greater than 50 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Lateral line anteriorly with a very slight arch with junction of curved and straight parts below second dorsal fin between 15th to19th soft rays; chord of curved part of lateral line slightly longer to about equal straight part of lateral line; straight part of lateral line with 21–34 scales followed by 19–31 small scutes.
**Colour:** Head and body generally silvery, brassy to greenish blue above, paler below; adults with several relatively large, elliptical yellow spots, often with dusky centres, present on sides; dusky bands usually not present on sides.

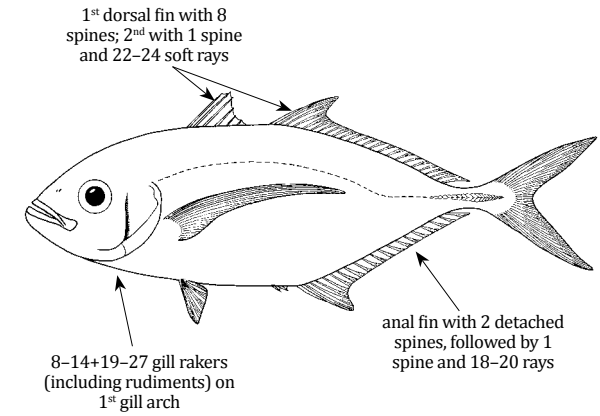



**Size:** To 63 cm (FL)

## *Carangoides plagiotaenia* Bleeker, 1857

**FAO names:** Barcheek trevally (En)
Carangue grimée (Fr)

**Local name(s):** Zar Gyan Ouk Mae Shae.
**Habitat:** Generally along the edges of lagoons and seaward reef slopes.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lower jaw somewhat enlarged and projecting beyond upper jaw; lateral line anteriorly with a relatively low arch, with junction of curved and straight parts below 13th to 15th soft ray of 2nd dorsal fin; straight part of lateral line with 20-26 scales followed by 11-18 relatively small scutes.
**Colour:** Generally silvery, greyish above, paler below; no opercular spot but adults with opercular posterior vertical margin distinctly dark to black; sides sometimes with 6 or 7 dusky oblique bands.

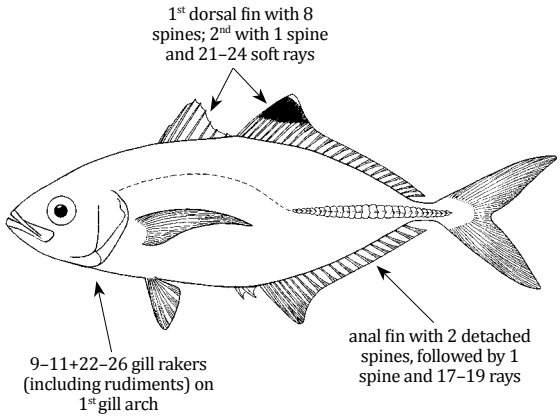



**Size:** To 39 cm (FL)

***Carangoides praeustus*** (Anonymous [Bennett], 1830)

**FAO names:** Brownback trevally (En)
Carangue à dos brun (Fr)

**Local name(s):** Zar Gyan Kyaw Nyo.
**Habitat:** Inhabits coastal waters throughout its range.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Spinous dorsal fin moderately high, longest spine nearly equal height of soft dorsal fin lobe; lateral line anteriorly with a moderate regular arch, with junction of curved and straight parts below 7th to 11th soft ray of 2nd dorsal fin; straight part of lateral line with 4–12 scales followed by 23–34 scutes.
**Colour:** In life, bluish grey above, silvery white below; no dark opercular spot; distal half of second dorsal fin lobe abruptly black, sometimes with a white margin, widest anteriorly; remainder of fin pale dusky; caudal fin pale yellowish, other fins hyaline to whitish.

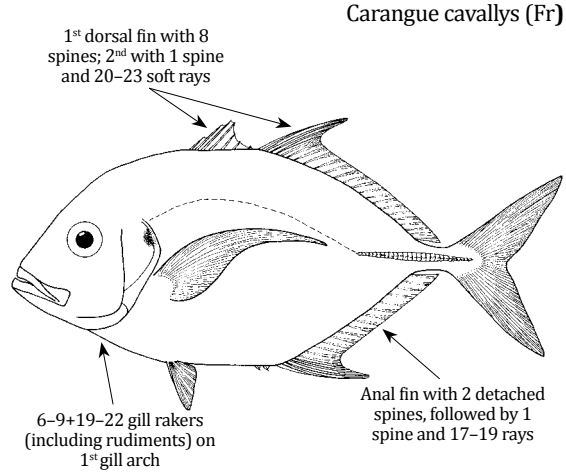



**Size:** To 20 cm (FL)

***Carangoides talamparoides*** Bleeker, 1852

**FAO names:** Imposter trevally (En)
Carangue cavallys (Fr)

**Local name(s):** Zar Gyan Gyi.
**Habitat:** Inhabits coastal waters throughout its range.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lateral line anteriorly with a moderate regular arch, with junction of curved and straight parts below 12th to 14th soft ray of 2nd dorsal fin; straight part of lateral line with 20 to 32 weak scutes.
**Colour:** In life, generally silvery, bluish grey above, silvery white below; opercle with a small black spot on upper margin; tongue white to pale grey; soft dorsal and anal fins dusky; caudal fin with central rays dusky yellow with black distal margin.

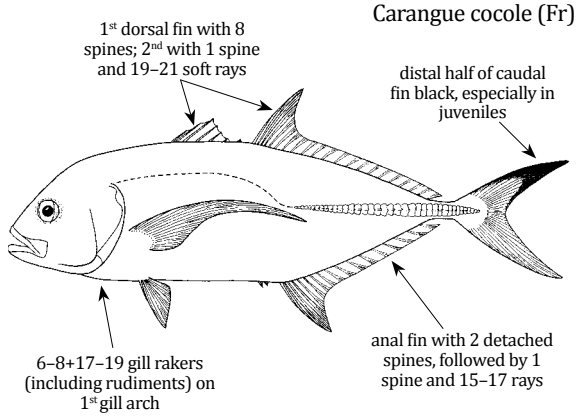



**Size:** To 28 cm (FL)

***Caranx heberi*** (Bennett, 1830)

**FAO names:** Blacktip trevally (En)
Carangue cocole (Fr)

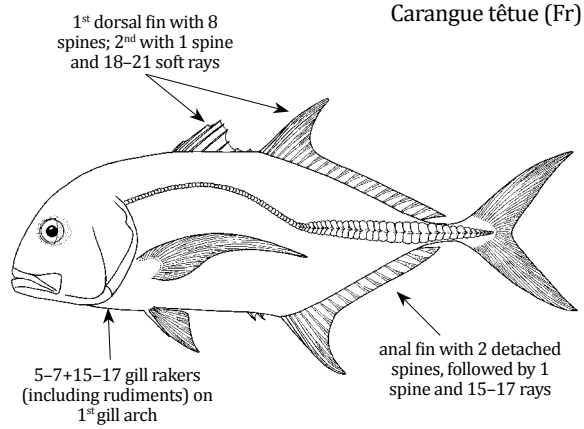
**Local name(s):** Zar Gyan A Hmee Hteik Me'.
**Habitat:** Prefers clean, open coastal waters; adults are particularly common in small aggregations over rocky reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Adipose eyelid moderately developed, narrow anteriorly, posterior adipose eyelid extends onto eye to rear border of pupil; straight part of lateral line with 0–4 anterior scales followed by 30–40 strong scutes.
**Colour:** Dark bronze to yellow-green above, silvery bronze to yellowish below; identified by its black-tipped caudal fin.




**Size:** To 85 cm (FL)

***Caranx ignobilis*** (Forsskål, 1775)

**FAO names:** Giant trevally (En)
Carangue têtue (Fr)



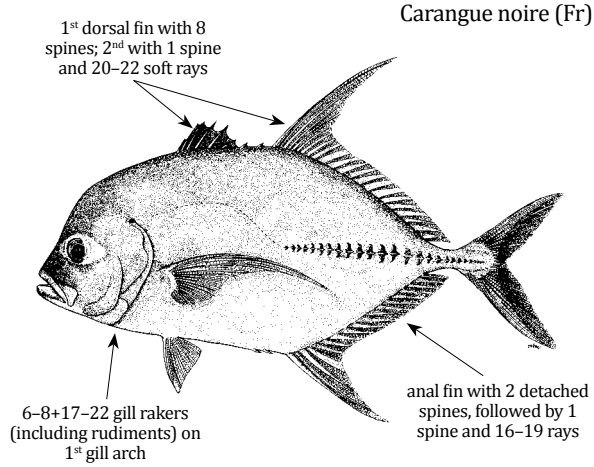

**Local name(s):** Mahar Zar Gyan.
**Habitat:** Pelagic over sand and rock; adults occur singly and inhabit clear lagoon and seaward reefs
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Adipose eyelid moderately developed, narrow anteriorly; posterior adipose eyelid extends onto eye to rear border of pupil; straight part of lateral line with 0–4 anterior scales followed by 30–40 strong scutes.
**Colour:** Adults with body silvery grey to black above, usually paler below; fins uniformly pigmented grey to black, except for leading edges and tips of dorsal and anal fin lobes which are paler; mature males usually darker than females, sometimes head and fins completely black.

**Size:** To 170 cm, common 100 cm (FL)

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***Caranx lugubris*** Poey, 1860

**FAO names:** Black jack (En)
Carangue noire (Fr)



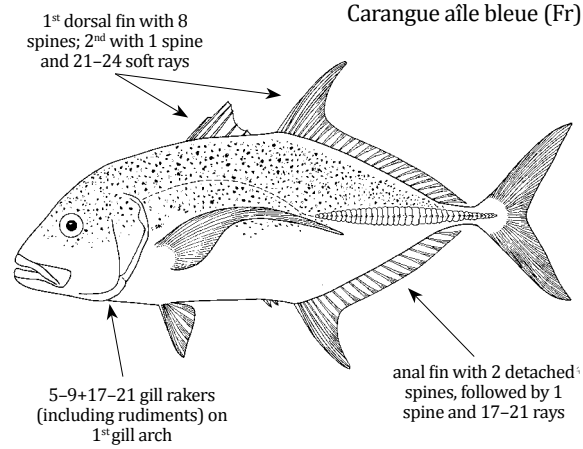

**Local name(s):** Zar Gyan A Mae Yaung.
**Habitat:** Pelagic over sand and rock; adults occur singly and inhabit clear lagoon and seaward reefs
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Dorsal fin lobe contained 2.3–5.3 in FL in specimens larger than 15 cm FL; profile of head relatively steep and angular; adipose eyelid moderately developed, weak anteriorly, posterior eyelid extends onto eye to rear half of pupil; straight part of lateral line with 26–32 strong scutes.
**Colour:** In life, head, body, and fins essentially uniform grey to brown, median fins and lateral line scutes usually dark brown to black; upper end of opercle frequently with a dark spot, much smaller than pupil diameter.

**Size:** To 100 cm, common 70 cm (TL)

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***Caranx melampygus*** Cuvier, 1833

**FAO names:** Bluefin trevally (En)
Carangue aîle bleue (Fr)



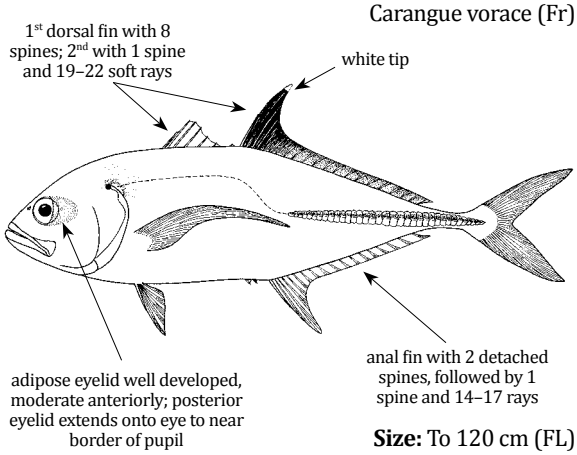

**Local name(s):** Nga Kyee Kann Su Taung Pyar.
**Habitat:** Associated to reef habitats, lagoons and seaward reefs. Maximum depth 190 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Eyelid moderately developed, weak anteriorly, posterior eyelid, extends onto eye to rear border of pupil in large adults; straight part of lateral line with 27–42 strong scutes.
**Colour:** Adults with head and dorsal half of body brassy, suffused with blue, and covered with small blue-black spots; ventrally, body generally silvery white; 2nd dorsal, anal and caudal fins electric blue; pectoral fins mostly pale yellow; juveniles and young adults head and body silvery grey and fins pale to dusky, except for yellow pectoral fins.

**Size:** To 100 cm (FL)

## *Caranx sexfasciatus* Quoy & Gaimard, 1825

**FAO names:** Bigeye trevally (En)
Carangue vorace (Fr)

**Local name(s):** Zar Gyan Myet Pyuu.
**Habitat:** Inhabit coastal and oceanic waters associated with reefs; often seen in large daytime schools; juveniles may be encountered in estuaries.
**Fisheries:** Caught mainly with gillnets.
**Distinctive characters:** Dorsal profile moderately convex anteriorly; 6–8+15–19 gill rakers (including rudiments) on 1st gill arch; straight part of lateral line with 27–36 strong scutes.
**Colour:** Adults with head and body silvery olive to iridescent blue-green above, silvery olive whitish below; small blackish spot, much smaller than pupil diameter, at upper margin of opercle; 2nd dorsal fin olive to blackish; caudal fin yellowish to black; lateral line scutes dark to black.

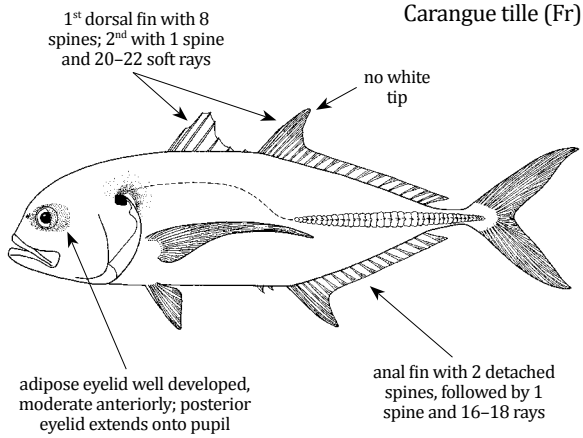



**Size:** To 120 cm (FL)

## *Caranx tille* Cuvier, 1833

**FAO names:** Tille trevally (En)
Carangue tille (Fr)

**Local name(s):** Zar Gyan Lone Shae.
**Habitat:** A coastal species with a preference for inshore neritic waters, mainly around rocky and coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive characters:** Dorsal profile strongly convex anteriorly; 6–8+15–17 gill rakers (including rudiments) on 1st gill arch; straight part of lateral line with 33–42 strong scutes.
**Colour:** Adults with head and body dark olive green to bluish grey above, shading to silvery white below; blackish spot, at least 1/2 diameter of pupil, at upper margin of opercle; 2nd dorsal fin olive-grey to blackish; anal and caudal fins yellow-olive to blackish; lateral-line scutes grey, except dark in caudal peduncle region.

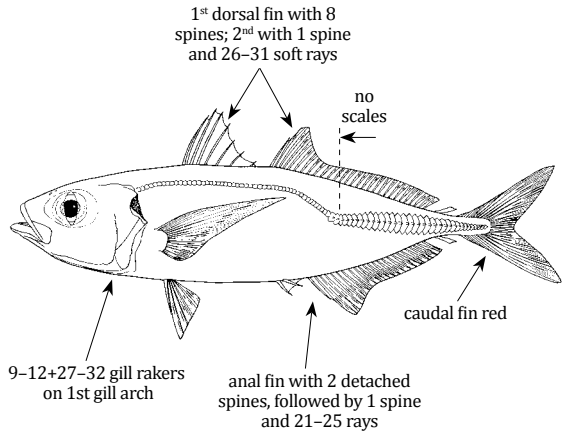



**Size:** To 120 cm (FL)

## *Decapterus akaadsi* Abe, 1958

**FAO names:** Red scad (En)

**Local name(s):** Pan Zin A Ni.
**Habitat:** A deep water schooling species.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Posterior margin of upper jaw slightly concave or truncate; body depth 3.6–4.2 in SL; pectoral fins long, 3.1–4.1 in SL, tip of appressed fins extending beyond a vertical line through 2nd dorsal fin origin; opercular membrane without serrations; tip of upper jaw not hooked; curved part of lateral line with 43–53 cycloid scales; straight part of lateral line with no scales and 26–29 relatively large scutes.
**Colour:** In life pale bluish black above, silvery white below; snout and upper jaw reddish; a black blotch smaller than pupil in diameter on upper edge of opercle; margins of both dorsal fins, caudal fin, pectoral fins, and dorsal finlet red; anal fin, pelvic fins, and ventral finlet white.

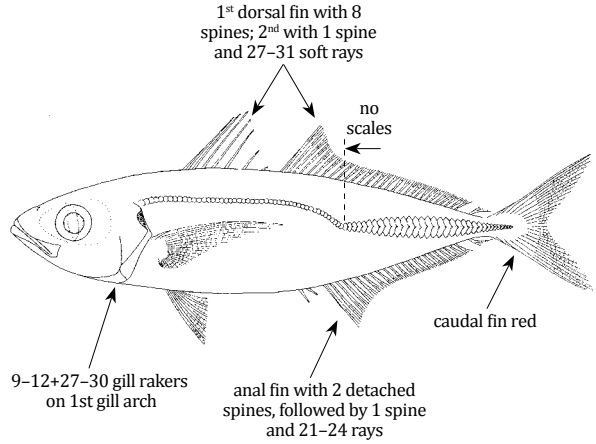



**Size:** To 30 cm (SL)

## *Decapterus kurroides* Bleeker, 1855

**FAO names:** Redtail scad (En)

**Local name(s):** Pan Zin Hmee Ni.
**Habitat:** A deep water schooling species.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Posterior margin of upper jaw slightly concave; body depth 3.8–4.3 in SL; pectoral fins long, 3.0–4.1 in SL, tip of appressed fins extending beyond a vertical line through 2nd dorsal fin origin; opercular membrane without serrations; tip of upper jaw not hooked; curved part of lateral line with 45–51 cycloid scales; straight part of lateral line with no scales and 30–32 relatively large scutes.
**Colour:** Similar to other members of the red-fin *Decapterus* group (see colour descriptions of *D. akaadsi and D. smithvanizi*).
**Remarks:** Reported by Rajan *et al*., 2013 for the Andaman and Nicobar Islands. Confirmation needed for Myanmar waters.

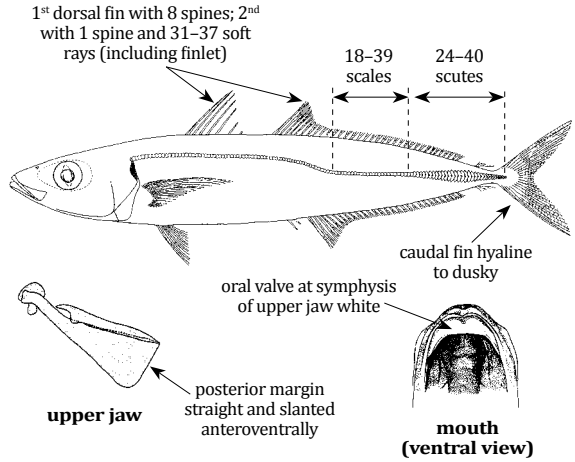



**Size:** To 41cm (FL)

## *Decapterus macarellus* (Cuvier, 1833)

**FAO names:** Mackerel scad (En)
Comète maquereau (Fr)

**Local name(s):** Nga Kun Shut Pann Zin.
**Habitat:** A schooling species occurring from 40 m to 200 m.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Body elongate, nearly round in cross-section; adipose eyelid completely covering eye except for a vertical slit centred on pupil; terminal dorsal and anal soft rays each consisting of a detached finlet (above characters true of all *Decapterus*); posterior margin of upper jaw noticeably slanted anteroventrally; pectoral fins short, tip of appressed fins falling considerably short of a vertical line from 2nd dorsal fin origin; straight part of lateral line with 18–39 scales and 24–40 scutes.
**Colour:** Metallic blue above, silvery below; small black blotch on margin of opercle near upper edge; dorsal fin lobe sometimes dark distally; other fins mostly pale.

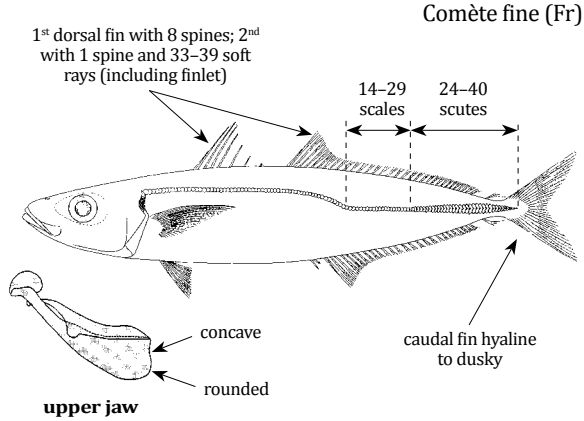



**Size:** To 30 cm (FL)

## *Decapterus macrosoma* Bleeker, 1851

**FAO names:** Shortfin scad (En)
Comète fine (Fr)

**Local name(s):** Pann Zin Ye Yet To.
**Habitat:** A schooling species occurring from 30 m to 170 m.
**Fisheries:** Purse seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior margin of upper jaw concave above, rounded and produced below; pectoral fins short, tip of appressed fins falling considerably short of a vertical line from 2nd dorsal fin origin; straight part of lateral line with 14–29 scales and 24–40 scutes; oral valve (membrane) at symphysis of upper jaw dusky or transparent.
**Colour:** Metallic blue above, silvery below; small black blotch on margin of opercle near upper edge; dorsal fin lobe sometimes dark distally; other fins mostly pale.

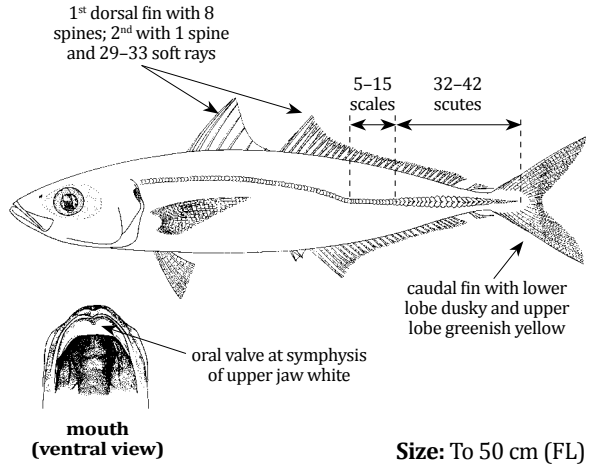



**Size:** To 30 cm (FL), common 20 cm (TL)

***Decapterus muroadsi*** (Temminck & Schlegel, 1844)

**FAO names:** Amberstripe scad (En)

**Local name(s):** Pan Zin Pa Yin Yaung Zin.
**Habitat:** A schooling species occurring from 30 m to 170 m.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior margin of upper jaw straight above, not noticeably slanted anteroventrally; pectoral fins short, tip of appressed fins falling usully short of a vertical line from 2nd dorsal fin origin; straight part of lateral line with 5–15 scales and 32–42 scutes.
**Colour:** Bluish green above, silvery below; small black blotch on margin of opercle near upper edge; amber stripe often present on sides; dorsal fin lobe usually dark distally; other fins mostly pale.
**Remarks:** Reported by Rajan *et al*. (2011) for the Andaman and Nicobar Islands. Possibly occurring also in Myanmar.

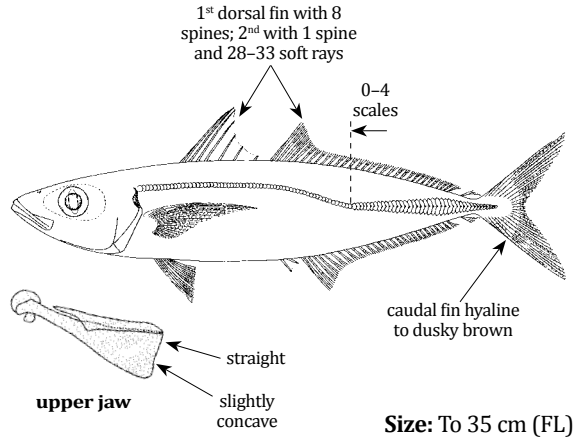



**Size:** To 50 cm (FL)

***Decapterus russelli*** (Rüppell, 1830)

**FAO names:** Indian scad (En)
Comète indienne (Fr)

**Local name(s):** India Pann Zin.
**Habitat:** Coastal waters and on open banks in deeper waters down to 100 m.
**Fisheries:** Seines, gillnets, bottom trawls.
**Distinctive Characters:** Posterior end of upper jaw straight above, slightly concave and not noticeably slanted anteroventrally; pectoral fins short, 1.0–1.3 in head length, tip of appressed fins falling short of to slightly beyond a vertical line from 2nd dorsal fin origin; 10–14+30–39 gill rakers on 1st gill arch; straight part of lateral line with 0–4 scales and 30–40 relatively large scutes.
**Colour:** Bluish green above, silvery below; small black blotch or margin of opercle near upper edge; 2nd dorsal fin hyaline basally; other fins mostly hyaline (pelvic fins of adult males slightly dark).

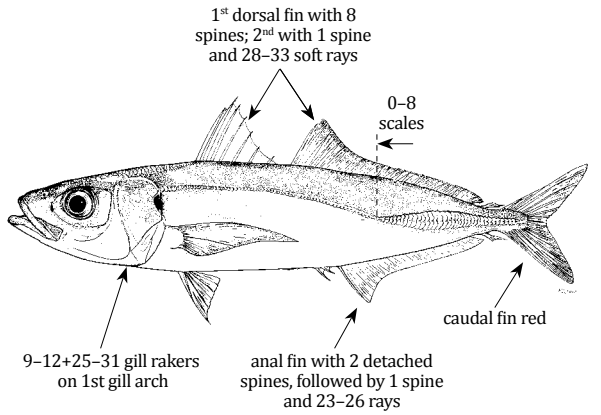



**Size:** To 35 cm (FL)

***Decapterus smithvanizi*** Kimura, Katahira & Kuriiwa, 2013

**FAO names:** Slender red scad (En)

**Local name(s):** Pann Zin Lone Thwae.
**Habitat:** A deep water schooling species.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Posterior margin of upper jaw straight or slightly concave; body depth 4.4–5.2 in SL; pectoral fins long, 3.3–3.9 in SL, tip of appressed fins usually extending beyond a vertical line through 2nd dorsal fin origin; opercular membrane without serrations; tip of upper jaw not hooked; curved part of lateral line with 54–62 cycloid scales; straight part of lateral line with 0–8 scales and 28–33 relatively large scutes.
**Colour:** Bluish pale black above, silvery white below; small black blotch on margin of opercle near upper edge; margins of both dorsal and pectoral fins, and dorsal finlet red; anal, pelvic fins, and ventral finlet pale white.

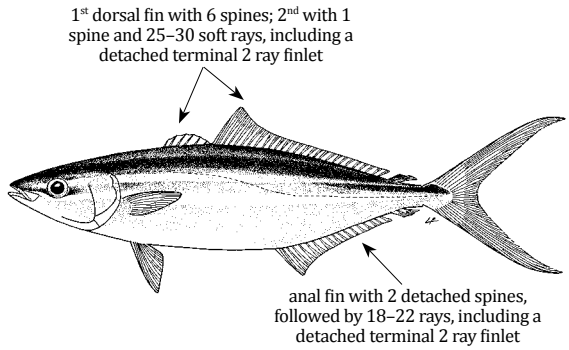



**Size:** To 25.5 cm (SL)

***Elagatis bipinnulata*** (Quoy & Gaimard, 1825)

**FAO names:** Rainbow runner (En)
Comète saumon (Fr)

**Local name(s):** Nga Thet Tant.
**Habitat:** A pelagic species usually found at or near the surface, sometimes far offshore.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Upper jaw ending distinctly before eye; pectoral fins short, about 2 times in head length and about as long as pelvic fins; caudal fin deeply forked; lateral line with a slight anterior arch; no scutes; caudal peduncle grooves present.
**Colour:** Dark olive-blue or green above and white below; 2 narrow light blue or bluish white stripes along sides, with a broader olive or 1 yellowish stripe between them; fins dark white on olive-yellow tinge.



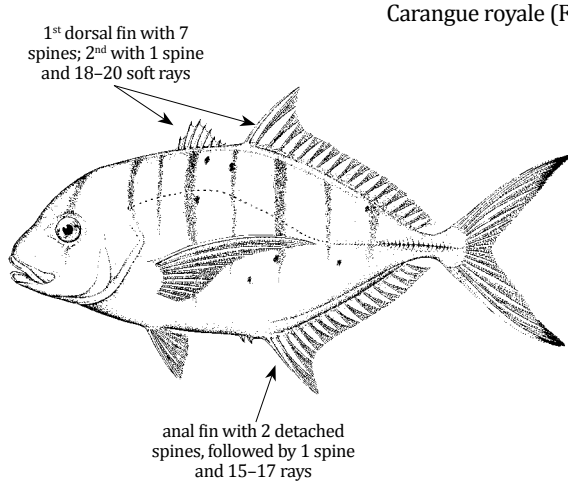

**Size:** To 150 cm, common 80 cm (FL)

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***Gnathanodon speciosus*** (Forsskål, 1775)

**FAO names:** Golden trevally (En)
Carangue royale (Fr)

**Local name(s):** Ka la Ngu Shwe Zinn Kyar.
**Habitat:** Inshore, including rocky reefs, deep lagoons and seaward reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lip noticeably papillose and upper jaw strongly protractile; lobe of 2nd dorsal fin shorter.
**Colour:** Juveniles and young adults silvery to yellow with 7–11 black bands, usually alternating broad and narrow, the 1st band oblique through eye; upper margin of opercle black; all fins yellow; tips of caudal fin lobes black; bands fade in large adults and are replaced by a few patches or spots on sides; dark opercular spot also fades with age and body becomes yellow-green dorsally, pale yellow below.



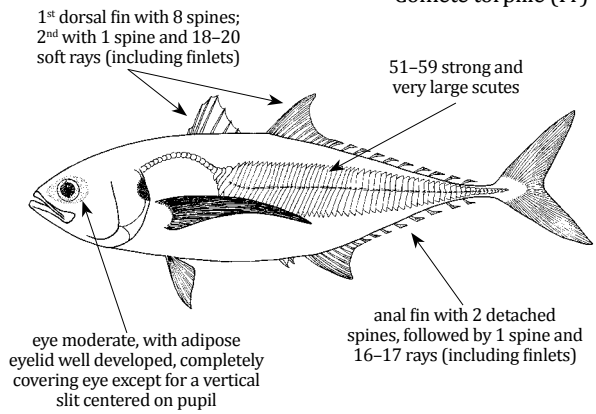

**Size:** To 120 cm (FL)

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***Megalaspis cordyla*** (Linnaeus, 1758)

**FAO names:** Torpedo scad (En)
Comète torpille (Fr)

**Local name(s):** Pyi Taw Thar, Da Ma Naing.
**Habitat:** A pelagic coastal schooling species, usually near the surface; intolerant of turbid waters.
**Fisheries:** Gillnets, seines, bottom trawls.
**Distinctive Characters:** Caudal peduncle strongly compressed with a marked medial keel; posterior part of dorsal and anal fins with 8–10 rays consisting of detached finlets; spiny dorsal fin moderately high, longest spine height about equal to length of soft dorsal fin lobe.
**Colour:** Head and body bluish grey to green dorsally, sides and belly silvery; large black opercular spot; dorsal and anal fins with distal half dusky; caudal fin dark, especially leading and trailing edges of fins.

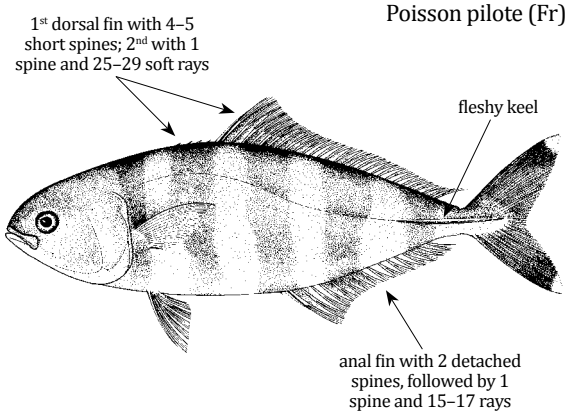



**Size:** To 80 cm, common 40 cm (FL)

***Naucrates ductor*** (Linnaeus, 1758)

**FAO names:** Pilotfish (En)
Poisson pilote (Fr)

**Local name(s):** Hin Cho Khat.
**Habitat:** Pelagic in oceanic waters, often associated with sharks, rays, other large fishes and turtles.
**Fisheries:** Gillnets.
**Distinctive Characters:** No scutes on caudal peduncle; a well developed lateral line; fleshy keel on each side of dorsal and ventral peduncle grooves.
**Colour:** Head dark; 5–6 dark broad bars on body and a similar bar at end of caudal peduncle; 3–6 bars extending through soft dorsal and anal fin membranes, and the bars persistent at all sizes; rest of body bluish, or light or dusky; white tips prominent on upper and lower caudal fin lobes and smaller white tips on 2nd dorsal and anal fin lobes; most fins dusky to dark.



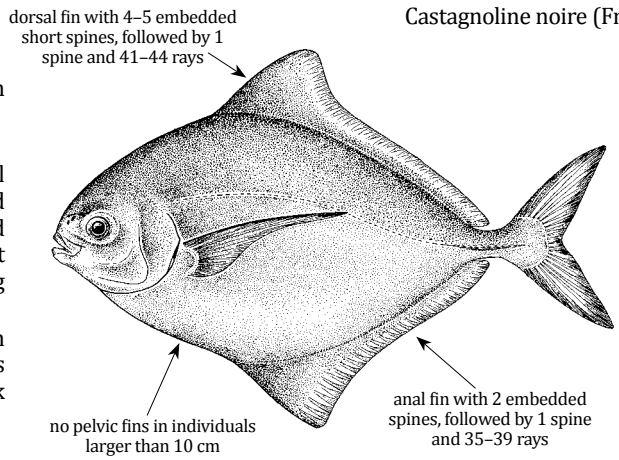

**Size:** To 70 cm, common 38 cm (FL)

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***Parastromateus niger*** (Bloch, 1795)

**FAO names:** Black pomfret (En)
Castagnoline noire (Fr)

**Local name(s):** Nga Moke Mae.
**Habitat:** Pelagic on the continental shelf from 15 m to 40 m, generally over muddy bottoms.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Mouth terminal; pectoral fins long and falcate; lateral line very weakly arched anteriorly with junction of straight and curved parts below posterior 1/3 of dorsal fin; straight part of lateral line with 8–19 weak scutes, forming a slight keel on caudal peduncle.
**Colour:** Adults uniformly silvery grey to bluish brown (yellowish brown when deciduous scales are missing); fins with dark edges; young with dark vertical bars and long black jugular pelvic fins.



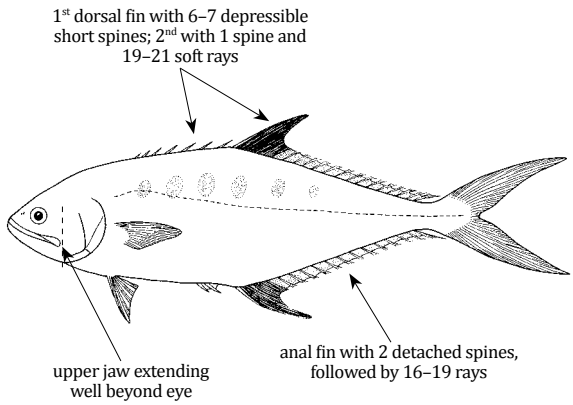

**Size:** To 75 cm, common 20 cm (FL)

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***Scomberoides commersonnianus*** Lacepède, 1801

**FAO names:** Talang queenfish (En)
Sauteur talang (Fr)

**Local name(s):** Nga Lett War Chauk Kywet.
**Habitat:** Reefs and offshore islands, usually in small groups.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Body strongly compressed; no scutes; no caudal peduncle grooves; 8–15 (excluding rudiments) gill rakers on 1st gill arch.
**Colour:** Head and body dusky green to bluish dorsally, grey to silvery below; large individuals often golden especially ventrally; sides of adults with 5–8 large, plumbeous blotches above or touching lateral line, 1st two may intersect lateral line; dorsal and anal fins dusky to dark.

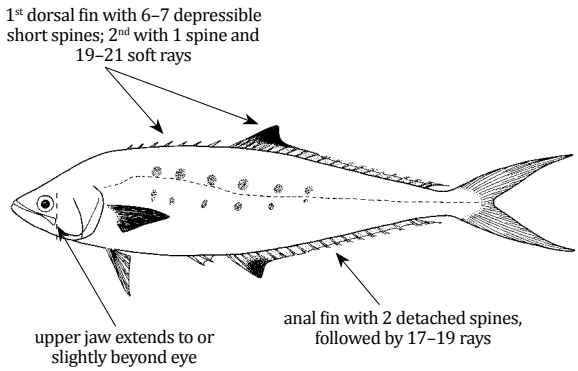



**Size:** To 120 cm (FL)

***Scomberoides lysan*** (Forsskål, 1775)

**FAO names:** Doublespotted queenfish (En)
Sauteur sabre (Fr)

**Local name(s):** Nga Lett War Set Hnit Kywet.
**Habitat:** Shallow lagoons to offshore areas, from 2 m to 100 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body strongly compressed; no scutes; no caudal peduncle grooves; 21–27 (excluding rudiments) gill rakers on 1st gill arch; scales on midbody below lateral line partially embedded and sharply lanceolate.
**Colour:** Adults with a double series of 6–8 dusky roundish blotches above and below lateral line; distal half of dorsal fin lobe heavily pigmented; anal fin lobe white or pale yellow; often interradial membrane of several anterior rays, black, especially in large individuals.



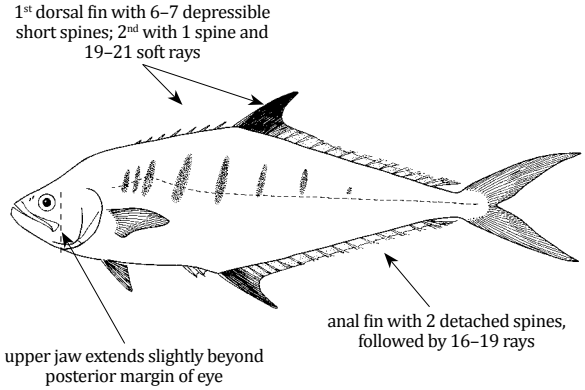

**Size:** To 110 cm (FL)

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***Scomberoides tala*** (Cuvier, 1832)

**FAO names:** Barred queenfish (En)
Sauteur carsia (Fr)

**Local name(s):** Nga Lett War Shit Sin Kywet.
**Habitat:** Usually in small schools near the surface in coastal waters.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body strongly compressed; upper jaw extends slightly beyond margin of eye in adults; no scutes; no caudal peduncle grooves; 11–15 (excluding rudiments) gill rakers on 1st gill arch; scales on midbody below lateral line partially embedded and bluntly lanceolate.
**Colour:** Greenish grey dorsally, grey to silvery below; 4–8 oval or vertically elongate plumbeous blotches, most of which intersect lateral line; dorsal and anal fins dusky to dark and uniformly pigmented; pectoral fins yellow and pelvic fins white in adults.



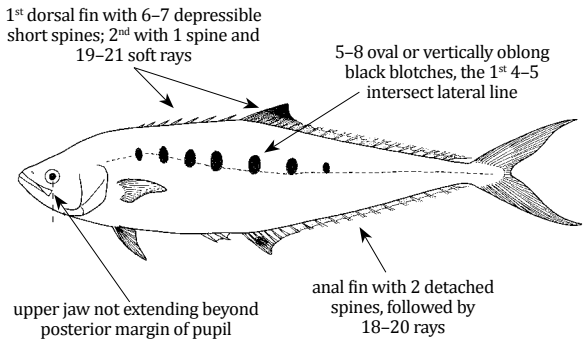

**Size:** To 60 cm (FL)

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***Scomberoides tol*** (Cuvier, 1832)

**FAO names:** Needlescaled queenfish (En)
Sauteur leurre (Fr)

**Local name(s):** Nga Lett War Khun Hnit Kywet.
**Habitat:** Usually in small schools near the surface in coastal waters.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body strongly compressed; upper jaw not extending beyond posterior margin of pupil in adults; no scutes; no caudal peduncle grooves; 21–26 (excluding rudiments) total gill rakers on 1st gill arch; scales on midbody below lateral line partially embedded slender and needle-like.
**Colour:** Body bluish dorsally, white ventrally; blotches faint or absent in juveniles; distal half of dorsal fin lobe abruptly and heavily pigmented; anal fin lobe usually immaculate, white in life.

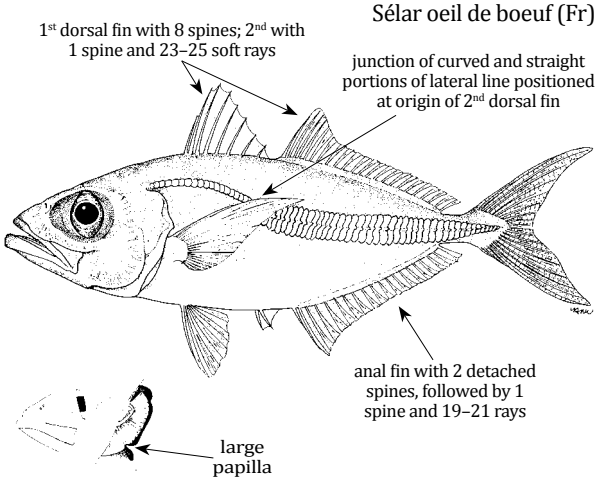



**Size:** To 60 cm (FL)

## *Selar boops* (Cuvier, 1833)

**FAO names:** Oxeye scad (En)
Sélar oeil de boeuf (Fr)

**Local name(s):** Nga Kye Kann Myet Pyuu Gyi.
**Habitat:** Continental shelf waters, common between 20 and 100 m
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Like other species of *Selar*, eye very large, smaller than snout length and with a well-developed adipose eyelid completely covering eye except for a vertical slit centred on pupil; curved part of lateral line with 21–24 scales and 0–4 scutes; straight part with no anterior scales and 37–46 relatively large scutes.
**Colour:** Upper third of body and top of head bluish green to green; lower 2/3 of body and head silvery or whitish; a small elongated, blackish opercular spot on edge near upper margin; a narrow, yellowish stripe may be present from edge of opercle to upper part of caudal peduncle.



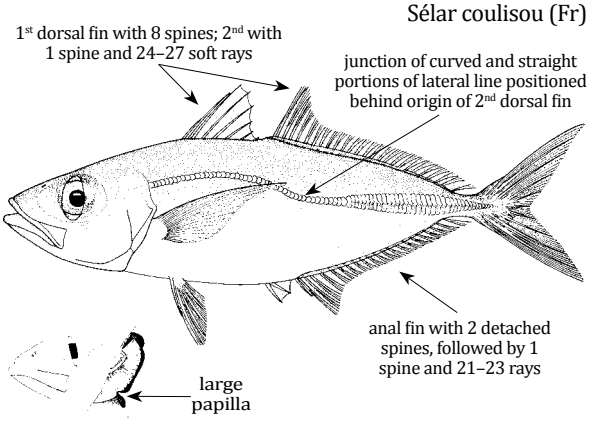
**lateral view of head (with gill chamber exposed)**

**Size:** To 24 cm (FL)

## *Selar crumenophthalmus* (Bloch, 1793)

**FAO names:** Bigeye scad (En)
Sélar coulisou (Fr)

**Local name(s):** Nga Kye Kann Myet Pyuu.
**Habitat:** Inshore or shallow waters, but sometimes in deeper waters down to 170 m.
**Fisheries:** Gillnets, seines, bottom trawls.
**Distinctive Characters:** Adipose eyelid completely covering eye except for a vertical slit centered on pupil; scutes maximum height contained 2.1–2.9 in eye diameter; curved part of lateral line with 48–56 scales; no finlets.
**Colour:** Body and top of head metallic blue or bluish green; lower 2/3 of body and head silvery or whitish; small, elongated blackish opercular spot on edge near upper margin; a narrow yellowish stripe may be present from edge of opercle to upper part of caudal peduncle.



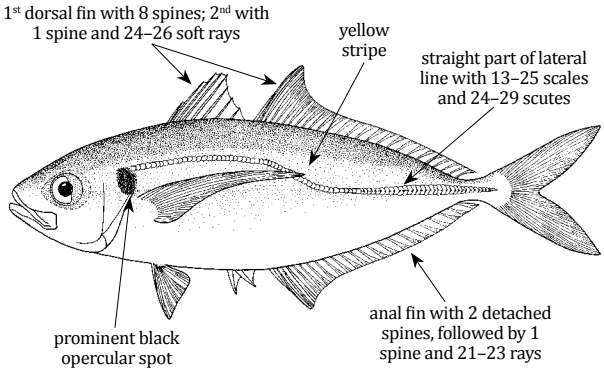
**lateral view of head (with gill chamber exposed)**

**Size:** To 30 cm, common 25 cm (FL)

## *Selaroides leptolepis* (Cuvier, 1833)

**FAO names:** Yellowstripe scad (En)
Sélar à bande dorée (Fr)

**Local name(s):** Myat San Kje A War Zin.
**Habitat:** Adults form large demersal schools over soft bottom habitats at depths shallower than 50 m.
**Fisheries:** Gillnets, seines, bottom trawls.
**Distinctive Characters:** Adipose eyelid moderately developed on posterior half of eye; upper jaw strongly protractile with posterior end of jaw concave above, concave and produced below; edge of gill chamber smooth, without papillae; no finlets.
**Colour:** Metallic blue above, silvery white below, with a broad yellow stripe from upper margin of eye to caudal peduncle; dorsal, anal, and caudal fins pale to dusky yellow; pelvic fins white.

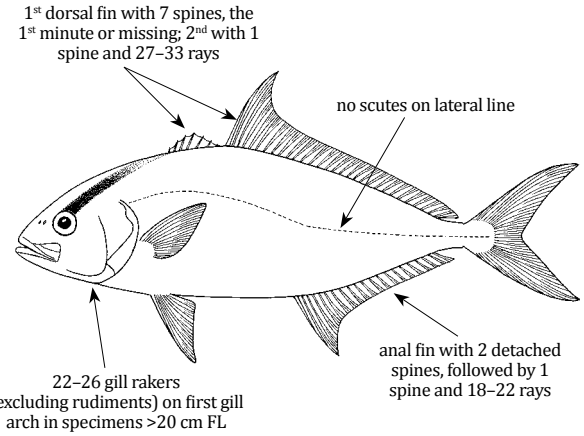



**Size:** To 22 cm, common 15 cm (FL)

## *Seriola rivoliana* Valenciennes, 1833

**FAO names:** Longfin yellowtail (En)
Sériole limon (Fr)

**Local name(s):** Nga Htaw Butt Myet Taung Zin.
**Habitat:** Adults are pelagic and epipelagic, oceanic, rarely found in inshore waters.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** In adults, length of dorsal fin lobe about 1.3–1.6 times longer than pectoral fins; upper jaw very broad posteriorly (with very broad supramaxiila), extending to below posterior midpoint of pupil; no scutes; caudal peduncle grooves present.
**Colour:** Silvery blue-green to silvery olive dorsally, shading to silvery ventrally; a midlateral yellowish stripe usually present on body; an oblique, dark yellowish brown band from nape through eye to edge of upper lip; fins yellowish grey; juveniles with a dark nuchal bar and 6 dark body bars.



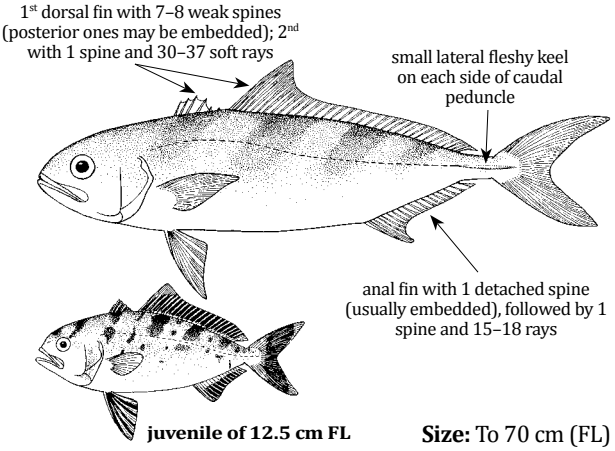

**Size:** To 160 cm, common 90 cm (FL)

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## *Seriolina nigrofasciata* (Rüppell, 1829)

**FAO names:** Blackbanded trevally (En)
Sériole amourez (Fr)

**Local name(s):** Nga Htaw Butt Kyaw Me' Zin.
**Habitat:** Solitary, mainly in offshore reefs on the continental shelf from 20 m to 150 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Upper jaw broadly rounded posteriorly (with moderately slender supramaxilla), usually extending to below posterior margin of eye; no scutes; caudal peduncle grooves present.
**Colour:** Head and body bluish grey to black dorsally, white to dusky below; young with 5–7 dark oblique bands and blotches on upper body that fade with age; spiny dorsal fin black; caudal and pelvic fins yellowish brown to black.



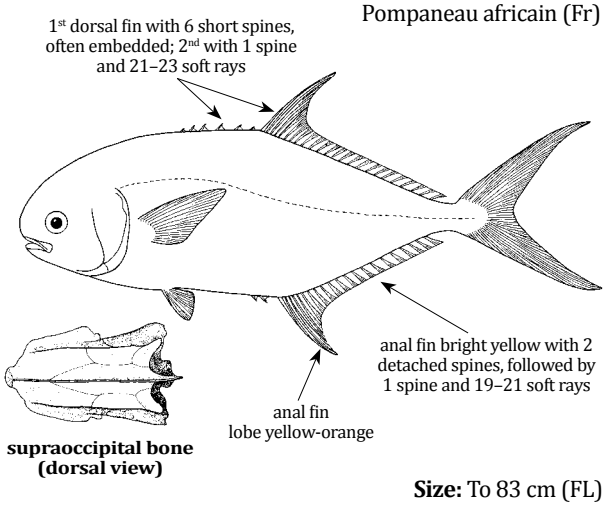

**Size:** To 70 cm (FL)

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## *Trachinotus africanus* Smith, 1967

**FAO names:** African pompano (En)
Pompaneau africain (Fr)

**Local name(s):** Africa Nga Htaw Butt.
**Habitat:** Adults inhabit coastal areas with reefs or rocky outcrops; juveniles in sheltered bays.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Profile of snout broadly rounded; tongue with a narrow patch of teeth, persisting to about 50 cm FL; supraoccipital bone of skull thin and blade-like in adults; no scutes or caudal peduncle grooves (true of all *Trachinotus* species).
**Colour:** Adults bluish dorsally, ventral half of body silvery, the 2 areas separated by an indistinct orange-pink stripe; 2nd dorsal fin base and fin lobe dusky, distal half of fin yellow; caudal fin, pectoral, and pelvic fins yellowish; juveniles silvery with yellow hues, dorsal and anal fin lobes dusky.

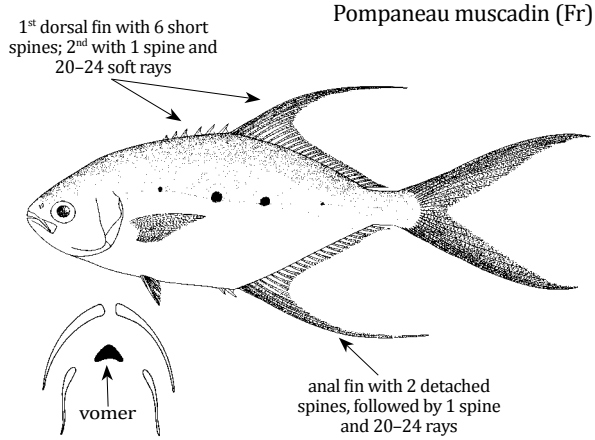



**Size:** To 83 cm (FL)

## *Trachinotus baillonii* (Lacepède, 1801)

**FAO names:** Smallspotted dart (En)
Pompaneau muscadin (Fr)

**Local name(s):** Nga Htaw Butt Ngar Kywet.
**Habitat:** Surge zone along sandy beaches and near surface waters of clear lagoon and seaward reefs.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Dorsal fin lobe shorter than anal fin lobe in specimens larger than about 25 cm FL; pelvic fins relatively short.
**Colour:** Sides with 1–5 small black spots (absent on fish smaller than about 10–15 cm FL); all spots typically equal to or smaller than eye diameter and with half of spot below lateral line; caudal, 2nd dorsal and anal fins grey to black, lobes usually darker; pectoral fins pale to dusky yellow; pelvic fins pale yellow to orange-yellow.

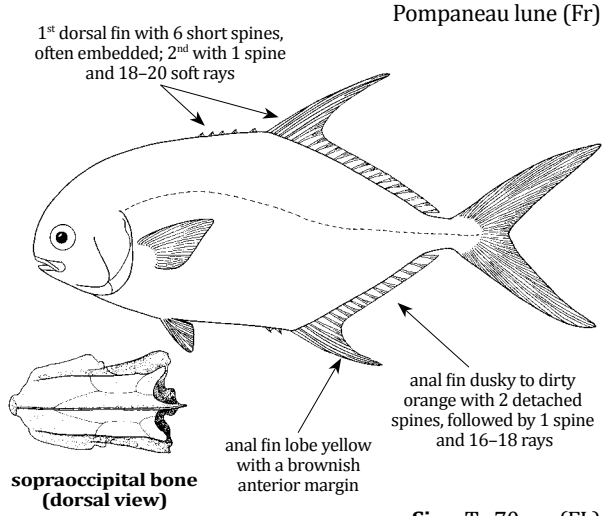



**Size:** To 60 cm (FL)

## *Trachinotus blochii* (Lacepède, 1801)

**FAO names:** Snubnose pompano (En)
Pompaneau lune (Fr)

**Local name(s):** Nga Htaw Butt Hnar To.
**Habitat:** Juveniles in sandy inshore and estuarine areas; large adults off seaward reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Profile of snout broadly rounded; tongue toothless (except 2–3 slender teeth rarely on small specimens); supraoccipital bone of skull thin and blade-like in adults (easily observed by simple dissection along midline of nape).
**Colour:** Head and body generally blue-grey above, paler below; large adults sometimes with most of body golden-orange, especially snout and lower half of body; 2nd dorsal fin dark, lobe of fin dusky orange; caudal fin dark to dirty orange, leading edges darkest; juveniles silvery with pale fins except lobes of median fins and anterior half of pelvic fins brownish to dirty orange.

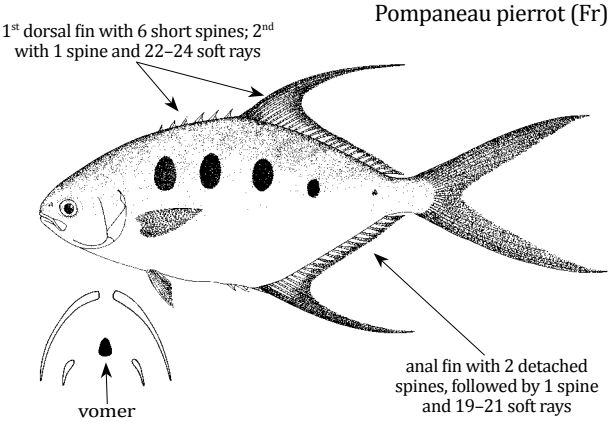



**Size:** To 70 cm (FL)

## *Trachinotus botla* (Shaw, 1803)

**FAO names:** Largespotted dart (En)
Pompaneau pierrot (Fr)

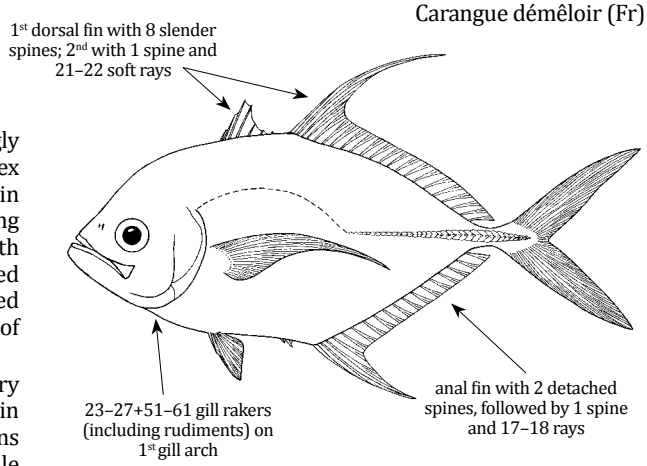
**Local name(s):** Nga Htaw Butt Kywet Gyi.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Dorsal fin lobe usually longer than anal fin lobe in specimens larger than about 25 cm FL; pelvic fins relatively long, their length contained 1.5–1.7 in pectoral fin length in specimens larger than about 25 cm FL.
**Colour:** Sides with 1–5 large plumbeus spots (absent on fish smaller than about 10–13 cm FL) on a longitudinal row near lateral line; 2nd dorsal and anal fins black to blue-black, the lobes usually darker; caudal fin dusky with leading edges and most of lobes blue-black; pectoral fins pale; upper 2/3 of body sometimes dark.




**Size:** To 75 cm (FL)

## *Ulua mentalis* (Cuvier, 1833)

**FAO names:** Longrakered trevally (En)
Carangue démêloir (Fr)

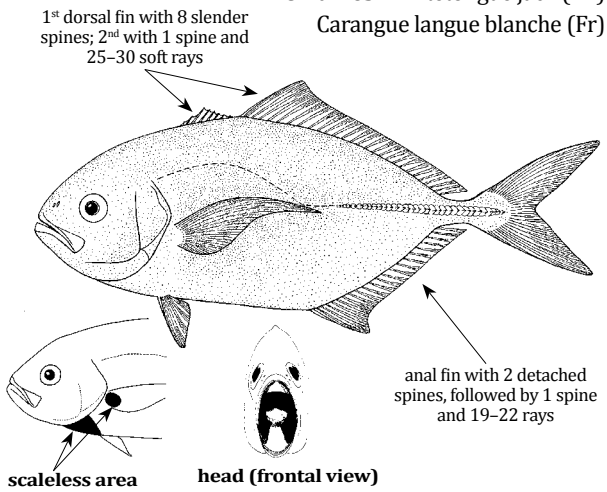



**Local name(s):** Zar Gyan Ye Yet Shae.
**Habitat:** Inhabits shallow coastal waters.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Body strongly compressed; dorsal profile more strongly convex than ventral, lower jaw becoming prominent in large adults, with the angle of "chin" projecting beyond upper jaw; straight part of lateral line with 0–5 scales followed by 26–38 scutes; breast naked ventrally to behind pelvic fins; laterally, naked area of breast extends diagonally to naked base of pectoral fins.
**Colour:** Head and body blue-green dorsally, silvery below; dark blotch on upper margin of opercle in large specimens; spinous dorsal and caudal fins dusky to black; second dorsal and anal fins pale green; juveniles with 7–8 dark bands on body.

**Size:** To 100 cm (FL), common 60 cm (TL)

## *Uraspis helvola* (Forster, 1801)

**FAO names:** Whitetongue jack (En)
Carangue langue blanche (Fr)

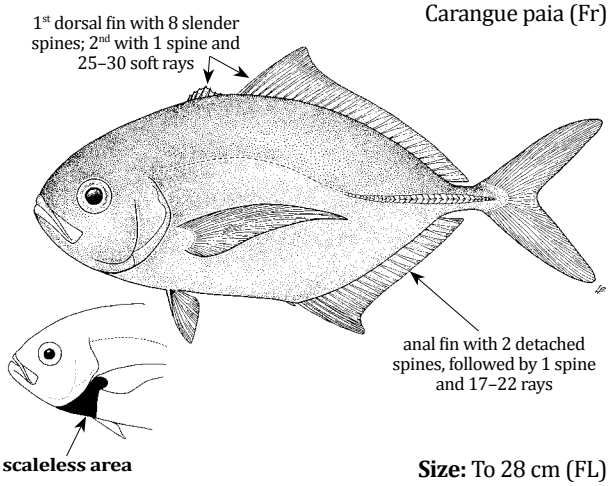



**Local name(s):** Zar Gyan Hlar Pyu.
**Habitat:** A benthic-pelagic species inhabiting shelf waters along continental coasts and around islands.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Tongue, roof and floor of mouth white or cream-coloured, the rest blue-black; curved part of lateral line with 48–66 scales.
**Colour:** Body and head dark (leaden blue–black or dusky) in fish of 30 cm and larger (FL); juveniles with 6–7 very wide dark bars with narrow pale interspaces; traces of nuchal and opercular bands persisting to about 30 cm (FL); caudal fin pale yellowish dusky with trailing edges and tips of lobes blackish

**Size:** To 46 cm (FL), common 20 cm (TL)

## *Uraspis uraspis* (Günther, 1860)

**FAO names:** Whitemouth jack (En)
Carangue paia (Fr)




**Local name(s):** Zar Gyan Pa Sat Phyu.
**Habitat:** Adults occur in the continental shelf; forms schools in depths from 50 to at least 130 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Tongue, roof and floor of mouth white or cream-coloured, the rest blue-black; curved part of lateral line with 61–82 scales.
**Colour:** Body and head dusky to black dorsally, shading to dusky or pale grey ventrally; juveniles and occasionally adults with 6 dusky or blue-black bars (bars evident on specimens as large as 22.5 cm fork length and absent on specimens as small as 12 cm); caudal fin pale to dusky with trailing edges dusky.

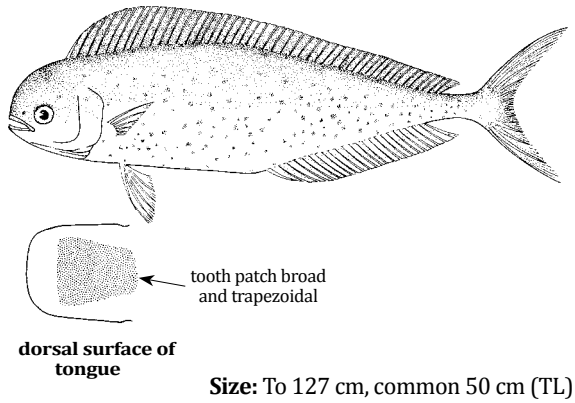
**Size:** To 28 cm (FL)

## CORYPHAENIDAE
Dolphinfishes

***Coryphaena equiselis*** Linnaeus, 1758

**FAO names:** Pompano dolphinfish (En)

**Local name(s):** A Mouk Shae Nga, La Bai Nga.
**Habitat:** Pelagic, inhabiting open waters but also approaching the coast.
**Fisheries:** Line gears, driftnets.
**Distinctive Characters:** A single dorsal fin extending from just behind eye almost to caudal fin, with 52–59 soft rays; pectoral fins about 1/2 of head length; caudal fin deeply forked.
**Colour:** Back brilliant metallic blue-green in life, fading rapidly after death to green tinge; sides silvery with a golden sheen and numerous black spots; dorsal fin dark; juveniles have entire margin of caudal fin white; pelvic fins not pigmented.



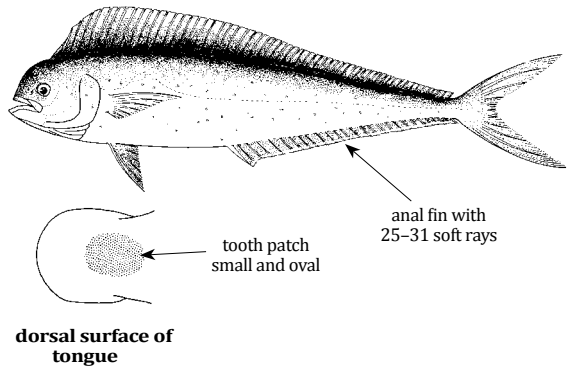

**Size:** To 127 cm, common 50 cm (TL)

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***Coryphaena hippurus*** Linnaeus, 1758

**FAO names:** Common dolphinfish (En)
Coryphène commune (Fr)

**Local name(s):** A Mouk Shae Nga, La Bai Nga.
**Habitat:** Pelagic, inhabiting open waters but also approaching the coast.
**Fisheries:** Line gears, driftnets.
**Distinctive Characters:** A single dorsal fin extending from above eye almost to caudal fin with 58–66 rays; pectoral fins more than 1/2 of head length; caudal fin deeply forked.
**Colour:** Back brilliant metallic blue-green in life, fading after death to grey with a green tinge; sides silvery with a golden sheen and rows of dark spots or golden blotches; dorsal and anal fins black, the latter with a white edge.




**Size:** To 210 cm, common 100 cm (TL)

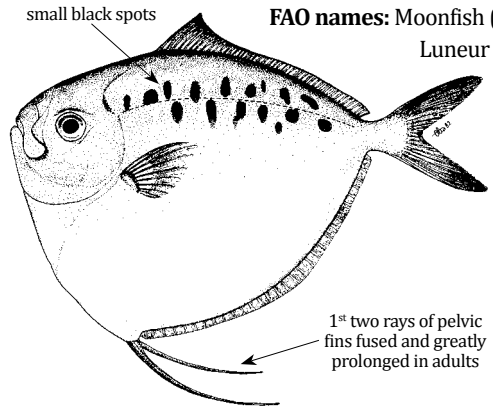
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## MENIDAE
Moonfishes

***Mene maculata*** (Bloch & Schneider, 1801)

**FAO names:** Moonfish (En)
Luneur (Fr)

**Local name(s):** Ta Yoke Dah, Nga Dhama.
**Habitat:** Deeper coastal waters, around coral reefs, sometimes in estuaries.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Upper jaw protrusible; dorsal fin long and low; anal fin very long and low, with very short rays and overgrown with skin in adults, so that only their widely branched tips are visible; pectoral fins shorter than head, with 15 soft rays; caudal fin forked.
**Colour:** Dark blue dorsally and silvery white below.



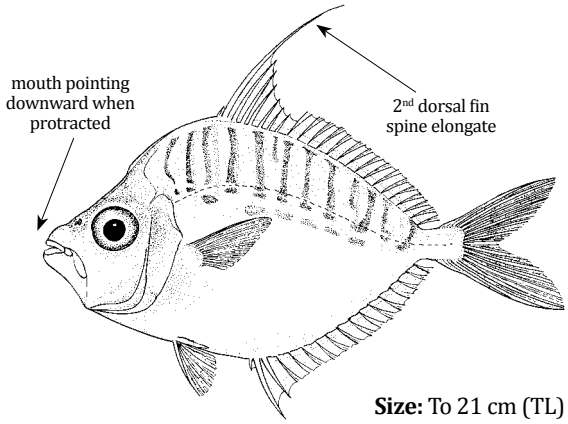

**Size:** To 30 cm, common 20 cm (TL)

# LEIOGNATHIDAE
Ponyfishes

## *Aurigequula fasciata* (Lacepède, 1803)

**FAO names:** Striped ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Kyaw Zin.
**Habitat:** Coastal shallow waters near bottom down to 40 m.
**Fisheries:** Gillnets, cast nets, bottom trawls, seines.
**Distinctive Characters:** Body deep and compressed, the back more strongly arched than anterior part of belly; body depth 1.7–2.0 in SL; head and breast scaleless; teeth small and weak; 2nd dorsal spine very long and filamentous.
**Colour:** Body silvery; about 11 widely spaced, dark vertical lines on back superimposed by a few yellow blotches and fading gradually towards lower sides; axil of pectoral fins yellow.

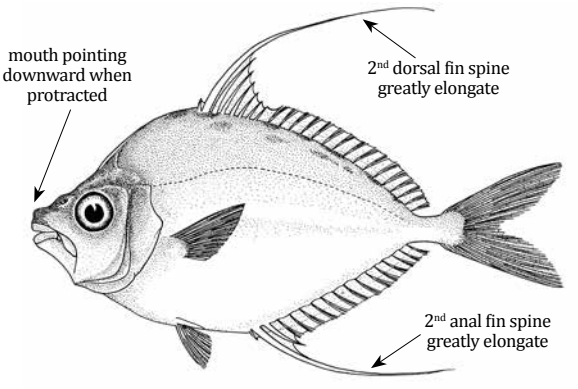



**Size:** To 21 cm (TL)

## *Aurigequula longispina* (Valenciennes, 1835)

**FAO names:** Longspine ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Su Taung Shae.
**Habitat:** Coastal shallow waters near bottom down to 40 m.
**Fisheries:** Gillnets, cast nets, bottom trawls, seines.
**Distinctive Characters:** Body oval, compressed and deep, its depth 1.7–2.0 in SL; head and breast scaleless; teeth small and weak; 2nd dorsal and anal fin spines very long and filamentous.
**Colour:** Belly more silvery than back which shows a few faint, unevenly spaced and horizontally elongate blotches, a few blotches below lateral line; tip of snout grey; dorsal and anal fins variably yellow, particularly on margins; caudal fin faint yellow with a more intense yellow blotch on lower lobe.

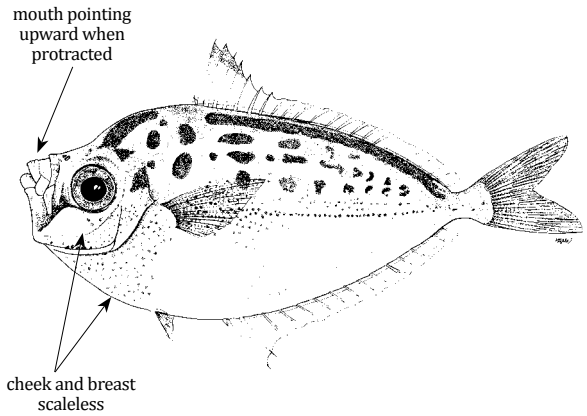



**Size:** To 16 cm, common 13 cm (TL)

## *Deveximentum hanedai* (Mochizuki & Hayashi, 1989)

**FAO names:** Haneda's ponyfish (En)

**Local name(s):** Waing Ni Pauk, Haneda Nga Dinga.
**Habitat:** Coastal waters above muddy sand bottoms to depths of 40 m.
**Fisheries:** Caught mainly in bottom trawls
**Distinctive Characters:** Body oval, deep and compressed, its depth 1.9–2.2 in SL; head strongly concave above eye; body scales small, 33–42 rows between bases of pectoral and pelvic fins; 22–26 total gill rakers on 1st gill arch; lateral line terminating below end of dorsal fin.
**Colour:** Belly silvery, back greenish to brownish, with a series of about 9 columns of dark blotches, spots, and horizontal bars extending to midline of sides; a black, curved band from lower margin of eye to posterior angle of lower jaw; dorsal fin membrane black at tip of anterior spines.

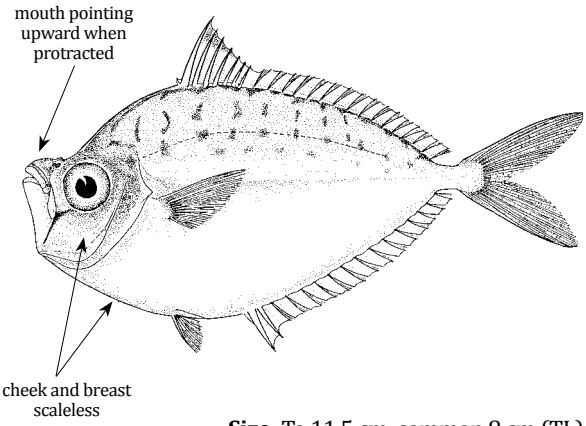



**Size:** To 10 cm, common 7 cm (TL)

***Deveximentum insidiator*** (Bloch, 1787)

**FAO names:** Pugnose ponyfish (En)
Sapsap boxeur (Fr)

**Local name(s):** Waing Ni Pauk, Nga Dinga Hnar.
**Habitat:** Demersal in coastal shallow waters down to 50 m.
**Fisheries:** Caught mainly in bottoms trawls.
**Distinctive Characters:** Body oval and compressed, its depth 1.6–2.5 in SL; head strongly concave above eye; body scales small, 22–28 rows between bases of pectoral and pelvic fins; cheeks scaleless; breast, including isthmus, without scales ventrally; 24–29 total gill rakers on 1st gill arch; lateral line terminating below end of dorsal fin.
**Colour:** Back greenish to brownish, with 11–15 dark broken vertical bars and spots extending to little below lateral line; a black, curved band from lower margin of eye to posterior angle of lower jaw; caudal fin partly yellow; dorsal fin membrane black at tip of anterior spines.

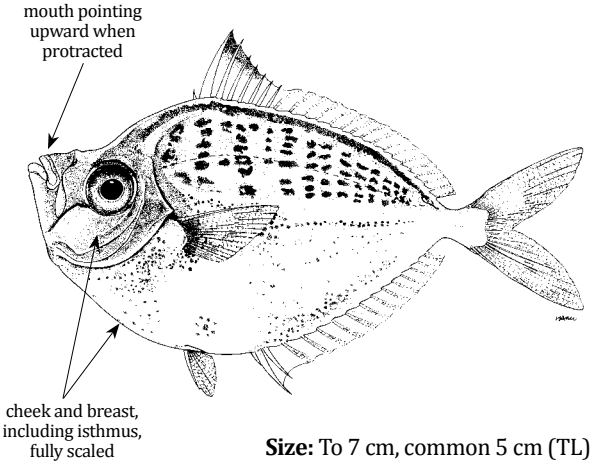



**Size:** To 11.5 cm, common 8 cm (TL)

***Deveximentum megalolepis*** (Mochizuki & Hayashi, 1989)

**FAO names:** Bigscaled ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga A Kjee.
**Habitat:** Demersal in coastal shallow waters down to 50 m.
**Fisheries:** Caught mainly in bottoms trawls.
**Distinctive Characters:** Body oval and compressed, its depth 1.6–1.5 in SL; head strongly concave above eye; body scales comparatively much larger than in other species in the genus, 9–11 rows between bases of pectoral and pelvic fins; 21–25 total gill rakers on 1st gill arch; lateral line terminating below last few rays of soft dorsal fin.
**Colour:** Silvery, with dark markings forming about 10 irregular "bars" on upper half sides, anteriorly these consist of columns of short bars and spots; prominent curved black band running from lower margin of eye to posterior angle of lower jaw; dorsal fin membrane black at tip of anterior spines.

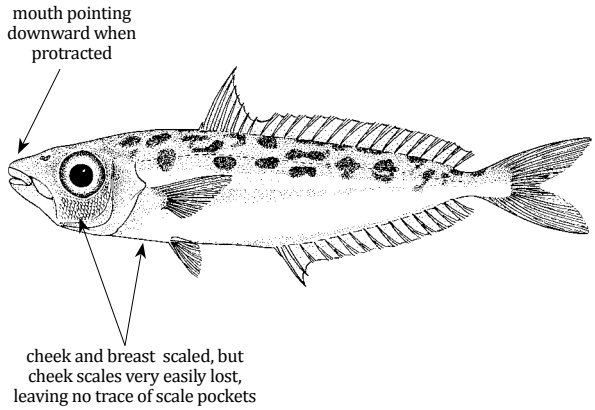



**Size:** To 7 cm, common 5 cm (TL)

***Equulites elongatus*** (Günther, 1874)

**FAO names:** Elongate ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Lone Thway.
**Habitat:** Coastal inshore waters at depths of 30–130 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body less compressed, elongate, very slender, not deeper than head length, its depth more than 3.3–4.2 in SL; ventral profile of head more convex than dorsal profile.
**Colour:** Body silvery, back with irregular green and dark marbling; horizontal yellow band at midheight of spinous part of dorsal fin, most of margin of soft part orange; underside of pectoral fin base with minute, dark dots; anal fin between second and third spines yellow, as also margin of anterior part of fin; males with bluish longitudinal stripe along side of belly.

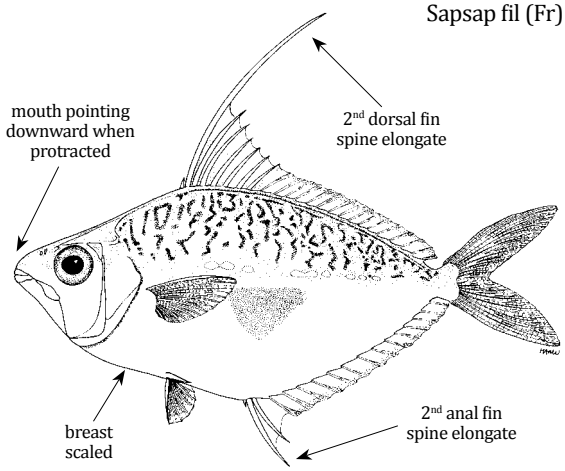



**Size:** To 12 cm, common 8 cm (TL)

## *Equulites leuciscus* (Günther, 1860)

**FAO names:** Whipfin ponyfish (En)
Sapsap fil (Fr)

**Local name(s):** Waing Ni Pauk, Nga Dinga Suu Taung Shae.
**Habitat:** Coastal shallow waters near bottom down to 40 m.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body only moderately deep, compressed, its depth 2–3 in SL; head scaleless; breast scaled; teeth small and weak; 2nd dorsal fin spine (sometimes also 2nd anal fin spine) very long and filamentous.
**Colour:** Belly silvery, back with irregular, partly semi-circular, greyish green vermiculations; membrane between dorsal fin spines yellow; distal half of soft part of dorsal fin also yellow, superimposed with light grey; anal fin of similar colour to dorsal; posterior margin of caudal fin yellowish.

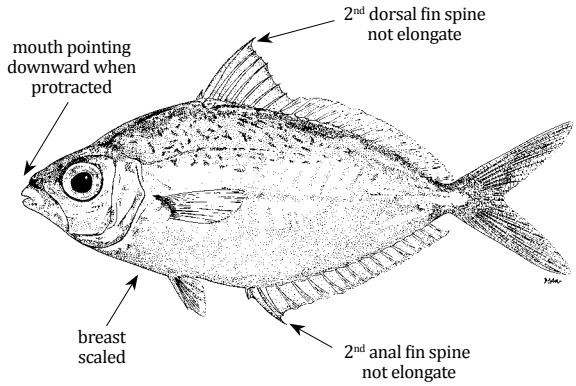



**Size:** To 25 cm, common 10 cm (TL)

## *Equulites oblongus* (Valenciennes, 1835)

**FAO names:** Oblong ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga A Hlarr Shae.
**Habitat:** Coastal shallow waters down to at least 20 m.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body moderately elongate and compressed, its depth 2.5–2.9 in SL; snout pointed; head scaleless, but scales present on breast; teeth small and weak.
**Colour:** Silvery grey dorsally with numerous, short, dark vermiculations extending a short distance below lateral line; anterior edge of snout blackish; borders of dorsal and anal fins yellow; caudal fin yellowish grey; axil of pectoral fins blackish.

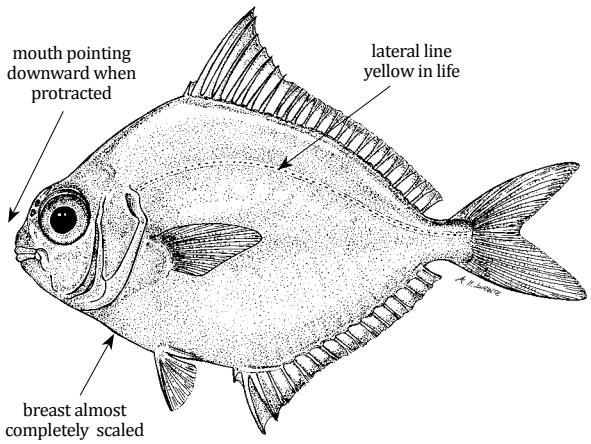



**Size:** To 10 cm (TL)

## *Eubleekeria jonesi* (James, 1971)

**FAO names:** Yellow line ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Awar.
**Habitat:** Usually found on muddy bottoms in coastal waters.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body deep, ovate, strongly compressed; mouth with small slender teeth on both jaws; ventral profile of lower jaw almost straight; lower margin of eye located above level of mouth gape; cheek naked; breast almost completely scaled; semicircular naked area on nape.
**Colour:** Head and body almost uniformly silvery white; tip of snout dark; lateral line scales prominent yellow but easily fade out; distal half of fin membranes between 2nd and 5th spines of dorsal fin with a somewhat pale black blotch.

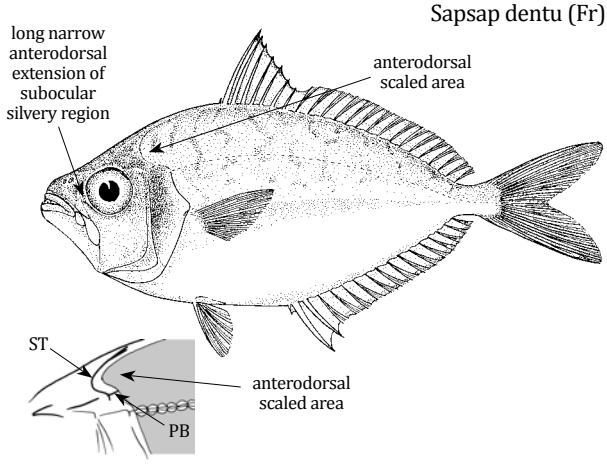



**Size:** To 14 cm (SL)

## *Gazza minuta* (Bloch, 1795)

**FAO names:** Tooth ponyfish (En)
Sapsap dentu (Fr)

**Local name(s):** Waing Ni Pauk Thwar Pauk Nga.
**Habitat:** Coastal waters down to 40 m.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body oval and somewhat compressed, its depth 2.2–3.5 in SL; dorsal and ventral profiles equally convex; mouth pointing forward when protracted; head and breast scaleless; distinct caniniform teeth in both jaws; anterodorsal scaled area reaching to tip of posterior branch (PB) of supratemporal canal (ST).
**Colour:** Silvery, back greyish, with dark yellow irregular marks extending to below lateral line; soft part of dorsal, pectoral and pelvic fins colourless; anterior part of anal fin yellow; underside of pectoral fin bases and snout with black dots; spiny dorsal fin black-edged.

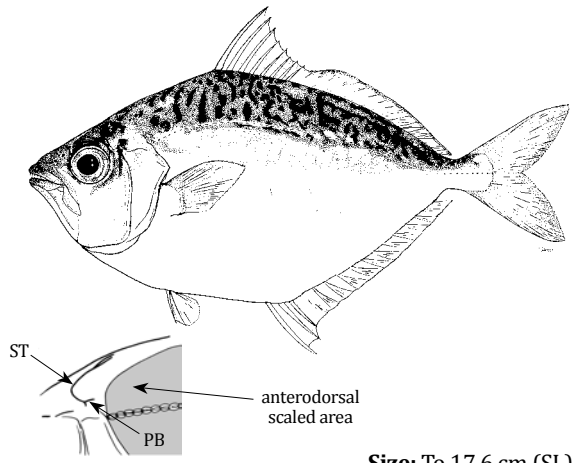



**Size:** To 21 cm (FL)

## *Gazza rhombea* Kimura, Yamashita & Iwatsuki, 2000

**FAO names:** Rhomboid toothpony (En)

**Local Name(s):** Waing Ni Pauk, Ko Lone Pyar Nga Dinga.
**Habitat:** Occurs over sandy or muddy bottoms in brackish or coastal waters of less than ca. 50 m depth
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Similar to *Gazza minuta* but body rhomboid in adults, its depth 1.9–2.9 in SL; anterodorsal scaled area not reaching to a vertical through tip of posterior branch (PB) of supratemporal canal (ST).
**Colour:** Head and body bluish dorsally, brilliant silvery white ventrally; snout dusky; anal fin base yellow; pectoral fin pale yellow with faintly bluish base; caudal fin pale yellow with faintly dark margin; pelvic fins colourless.

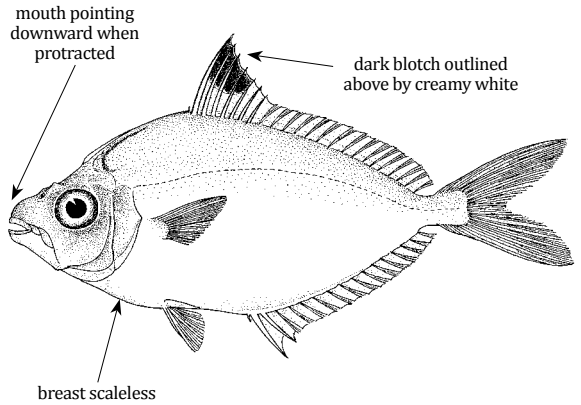



**Size:** To 17.6 cm (SL)

## *Karalla daura* (Cuvier, 1829)

**FAO names:** Goldenstripe ponyfish (En)

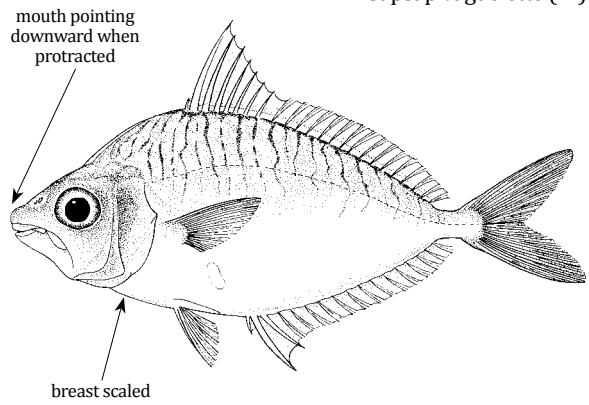
**Local Name(s):** Waing Ni Pauk Shwe Sinn.
**Habitat:** Coastal shallow waters in schools near bottom up to 40 m.
**Fisheries:** Shore seines, bottom trawls.
**Distinctive Characters:** Body rhomboid and compressed, its depth 2.0–2.5 in SL; dorsal and ventral profiles equally convex; head and breast scaleless; teeth small and weak.
**Colour:** Back greenish grey, belly silvery; black dots all over ventral half of body; a golden hue on dorsal half of body and on head; very faint vertical lines above lateral line which disappear completely with growth; tip of snout black; distal half of anal fin golden yellow from 2nd spine onwards; broad yellow band over the lateral line, which disappears gradually on preservation.




**Size:** To 14 cm, common 9 cm (TL)

***Karalla dusssumieri*** (Valenciennes, 1835)

**FAO names:** Dussumier's ponyfish (En)
Sapsap vaguelette (Fr)

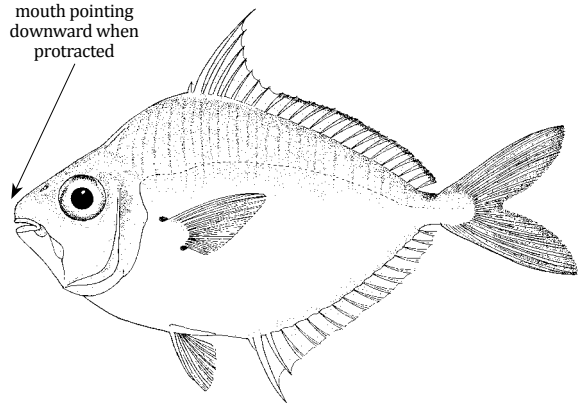



**Local Name(s):** Waing Ni Pauk, Nga Dinga Hnar Chun.
**Habitat:** Coastal shallow waters near bottom in 10-40 m depth.
**Fisheries:** Caught mostly with bottom trawls.
**Distinctive Characters:** Body moderately slender and compressed, its depth 2.0–2.3 in SL; snout pointed, slightly longer than eye diameter; dorsal profile more strongly arched than ventral; head scaleless but conspicuous scales on breast; pelvic fins long, reaching to 1st anal spine.
**Colour:** Back greenish to brownish, belly silvery, fins yellowish; sides of body with grey, wavy, vertical lines descending from back to a little below lateral line; an elongate yellow spot on abdomen halfway between bases of pectoral fins and spinous anal fin.

**Size:** To 14 cm, common 11 cm (TL)

***Leiognathus equula*** (Forsskål, 1775)

**FAO names:** Common ponyfish (En)

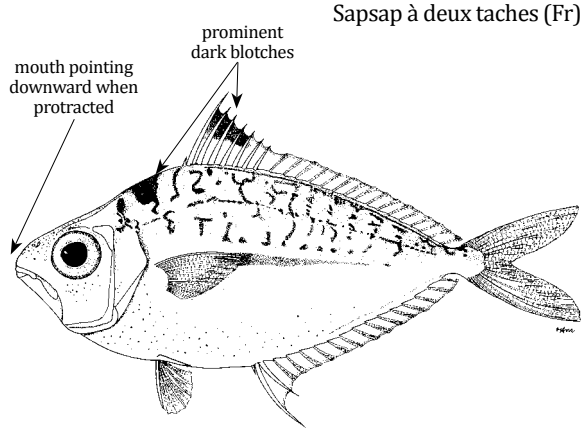



**Local name(s):** Waing Ni Pauk, Thar Man Nga Dinga.
**Habitat:** Coastal shallow waters near bottom down to 40 m.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body very deep, compressed, with a strongly humped back; body depth 1.7–1.9 in SL; head and breast scaleless.
**Colour:** Adults with back greyish, belly silvery, and close-set faint bars on back and sides; a dark brown saddle on caudal peduncle; axil of pectoral fins grey to black; margin of soft dorsal fin black. In juveniles (5–7 cm TL), thin, closely arranged, grey vertical lines descending from back to about midheight; membrane between anal fin spines conspicuously yellow.

**Size:** To 28 cm, common 20 cm (TL)

***Nuchequula blochii*** (Valenciennes, 1835)

**FAO names:** Twoblotch ponyfish (En)
Sapsap à deux taches (Fr)



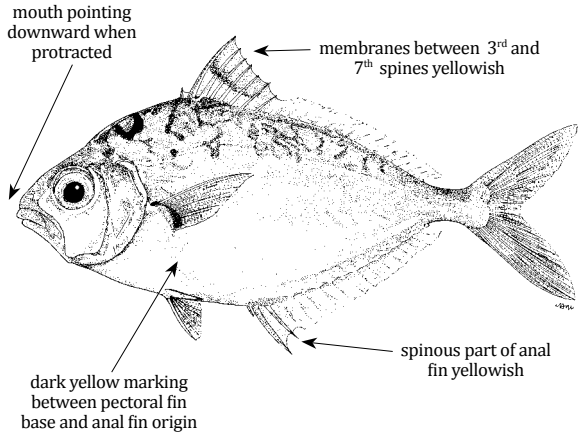

**Local name(s):** Waing Ni Pauk, Gote Kywet Nga Dinga.
**Habitat:** Inhabits coastal inshore waters on bottoms of muddy sand at depths of 10 to 90 m; enters estuaries.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body somewhat elongate and compressed, its depth 2.2–2.9 in SL; snout rounded; breast scaled; cheek naked; anteroventral profile of the lower jaw almost straight; 2nd dorsal and anal fin spines not elongated; small villiform teeth in both jaws, the ones on upper jaw strongly recurved (true of all *Nuchequula* species).
**Colour:** Head and body almost uniformly silver; snout dusky; four horizontal rows of dark blotches or broken lines dorsolaterally on body, the uppermost row along dorsal fin base, the third on lateral line; dorsal, anal, caudal, and pectoral fins yellowish.

**Size:** To 10 cm, common 11 cm (TL)

***Nuchequula gerreoides*** (Bleeker, 1851)

**FAO names:** Decorated ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Khant Nyar.
**Habitat:** Found in coastal waters. Enters estuaries.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body deep, oval and compressed, its depth 1.9–2.5 in SL; snout pointed; cheek and breast scaleless; anterior dorsolateral surface of the body almost completely scaled; anteroventral profile of the lower jaw strongly concave; 2nd dorsal and anal fin spines not elongated.
**Colour:** Head and body almost uniformly silver, sometimes many tiny black spots scattered ventrolaterally on body; a black blotch distally on the spinous dorsal fin membrane; pectoral fin axil light brown; distal part of soft anal fin yellowish.

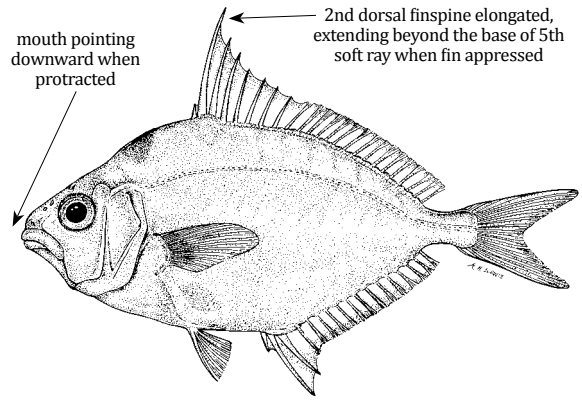



**Size:** To 12.5 cm (SL)

***Nuchequula longicornis*** Kimura, Kimura & Ikejima 2008

**FAO names:** Longspine ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Suu Shae.
**Habitat:** Found in coastal waters.
**Fisheries:** Gillnets, cast nets, bottom trawls.
**Distinctive Characters:** Body deep, oval, compressed; dorsal and ventral profiles equally convex; mouth protruding downward; a narrow band of small, slender, villiform teeth in both jaws; minute, sparse, slender projections on the upper oral valve; cheek naked; no scaled area on nape; breast naked; 2nd dorsal fin spine elongated; 2nd anal fin spine not elongated.
**Colour:** Body almost uniformly silver; a distinct dark blotch on the nape; a yellow marking on the abdomen between base of pectoral fin and origin of anal fin.

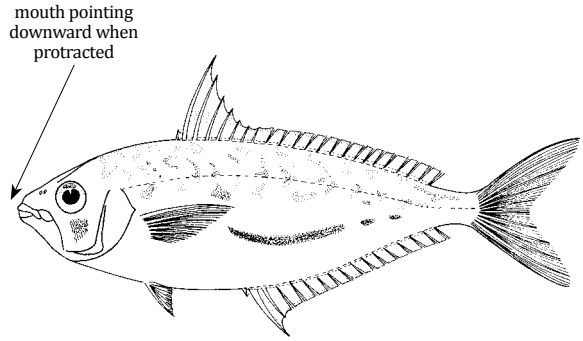



**Size:** To 8 cm (SL)

***Photolateralis stercorarius*** (Evermann & Seale, 1907)

**FAO names:** Slender ponyfish (En)

**Local name(s):** Waing Ni Pauk, Nga Dinga Pain Thae.
**Habitat:** Coastal inshore waters over muddy bottoms especially around mangrove areas to depths of 50 m; juveniles at depths of 1–10 m.
**Fisheries:** Bottom trawls, gillnets, beach seines.
**Distinctive Characters:** Body elongate, moderately compressed, its depth 2.8–3.6 in SL; dorsal and ventral profiles smoothly convex, slender but deeper than head length; cheeks scaly below eye (scales deciduous but their pockets visible); breast scaly.
**Colour:** Body silvery; back with irregular green and dark marbling; front of dorsal fin with a horizontal yellow band, most of margin of posterior part orange; axil of pectoral fin with minute dark dots or dusky (covered by fin); anal fin between 2nd and 3rd spines yellow, as also margin of anterior part of fin; males with a bluish longitudinal stripe along sides just below midline.

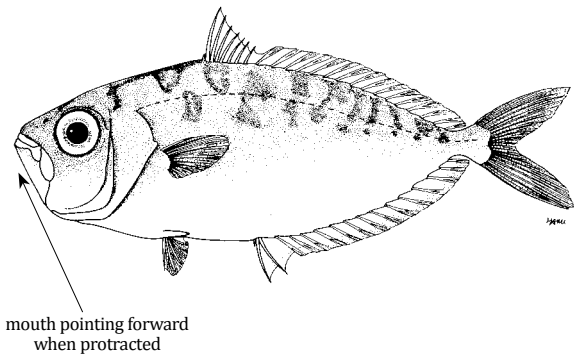



**Size:** To 12 cm, common 6–10 cm (SL)

***Photopectoralis aureus*** (Abe & Haneda, 1972)

**FAO names:** Golden ponyfish (En)

**Local name(s):** Waing Ni Pauk, Shwe Yaung Nga Dinga.
**Habitat:** Lives in deeper offshore coastal waters at depths greater than 70 m and down to 140 m.
**Fisheries:** Bottom trawls, seines.
**Distinctive Characters:** Body only moderately deep and compressed, its depth 2.3–2.9 in SL; ventral profile much more convex than dorsal profile; single row of uniform teeth in each jaw, no canines.
**Colour:** Silvery upper half with irregular grey-brown blotches and marbling; in fresh specimens large gold luminous organ around esophagus; outer half or anterior part of spinous dorsal fin pale yellow, margin of spinous part edged in black; other fins colourless.

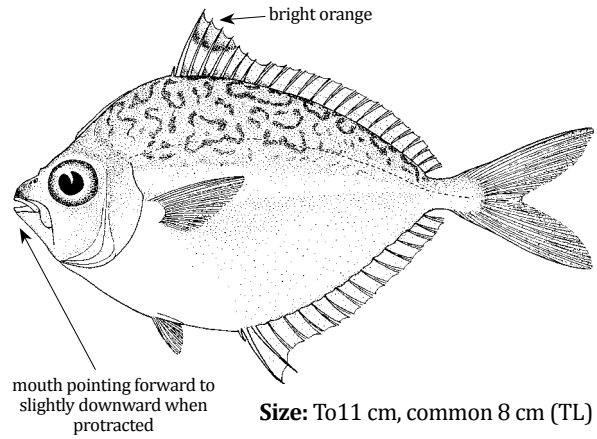



**Size:** To 10 cm, common 6 cm (TL)

***Photopectoralis bindus*** (Valenciennes, 1835)

**FAO names:** Orangefin ponyfish (En)
Sapsap voile orange (Fr)

**Local name(s):** Nga Dinga Shwe Yaung.
**Habitat:** Inhabits coastal inshore waters on bottoms of muddy sand at depths of 10 to 160 m.
**Fisheries:** Gillnets, cast nets, bottom trawls, seines.
**Distinctive Characters:** Body deep and strongly compressed, its depth 1.8–1.9 in SL; ventral profile at least as equally convex as dorsal profile; single row of uniform conical teeth in each jaw.
**Colour:** Body silvery, with short dark vermiculations on back; tip of snout, head, and ventral half of body with grey dots; spinous part of dorsal fin black at 1/2 height, above which the membrane between second and fifth spines bears a bright orange blotch which turns yellow on preservation in formalin.



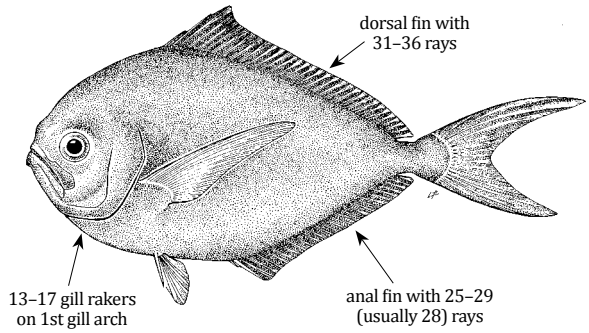

**Size:** To11 cm, common 8 cm (TL)

## BRAMIDAE
Pomfrets

***Brama dussumieri*** Cuvier, 1831

**FAO names:** Lesser bream (En)
Castagnole mignonne (Fr)

**Local name(s):** Myet Lone Sein Ye Net Nga Moke.
**Habitat:** Pelagic in upper oceanic waters and common throughout range.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body very deep, very compressed; forehead slightly arched; distance from pectoral fin base to pelvic fin base less than 8 in SL; 60–68 scales in longitudinal series; lateral line absent or scarcely visible.
**Colour:** Uniform silvery blue, slightly darker dorsally; underside of pectoral fin base pale or dusky; vertical fins dark; pectoral and pelvic fins translucent.

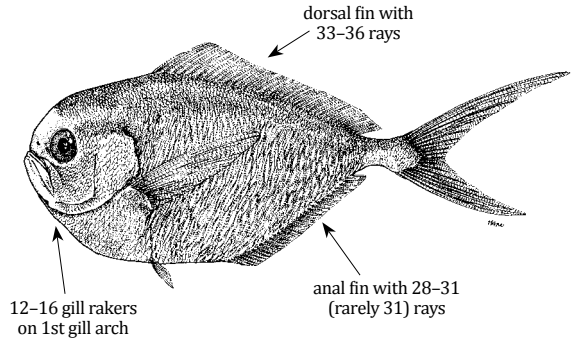



**Size:** To 22.5 cm (SL)

***Brama orcini*** Cuvier, 1831

**FAO names:** Bigbelly pomfret (En)

**Local name(s):** Ye Net Nga Moke Myet Pyuu.
**Habitat:** Shallow, epipelagic pomfret occurring primarily in the vicinity of land masses.
**Fisheries:** Taken incidentally as bycatch of small-scale, traditional line fisheries.
**Distinctive Characters:** Body very deep, very compressed, its depth 1.5–2.0 in SL; forehead slightly arched; distance from pectoral fin base to pelvic fin base 6.0–7.5 in SL; 48–57 scales in longitudinal series; lateral line complete.
**Colour:** Uniform brownish or silvery, slightly darker dorsally; underside of pectoral fin base black; vertical fins dark; pectoral and pelvic fins translucent.
**Remarks:** Needs to be confirmed in Myanmar waters.

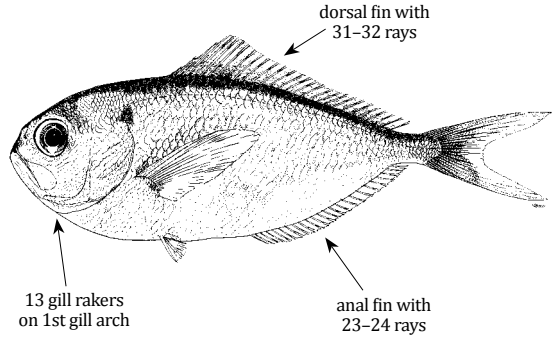



**Size:** To about 30 cm (SL)

***Brama*** sp. *

**FAO names:** Andaman pomfret (En)

**Local name(s):** Andaman Ye Net Nga Moke.
**Habitat:** Known from 379 m depth.
**Fisheries:** Collected with bottom trawl.
**Distinctive Characters:** Body depth 2.5 in SL; forehead slightly arched; distance from pectoral fin base to pelvic fin base 9.1–9.3 in SL; lateral line complete with 54 scales.
**Colour:** Uniform silvery grey darker dorsally; pectoral fin base blackish; a blackish blotch at upper edge of opercle; vertical fins dark; pectoral and pelvic fins translucent.
**Remarks:** An undescribed species closely allied to *Brama pauciradiata* Moteki, Fujita and Last, 1995, which is presently being described by Last and Psomadakis.

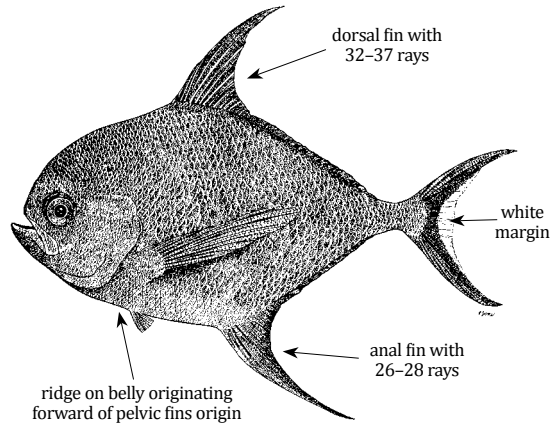



**Size:** To about 11 cm (SL)

***Taractichthys steindachneri*** (Döderlein, 1883)

**FAO names:** Sickle pomfret (En)

**Local name(s):** Suu Taung Kwaye Ye Net Nga Moke.
**Habitat:** Occurs along the shelf edge.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Anterior lobes of dorsal and anal fins high, but changing in shape and height with growth; adults without lateral line; interpelvic space distinctly convex, deep transverse grooves at origins of caudal fin lobes; upper lip free, not connected to snout near anterior nostril; 34–40 scales in longitudinal series; 21–29 predorsal scales.
**Colour:** Body uniform dark grey; caudal fin with a posterior white margin.



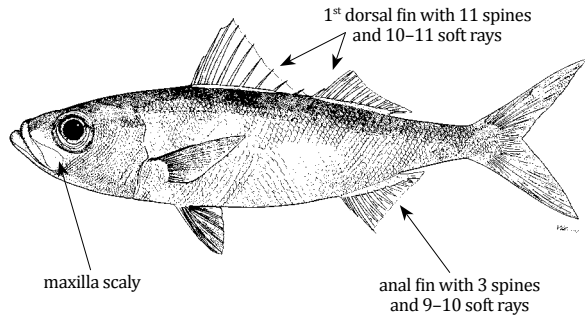

**Size:** To 60 cm (TL)

## EMMELICHTHYIDAE
Rovers

***Erythrocles schlegelii*** (Richardson, 1846)

**FAO names:** Japanese rubyfish (En)

**Local name(s):** Japan Nga Ni Lay.
**Habitat:** Inhabits the continental shelf area.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Dorsal fin divided to base, but no distinct gap between spiny and soft rayed fins; upper jaw very protrusible with poorly developed teeth; dorsal and anal fins with a basal scaly sheath; fleshy protuberance on rear margin of gill cavity; adults with low keel on mid-lateral region of caudal peduncle.
**Colour:** Reddish brown dorsally, silvery pink on sides and ventrally; lips and caudal fin red; remaining fins with red rays and translucent membranes; juveniles with 4–6 dark bars on body.



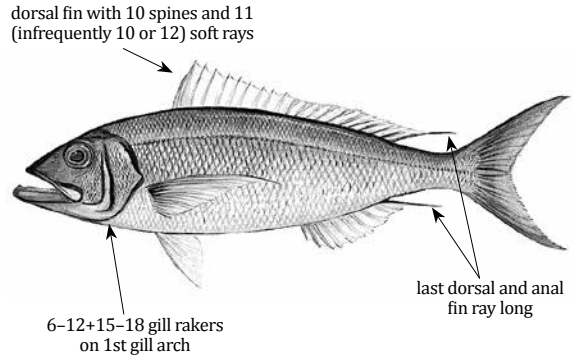

**Size:** To 72 cm (TL)

## LUTJANIDAE
Snappers – Jobfishes

***Aphareus furca*** (Lacepède, 1801)

**FAO names:** Small toothed jobfish (En)
Vivaneau tidents (Fr)

**Local name(s):** Nga Parr Ni Thwar Thaye.
**Habitat:** Solitary or in groups in inshore coral reefs of clear lagoons and seaward reefs, down to 122 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lower jaw protruding; anal fin with 3 spines and 8 soft rays; maxilla without scales; interorbital region flat; teeth in jaws minute; roof of mouth toothless; membranes of dorsal and anal fins without scales; 71–74 tubed lateral line scales.
**Colour:** Silvery purplish brown dorsally, light silvery bluish grey ventrally; lower jaw silvery; vertical edge of opercle and preopercle blackish; median fins yellow to yellowish brown.

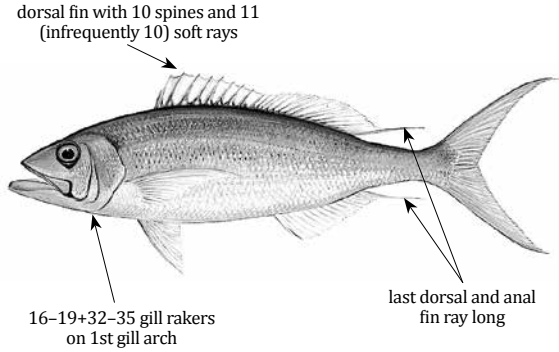



**Size:** To 70 cm, common 30 cm (TL)

***Aphareus rutilans*** Cuvier, 1830

**FAO names:** Rusty jobfish (En)
Vivaneau rouillé (Fr)

**Local name(s):** Nga Parr Ni Lein Maw Yaung.
**Habitat:** Reef areas from 10 m to 250 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Lower jaw protruding; anal fin with 3 spines and 8 soft rays; maxilla without scales; interorbital region flat; teeth in jaws minute (disappearing with age); roof of mouth toothless; membranes of dorsal and anal fins without scales; 69–75 tubed lateral line scales.
**Colour:** Blue-grey or mauve to overall reddish; margin of maxilla black; in some specimens, at least, inside of mouth, gill chamber, and gills shining silver; fins yellowish to reddish except pelvic and anal fins sometimes whitish.

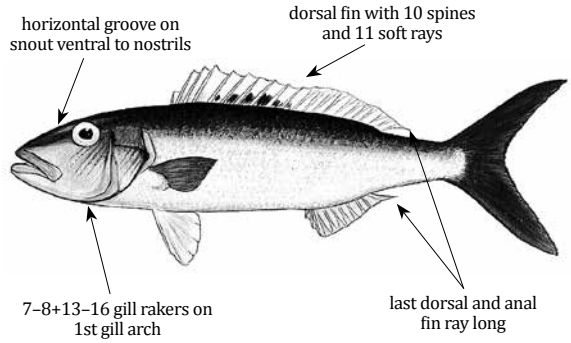



**Size:** To 110 cm, common 80 cm (TL)

***Aprion virescens*** Valenciennes, 1830

**FAO names:** Green jobfish (En)
Vivaneau job (Fr)

**Local name(s):** Nga Parr Ni A Sein Yaung.
**Habitat:** Shore reef areas, open waters, deep lagoons channels, down to 180 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Mouth terminal; jaws about equal; pectoral fins short; maxilla without scales; interorbital region flat; teeth in both jaws in bands, with strong canines anteriorly; membranes of dorsal and anal fins without scales; anal fin with 3 spines and 8 soft rays; 48–50 lateral line scales.
**Colour:** Dark green to blue or green; a black area often present at base of last 5 interspiny membranes of dorsal fin.



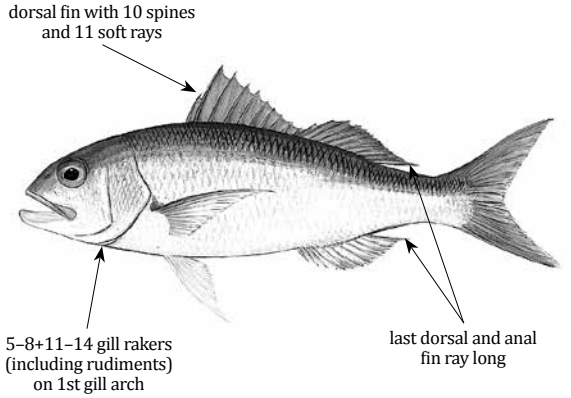

**Size:** To 110 cm, common 90 cm (TL)

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***Etelis carbunculus*** Cuvier, 1828

**FAO names:** Deep-water red snapper (En)
Vivaneau rubis (Fr)

**Local name(s):** Nga Parr Ni Pada Mya Yaung.
**Habitat:** Rocky bottoms from 90 m to 400 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Upper and lower jaws with conical teeth; 1 to several enlarged canines on each side of both jaws; vomer and palatines with teeth; dorsal deeply notched between spinous and soft portions; maxilla with scales; interorbital region flattened; caudal fin forked, the lobes relatively short (25–30% of SL) compared to other *Etelis*; membranes of dorsal and anal fins without scales; anal fin with 3 spines and 8 soft rays; 48–50 lateral line scales.
**Colour:** Mainly pink to red, becoming white on lower sides and belly.



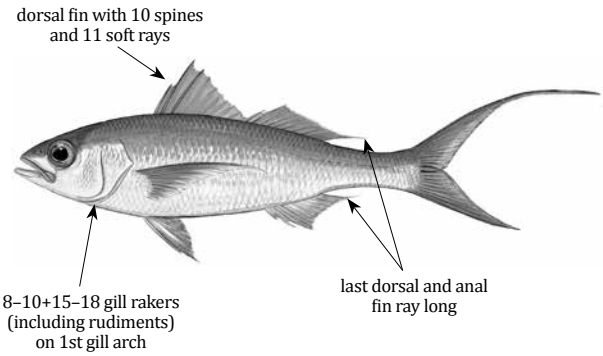

**Size:** To 127 cm, common 65 cm (TL)

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***Etelis coruscans*** Valenciennes, 1862

**FAO names:** Deepwater longtail red snapper (En)
Vivaneau flamme (Fr)

**Local name(s):** Nga Parr Ni A Hmee Shae.
**Habitat:** Rocky bottoms from 100 m to 300 m.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Usually one to a few canine or canine-like teeth on each side of both jaws anteriorly, followed by a series of conical teeth; vomer and palatines with teeth; dorsal deeply notched between spinous and soft portions; maxilla with scales; interorbital region flattened; upper caudal fin lobe becoming greatly elongate with growth; membranes of dorsal and anal fins without scales; anal fin with 3 spines and 8 soft rays; 48–50 tubed lateral line scales.
**Colour:** Back and upper sides deep pink to red; lower sides and belly pink to white; fins pink to red.

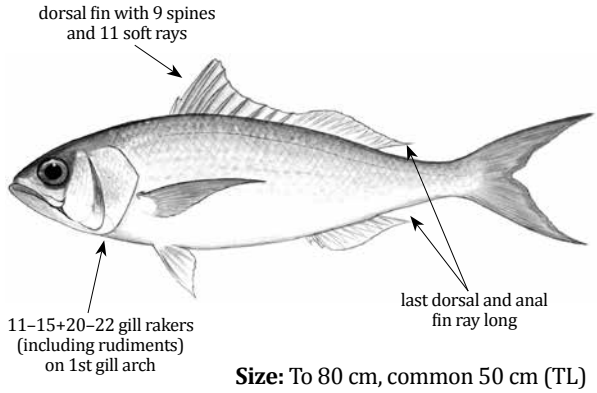



**Size:** To 120 cm, common 50 cm (TL)

## *Etelis radiosus* Anderson, 1981

**FAO names:** Scarlet snapper (En)
Vivaneau écarlate (Fr)

**Local name(s):** Nga Parr Ni Sin Lone Chaw.
**Habitat:** Rocky bottoms at depths between about 90–360 m.
**Fisheries:** Caught mainly with deep handlines.
**Distinctive Characters:** Small conical teeth in jaws with a few anterior ones in each jaw enlarged, sometimes into canine-like teeth; maxilla with scales, but without longitudinal ridges; interorbital region flattened; last soft ray of both dorsal and anal fins prolonged, longer than penultimate ray; caudal fin lunate, with a notch at the middle of the distal margin of the fin; anal fin with 3 spines and 8 soft rays; 50–51 lateral line scales.
**Colour:** Mainly red, lighter on lower sides and belly.

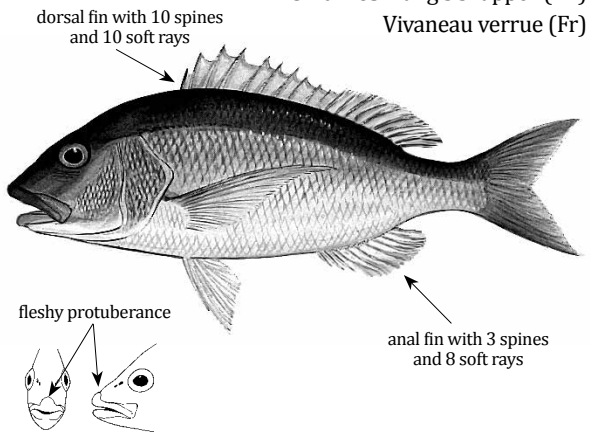



**Size:** To 80 cm, common 50 cm (TL)

## *Lipocheilus carnolabrum* (Chan, 1970)

**FAO names:** Tang's snapper (En)
Vivaneau verrue (Fr)

**Local name(s):** Nga Parr Ni War Nyo Yaung.
**Habitat:** Occurs over rocky bottoms of the continental shelf at depths between 90–300 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Mouth large, the upper jaw protruding when mouth is closed; adults with a thick, fleshy protrusion at anterior end of upper lip; maxilla without scales; interorbital region somewhat flattened to slightly convex; 5–7+11–14 gill rakers on 1st gill arch; vomerine teeth (on roof of mouth) in a chevron-shaped patch, without a medial posterior extension; no teeth on tongue; 49–54 scales in lateral line.
**Colour:** Back and upper part of head brown; yellowish or pinkish on sides; a silvery sheen on ventral portion of body; juveniles frequently with about 5 saddles on back and yellow fins.

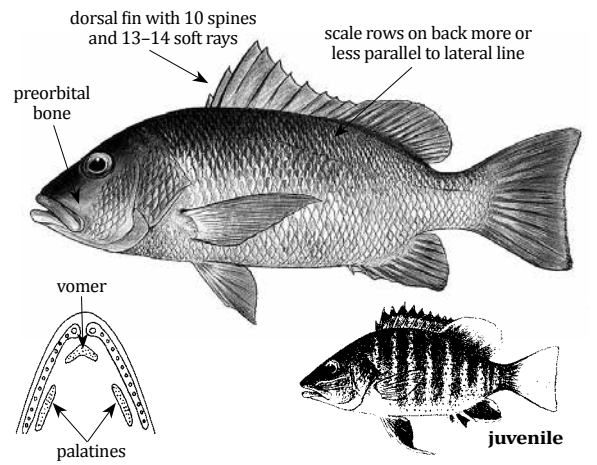



**Size:** To >50 cm (SL)

## *Lutjanus argentimaculatus* (Forsskål, 1775)

**FAO names:** Mangrove red snapper (En)
Vivaneau des mangroves (Fr)

**Local name(s):** Mangrove Nga Parr Ni.
**Habitat:** Juveniles and young adults in mangrove estuaries and lower reaches of freshwater streams; adults in deeper reef areas down to 120 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone relatively broad, wider than eye diameter; jaw teeth conical with upper canines notably enlarged (true of all *Lutjanus* species); preopercular notch and knob poorly developed; vomerine teeth in a V-shaped patch, without a medial posterior extension; tongue with a patch of granular teeth; 16–20 gill rakers on 1st gill arch.
**Colour:** Back and sides greenish brown to reddish; belly silvery or whitish; specimens from deep water frequently overall reddish; juveniles with a series of about 8 whitish bars crossing sides, and 1 or 2 blue lines across cheek.

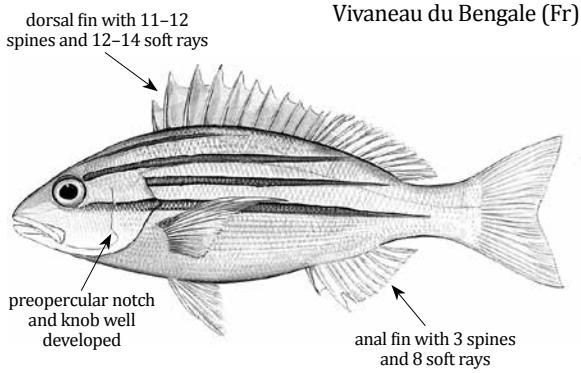



**Size:** To 150 cm, common 80 cm (TL)

## *Lutjanus bengalensis* (Bloch, 1790)

**FAO names:** Bengal snapper (En)
Vivaneau du Bengale (Fr)

**Local name(s):** Nga Parr Ni A Pyar Lay Zin.
**Habitat:** Coral and rocky reefs from 10 m to 30 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone relatively narrow, its width usually less than eye diameter; vomerine teeth in a V-shaped patch, without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; 26–28 gill rakers on 1st gill arch.
**Colour:** Back and sides yellowish; belly whitish; sides with a series of 4 bright blue stripes; no black spot on back below middle of dorsal fin; the medial fins are yellow, the pectoral and pelvic fins whitish.

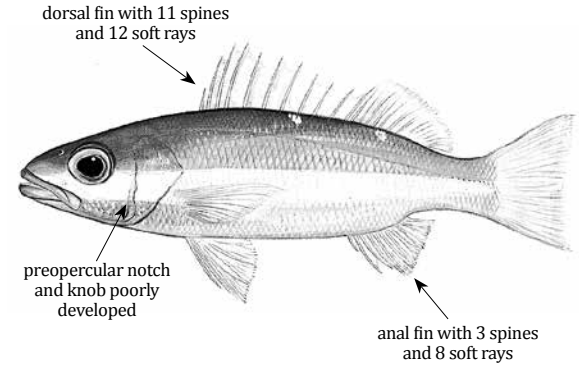



**Size:** To 30 cm, common 20 cm (TL)

## *Lutjanus biguttatus* (Valenciennes, 1830)

**FAO names:** Twospot banded snapper (En)
Vivaneau du à bande blanche (Fr)

**Local name(s):** Nga Parr Ni Kyaw Phyu Hnit Set.
**Habitat:** Coral and rocky reefs from 5-25 m; sometimes in large schools of more than 100 individuals.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone narrow, its width less than 1/2 of eye diameter; vomerine tooth patch triangular, with a medial posterior extension, or diamond-shaped; tongue smooth, toothless; scale rows on back rising obliquely above lateral line; 23–25 gill rakers on 1st gill arch.
**Colour:** Back and upper sides dark brown; lower sides and belly golden-brown to yellowish; a broad pearly white stripe from below eye to base of caudal fin; 2 small white spots on upper back, 1 below base of seventh dorsal fin spine and 1 below middle of soft part of dorsal fin.

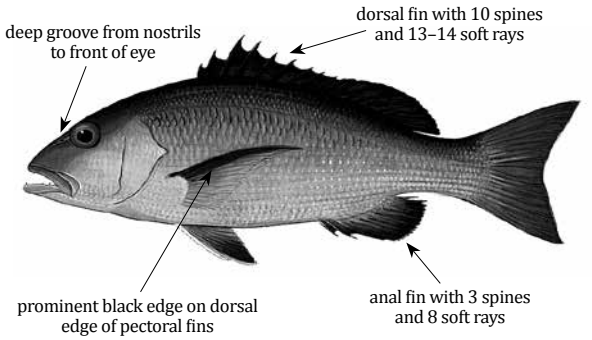



**Size:** To 20 cm, common 15 cm (TL)

## *Lutjanus bohar* (Forsskål, 1775)

**FAO names:** Two-spot red snapper (En)
Vivaneau chien rouge (Fr)

**Local name(s):** Nga Parr Ni Kyaw Phyu Hnit Set.
**Habitat:** Channel and seaward reefs down to 180 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone relatively broad, its width usually greater than eye diameter; head profile slightly convex; preopercular notch and knob moderately developed; vomerine teeth in a V-shaped patch, without a medial posterior extension; tongue with a patch of granular teeth; 22–23 gill rakers on 1st gill arch.
**Colour:** Dark reddish brown on back, shading to red on sides, the scales with a whitish spot, thus forming a linear pattern; juveniles and some adults with 2 distinct silvery spots on body between lateral line and dorsal fin; usually centre of each scale silvery.

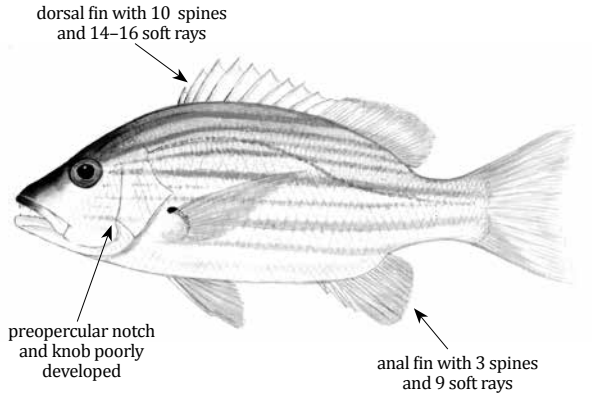



**Size:** To 90 cm, common 60 cm (TL)

## *Lutjanus carponotatus* (Richardson, 1842)

**FAO names:** Spanish flag snapper (En)
Vivaneau drapeau (Fr)

**Local name(s):** Nga Parr Ni Pyar Nyo Zin.
**Habitat:** Coral reefs in both sheltered lagoons and on outer reef slopes in depths between about 2–80 m; often in schools of up to 20 to 30 individuals.
**Fisheries:** Mainly bottom trawled.
**Distinctive Characters:** Preorbital bone about equal to eye diameter, or slightly wider; dorsal profile of head steeply sloped; vomerine tooth patch triangular, with a medial posterior extension, or diamond-shaped; tongue with a patch of granular teeth; 15–18 gill rakers on first gill arch.
**Colour:** Back and upper sides blue-grey or brownish; lower sides and belly white or yellow-white; a series of 8–9 yellow, or golden-brown stripes on sides; fins yellowish; pectoral fin with a distinct black spot at base of uppermost rays and in axil.

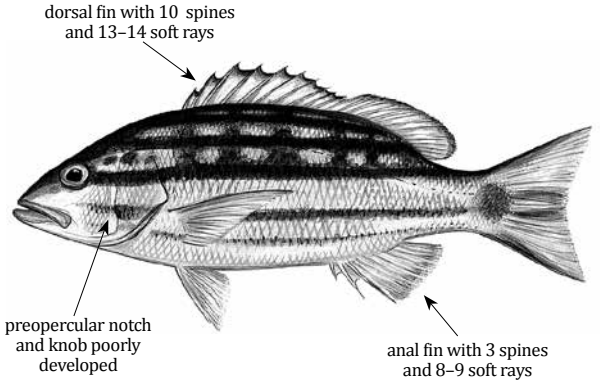



**Size:** To 40 cm, common 30 cm (TL)

## *Lutjanus decussatus* (Cuvier, 1828)

**FAO names:** Checkered snapper (En)
Vivaneau damier (Fr)

**Local name(s):** Nga Parr Ni Kyaw Nyo Zin.
**Habitat:** Coral reefs usually at depths between about 5–30 m.
**Fisheries:** Hand-line and occasionally bottom trawl.
**Distinctive Characters:** Preorbital bone usually about equal to eye diameter or slightly narrower; dorsal profile of head moderately sloped; preopercular notch and knob poorly developed; vomerine tooth patch crescentic, without a medial posterior extension; tongue with a patch of granular teeth; 14–16 gill rakers on first gill arch.
**Colour:** Generally whitish with a "checker-board" pattern on upper half of sides, consisting of dark brown bars and stripes surrounding rectangular, whitish "windows"; lower half of sides with 2 dark brown stripes; a large black spot covering most of caudal fin base.

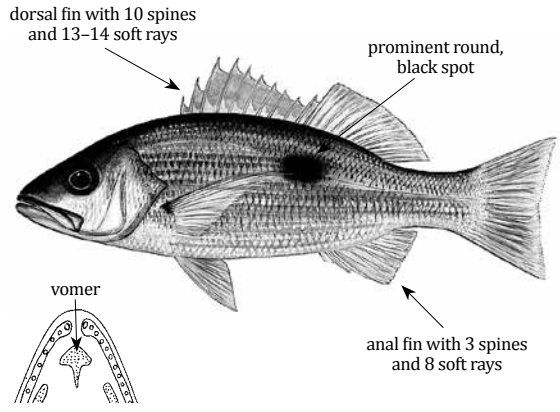



**Size:** To 30 cm, common 20 cm (TL)

## *Lutjanus ehrenbergii* (Peters, 1869)

**FAO names:** Blackspot snapper (En)
Vivaneau encrier (Fr)

**Local name(s):** ): Nga Parr Ni Kyaw Nyo Kwet.
**Habitat:** Occurs in coastal lagoon and seaward reefs from 5 m to 20 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone very narrow, about 1/2 of eye diameter; scale rows on back parallel to lateral line; preopercular notch and knob poorly developed; vomerine teeth (on roof of mouth) in a triangular patch with a short, median posterior projection; tongue with a patch of granular teeth; 16–21 gill rakers on 1st gill.
**Colour:** Body grey-brown dorsally, the edges of the scales darker than centres, shading to silvery grey on sides and ventrally, with 4–5 narrow yellow stripes on body below lateral line; fins yellow.

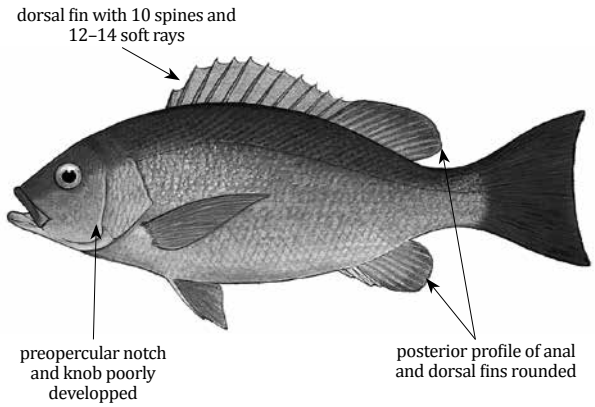



**Size:** To 35 cm, common 20 cm (TL)

## *Lutjanus erythropterus* Bloch, 1790

**FAO names:** Crimson snapper (En)
Vivaneau cramoisi (Fr)

**Local name(s):** Nga Parr Ni Pan Nu Yaung.
**Habitat:** Inhabits trawling grounds and reefs to depths of at least 100 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Mouth relatively small, length of upper jaw smaller than distance between base of last dorsal and anal fin rays; vomerine teeth (on roof of mouth) in a V-shaped or triangular patch, without a medial posterior extension; no teeth on tongue; scale rows on back rising obliquely above lateral line; anal fin with 3 spines and 8 soft rays; 18–19 gill rakers on 1st gill arch.
**Colour:** Overall pink or red, including fins; juveniles with a broad, oblique, black band extending from mouth to beginning of dorsal fin and a large black spot at base of caudal fin; frequently with narrow red stripes.

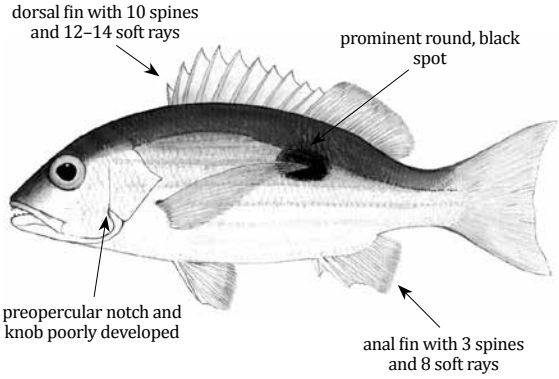



**Size:** To 81.6 cm (FL)

## *Lutjanus fulviflamma* (Forsskål, 1775)

**FAO names:** Dory snapper (En)

**Local name(s):** Nga Parr Ni Kyaw Me' Kywet.
**Habitat:** Coral reefs from 3 m to 35 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone about equal in width to eye diameter or slightly less; vomerine tooth patch (on roof of mouth) triangular, with a medial posterior extension; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line; 16–19 gill rakers on 1st gill arch.
**Colour:** Back and upper sides brown; lower sides whitish or light brown; a series of 6–7 yellow stripes on sides; fins yellowish.

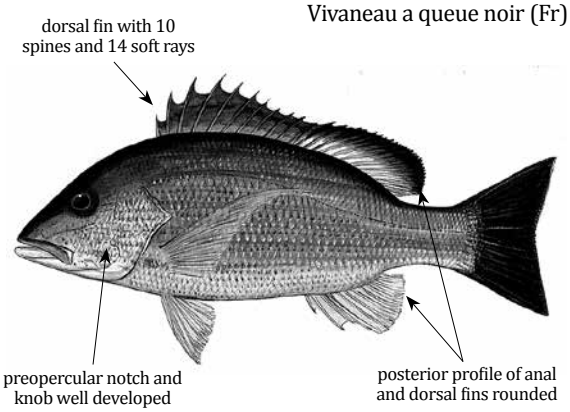



**Size:** To 35 cm, common 30 cm (TL)

## *Lutjanus fulvus* (Forster, 1801)

**FAO names:** Blacktail snapper (En)
Vivaneau a queue noir (Fr)

**Local name(s):** Nga Parr Ni A Hmee Me'.
**Habitat:** Coral reefs, lagoons and outer reef slopes from 1 m to 75 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone about equal in width to eye diameter; vomerine teeth (on roof of mouth) in a V-shaped patch, without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; anal fin with 3 spines and 8 soft rays; 16–20 gill rakers on 1st gill arch.
**Colour:** Back and sides grey to brown; often with a series of narrow yellow of golden-brown stripes; belly and underside of head whitish; caudal fin blackish, dorsal and caudal fins with a narrow white border; pelvic and anal fins yellowish.

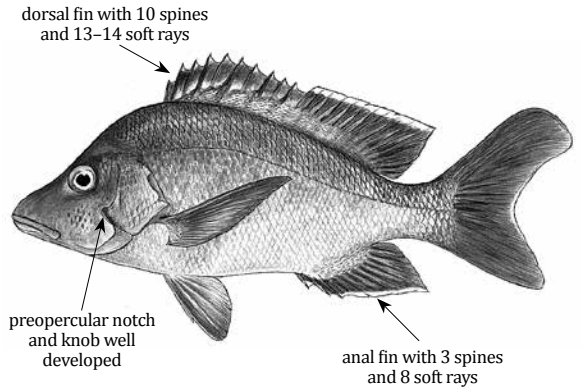



**Size:** To 40 cm, common 25 cm (TL)

## *Lutjanus gibbus* (Forsskål, 1775)

**FAO names:** Humpback red snapper (En)
Vivaneau pagaie (Fr)

**Local name(s):** Nga Parr Ni Kharr Kone.
**Habitat:** Lagoons and coral reefs from 1 m to 150 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Dorsal profile of head steeply sloped; preorbital bone broad, much wider than eye diameter; preopercular notch and knob well developed; vomerine teeth in a V-shaped patch, without a medial posterior extension; tongue toothless; caudal fin distinctly forked with rounded lobes; scale rows on back rising obliquely above lateral line; 25–30 gill rakers on 1st gill arch.
**Colour:** Red or grey, darker on back and upper portion of head; an orange hue on lower part of opercle and in pectoral fin axil; fins red or frequently dark brown to blackish; juveniles with a large round black spot at base of caudal fin.

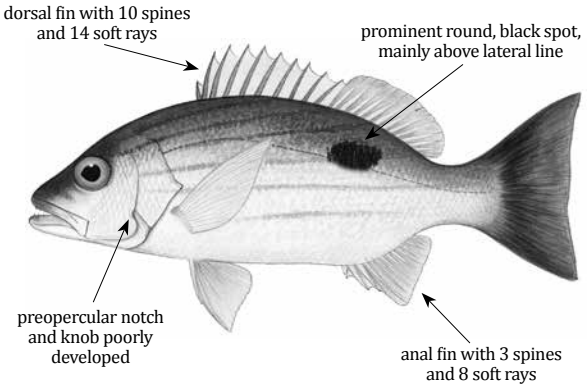



**Size:** To 50 cm, common 40 cm (TL)

## *Lutjanus indicus* Allen, White & Erdmann, 2013

**FAO names:** Indian snapper (En)

**Local name(s):** India Nga Parr Ni.
**Habitat:** Inhabits offshore coral reefs and also inshore rock and coral reefs; juveniles found in brackish mangrove estuaries and lower reaches of freshwater streams.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital width about equal to, or slightly less than eye diameter; vomerine tooth patch triangular, with a median posterior extension or diamond-shaped; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line; 13–18 gill rakers on 1st gill arch.
**Colour:** Back and upper side brownish; lower sides and belly pink to whitish with a silvery sheen; 7 narrow yellow to brown stripes on sides, obliquely rising (except lower 2) dorsally and posteriorly which are present on both juveniles and adults.

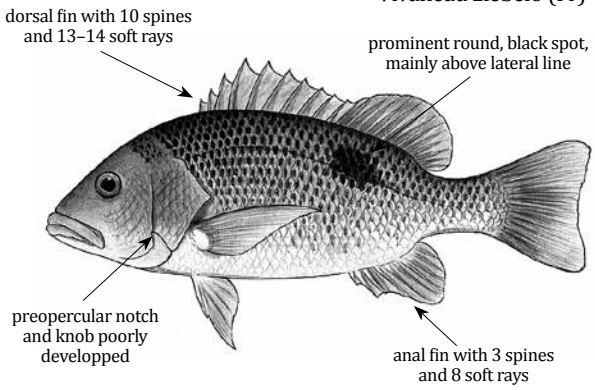



**Size:** To 22.6 cm (SL)

## *Lutjanus johnii* (Bloch, 1792)

**FAO names:** John's snapper (En)
Vivaneau ziebelo (Fr)

**Local name(s):** Nga Parr Ni Kyaw Ni Kywet.
**Habitat:** Juveniles occur in brackish mangrove estuaries, adults on coral reefs down to 80 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital width equal to eye diameter or larger; vomerine teeth in a V-shaped patch, without a medial posterior extension; tongue with a patch of fine granular teeth; scale rows on back parallel to lateral line; 17–18 gill rakers on 1st gill arch.
**Colour:** Generally yellow with a bronze to silvery sheen, grading to silvery white on belly and underside of head; centre of each scale on side with a reddish brown spot forming longitudinal rows on side of body.

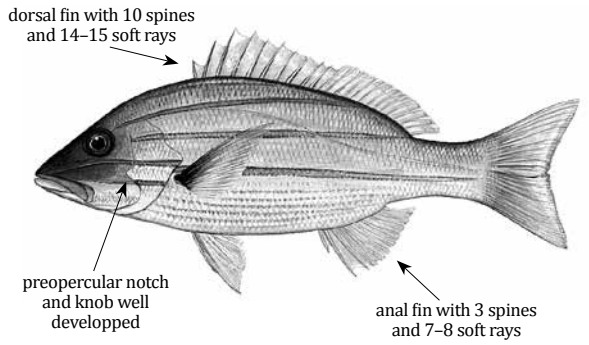



**Size:** To 97 cm, common 50 cm (TL)

***Lutjanus kasmira*** (Forsskål, 1775)

**FAO names:** Common bluestripe snapper (En)
Vivaneau à raies bleues (Fr)

**Local name(s):** Nga Parr Ni A Pyar Zinn.
**Habitat:** Shallow sheltered reefs to exposed seaward reefs, below surge zone down to 265 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital width usually greater than eye diameter; vomerine teeth in a V-shaped patch, without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; 20–22 gill rakers on 1st gill arch.
**Colour:** Yellow with abrupt transition to white on lower one-third; a series of 4 blue stripes on yellow portion of body; several faint greyish stripes on lowermost part of sides; fins yellow.



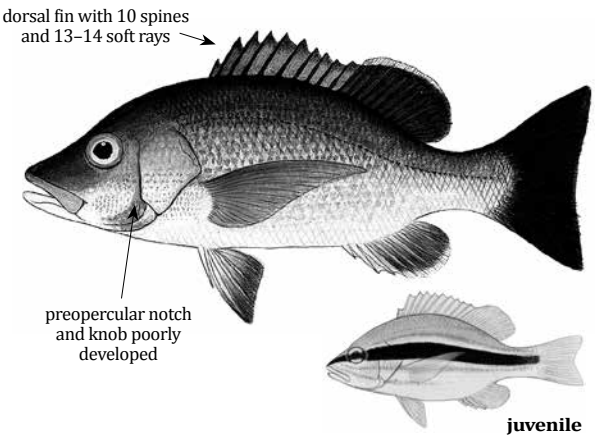

**Size:** To 40 cm, common 25 cm (TL)

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***Lutjanus lemniscatus*** (Valenciennes, 1828)

**FAO names:** Yellowstreaked snapper (En)
Vivaneau à raies jaunes (Fr)

**Local name(s):** Nga Parr Ni Than Lwin Yaung.
**Habitat:** Inhabits offshore reefs to depths of 70 to 80 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Snout profile slightly concave; preorbital bone usually much greater than eye diameter (at least in larger specimens); vomerine teeth in a crescentic band, without a medial posterior extension; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line extension; anal fin with 3 spines and 8 soft rays; 18–21 gill rakers on 1st gill arch.
**Colour:** Back and upper sides grey-brown or olive; belly and underside of head whitish; dorsal and caudal fins brownish, remaining fins pink or reddish; juveniles with a broad black horizontal band from snout tip to caudal fin base.



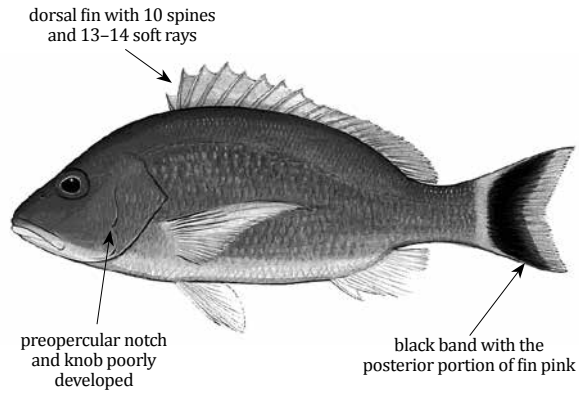

**Size:** To 65 cm, common 35 cm (TL)

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***Lutjanus lunulatus*** (Park, 1797)

**FAO names:** Lunartail snapper (En)
Vivaneau queue (Fr)

**Local name(s):** Nga Parr Ni A Hmee Me' Zin.
**Habitat:** Inhabits coral reefs at depths between about 10 and 30 m; usually seen solitarily or in small groups.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital width about equal to eye diameter; vomerine teeth (on roof of mouth) in a V-shaped patch, without a medial posterior extension; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line; anal fin with 3 spines and 8 soft rays; 15–18 gill rakers on 1st gill arch.
**Colour:** Back and upper side brown to reddish pink; rear half of maxilla, lower part of preopercle, breast and abdomen creamy yellow; dorsal fin reddish pink to clear; caudal fin with broad, black crescent; pectoral, anal, and pelvic fins yellow.

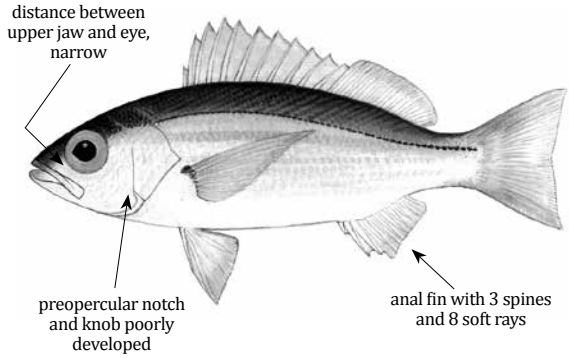



**Size:** To 40 cm (TL)

## *Lutjanus lutjanus* Bloch, 1790

**FAO names:** Bigeye snapper (En)
Vivaneau gros yeux (Fr)

**Local name(s):** Nga Parr Ni Myet Pyuu.
**Habitat:** Offshore coral reefs down to 90 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body fusiform and slender, its depth 2.9–3.3 in SL; dorsal fin with 10–12 (usually 11) spines and 12 soft rays; preorbital bone very narrow, much less than eye diameter; vomerine teeth in a triangular patch, with a medial posterior extension; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line; 24–26 gill rakers on 1st gill arch.
**Colour:** Background colour yellowish or pale brown, with a stronger dark yellow stripe along sides from tip of snout, through eye, to caudal fin; fins pale yellow to whitish.

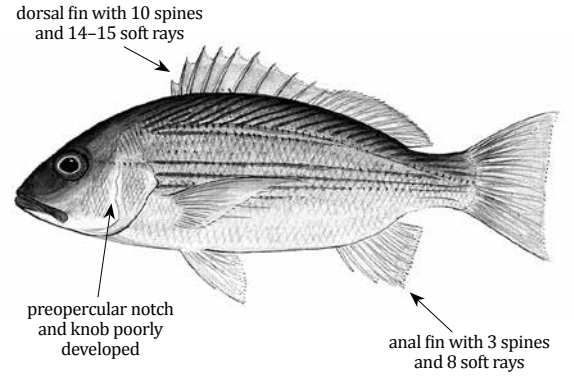



**Size:** To 35 cm, common 20 cm (TL)

## *Lutjanus madras* (Valenciennes, 1831)

**FAO names:** Indian snapper (En)
Vivaneau madras (Fr)

**Local name(s):** Nga Parr Ni Ka Lar.
**Habitat:** Coral and rocky reefs at depths of 5–90 m.
**Fisheries:** Caught mainly with handlines and gill nets.
**Distinctive Characters:** Body fusiform, somewhat slender, its depth 2.6–3.1 in SL; preorbital width about equal to 2/3 of eye diameter; vomerine tooth patch triangular with a medial posterior extension or diamond-shaped; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line; 18–21 gill rakers on first gill arch.
**Colour:** Upper back brownish; sides whitish with a series of fine yellow horizontal lines, 1 per scale row, on lower half of body, and similar brownish lines running obliquely above lateral line; fins yellow except pelvic fins frequently white or faintly yellow.

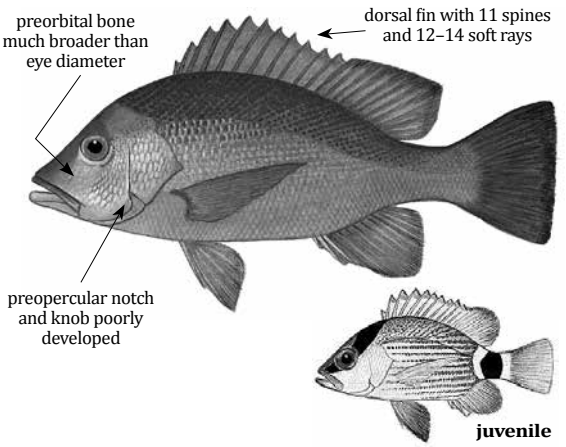



**Size:** To 30 cm, common 20 cm (TL)

## *Lutjanus malabaricus* (Bloch & Schneider, 1801)

**FAO names:** Malabar blood snapper (En)
Vivaneau malabar (Fr)

**Local name(s):** Nga Parr Ni Thway Yaung.
**Habitat:** Inhabits both coastal and offshore reefs from about 12–100 m depth.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Mouth large, maxilla length about equal to distance between bases of last dorsal and anal fin rays; vomerine teeth in a triangular patch, without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; anal fin with 3 spines and 8–9 soft rays; 18–20 gill rakers on 1st gill arch.
**Colour:** Back and sides red or red-orange, lighter on lower parts; fins reddish; juveniles with a broad, oblique band of brown or black from upper jaw to beginning of dorsal fin, and a prominent black band across caudal peduncle with a pearly white anterior border.

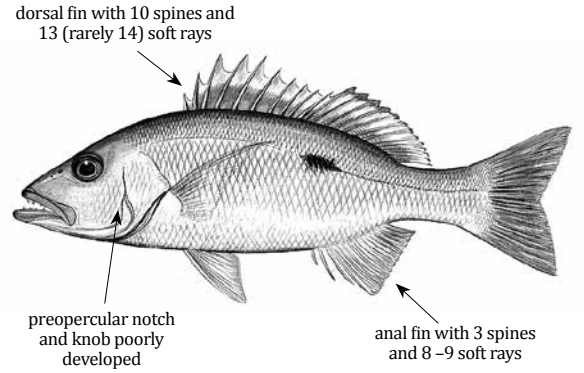



**Size:** To 100 cm, common 50 cm (TL)

## *Lutjanus monostigma* (Cuvier, 1828)

**FAO names:** Onespot snapper (En)
Vivaneau eglefin (Fr)

**Local name(s):** Nga Parr Ni Suu Taung Warr.
**Habitat:** Coral reefs close to shelter, in depths from 5–30 m.
**Fisheries:** Caught mainly with gillnets
**Distinctive Characters:** Preorbital width about equal to eye diameter; vomerine tooth patch crescentic, without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; 18–19 gill rakers on 1st gill arch.
**Colour:** Generally yellowish to pinkish with dusky scale margins; grey or brown on upper back and dorsal portion of head; a black spot, sometimes faint or absent, on back below anterior soft dorsal fin rays; fins yellowish.



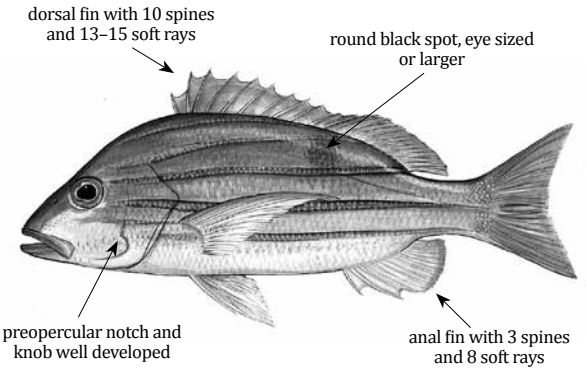

**Size:** To 60 cm, common 50 cm (TL)

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## *Lutjanus quinquelineatus* (Bloch, 1790)

**FAO names:** Five-lined snapper (En)
Vivaneau à cinq bandes (Fr)

**Local name(s):** Nga Parr Ni Line Ngar Zinn.
**Habitat:** Inhabits sheltered lagoons and exposed, outer slope coral reefs at depths ranging from 2–40 m; frequently encountered in large aggregations inlcuding 100 or more individuals.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital width usually less than eye diameter; vomerine teeth (on roof of mouth) in a V-shaped patch, without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; 20–23 gill rakers on 1st gill arch.
**Colour:** Upper part of head brownish; sides and belly bright yellow; a series of 5 bright blue stripes on sides; fins yellow.



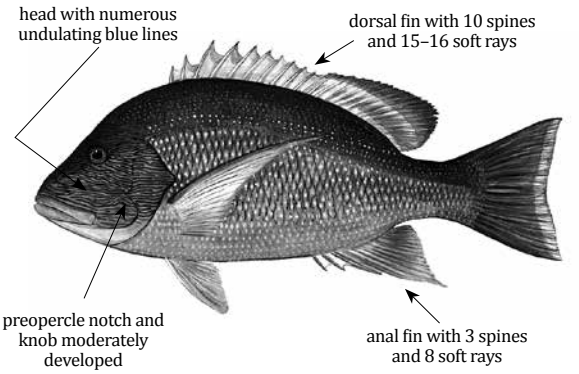

**Size:** To 38 cm, common 30 cm (TL)

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## *Lutjanus rivulatus* (Cuvier, 1828)

**FAO names:** Blubberlip snapper (En)
Vivaneau maori (Fr)

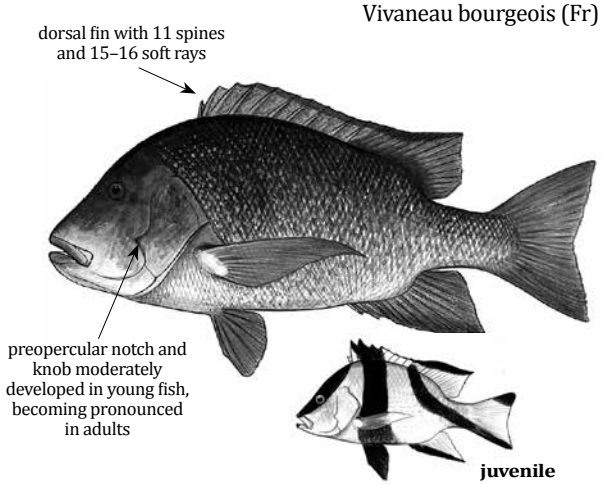
**Local name(s):** Nga Parr Ni Gaung Pyar Zinn.
**Habitat:** Coral reefs from 50 m to 100 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone broad, about twice the eye diameter; vomerine teeth (on roof of mouth) in a V-shaped patch without a medial posterior extension; tongue toothless; scale rows on back rising obliquely above lateral line; lips greatly thickened in adults; 17–18 gill rakers on 1st gill arch.
**Colour:** Generally brown with a reddish tinge; each scale on side with a pale brown border and 2–3 small bluish white spots in centre; juveniles with a series of 3–8 brown bars on sides and a chalky white spot, with a broad blackish margin, present below anterior soft dorsal fin rays.




**Size:** To 80 cm, common 60 cm (TL)

## *Lutjanus sebae* (Cuvier, 1816)

**FAO names:** Emperor red snapper (En)
Vivaneau bourgeois (Fr)

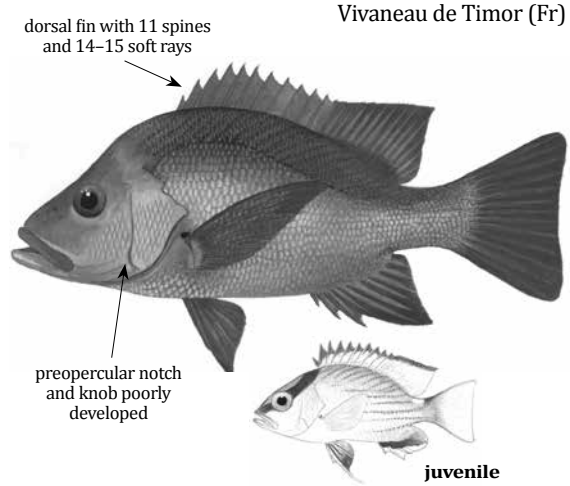



**Local name(s):** Nga Parr Ni Aye Ka Yit.
**Habitat:** Lagoons and sand flats near coral reefs from 10 m to 100 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital bone much wider than eye diameter; vomerine tooth patch a V-shaped or triangular patch, without a medial posterior extension; tongue toothless; lips in adults thick; scale rows on back rising obliquely above lateral line; anal fin with 3 spines and 10 soft rays; 16–19 gill rakers on 1st gill arch.
**Colour:** Generally red or pink in adults; juveniles and smaller adults pink with 3 dark red bands, the 1st from 1st dorsal fin spine through eye to tip of snout; the 2nd from middle of spinous part of dorsal fin to pelvic fins; and the 3rd from base of last dorsal fin spine running obliquely downward to lower edge of caudal fin.

**Size:** To 100 cm, common 60 cm (TL)

## *Lutjanus timorensis* (Quoy & Gaimard, 1824)

**FAO names:** Timor snapper (En)
Vivaneau de Timor (Fr)

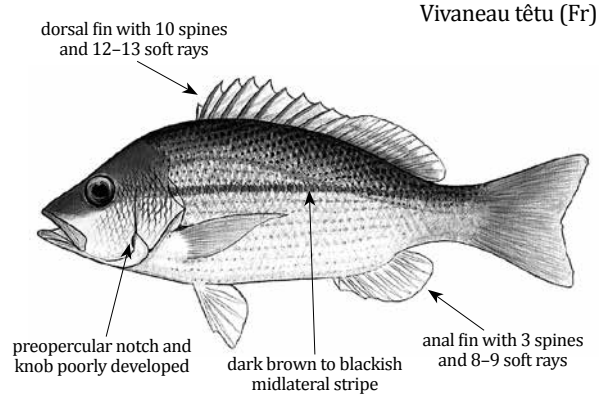



**Local name(s):** Timor Nga Parr Ni.
**Habitat:** Coral and rubble reefs at depths of about 20 m to at least 130 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Dorsal profile of head steeply sloped; preorbital width greater than eye diameter; vomerine tooth patch crescentic, without a medial posterior extension; tongue toothless; anal fin with 3 spines and 8 soft rays; 19–20 gill rakers on first gill arch.
**Colour:** Back and upper sides reddish; lower sides and belly red or pinkish to silvery white; fins reddish; axil of pectoral fins black. Juveniles with a broad blackish or brownish band from upper jaw to beginning of dorsal fin and a black saddle preceded by a pearly white border on upper edge of caudal peduncle; sides with a series of fine reddish brown lines.

**Size:** To 50 cm, common 30 cm (TL)

## *Lutjanus vitta* (Quoy & Gaimard, 1824)

**FAO names:** Humphead snapper (En)
Vivaneau têtu (Fr)



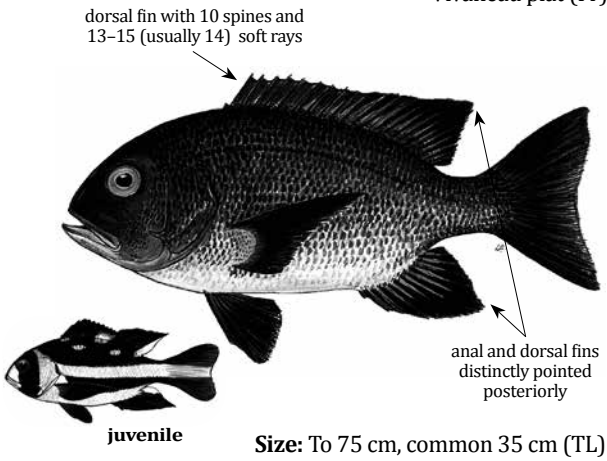

**Local name(s):** Nga Parr Ni Nyo Sinn.
**Habitat:** Reef-associated between 10 and 72 m depth.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Preorbital width about equal to eye diameter; vomerine tooth patch triangular with a medial posterior extension or diamond-shaped; tongue with a patch of granular teeth; scale rows on back rising obliquely above lateral line; 15–19 gill rakers on 1st gill arch.
**Colour:** Back and upper sides brown, lower sides and belly whitish or pink; narrow longitudinal brown lines on sides; juveniles also with an oval black spot, lying in the middle of the stripe below last dorsal fin spine.

**Size:** To 100 cm, common 70 cm (TL)

***Macolor niger*** (Forsskål, 1775)

**FAO names:** Black and white snapper (En)
Vivaneau plat (Fr)

**Local name(s):** Nga Parr Ni War Hmainn.
**Habitat:** Coral reefs from 3 m to 90 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Head profile distinctly convex; outer row of jaw teeth conical, enlarged anteriorly; vomerine tooth patch broadly V-shaped; scale rows on back parallel to lateral line; anal fin with 3 spines and 11 (rarely 10) soft rays; 89–107 gill rakers on 1st arch arch; pelvic fins short and rounded at all sizes; preopercular notch deep and narrow.
**Colour:** Adults mostly brownish black; individuals less than about 24 cm SL have black-and-white bands on body, about 5 (4 to 7) white spots on upper side, and white at tips of caudal fin lobes.

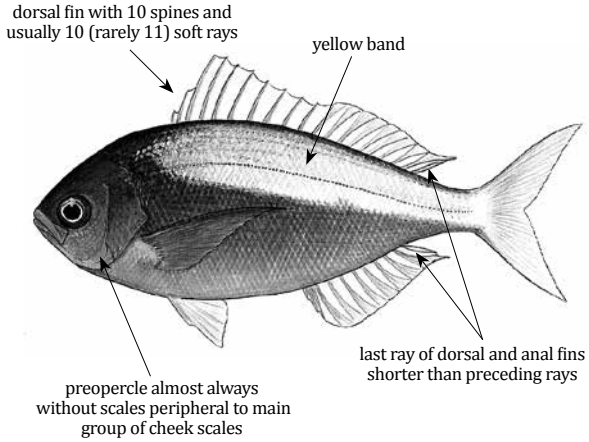



**Size:** To 75 cm, common 35 cm (TL)

***Paracaesio xanthura*** (Bleeker, 1869)

**FAO names:** Yellowtail blue snapper (En)
Vivanette queue jaune (Fr)

**Local name(s):** Nga Parr Ni Pyar War Zinn.
**Habitat:** Rocky bottoms from 20 m to 150 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Mouth terminal, jaws about equal; both upper and lower jaws with an outer row of conical teeth (some of these enlarged into caniniform teeth anteriorly) and with an inner band of very small teeth; vomerine tooth patch broadly V-shaped; anal fin with 3 spines and 8 (rarely 9) soft rays; interorbital space convex; membranes of dorsal and anal fins without scales; 28–35 gill rakers on 1st arch; caudal fin deeply forked.
**Colour:** Mainly bluish; broad yellow band on upper side beginning near anterior end of dorsal fin, continuing over most of caudal peduncle and out onto both lobes of caudal fin; dorsal fin grey to yellowish, other fins greyish or whitish.

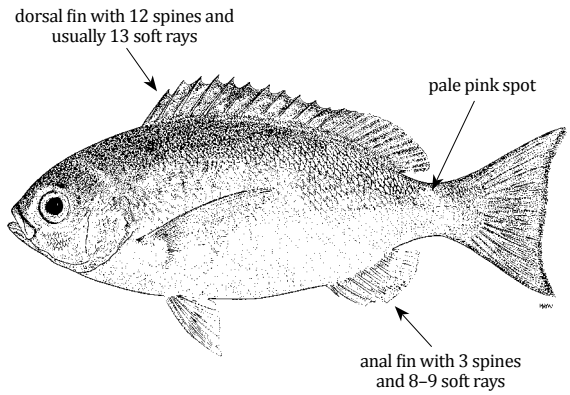



**Size:** To 50 cm (TL)

***Pinjalo lewisi*** Randall, Allen & Anderson, 1987

**FAO names:** Red pinjalo (En)

**Local name(s):** Nga Par Ni A Ni.
**Habitat:** Inhabits reefs and rocky bottoms in depths between about 20 and 150 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Dorsal profile of head convex; mouth small and oblique; no caniniform teeth at anterior ends of jaws; vomerine tooth patch broadly V-shaped; last ray of dorsal and anal fins shorter that preceding rays; dorsal and anal fins with scales basally; 23–25 gill rakers on 1st arch; caudal fin slightly emarginate.
**Colour:** Dorsal half of body red, shading ventrally to pinkish white, no diagonal dark lines on nape and body; head red except areas covered with scales are pinkish white; a curved pale pink spot dorsally on caudal peduncle; fins red.

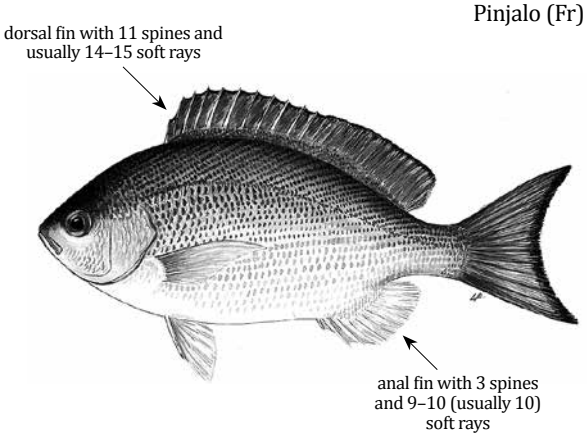



**Size:** To 50 cm (SL)

***Pinjalo pinjalo*** (Bleeker, 1850)

**FAO names:** Pinjalo (En)
Pinjalo (Fr)

**Local name(s):** Nga Parr Ni Pann Ni Thway.
**Habitat:** Reefs and rocky bottoms down to 60 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Dorsal profile of head convex; mouth small and oblique; no caniniform teeth at anterior ends of jaws; vomerine tooth patch broadly V-shaped; last ray of dorsal and anal fins shorter that preceding rays; dorsal and anal fins with scales basally; 22–26 gill rakers on 1st arch; caudal fin deeply lunate.
**Colour:** Body pink to silvery lavender dorsally, shading to pale pink or silvery white ventrally, with diagonal dark lines following scale rows on nape and dorsal 1/2 to 2/3 of body; dorsal and caudal fins reddish, usually suffused with yellow, the outer margin blackish; anal and pelvic fins light red to yellow; pectoral fins light red.

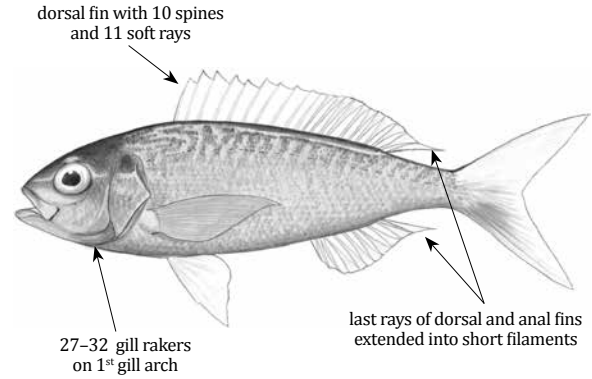



**Size:** To 80 cm, common 30 cm (TL)

***Pristipomoides auricilla*** (Jordan, Evermann & Tanaka, 1927)

**FAO names:** Goldflag jobfish (En)
Colas drapeau(Fr)

**Local name(s)**: Nga Parr Ni Shwe War Yaung.
**Habitat:** Rocky bottoms at depths between about 80–360 m.
**Fisheries:** Caught mainly with handlines.
**Distinctive Characters:** Upper and lower jaws both with an outer row of conical and canine teeth and an inner band of villiform teeth; maxilla without scales or longitudinal ridges; vomer and palatines with teeth, those on vomer in triangular patch; tongue toothless; interorbital space flat; anal fin with 3 spines and 8 soft rays; bases of dorsal and anal fins scaleless; caudal fin forked; 67–74 lateral line scales.
**Colour:** Body purplish or brownish violet; sides with numerous yellow spots or faint yellow chevron-shaped bands; dorsal fin yellowish to yellowish brown; upper lobe of caudal fin yellow.

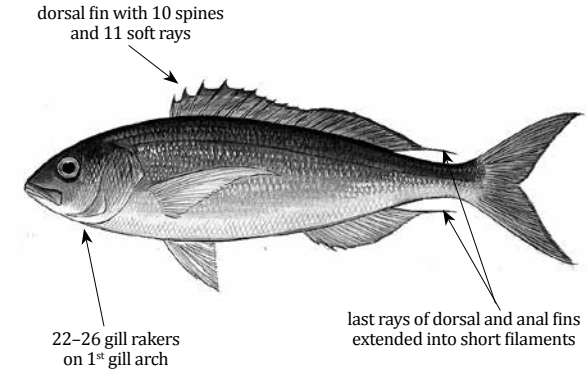



**Size:** To 40 cm, common 25 cm (SL)

***Pristipomoides filamentosus*** (Valenciennes, 1830)

**FAO names:** Crimson jobfish (En)
Colas fil (Fr)

**Local name(s):** Nga Parr Ni Kyet Thway Yaung.
**Habitat:** Rocky bottoms from 90 m to 360 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Length of upper jaw 2.4–2.7 in head length; caniniform teeth at anterior ends of jaws not appreciably enlarged; maxilla without scales; vomerine teeth in a triangular patch; tongue toothless; interorbital space flat; caudal fin deeply forked; anal fin with 3 spines and 8 (rarely 7 or 9) soft rays; bases of dorsal and anal fins scaleless; caudal fin forked; 57–62 lateral line scales.
**Colour:** Back and sides ranging from brownish to lavender or reddish purple; head with narrow yellow lines and blue spots; dorsal and caudal fins light blue or lavender with reddish orange margins.

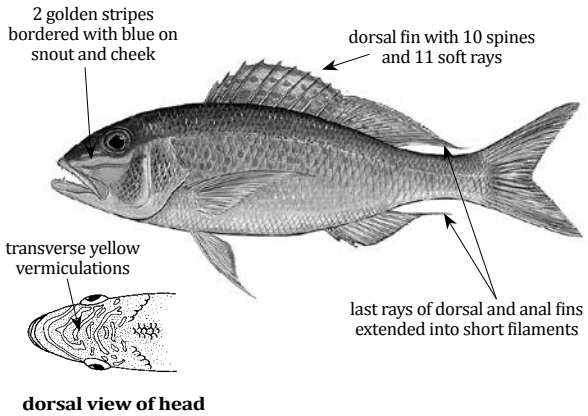



**Size:** To 80 cm or more, common 50 cm (SL)

***Pristipomoides multidens*** (Day, 1871)

**FAO names:** Goldband jobfish (En)
Colas à bande dorée (Fr)

**Local name(s):** Nga Parr Ni Shwe A Zinn.
**Habitat:** Rocky bottoms from 40 m to 350 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Suborbital wide, its width about 4–5 times in head length; anteriormost teeth in jaws enlarged into canines; interorbital space flat; vomerine teeth in chevron-shaped patch; maxilla without scales; no teeth on tongue; anal fin with 3 spines and 8 soft rays; bases of dorsal and anal fins scaleless; 48–50 lateral line scales; caudal fin deeply forked; 20–22 gill rakers on 1st gill arch.
**Colour:** Yellowish to rosy, with about 6 broken golden stripes on sides; top of head with a series of transverse brownish yellow vermiculations; dorsal fin with yellowish stripes or rows of spots.



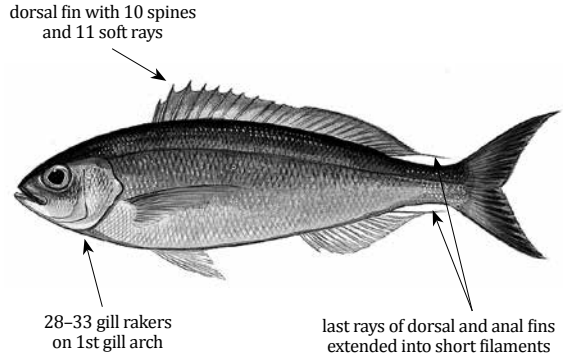

**Size:** To 70 cm, common 40 cm (SL)

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***Pristipomoides sieboldii*** (Bleeker, 1855)

**FAO names:** Lavender jobfish (En)
Colas lavande (Fr)

**Local name(s):** Nga Parr Ni Hteik Kywet.
**Habitat:** Rocky bottoms from 140 m to 360 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Caniniform teeth at anterior ends of jaws not appreciably enlarged; interorbital space flat; vomerine tooth patch with backward prolongation in midline (patch sometimes diamond-shaped); tongue with a heart-shaped patch of small teeth; anal fin with 3 spines and 8 soft rays; bases of dorsal and anal fins scaleless; caudal fin deeply forked; 69–74 lateral line scales.
**Colour:** Silvery with lavender hue; dark spots on top of head, more conspicuous in young; margin of dorsal fin orange; caudal fin purplish with inner margin of fork pale.



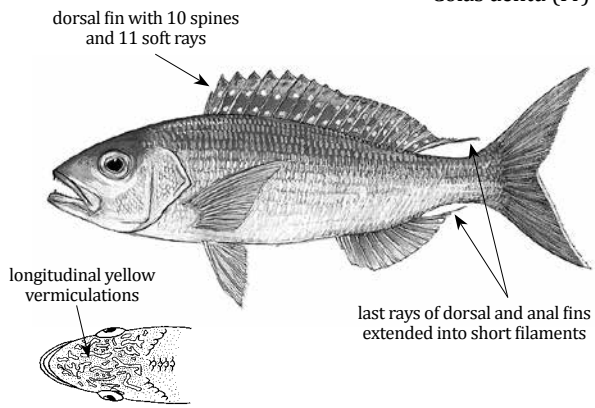

**Size:** To 50 cm or more, common 40 cm (SL)

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***Pristipomoides typus*** Bleeker, 1852

**FAO names:** Sharptooth jobfish (En)
Colas dentu (Fr)

**Local name(s):** Nga Parr Ni Dhar Basat.
**Habitat:** Rocky bottoms at depths between about 40–100 m.
**Fisheries:** Caught mainly handlines.
**Distinctive Characters:** Upper and lower jaws both with an outer row of conical teeth, a few of the anteriormost teeth enlarged into canines, and an inner band of villiform teeth; vomer and palatines with teeth, those on vomer in chevron-shaped patch; no teeth on tongue; anal fin with 3 spines and 8 soft rays; bases of dorsal and anal fins scaleless; caudal fin forked; 48-50 lateral line scales; 23–26 gill rakers on 1st gill arch.
**Colour:** Body and fins rosy; top of head with brownish yellow longitudinal vermiculations and spots; dorsal fin with wavy yellow lines.

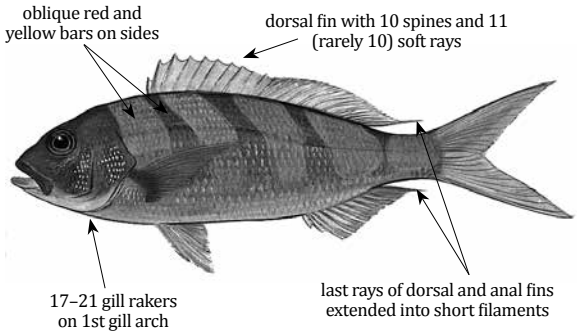



**Size:** To 50 cm, common 35 cm (SL)

***Pristipomoides zonatus*** (Valenciennes, 1830)

**FAO names:** Oblique-banded snapper (En)
Colas bagnard (Fr)

**Local name(s):** Nga Par Ni Bae Zin Kyar.
**Habitat:** Rocky bottoms from 70 m to 300 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Some anteriormost teeth in upper jaw enlarged and caniniform; interorbital space flattened to slightly convex; vomerine teeth in chevron-shaped patch; maxilla without scales; tongue toothless; anal fin with 3 spines and 8 soft rays; bases of dorsal and anal fins scaleless; 63–67 lateral line scales; caudal fin deeply forked.
**Colour:** Overall pink or reddish with alternating oblique red and yellow bars on side of body; dorsal and caudal fins yellow, other fins pink.



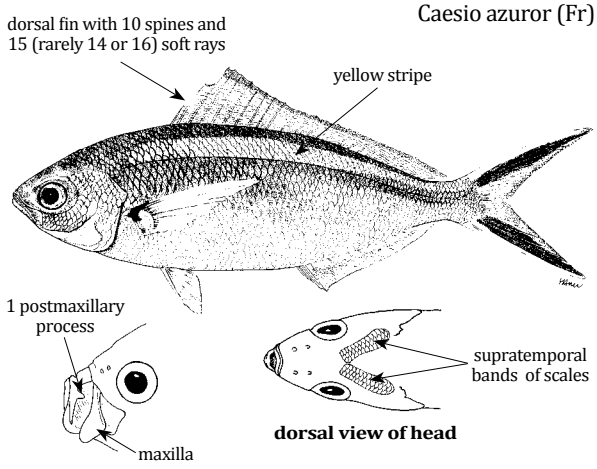

**Size:** To 40 cm, common 25 cm (SL)

## CAESIONIDAE
Fusiliers

***Caesio caerulaurea*** Lacepède, 1801

**FAO names:** Blue-and-gold fusilier (En)
Caesio azuror (Fr)

**Local name(s):** Shwe Wun Ni Pyar War Sinn.
**Habitat:** Coastal areas, primarily around coral reefs to depths of about 40 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** A single postmaxillary process (true of all *Caesio* species); small conical teeth in jaws, vomer, and palatines; anal fin with 3 spines and 12 (rarely 13) rays; supratemporal bands of scales often interrupted at dorsal midline by a scaleless zone, always a V-shaped scaleless zone anteriorly at midline intruding between the supratemporal band of scales.
**Colour:** Upper body bluish, lower body white to pale bluish with a single yellow stripe bordered above and below by a white or light blue stripe; caudal fin lobes with a black median streak; axil of pectoral fins with a black triangular patch.

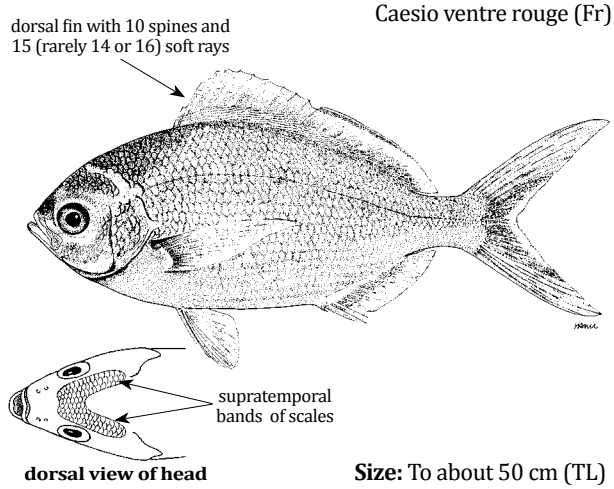



**Size:** To about 35 cm (TL)

***Caesio cuning*** (Bloch, 1791)

**FAO names:** Redbelly yellowtail fusilier (En)
Caesio ventre rouge (Fr)

**Local name(s):** Shwe Wun Ni Hmee War.
**Habitat:** Coastal areas, usually over rocky and coral reefs to depths of about 60 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body moderately deep compared with other species of *Caesio*; a single postmaxillary process; small, conical teeth in jaws, vomer, and palatines; anal fin with 3 spines and 11 (rarely 10 or 12) rays; supratemporal band of scales confluent at dorsal midline.
**Colour:** Caudal fin, upper caudal peduncle and posterior portion of back yellow; upper body, where not yellow, greyish blue; lower sides and belly white or pinkish; axil and upper base of pectoral fins black; dorsal fin yellow posteriorly and greyish blue anteriorly.

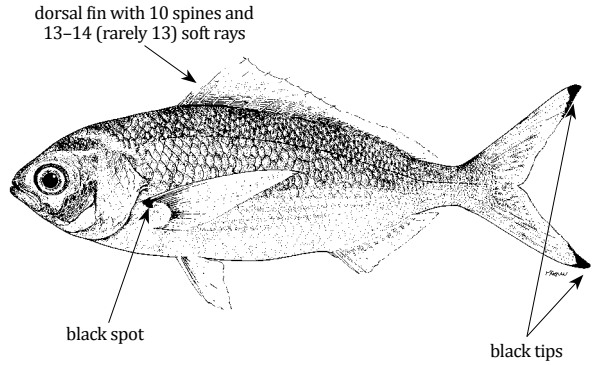



**Size:** To about 50 cm (TL)

***Caesio lunaris*** Cuvier, 1830

**FAO names:** Lunar fusilier (En)
Caesio à croissant (Fr)

**Local name(s):** Shwe Wun Ni Hmee Kywet.
**Habitat:** Coastal areas, on or near coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** A single postmaxillary process; small conical teeth in jaws, vomer, and palatines; anal fin with 3 spines and 10–11 (rarely 10) soft rays; supratemporal band of scales generally interrupted at dorsal midline by a narrow scaleless zone.
**Colour:** Body bluish, belly paler with narrow yellow lines below lateral line; midside of caudal peduncle and caudal fin yellow; tips of caudal fin lobes, axil of pectoral fins black; pectoral, pelvic, and anal fins white to pale blue (pink or reddish after death); dorsal fin with yellowish distal margin.



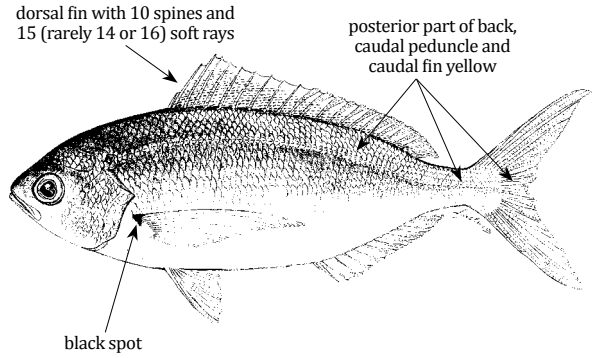

**Size:** To 40 cm (TL)

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***Caesio teres*** Seale, 1906

**FAO names:** Yellow-and-blueback fusilier (En)
Caesio à dos jaune et bleu (Fr)

**Local name(s):** Shwe Wun Ni Moe Pyar.
**Habitat:** Coastal areas, on or near coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** A single postmaxillary process; small teeth in jaws, vomer, and palatines; anal fin with 3 spines and 12 (rarely 13) rays; supratemporal band of scales interrupted at dorsal midline by a narrow scaleless zone.
**Colour:** Bright yellow on caudal fin, caudal peduncle, and body above a diagonal from just anterior to dorsal fin origin to ventral origin of caudal peduncle, except in large individuals where the yellow does not extend as far anteriorly; remainder of upper 2/3 of body bright blue, the lower 1/3 silvery white; axil and upper base of pectoral fins black.



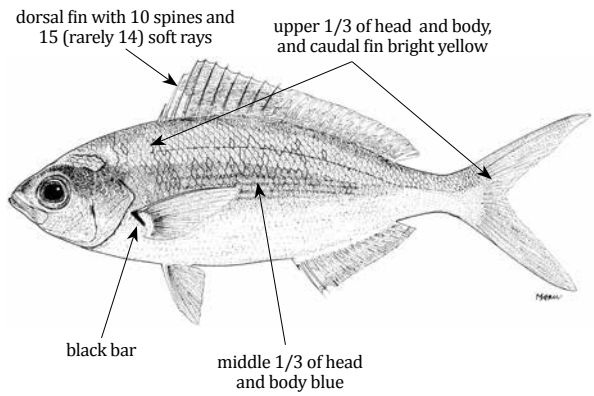

**Size:** To 40 cm (TL)

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***Caesio xanthonota*** Bleeker, 1853

**FAO names:** Yellowback fusilier (En)
Caesio à dos jaune (Fr)

**Local name(s):** Shwe Wun Ni Kyaw War Zinn.
**Habitat:** Coastal areas, on or near coral reefs and coral lagoons.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** A single postmaxillary process; small conical teeth in jaws, vomer, and palatines; anal fin with 3 spines and 12 (rarely 11) rays; supratemporal band of scales interrupted at dorsal midline by a narrow scaleless zone.
**Colour:** Upper third of body and head, including interorbital region, and caudal fin bright yellow, middle third blue, lower third white; axil and upper base of pectoral fins black; pectoral, pelvic, and anal fins white; dorsal fin yellow.

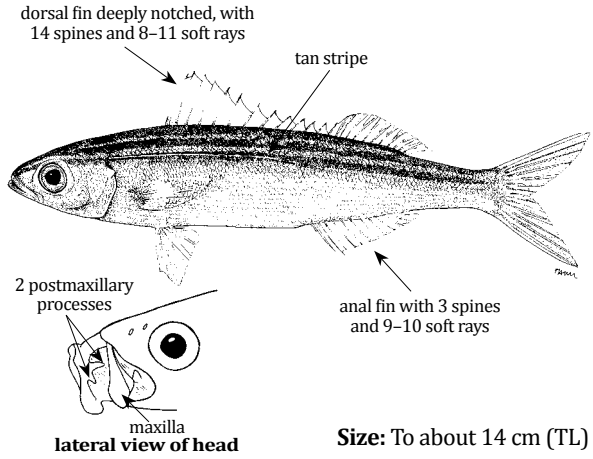



**Size:** To about 40 cm (TL)

## *Dipterygonotus balteatus* (Valenciennes, 1830)

**FAO names:** Mottled fusilier (En)
Fusilier marbré (Fr)

**Local name(s):** Nga Set Pyauk Nyo Chaw.
**Habitat:** Nearshore pelagic.
**Fisheries:** Caught at night using lights and dip nets; also bottom trawls.
**Distinctive Characters:** Body slender, fusiform, elongate, and moderately compressed; 2 postmaxillary processes; small conical teeth on dentary and vomer; premaxilla and palatines without teeth; supratemporal band of scales indistinct; dorsal and anal fins without scales.
**Colour:** Upper body brownish bronze; a thin, straight, tan stripe about 1 scale wide from orbit to caudal fin; above and parallel to this stripe 2 thin, irregular, and usually interrupted stripes of same colour; lower body silvery white; axil of pectoral fins black.

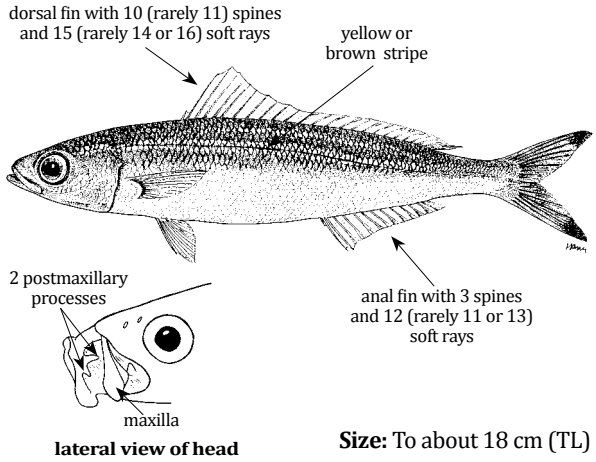



**Size:** To about 14 cm (TL)

## *Gymnocaesio gymnoptera* (Bleeker, 1856)

**FAO names:** Slender fusilier (En)
Fusilier élégant (Fr)

**Local name(s):** Shwe Wun Ni Hmee Kwet Ko Lone Thway.
**Habitat:** Coastal areas near coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body slender, fusiform, elongate, and moderately compressed; 2 postmaxillary processes; small conical teeth on dentary and vomer; premaxilla and palatines without teeth; dorsal and anal fins without scales.
**Colour:** Upper body bluish green, the centres of scales lighter, giving a striped appearance; a single yellow or brown stripe about 1 scale wide covering lateral line for most of its length, running dorsal to lateral line on caudal peduncle; often a bright blue longitudinal band directly below lateral line stripe; body silvery white ventrally; axil of pectoral fins black; tips of caudal fin lobes black.

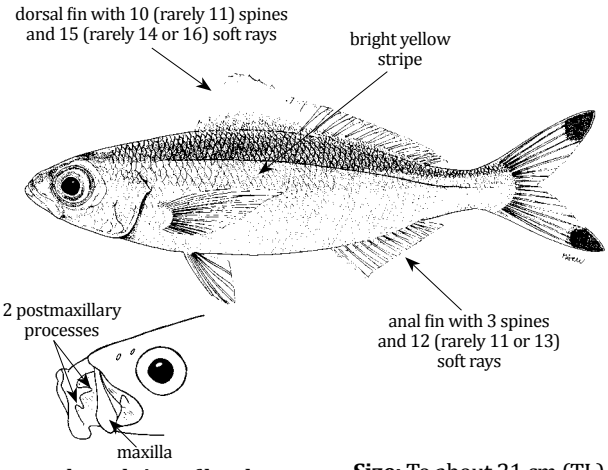



**Size:** To about 18 cm (TL)

## *Pterocaesio chrysozona* (Cuvier, 1830)

**FAO names:** Goldband fusilier (En)
Caesio ceinture d'or (Fr)

**Local name(s):** Shwe A Sin Hmee Kwet.
**Habitat:** Coastal areas near coral reefs.
**Fisheries:** Gillnets, bottom trawls (occasionaly).
**Distinctive Characters:** Body fusiform, elongate, and moderately compressed; 2 postmaxillary processes (true of all *Pterocaesio* species); small conical teeth in jaws, vomer, and palatines; dorsal and anal fins scaly, the dorsal fin with about ½ of its greatest spinous height covered with scales.
**Colour:** Upper body light blue to brownish, lower body white to pinkish; a bright yellow band directly below lateral line from behind eye to base of caudal fin, 2–3 scales wide anteriorly, tapering to 1 scale in width on caudal peduncle where it is above lateral line; a less conspicuous yellow stripe along dorsal midline; axil of pectoral fins black; tips of caudal fin lobes black.

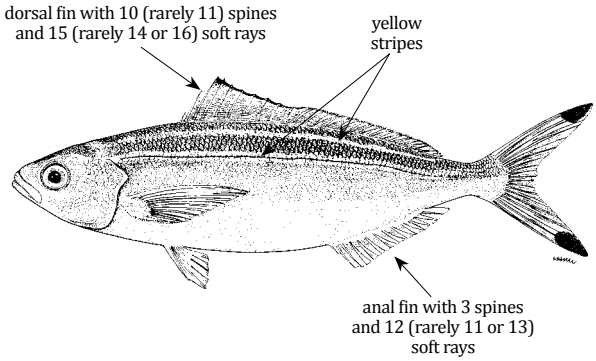



**Size:** To about 21 cm (TL)

***Pterocaesio marri*** Schultz, 1953

**FAO names:** Marr's fusilier (En)
Fusilier de Marr (Fr)

**Local name(s):** Shwe A Sin Hmee Kwet.
**Habitat:** Offshore areas near coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body fusiform, elongate, and moderately compressed; 2 postmaxillary processes; small conical teeth in jaws; vomer and palatines without teeth; dorsal and anal fins scaly, the dorsal fin with about ½ of its greatest spinous height covered with scales.
**Colour:** Two yellow longitudinal stripes laterally, about 1 scale wide each, the lower running from behind supratemporal membrane, covering lateral line to a vertical at about middle of soft portion of dorsal fin where it passes above lateral line for the length of caudal peduncle; upper stripe 1 to 2 scales below dorsal profile for most of length of body, ending dorsally on caudal peduncle; axil of pectoral fins and tips of caudal fin lobes black.

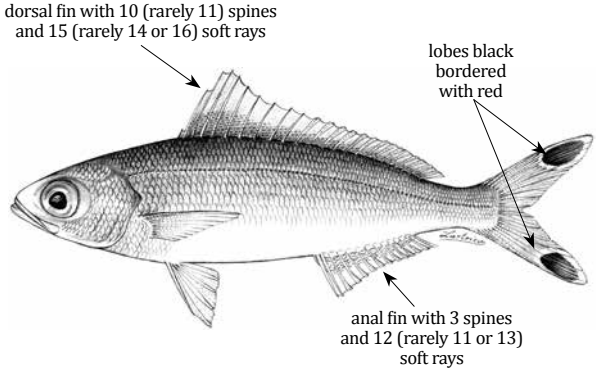



**Size:** To about 35 cm (TL)

***Pterocaesio pisang*** (Bleeker, 1853)

**FAO names:** Banana fusilier (En)
Fusilier banana (Fr)

**Local name(s):** Shwe A Sin Hmee Ni Kwet.
**Habitat:** Around coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body fusiform, elongate, and moderately compressed; 2 postmaxillary processes; small conical teeth in jaws, vomer, and palatines; dorsal and anal fins scaly, the dorsal fin with about 1/2 of its greatest spinous height covered with scales.
**Colour:** Body coloration variable, dark red to silvery, paler ventrally; lateral line darker than background coloration; no stripes or bands on side; snout often yellowish; axil of pectoral fins black; tips of caudal fin lobes black bordered with red.

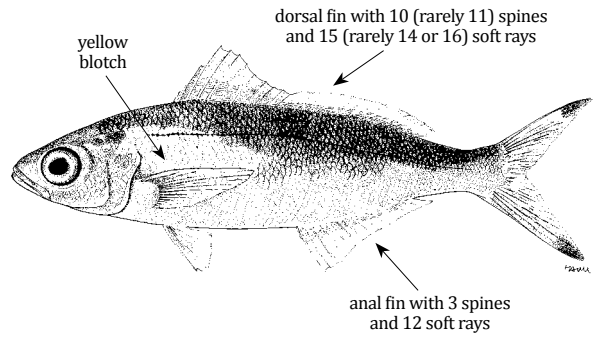



**Size:** To about 21 cm (TL)

***Pterocaesio randalli*** Carpenter, 1987

**FAO names:** Randall's fusilier (En)
Fusilier de Randall (Fr)

**Local name(s):** Shwe A Sin Shwe Kywet.
**Habitat:** Around coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body fusiform, elongate, and moderately compressed; 2 postmaxillary processes; small conical teeth in jaws; vomer and palatines without teeth; dorsal and anal fins scaly, the dorsal fin with about 1/2 of its spinous height covered with scales.
**Colour:** Body blue-green to reddish dorsally, lighter ventrally; a large yellow blotch of variable size above pectoral fins, typically beginning posteriorly from upper rim of orbit, covering the operculum above level of pectoral base and 2 or 3 scales above lateral line, stretching posteriorly to about a vertical at anal fin origin; axil of pectoral fins and tips of caudal fin lobes black.

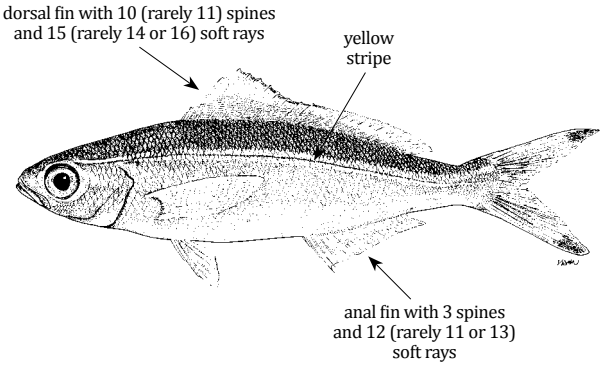



**Size:** To about 25 cm (TL)

***Pterocaesio tessellata*** Carpenter, 1987

**FAO names:** Onestripe fusilier (En)
Fusilier à une bande (Fr)

**Local name(s):** Shwe A Sin War Zinn.
**Habitat:** Coastal areas around coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body fusiform, elongate, and moderately compressed; 2 postmaxillary processes; small conical teeth in jaws and vomer; palatines without teeth; dorsal and anal fins scaly, the dorsal fin with about 1/2 of its greatest spinous height covered with scales.
**Colour:** Upper body light bluish green; white below; centres of scales on upper 2/3 of body lighter than distal portion, giving a checkered appearance (in many individuals the scale rows are uneven, giving a mosaic appearance); a single yellow longitudinal stripe laterally, about 1 scale wide, covering lateral line for most of its length; axil of pectoral fins black; caudal fin dusky, tips of lobes black.

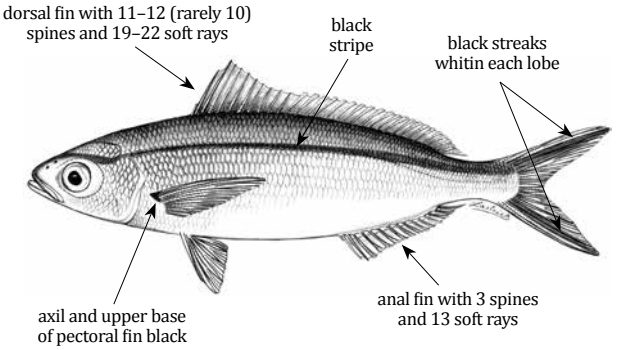



**Size:** To about 25 cm (TL)

***Pterocaesio tile*** (Cuvier, 1830)

**FAO names:** Darkbanded fusilier (En)
Fusilier ligne olive (Fr)

**Local name(s):** Shwe A Sin Bae Me' Zinn.
**Habitat:** Coastal areas around coral reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body fusiform, elongate, and compressed; 2 postmaxillary processes; small conical teeth in jaws, vomer, and palatines; dorsal and anal fins scaly, the dorsal fin with about 1/2 of its greatest spinous height covered with scales.
**Colour:** Scales above lateral line bluish green in their centre and black on their margins, giving the appearance of a checkered pattern; lateral line covered for most of its length by a black stripe about 1 scale wide; a brilliant light blue zone below black stripe, usually covering middle third of body, but sometimes restricted to anterior part of body, and sometimes absent.



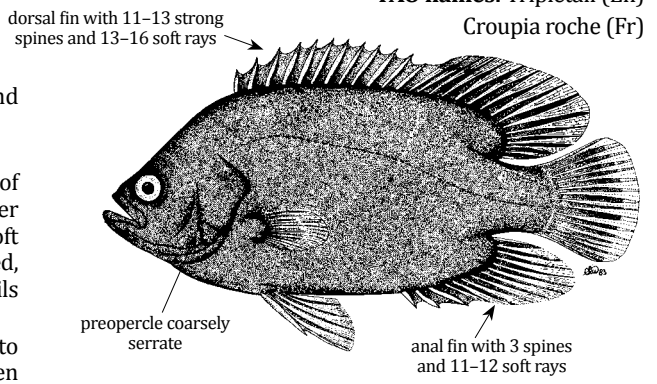

**Size:** To about 25 cm (TL)

## LOBOTIDAE
Tripletails

***Lobotes surinamensis*** (Bloch, 1790)

**FAO names:** Tripletail (En)
Croupia roche (Fr)

**Local name(s):** Pin Le' Nga Byay Ma.
**Habitat:** In coastal areas and estuaries; also found offshore around floating objects.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Jaws with an outer row of short, close-set canines and an inner band of smaller teeth; no teeth on vomer, palatines, or tongue; soft dorsal and anal fins large and broadly rounded, reaching past base of caudal fin (appearing as 3 tails together with rounded caudal fin).
**Colour:** Adults uniform dark brown or olive to mottled yellowish; juveniles brownish and often mottled darker.



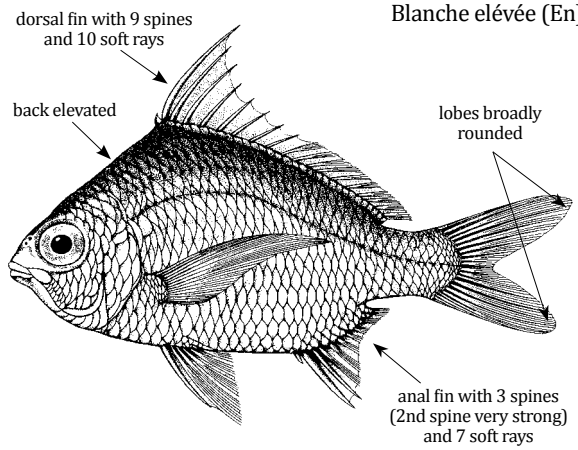

**Size:** To 100 cm, common 50 cm (TL)

# GERREIDAE

Silverbiddies, mojarras

## *Gerres erythrourus* (Bloch, 1791)

**FAO names:** Deepbody silverbiddy (En)
Blanche elévée (En)

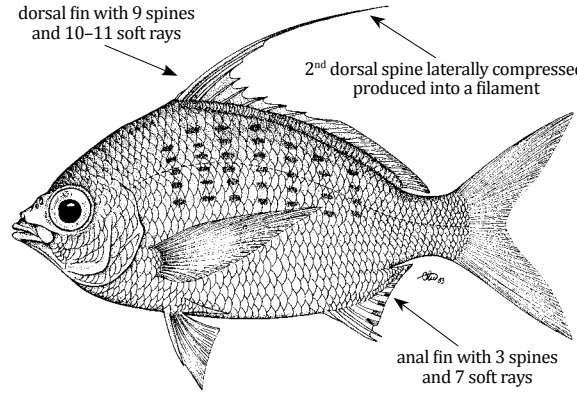



**Local name(s):** Nga Si Ooe.
**Habitat:** Coastal waters on sandy bottoms in depths to 40 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body deep, its depth 1.9–2.3 in SL; pectoral fin tip reaching to or past level of 1st anal fin spine; typically fewer than 38 lateral line scales to base of caudal fin, and 2–3 more pored scales in scaly sheath on base of fin; 3 ½–4 scale rows between base of lateral line and 5th dorsal fin spine; caudal fin deeply forked but short.
**Colour:** Silvery, tinged with brown dorsally; indistinct, fine, dark stripes following scale rows in older fish; many specimens, particularly juveniles, with 7–11 slender, dark bars along sides; dorsal fin edged with black; anal and pelvic fins yellowish.

**Size:** To 37 cm, common 20 cm (TL)

## *Gerres filamentosus* Cuvier, 1829

**FAO names:** Whipfin silverbiddy (En)

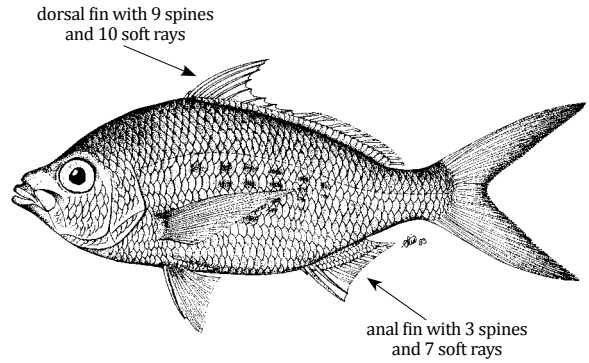



**Local name(s):** Nga Si Ooe Kyaw Suu Shae.
**Habitat:** Shallow coastal waters down to 50 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body deep, its depth 1.9–2.4 in SL; pectoral fin tip reaching to level of 1st anal spine; 43–46 lateral line scales to base of caudal fin, plus 2–5 scales on caudal fin base; 4½–5½ scale rows between lateral line and 5th dorsal fin spine; caudal fin deeply forked with pointed lobes.
**Colour:** Silvery, with 6–12 vertical bands of pale brown ovoid spots on upper half of sides, coalescing as bars in small specimens; pectoral, pelvic, caudal and anal fins dusky hyaline; tips of pelvic, anal and lower caudal lobe, white; dorsal fin hyaline except for the end of filamentous spine, which is black.

**Size:** To 35 cm, common 15 cm (TL)

## *Gerres longirostris* (Lacepède, 1801)

**FAO names:** Longtail silverbiddy (En)



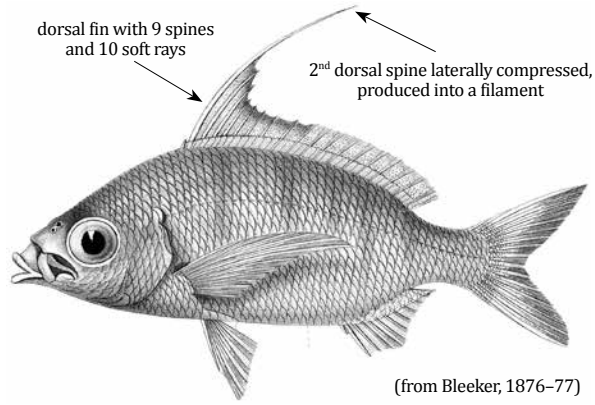

**Local name(s):** Nga Si Ooe Suu Mar.
**Habitat:** Shallow coastal waters down to 50 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body deep, its depth 2.6–3.0 in SL; pectoral fin tip reaching beyond level of 1st anal spine; 44–46 lateral line scales to base of caudal fin; 5–6½ scale rows between lateral line and 5th dorsal fin spine; caudal fin deeply forked with pointed lobes.
**Colour:** Silvery with dark stripes along scale rows above lateral line; 7–9 columns of ovoid dark spots immediately below lateral line in specimens over 10 cm SL; pelvic fins and spinous part of anal fin hyaline; pectoral and anal fins hyaline; caudal fin dusky with broad darker margin posteriorly.

**Size:** To 44.5 cm, common 20 cm (TL)

## *Gerres macracanthus* Bleeker, 1854

**FAO names:** Longspined silverbiddy (En)

**Local name(s):** Nga Si Ooe Suu Shae.
**Habitat:** Coastal waters to depths of at least 30 m on sandy bottoms; also in estuaries; schooling.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body elongate, its depth 2.2–2.8 in SL; 41–44 lateral line scales, plus 2–5 scales on caudal fin base; anal fin with 3 spines and 7 (rarely 8) soft rays; 4–5 scale rows between lateral line and 5th dorsal spine; caudal fin deeply forked.
**Colour:** Usually 6–10 (rarely 14) indistinct vertical bands in both fresh and preserved specimens (not forming ovoid spots as in *Gerres filamentosus*); first and second dorsal fin ray tips dusky, pelvic fins hyaline when fresh.

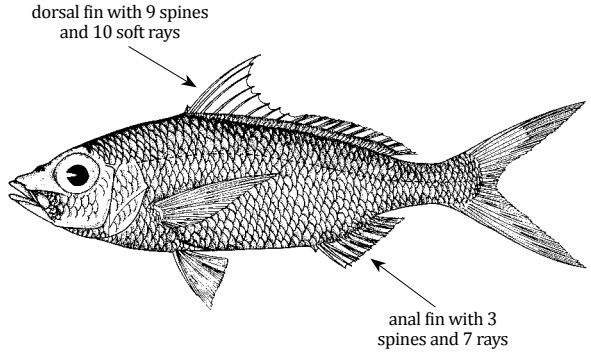



**Size:** To 20 cm (TL)

## *Gerres oblongus* Cuvier, 1830

**FAO names:** Slender silverbiddy (En)
Blanche élégante (Fr)

**Local name(s):** Nga Si Ooe Ko Lone Thwae.
**Habitat:** Coral reefs, associated with sandy patches.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body compressed, elongate, slender, its depth 2.5–3.4 in SL; pectoral fin tip reaching to level of 1st anal spine; 47–49 lateral line scales to base of caudal fin, plus 2–5 more pored scales in scaly sheath on base of caudal fin; 5–6 scales between lateral line and base of 5th dorsal fin spine; caudal fin very deeply forked with pointed lobes.
**Colour:** Silvery, blue dorsally in life, but lilac brown in some market specimens; up to 5 columns of horizontally elongated spots on sides of trunk appearing as faint bars in some cases; dusky tip to dorsal fin, other fins pale.

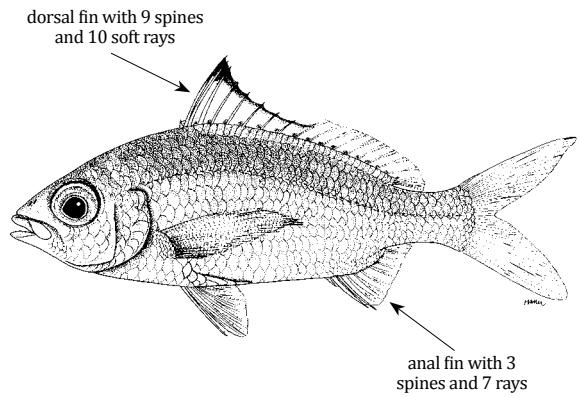



**Size:** To 40 cm (TL)

## *Gerres oyena* (Forsskål, 1775)

**FAO names:** Common silverbiddy (En)
Blanche commune (Fr)

**Local name(s):** Ngwe Yaung Nga Si Ooe.
**Habitat:** Along sandy beaches but also enters estuaries and brackish lagoons.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body oblong, its depth 3.0–3.3 in SL; 35–40 lateral line scales, plus 3–4 scales on caudal fin base; pectoral fins short, not reaching to anal fin origin; 2nd and 3rd anal fin spines slender and short; 3–4 (usually 3½) scale rows between lateral line and 5th dorsal spine.
**Colour:** Silvery, with a trace of pale olive above lateral line; 7–8 faint dusky bars on sides of body in young, absent in older fish; prominent black tip to spinous part of dorsal fin, usually confined to distal part of membrane between second and fifth spines but sometimes continuing as a black margin along whole of dorsal fin.

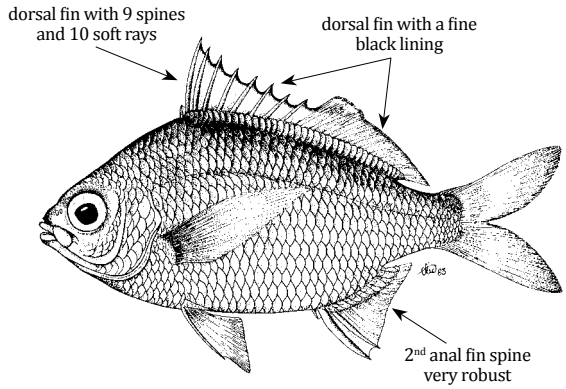



**Size:** To 25 cm (TL)

***Gerres phaiya*** Iwatsuki & Heemstra, 2001

**FAO names:** Strong spine silverbiddy (En)

**Local name(s):** Suu Mar Nga Si Ooe.
**Habitat:** Shallow coastal waters; also in estuaries and over bottoms of muddy sand; schooling.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body deep, its depth 2.1–2.3 in SL; 36–40 lateral line scales, plus 2–3 scales on caudal fin base; pectoral fin tip reaching slightly beyond level of 1st anal fin spine; anal fin with 3 spines and 7 soft rays; 2nd anal fin spine very robust; 5½–6½ scale rows between lateral line and 5th dorsal spine.
**Colour:** Upper sides of head and trunk tinged with golden brown, grading to silver on lower sides; about 10 diffuse dusky bars spread across sides of trunk in some specimens; dorsal fin mostly hyaline; pelvic and anal fins strong or vivid yellow.

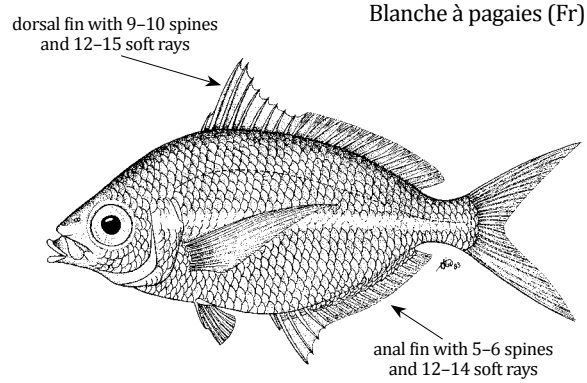



**Size:** To 13.7 cm (SL)

***Pentaprion longimanus*** (Cantor, 1849)

**FAO names:** Longfin silverbiddy (En)
Blanche à pagaies (Fr)

**Local name(s):** Ye Yet Shae Nga Si Ooe.
**Habitat:** Inhabits inshore areas, on muddy-sand bottoms, to depths of 70 m.
**Fisheries:** Caught mainly with bottom trawls.
**Distinctive Characters:** Body moderately deep, its depth 2.5–2.8 in SL; 44–48 lateral line scales to base of caudal fin; pectoral fins tip reaching a level half-way along base of anal fin; anal fin with 5–6 spines and 12–14 soft rays, its base longer than base of soft portion of dorsal fin; caudal fin deeply forked with pointed lobes.
**Colour:** Silvery, with a mirror-like stripe from snout to caudal peduncle; fins dusky yellow; market specimens pale pink or grey.



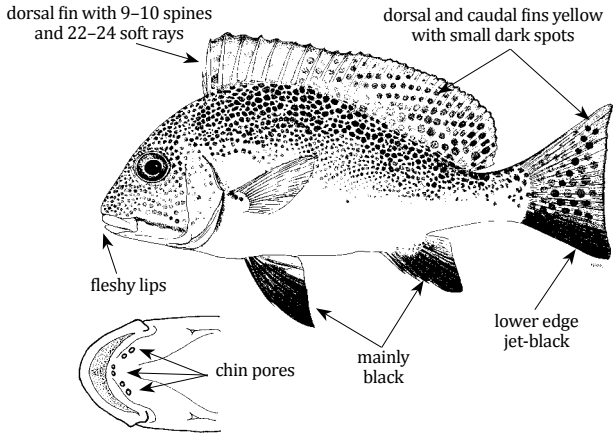

**Size:** To 20 cm, common 10 cm (TL)

## HAEMULIDAE
Grunts and allies

***Diagramma melanacrum*** Johnson & Randall, 2001

**FAO names:** Blackfin slatey (En)

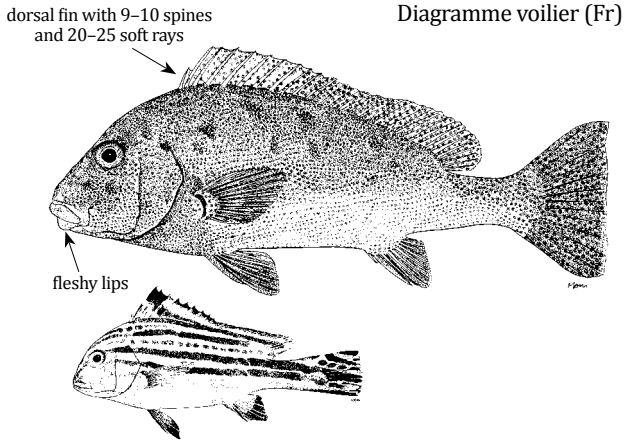
**Local name(s):** Hmee Ta Chan Mae Nga Gone.
**Habitat:** Juveniles in estuaries and silty reefs; adults on deep reefs.
**Fisheries:** Handlines, gillnets.
**Distinctive Characters:** Mouth small; chin with 6 pores, but no median pit (true of all *Diagramma* spp.); 19–21 gill rakers on 1st gill arch (6–7 on upper limb, 1 at corner, and 12–13 on lower limb); anal fin with 3 spines and 6–7 soft rays; caudal peduncle slender and long.
**Colour:** Body yellowish dorsally, shading to pale silvery grey on sides and ventrally, with numerous small dark brown spots, which form oblique rows on body below lateral line; opercular membrane black. Juveniles with larger spots. Subadults with narrow wavy lines on operculum and cheeks.




**Size:** To 50 cm (TL)

***Diagramma picta*** (Thunberg, 1792)

**FAO names:** Painted sweetlips (En)
Diagramme voilier (Fr)

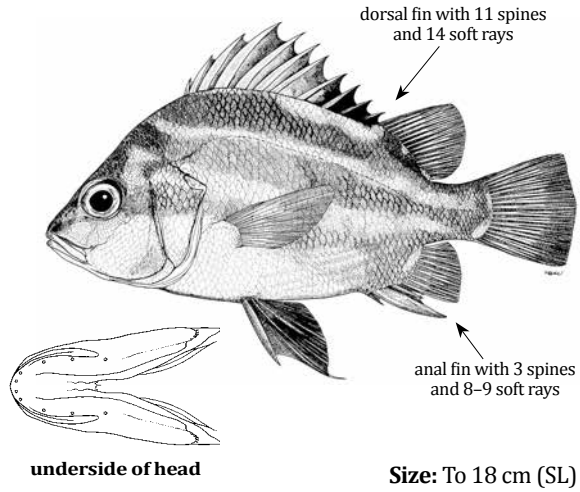



**Local name(s):** Hnote Kham Htuu Nga Gone.
**Habitat:** Coastal waters around coral and rocky reefs. Maximum depth 80 m.
**Fisheries:** Handlines, gillnets, bottom trawls.
**Distinctive Characters:** Mouth small; chin with 6 pores, but no median pit; 17–23, rarely 17–18 gill rakers on 1st gill arch (5–9 on upper limb, 1 at corner, and 10–16 on lower limb); anal fin with 3 spines and 7 soft rays; caudal peduncle slender and long; scales small, ctenoid.
**Colour:** Longitudinal black bands on juveniles; adults blue-grey with bright yellow to golden orange spots sometimes forming lines on head; in large individuals the spots become small or indistinct; inside mouth bright orange to red.

**Size:** To 100 cm, common 55 cm (TL)

***Hapalogenys bengalensis*** Mohapatra, Ray & Kumar, 2013

**FAO names:** Indian velvetchin (En)

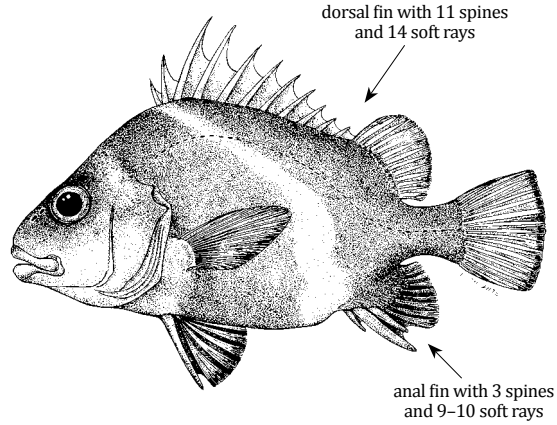



**Local name(s):** India Mayan Pyar Nga Gone.
**Habitat:** Coastal waters, on muddy-sand bottoms.
**Fisheries:** Caught mainly by bottom trawls.
**Distinctive Characters:** Fleshy lower lip with dense cluster of short papillae; 10 unobstructed pores on chin; tip of pelvic fin reaching to or beyond the 1st anal fin spine; 7–8 and 19–20 scale rows above and below lateral line, respectively; 42–45 lateral line scales; 18–20 gill rakers on 1st gill arch.
**Colour:** Three broad longitudinal dark stripes on body, 1st from nape to base to upper caudal fin base, middle stripe from nape to mid caudal fin base; lowermost stripe indistinct from snout to lower caudal fin base.
**Remarks:** Members of the genus *Hapalogenys* have been recently assigned to the family Lobotidae and placed into the newly erected order Acanthuriformes (see Gill and Leis, 2019).

**Size:** To 18 cm (SL)

***Hapalogenys merguiensis*** Iwatsuki, Satapoomin & Amaoka, 2000

**FAO names:** Mergui velvetchin (En)



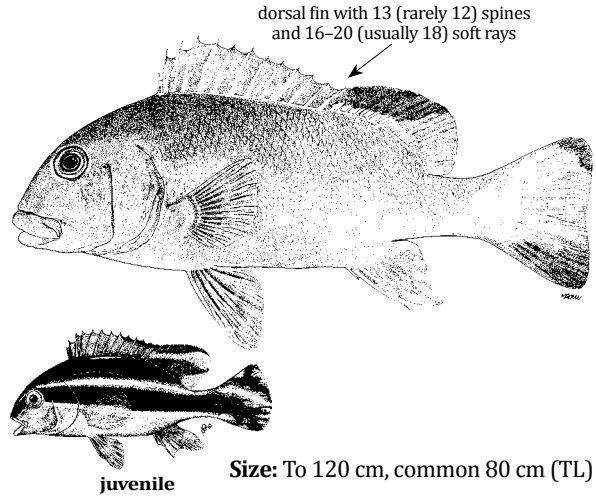

**Local name(s):** Myeik Mayan Pyar Nga Gone.
**Habitat:** On muddy-sand bottoms from about 80 to 180 m depth.
**Fisheries:** Caught mainly by bottom trawls.
**Distinctive Characters:** Fleshy lower lip with a cluster of very short dense papillae; 10 pores on chin; pelvic fin tip not reaching to 1st anal fin spine when depressed; 9–10 and 18–20 scale rows above and below lateral line, respectively; 39–42 pored lateral line scales; 17–20 gill rakers on 1st gill arch.
**Colour:** Two indistinct oblique dark bands on body, the 1st descending from the nape to behind the pectoral fin; the 2nd from base of anterior 2nd or 3rd dorsal fin spines and soft dorsal fin base, curving backward through the lateral line to soft anal fin and caudal peduncle.

**Size:** To 30 cm, common 20 cm (TL)

## *Plectorhinchus albovittatus* (Rüppell, 1838)

**FAO names:** Giant sweetlips (En)

**Local name(s):** Nga Gone Belu Gyi.
**Habitat:** Coastal inshore waters near reefs.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy, greatly swollen with age; chin with 6 pores but no median pit (true of all *Plectorhinchus* spp.); anal fin with 3 spines and 7 soft rays; 26–31 gill rakers on first gill arch (6–9 on upper limb, 1 at corner, and 18–21 on lower limb).
**Colour:** Juveniles brown, paler below, with 3 narrow white bands on body. Adults grey to grey-brown with pectoral, pelvic, and anal fins blackish, lower lobe and upper tip of caudal fin black, anterior half of soft dorsal fin black, spinous dorsal fin dusky to black; lower lip and chin white; belly silvery grey to white.

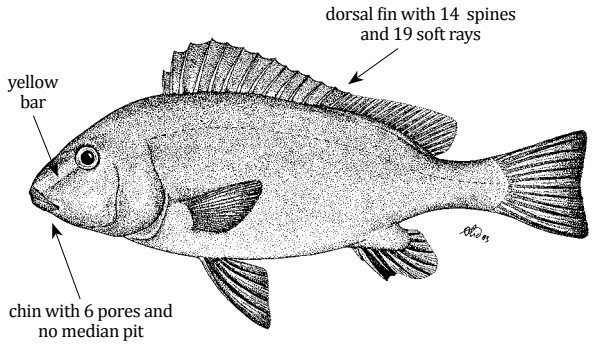



**Size:** To 120 cm, common 80 cm (TL)

## *Plectorhinchus ceylonensis* (Smith, 1956)

**FAO names:** Sri Lanka sweetlips (En)
Diagramme de Sri Lanka (Fr)

**Local name(s):** Sri Lanka Nga Gone.
**Habitat:** Coastal fringing reefs.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy; chin with 6 pores but no median pit; anal fin with 3 spines and 7 soft rays; 29 gill rakers on first gill arch (9 on upper limb, 1 at corner, and 19 on lower limb).
**Colour:** Slaty grey with a green tinged, yellow bar from eye to tip of snout; soft dorsal, anal, caudal and pelvic fins dark, or with black margins. Juveniles with broad dark longitudinal stripes.

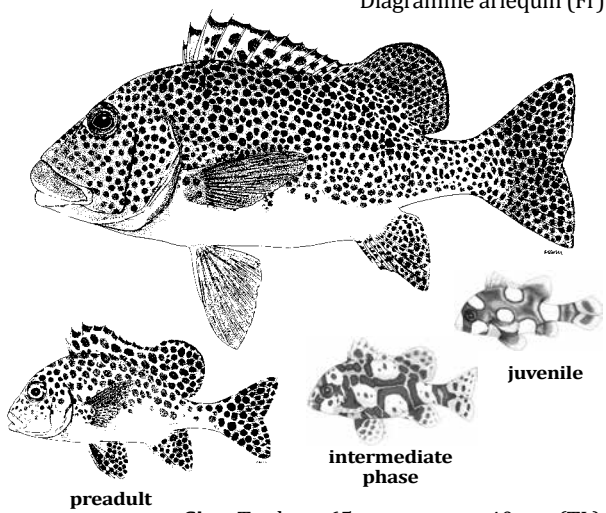



**Size:** To about 44 cm (TL)

## *Plectorhinchus chaetodonoides* Lacepède, 1801

**FAO names:** Harlequin sweetlips (En)
Diagramme arlequin (Fr)

**Local name(s):** Set Pyauk Nga Gone.
**Habitat:** Coastal inshore waters near reefs.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy, moderately swollen with age; chin with 6 pores but no median pit; dorsal fin with 12 (rarely 11) spines and 18–20 soft rays; anal fin with 3 spines and 7 soft rays; 36–43 gill rakers on first gill arch (9–12 on upper limb, 1 at corner, and 27–32 on lower limb).
**Colour:** Juveniles brownish with large, well-defined creamy white blotches on body that include brown spots with age; colour gradually changing into a greyish background with large, deep brown spots in adults.

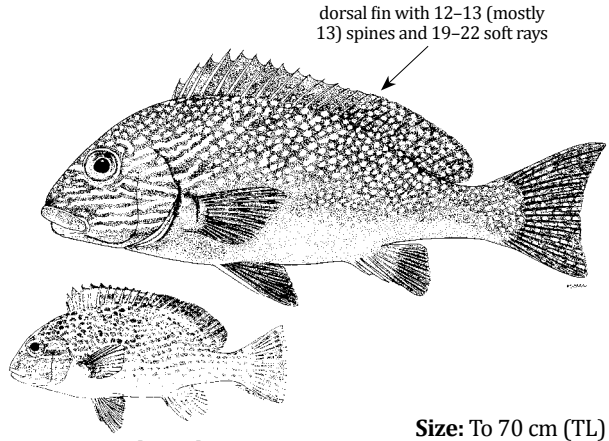



**Size:** To about 65 cm, common 40 cm (TL)

## *Plectorhinchus flavomaculatus* (Cuvier, 1830)

**FAO names:** Lemonfish (En)

**Local name(s):** Lemon Kywet Nga Gone.
**Habitat:** Coastal waters near reefs and weedy areas.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy, moderately thickened with age; chin with 6 pores but no median pit; anal fin with 3 spines and 7 soft rays; 28–34 gill rakers on 1st gill arch (11–14 on upper limb, 1 at corner, and 16–19 on lower limb); chin with 6 pores but no median pit; scales ctenoid (rough).
**Colour:** Body bluish grey with profuse small orange to yellow spots on body; juveniles with golden or rusty-orange stripes along the body that break into a reticulate pattern and form small spots that may be lost with growth or remain as wavy lines of spots on head.

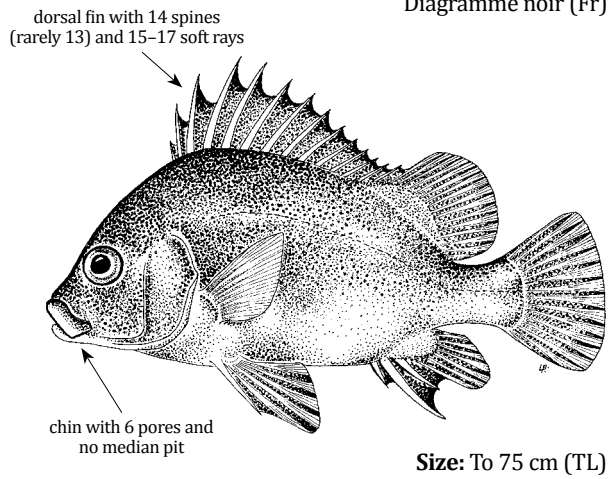



**Size:** To 70 cm (TL)

## *Plectorhinchus gibbosus* (Lacepède, 1802)

**FAO names:** Harry hotlips (En)
Diagramme noir (Fr)

**Local name(s):** Nga Gone Hnote Kham Htuu.
**Habitat:** Coastal reefs and estuaries.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy, greatly swollen with age; chin with 6 pores but no median pit; anal fin with 3 spines and 7 soft rays; 26–30 gill rakers on first gill arch (8–10 on upper limb, 1 at corner, and 17–19 on lower limb); anal fin with 3 spines and 7 soft rays; in juveniles, spiny portion of dorsal fin twice as high as soft portion, becoming about equal in height in large adults.
**Colour:** Juveniles brownish, caudal fin pink or transparent; adults uniform dark grey to brownish or blackish; large specimens are sometimes mottled with light brown.

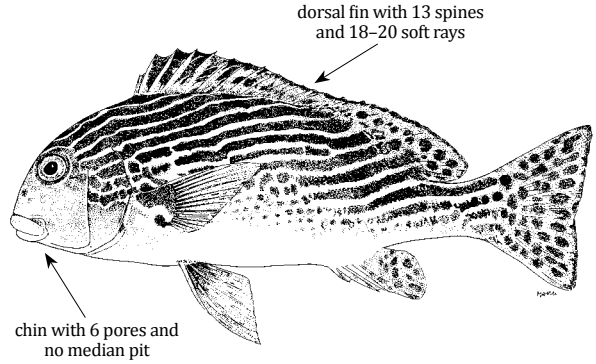



**Size:** To 75 cm (TL)

## *Plectorhinchus lineatus* (Linnaeus, 1758)

**FAO names:** Lined sweetlips (En)

**Local name(s):** Line Sin Nga Gone.
**Habitat:** Reef-associated in depths of 1–35 m.
**Fisheries:** Handlines, gillnets.
**Distinctive Characters:** Lips fleshy, moderately swollen with age; chin with 6 pores but no median pit; anal fin with 3 spines and 7 soft rays; 25–30 gill rakers on first gill arch (7–10 on upper limb, 1 at corner, and 17–20 on lower limb).
**Colour:** Juveniles with few horizontal to slightly oblique dark brown bands which subdivide with age until the body appears to be dark chocolate brown above, with a network of fine white lines running up and back, the broad brown bars breaking up into smaller and smaller spots on lower sides; belly white; lips and fins bright yellow, anal and caudal fins dotted with black; pectoral fins with a splash of bright crimson or scarlet red at the base.

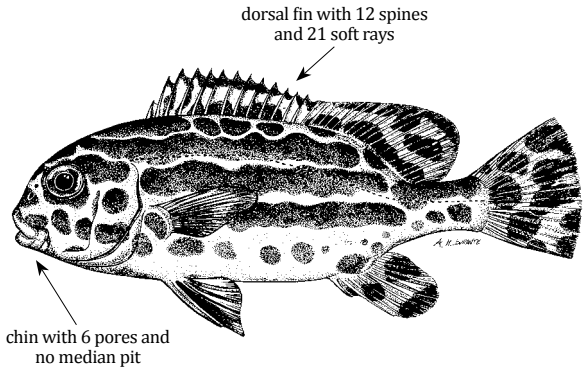



**Size:** To about 60 cm, common 40 cm (TL)

***Plectorhinchus macrospilus*** Satapoomin & Randall, 2000

**FAO names:** Largespot sweetlips (En)

**Local name(s):** Kywet Gyi Nga Gone.
**Habitat:** Reef associated in depths of 5–30 m.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy; chin with 6 pores but no median pit; anal fin with 3 spines and 8 soft rays; 18–21 gill rakers on first gill arch (4–6 on upper limb + 14–15 on lower limb).
**Colour:** Adults whitish with many large black spots on body, nape, and soft portions of median fins, and smaller black spots on head, juveniles with 4 (or probably 5 when smaller) dark stripes more than half orbit diameter in width that gradually break up into spots with growth.

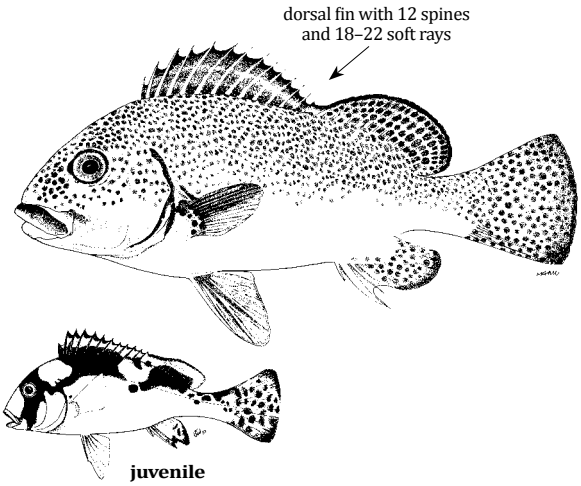



**Size:** To about 40 cm (TL)

***Plectorhinchus picus*** (Cuvier, 1828)

**FAO names:** Spotted sweetlips (En)

**Local name(s):** Set Pyauk Nga Gone.
**Habitat:** Reef associated in depths of 3–30 m.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy, greatly swollen with age; chin with 6 pores but no median pit; anal fin with 3 spines and 7–8 soft rays; 31–37 gill rakers on first gill arch (8–13 on upper limb, 1 at corner, and 22–26 on lower limb).
**Colour:** Juveniles are creamy white below, blackish above with white snout and a pair of white saddles and spots; adults become covered with dark brown spots on head, back, sides, and fins; dorsal fin dark brown to blackish with a median horizontal grey stripe on membranes only and with a series of large black spots; pectoral and pelvic fins with the base and axil vermillion in some specimens; inside of mouth, hind edge of maxilla, gill-cover membrane and base of pectoral fins vermillion, scarlet, or red-brown; belly pale mauve grey.

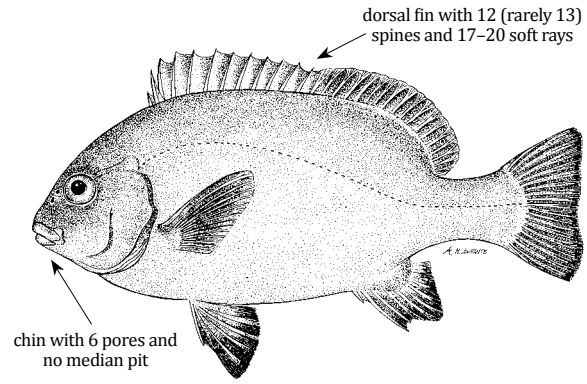



**Size:** To about 85 cm, common 60 cm (TL)

***Plectorhinchus unicolor*** (Macleay, 1883)

**FAO names:** Sombre sweetlips (En)

**Local name(s):** Nga Gone Pyaung.
**Habitat:** Coastal rocky reefs in depths of 1–10 m.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy; chin with 6 pores but no median pit; anal fin with 3 spines and 6–8 soft rays; 27–31 gill rakers on 1st gill arch (10–12 on upper limb + 16–19 on lower limb); lateral line with 54–57 tubed scales.
**Colour:** Olive-brown, tan, or grey-brown; posterior margin of opercular membrane dusky, with underlying cleithrum red; and caudal fin bright yellow in juveniles, to dull yellowish or greenish brown in adults.

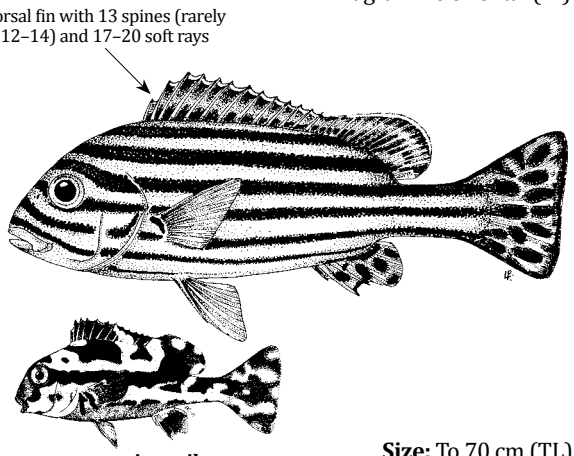



**Size:** To about 70 cm (TL)

***Plectorhinchus vittatus*** (Linnaeus, 1758)

**FAO names:** Indian Ocean oriental sweetlips (En)
Diagramme oriental (Fr)

**Local name(s):** Nga Gone Line Sin.
**Habitat:** Coastal rocky and coral reefs.
**Fisheries:** Caught mainly by handlines and gillnets.
**Distinctive Characters:** Lips fleshy, greatly swollen with age; chin with 6 pores but no median pit; anal fin with 3 spines and 7–8 soft rays; 28–35 gill rakers on 1st gill arch (9–11 on upper limb, 1 at corner, and 18–23 on lower limb).
**Colour:** Varies greatly with age; juveniles with connected black blotches and spots that gradually break up in adults into horizontal bands which unite at tip of snout; pectoral fins black in juveniles, becoming uniformly yellow in adults; caudal fin becoming spotted with age.

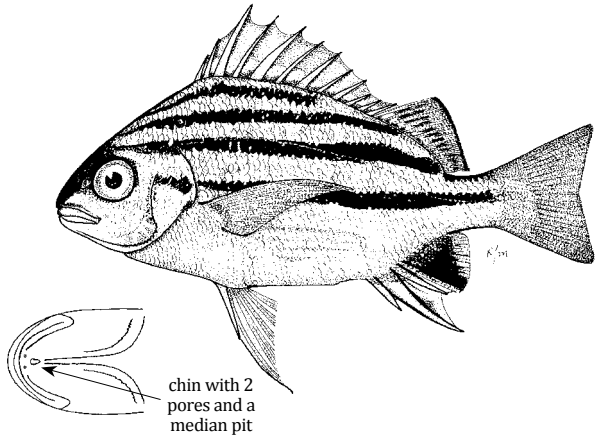



**Size:** To 70 cm (TL)

***Pomadasys andamanensis*** McKay & Satapoomin, 1994

**FAO names:** Andaman grunt (En)

**Local name(s):** Andaman Nga Gone.
**Habitat:** Coastal waters in open bays and estuaries.
**Fisheries:** Caught mainly by gillnets and bottom trawls.
**Distinctive Characters:** Chin with 2 pores followed by a pit containing a pore on each side (true of all *Pomadasys* spp.); body depth 2.3 in SL; mouth small, maxilla reaching to eye; lips not fleshy; jaw teeth villiform (brush-like); dorsal fin with 12 spines and 14 soft rays; anal fin with 3 spines and 7 rays; 7 scale rows between lateral line and dorsal fin origin.
**Colour:** Pale silvery grey with bluish reflections, white below with fine brown dots on lower sides; 4 dark brown bands on back, lowermost midlaterally from preopercle to base of caudal fin; anal fin with posterior half dusky.

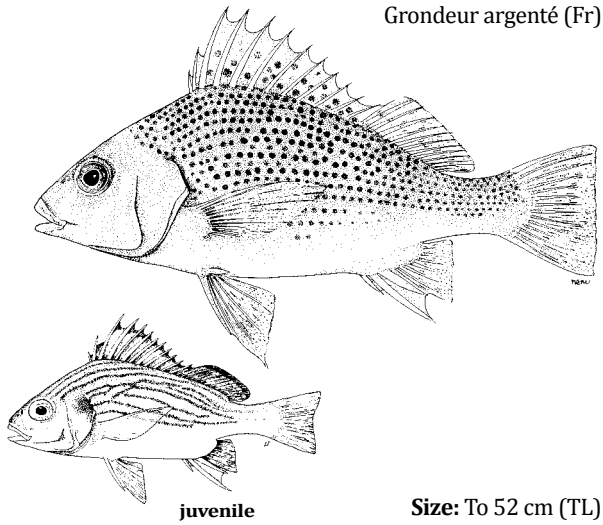



**Size:** To about 20 cm (TL)

***Pomadasys argenteus*** (Forsskål, 1775)

**FAO names:** Silver grunt (En)
Grondeur argenté (Fr)

**Local name(s):** Ngwe Yaung Nga Gone.
**Habitat:** Coastal waters in open bays and estuaries.
**Fisheries:** Caught mainly by gillnets and bottom trawls.
**Distinctive Characters:** Body depth 2.7–2.8 in SL; mouth small, maxilla reaching to eye; chin with 2 pores followed by a pit containing a pore on each side; lips not thickened; jaw teeth villiform (brush-like); dorsal fin with 12 spines and 14 soft rays; anal fin with 3 spines and 7 soft rays; 5 scale rows between lateral line and dorsal fin origin.
**Colour:** Juveniles pale brownish, lighter below; back with irregular longitudinal streaks; dorsal fin with dusky membrane; a dark spot on gill cover; adults silvery, with dark blotches on dorsal fin and numerous scattered dark brown to blackish spots on body.

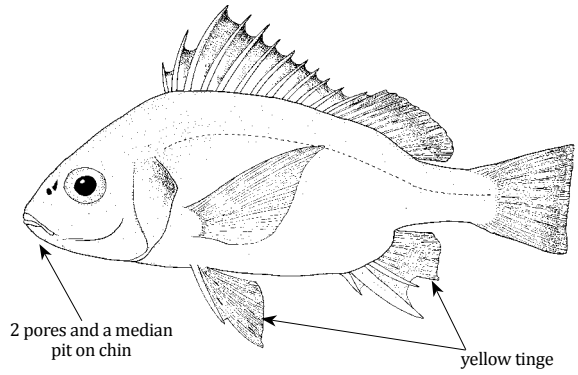



**Size:** To 52 cm (TL)

***Pomadasys argyreus*** (Valenciennes, 1833)

**FAO names:** Bluecheek silver grunt (En)
Grondeur à joues bleus (Fr)

**Local name(s):** Nga Gone Mae Pyar.
**Habitat:** Coastal waters in open bays and on trawling grounds.
**Fisheries:** Caught mainly by gillnets and bottom trawls.
**Distinctive Characters:** Body depth 2.3–2.7 in SL; mouth small, maxilla reaching to eye; lips not thickened; outer row of jaw teeth enlarged, bands of villiform teeth posteriorly; 2 pores and a median pit on chin; dorsal fin with 12 spines and 13 soft rays; anal fin with 3 spines and 7 soft rays; 5–6 scale rows between lateral line and dorsal fin origin.
**Colour:** Body silvery; gill cover with a large blue black blotch extending onto opercle and becoming indistinct in adults; peritoneum pale sandy brown; alimentary canal pale.

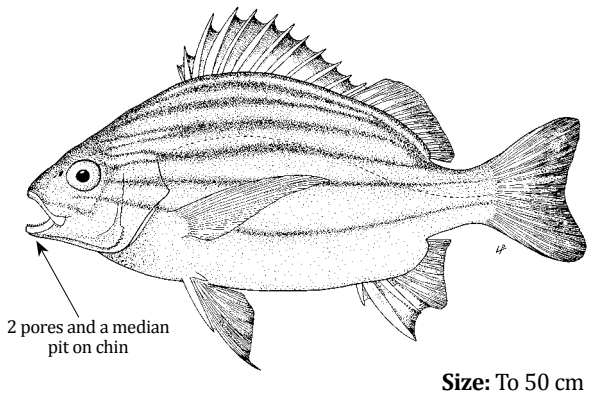



**Size:** To 40 cm, common 25 cm (TL)

***Pomadasys furcatus*** (Bloch & Schneider, 1801)

**FAO names:** Banded grunter (En)
Goret à six bandes (Fr)

**Local name(s):** Line Chauk Sin Nga Gone.
**Habitat:** Inhabits coastal waters near reefs.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body depth 2.9–3.0 in SL; mouth small, maxilla reaching to posterior nostril or eye; jaw teeth villiform (brush-like); 2 pores and a median pit on chin; dorsal fin with 12 spines and 14–16 soft rays; anal fin with 3 spines and 8–9 soft rays; 8–9 scale rows between lateral line and dorsal fin origin; soft portions of dorsal and anal fins with a row of interradial scales.
**Colour:** Body purplish brown above, paler below, with about 6 longitudinal dark stripes that are usually bifurcate anteriorly; the stripes becoming progressively more bifurcate or double with age.

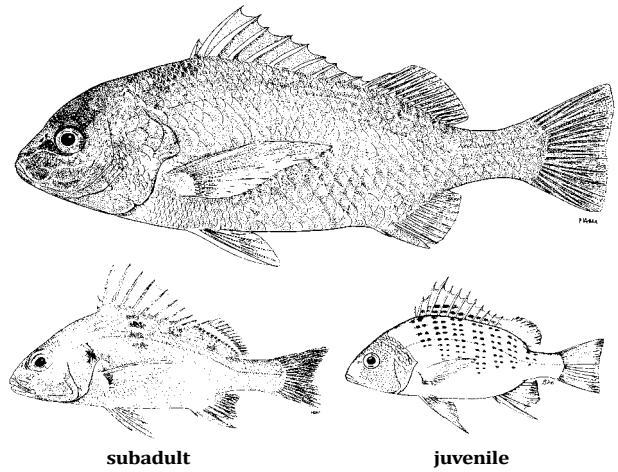



**Size:** To 50 cm

***Pomadasys kaakan*** (Cuvier, 1830)

**FAO names:** Javelin grunter (En)
Grondeur javelot (Fr)

**Local name(s):** Kakan Nga Gone.
**Habitat:** Inhabits estuaries and coastal waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body depth 2.5–3.0 in SL; mouth small, maxilla reaching to eye; jaw teeth villiform (brush-like); 2 pores and a median pit on chin; dorsal fin with 12 spines and 13–15 soft rays; anal fin with 3 spines and 7–8 soft rays; scales ctenoid; 7 scale rows between lateral line and dorsal fin origin.
**Colour:** Juveniles with 12 or more vertical bars comprised of small dark brown spots or irregular blotches; dorsal fin spotted with dark brown to black spots on lower half of spinous dorsal fin and in 3 rows on rayed dorsal fin; adults uniform golden green above, silvery below with traces of the vertical bars present only when alive and spots on dorsal fins indistinct or absent; large individuals sometimes with head, ventral parts of body and lower lobe of caudal fin yellowish.

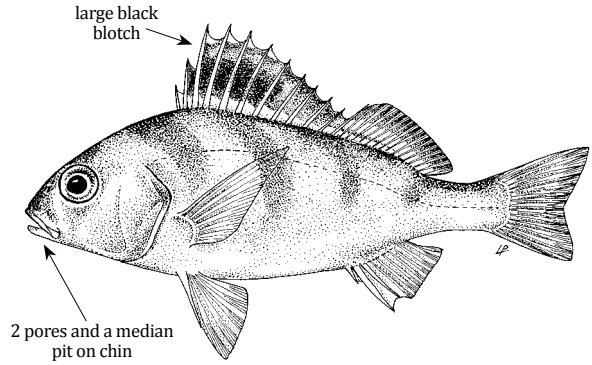



**Size:** To 80 cm, common 50 cm (TL)

***Pomadasys maculatus*** (Bloch, 1793)

**FAO names:** Saddle grunt (En)

**Local name(s):** Kone Hnee Nga Gone.
**Habitat:** Inhabits coastal waters down to 40 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body depth 2.3–2.7 in SL; mouth small, maxilla reaching to eye; chin with 2 pores followed by a pit containing a pore on each side; jaw teeth villiform (brush-like); dorsal fin with 12 spines and 13–15 soft rays; anal fin with 3 spines and 7 (rarely 6 or 8) soft rays; 7–9 scale rows between lateral line and dorsal fin origin.
**Colour:** Body silvery grey; head purplish; nape and back with a series of incomplete cross bars (the one on nape conspicuous); fins yellowish.



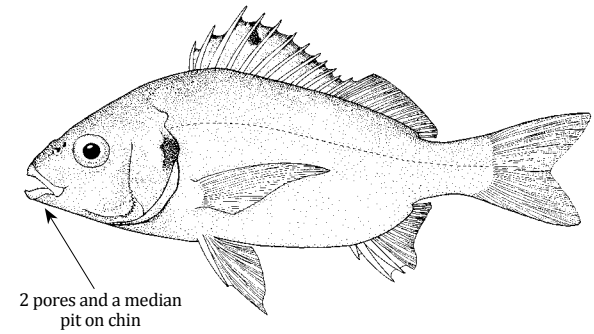

**Size:** To 50 cm, common 15 cm (TL)

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***Pomadasys olivaceus*** (Day, 1875)

**FAO names:** Olive grunt (En)

**Local name(s):** Than Lwin Yaung Nga Gone.
**Habitat:** Inhabits coastal waters.
**Fisheries:** Caught mainly by gillnets and bottom trawls.
**Distinctive Characters:** Body depth 2.5–2.8 in SL; mouth small, maxilla reaching to level of posterior nostril or eye; chin with 2 pores followed by a pit containing a pore on each side; jaw teeth villiform (brush-like); dorsal fin with 12 spines and 15–17 soft rays; anal fin with 3 spines and 11–13 soft rays.
**Colour:** Body and head olive-grey, sometimes tinged with purple; a large blotch, bordered by yellow anteriorly at upper angle of gill cover; dorsal fin with fine brown dots. Young with yellowish fins.



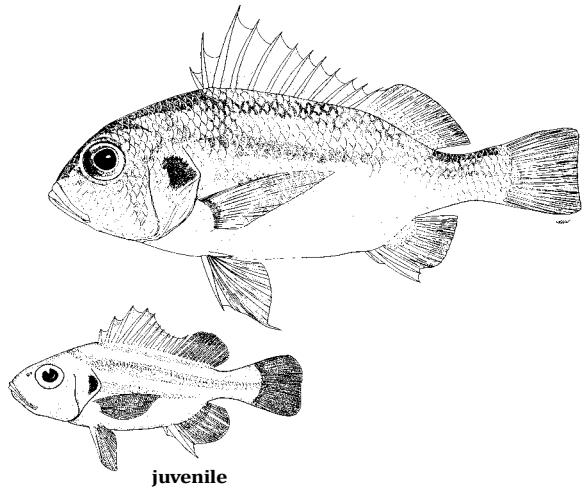

**Size:** To 31 cm (TL)

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***Pomadasys trifasciatus*** Fowler, 1937

**FAO names:** Blackeared grunt (En)

**Local name(s):**Nar Me' Nga Gone.
**Habitat:** Coastal inshore waters in open bays and mouths of rivers.
**Fisheries:** Caught mainly by gillnets and bottom trawls.
**Distinctive Characters:** Body depth 2.6–2.9 in SL; head blunt, its upper profile convex; mouth small; maxilla reaching to anterior margin of eye or pupil; chin with 2 pores followed by a pit containing a pore on each side; jaw teeth villiform (brush-like); dorsal fin with 12 (rarely 13) spines and 13 (rarely 12 or 14) rays; anal fin with 3 spines and 7 rays.
**Colour:** Adults uniformly silver-grey or with several faint dark stripes. Juveniles with 3 dark stripes, the middle one wide, becoming faded or absent with growth; a distinct black-brown spot on gill cover; dorsal fins without dark spots or blotches.

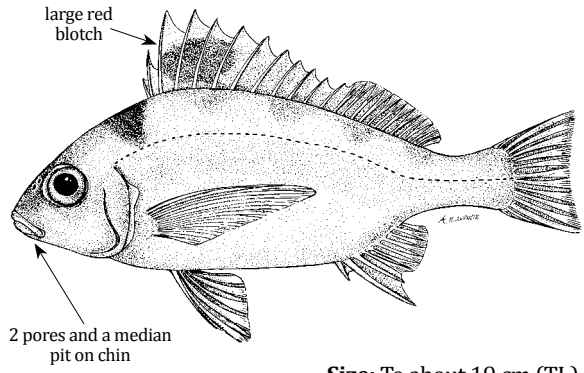



**Size:** To about 15 cm, common 10 cm (TL)

***Pomadasys unimaculatus*** Tian, 1982

**FAO names:** Red patched grunter (En)

**Local name(s):** Kyaw Ni Kywet Nga Gone.
**Habitat:** Coastal inshore waters.
**Fisheries:** Caught mainly by gillnets and bottom trawls.
**Distinctive Characters:** Body depth 2.5–2.8 in SL; head profile convex; mouth small; maxilla reaching to anterior margin of eye; jaw teeth villiform (brush-like); 2 pores and a median pit on chin; dorsal fin with 12 spines and 13–14 rays; anal fin with 3 spines and 7 rays.
**Colour:** Silvery, large dark brown blotch across predorsal space; 4 small dark semicircular patches on back; large dark red blotch on dorsal fin between 3rd and 6th spines.



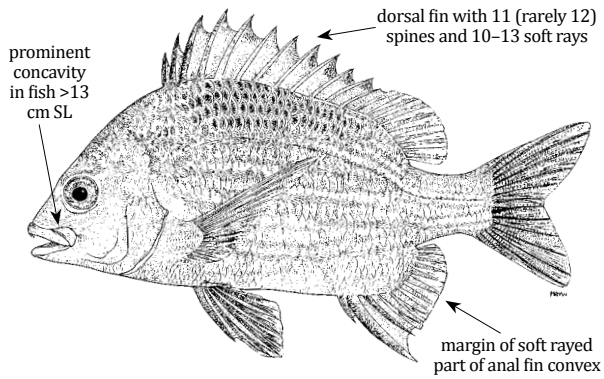

**Size:** To about 19 cm (TL)

## SPARIDAE
Porgies

***Acanthopagrus berda*** (Forsskål, 1775)

**FAO names:** Goldsilk seabream (En)
Pagre berda (Fr)

**Local name(s):** Ngwe War Nga Shwe Set.
**Habitat:** Demersal in coastal waters.
**Fisheries:** Gillnets, handlines, bottom trawls.
**Distinctive Characters:** Anal fin with 3 spines and 8–9 soft rays; molariform teeth present in both jaws; 3½ scale rows between 5th dorsal spine and lateral line; interorbital area scaleless.
**Colour:** Grey, dark silver or olive-brown with silvery or brassy reflections; upper part of body and scale bases darkest; lower part of head and body paler (some individuals completely blackish); a dark edge along opercle; pectoral fins dusky with a yellow tinge; soft dorsal, anal, pelvic, and caudal fins blackish.

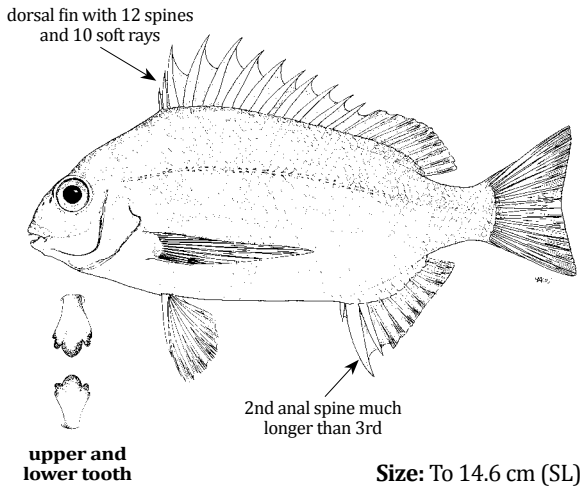



**Size:** To 75 cm, common 20–25 cm (TL)

***Crenidens macracanthus*** Günther, 1874

**FAO names:** Günther's karanteen (En)

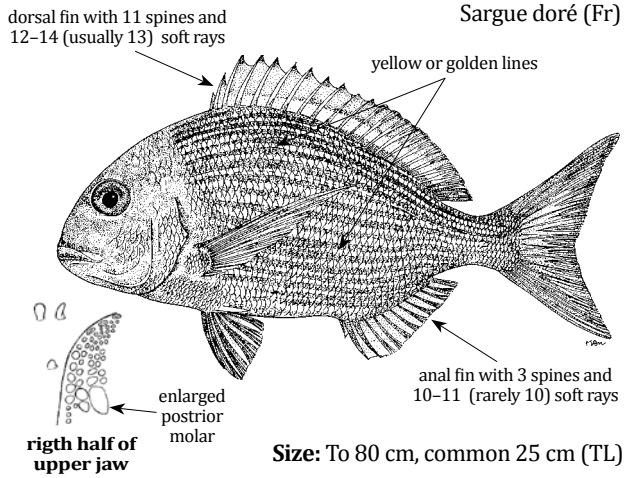
**Local name(s):** Günther Ngwe War Nga.
**Habitat:** Coastal waters, sometimes entering estuaries.
**Fisheries:** Gillnets, handlines, bottom trawls.
**Distinctive Characters:** Body depth 2.2–2.5 in SL; incisor-like teeth with 5 points, all points subequal in size, forming a flat cutting edge; 47–48 lateral line scales; 5½ scale rows above lateral line, 11½ below; anal fin with 3 spines and 10 soft rays; 2nd anal spine much longer than 3rd anal spine; 14 pectoral fin rays; 19 gill rakers on 1st gill arch.
**Colour:** Head and upper body brownish yellow-tan, lower part of body and operculum whitish yellow.




**Size:** To 14.6 cm (SL)

***Rhabdosargus sarba*** (Forsskål, 1775)

**FAO names:** Goldlined seabream (En)
Sargue doré (Fr)



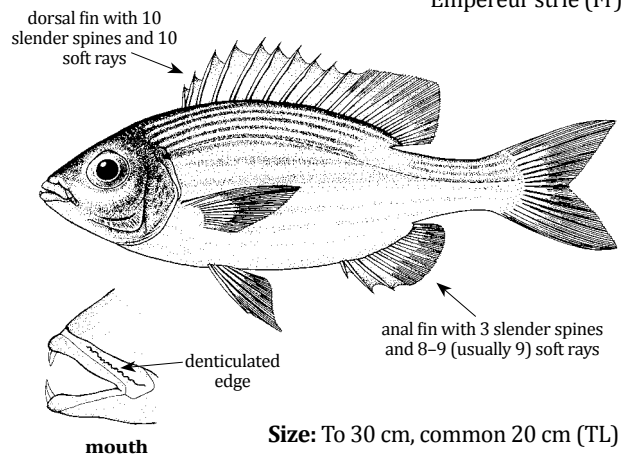

**Local name(s):** Shwe Line Zin Nga Gone.
**Habitat:** Benthic in coastal waters, sometimes entering estuaries.
**Fisheries:** Gillnets, handlines, bottom trawls.
**Distinctive Characters:** Body depth <2.3 in SL; 4–8 incisiform teeth at front of jaws followed by 2–5 series of molariform teeth, of which the inner posterior one is greatly enlarged; 6½–7½ scale rows between 5th dorsal spine and lateral line; no preopercular flange entirely naked; 7–9 gill rakers on the lower limb; 56–64 lateral line scales.
**Colour:** Head and body silvery black; body with yellow or golden longitudinal lines, as well as yellowish coloration of pelvic and anal fins.

**Size:** To 80 cm, common 25 cm (TL)

## LETHRINIDAE
Emperors

***Gnathodentex aurolineatus*** (Lacepède, 1802)

**FAO names:** Striped large-eye bream (En)
Empereur strié (Fr)

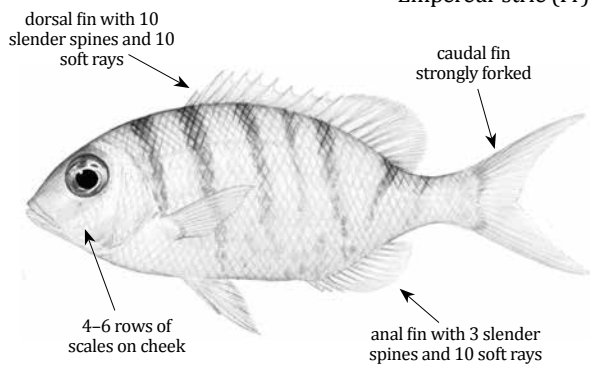



**Local name(s):** Nga Wet Sut Kyaw Line Sin.
**Habitat:** Coral reefs in depths to 20 m.
**Fisheries:** Gillnets, handlines.
**Distinctive Characters:** Body oblong, head profile straight in front of eye; jaw teeth in narrow, villiform band bordered by an outer series of conical teeth; anteriorly 4 moderate-sized canines present in upper jaw and 6 in lower jaw; outer surface of maxilla with a denticulated edge; 15 pectoral fin rays; 4–6 scale rows on cheek.
**Colour:** Back dark brown with narrow silvery stripes, sides and ventral parts of head and body silvery grey with 4–5 brownish orange stripes; a prominent golden yellow to orange blotch directly below posterior part of dorsal fin and just in front of caudal fin base.

**Size:** To 30 cm, common 20 cm (TL)

***Gymnocranius elongatus*** Senta, 1973

**FAO names:** Forktail large-eye bream (En)
Empereur strié (Fr)



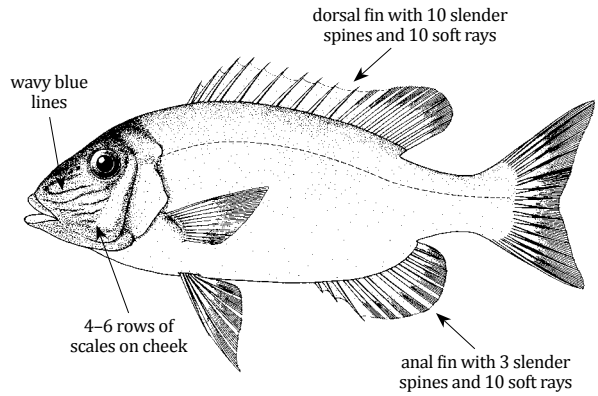

**Local name(s):** Nga Wet Sut Hmee Khwa.
**Habitat:** Continental shelf, usually at depths of 50–100 m.
**Fisheries:** Caught mainly by bottom trawls.
**Distinctive Characters:** Body oblong; head profile evenly rounded, snout somewhat pointed; 4–6 small, slender canines at front of each jaw, lateral teeth villiform to conical; outer surface of maxilla smooth; caudal fin strongly forked, the median rays shorter than eye diameter; 14 pectoral fin rays.
**Colour:** Silvery, sometimes slightly brownish dorsally; about 8 transverse brown bars on sides, scattered blotches and speckling sometimes evident; fins clear to yellow-orange; caudal fin margins and tips often deep red.

**Size:** To 35 cm, common 25 cm (TL)

***Gymnocranius grandoculis*** (Valenciennes, 1830)

**FAO names:** Blue-lined large-eye bream (En)

**Local name(s):** Nga Wet Sut A Pyar Sinn.
**Habitat:** Coastal waters in depths to about 80 m.
**Fisheries:** Bottom trawling, line gear.
**Distinctive Characters:** Body oblong, dorsal profile of head smoothly convex; 2–3 pairs of canines in front of each jaw, conical teeth at sides and fine teeth within; outer surface of maxilla smooth; caudal fin only moderately forked, the median rays much longer than eye diameter; 14 pectoral fin rays.
**Colour:** Silvery grey-blue above, becoming silvery white below; cheeks, snout and opercle with conspicuous wavy blue lines in fresh specimens; median fins orange-yellow, paired fins paler.
**Remarks:** This species has also been reported as *Gymnocranius robinsoni*, a junior synonym.



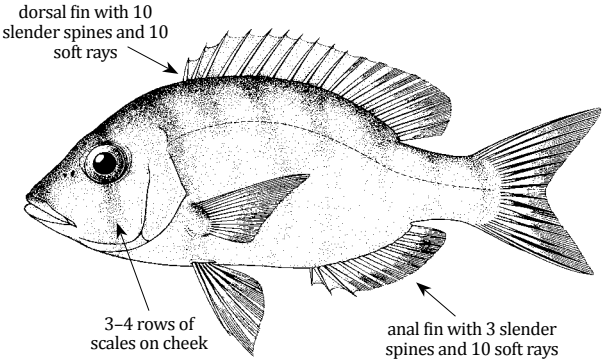

**Size:** To 80 cm, common 50 cm (TL)

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***Gymnocranius griseus*** (Temminck & Schlegel, 1843)

**FAO names:** Grey large-eye bream (En)
Empereur gris (Fr)

**Local name(s):** Nga Wet Sut Myet Lone Gyi.
**Habitat:** Coastal waters in depths to about 80 m.
**Fisheries:** Bottom trawling, line gear.
**Distinctive Characters:** Body oblong, dorsal profile of head evenly convex; 2–3 pairs of moderate canines in front of each jaw, conical teeth at sides and fine teeth within; outer surface of maxilla smooth; caudal fin only moderately forked, the median rays much longer than eye diameter; 14 pectoral fin rays.
**Colour:** Silvery grey-blue, becoming silvery white ventrally, fins yellow to orange. In young specimens, head and body with 5–8 irregular dark bars, in adults, remnants of bands usually present.



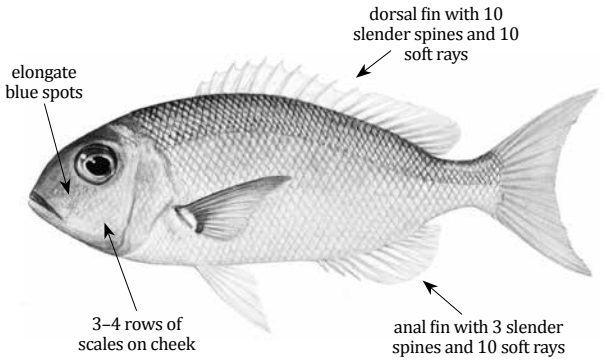

**Size:** To 80 cm, common 50 cm (TL)

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***Gymnocranius microdon*** (Bleeker, 1851)

**FAO names:** Bluespotted large-eye bream (En)

**Local name(s):** Nga Wet Sut Pyar Kwet.
**Habitat:** Sand and rubble bottoms adjacent to rock and coral reefs, usually at depths of 20–50 m
**Fisheries:** Caught mainly with bottom longlines and handlines.
**Distinctive Characters:** Body oblong, forehead profile moderately steep; 2–3 pairs of small, slender canines at front of each jaw, other teeth villiform becoming conical on lateral sections of jaws; outer surface of maxilla smooth; caudal fin only moderately forked, the median rays much longer than eye diameter; 14 pectoral fin rays.
**Colour:** Silvery to brownish, scale margins with a narrow brown border; numerous vertically elongate blue spots on snout and cheek, and sometimes on operculum; fins clear to yellow or reddish, caudal fin sometimes dusky brown.

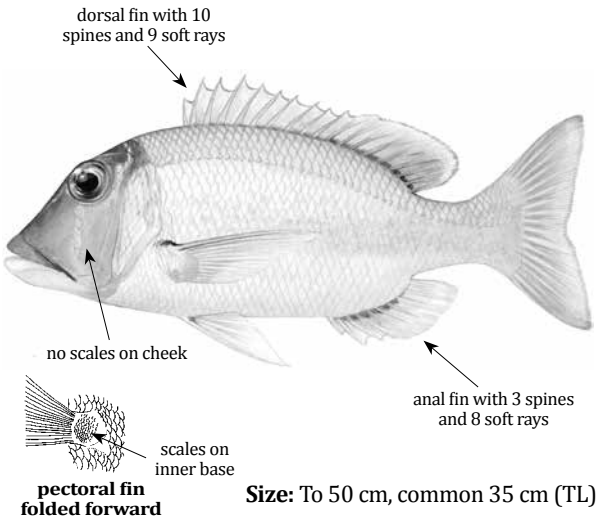



**Size:** To 80 cm, common 50 cm (TL)

## *Lethrinus atkinsoni* Seale, 1910

**FAO names:** Pacific yellowtail emperor (En)

**Local name(s):** Nga Wet Sut Kyaw Nyo Zin.
**Habitat:** Outer reef slopes, sandy areas in lagoons and seagrass beds to depths of about 30 m.
**Fisheries:** Line gears, bottom trawls, gillnets.
**Distinctive Characters:** Body depth 2.7–2.9 in SL; snout length about 1.9–2.6 in head length; lateral teeth in jaws rounded or molars; inner surface of the pectoral fin base densely scaled; 4½ scale rows between lateral line and base of middle dorsal fin spines; cheeks scaleless (true of all *Lethrinus* species).
**Colour:** Upper sides bluish grey, tan or yellowish, white ventrally, the caudal peduncle and sometimes a broad indistinct band on sides yellow; head brown, lips reddish; fins pale yellowish, orange, or reddish; the base of pectoral fins, basal membranes of anal fin and edges of pelvic, dorsal, anal, and caudal fins often reddish.

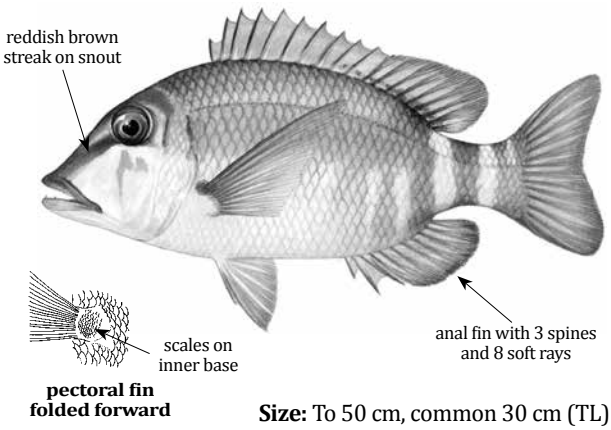



**Size:** To 50 cm, common 35 cm (TL)

## *Lethrinus erythropterus* Valenciennes, 1830

**FAO names:** Longfin emperor (En)
Empereur békine (Fr)

**Local name(s):** Nga Wet Sut Su Taung Shae.
**Habitat:** Coral reefs and adjacent sandy areas.
**Fisheries:** Line gears, bottom trawls, gillnets.
**Distinctive Characters:** Body depth 2.3–2.5 in SL; snout length about 1.9–2.2 in head length; lateral teeth in jaws rounded or molars; inner surface of the pectoral fin base densely scaled; dorsal fin with 10 spines and 9 soft rays; 4½ scale rows between lateral line and base of middle dorsal fin spines; cheeks scaleless.
**Colour:** Head and body brown or rust red, lighter ventrally; sometimes 2 light bars on caudal peduncle; area around eye, a broad streak from eye to tip of snout, lips, and base of pectoral fins red; all fins reddish, often a bright red or orange.

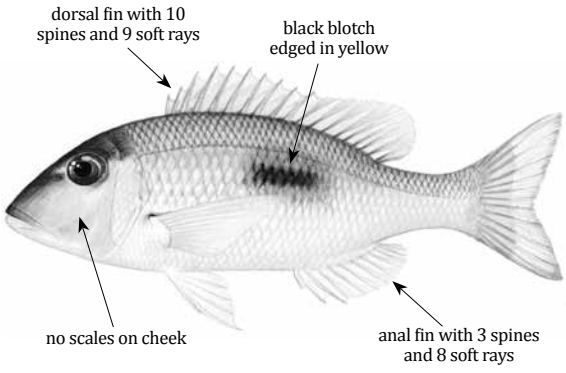



**Size:** To 50 cm, common 30 cm (TL)

## *Lethrinus harak* (Forsskål, 1775)

**FAO names:** Thumbprint emperor (En)
Empereur Saint Pierre (Fr)

**Local name(s):** Nga Wet Sut Kyaw Net Kwet.
**Habitat:** Shallow sandy areas, coral rubble, mangroves, lagoon and seagrass areas, inshore and adjacent to coral reefs. Maximum depth 20 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.6–2.8 in SL; snout length about 2.0–2.6 in head length; lateral teeth in jaws in adults molars or rounded; inner surface of pectoral fin base densely covered with scales; 5½ (sometimes 4½) scale rows between lateral line and base of middle dorsal fin spines; cheeks scaleless.
**Colour:** Olive-green above, lighter below, belly often tinged with pink; all fins pinkish to rosy-red; vertical fins mottled or striped.

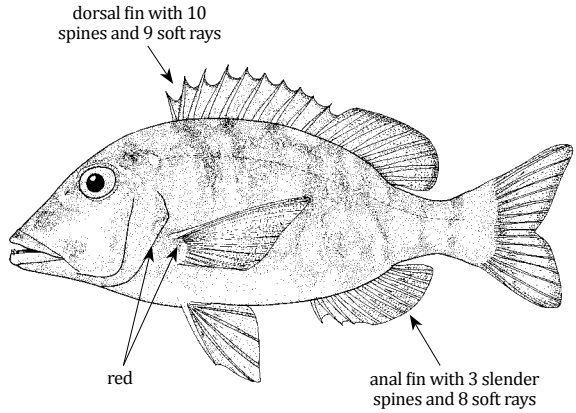



**Size:** To 50 cm, common 30 cm (TL)

## *Lethrinus lentjan* (Lacepède, 1802)

**FAO names:** Pink ear emperor (En)
Empereur lentille (Fr)

**Local name(s):** Nga Wet Sut Pan Yaung Nar.
**Habitat:** Shallow sandy bottoms in coastal areas, deep lagoons and near coral reefs. Maximum depth 90 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.5–2.8 in SL; snout length about 1.9–2.4 in head length; lateral teeth in jaws as molars, molars with tubercles or broadly rounded; 5½ scale rows between lateral line and base of middle dorsal fin spines; inner surface of pectoral fin bases scaleless or with only few scales; cheeks scaleless.
**Colour:** Body green-grey above, silver below; white spots sometimes on scale centres especially above lateral line; head brownish mauve-purple; posterior margin of opercle and sometimes base of pectoral fins red; dorsal fin white and orange mottled with a reddish margin.

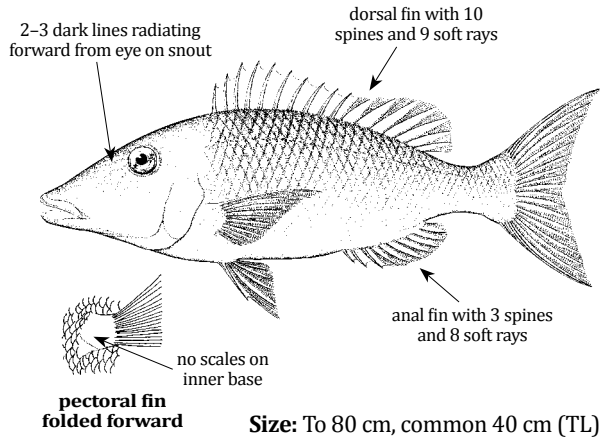



**Size:** To 50 cm, common 30 cm (TL)

## *Lethrinus microdon* Valenciennes, 1830

**FAO names:** Smalltooth emperor (En)
Empereur tidents (Fr)

**Local name(s):** Nga Wet Sut Hnar Yaung Shae.
**Habitat:** Sandy areas near coral reefs. Maximum depth 80 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.9–3.4 in SL; snout length about 1.8–2.3 in in head length; snout length (measured without lip) 0.7–0.8 in cheek heigth; lateral teeth in jaws conical; 4½ scale rows between lateral line and base of middle dorsal fin spines; inner surface of pectoral fin base and cheeks scaleless.
**Colour:** Body grey or brown with scattered irregular dark blotches on sides; fins pale or orangish; juveniles with indistinct cross band and a dark blotch between lateral line and middle of pectoral fins; 8 vertical bands usually present on upper half of body.

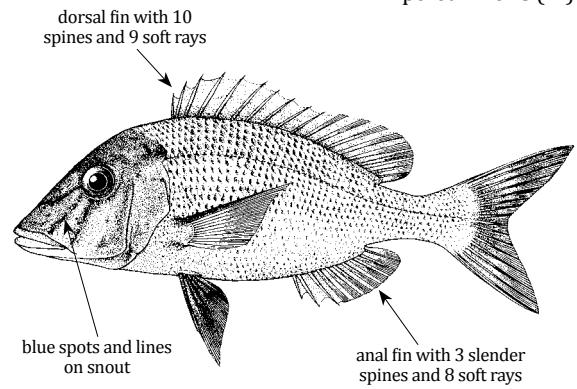



**Size:** To 80 cm, common 40 cm (TL)

## *Lethrinus nebulosus* (Forsskål, 1775)

**FAO names:** Spangled emperor (En)
Empereur moris (Fr)

**Local name(s):** Nga Wet Sut Hnar Zinn.
**Habitat:** Near shore habitats and offshore coral reefs. Maximum depth 75 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.5–2.9 in SL; snout length 1.8–2.4 in head length; snout length (measured without lip) 0.8–1.0 in cheek height; lateral teeth in jaws rounded with points or molars that often have tubercles; 5½ scale rows between lateral line and base of middle dorsal fin spines; inner surface of pectoral fin base densely covered with scales; cheeks scaleless.
**Colour:** Body yellowish or bronze, lighter below, centres of many scales with a white or light blue spot, sometimes irregular dark indistinct bars on sides; fins whitish or yellowish, pelvic fins dusky, edge of dorsal fin reddish.

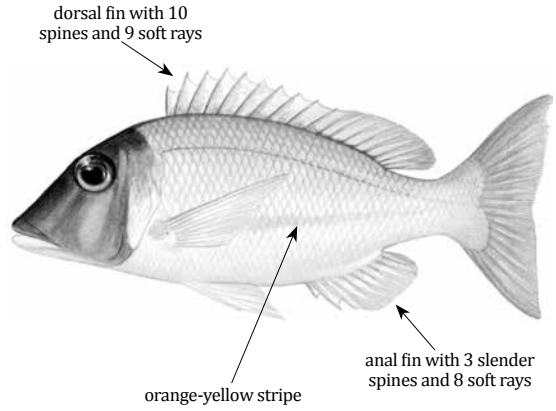



**Size:** To 80 cm, common 30 cm (TL)

## *Lethrinus obsoletus* (Forsskål, 1775)

**FAO names:** Orange-striped emperorn (En)
Empereur à bandes oranges (Fr)

**Local name(s):** Nga Wet Sut Lein Maw Zinn.
**Habitat:** Inhabits seagrass beds, and sand and rubble areas of lagoons and reefs to depths of about 30 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.6–2.9 in SL; snout length 1.8–2.3 in head length; snout length (measured without lip) 0.8–0.9 in cheek height; lateral teeth in jaws conical or rounded; 5½ scale rows between lateral line and base of middle dorsal fin spines; cheeks scaleless.
**Colour:** Body light tan to brown, lighter below; head often with several broad indistinct vertical and diagonal light and dark bands; sometimes white spots below eye; posterior edge of operculum dark brown; fins whitish or tan, sometimes mottled.

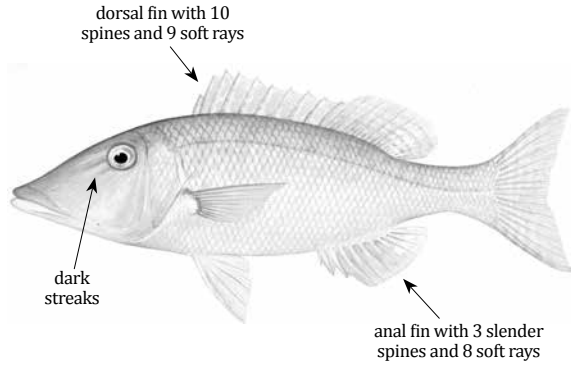



**Size:** To 60 cm, common 30 cm (TL)

## *Lethrinus olivaceus* Valenciennes, 1830

**FAO names:** Longface emperor (En)

**Local name(s):** Nga Wet Sut Myet Hnar Shae.
**Habitat:** Coral reefs and coastal waters to rather deep waters. Maximum depth 190 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.9–3.4 in SL; snout length about 1.7–2.2 in head length, snout length (measured without lip) 0.6–0.8 in cheek height; lateral teeth in jaws conical; 5½ scale rows between lateral line and base of middle dorsal fin spines; inner surface of pectoral fin base and cheeks scaleless.
**Colour:** Body grey, lighter ventrally, often with scattered irregular dark blotches; snout with wavy dark streaks; upper jaw, especially near corner of mouth sometimes edged behind with red.

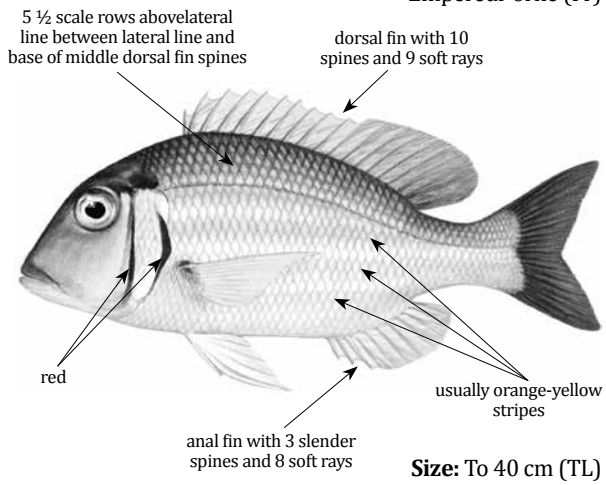



**Size:** To 100 cm, common 70 cm (TL)

## *Lethrinus ornatus* Valenciennes, 1830

**FAO names:** Ornate emperor (En)
Empereur orné (Fr)

**Local name(s):** Nga Wet Sut Hnar Toe.
**Habitat:** Inhabits sandy and soft bottom inshore bays, seagrass beds, lagoons, and areas adjacent to reefs. Maximum depth 30 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.3–2.6 in SL; snout length about 2.0–2.5 in head length; lateral teeth in jaws rounded with points or molars; inner surface of pectoral fin base densely scaled; cheeks scaleless.
**Colour:** Body dusky whitish, lighter below, with 5–6 yellow-orange stripes; posterior edge of opercle and preopercle bright red (the former more conspicuous); head brown or tan, sometimes a red spot on lower front edge of eye; pectoral fins orangish; pelvic and anal fins, and most of dorsal fin whitish; edge of dorsal and caudal fins reddish.

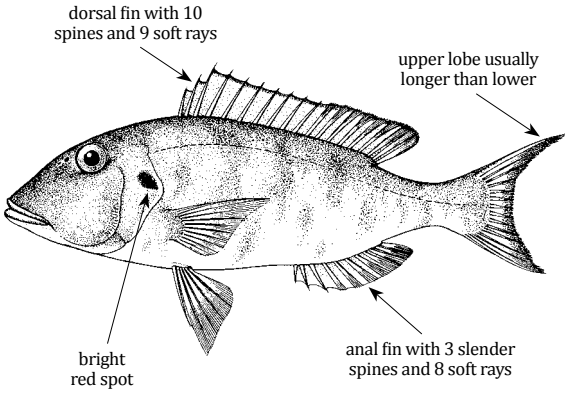



**Size:** To 40 cm (TL)

***Lethrinus rubrioperculatus*** Sato, 1978

**FAO names:** Spotcheek emperor (En)
Empereur honteux (Fr)

**Local name(s):** Nga Wet Sut Parr Hmart.
**Habitat:** Inhabits sand and rubble areas of outer reef slopes to depths of 160 m.
**Fisheries:** Bottom trawls, gillnets, handlines.
**Distinctive Characters:** Body depth 3.0–3.4 in SL; snout length 1.8–2.1 in head length; snout length (measured without lip) 0.7–0.9 in cheek height; lateral teeth in jaws conical; 4½ scale rows between lateral line and base of middle dorsal fin spines; inner surface of pectoral fin base scaleless; cheeks scaleless; caudal fin lunate, upper lobe usually longer than lower.
**Colour:** Body greyish green to purple, paler below; head often darker; a conspicuous bright red spot on posterior margin of opercle, slightly above midpoint; fins red to orange, with brighter margins, sometimes mottled with brighter red.

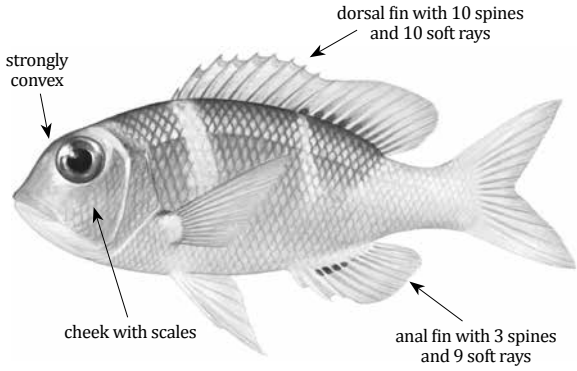



**Size:** To 40 cm, common 30 cm (TL)

***Monotaxis grandoculis*** (Forsskål, 1775)

**FAO names:** Humpnose big-eye bream (En)
Empereur bossu (Fr)

**Local name(s):** Nga Wet Sut Hnar To.
**Habitat:** Inhabits lagoon and seaward reefs near sand patches. Maximum depth 100 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Head profile strongly convex in front of a large eye; a broad patch of small villiform teeth in jaws anteriorly, followed by 6–7 round, flat molars on each side and preceded by canines in front of each jaw; inner surface of pectoral fin base densely scaled.
**Colour:** Body bluish grey above, paler below; lips yellow; area over and around eye yellow or orange; posterior part of dorsal fin with irregular dark spots at bases; small juveniles with 3 prominent black saddles separated by narrower white bars on upper half and a prominent black bar through eye.

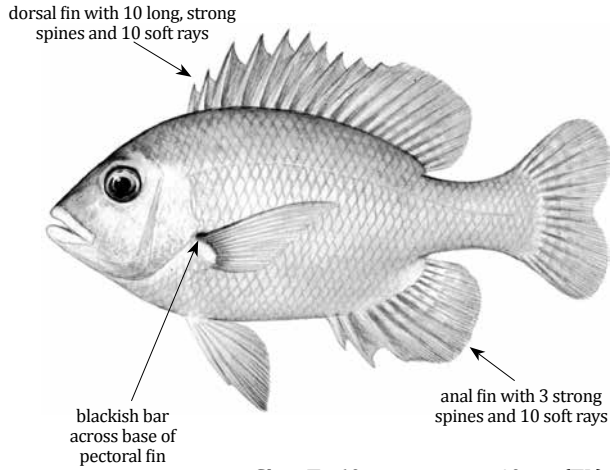



**Size:** To 60 cm, common 40 cm (TL)

***Wattsia mossambica*** (Smith, 1957)

**FAO names:** Mozambique large-eye bream (En)

**Local name(s):** Nga Wet Sut Myet Pyuu.
**Habitat:** Outer edge of the continental shelf at depths between 100–180 m.
**Fisheries:** Caught mainly with bottom longlines and bottom trawls.
**Distinctive Characters:** Body relatively deep, roughly rhomboid, its depth 1.9–2.2 in SL; head profile slightly convex; jaw teeth in a narrow, villiform band bordered by an outer series of conical teeth; anteriorly 4 moderate-sized canines in upper jaw and 6 in lower jaw; maxilla with a longitudinal denticulated ridge; inner surface of pectoral fin base scaleless; cheeks with scales.
**Colour:** Silvery grey with yellowish suffusion; scale margins narrowly brownish; indistinct dark blotches or bars sometimes apparent on body; lips whitish to yellow; fins yellow, faint brown spotting may be present on soft dorsal, anal, and caudal fins.



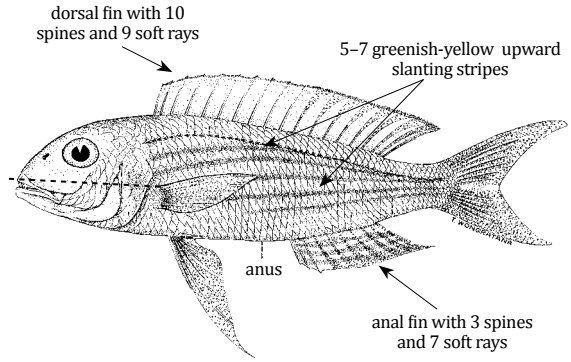

**Size:** To 60 cm, common 40 cm (TL)

# NEMIPTERIDAE
Threadfin breams

## *Nemipterus bipunctatus* (Valenciennes, 1830)

**FAO names:** Delagoa threadfin bream (En)
Cohana delagoa (Fr)

**Local name(s):** Delago Shwe Nga.
**Habitat:** Benthic on sandy or muddy bottoms in depths of 18–60 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Lower margin of eye tangent to or above a line from tip of snout to upper base of pectoral fin; small canine teeth anteriorly in upper jaw; pectoral fins reaching to or just behind anus; pelvic fins reaching to or just beyond level of anal fin origin; no filament on caudal fin.
**Colour:** Upper part of body pinkish, shading to silvery on the ventral surface; snout with 2 indistinct bluish or mauve stripes; dorsal fin pale pink with a reddish margin and yellow submarginal stripe (lacking in larger specimens); caudal fin yellowish pink.

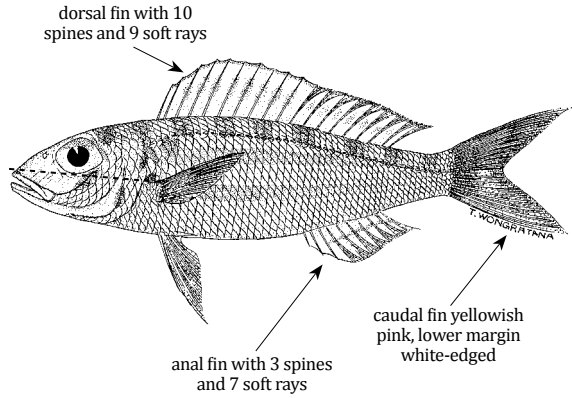



**Size:** To 30 cm, common 25 cm (TL)

## *Nemipterus furcosus* (Valenciennes, 1830)

**FAO names:** Forktailed threadfin bream (En)

**Local name(s):** Shwe Nga A Hmee Khwa.
**Habitat:** Sandy or muddy bottoms in depths of 8–110 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lower margin of eye tangent to or above a line from tip of snout to upper base of pectoral fins; 2–3 pairs of small recurved canines anteriorly in upper jaw; pectoral fins reaching to or just short of level of anus; pelvic fins reaching to or just short of level of anus; caudal fin deeply forked, without filament.
**Colour:** Head and body pale iridescent pink, shading to silvery white below; back with 9 indistinct cross bars; dorsal fin pale rosy, sometimes with yellowish tinge, outer margin darker pink; anal fin bluish white, with row of transparent or faint yellowish spots near base.

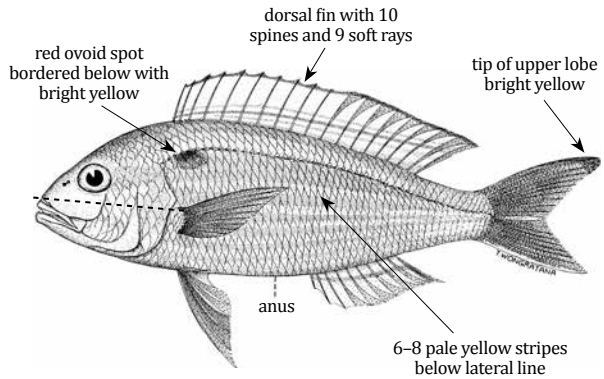



**Size:** To 22.5 cm, common 18 cm (TL)

## *Nemipterus hexodon* (Quoy & Gaimard, 1824)

**FAO names:** Ornate threadfin bream (En)

**Local name(s):** Shwe Nga Hmee Hteik Warr.
**Habitat:** Sandy or muddy bottoms in depths of 10–80 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Lower margin of eye above a line from tip of snout to upper base of pectoral fins; 3–4 pairs of distinctively larger canines anteriorly in upper and lower jaw; pectoral fins reaching to or beyond level of anus; pelvic fins reaching to or just beyond level of anus; caudal fin forked, upper lobe slightly longer than lower lobe.
**Colour:** Body pinkish, paling to silvery white below; yellow stripe on either side of ventral midline, from isthmus to lower caudal fin base.

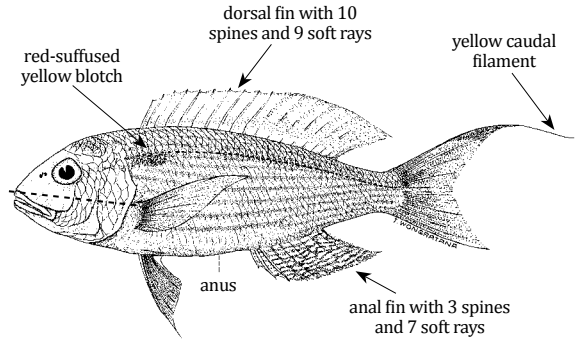



**Size:** To 21 cm, common 15 cm (TL)

***Nemipterus japonicus*** (Bloch, 1791)

**FAO names:** Japanese threadfin bream (En)
Cohana japonaise (Fr)

**Local name(s):** Shwe Nga Hmee Tan Shae.
**Habitat:** Benthic in coastal waters, found on sandy bottoms from 5 m to 80 m.
**Fisheries:** Bottoms trawls, gillnets.
**Distinctive Characters:** Lower margin of eye above a line from tip of snout to upper base of pectoral fins; small canine teeth anteriorly in upper jaw; pectoral fins reaching to or beyond level of anal fin origin; pelvic fins not reaching to level of anal fin origin.
**Colour:** Upper part of body pinkish, becoming silvery below; 11–12 pale golden yellow stripes along body from behind head to base of caudal fin, and a yellow band along belly; dorsal fin edged with red, a pale lemon stripe near its base; caudal fin pink, upper tip and filament yellow.

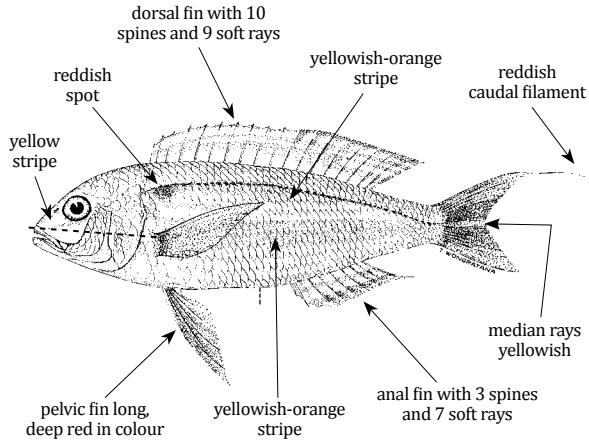



**Size:** To 30 cm, common 25 cm (TL)

***Nemipterus marginatus*** (Valenciennes, 1830)

**FAO names:** Red filament threadfin bream (En)

**Local name(s):** Shwe Nga Lein Maw Zinn.
**Habitat:** Sand or mud bottoms in depths between 12–70 m.
**Fisheries:** Bottoms trawls, gillnets.
**Distinctive Characters:** Lower margin of eye above a line from tip of snout to upper base of pectoral fins; small canine teeth anteriorly in upper jaw; pectoral fins reaching to between level of anus and anal fin origin; pelvic fins not reaching to or just beyond level of anal fin origin.
**Colour:** Body rosy, silvery white below; broad yellowish orange stripe, divided above pectoral fin, along body from below origin of lateral line to upper part of caudal peduncle; dorsal fin pale bluish, with yellow margin and broad yellow median stripe which subdivides into 3 yellow stripes posteriorly; anal fin pale bluish with 2 narrow yellow stripes.

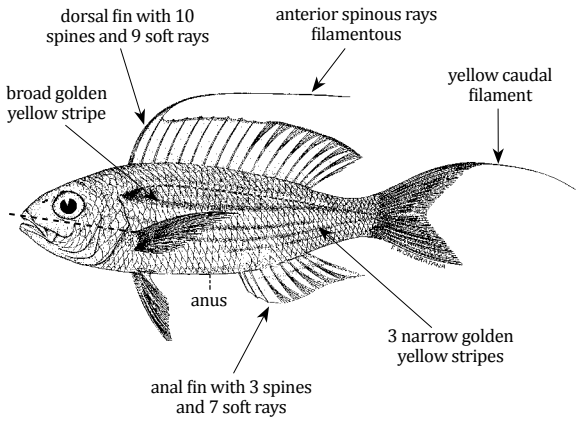



**Size:** To 16 cm (SL)

***Nemipterus nematophorus*** (Bleeker, 1853)

**FAO names:** Doublewhip threadfin bream (En)

**Local name(s):** Shwe Nga Hmee War Hnit.
**Habitat:** Benthic in coastal waters, found on sandy bottoms in depths to about 75 m.
**Fisheries:** Bottoms trawls, gillnets.
**Distinctive Characters:** lower margin of eye tangent to a line from tip of snout to upper base of pectoral fins; 3–5 pairs of small recurved canines anteriorly in upper jaw; pectoral and pelvic fins reaching to between level of anus and origin of anal fin.
**Colour:** Body pinkish, silvery white below; yellow stripe on either side of ventral midline; dorsal fin translucent pinkish with reddish margin; anal fin translucent, with faint yellow or orange stripe from near base of first spine to middle of last ray; caudal fin pink, upper tip and caudal filament yellow.

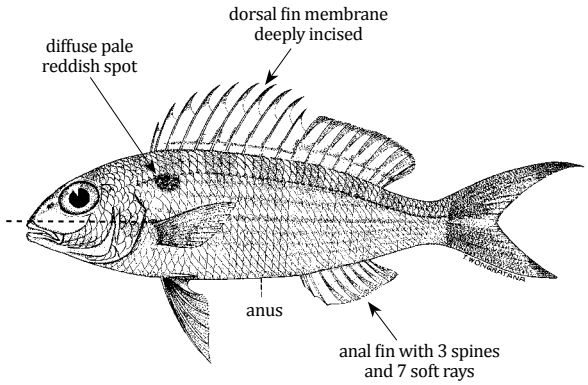



**Size:** To 20 cm, common 15 cm (TL)

***Nemipterus peronii*** (Valenciennes, 1830

**FAO names:** Notchedfin threadfin bream (En)
Cohana tolu (Fr)

**Local name(s):** Shwe Nga Kyaw Sue Pyat.
**Habitat:** Coastal waters, on sandy or mud bottoms, in depths to about 100m.
**Fisheries:** Bottoms trawls, gillnets
**Distinctive Characters:** Lower margin of eye just above a line from tip of snout to upper base of pectoral fins; pectoral fins not reaching to level of anus; small canine teeth anteriorly in upper jaw; pelvic fins reaching to level of anus.
**Colour:** Upper part of body pinkish, with 7–8 indistinct darker pink saddles reaching to or just below the lateral line; lower part of body silvery, with faint golden lines following each scale row; a golden yellow stripe on snout in front of eye passing through nostrils; dorsal fin pale whitish pink, with a pale yellow line or series of spots just above base of fin.

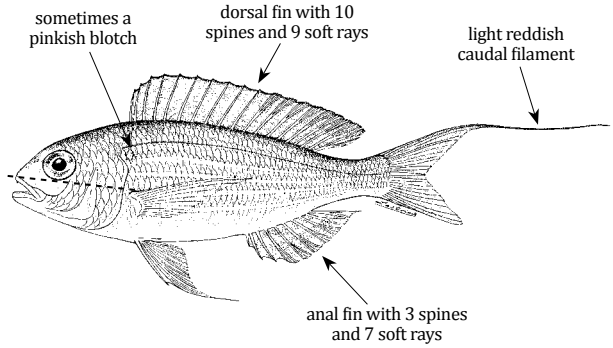



**Size:** To 26.5 cm, common 17 cm (TL)

***Nemipterus randalli*** Russell, 1986

**FAO names:** Randall's threadfin bream (En)

**Local name(s):** Randall Shwe Nga.
**Habitat:** Benthic on sandy or muddy bottoms from 22 m to 225 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Lower margin of eye tangent to or just above a line from tip of snout to upper base of pectoral fins; small canine teeth anteriorly in upper jaw; pectoral and pelvic fins reaching to or beyond level of anal fin origin.
**Colour:** Body silvery pink with 2–4 faint yellow stripes on sides below lateral line; broad yellow stripe on either side at ventral midline; dorsal fin edged with red, with yellow-pigmented markings on the lower 3/4 of the fin; caudal fin pink.

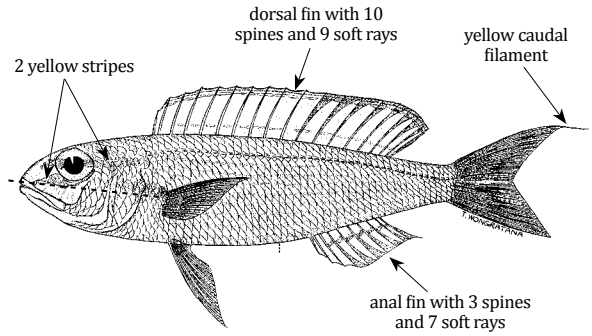



**Size:** To 27 cm, common 18 cm (TL)

***Nemipterus zysron*** (Bleeker, 1856)

**FAO names:** Slender threadfin bream (En)
Cohana élégante (Fr)

**Local name(s):** Shwe Nga Ko Lone Thwae.
**Habitat:** Benthic on sandy bottoms near rocks from 10 m to 125 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body slender, lower margin of eye tangent to to or just above a line from tip of snout to upper base of pectoral fins; small canine teeth anteriorly in upper jaw; pectoral and pelvic fins short, reaching just to level of anus; upper lobe of caudal fin prolonged into a short filament, no filaments in other fins.
**Colour:** Upper part of body reddish, silvery below; dorsal fin pale with a narrow red margin paralleled immediately below by a thin yellow line and pale blue band; caudal fin pink with inner margin of fork deep red.

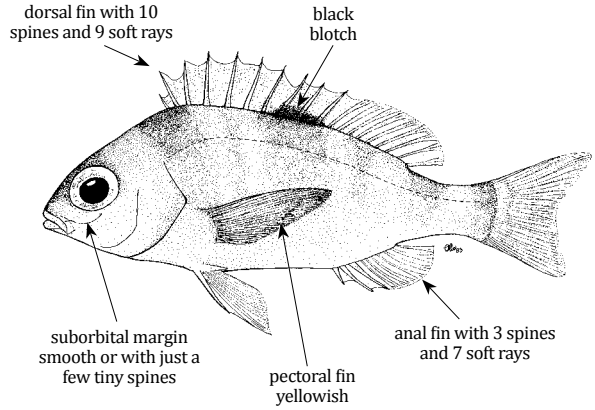



**Size:** To 25 cm, common 21 cm (TL)

***Parascolopsis aspinosa*** (Rao & Rao, 1981)

**FAO names:** Smooth dwarf monocle bream (En)
Mamila lisse (Fr)

**Local name(s):** Shwe Nga Kha Kone.
**Habitat:** A benthic species, found on sand or mud bottoms in offshore waters, in depths of 20–225 m.
**Fisheries:** Bottom trawls, gillnets
**Distinctive Characters:** Head scales reaching forward to between level of anterior margin of eyes and posterior nostrils; no canine teeth in jaws; suborbital and maxilla scaleless; posterior edge of preopercle serrate; >3 transverse scale rows on preopercle; 10–11 gill rakers of 1st gill arch.
**Colour:** Body rosy orange; 4 pale reddish saddles on back and 2 on caudal peduncle; suborbital and edge of preopercle silvery yellow; a black blotch (retained in preserved specimens) at base of dorsal fin between 8th spine and 1st soft ray; dorsal fin with orange edge; anal fin pale rosy; iris red (in fresh specimens).

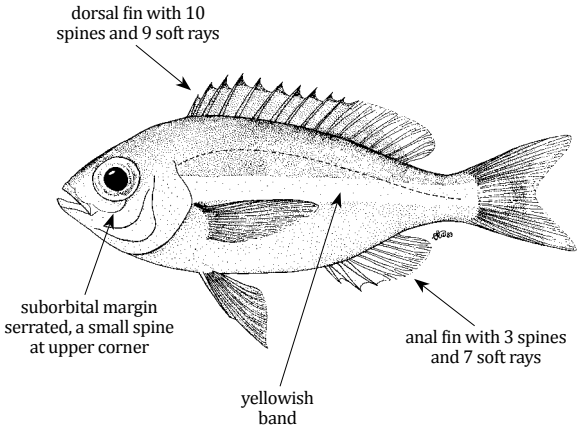



**Size:** To 21 cm (TL)

***Parascolopsis eriomma*** (Jordan & Richardson, 1909)

**FAO names:** Rosy dwarf monocle bream (En)
Mamila rosée (Fr)

**Local name(s):** Shwe Nga Hnin Si.
**Habitat:** Benthic on sandy or muddy bottoms in offshore waters from 25 m to 175 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Head scales reaching forward to between middle of eyes; no canine teeth in jaws; suborbital and maxilla scaleless; posterior edge of preopercle serrate; >3 transverse scale rows on preopercle; 17–19 gill rakers of 1st gill arch.
**Colour:** Overall pinkish; a broad yellowish longitudinal band along middle of body from above pectoral fins to base of caudal fin; upper axil of pectoral fin blackish; dorsal fin pink, spinous margin reddish; pectoral and caudal fin yellowish; iris red (in fresh specimens).

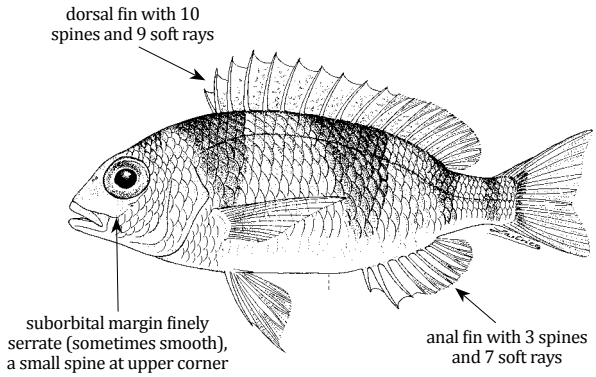



**Size:** To 30 cm (TL)

***Parascolopsis inermis*** (Schlegel, 1843)

**FAO names:** Unarmed dwarf monocle bream (En)

**Local name(s):** Shwe Nga Phyu Ni Kyarr.
**Habitat:** Sandy or muddy bottoms in offshore waters in depths of 60–131 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Head scales reaching forward to between middle of eyes; no canine teeth in jaws; suborbital and maxilla scaleless; posterior edge of preopercle finely serrate; lower limb of preopercle scaleless; 9–10 gill rakers of 1st gill arch.
**Colour:** Body pale yellowish, silvery below; 4 broad dark reddish bars on back; the 1st just in front of dorsal fin and extending to base of pectoral fin; 2nd below middle of dorsal fin and extending to midlateral part of body; 3rd just behind dorsal fin and extending almost to ventral surface of caudal peduncle; 4th extending down base of caudal fin; dorsal fin yellowish, with numerous red spots.

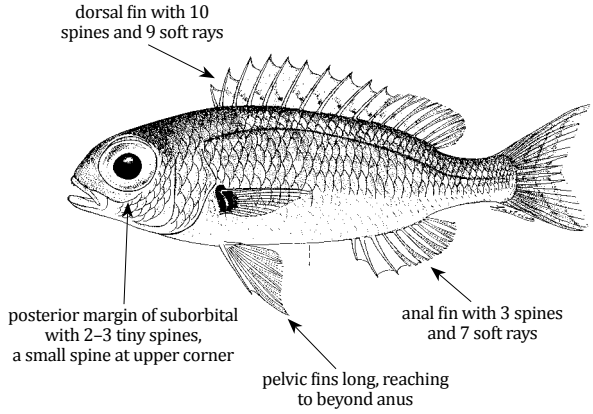



**Size:** To 18 cm, common 12 cm (SL)

## *Parascolopsis* aff. *qantasi* Russell & Gloerfelt-Tarp, 1984 *

**FAO names:**
Slender dwarf monocle bream (En)

**Local name(s):** Shwe Nga Ko Lone Thwai.
**Habitat:** Sandy or muddy bottoms in offshore waters in depths of 65–70 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Head scales reaching forward to between middle of eyes; no canine teeth in jaws; lower limb of preopercle scaleless; suborbital and maxilla naked; preopercle with a broad naked flange bordering its free margin; 12–14 gill rakers of 1st gill arch.
**Colour:** Dark brownish on back, paling to whitish below; pectoral fins yellowish pink with a prominent black spot at base.
**Remarks:** Two specimens collected off Myanmar between 306–310 m depth resembling *Parascolopsis quantasi* presently under study by Russell and Psomadakis.

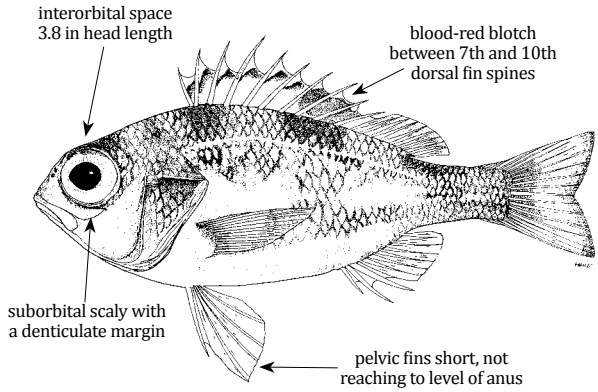



**Size:** To 18 cm, common 12 cm (SL)

## *Parascolopsis* sp. *

**FAO names:** Yellowfin dwarf monocle bream

**Local name(s):** Shwe Nga Kyaw Sue Ni Set.
**Habitat:** Collected between 109–183 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Head scales reaching to about middle of eyes; 4+6=10 gill rakers on 1st gill arch; maxilla scaly; preopercle (including flange) entirely scaled; pelvic fins 1.6 in head length.
**Colour:** Body pinkish, becoming silvery white below; 4 reddish brown saddles on upper part of body; 2 lateral yellow bands, 1 just below lateral line, 1 from behind pectoral fin to caudal fin base; iris, branchiostegal rays and dorsal fin yellow; caudal fin reddish basally, yellowish medially, fork margin light red; other fins mostly transparent.
**Remarks:** An undescribed species presently under description by Russell *et al*.

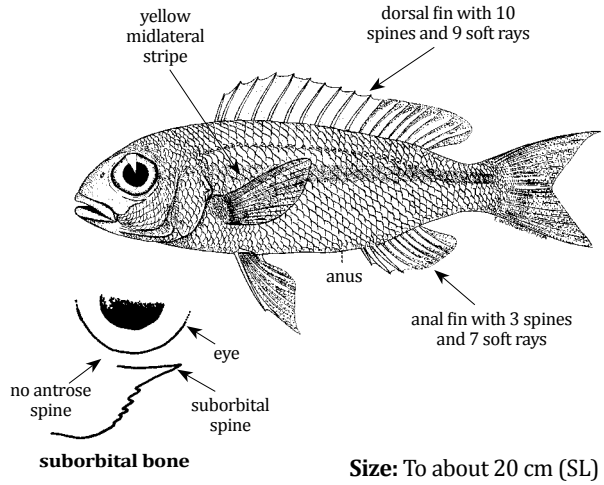



**Size:** To about 13.2 cm (TL)

## *Scolopsis affinis* Peters, 1877

**FAO names:** Peters' monocle bream (En)

**Local name(s):** Shwe Nga Hmee Warr.
**Habitat:** Sandy bottoms close to reefs in depths to 60 m.
**Fisheries:** Mainly handline or gill nets.
**Distinctive Characters:** Head scales reaching forward to level of posterior nostrils; lower limb of preopercle scaly; antrorse suborbital spine absent beneath eye; pelvic fins reaching to or beyond level of anus.
**Colour:** Body greyish on back above lateral line, silvery white below; a broad yellow midlateral stripe (yellowish in larger specimens) from behind eye to caudal peduncle; top of head and snout dusky grey, an indistinct bluish stripe between eyes; narrow white stripe from middle of upper lip to below eye; caudal fin yellow, with a narrow pale blue margin.

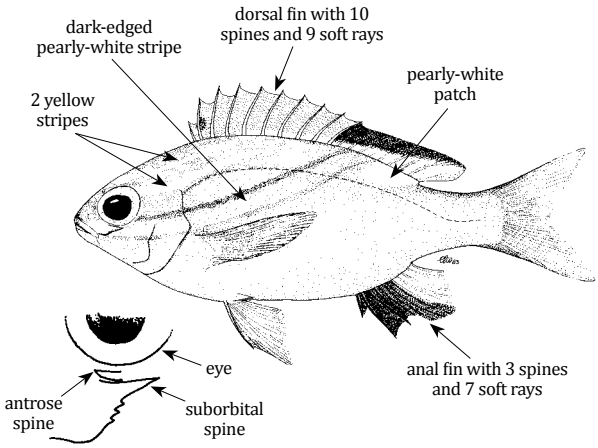



**Size:** To about 20 cm (SL)

## *Scolopsis bilineata* (Bloch, 1793)

**FAO names:** Two-lined monocle bream (En)
Mamila griffée (Fr)

**Local name(s):** Shwe Nga Parr Line Hnit Zinn.
**Habitat:** Coral reefs, in depths to 20 m.
**Fisheries:** Occasionally handline.
**Distinctive Characters:** Head scales reaching to or just in front of anterior nostrils; lower limb of preopercle scaly; antrorse suborbital spine present beneath eye; pelvic fins long, reaching to or almost to level of origin of anal fin.
**Colour:** Body olive or greyish brown, pearly white below; dark-edged pearly white stripe ascending from mouth to base of the soft dorsal fin; a yellow middorsal stripe from above eyes along base of dorsal fin; a pearly white patch just below base of posterior half of soft dorsal rays; spinous dorsal fin yellow, soft dorsal and anal fin with anterior halfs deep red or black, remaining part transparent.

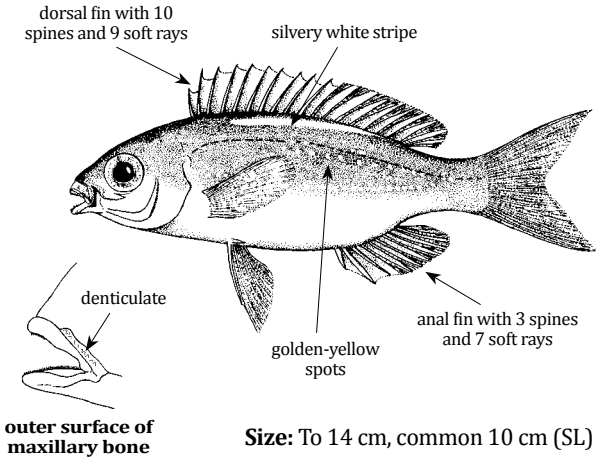



**Size:** To 15 cm, common 13 cm (SL)

## *Scolopsis ciliata* (Lacepède, 1802)

**FAO names:** Saw-jawed monocle bream (En)

**Local name(s):** Shwe Nga Mae Hlwa Thwar.
**Habitat:** Sandy bottoms close to coral reefs.
**Fisheries:** Occasionally handline.
**Distinctive Characters:** Head scales reaching forward to or just in front of level of anterior nostrils; lower limb of preopercle scaly; antrorse suborbital spine present beneath eye; pelvic fins reaching to or just beyond level of anus; maxilla denticulate on its external edge.
**Colour:** Olive above, white below; a silvery white stripe on the back beneath the dorsal fin; a row of golden-yellow spots midlaterally from behind tip of pectoral fin to caudal peduncle; caudal fin with upper and lower edges reddish.

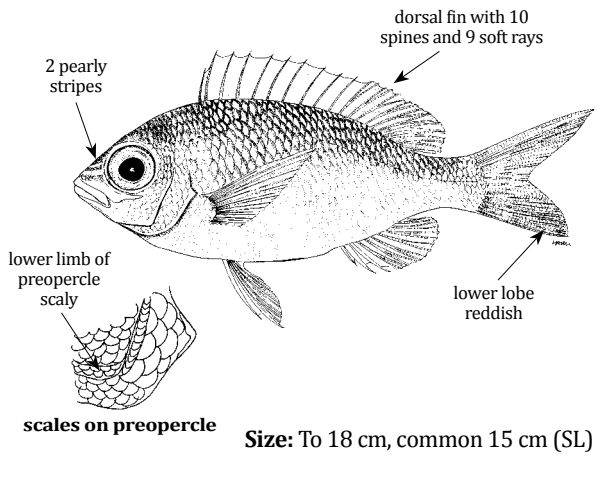



**Size:** To 14 cm, common 10 cm (SL)

## *Scolopsis margaritifera* (Cuvier, 1830)

**FAO names:** Pearly monocle bream (En)

**Local name(s):** Shwe Nga Pale Yaung.
**Habitat:** Sandy bottoms close to coral reefs in depths to 20m.
**Fisheries:** Occasionally handline.
**Distinctive Characters:** Head scales reaching to or almost to posterior nostrils; lower limb of preopercle scaly; antrorse suborbital spine absent beneath eye; pelvic fins reaching almost to or beyond level of origin of anal fin; anal fin with 3 spines and 7 soft rays.
**Colour:** Olive above, white below; centre of scales with pearly or yellowish spots, forming longitudinal and transverse lines; 2 pearly stripes on snout in front of eyes; fins yellowish; lower lobe of caudal fin reddish.

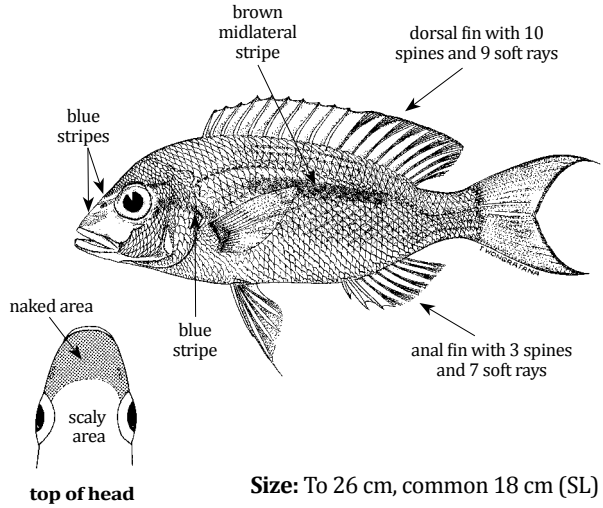



**Size:** To 18 cm, common 15 cm (SL)

## *Scolopsis monogramma* (Cuvier, 1830)

**FAO names:** Monogrammed monocle bream (En)

**Local name(s):** Shwe Nga A Nyo Line.
**Habitat:** Sandy bottoms close to coral reefs in depths to about 50m.
**Fisheries:** Occasionally trawled, handline.
**Distinctive Characters:** head scales reaching to between anterior margin of eyes and posterior nostrils; lower limb of preopercle scaly; antrorse suborbital spine absent beneath eye; caudal fin forked or lunate, upper lobe a little longer than lower lobe (lobes produced to form short filamentous extensions in larger specimens).
**Colour:** Greyish on back, white below; brown longitudinal steaks on back above lateral line, and oblique yellow streaks below lateral line; a brown midlateral stripe, expanded in the middle; blue stripe on preopercle behind eye, and blue chevron-shaped stripe on opercle from below eye, bending downwards towards pectoral fin base

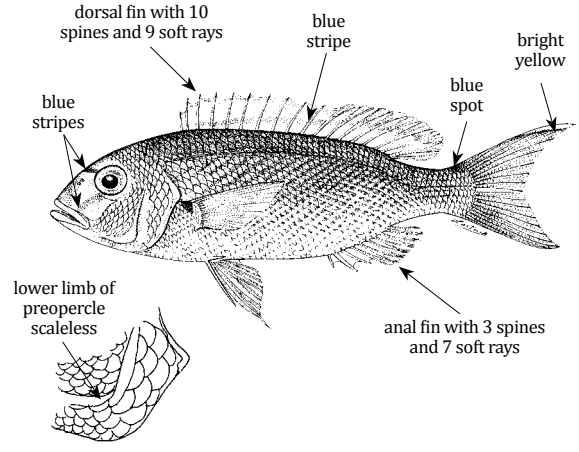



**Size:** To 26 cm, common 18 cm (SL)

## *Scolopsis taenioptera* (Cuvier, 1830)

**FAO names:** Lattice monocle bream (En)

**Local name(s):** Shwe Nga Hnar Kyarr.
**Habitat:** Sand or mud bottoms in offshore areas, in depths to 50 m.
**Fisheries:** Mainly bottom trawls.
**Distinctive Characters:** Head scales reaching forward to between level of anterior margin of eyes and posterior nostrils; lower limb of preopercle scaleless; antrorse suborbital spine absent beneath eye; pelvic fins long, reaching to or beyond level of anus;
**Colour:** Greyish yellow on upper part of body, whitish below; sides of body with faint oblique blue and yellow lines, these horizontal on the caudal peduncle; a narrow blue stripe joining eyes just behind nostrils; a blue stripe from middle of upper lip to lower edge of eye; upper base of pectoral fin with a reddish orange spot; fins yellowish; upper tip of caudal fin bright yellow.

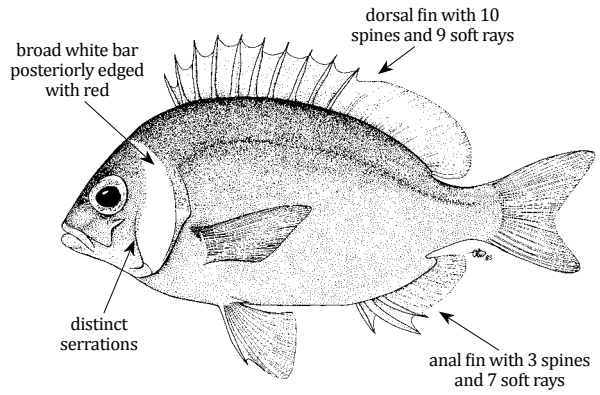



**Size:** To 20 cm, common 15 cm (SL)

## *Scolopsis* sp. B

**FAO names:** Collared monocle bream (En)

**Local name(s):** Shwe Nga Parr Phyu Kywet.
**Habitat:** Benthic inshore waters, usually on sandy or muddy bottoms close to reefs.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Serrations on preopercular margin distinct; antrose suborbital spine present beneath eye.
**Colour:** Brown reddish with a broad white vertical bar from top of head onto opercle posteriorly edged with red; black spot present on upper base of pectoral fin; scales on sides with yellow tinge; median and paired fins bright yellow.
**Remarks:** Previously synonymized with *Scolopsis vosmeri* (Bloch, 1792), but now regarded as a distinct species.

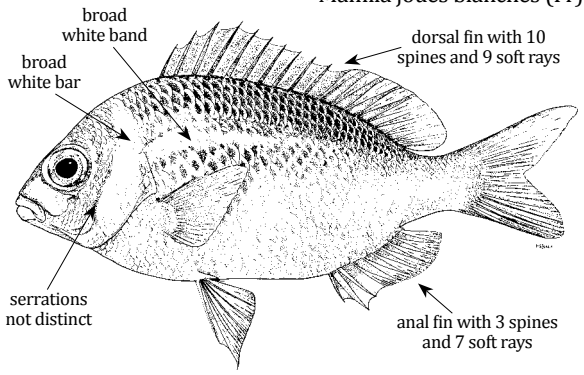



**Size:** To at least 16.5 cm (TL)

***Scolopsis vosmeri*** (Bloch, 1792)

**FAO names:** Whitecheek monocle bream (En)
Mamila joues blanches (Fr)

**Local name(s):** Shwe Nga Parr Phyu.
**Habitat:** Benthic inshore waters, usually on sandy or muddy bottoms close to reefs.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Serrations on preopercular margin not distinct; antrose suborbital spine present beneath eye.
**Colour:** Body colour usually dark with a reddish purple tinge; a broad, white vertical bar from top of head on to gill covers and lateral whitish band below lateral line usually present; small black spot on upper base of pectoral fin or spot absent; scales on sides of body with a dark spot at centre; median fins dirty red, pectoral fins with an orange tinge.

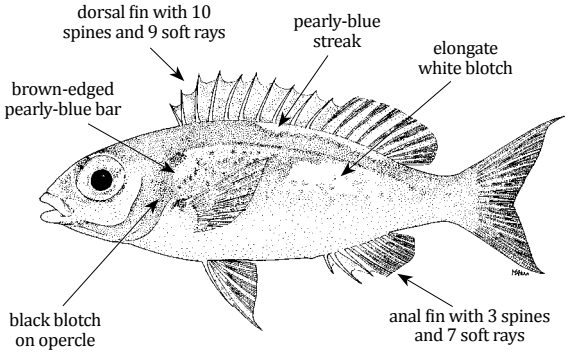



**Size:** To 25 cm, common 15 cm (TL)

***Scolopsis xenochrous*** Günther, 1872

**FAO names:** Oblique-barred monocle bream (En)

**Local name(s):** Shwe Nga Kyaw Phyu Kywet.
**Habitat:** Rocky-rubble and seaweed areas as well as coral reefs, in depths of 5–50 m.
**Fisheries:** Occasionally gillnets.
**Distinctive Characters:** Head scales reaching forward to between level of anterior margin of eyes and posterior nostrils; lower limb of preopercle scaly; antrorse suborbital spine present beneath eye; pelvic fins reaching to or almost to level of anus; caudal fin forked.
**Colour:** Greyish brown above, silvery white below; a pearly blue streak from behind eye along dorsal fin base; several short oblique rows of dusky brown spots on the sides; an elongate white blotch below lateral line on posterior half of body, a yellowish tinge above this blotch.



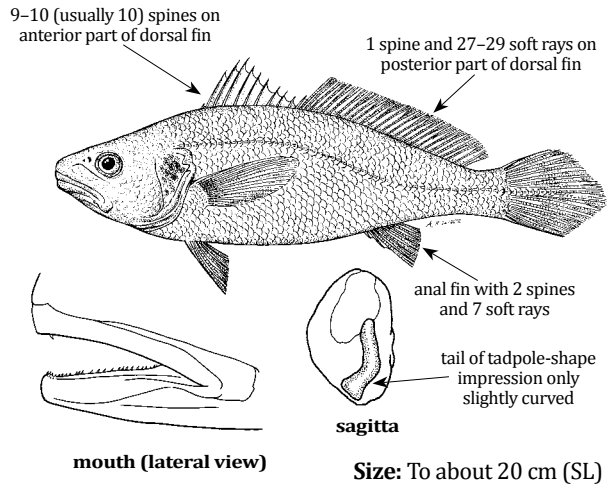

**Size:** To 17 cm, common 14 cm (SL)

## SCIAENIDAE
Croakers

***Atrobucca antonbruun*** Sasaki, 1995

**FAO names:** Blackmouth croaker (En)
Maigre noire (Fr)

**Local name(s):** Pasat Mae Nga Poke Thin.
**Habitat:** Coastal waters in depths 20–65 m.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Mouth terminal, oblique; small and large teeth both in upper and lower jaws; inner row teeth on lower jaw weakly differentiated, closely spaced; mental pores in 3 pairs, the 1st small, at front of chin, separated by symphysis; swimbladder carrot-shaped with a number of arborescent appendages (mostly associated with the dorsal and ventral surfaces), none entering the head; caudal fin rhomboidal; 11–15 (usually 13–14) lower gill rakers.
**Colour:** Overall silvery, slightly darker on back owing to dark margined scale pockets; upper and lower lips edged with brown; lining of mouth, gill chamber, and peritoneum dark brown.

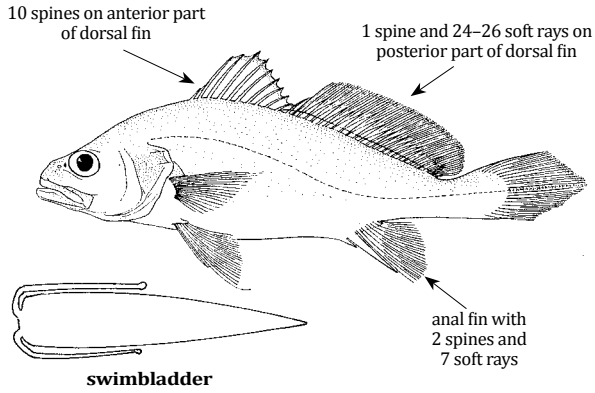



**Size:** To about 20 cm (SL)

## *Bahaba chaptis* (Hamilton, 1822)

**FAO names:** Chaptis bahaba (En)

**Local name(s):** Thin War Gyi.
**Habitat:** Coastal waters and lower parts of rivers.
**Fisheries:** Bottom trawls, gillnets, handlines.
**Distinctive Characters:** Mouth large, terminal, its length more than 1/2 of head length; teeth differentiated into large and small, the large forming outer series in upper jaw, intermixed with smaller teeth in lower jaw; no canine teeth; mental pores in 3 pairs; swimbladder carrot-shaped with only one pair of appendages, each a simple tube, arising from anterior end and lying along the side of the main bladder for about 1/2 the length of the latter.
**Colour:** Pale brownish with indistinct darker saddles on back; margins of dorsal and caudal fins black; pectoral fin black; caudal fin black.

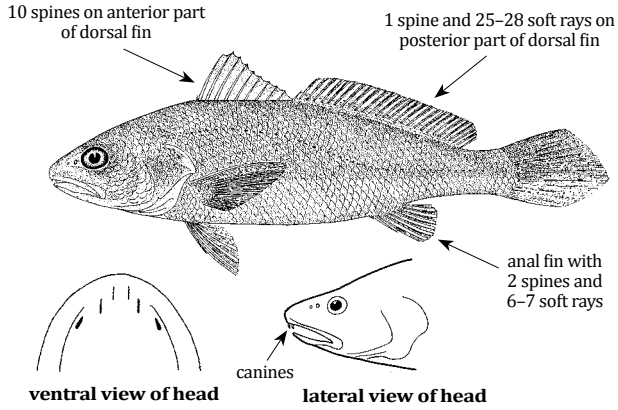



**Size:** To about 50 cm, common 20–30 cm (TL)

## *Chrysochir aureus* (Richardson, 1846)

**FAO names:** Reeve's croaker (En)
Courbine dorée (Fr)

**Local name(s):** Thin War.
**Habitat:** Shallow coastal waters.
**Fisheries:** Gillnets, handlines, bottom trawls.
**Distinctive Characters:** Snout acutely pointed, projecting in front of upper jaw; mouth large, nearly horizontal; mental pores in 3 pairs, the first slit-like on either side of symphysis; swimbladder carrot-shaped, with 27–30 pairs of fan-like appendages along its sides, none entering head; sagitta (large earstone) with a tadpole-shaped impression, the "tail" of which only slightly curved, ending in a disc at the posterior end of sagitta.
**Colour:** Metallic blue above, shading to silvery below; oblique streaks along scale rows on back; pectoral fins yellow, other fins grey suffused with orange.

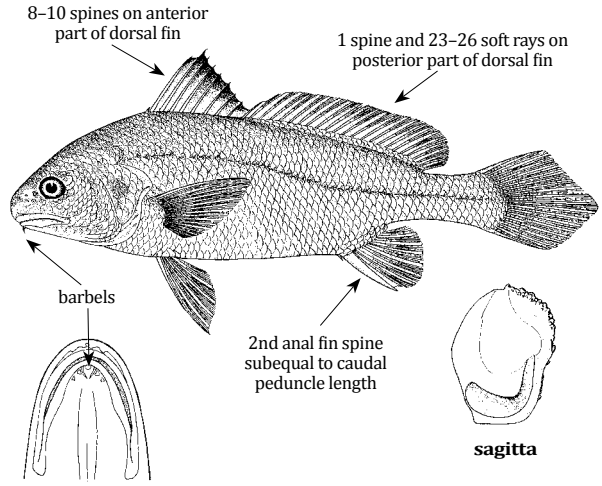



**Size:** To about 30 cm, common 25 cm (TL)

## *Daysciaena albida* (Cuvier, 1830)

**FAO names:** Bengal corvina (En)

**Local name(s):** Gaung Pwa Mote Seik Toe.
**Habitat:** Inhabits shallow coastal waters and estuaries.
**Fisheries:** Gillnets, handlines.
**Distinctive Characters:** Mouth terminal or slightly inferior; a pair of minute barbels on chin; small and large teeth both in upper and lower jaw; 5 mental pores; 2nd anal fin spine subequal to peduncle length; swimbladder carrot-shaped, with 17–19 pairs of arborescent appendages along sides, 1st pair partly entering head; sagitta (large earstone) with a tadpole-shaped impression, of which the "tail" is sharply curved at about a right angle; anal fin with 2 spines and 7 soft rays.
**Colour:** Grey dorsally, silvery ventrally; faint dark oblique line along scale series; spinous part of dorsal fin black, upper margin of 2nd part of dorsal fin dusky.

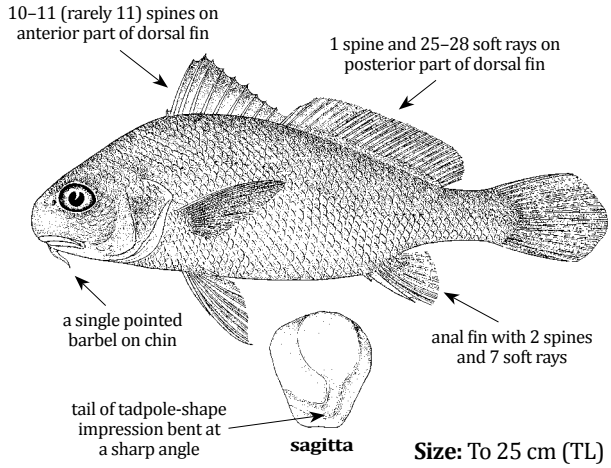



**Size:** To 65 cm (TL)

## *Dendrophysa russelii* (Cuvier, 1829)

**FAO names:** Goatee croaker (En)
Bourrugue chèvre (Fr)

**Local name(s):** Gaung Pwa Gote Me'.
**Habitat:** Inhabits coastal waters; adults often in estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth inferior; teeth on upper jaw in a villose band, outer row slightly enlarged; teeth on lower jaw uniformly small; 5 mental pores; swimbladder carrot-shaped with 14–17 pairs of arborescent appendages along sides, 1st pair wholly or partly entering head; sagitta (large earstone) with a tadpole-shaped impression, of which the "tail" is bent at a sharp angle; caudal fin rhomboid.
**Colour:** Body grey dorsally, shading to silvery white on belly; dark brown band on nape; opercle with a deep blue blotch.

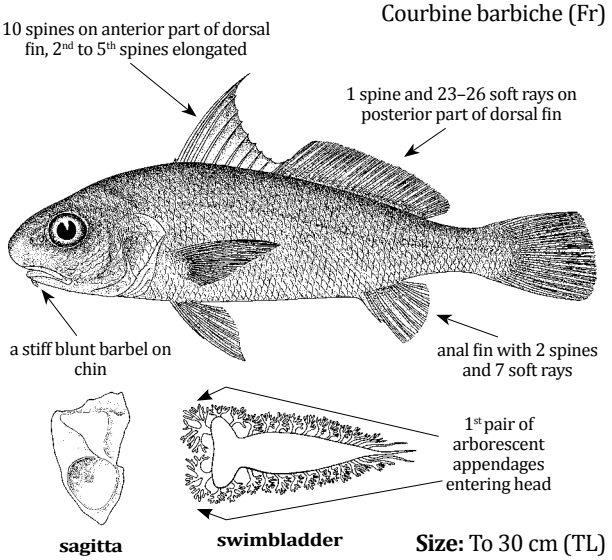



**Size:** To 25 cm (TL)

## *Johnius amblycephalus* (Bleeker, 1855)

**FAO names:** Bearded croaker (En)
Courbine barbiche (Fr)

**Local name(s):** Nga Poke Thin Moke Seik To.
**Habitat:** Inhabits shallow coastal waters and estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth inferior; teeth differentiated into large and small in upper jaw only; lower jaw with a band of villiform teeth uniform in size; mental pores in 3 pairs, the 1st open at base of the barbel in a common pit; 6–9 stiff gill rakers on lower limb of 1st gill arch; 7–12 scale rows above lateral line to origin of dorsal fin, 13–18 scale rows below lateral line to origin of anal fin; scales on head and body cycloid (smooth); swimbladder hammer-shaped with 14–15 arborescent appendages along its sides; caudal fin slightly rhomboidal, S-shaped or truncate.
**Colour:** Back and flanks black or dark brown, belly whitish or pale yellow; upper part of the rather high spinous part of dorsal fin black.

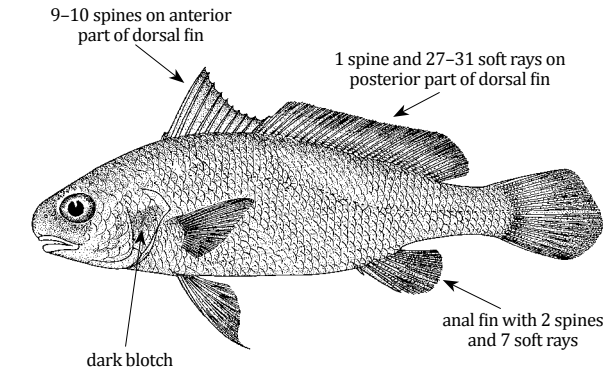



**Size:** To 30 cm (TL)

## *Johnius belangerii* (Cuvier, 1830)

**FAO names:** Belanger's croaker (En)
Courbine de Belanger (Fr)

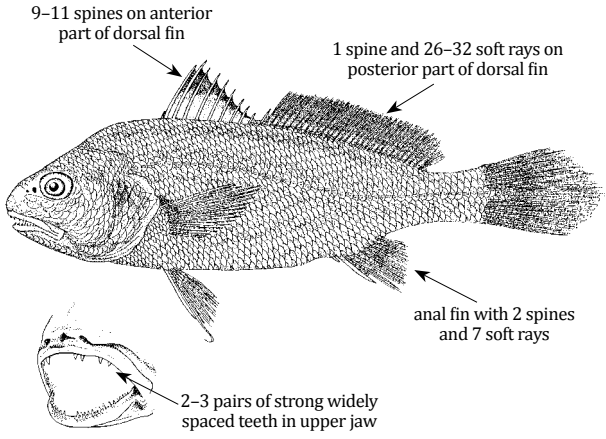
**Local name(s):** Belanger Nga Poke Thin.
**Habitat:** Inhabits shallow coastal waters, enters estuaries and rivers.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth small, inferior; sagitta, swimbladder, mental pores and dentition as in *Johnius amblycephalus*; scales on head and body ctenoid (rough); gill rakers short, club-shaped, 9–11 on lower limb of 1st gill arch; caudal fin rhomboidal.
**Colour:** Body dark, but pigments sometimes irregular and concentrated into short, dark bars dorsally or on spinous dorsal fin; other fins often black; dark blotch shows through gill cover.




**Size:** To 23 cm (TL)

## *Johnius borneensis* (Bleeker, 1851)

**FAO names:** Sharpnose hammer croaker (En)
Courbine dentue (Fr)

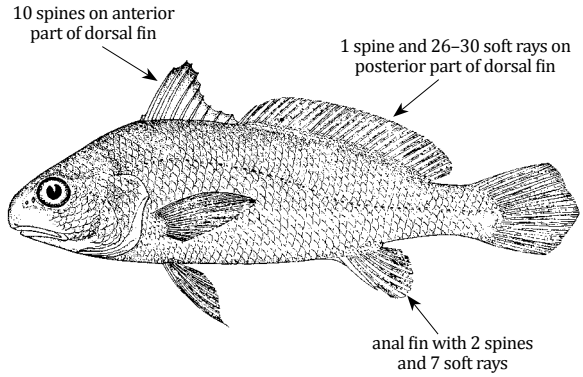



**Local name(s):** Nga Poke Thin Hnar Chun.
**Habitat:** Inhabits shallow coastal waters, estuaries and rivers.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth large, subterminal; snout pointed when seen from above; swimbladder, mental pores and sagitta as in other *Johnius* species; teeth differentiated into large and small in both jaws; 7–16 gill rakers on lower limb of 1st gill arch; 7–13 scale rows above lateral line to origin of dorsal fin, 10–16 scale rows below lateral line to origin of anal fin; small scales on spinous dorsal fin basally.
**Colour:** Head and body dusky mauve above, silver-white below; dusky streak usually present along midsides; fins pale yellow or cream, outer 2/3 of spinous dorsal fin black (occasionally dusky).

**Size:** To 24 cm (TL)

## *Johnius carouna* (Cuvier, 1830)

**FAO names:** Caroun croaker (En)
Courbine caroune (Fr)

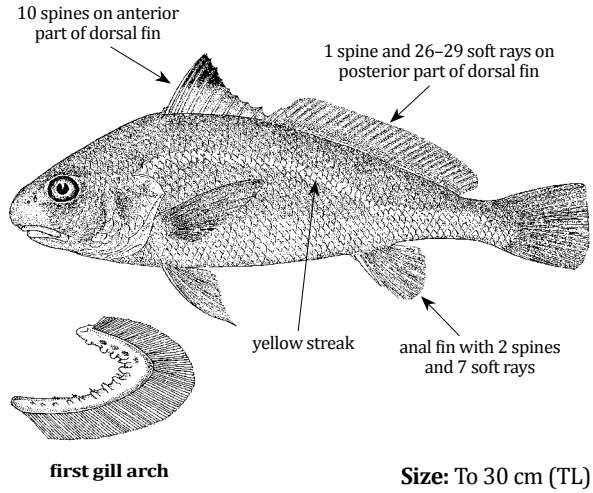



**Local name(s):** Caroun Nga Poke Thin.
**Habitat:** Inhabits shallow coastal waters, entering estuaries and mangrove swamps.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth small, inferior; sagitta, swimbladder, mental pores and dentition as in *Johnius amblycephalus*; gill rakers pointed, slender, not club-shaped, 11–14 on lower limb of 1st gill arch; 6–9 scale rows above lateral line to origin of dorsal fin, 10–14 scale rows below lateral line to origin of anal fin; caudal fin rhomboidal.
**Colour:** Upper 2/3 of body light grey or with a white sheen, lower 1/3 white or yellowish; pectoral, pelvic, and anal fins and lower part of caudal fin with yellow tinge; distal 2/3 of 1st dorsal fin black in Myanmar specimens.

**Size:** To 25 cm (TL)

## *Johnius carutta* Bloch, 1793

**FAO names:** Karut croaker (En)
Courbine carutte (Fr)



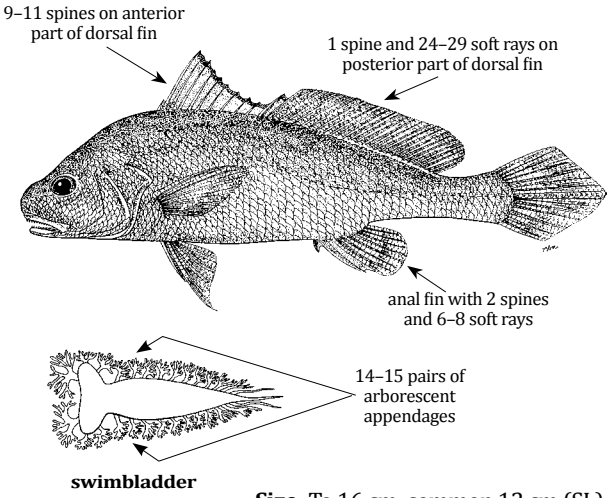

**Local name(s):** Nga Poke Thin Suu Hteik Me'.
**Habitat:** Inhabits inshore waters down to 40 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth small, inferior; sagitta, swimbladder, mental pores (skin around chin pores sometimes thick) and dentition as in *Johnius amblycephalus*; scales on head and front part of body cycloid, rear part of body with finely ctenoid scales; gill rakers very short, stumpy 7–10 on lower limb of first gill arch; 7–10 scale rows above lateral line to origin of dorsal fin, 12–17 scale rows below lateral line to origin of anal fin; caudal fin truncate or weakly S-shaped.
**Colour:** Upper two-thirds of body dark grey or brown with a pale yellow streak along lateral line; belly whitish; upper two-thirds of 1st dorsal fin black.

**Size:** To 30 cm (TL)

## *Johnius coitor* (Hamilton, 1822)

**FAO names:** Coitor croaker (En)

**Local name(s):** Nga Poke Thin Hnar Lone.
**Habitat:** Shallow coastal waters, estuaries, and rivers.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth small, inferior; sagitta, swimbladder, mental pores and dentition as in *Johnius amblycephalus*; eye small, 4.2–7.7 in head length; scales cycloid on snout, ctenoid on other parts of head and body; gill rakers slender, 10–15 on lower limb of 1st gill arch; 7–10 scale rows above lateral line to origin of dorsal fin, 11–17 scale rows below lateral line to origin of anal fin; caudal fin rhomboidal; small scales on soft parts of dorsal and anal fins.
**Colour:** Light golden yellow with a light purple or blue sheen; spinous part of dorsal fin with dusky to black border; soft parts of dorsal, anal and caudal fins with a dull green or grey border.

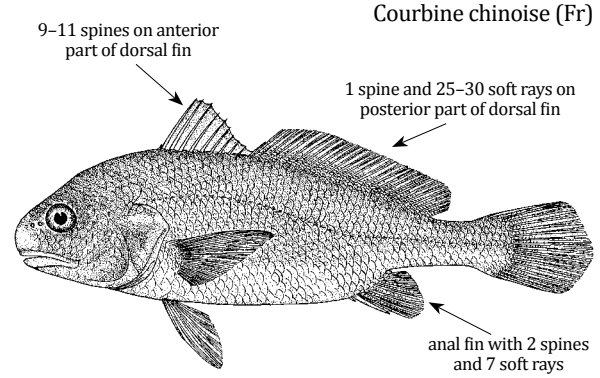



**Size:** To 16 cm, common 12 cm (SL)

## *Johnius dussumieri* (Cuvier, 1830)

**FAO names:** Sin croaker (En)
Courbine chinoise (Fr)

**Local name(s):** Sin Nga Poke Thin.
**Habitat:** Inhabits shallow coastal waters, estuaries and rivers.
**Fisheries:** Bottom trawls; gillnets.
**Distinctive Characters:** Similar to *Johnius borneensis* but snout broadly rounded when seen from above; no strong anterior teeth; no scales on spinous dorsal fin; 13–18 gill rakers on lower limb of 1st gill arch; 6–8 scale rows above lateral line to origin of dorsal fin, 9–14 scale rows below lateral line to origin of anal fin.
**Colour:** Greyish on back, silvery and glossed with golden on flanks and belly; distal 3rd of spinous dorsal fin dusky; anal and paired fins yellowish.

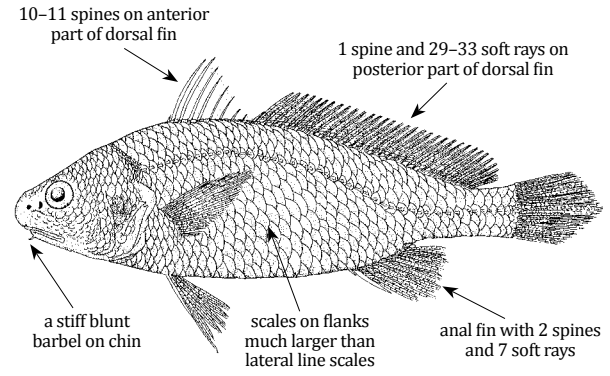



**Size:** To 30 cm (TL)

## *Johnius macropterus* (Bleeker, 1853)

**FAO names:** Longfin croaker (En)
Courbine à grande nagoire (Fr)

**Local name(s):** Suu Shae Nga Poke Thin.
**Habitat:** Coastal waters to 30 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth small, inferior; sagitta, swimbladder, dentition and chin pores as in *Johnius amblycephalus* but a short, stiff barbel on chin; scales cycloid (smooth) on head, ctenoid (rough) on body; small scales on soft parts of dorsal and anal fins; gill rakers stiff, 8–13 on lower limb of 1st gill arch; 4–6 scale rows above lateral line to origin of dorsal fin, 9–12 scale rows below lateral line to origin of anal fin; caudal fin rhomboidal.
**Colour:** Back dark brown, flanks and belly whitish with silvery reflections; spinous part of dorsal fin darkish; pectoral fins hyaline

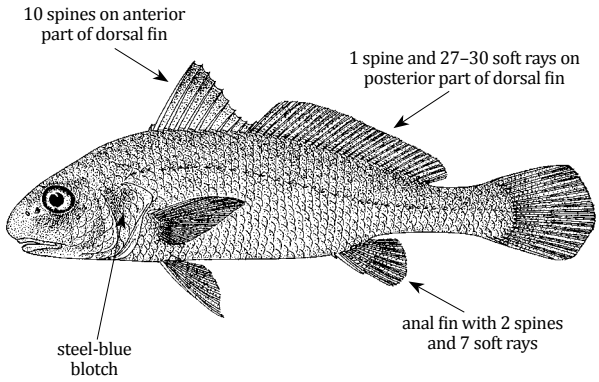



**Size:** To 13 cm, common 10 cm (SL)

## ***Johnius macrorhynus*** (Lal Mohan, 1976)

**FAO names:** Bigsnout croaker (En)
Courbine longnez (Fr)

**Local name(s):** Hnar Yaung Gyi Nga Poke Thin.
**Habitat:** Inhabits shallow coastal waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth small, inferior; sagitta, swimbladder and dentition as in *Johnius amblycephalus* but molariform teeth posteriorly in lower jaw; scales on body ctenoid; gill rakers short, stumpy, 6–10 on lower limb of 1st gill arch; 6–9 scale rows above lateral line to origin of dorsal fin, 10–14 scale rows below lateral line to origin of anal fin; caudal fin truncate or S-shaped (over 15 cm TL).
**Colour:** Body silvery, lower part with a golden tinge; anal and paired fins yellow; a faint steel blue blotch on gill cover.

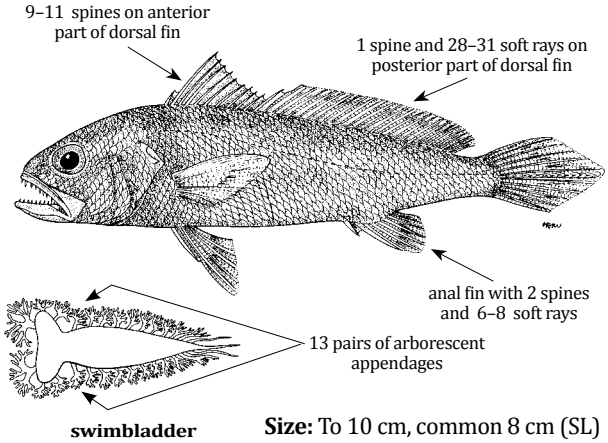



**Size:** To 30 cm (TL)

## ***Johnius plagiostoma*** (Bleeker, 1849)

**FAO names:** Large-eye croaker (En)

**Local name(s):** Myet lone Gyi Nga Poke Thin.
**Habitat:** Shallow coastal waters, estuaries, and rivers.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth large, strongly oblique; eye large, about 3.3 in head length; sagitta, swimbladder, dentition and chin pores as in *Johnius amblycephalus* but teeth well differentiated into large and small in both jaws; scales on head cycloid, those on body ctenoid; small scales on soft parts of dorsal and anal fins; gill rakers slender 14–17 on lower limb of 1st gill arch; 5–7 scale rows above lateral line to origin of dorsal fin, 10–13 scale rows below lateral line to origin of anal fin; caudal fin rhomboidal.
**Colour:** Bluish or greenish grey, flanks and belly silvery; fins yellowish.

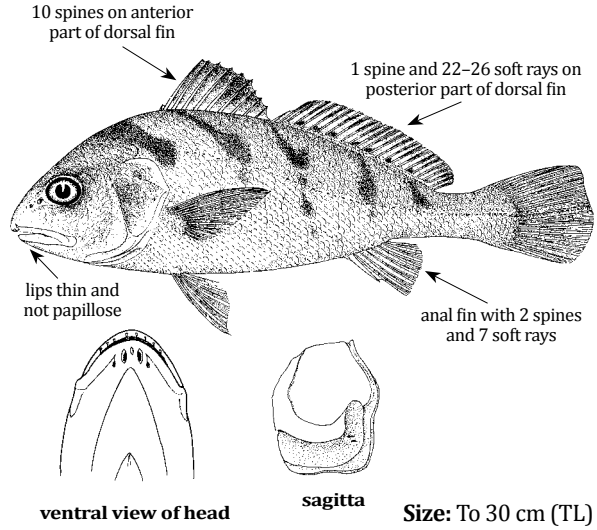



**Size:** To 10 cm, common 8 cm (SL)

## ***Nibea maculata*** (Bloch & Schneider, 1801)

**FAO names:** Kathala croaker (En)
Courbine kathala (Fr)

**Local name(s):** Nat Ka Daw Kyaw Kywet.
**Habitat:** Found in coastal waters.
**Fisheries:** Bottom trawls; gillnets.
**Distinctive Characters:** Mouth inferior; mental pores in 3 pairs, the first pair close together, united by a crescent-shaped groove just behind symphysis; teeth differentiated into large and small in both jaws; 10 spines on anterior part of dorsal fin; 8–11 slender gill rakers on lower limb of 1st gill arch; 10–13 scale rows above lateral line to origin of dorsal fin, 17–21 scale rows below lateral line to origin of anal fin; swimbladder carrot-shaped with branched appendages along its entire lateral sides, anterior pair entering head.
**Colour:** Head and body dorsally with 5 irregular dark streaks extending obliquely towards lower flanks; spinous dorsal fin black, except base pale, soft dorsal fin with black margin and series of dark spots along base; pelvic and anal fins pale to dusky.

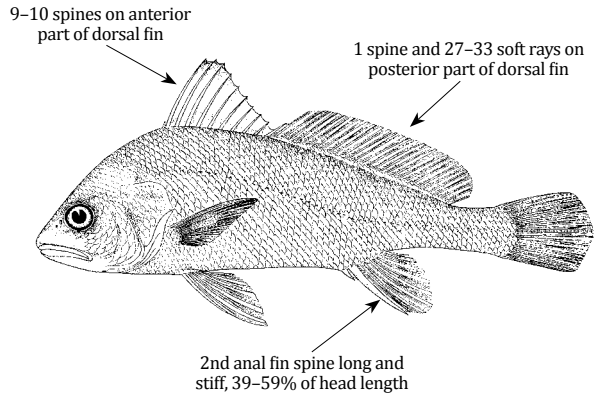



**Size:** To 30 cm (TL)

***Nibea soldado*** (Lacepède, 1802)

**FAO names:** Soldier croaker (En)

**Local name(s):** Nat Ka Daw Sit Thar.
**Habitat:** Found in coastal waters.
**Fisheries:** Bottom trawls; gillnets.
**Distinctive Characters:** Mouth inferior; mental pores, dentition, sagitta and swimbladder as in *Nibea maculata*; 8–13 gill rakers on lower limb of 1st gill arch; 8–13 scale rows above lateral line to origin of dorsal fin, 12–17 scale rows below lateral line to origin of anal fin.
**Colour:** Body silvery with faint series of oblique stripes along scale series; margin of soft dorsal fin dark; paired fins with yellow tinge.



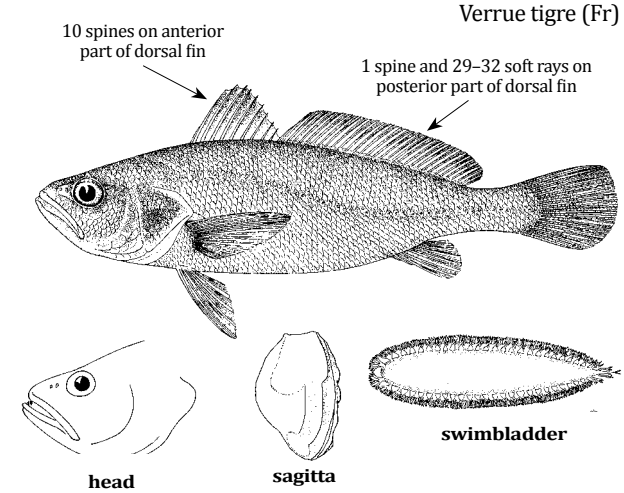

**Size:** To 65 cm (TL)

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***Otolithes cuvieri*** Trewavas, 1974

**FAO names:** Lesser tigertooth croaker (En)
Verrue tigre (Fr)

**Local name(s):** Kyar Swe Nga Poke Thin.
**Habitat:** Inhabits inshore and coastal waters.
**Fisheries:** Bottom trawls, gillnets, handlines.
**Distinctive Characters:** Body fairly slender, depth slightly less than head length; mouth large and strongly oblique; lower jaw projecting; chin pores indistinct; 1–2 pairs of moderate canine teeth in upper jaw or both jaws; 13–15 gill rakers on lower limb of first gill arch; swimbladder carrot-shaped with about 28 pairs of arborescent appendages along sides; anal fin with 2 spines and 7 soft rays caudal fin rhomboid (pointed in juveniles).
**Colour:** Scale centres brown on upper two thirds of body, forming narrow oblique bands; spinous dorsal fin edged in grey-black; anal and paired fins yellowish; caudal fin dusky (black in juveniles).



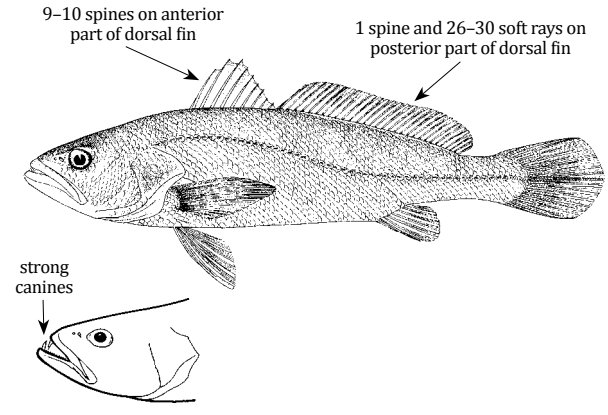

**Size:** To 30 cm (TL)

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***Otolithes ruber*** (Bloch & Schneider, 1801)

**FAO names:** Tigertooth croacker (En)
Grande verrrue tigre (Fr)

**Local name(s):** Thin Phyu.
**Habitat:** Inhabits shallow coastal waters down to 40 m.
**Fisheries:** Bottom trawls, gillnets, handlines.
**Distinctive Characters:** Similar to *Otolithes cuvieri* but with canine teeth in upper jaw or both jaws stronger; 8–12 gill rakers on lower limb of 1st gill arch.
**Colour:** Body brownish above, silvery with a golden sheen on flanks and belly, often with oblique dark streaks dorsally; anal and paired fins reddish or pale brown.

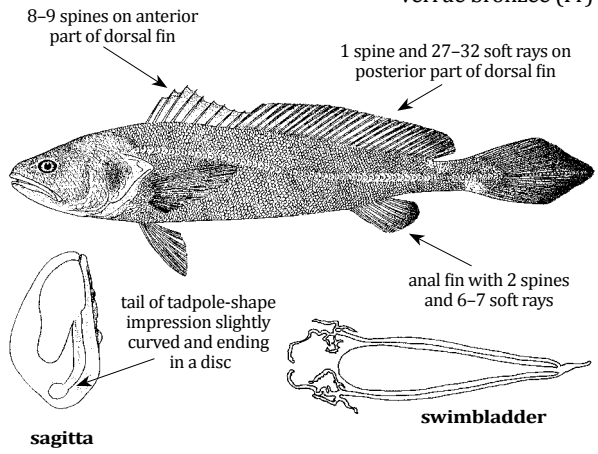



**Size:** To 75 cm, common 24 cm (TL)

## *Otolithoides biauritus* (Cantor, 1849)

**FAO names:** Bronze croaker (En)
Verrue bronzée (Fr)

**Local name(s):** Nat Ka Daw A Chauk.
**Habitat:** Inhabits coastal and inshore waters.
**Fisheries:** Bottom trawls, gillnets, handlines.
**Distinctive Characters:** Body elongate; mouth large and terminal; teeth well differentiated in size in both jaws; dorsal fin weakly notched; chin pores in 2 pairs, the first small, at front of chin, separated by symphysis; swimbladder carrot-shaped, with a pair of long tubular branches that originate near its rear end and run forward beside the main bladder and parallel to it as they penetrate the transverse septum and ramify into several caeca under the skull; caudal fin acutely pointed.
**Colour:** Head and body greyish, flanks silvery with golden tinge, paler on belly; lateral line golden yellow; median fins yellow to pale orange; pelvic fins pale orange; brownish with a black spot at axil.

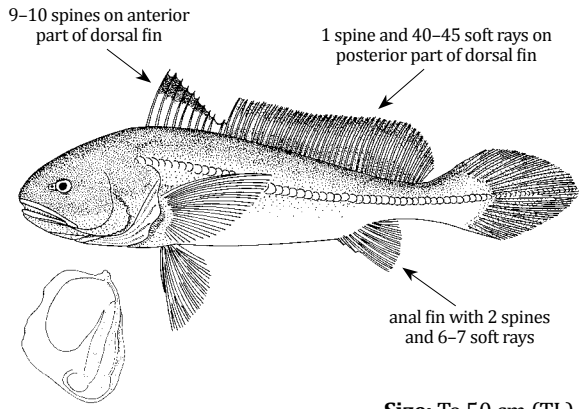



**Size:** To 160 cm (SL)

## *Otolithoides pama* (Hamilton, 1822)

**FAO names:** Pama croaker (En)

**Local name(s):** Nat Ka Daw Gyi.
**Habitat:** Inhabits coastal and inshore waters.
**Fisheries:** Bottom trawls, gillnets, handlines.
**Distinctive Characters:** Body elongate; mouth large and terminal; dentition, mental pores and swimbladder as in *Otolithoides biauritus*; 13–15 gill rakers on lower limb of 1st gill arch; 12–15 scale rows above lateral line to origin of dorsal fin, 14–17 scale rows below lateral line to origin of anal fin.
**Colour:** Body pale brownish dorsally and silvery white on belly; head with golden and purple tinge; fins yellowish; outer half of dorsal fin grey.

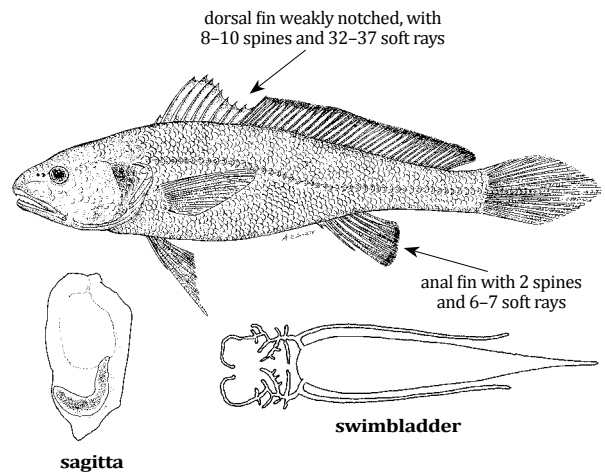



**Size:** To 50 cm (TL)

## *Panna heterolepis* Trewavas, 1977

**FAO names:** Hooghly croacker (En)

**Local name(s):** Hoogyi Nat Ka Daw.
**Habitat:** Coastal waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth terminal, oblique; 3 pairs of small mental pores, the 1st pair at front of chin, separated by symphysis; teeth well differentiated into large and small in both jaws; 12–16 gill rakers on lower limb of 1st gill arch; 12–17 scale rows above lateral line to origin of dorsal fin, 14–22 scale rows below lateral line to origin of anal fin; swimbladder with tubular appendage anteriorly on each side, immediately dividing into a long, simple abdominal portion and a simple or branched cephalic portion entering head; caudal fin pointed.
**Colour:** Body greyish above, silvery below; opercle with a bluish spot above; paired fins yellowish; median fins dusky, spinous dorsal blackish.

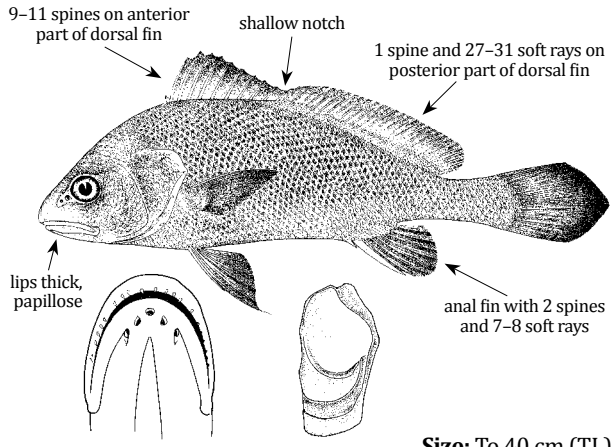



**Size:** To about 30 cm (TL)

***Paranibea*** cf. ***semiluctuosa*** (Cuvier, 1830)

**FAO names:** Half-mourning croaker (En)
Courbine lugubre (Fr)

**Local name(s):** Kyay Kwe Nat Ka Daw.
**Habitat:** Inhabits coastal waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body deep, back arched; mouth slightly inferior; shallow notch between anterior and posterior part of dorsal fin; 5 mental pores; teeth differentiated into large and small in upper jaw only, teeth in lower jaw uniform in size; 6–9 well developed gill rakers on lower limb of 1st gill arch; swimbladder carrot-shaped with branched appendages along its entire lateral sides, front pair of appendages entering the head.
**Colour:** Body dark with numerous oblique wavy black stripes reaching down the flanks to belly; anal and pelvic fins very dark.
**Remarks:** Inclusion based on photographic documentation. Confirmation is needed.

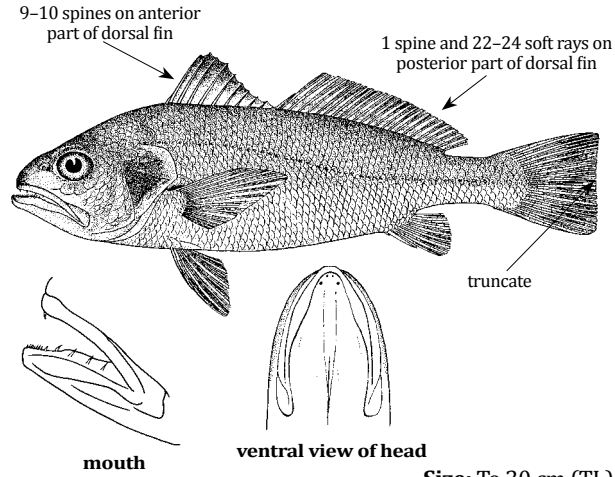



**Size:** To 40 cm (TL)

***Pennahia anea*** (Bloch, 1793)

**FAO names:** Donkey croaker (En)

**Local name(s):** Myee Gaung Pwa.
**Habitat:** Inhabits coastal waters down to 60 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Mouth terminal, oblique; mental pores in 2 pairs, both small, the 1st pair at front of chin, separated by symphysis; teeth well differentiated into large and small in both jaws; 10–12 slender gill rakers on lower limb of 1st gill arch; swimbladder carrot-shaped with branched appendages along its entire lateral sides, anterior appendages not entering the head; anal fin with 2 spines and 7 soft rays; caudal fin truncate.
**Colour:** Head and body greyish light brown on back, becoming paler ventrally with increasing silvery reflection to whitish abdomen; gill cover with diffused dark blotch; upper 2/3 of spinous dorsal fin dusky.

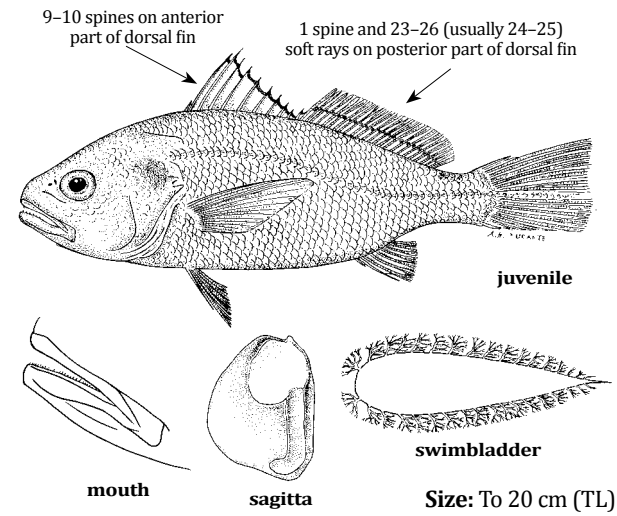



**Size:** To 30 cm (TL)

***Pennahia ovata*** Sasaki, 1996

**FAO names:** Big-head pennah croaker (En)

**Local name(s):** Gaung Pwa Gyi.
**Habitat:** Coastal waters from 23 to 113 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Pennahia anea* but body more oval, its depth 2.7–3.2 in SL; lower jaw teeth closely-spaced and weakly differentiated (vs. well differentiated and widely spaced in *P. anea*); usually 24–25 soft dorsal fin rays; 17–19 (usually 17–18) pectoral fin rays; 10–12 (usually 11–12) slender gill rakers on lower limb of 1st gill arch; 2nd anal fin spine long, its length 2.6–3.9 in HL; caudal fin weakly S-shaped.
**Colour:** Head and body pinkish grey on back, becoming paler ventrally with golden reflections on head; gill cover with diffused dark blotch; spinous dorsal fin with a thin black margin; soft dorsal fin with a series of dark spots along base.

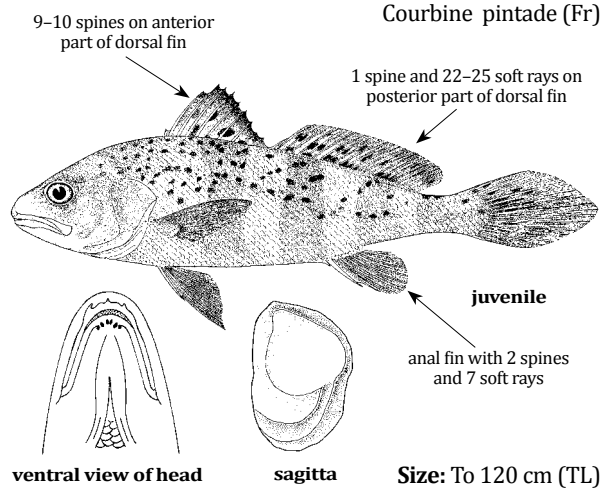



**Size:** To 20 cm (TL)

***Protonibea diacantha*** (Lacepède, 1802)

**FAO names:** Spotted croaker (En)
Courbine pintade (Fr)

**Local name(s):** Ka Tha Myin Set Pyauk.
**Habitat:** Inhabits coastal waters down to 60 m.
**Fisheries:** Handlines, gillnets, bottom trawls.
**Distinctive Characters:** Mouth large, slightly oblique; mental pores in 3 pairs, the 1st pair small, close together, united by a crescent-shaped groove just behind symphysis; teeth differentiated into large and small in both jaws; 7–10 elongate gill rakers on lower limb of 1st gill arch; swimbladder carrot-shaped with branched appendages along its entire lateral sides; no appendages entering head; caudal fin rhomboid.
**Colour:** 3–5 dark bars along back and many small black spots (about size of pupil) on top of head, upper half of body and caudal fin; pectoral, pelvic, and anal fins and lower part of caudal fin black; in larger fishes, bars and spots obscure or absent.

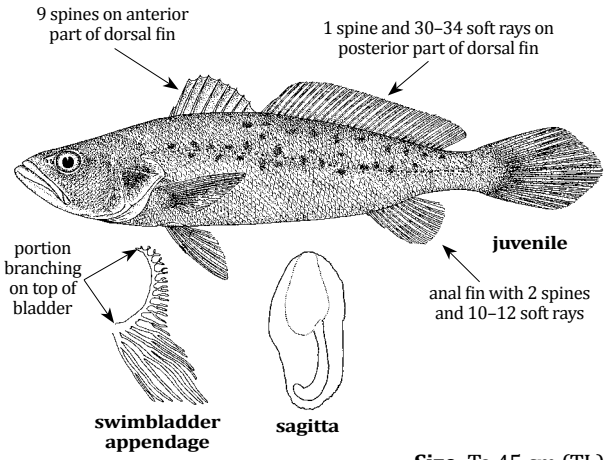



**Size:** To 120 cm (TL)

***Pterotolithus maculatus*** (Cuvier, 1830)

**FAO names:** Blotched tigertoothed croaker (En)

**Local name(s):** Nat Ka Daw Ngwe Pyauk.
**Habitat:** Inhabits coastal waters down to 60 m.
**Fisheries:** Handlines, gillnets, bottom trawls.
**Distinctive Characters:** Mouth strongly oblique; mental pores inconspicuous; teeth differentiated into large and small in both jaws, a pair of strong canines at front of both jaws; gill rakers slender, 8–11 on lower limb of 1st gill arch; swimbladder carrot-shaped, with 50 or more pairs of branched appendages, the stems of the ventral limbs forming a parallel series of tubes, those of the dorsal limbs roofing the swimbladder with filigree of silvery branched tubules, none entering head; caudal fin pointed in young, S-shaped in adults.
**Colour:** Upper part of body marked with numerous black blotches, about 1/2 size of eye or larger; fins yellow; black spots on caudal fin in adults.



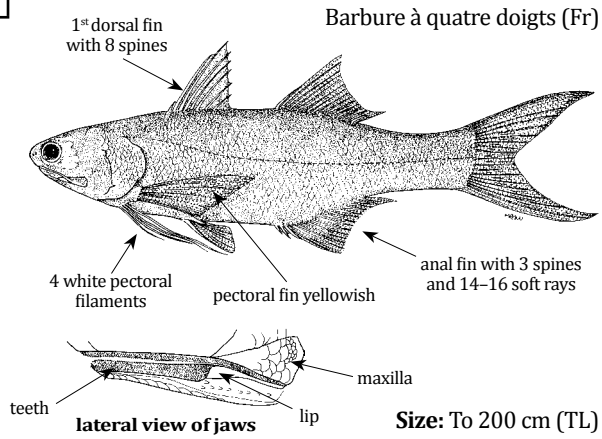

**Size:** To 45 cm (TL)

## POLYNEMIDAE
Threadfins

***Eleutheronema tetradactylum*** (Shaw, 1804)

**FAO names:** Fourfinger threadfin (En)
Barbure à quatre doigts (Fr)

**Local name(s):** Nga Za Yaw.
**Habitat:** Along coasts and in estuaries.
**Fisheries:** Gillnets, handlines, bottom trawls.
**Distinctive Characters:** Pectoral fin insertion well below midline of body; anterior part of lower jaw with small teeth extending onto lateral surface of lower jaw; 71–80 pored lateral line scales; 9–12 scale rows above lateral line; 13–15 scale rows below lateral line; 2nd dorsal fin with 1 spine and 14 (rarely 13 or 15) soft rays; 6–18 gill rakers on 1st gill arch; swimbladder absent.
**Colour:** Head and trunk with slight darkish silver tinge, becoming lighter on lower sides; anterior margins of 1st and 2nd dorsal fins blackish.

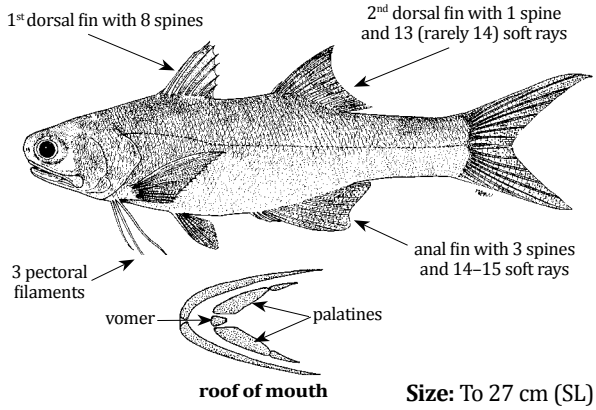



**Size:** To 200 cm (TL)

## *Eleutheronema tridactylum* (Bleeker, 1849)

**FAO names:** Threefinger threadfin (En)
Barbure à trois doigts (Fr)

**Local name(s):** Za Yaw Gyi.
**Habitat:** Along coasts and in estuaries.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Similar to *Eleutheronema tetradactylum* but only 3 pectoral fin filaments; 72–79 pored lateral line scales; 8–10 scale rows above lateral line; 12–16 scale rows below lateral line; 4–10 gill rakers on 1st gill arch; vomer without tooth plates on either side throughout life (deciduous tooth plates on both sides in *E. tetradactylum*).
**Colour:** Body green dorsally; silvery white or yellowish white ventrally; pectoral, dorsal, and caudal fins dark with black borders; golden hue over body and fins.

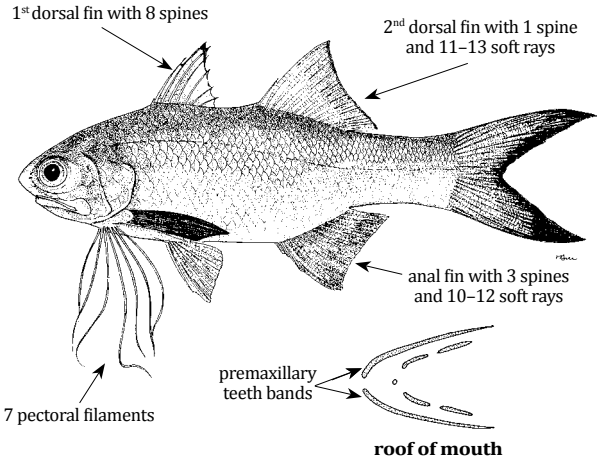



**Size:** To 27 cm (SL)

## *Filimanus similis* Feltes, 1991

**FAO names:** Indian sevenfinger threadfin (En)
Barbure sept doigts des Indes (Fr)

**Local name(s):** India Za Yaw.
**Habitat:** Usually found in 1–80 m on open sandflats and muddy substrates; also in estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Teeth on lower jaw restricted to dorsal surface; 7 pectoral filaments; space separating premaxillary teeth bands 2 or more times width of each band; 40–49 gill rakers on 1st gill arch; 43–52 pored lateral-line scales; 5–8 scale rows above lateral line; 9–12 scale rows below lateral line.
**Colour:** Upper sides of head and trunk with brown tinge, becoming golden on lower sides; posterior margins of 1st, 2nd dorsal, anal, and caudal fins blackish, remaining parts yellowish; pectoral fin mostly black; base of pectoral filaments white, becoming yellowish white on posterior tips; base of pelvic fin white, other parts yellowish.

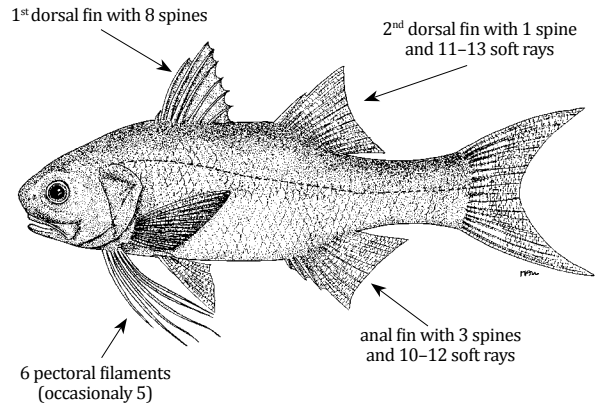



**Size:** To 13 cm (SL)

## *Filimanus xanthonema* (Valenciennes, 1831)

**FAO names:** Yellowthread threadfin (En)
Barbure à doigts oranges (Fr)

**Local name(s):** Gaung War Za Yaw.
**Habitat:** Coasts and estuaries.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Similar to *Filimanus similis* but usually 6 pectoral filaments; 36–46 gill rakers on 1st gill arch; 45–49 pored lateral line scales; 5–7 scale rows above lateral line; 9–11 scale rows below lateral line.
**Colour:** Body green, dusky yellow, or brown above and silvery below; fins yellow with black at least at margins; pectoral fins often mostly black; free filaments yellow.

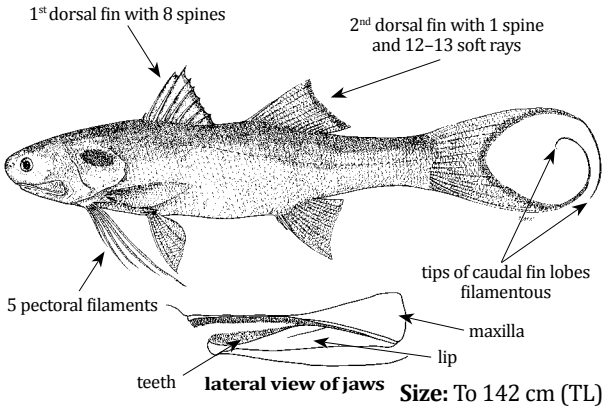



**Size:** To at least 14 cm (SL)

## *Leptomelanosoma indicum* (Shaw, 1804)

**FAO names:** Indian threadfin (En)
Barbure indien (Fr)

**Local name(s):** Ka Ku Yan.
**Habitat:** Mainly occurs near estuaries, sometimes entering rivers.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Anterior 1/3 of lower jaw with small teeth extending onto lateral surface; anal fin with 3 spines and 10–11 soft rays; 18–21 gill rakers on 1st gill arch; swimbladder with many appendages inserted into lateral walls of abdominal cavity.
**Colour:** Head and upper sides of trunk tinged slightly blackish brown; distal part of 1st and 2nd dorsal fins and caudal fin blackish; base of pectoral filaments dusky yellowish grading to blackish posteriorly; pectoral fin membrane deep black.

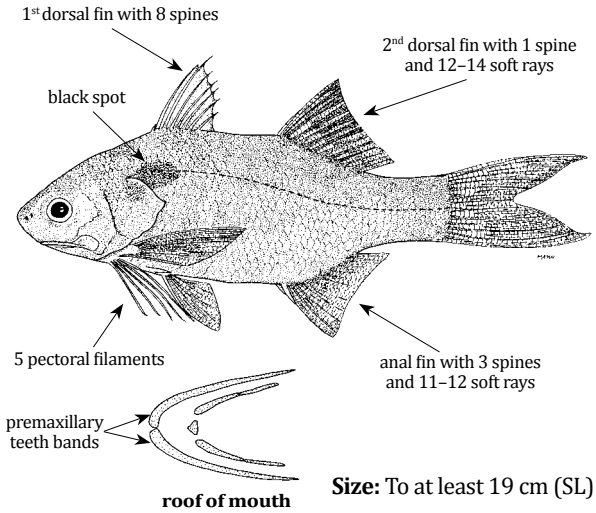



**Size:** To 142 cm (TL)

## *Polydactylus microstoma* (Bleeker, 1851)

**FAO names:** Smallmouth threadfin (En)
Barbure à petite bouche (Fr)

**Local name(s):** Pazat Thae Za Yaw.
**Habitat:** Coasts and estuaries.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Pectoral fin insertion well below midline of body; teeth on lower jaw restricted to dorsal surface; space separating premaxillary teeth bands less than width of each band; vomer without teeth; 46–49 pored lateral line scales; 6–7 scale rows above lateral line; 9–10 scale rows below lateral line; 24–33 gill rakers on first gill arch; swimbladder without appendages.
**Colour:** Head and upper sides of trunk tinged yellowish silver, becoming lighter silver on lower sides; posterior margins of 1st and 2nd dorsal fins and caudal fin slightly blackish, remaining parts translucent yellowish white; pectoral fin membrane yellowish; pectoral filaments faintly white; a large black spot anteriorly on lateral line.

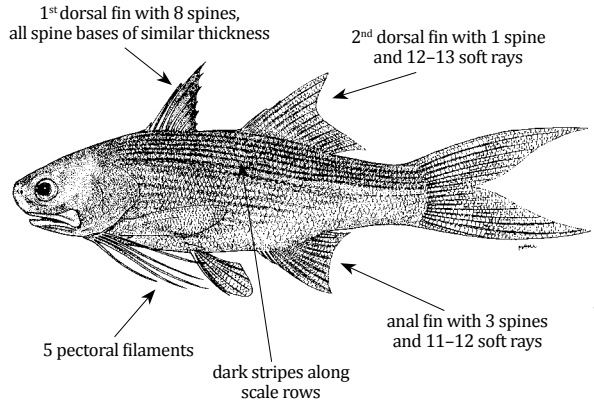



**Size:** To at least 19 cm (SL)

## *Polydactylus plebeius* (Broussonet, 1782)

**FAO names:** Striped threadfin (En)
Barbure rayé (Fr)

**Local name(s):** Bae Sinn Za Yaw.
**Habitat:** Soft bottoms from estuaries to coastal beaches; also in deeper water (<122 m).
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Lower jaw teeth pattern and premaxillary teeth bands as in *Polydactylus microstoma*; villiform teeth on vomer; 60–68 pored lateral line scales; 8–9 scale rows above lateral line; 12–13 scale rows below lateral line; 24–32 gill rakers on 1st gill arch; swimbladder without appendages.
**Colour:** Head and upper sides of trunk tinged slightly blackish silver, becoming lighter silver on lower sides; abdominal region white; snout semi-transparent; 1st and 2nd dorsal fins and caudal fin pale with blackish posterior margins; pectoral fin membrane blackish; pectoral filaments white.

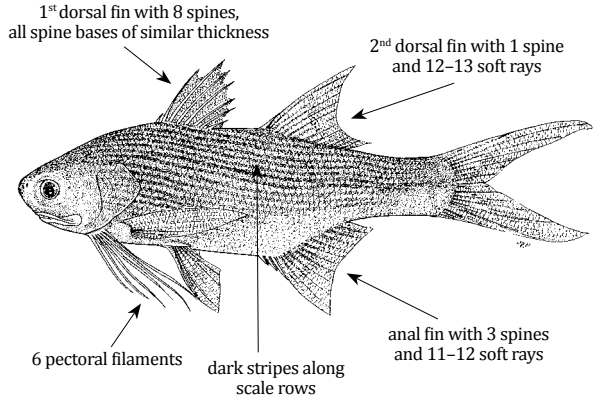



**Size:** At least to 45 cm (SL)

***Polydactylus sexfilis*** (Valenciennes, 1831)

**FAO names:** Sixfinger threadfin (En)
Barbure à six doigts (Fr)

**Local name(s):** Mote Seik Chauk Chaung Za Yaw.
**Habitat:** Coasts and estuaries.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Lower jaw teeth pattern and premaxillary teeth bands as in *Polydactylus microstoma*; villiform teeth on vomer; 60–67 pored lateral line scales; 8–10 scale rows above lateral line; 12–14 scale rows below lateral line; 27–31 gill rakers on 1st gill arch; swimbladder without appendages.
**Colour:** Head and upper sides of trunk tinged silvery brown, becoming more silver on lower sides; 1st dorsal fin black; posteriormost ray of 2nd dorsal fin white, remainder of fin greyish black; base of pectoral fin greyish black, becoming dense black posteriorly; bases and tips of pectoral filaments white, middle parts of filaments greyish black; caudal fin uniformly greyish black.

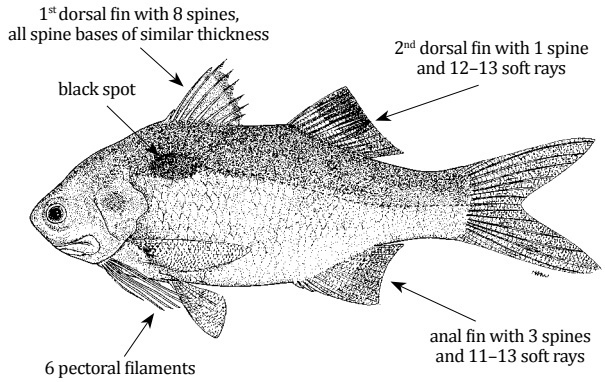



**Size:** To at least 45 cm (SL)

***Polydactylus sextarius*** (Bloch & Schneider, 1801)

**FAO names:** Blackspot threadfin (En)
Barbure à tâche noire (Fr)

**Local name(s):** Za Yaw A Net Kywet.
**Habitat:** Coasts and estuaries.
**Fisheries:** Mainly bottom trawl.
**Distinctive Characters:** Lower jaw teeth pattern and premaxillary teeth bands as in *Polydactylus microstoma*; vomer without teeth; 45–51 pored lateral line scales; 5–6 scale rows above lateral line; 8–11 scale rows below lateral line; 25–30 gill rakers on 1st gill arch; swimbladder atrophied, like a fine string.
**Colour:** Head and upper sides of trunk with slightly darkish silver tinge, becoming lighter on lower sides; snout semi-translucent; posterior margin of 1st and 2nd dorsal fins and caudal fin slightly blackish, other parts translucent; posterior tip of anal fin whitish, other parts blackish; pectoral fin membrane white with scattered melanophores; pectoral filaments whitish; a large black spot anteriorly on lateral line.

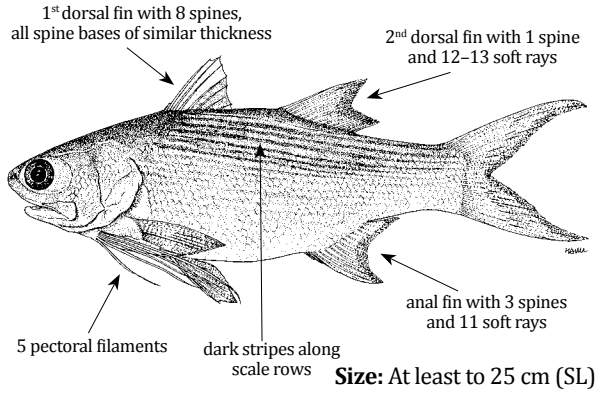



**Size:** To at least 17 cm (SL)

***Polydactylus siamensis*** Motomura, Iwatsuki & Yoshino 2001

**FAO names:** Largemouth threadfin (En)
Barbure à grande bouche (Fr)

**Local name(s):** Za Yaw Arr Pyae.
**Habitat:** Coastal waters.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Lower jaw teeth pattern and premaxillary teeth bands as in *Polydactylus microstoma*; villiform teeth on vomer; 54–58 pored lateral line scales; 7 scale rows above lateral line; 10–11 scale rows below lateral line; 22–24 gill rakers on 1st gill arch; swimbladder absent.
**Colour:** 7 or 8 prominent dark stripes along scale rows above lateral line, 7 to 9 faint stripes below.

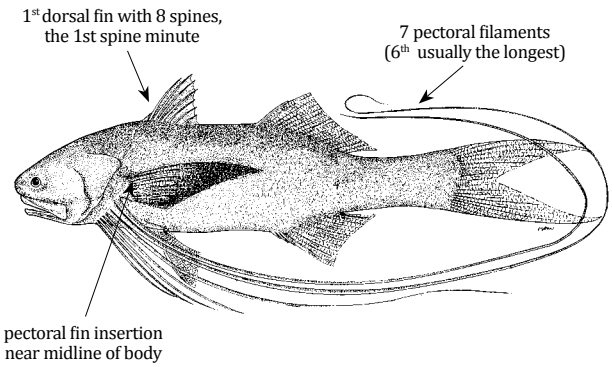



**Size:** At least to 25 cm (SL)

***Polynemus melanochir*** Valenciennes, 1831

**FAO names:** Blackhand paradise fish (En)
Barbure paradis à doigts noirs (Fr)

**Local name(s):** Nga Pon Na Let Mae.
**Habitat:** Lower sections of rivers. Possibly in estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Eye small, its diameter ≥1.3 in snout length; pectoral fins insert about at midpoint on side of body; posterior margin of preopercle serrated; 2nd dorsal fin with 1 spine and 15–16 soft rays; anal fin spine with 3 spines and 11–12 soft rays; vomer without teeth; 68–74 pored lateral line scales; snout length16.7–20.0 in SL; upper caudal fin lobe length 2.3–2.9 in SL.
**Colour:** Head and body greyish black dorsally, yellow ventrally; posterior tip of 1st and 2nd dorsal fins intense black, other parts yellow; pelvic fin uniformly yellow; pectoral fin intense black, except for vivid yellow base; base of pectoral filaments vivid yellow, becoming blackish posteriorly.

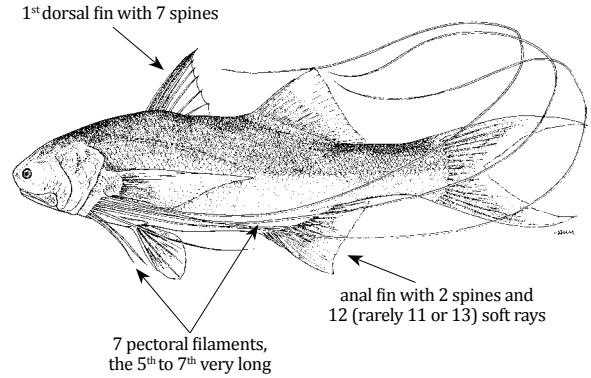



**Size:** At least to 20 cm (SL)

***Polynemus paradiseus*** Linnaeus, 1758

**FAO names:** Paradise threadfin (En)
Barbure paradis (Fr)

**Local name(s):** Nga Pon Na.
**Habitat:** Lives over sandy bottoms, regularly entering freshwaters during breeding season.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Polynemus melanochir* but 1st dorsal fin with 7 spines; 2nd dorsal fin with 1 spine and 12–13 soft rays; anal fin with 2 spines; villiform teeth on vomer; 66–71 pored lateral line scales.
**Colour:** Head and body greyish black dorsally, yellow ventrally; anterior parts of 1st and 2nd dorsal fins greyish black, other parts yellow; posterior margin of caudal fin yellow, other parts greyish black; pectoral and pelvic fins uniformly vivid yellow; base of pectoral filaments vivid yellow, becoming whitish yellow on posterior tips.



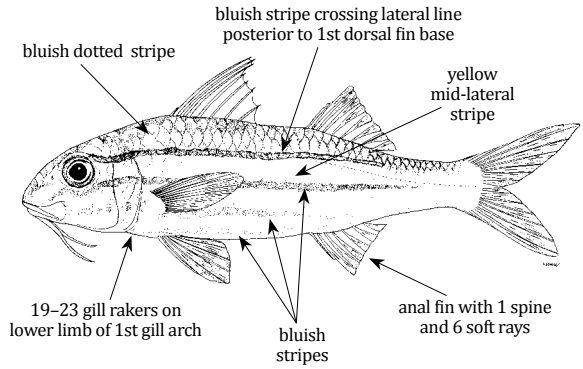

**Size:** At least to 20 cm (SL)

## MULLIDAE
Goatfishes

***Mulloidichthys ayliffe*** Uiblein, 2011

**FAO names:** Indian mimic goatfish (En)

**Local name(s):** India Kyo Warr.
**Habitat:** Shallow coral reef areas, including submarine caves to 19 m depth.
**Fisheries:** Gillnets.
**Distinctive Characters:** Small conical teeth on both jaws; no teeth on roof of mouth; 2nd dorsal fin with 9 soft rays; no bars or stripes on fins (all these characteristics true of all *Mulloidichthys* species); 1st dorsal fin with 8 spines, the 1st minute; body depth at anal fin origin 3.9–4.4 in SL; 35–37 lateral line scales.
**Colour:** Yellow, with 2–5 bluish lateral body stripes; yellow mid-lateral stripe poorly contrasting due to yellow 'background' body coloration; barbels white; fins yellowish.

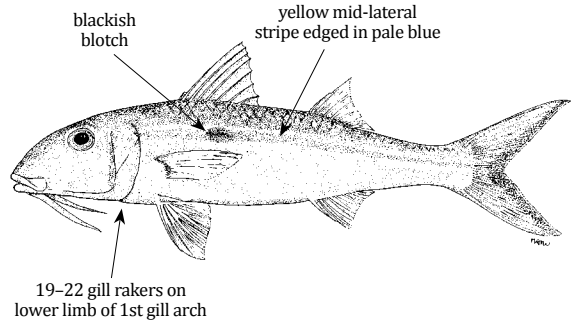



**Size:** To 25 cm (SL)

## ***Mulloidichthys flavolineatus*** (Lacepède, 1801)

**FAO names:** Yellowstripe goatfish (En)
Capucin à bande jaune (Fr)

**Local name(s):** Bae War Line Kyo Warr.
**Habitat:** Shallow waters on sandy bottoms of calm lagoons and bays; on or near reefs to 76 m depth.
**Fisheries:** Bottoms trawls, gillnets.
**Distinctive Characters:** Similar to *Mulloidichthys vanicolensis* but blackish blotch mid-laterally on body (sometimes weak or absent); body more elongate, and less gill rakers; 33–38 lateral line scales; 1st dorsal fin mostly with 8 spines, the minute first spine sometimes not detectable; body depth at anal fin origin 4.7–6.2 in SL.
**Colour:** Silver white (sometimes intermingled with yellow) with a narrow yellow mid-lateral body stripe bordered above and below by pale blue stripes; a blackish blotch usually present in the yellow stripe beneath 1st dorsal fin; barbels white; fins whitish or yellowish.

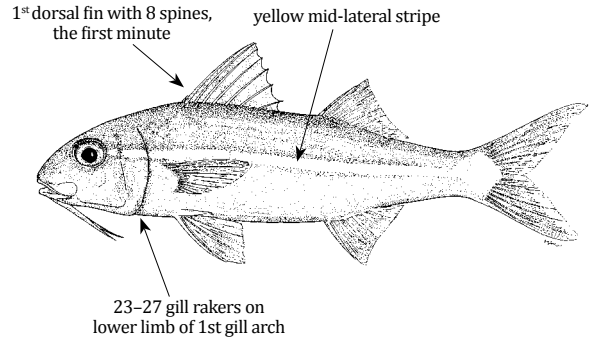



**Size:** To about 30 cm (SL)

## ***Mulloidichthys vanicolensis*** (Valenciennes, 1831)

**FAO names:** Yellowfin goatfish (En)
Capucin de Vanicolo (Fr)

**Local name(s):** Suu Taung War Kyo Warr.
**Habitat:** Shallow waters on sandy bottoms of calm lagoons and bays; on or near reefs to 113 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Mulloidichthys ayliffe* and *M. flavolineatus* but more gill rakers on lower limb of 1st arch; 36–38 lateral line scales; bluish body stripes weak (sometimes whitish); yellow mid-lateral body stripe narrow without black blotch; body depth at anal fin origin 4.0–5.0 in SL.
**Colour:** Whitish to pink with a narrow yellow mid-lateral body stripe bordered above and below by pale blue or whitish stripes; barbels white; fins yellow, sometimes whitish.

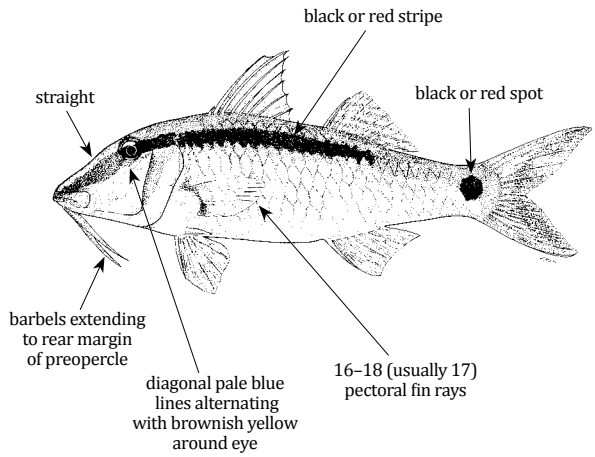



**Size:** To about 31(SL)

## ***Parupeneus barberinus*** (Lacepède, 1801)

**FAO names:** Dash-and-dot goatfish (En)
Rouget-barbet barberin (Fr)

**Local name(s):** Hmee Tan Mae Set Kyo Warr.
**Habitat:** Coral reefs and adjacent sand bottoms in depths to 100 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** A single row of well-spaced, stout, conical teeth in jaws; no teeth on roof of mouth; 1st dorsal fin with 8 spines, the 1st minute; anal fin with 1 minute, often reduced spine and 6 soft rays; no bars on caudal fin (all these characteristics true of all *Parupeneus* species); dorsal profile of snout straight; snout longer than postorbital distance in adults 20–25 gill rakers on lower limb; maximum body depth 3.3–3.7 in SL; barbel length 1.4–1.6 in head length.
**Colour:** Body light grey-brown to yellow, whitish below; a black or red stripe from snout through eye to rear base of 2nd dorsal fin; round black or red spot, larger than eye in adults, posteriorly on caudal peduncle; barbels white to pale yellow.

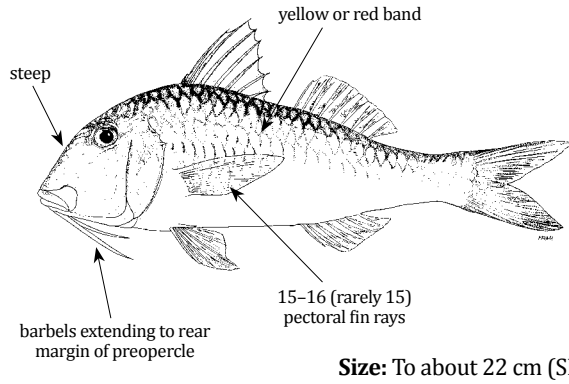



**Size:** To 41 cm (SL)

***Parupeneus chrysopleuron*** (Temminck & Schlegel 1843)

**FAO names:** Yellowband goatfish (En)

**Local name(s):** A War Line Kyo Warr.
**Habitat:** Soft or mixed bottoms adjacent to reefs in depths to 200 m.
**Fisheries:** Mainly bottom trawls.
**Distinctive Characters:** Dorsal profile of snout steep; 19–22 gill rakers on lower limb of 1st gill arch; maximum body depth 2.9–3.3 in SL; barbel length 1.4–1.5 in head length.
**Colour:** Pale reddish to bluish grey, scales edged with red; yellow (fish from coastal areas) or red (fish from deep water) stripe from eye to close to caudal fin base on or just above lateral line; barbels white to pale yellow.



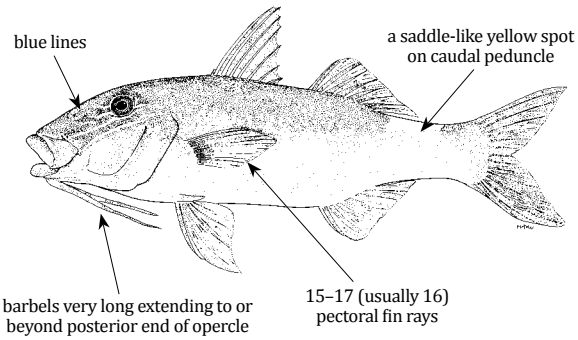

**Size:** To about 22 cm (SL)

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***Parupeneus cyclostomus*** (Lacepède, 1801)

**FAO names:** Goldsaddle goatfish (En)
Rouget-barbet doré (Fr)

**Local name(s):** Hnar Pyar Sin Kyo Warr.
**Habitat:** Found on coral reefs sand-associated hard bottoms from 5 to 125 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile of snout straight to slightly concave; 22–26 gill rakers on lower limb of 1st gill arch; maximum body depth 3.3–3.8 in SL; barbel 1.2 in head length or longer.
**Colour:** Two colour phases, one entirely yellow, the other yellowish grey with blue markings on scales; irregular blue lines radiating from eye and below eye; other blue lines on 2nd dorsal, anal and caudal fin.



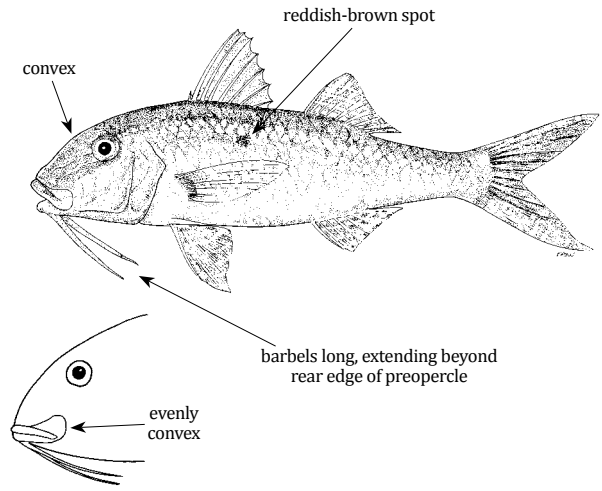

**Size:** To 41 cm (SL)

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***Parupeneus heptacanthus*** (Lacepède, 1802)

**FAO names:** Cinnabar goatfish (En)
Rouget-barbet cinnabare (Fr)

**Local name(s):** Kyaw Ni Nyo Set Kyo Warr.
**Habitat:** Lives over silty or mixed bottoms between 4–104 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile of head convex; posterior end of maxilla evenly convex; 15–17 (usually 16) pectoral fin rays; 19–23 gill rakers on lower limb of 1st gill arch; maximum body depth 2.9–3.6 in SL; barbel length 1.1–1.3 in head length.
**Colour:** Purple-red to vermillion dorsally, paler ventrally, often with 1–2 indistinct narrow yellow-orange stripes along or adjacent to lateral line; a small reddish brown spot usually present on or just below lateral line above distal third of pectoral fin; barbels white or pale orange except for the white tips.

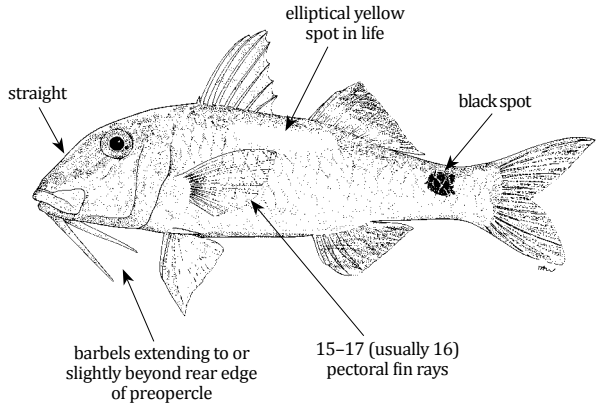



**Size:** To 25 cm (SL)

***Parupeneus indicus*** (Shaw, 1803)

**FAO names:** Indian goatfish (En)
Rouget-barbet indien (Fr)

**Local name(s):** Kyaw War Set Kyo Warr.
**Habitat:** Inhabits shallow coastal waters in mostly <10 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile of snout straight, becoming convex anterior to eye; last ray of 2nd dorsal and anal fin longer than penultimate ray; 18–21 gill rakers on lower limb of 1st gill arch; maximum body depth 3.3–3.8 in SL; barbel length 1.3–1.5 in head length.
**Colour:** Body greenish to reddish brown dorsally; a large, horizontal elongate, yellow spot (sometimes partly white) centred on lateral line below posterior part of 1st dorsal fin and interdorsal space; irregular pale blue lines radiating from eye; other blue lines on 2nd dorsal, anal and caudal fin.



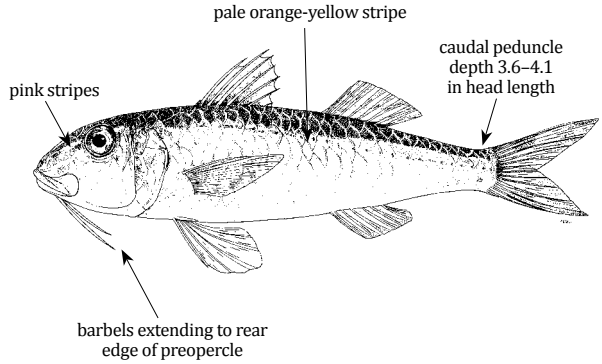

**Size:** To 30 cm (SL)

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***Parupeneus jansenii*** (Bleeker, 1856)

**FAO names:** Jansen's goatfish (En)

**Local name(s):** Lein Maw War Line Kyo Warr.
**Habitat:** Coastal waters in depths of 24–100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Parupeneus heptacanthus* but body more elongated with a shallower caudal peduncle and barbels mostly shorter; maximum body depth 3.8–4.5 in SL (vs 2.9–3.6); caudal peduncle depth 3.6–4.1 (vs 2.6–3.4) in head length; barbel length 1.3–1.6 (vs 1.1–1.4) in head length; no small reddish-brown spot on body; 19–23 gill rakers on lower limb of 1st gill arch; 14–16 pectoral fin rays.
**Colour:** Pinkish red to vermillion dorsally, paler ventrally; a broad, pale orange-yellow stripe running along lateral line; iris red; barbels white or rose to red at basis, tips white.



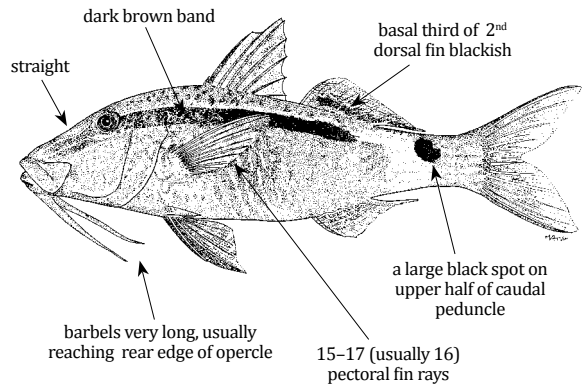

**Size:** To about 16 cm (SL)

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***Parupeneus macronemus*** (Lacepède, 1801)

**FAO names:** Long-barbel goatfish (En)
Rouget-barbé badeau (Fr)

**Local name(s):** Hnote Kham Hmwe Shae Kyo.
**Habitat:** Shallow sandy or weedy bottoms or coral reefs between 3–40 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile of snout straight; last ray of 2nd dorsal and anal fin much longer than penultimate ray; 27–30 gill rakers on lower limb of 1st gill arch; maximum body depth 3.3–3.7 in SL; barbel length 1.1–1.3 in head length
**Colour:** Reddish brown, paler ventrally and posteriorly; a dark brown band from upper end of gill opening, ending beneath rear base of 2nd dorsal fin; a vertical pale blue line or spot on scales of body below dark stripe, and light blue lines on margin of dark band on head.

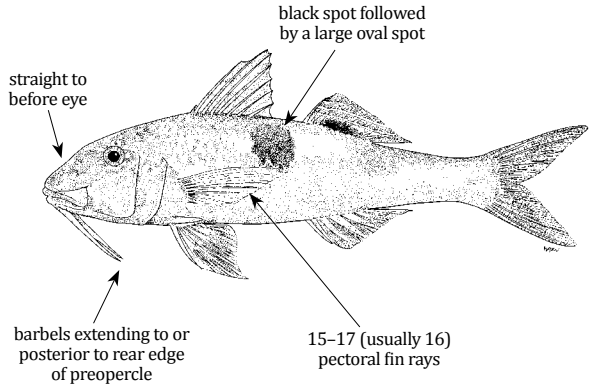



**Size:** To 25 cm (SL)

***Parupeneus pleurostigma*** (Bennett, 1831)

**FAO names:** Sidespot goatfish (En)
Rouget-barbet pastille (Fr)

**Local name(s):** Bae Hmat Kyo Warr.
**Habitat:** Coral reefs and adjacent sand down to 75 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Dorsal profile of snout straight to before eye; last ray of 2nd dorsal and anal fin distinctly longer than penultimate ray; 21–25 gill rakers on lower limb of 1st gill arch; maximum body depth 3.5–4.0 in SL; barbel length 1.3–1.6 in head length.
**Colour:** Body yellowish grey to light red, often with irregular blue lines around eye; black spot usually much larger than eye centred on lateral line below rear base of 1st dorsal fin, with a large oval white spot posterior and adjacent to it; base of 2nd dorsal fin blackish, the outer part yellow with dark-edged blue lines.

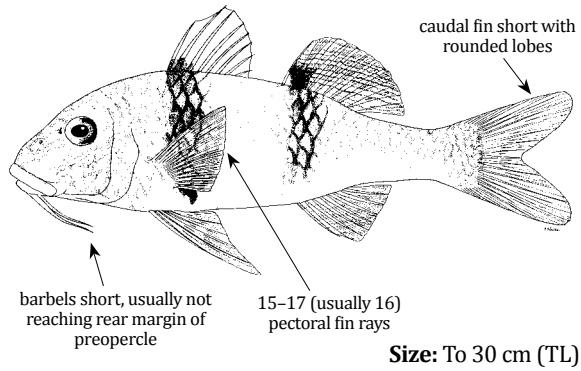



**Size:** To 26 cm (SL)

***Parupeneus trifasciatus*** (Lacepède, 1801)

**FAO names:** Doublebar goatfish (En)
Rouget-barbet double-tache (Fr)

**Local name(s):** Bae Hnit Sin Kyo Warr.
**Habitat:** On or adjacent to coral reefs down to at least 12 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Dorsal profile of snout straight or slightly concave to before eye; 27–30 gill rakers on lower limb of 1st gill arch; maximum body depth 2.8–3.4 in SL; barbel length 1.5–1.9 in head length.
**Colour:** Overall greyish white with yellow scale margins; 2 saddle-like dark bars below anterior part of 1st dorsal fin and below 2nd dorsal fin, the anterior bar extending ventrally beyond pectoral fin base.

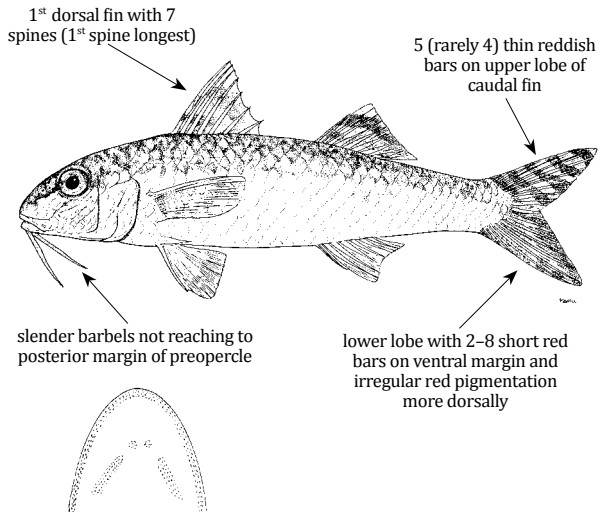



**Size:** To 30 cm (TL)

***Upeneus guttatus*** (Day, 1868)

**FAO names:** Two-tone goatfish (En)

**Local name(s):** Hnit Yaung Phyar Kyo Warr.
**Habitat:** Soft-mixed bottoms down to 165 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Small villiform teeth in a narrow band in jaws, on palatines, and on vomer; small scales basally on 2nd dorsal and anal fins; snout subequal to postorbital distance in adults (all these characteristics true of all *Upeneus* species); body depth at 1st dorsal fin origin 3.9–4.6 in SL; barbel length 5.1–6.3 in SL; 12–15 (mostly 13 or 14) pectoral fin rays; 23–26 total gill rakers on 1st gill arch; 28–31 lateral line scales.
**Colour:** Body colour variable, often white or rose below lateral line, covered by red pigmentation above lateral line which may also reach down ventrally and to head, sometimes forming red patches or blotches (no mid-lateral body stripes); belly white; iris red; barbels yellow or white; caudal fin bars red, on lower lobe mingling with irregular red pigmentation.

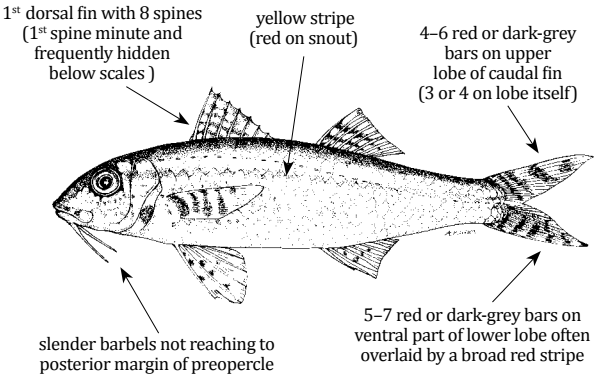



**Size:** To 16 cm (SL)

***Upeneus margarethae*** Uiblein & Heemstra, 2010

**FAO names:** Margaretha's goatfish (En)

**Local name(s):** Hnar Ni Sinn Kyo Warr.
**Habitat:** Soft or mixed bottoms to 105 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.7–6.0 in SL; barbel length 5.0–6.7; 13–15 (mostly 14) pectoral fin rays; 21–24 total gill rakers on first gill arch; 28–30 lateral line scales.
**Colour:** Body red above lateral line becoming white laterally with red or rose dots or blotches; ventral side of head and belly white; a yellow to red mid-lateral stripe from snout through eye; iris red; barbels white; caudal fin bars red or dark grey.



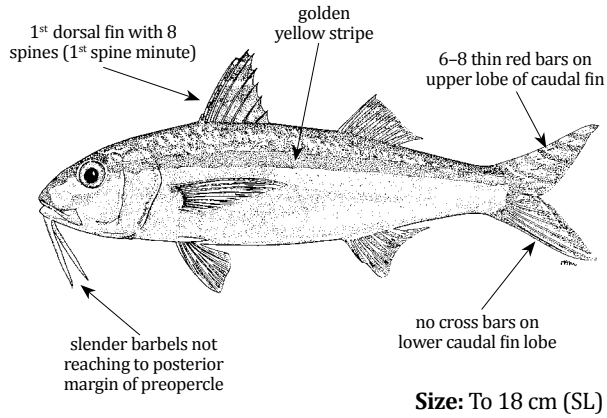

**Size:** To about 13 cm (SL)

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***Upeneus moluccensis*** (Bleeker, 1855)

**FAO names:** Goldband goatfish (En)

**Local name(s):** Shwe Yaung Line Kyo Warr.
**Habitat:** Soft or mixed bottoms down to 99 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.7–4.7 in SL; barbel length 5.6–6.7 in SL; 14–17 pectoral fin rays; 26–30 total gill rakers on 1st gill arch; 33–36 lateral line scales.
**Colour:** Golden yellow stripe about as broad as pupil passing from eye along upper side of body to upper caudal base; head and body above stripe silvery pink to greenish, silvery white below; tip of 1st dorsal fin tip brown or black; barbels white; caudal fin bars on upper lobe red.



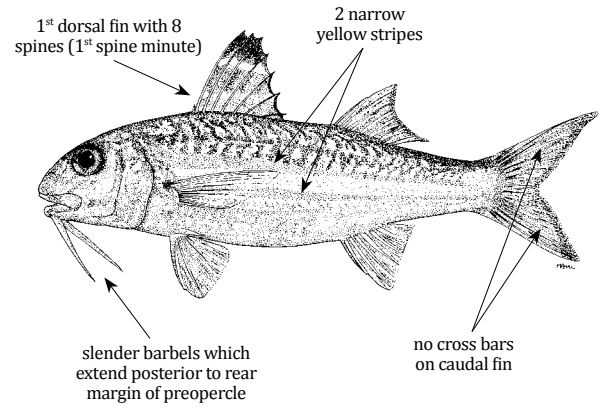

**Size:** To 18 cm (SL)

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***Upeneus sulphureus*** Cuvier, 1829

**FAO names:** Sulphur goatfish (En)

**Local name(s):** Sulphur Yaung Kyo Warr.
**Habitat:** Soft or mixed bottoms from 20 m to 60 m depth.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.0–3.9 in SL; barbel length 4.3–7.0 in SL; 27–31 total gill rakers on 1st gill arch; 14–17 pectoral fin rays; 34–37 lateral line scales.
**Colour:** Dorsally pale brown, ventrally white; 2 conspicuous yellow body stripes, one mid-lateral from operculum to caudal fin base, the other starting behind pectoral fin base and reaching back to caudal fin base; tip of 1st dorsal fin black; caudal fin grey, lower lobe yellowish at fin base; barbels white; iris red.

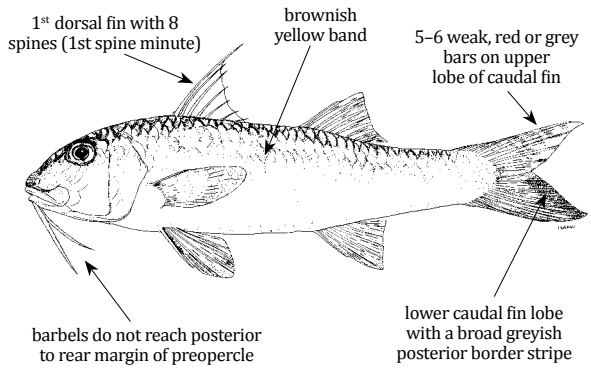



**Size:** To 20 cm (SL)

## *Upeneus sundaicus* (Bleeker, 1855)

**FAO names:** Ochrebanded goatfish (En)
Rouget-souris ocre (Fr)

**Local name(s):** War Nyo Line Kyo Warr.
**Habitat:** On soft or mixed bottoms at 3–20 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.6–4.5 in SL; caudal peduncle very deep (its depth 7.7–9.1 in SL); barbel length 4.8–6.3 in SL; 18–22 total gill rakers on 1st gill arch; 13–15 pectoral fin rays; 31–34 lateral line scales.
**Colour:** Dorsally reddish or dark grey, ventrally whitish rose; head with red or grey pigmentation at snout and above eyes; a brownish yellow band running below lateral line from hind margin of eye to base of caudal fin; iris red; barbels yellow; caudal fin upper lobe with weak thin crossbars, lower lobe often with dark stripe.

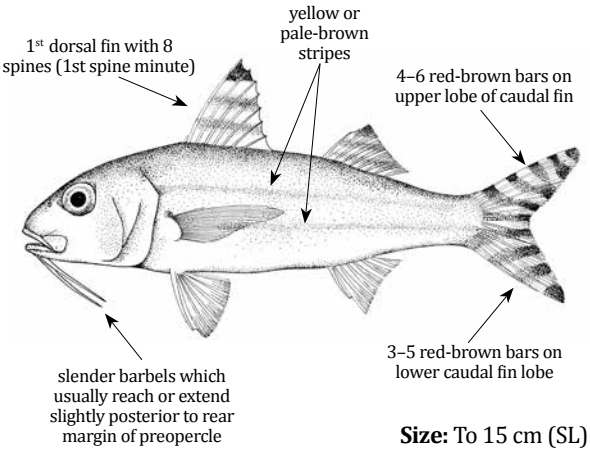



**Size:** To 14 cm (SL)

## *Upeneus supravittatus* Uiblein & Heemstra, 2010

**FAO names:** Long-fin goatfish(En)

**Local name(s):** Suu Taung Shae Kyo Warr.
**Habitat:** On soft or mixed bottoms, maximum reported depth is 40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.3–4.0 in SL; barbel length 4.3–6.0 in SL; 27–32 total gill rakers on 1st gill arch; pectoral fin length 3.5–4.3 in SL; 15–17 pectoral fin rays; 34–36 lateral line scales.
**Colour:** Head and body brassy to silvery grey and dorsally grey to red brown with 2 narrow, yellow lateral stripes, the uppermost extending from behind head to caudal fin base, the lowermost from pectoral fin base to caudal fin base; stripes connecting to oblique bars at caudal fin; tip of 1st dorsal fin dark; caudal fin bars red brown or grey.

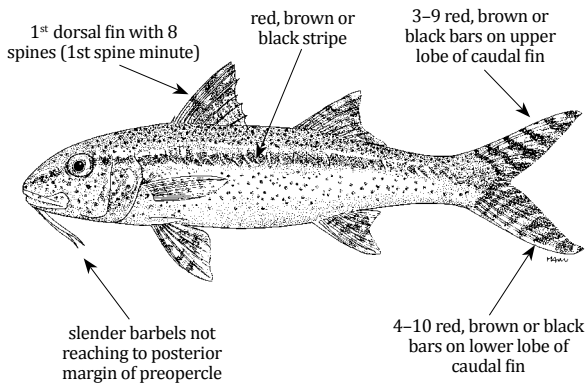



**Size:** To 15 cm (SL)

## *Upeneus tragula* Richardson, 1846

**FAO names:** Freckled goatfish (En)
Rouget-souris à bande sombre (Fr)

**Local name(s):** Nyo Set Pyauk Kyo Warr.
**Habitat:** Protected bays and lagoons, often on sand or silty sand near coral reefs; also common in estuaries; maximum reported depth 42 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.6–4.7 in SL; barbel length 4.8–7.5 in SL; caudal fin length 2.9–3.5 in SL; 20–25 total gill rakers on 1st gill arch; 12–14 pectoral fin rays; 28–31 lateral line scales.
**Colour:** Body and head ground colour white or beige, slightly darker above lateral line, with irregular red, brown or black spots and/or blotches; a red, brown or black mid-lateral body stripe from tip of snout through eye to caudal base; 1st dorsal fin with a large blotch on or around tip; iris red; barbels yellow, pale brown or orange in fresh fish; number of caudal fin bars increases with fish size.

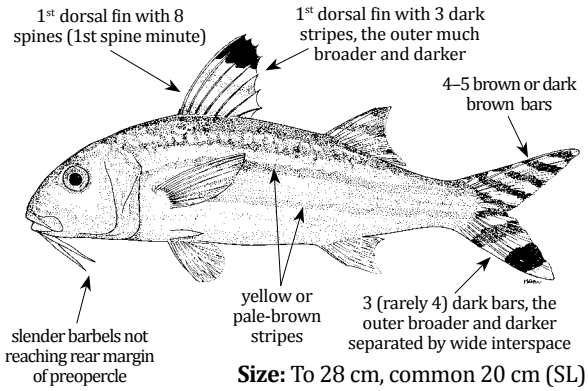



**Size:** To at least 19 cm (SL)

***Upeneus vittatus*** (Forsskål, 1775)

**FAO names:** Yellowstriped goatfish (En)
Rouget-souris orangé (Fr)

**Local name(s):** War Nu Line Sin Kyo Warr.
**Habitat:** Shallow sandy areas or lagoons and coastal reefs. Maximum reported depth 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body depth at 1st dorsal fin origin 3.3–4.2 in SL; barbel length 4.8–6.4 in SL; 25–29 total gill rakers on 1st gill arch; 15–17 pectoral fin rays; pectoral fin length 4.2–4.9 in SL.
**Colour:** Body with 4–5 yellow or pale brown lateral stripes, the longest mid-lateral stripe extending from eye to caudal fin base, the lowermost stripe from pectoral fin base to caudal fin base; stripes on mid body connecting to oblique bars on caudal fin; barbels white.



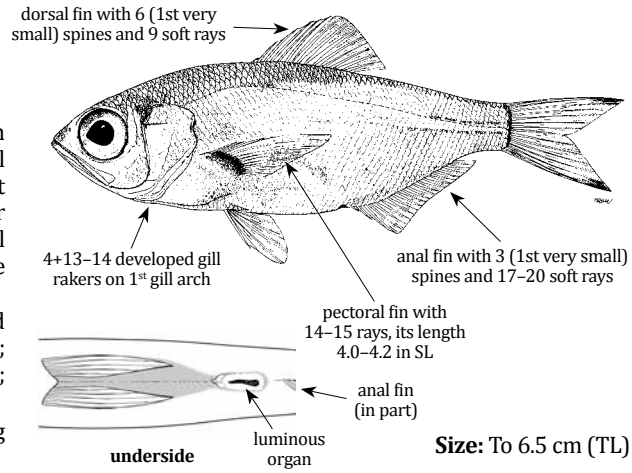

**Size:** To 28 cm, common 20 cm (SL)

## PEMPHERIDAE
Sweepers

***Parapriacanthus*** sp.*

**FAO names:** Andaman luminous sweeper (En)

**Local name(s):** Ta Pyat Hlae Nga.
**Habitat:** Depth of capture: 69–79 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body depth 2.9–3.3 in SL; scales on lower jaw, throat and chest; preanal club-like dark line edged by a silvery area distinct or diffuse (luminous organ); orbit diameter 7.8–8.5 in SL; predorsal distance 2.3 in SL; preanal distance 1.4–1.5 in SL; 68–75+3–5 lateral line scales.
**Colour:** Body pinkish translucent with scattered black dots; lower head and sides up to anus silvery; fins pinkish with blackish tips on caudal fin lobes; iris silvery white.
**Remarks:** An undescribed species presently being described by Bogorodsky *et al*.

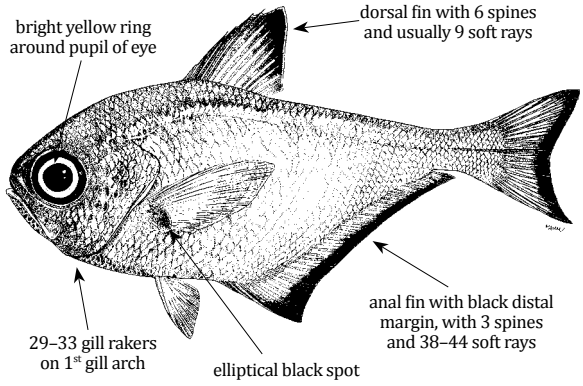



**Size:** To 6.5 cm (TL)

***Pempheris flavicycla*** Randall, Satapoomin & Alpermann, 2013

**FAO names:** Yelloweye Sweeper (En)

**Local name(s):** Myet Lone War Ta Pyet Hlae Nga.
**Habitat:** Found in clear-water, coral-reef areas.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body deep, its depth 2.3–3.6 in SL; head length 3.3–3.6 in SL; orbit diameter 7.9–8.6 in SL; outer part of paired patch of small teeth anteriorly in lower jaw and narrow band of small teeth of upper jaw exposed when mouth fully closed; 16–19 pectoral fin rays; 53–61 lateral line scales.
**Colour:** Body bronze to copper, suffused with yellowish green dorsally; dorsal fin with a large apical black spot, often with a blackish anterior margin; anal fin whitish with a broad black border, about half the fin ray length anteriorly, progressively much narrower posteriorly; caudal fin usually with a broad blackish posterior margin; iris black with a bright yellow inner ring.

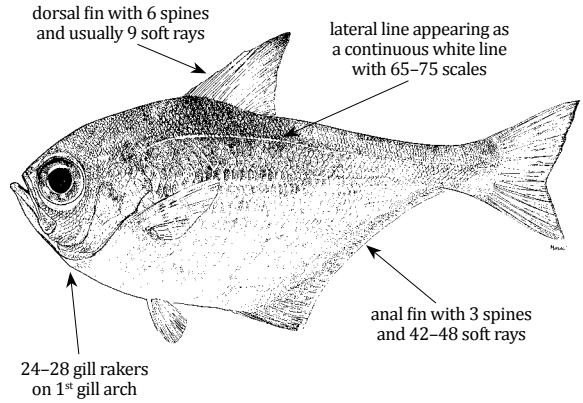



**Size:** To 14 cm (SL)

***Pempheris malabarica*** Cuvier, 1831

**FAO names:** Malabar Sweeper (En)

**Local name(s):** Malabar Ta Pyet Hlae Nga.
**Habitat:** Found in clear-water, coral-reef areas.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body depth 2.3–2.5 in SL; head length 3.1–3.4 in SL; orbit diameter 7.9–9.1 in SL; scales on side of chest ctenoid; this species has the highest count of lateral line scales of the genus and the lowest count of gill rakers; lower jaw large and projecting, with two patches of teeth dorsally at the front of the jaw that are still half exposed when mouth fully closed; 17–19 pectoral fin rays; 65–75 lateral line scales.
**Colour:** Orangish to reddish copper, the scales with a dark spot forming straight horizontal stripes above and below lateral line; median fins orangish red; no dark band at base of anal fin.

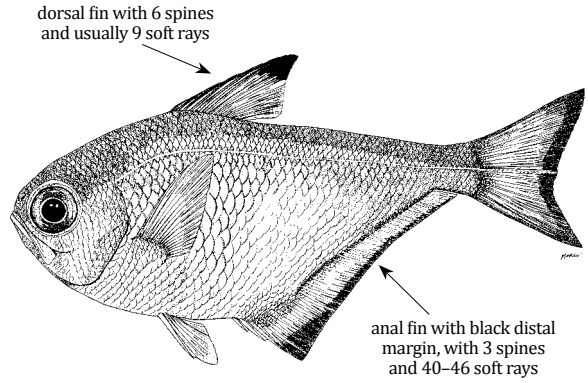



**Size:** To 14.7 cm (SL)

***Pempheris vanicolensis*** Cuvier, 1831

**FAO names:** Golden Sweeper (En)

**Local name(s):** Shwe Yaung Ta Pyet Hlae Nga.
**Habitat:** Found in clear-water, coral-reef areas.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Similar to *Pempheris flavicycla* but lacks the yellow ring around the pupil of the eye and the black spot at the base of the pectoral fins; also, the black margin on the anal fin becomes more narrow posteriorly on *P. vanicolensis* and may even disappear on the last few rays; 18–19 pectoral rays; 26–29 gill rakers; 63–68 lateral line scales.
**Colour:** Body bronze with greenish shine over the back and most of the head; iris brownish green; anal fin pale with black distal margin, black dorsal fin tip; pectoral fins yellowish without black basal spot.



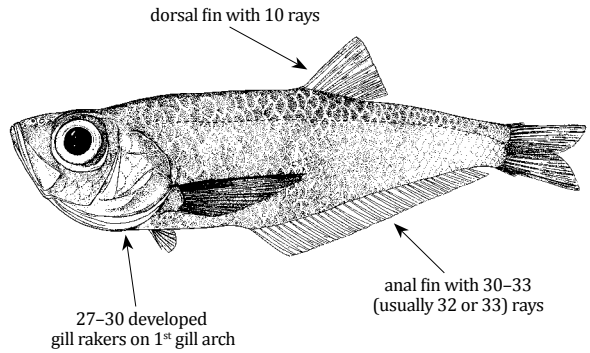

**Size:** To 20 cm (TL)

## BATHYCLUPEIDAE
Bathyclupeids

***Bathyclupea hoskynii*** Alcock, 1891

**FAO names:** Indian deep-sea herring (En)

**Local name(s):** India Ye Net Zin Bya.
**Habitat:** Bathypelagic; depth range 330–550 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body strongly compressed, its depth 3.0–3.6 in SL (usually more than 3.4); snout length 14.7–17.0 in SL; orbit diameter 7.4–8.5 in SL; tongue bilobed; ventral margin of preopercle serrated; last pair of pleural ribs reduced or absent; 24–26 pseudobranch elements.
**Colour:** Upper part of head and body dark grey becoming lighter on sides; lower part of head paler; a golden green blotch on opercle; caudal and pectoral fins blackish; mouth cavity and gill arches pale; peritoneum jet-black.

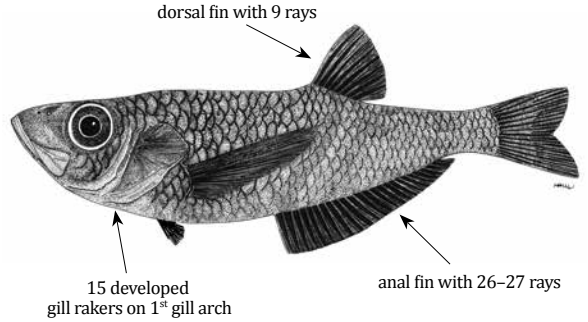



**Size:** To about 20 cm (TL)

***Neobathyclupea melanoptera*** Prokofiev, Gon & Psomadakis, 2016

**FAO names:** Black-fin deep-sea herring (En)

**Local name(s):** Ye Net Suu Taung Mae Zin Bya.
**Habitat:** Bathypelagic; depth range 767–1 120 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body strongly compressed, its depth 3.7–4.0 in SL; snout (7.6–7.8 in SL) longer than orbit (8.2–8.5 in SL); head length 2.6 in SL; tongue bilobed; ventral margin of preopercle smooth to finely serrated; last pair of pleural ribs well-developed; large pseudobranch (29–30 elements).
**Colour:** Body blackish dark brown with purple tinge; scales with black edge; head and fins jet black; eye black; mouth cavity and gill arches darkly pigmented; peritoneum jet-black.



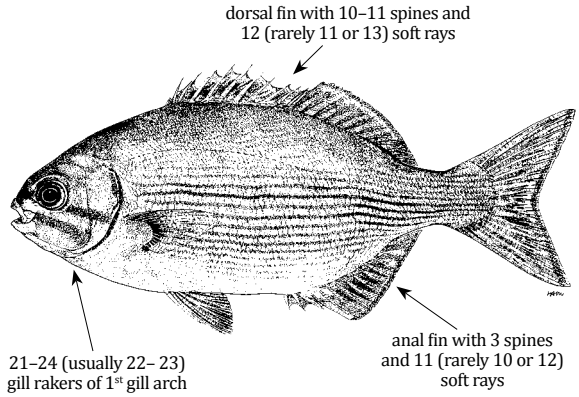

**Size:** To at least 30 cm (TL)

## KYPHOSIDAE
Seachubs

***Kyphosus bigibbus*** Lacepède, 1801

**FAO names:** Brown chub (En)

**Local name(s):** Nga Wa Toke Nyo.
**Habitat:** Shallow coastal waters above reefs and rocky areas.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Single row of lanceolate incisor-like teeth on both jaws (true of all Kyphosidae); soft portion of dorsal fin not higher than spiny portion; 51–55 (usually 53) pored lateral line scales; 12–15 (usually 13–14) scale rows above lateral line; 20–25 (usually 21–22) scale rows below lateral line.
**Colour:** Silvery grey, the edges of the scales brown, resulting in a longitudinal linear pattern on body; a broad silvery stripe from front of snout to below eye, bordered below by a grey streak; opercular membrane dark brown; fins dark grey.

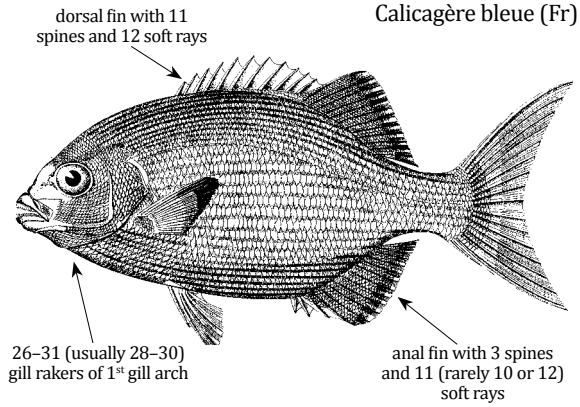



**Size:** To 75 cm (TL)

***Kyphosus cinerascens*** (Forsskål, 1775)

**FAO names:** Blue Sea chub (En)
Calicagère bleue (Fr)

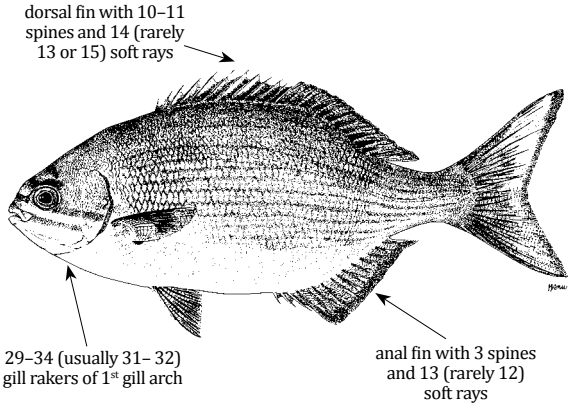
**Local name(s):** Nga Wa Toke Pyar.
**Habitat:** Occurs in shallow coastal waters around reefs and rocks.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Soft part of dorsal fin clearly higher than the longest spine; 49–52 (usually 50–51) pored lateral line scales; 9–12 (usually 10–11) scale rows above lateral line; 17–21 (usually 18–20) scale rows below lateral line.
**Colour:** Silvery grey, olivaceous to dusky dark above; a dark stripe between each row of scales; a grey or silvery stripe under the eye; opercular membrane dark brown vertical fins blackish, paired fins lighter.




**Size:** To 50 cm (TL)

***Kyphosus vaigiensis*** (Quoy & Gaimard, 1825)

**FAO names:** Brassy chub (En)



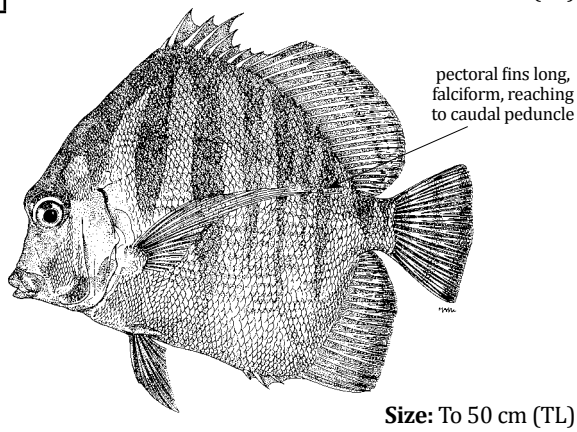

**Local name(s):** Kjee Ni Yaung Nga Wa Toke.
**Habitat:** Over hard, algal coated bottoms of exposed surf–swept outer reef flats, lagoons, and seaward reefs to a depth of at least 24 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Maxilla reaching to below anterior edge of eye when mouth fully closed; soft portion of dorsal fin not higher than spiny portion; 51–55 (usually 52–53) pored lateral line scales; 11–14 (usually 12–13) scale rows above lateral line; 18–21 (usually 18–19) scale rows below lateral line.
**Colour:** Silvery grey with narrow brassy stripes along upper and lower edges of scales of body; two oblique brassy bands on snout and cheeks; opercular membrane usually yellowish brown.

**Size:** To 70 cm (TL)

## DREPANEIDAE
Sicklefishes

***Drepane longimana*** (Bloch & Schneider, 1801)

**FAO names:** Concertina fish (En)

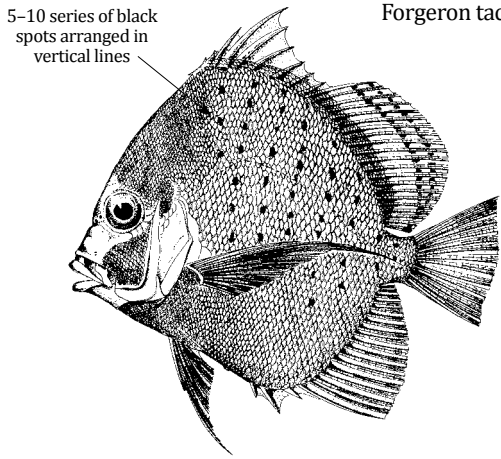



**Local name(s):** Pa Lei Gyi, Pa Lei Pauk Zin Line.
**Habitat:** Coastal waters including estuaries.
**Fisheries:** Mainly bottom trawls.
**Distinctive Characters:** Body oval, strongly compressed; mouth highly protrusible; teeth pointed, slender, crowded together; dorsal fin with 8–9 (usually 8) spines and 19–23 rays; anal fin with 3 spines and 17–19 rays.
**Colour:** Head and body silvery; 4–10 subvertical dark bars (bars faint or absent in some specimens); median fins dusky, darker distally; 2–3 longitudinal rows of small dark spots on soft dorsal fin; some specimens with front part of head dark, and lips white.

**Size:** To 50 cm (TL)

***Drepane punctata*** (Linnaeus, 1758)

**FAO names:** Spotted sicklefish (En)
Forgeron tacheté (Fr)




**Local name(s):** Pa Lei Gyi, Pa Lei Pauk Mee Set.
**Habitat:** Occurs in a variety of inshore habitats, such as sand or mud bottoms, reefs, estuaries, and harbours.
**Fisheries:** Mainly bottom trawls.
**Distinctive Characters:** Body, mouth and teeth as in *Drepane longimana*; dorsal fin with 8–10 (usually 9) spines and 20–22 soft rays; anal fin with 3 spines and 16–19 rays.
**Colour:** Head and body silvery; fins dusky yellow; dorsal and caudal fins darker distally; 2 or 3 longitudinal rows of small dark spots on soft dorsal fin.

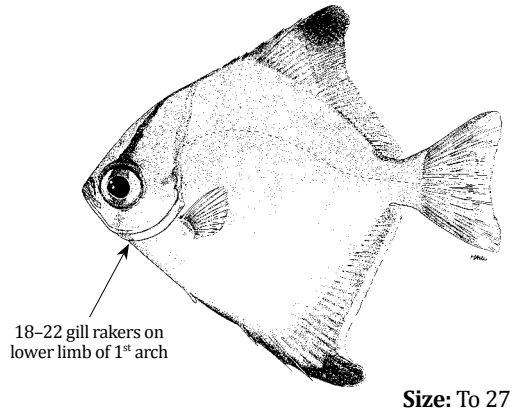
**Size:** To 50 cm (TL)

## MONODACTYLIDAE
Moonies

***Monodactylus argenteus*** (Linnaeus, 1758)

**FAO names:** Silver moony (En)

**Local name(s):** Lay Thi Daw Nga.
**Habitat:** Shallow coastal waters, fresh waters, estuaries and harbours.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body oval, strongly compressed, its depth 1.2–1.6 in SL; teeth flattened, tricuspid, middle cusp much longer than other cusps; pelvic fins very small or absent in adults; dorsal fin with 8 spines and 27–30 soft rays; anal fin with 3 spines and 27–30 soft rays.
**Colour:** Adults silvery; tips of dorsal and anal fin lobes yellow, dusky yellow or blackish; juveniles dusky silver with 2 curved dark stripes across head.



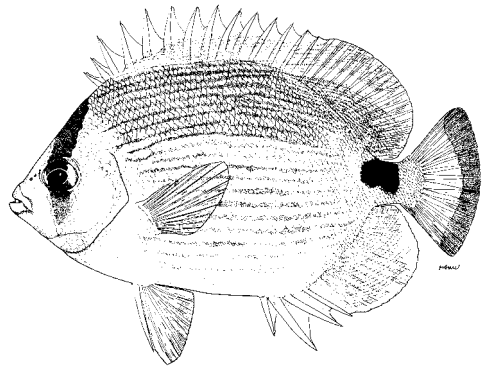

**Size:** To 27 cm (SL)

## CHAETODONTIDAE
Butterflyfishes

***Chaetodon andamanensis*** Kuiter & Debelius, 1999

**FAO names:** Andaman butterflyfish (En)

**Local name(s):** Andaman Nga Leik Pyarr.
**Habitat:** Rock or coral reefs near shore or outer slopes at depths between 10–40 m.
**Fisheries:** Occasionally caught with gillnets.
**Distinctive Characters:** Body ovate, moderately deep and strogly compressed; snout short; head profile moderately steep; lateral line incomplete; dorsal fin with 14 spines and 18 soft rays; anal fin with 4 spines and 16–18 soft rays.
**Colour:** Bright yellow with numerous light brown grey narrow horizontal stripes along scale rows on sides; a black spot covering upper half of caudal peduncle, and a blue-edged black bar through eye; caudal fin with hyaline posterior margin.

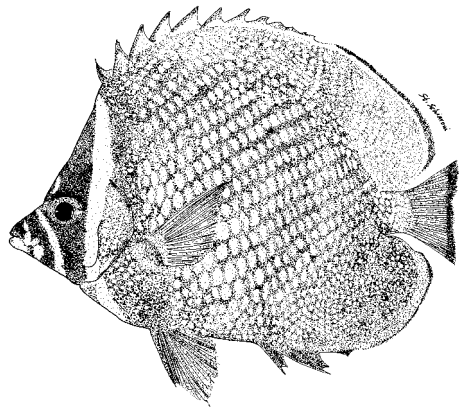


**Size:** To 15 cm (TL)

***Chaetodon collare*** Bloch, 1787

**FAO names:** Redtail butterflyfish (En)
Chétodon à collier (Fr)

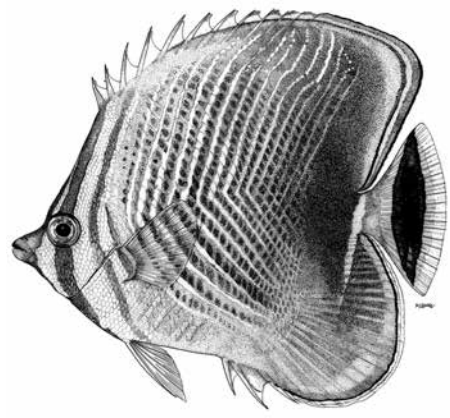
**Local name(s):** Hmee Ni Nga Leik Pyarr.
**Habitat:** Inhabits coral reefs and aggregates in midwater at depths of 3–15 m; forms pairs or small to large groups.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body rounded, deep; snout short and pointed; head profile steep and nearly straight; lateral line incomplete; dorsal fin with 12 spines and 25–28 soft rays; anal fin with 3 spines and 20–22 soft rays.
**Colour:** Head brown with a prominent white bar from dorsal fin origin to chest, preceded by a black bar below eye which is edged anteriorly with white, snout and chin black with white markings; caudal fin red with a whitish posterior margin and black submarginal band.



**Size:** To 18 cm (TL)

***Chaetodon triangulum*** Cuvier, 1831

**FAO names:** Triangle butterflyfish (En)



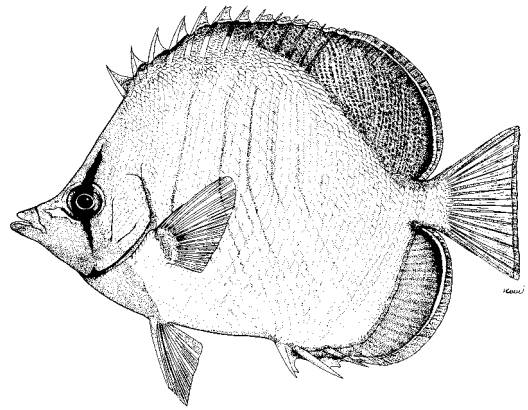
**Local name(s):** Thone Myaunt Nga Leik Pyarr.
**Habitat:** Coral reefs, associated with *Acropora* plate coral, usually <10 m depth.
**Fisheries:** Occasionally caught with gillnets.
**Distinctive Characters:** Body rounded, deep; snout short and pointed; head profile steep and nearly straight; lateral line incomplete; dorsal fin with 11–12 spines and 23–26 soft rays; anal fin with 3 spines and 20–21 soft rays; very deep body, roughly triangular shape.
**Colour:** Dark grey with numerous dark chevron -shaped narrow bars on sides; 3 dark bars on head, including one through eye; a yellow streak crossing caudal peduncle into anal fin; a yellow-edged dark triangle on caudal fin.

**Size:** To 15 cm (TL)

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***Chaetodon xanthocephalus*** Bennett, 1833

**FAO names:** Yellow-headed butterflyfish (En)



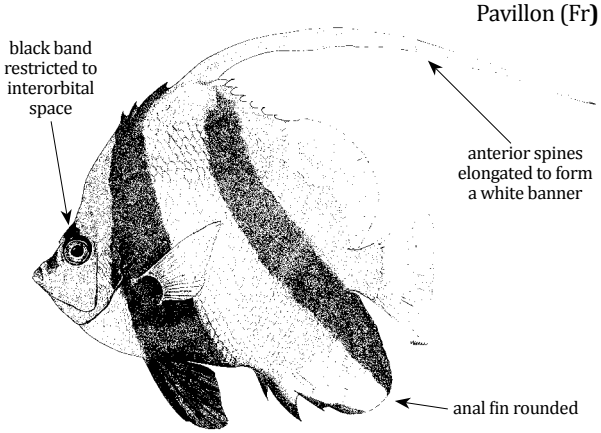
**Local name(s):** Nga Leik Pyarr Gaung Warr.
**Habitat:** Rock and coral reefs of lagoons and outer reefs in 5–25 m.
**Fisheries:** Occasionally caught with gillnets.
**Distinctive Characters:** Body rounded, deep; snout moderately long and pointed; head profile steep and nearly straight; lateral line incomplete; dorsal fin with 13–14 spines and 21–26 soft rays; anal fin with 3 spines and 21–23 soft rays.
**Colour:** Pale grey with narrow bluish grey chevron-shaped narrow bars on side, orange area encompassing most of posterior dorsal and anal fins, and yellow forehead, snout, lower part of head, breast, and pelvic fins.

**Size:** To 20 cm (TL)

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***Heniochus acuminatus*** (Linnaeus, 1758)

**FAO names:** Longfin bannerfish (En)
Pavillon (Fr**)**



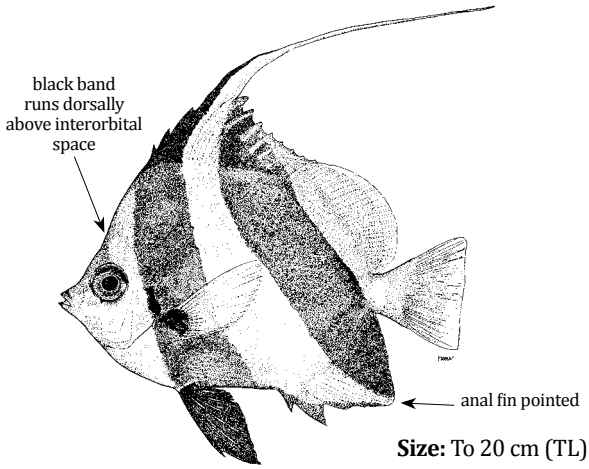

**Local name(s):** Suu Shae Myet Khone Me' Nga Leik Pyarr.
**Habitat:** Inhabits coral and rocky reefs at depths of 2 to 75 m; usually solitary, in pairs or in small groups swimming near the bottom.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body very deep; snout moderately long and pointed, longer than eye diameter; head profile steep and slightly convex; lateral line complete; dorsal fin with 11 (rarely 12) spines and 23–27 soft rays; anal fin with 3 spines and 15–18 soft rays.
**Colour:** Body white with 2 broad black bands; snout and interorbital space largely blackish; caudal fin and posterior part of dorsal fin mainly yellow.

**Size:** To 25 cm (TL)

***Heniochus diphreutes*** Jordan, 1903

**FAO names:** False moorish idol (En)

**Local name(s):** Suu Taung Shae Nga Leik Pyarr.
**Habitat:** Outer reef slopes at depths of 5–210 m (usually <30 m), often in aggregations.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Very similar to *Heniochus acuminatus*, but anal fin more pointed; snout shorter, about equal to eye diameter; more rounded chest; eye band running dorsally above interorbital space; dorsal fin with 12–13 spines and 23–25 soft rays; anal fin with 3 spines and 17–19 rays.
**Colour:** Body white with 2 broad black bands, second extending to tip of anal fin; snout and interorbital space largely blackish; caudal fin and posterior part of dorsal fin mainly yellow.

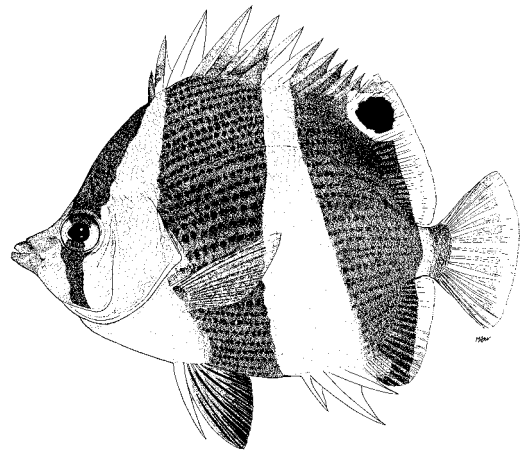



**Size:** To 20 cm (TL)

***Roa jayakari*** (Norman, 1939)

**FAO names:** Jayakar's butterflyfish (En)

**Local name(s):** Nga Leik Pyarr Myet Hnar Sinn.
**Habitat:** Reef-associated; depth range 33–274 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body rounded, deep; snout moderately long and pointed; head profile steep and slightly convex; lateral line complete; dorsal fin with 11 spines and 21–23 soft rays; anal fin with 3 spines and 17–18 soft rays; caudal fin rounded.
**Colour:** White with two broad dark brown bars on body, the 1st extending into dorsal fin, the 2nd into both the dorsal and anal fins; white interspace in middle of body broader ventrally; a dark brown bar from high on nape through eye, ending at lower edge of preopercle; a white edged black spot about as large as eye on soft portion of dorsal fin in upper posterior part of second brown bar.



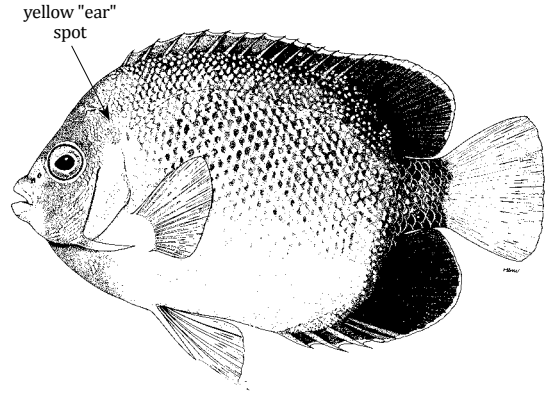
**Size:** To 16 cm (TL)

## POMACANTHIDAE
Angelfishes

***Apolemichthys xanthurus*** (Bennett, 1833)

**FAO names:** Indian yellow-tail angelfish (En)

**Local name(s):** India Hmee Warr Nga Leik Pyarr.
**Habitat:** Coral reefs and rocky shores in 5–30 m; found solitary or in pairs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, deep and compressed; a conspicuous spine at angle of preopercle (true of all Pomacanthidae); posterior margin of preopercle finely serrate; subopercle smooth; dorsal fin with 13–14 spines and 17–19 soft rays; anal fin with 3 spines and 17–18 soft rays; caudal fin slightly rounded.
**Colour:** Body grey yellowish with darker scale centres; yellow "ear" spot above gill opening; caudal fin bright yellow; black dorsal and anal fins with white or blue margin.

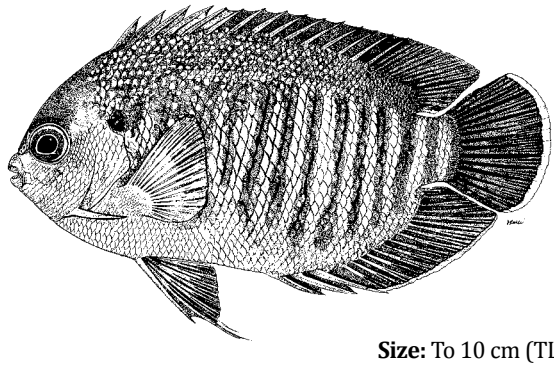



**Size:** To 15 cm (TL)

***Centropyge flavipectoralis*** Randall & Klausewitz, 1977

**FAO names:** Yellowfin pygmy angelfish (En)

**Local name(s):** Nga Leik Pyarr Gja Pu.
**Habitat:** Coral rubble and reef margins in 3–20 m.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, moderately deep and compressed; a conspicuous spine at angle of preopercle (true of all Pomacanthidae); subopercle with spines; interopercle and suborbital serrate; dorsal fin with 14–15 spines and 14–15 soft rays; anal fin with 3 spines and 16–18 soft rays; caudal fin rounded.
**Colour:** Body dark brown with blue black bars on side; highly contrasting yellow pectoral fins; dorsal, anal and caudal fins blue with light blue margin.



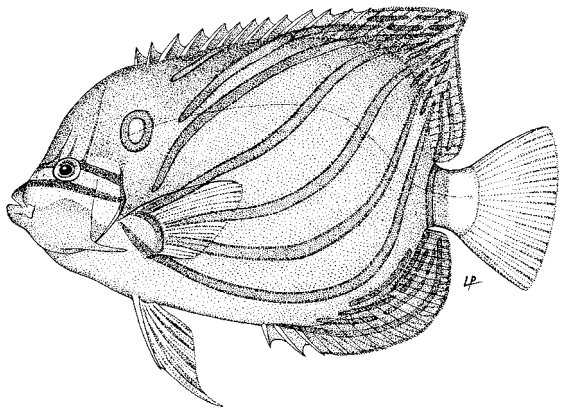
**Size:** To 10 cm (TL)

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***Pomacanthus annularis*** (Bloch, 1787)

**FAO names:** Blueringed angelfish (En)

**Local name(s):** Nga Leik Pyarr A Pyarr Sin.
**Habitat:** Inhabits lagoons and coral reefs at depths of 10 to 30 m; found solitary or in pairs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, very deep and compressed; a conspicuous spine occurs at angle of preopercle; dorsal fin with 13 spines and 20–22 soft rays; anal fin with 3 spines and 20–21 soft rays; soft portions of dorsal and anal fins round; caudal fin rounded.
**Colour:** Adults yellowish brown with several distinct diagonal blue lines on sides and a distinct blue ring above upper edge of opercle; 2 horizontal blue stripes on head, the upper stripe at the level of mid-eye, the lower just beneath lower edge of eyes; caudal fin transparent white.



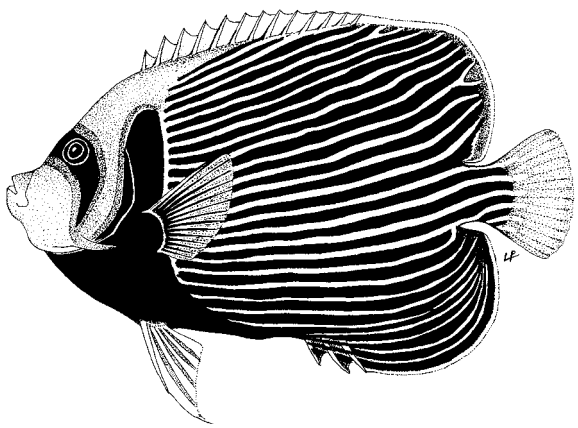
**Size:** To 45 cm (TL)

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***Pomacanthus imperator*** (Bloch, 1787)

**FAO names:** Emperor angelfish (En)
Poisson ange impérial (Fr)

**Local name(s):** Myet Hnar Phone Nga Leik Pyarr.
**Habitat:** Wide variety of habitats at depths of 1–100 m; found solitary or in pairs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body oblong, very deep and compressed; a conspicuous spine occurs at angle of preopercle; dorsal fin with 13–14 spines and 19–21 soft rays; anal fin with 3 spines and 18–21 soft rays; soft portions of dorsal and anal fins round; caudal fin rounded.
**Colour:** Adults blue, covered with bright yellow horizontal stripes culminating in a bright yellow to orange caudal fin; a striking blue-edged black mask covers the eyes and a similarly-colored vertical band extends from the pectoral fin two-thirds of the way up the body; this band is highlighted in a sapphire-blue in front, and bright yellow, posteriorly; the mouth is white.



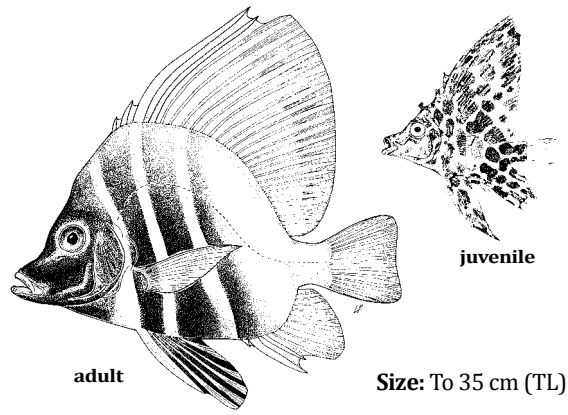
**Size:** To 35 cm (TL)

## PENTACEROTIDAE
Armorheads

***Histiopterus typus*** Temminck & Schlegel, 1844

**FAO names:** Sailfin armourhead (En)

**Local name(s):** Than Ma Ni Ghaung Sut Nga.
**Habitat:** Steep seaward reef drop-offs; bottom dweller from 40 m to 400 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Head mostly naked, the bones exposed and rugose; dorsal fin very high, sail-like, with 4 spines, the 1st two short; 23–29 dorsal fin soft rays; anal fin with 3 spines and 8–10 soft rays.
**Colour:** Adult body pale, with dark brown bars; juveniles pale with large dark brown blotches over head, body, and dorsal, anal, and pelvic fins; pectoral and caudal fins pale, without spots.



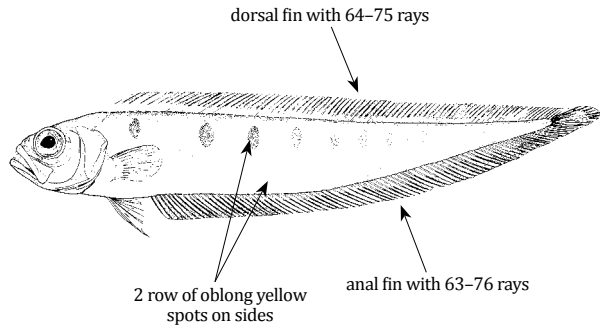

**Size:** To 35 cm (TL)

## CEPOLIDAE
Bandfishes

***Acanthocepola abbreviata*** (Valenciennes, 1835)

**FAO names:** Yellowspotted bandfish (En)

**Local name(s):** Din Gar Ni Nga.
**Habitat:** Burrow dweller occuring on sandy or mud bottoms in depths of 10–60 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate and strongly compressed, somewhat shorter and more truncate than in *A. indica* (see below); 16 pectoral fin rays; 13 caudal fin rays, middle 8–10 rays branched; 44–48 caudal vertebrae.
**Colour:** Overall pale pink (lower part of head and breast paler) or silvery pinkish with 2 longitudinal rows of vertically elongate yellow spots on sides; iris red; median fins red reddish yellow, wihitish basally; pectoral fins translucent tinged with red; pelvic fins white.

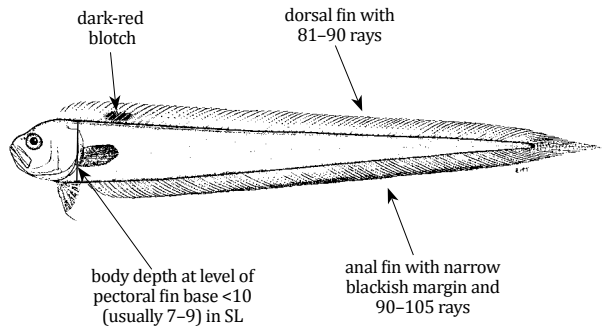



**Size:** To 30 cm (TL)

***Acanthocepola indica*** (Day, 1888)

**FAO names:** Indian bandfish (En)

**Local name(s):** Din Gar Ni Nga Kyaw Me' Set.
**Habitat:** Burrow dweller occuring on sandy or mud bottoms in depths of 15–100 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate and strongly compressed, much higher anteriorly than posteriorly; body depth at level of pectoral fin base less than 10 (usually 7–9) in SL; 17 pectoral fin rays; 9–10 (none branched) caudal fin rays; 60–67 caudal vertebrae.
**Colour:** Overall pale red with numerous faint yellow narrow vertical bands on sides when fresh; a large reddish to black oblong blotch on dorsal fin between 9th and 14th rays; iris red; median and paired fins red to pale red.

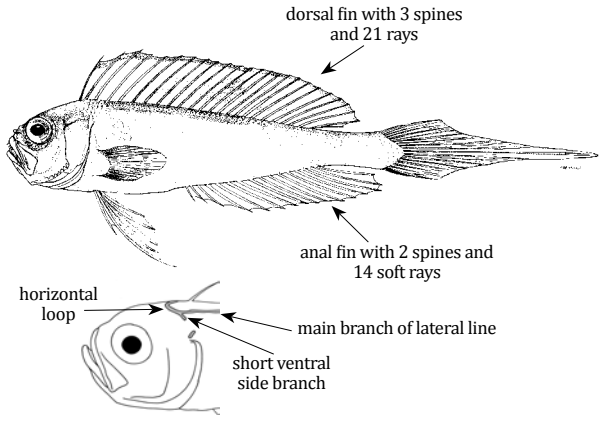



**Size:** To 50 cm (TL)

***Owstonia nudibucca*** Smith-Vaniz & Johnson, 2017

**FAO names:** Naked cheek bandfish (En)

**Local name(s):** Din Gar Ni Nga Byaung Chaw.
**Habitat:** Free-swimming in close contact with soft bottoms in depths of about 270 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body compressed moderately elongated; last ray of dorsal and anal fins not connected to caudal fin by a membrane; lateral line extends anteriorly forming a complete loop across nape and and a short ventral side branch slightly in front of dorsal fin origin; a diagonal row of 2 lateral line scales arising from upper posterior edge of opercle; nape and cheeks naked; 47–50 gill rakers on 1st gill arch; caudal peduncle depth in adults 2.3–3.0 in its length.
**Colour:** Body and fins pink to red, paler below; iris red; 3 dark brown patches over anterior dorsal fin membrane; black premaxillary groove.



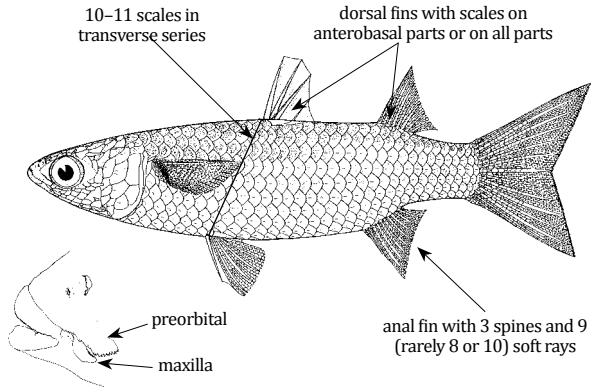

**Size:** To about 35 cm (TL)

## MUGILIDAE
Mullets

***Chelon macrolepis*** (Smith, 1846)

**FAO names:** Largescale mullet (En)
Mulet à grandes écailles (Fr)

**Local name(s):** Ka Beluu A Kjee Gyi.
**Habitat:** Schooling in shallow coastal lagoon waters, estuaries and brackish waters.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Body mderately robust; hind tip of maxilla exposed when mouth closed; adipose eyefold as a narrow rim around eye or absent; scales ctenoid; origin of 1st dorsal fin closer to base of caudal fin than tip of snout; pectoral axillary scale rudimentary or absent; scales in longitudinal series 31–35 (usually 32–33); caudal fin emarginate; 4–6 pyloric caeca.
**Colour:** Greenish grey dorsally; flanks and abdomen silvery; fins grey or bluish with dusky margins, may appear yellowish at base; pectoral fins with golden base, and perhaps a dark spot.

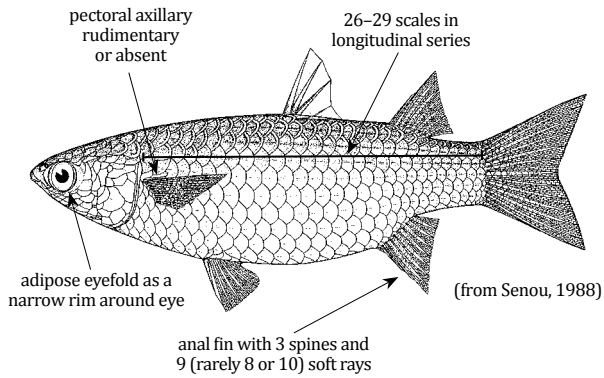



**Size:** To 60 cm, common 26 cm (TL)

***Chelon melinopterus*** (Valenciennes, 1836)

**FAO names:** Otomebora mullet (En)
Mulet otomebora (Fr)

**Local name(s):** A Kjee Tann Si Ka Beluu.
**Habitat:** Shallow coastal lagoon waters, estuaries and brackish waters.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Body distinctly robust, deep in profile; hind tip of maxilla exposed when mouth closed; scales ctenoid; 1st dorsal fin origin nearer to caudal fin base than to snout tip; 2nd dorsal fin origin at vertical through middle of anal fin base; 2nd dorsal and anal fins densely scaled; 26–29 scales in lateral series; 9–11 scales in transverse series; caudal fin emarginate; 4–6 pyloric caeca.
**Colour:** Greenish brown above, white to silvery below; distal margins of dorsal fins and entire caudal fin dusky.

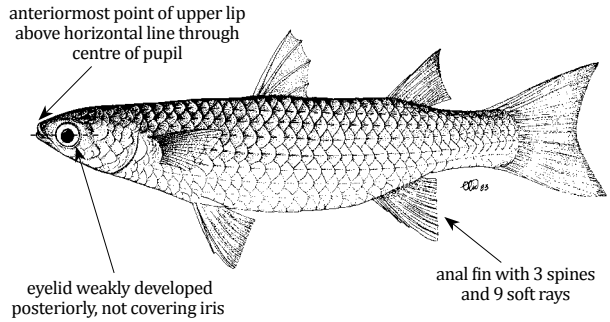



**Size:** To 22 cm cm (TL)

***Chelon parsia*** (Hamilton, 1822)

**FAO names:** Gold-spot mullet (En)
Mulet joue d'or (Fr)

**Local name(s):** Shwe Set Par Ka Beluu.
**Habitat:** A schooling species, found in shallow coastal waters including brackish waters.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Body relatively slender; hind tip of maxilla exposed when mouth closed; scales ctenoid; 1st dorsal fin origin nearer to snout tip than to caudal fin base; pectoral axillary scale rudimentary or absent; 31–36 scales in longitudinal series**;** caudal fin emarginate.
**Colour:** Greenish brown above, white to silvery below; a golden spot on upper operculum; base of 2nd dorsal, anal and caudal fins yellowish

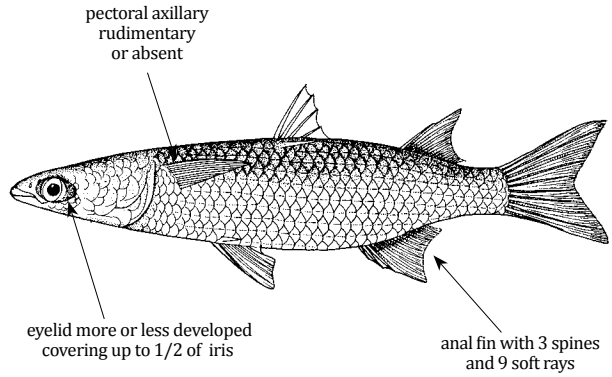



**Size:** To 16 cm, common 15 cm (TL)

***Chelon planiceps*** (Valenciennes, 1836)

**FAO names:** Tade mullet (En)
Mulet tade (Fr)

**Local name(s):** Gaung Chun Ka Beluu.
**Habitat:** Shallow coastal waters and lagoons; also enters estuaries and rivers.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Body elongate; head broad, depressed, pointed; head width greater than or equal to depth; hind tip of maxilla exposed when mouth closed; origin of 1st dorsal fin midway between tip of snout and base of caudal fin, or slightly nearer the latter; both fins well scaled basally but distal parts are sometimes weakly scaled; 30–35 scales in longitudinal series; 10–11 scales in transverse series; caudal fin forked; 5 pyloric caeca.
**Colour:** Greenish brown dorsally, whitish ventrally; flanks with 5–7 indistinct longitudinal lines along scale rows.

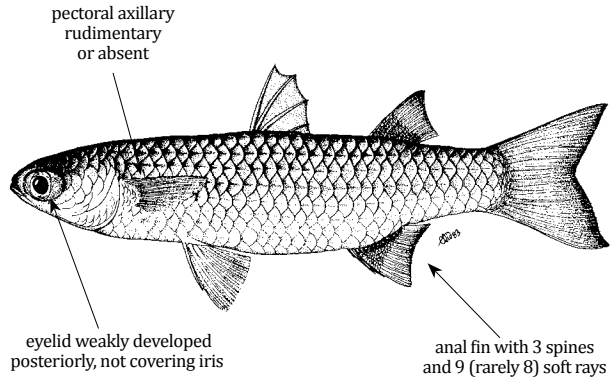



**Size:** To 70, common to 33 cm (SL)

***Chelon subviridis*** (Valenciennes, 1836)

**FAO names:** Greenback mullet (En)
Mulet dos vert (Fr)

**Local name(s):** Kyaw Sein Ka Beluu.
**Habitat:** Schools in shallow coastal waters and enters lagoons, estuaries, and fresh waters.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Body moderately robust and not so deep; hind tip of maxilla exposed when mouth closed; scales ctenoid; origin of 1st dorsal fin midway between tip of snout and base of caudal fin, or just closer to latter; both fins well scaled on all parts; scales in longitudinal series 28–32 (rarely 26, 27 or 33); 9–11 (rarely 12) scales in transverse series; caudal fin emarginate; 4–6 pyloric caeca.
**Colour:** Dark greenish dorsally, brownish over head, white ventrally; 3–6 indistinct, dark stripes along upper rows of scales; caudal fin bluish with black margin.

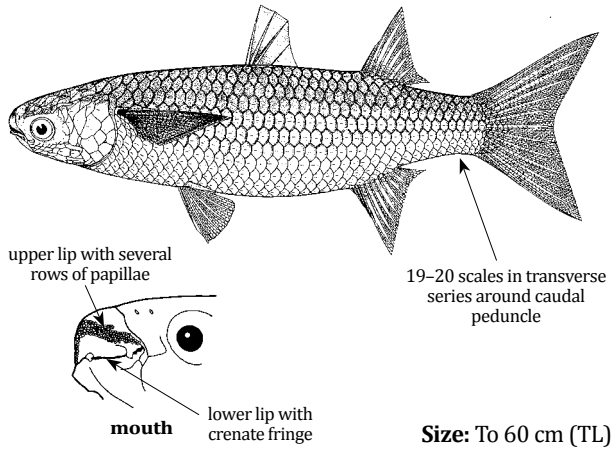



**Size:** To 40 cm (SL),

***Crenimugil crenilabis*** (Forsskål, 1775)

**FAO names:** Fringelip mullet (En)
Mulet boxeur (Fr)

**Local name(s):** Hnote Kham Hmway Ka Beluu.
**Habitat:** Found in coastal waters, in sandy or muddy areas of lagoons, reef flats and tidepools.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Upper lip very thick; lip thickness at point of snout 5.2–9.5 in head length; ventral quarter to half of upper lip with 1–10 rows of papillae medially and laterally; lower lip thin, with anterior margin turned out and downwards with fine crenate fringe on inner part; 36–42 scales in longitudinal series; 12–14 in transverse series.
**Colour:** Olive-green dorsally, flanks silvery and abdomen whitish; fins greyish except pectoral fins which are yellowish and have distinct dark purplish spot at upper part of base.

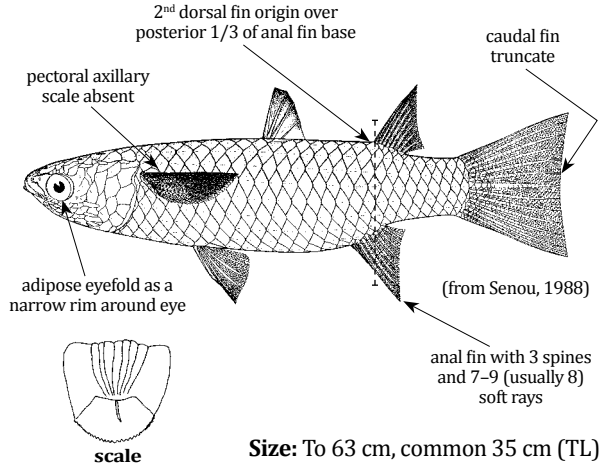



**Size:** To 60 cm (TL)

***Ellochelon vaigiensis*** (Quoy & Gaimard, 1825)

**FAO names:** Squaretail mullet (En)
Mulet mopiro (Fr)

**Local name(s):** Hmee Lay Daunt Ka Beluu.
**Habitat:** Shallow coastal waters and estuaries.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Body moderately robust and not so deep; hind tip of maxilla exposed when mouth closed; both fins well scaled basally; scales ctenoid; 1st dorsal fin origin nearer to caudal fin base than to snout tip; 25–29 (commonly 26) scales in longitudinal series; 8–10 scales in transverse series; 14–23 pyloric caeca.
**Colour:** Head and body silvery, darkened dorsally; scales on upper sides with brown blotches giving the effect of longitudinal bands; anal and caudal fins yellowish; pectoral fin wholly black in small fish.

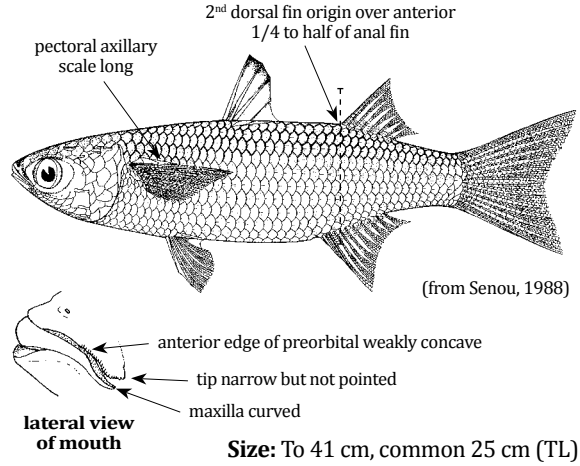



**Size:** To 63 cm, common 35 cm (TL)

***Moolgarda cunnesius*** (Valenciennes, 1836)

**FAO names:** Longarm mullet (En)
Mulet longue aile (Fr)

**Local name(s):** Let Tan Shae Ka Beluu.
**Habitat:** Coastal waters, juveniles in estuaries.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Snout moderately long and pointed, 4–5 in head length; maxilla slender, slightly curved tip usually not visible when mouth closed (true of all *Moolgarda* species); anal fin with 3 spines and 9 soft rays; scales with a membranous, digitated hind margin (true of all *Moolgarda* species); adipose eyefold usually as a rim around eye; both fins scaled only on anterior and basal parts; 37–43 (usually 38 or 39) scales in longitudinal series; 17–18 (rarely 15 or 16) scales in transverse series; 5–7 pyloric caeca; caudal fin emarginate.
**Colour:** Greenish grey dorsally; flanks and abdomen silvery; 2nd dorsal and anal fins with black margins.

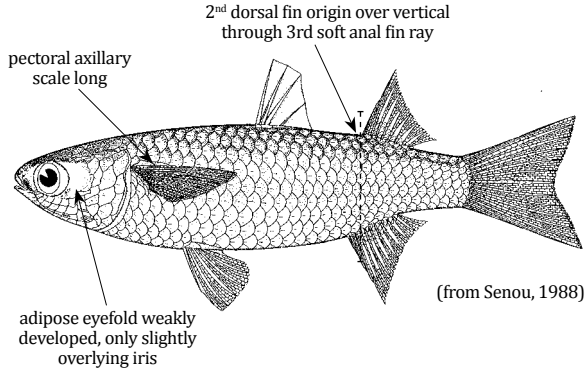



**Size:** To 41 cm, common 25 cm (TL)

## ***Moolgarda engeli*** (Bleeker, 1859)

**FAO names:** Kanda (En)
Mulet oeil de perdrix (Fr)

**Local name(s):** Kanda Ka Beluu.
**Habitat:** Shallow coastal waters and estuaries.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Snout short and blunt, 4.8–5.9 in head length; anal fin well scaled basally, 2nd dorsal fin only scaled anterobasally; 1st dorsal fin origin nearer to caudal fin base than to snout tip; anal fin with 3 spines and 9 (rarely 8) soft rays; thoracic and abdominal scales more distinctly ctenoid; 32–36 scales in longitudinal series; 10½–12½ scales in transverse series; 5–6 pyloric caeca; caudal fin emarginate.
**Colour:** Olive dorsally; flanks and abdomen silvery; fins hyaline; pectoral fins with dark spot dorsally at origin.



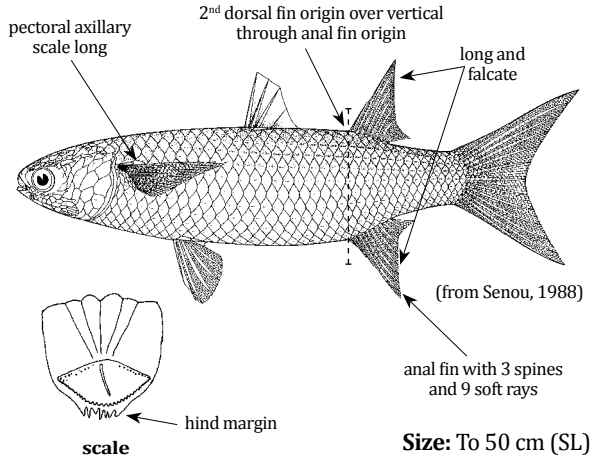

**Size:** To 30 cm, common 15 cm (TL)

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## ***Moolgarda pedaraki*** (Valenciennes, 1836)

**FAO names:** Falcate-fin mullet (En)
Mulet à queue bleue (Fr)

**Local name(s):** Suu Htaung Ka Beluu.
**Habitat:** Shallow coastal waters and estuaries.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Snout short and blunt, 5.6–7.1 in head length; origin of 2nd dorsal fin on vertical through anal fin origin, or only just posterior to it; both fins always well scaled basally and medially, and more or less scaled on distal parts; both fins long and falcate; 32–36 (rarely 37) scales in longitudinal series; 11–13 scales in transverse series; 6–7 pyloric caeca; caudal fin deeply emarginate.
**Colour:** Greenish dorsally; flanks and abdomen silvery; small gold patch on upper operculum and on iris; caudal fin bluish; pectoral fins yellow with dark blue spot dorsally at origin.
**Remarks:** *Valamugil buchanani* (Bleeker, 1853) is a synonym (Senou, 2002).



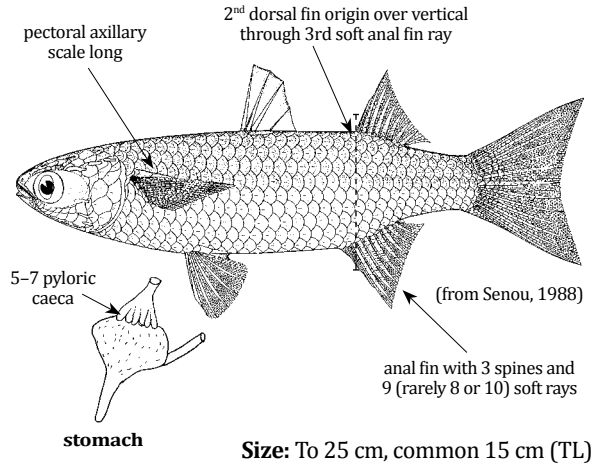

**Size:** To 50 cm (SL)

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## ***Moolgarda perusii*** (Valenciennes, 1836)

**FAO names:** Longfinned mullet (En)

**Local name(s):** Su Taung Shae Ka Beluu.
**Habitat:** Schooling in coastal waters and estuaries.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Similar to *Moolgarda engeli* but adipose eyefold covering most of iris posteriorly and partly anteriorly; both fins moderately to well scaled on all parts; predorsal scales extending to posterior nostril (vs to tip of snout in *M. engeli*); 31–34 (rarely 35) scales in longitudinal series; 10½–11½ scales in transverse series.
**Colour:** Greenish dorsally; flanks and abdomen silvery; gold opercular spot; fins dusky, particularly at margins; pectoral fins with dark spot dorsally at origin.

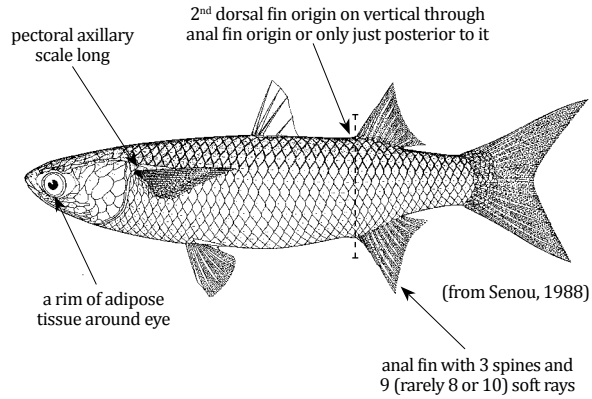



**Size:** To 25 cm, common 15 cm (TL)

## ***Moolgarda seheli*** (Forsskål, 1775)

**FAO names:** Bluespot mullet (En)
Mulet à tache bleue (Fr)

**Local name(s):** Pyar Set Ka Beluu.
**Habitat:** Brackish and fresh waters; spawns at sea.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Snout short and blunt, 4.5–5.6 in head length; origin of 2nd dorsal fin on vertical through anal fin origin, or only just posterior to it; both fins always well scaled basally and medially, and more or less scaled on distal parts; 36–42 (usually 38–40) scales in longitudinal series; 12–14 scales in transverse series; 6–9 pyloric caeca; caudal fin emarginate.
**Colour:** Greenish brown on back, silvery below; upper rows of scales with dusky spots; 2nd dorsal and caudal fins pale blue; pelvic, anal and 1st dorsal fin white, pectoral fins dull yellow with a blue axillary spot; upper lobe of caudal fin with a dark blue tip.

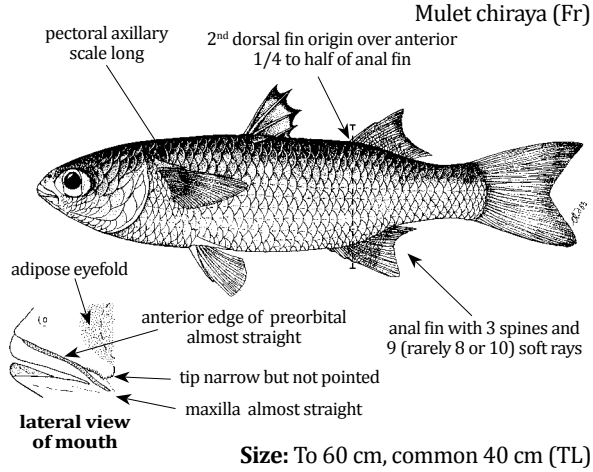



**Size:** To 60 cm, common 40 cm (TL)

## ***Moolgarda speigleri*** (Bleeker, 1858)

**FAO names:** Speigler's mullet (En)
Mulet chiraya (Fr)

**Local name(s):** Speigler Ka Beluu.
**Habitat:** Brackish and fresh waters; spawns at sea.
**Fisheries:** Bottom trawls, gillnets; seines.
**Distinctive Characters:** Similar to *Moolgarda cunnesius* but adipose eyefold covering iris posteriorly and partly anteriorly; maxilla and anterior edge of preorbital almost straight; both fins well scaled on all parts; 35–45 gill rakers of 1st gill arch (vs 62–75 in *M. cunnesius*); 37–41 scales in longitudinal series; 11–12 scales in transverse series; 4 pyloric caeca.
**Colour:** Greenish dorsally; flanks and abdomen silvery; 1st dorsal fin with black margin, other fins dusky; pectoral fins with dark spot dorsally at origin.

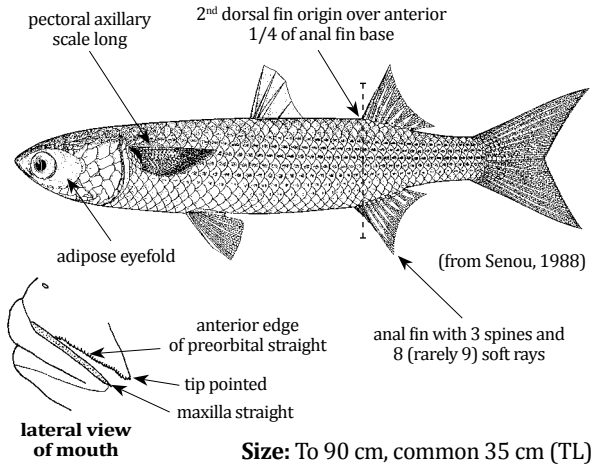



**Size:** To 60 cm, common 40 cm (TL)

## ***Mugil cephalus*** Linnaeus, 1758

**FAO names:** Flathead grey mullet (En)
Mulet à grosse tête (Fr)

**Local name(s):** Gaung Pyar Ka Beluu.
**Habitat:** Coastal waters and adjacent lagoons.
**Fisheries:** Bottom trawls, gillnets; seines.
**Distinctive Characters:** Maxilla and serrate anterior edge of preorbital straight; adipose eyefold covering most of the eye; both fins scaled only anterobasally; usually 38–42 scales in longitudinal series; 13–15 (rarely 16) scales in transverse series; 2 pyloric caeca; caudal fin deeply emarginate.
**Colour:** Olive-green on back, silvery on sides with 6–7 dark stripes following rows of scales (stripes less conspicuous ventrally); fins dusky; pectoral fins with a dark purple spot at origin and whitish margin.

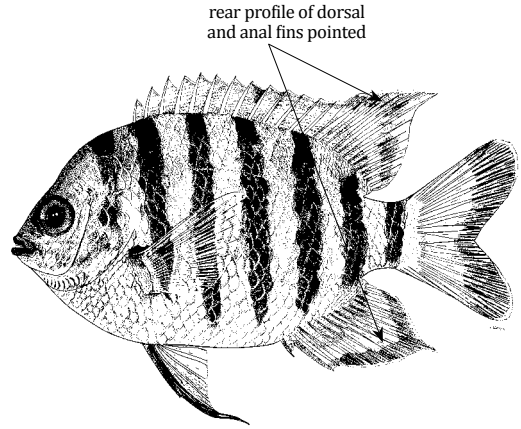



**Size:** To 90 cm, common 35 cm (TL)

# POMACENTRIDAE
Damselfishes

## *Abudefduf bengalensis* (Bloch, 1787)

**FAO names:** Bengal sergeant (En)

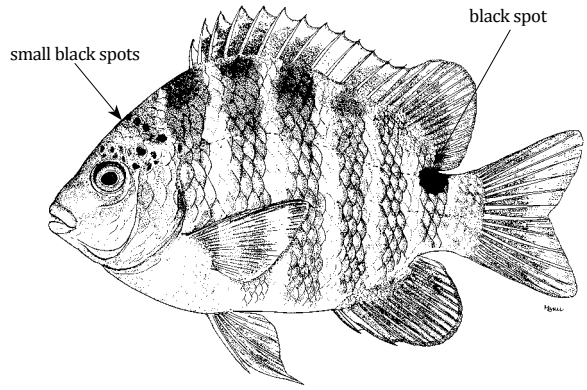



**Local name(s):** Bangalar Nga Kyarr Ma.
**Habitat:** Relatively sheltered coastal reefs and lagoons in shallow water (about 1–6 m depth).
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.6–2.0 in SL; hind margin of preopercle smooth; upper and lower edge of caudal fin base without projecting spiniform procurrent rays (these last two characters true of all *Abudefduf* species); dorsal fin with 13 spines and 13–15 (usually 14, occasionally 13) soft rays; anal fin with 2 spines and 13–14 rays; pectoral rays 16–20 (usually 18–19); 19–23 lateral line scales; 22–26 gill rakers on 1st gill arch; caudal fin tips rounded.
**Colour:** White with 6–7 relatively thin dark bars on head and body.

**Size:** To 17 cm (TL)

## *Abudefduf sordidus* (Forsskål, 1775)

**FAO names:** Blackspot sergeant (En)

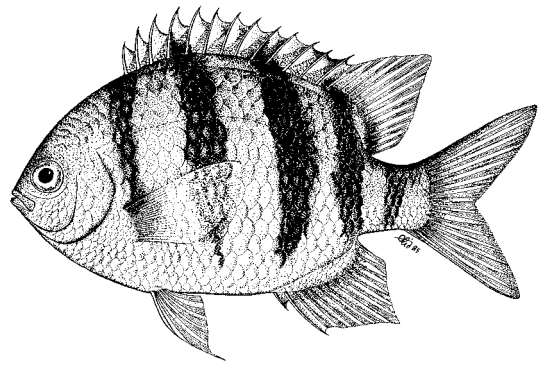



**Local name(s):** Hteik Me' Set Nga Kyarr Ma.
**Habitat:** Inhabit rocky lagoons, reef flat shorelines and piers subject to mild surge; juveniles common in tide pools.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.5–1.8 in SL; dorsal fin with 13 spines and 14–16 (usually 15) soft rays; anal fin with 2 spines and 13–15 rays; pectoral rays 18–20; 20–23 lateral line scales; 20–28 gill rakers on 1st gill arch.
**Colour:** Body pale, usually with 6–7 dark bars (sometimes the bars are obscured by a dense overlay of small dark spots all over the body); distinct black spot on upper surface of peduncle; dark spot at upper end of pectoral fin base; small black spots above and behind eye and across nape.

**Size:** To 24 cm (TL)

## *Abudefduf vaigiensis* (Quoy & Gaimard, 1825)

**FAO names:** Indo-Pacific sergeant (En)



**Local name(s):** Bae Line Kyar Nga Kyarr Ma.
**Habitat:** Adults inhabit upper edge of outer reef slopes and inshore rocky reefs.
**Fisheries:** Caught mainly with gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.5–1.8 in SL; dorsal fin with 13 spines and 12–14 soft rays; anal fin with 2 spines and 11–13 rays; pectoral rays 16–20; 19–23 lateral line scales; 23–33 gill rakers on 1st gill arch; caudal fin tips pointed.
**Colour:** Pale with 5 dark bars on body; head and back often with yellowish hue (especially during courtship and nesting).

**Size:** To 18 cm (TL)

***Chromis*** cf. ***gunting*** Arango, Pinheiro, Rocha, *et al*., 2019

**FAO names:** Scissors chromis (En)

**Local name(s):** Nga Kyarr Ma.

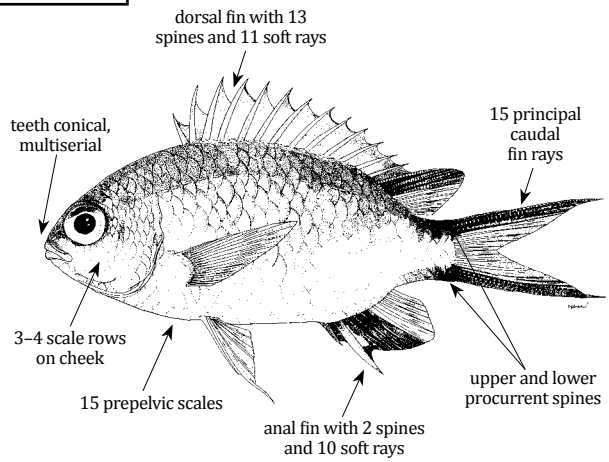
**Habitat:** Deeper coral and rocky reefs at depths of about 105 m.

**Fisheries:** Deep bottom trawls.

**Distinctive Characters:** Body depth 2.2 in SL; hind margin of preopercle smooth; head length (HL) 2.9 in SL; snout length 4.7 in HL; eye diameter 2.7 in HL; interorbital width 3.5 in HL; 19 pectoral fins rays; 17 lateral line scales; 6+18 gill rakers on 1st gill arch; suborbital scaly; 1½ and 7 scales above and below the lateral line, respectively; 14 circumpeduncular scales.

**Colour:** Body grey with dark brown streak along dorsal and ventral edge of caudal fin; anal fin dark brown except distal rays abruptly whitish.

**Remarks:** Morphometric and meristic differences with *C. gunting* may be due to intraspecific variability.




**Size:** To 11 cm (TL)

***Pristotis obtusirostris*** (Günther, 1862)

**FAO names:** Gulf damselfish (En)

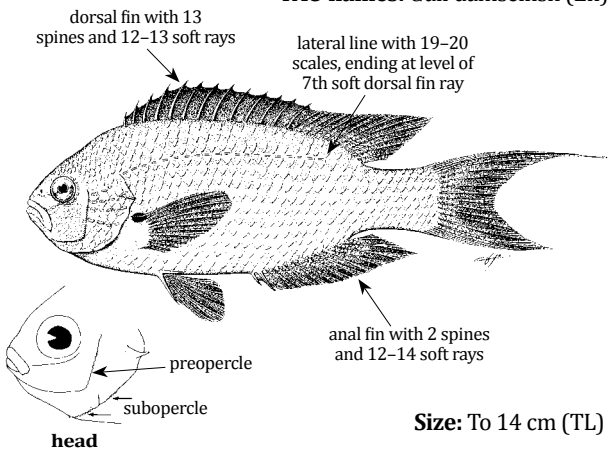
**Local name(s):** Pin Lae Kawe Nga Kyarr Ma.

**Habitat:** Flat sandy or rubble bottoms around patch reefs of lagoons and trawling grounds to depths of 80 m.

**Fisheries:** Caught mainly with bottom trawls.

**Distinctive Characters:** Body depth 2.5–2.8 in SL; teeth in jaws uniserial; hind margin of preopercle and subopercle serrate; upper and lower edge of caudal fin base without projecting spiniform procurrent rays; pectoral fins with 17–18 rays; 26–28 gill rakers on 1st gill arch.

**Colour:** Body pale grey to bluish dorsally, shading to whitish ventrally; a bluish black spot on upper base of pectoral fins; dorsal, anal and caudal fins yellowish.




**Size:** To 14 cm (TL)

## LABRIDAE
Wrasses

***Anampses caeruleopunctatus*** Rüppell, 1829

**FAO names:** Bluespotted wrasse (En)

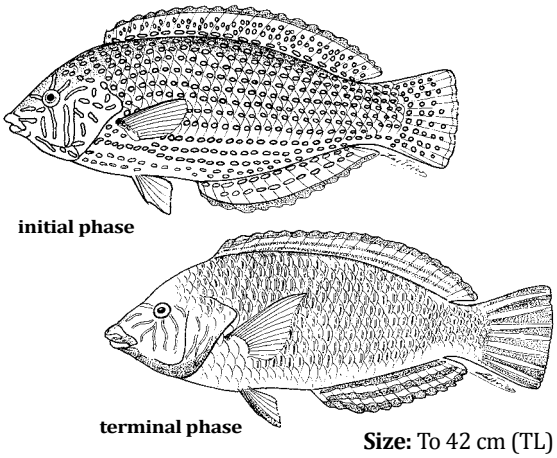
**Local name (s):** Set Pyauk Nga Thin Chaw.

**Habitat:** Sand-rubble bottoms near reefs of lagoons and seaward reefs in 2–30 m.

**Fisheries:** Line gear, gillnets.

**Distinctive Characters:** Body depth 2.3–3.0 in SL; dorsal fin with 9 spines and 12 soft rays; anal fin with 3 spines and 12 soft rays; a single pair of incisiform forward-projecting teeth at front of each jaw, remaining teeth in jaws minute or imperceptible; 18–21 gill rakers of 1st gill arch; 13 pectoral fin rays; lateral line complete, with 27 pored scales.

**Colour:** Initial phase body brownish with horizontal rows of small dark-edged bluish spots and blue margins; terminal phase greenish with dark-edged blue vertical streak on each scale on side, and yellowish bar just behind head.

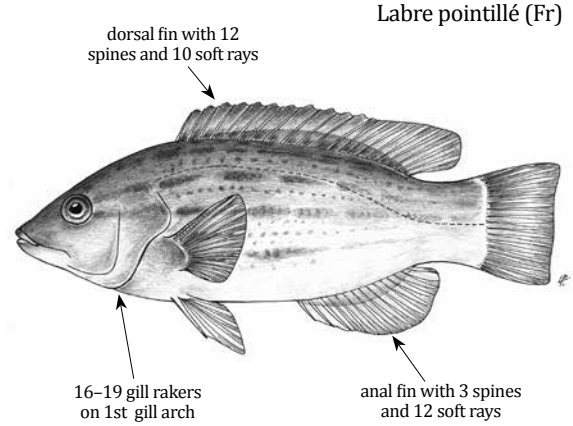



**Size:** To 42 cm (TL)

***Bodianus leucostictus*** (Bennett, 1831)

**FAO names:** Fourline hogfish (En)
Labre pointillé (Fr)

**Local name (s):** Lay Sin Nga Thin Chaw.
**Habitat:** Rock and coral drop-offs at depths > 50 m.
**Fisheries:** Line gear, gillnets, bottom trawls.
**Distinctive Characters:** Body depth 2.8–3.2 in SL; dorsal profile of head rather straight, the anterior tip of head forming an acute angle; jaws prominent; 4 strong canines situated anteriorly in each jaw; a large, curved canine present on each side at rear of upper jaw; 16 pectoral fin rays; lateral line complete with 29–30 pored scales.
**Colour:** Pinkish with 5 narrow reddish horizontal stripes and intervening rows of small spots on sides; stripes and spots superimposed with black in small individuals, reddish stripes broken in larger ones; a large black spot present on fleshy pectoral fin base in small individuals, base with a reddish band in larger ones.



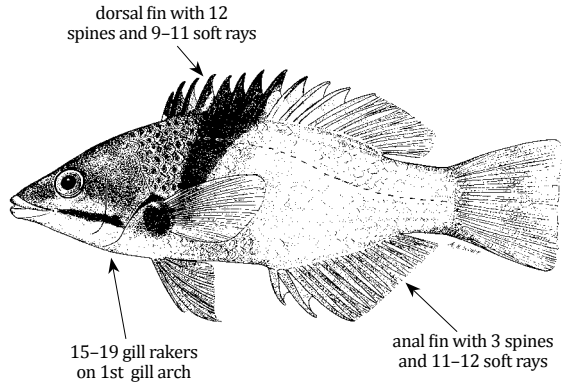

**Size:** To 28 cm (TL)

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***Bodianus mesothorax*** (Bloch & Schneider, 1801)

**FAO names:** Splitlevel hogfish (En)

**Local name (s):** Gote Me' Hmat Nga Thin Chaw.
**Habitat:** Outer reef slopes and passes in depths of 4–40 m.
**Fisheries:** Line gear, gillnets.
**Distinctive Characters:** Body depth 2.8–3.3 in SL; dorsal profile of head straight, the anterior tip of head forming an acute angle; jaws prominent; 4 strong canines situated anteriorly in each jaw; a large, curved canine present on each side at rear of upper jaw; 14–17 (usually 16) pectoral fin rays; lateral line complete with 29–32 pored scales.
**Colour:** Adults purplish anteriorly, white to yellowish posteriorly, with broad dark brown band separating the two regions; juveniles deep purple to nearly black with double row of large black-edged yellow spots.



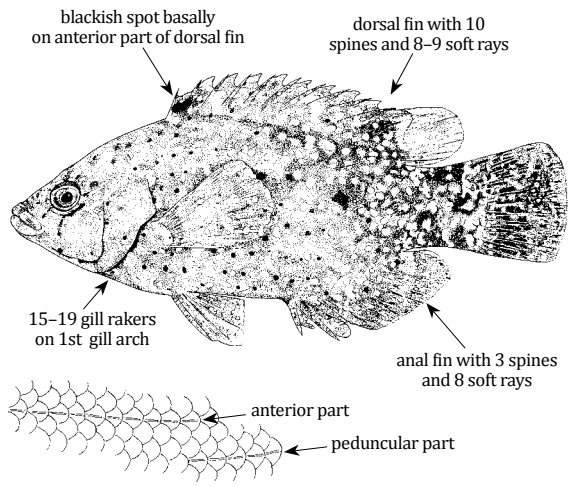

**Size:** To 20 cm (TL)

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***Cheilinus chlorourus*** (Bloch, 1791)

**FAO names:** Floral wrasse (En)

**Local name (s):** Yaung Sone Pann Nga Thin Chaw.
**Habitat:** Coral reefs and occasionally seagrass areas at depths of 1–30 m.
**Fisheries:** Line gear, gillnets.
**Distinctive Characters:** Body depth 2.4–2.8 in SL; dorsal profile of head convex in front of dorsal fin, then straight to tip of snout; 2 strong canines situated anteriorly in each jaw; no enlarged tooth present on each side at rear of upper jaw; caudal fin rounded in small fishes, the upper and lower rays forming elongate lobes in larger individuals; 12 pectoral fin rays; lateral line interrupted below posterior portion of dorsal fin base, with 14–16 pored scales in anterior portion and 6–9 in peduncular part.
**Colour:** Variable from greenish brown to deep reddish brown, usually flecked with white; reddish brown fins; each scale on sides usually with a blue or brown spot, spots extending onto dorsal and anal fins; dark brown blotches on sides.

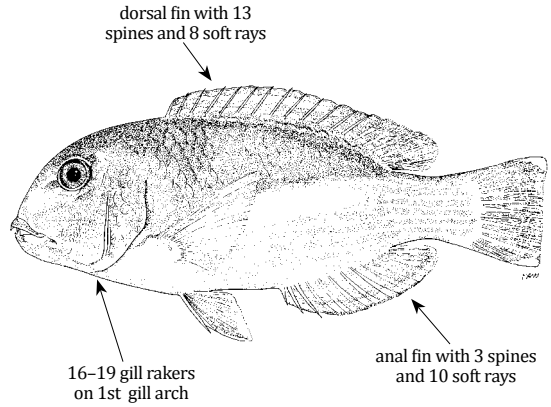



**Size:** To 45 cm (TL)

***Choerodon robustus*** (Günther, 1862)

**FAO names:** Robust tuskfish (En)
Maldague robuste (Fr)

**Local name (s):** Than Mar Nga Thin Chaw.
**Habitat:** Deeper coral and rocky reefs at depths of about 40–70 m.
**Fisheries:** Line gear, gillnets, bottom trawls.
**Distinctive Characters:** Body depth 2.4–2.6 in SL; dorsal profile of head convexly curved; anterior tip of head forming a broad angle with snout steeply inclined; jaws prominent; 4 strong canines situated anteriorly in each jaw with second pair in lower jaw directed laterally; a moderately small canine present on each side at rear of upper jaw; 16 pectoral fin rays; lateral line complete with 29 pored scales.
**Colour:** Reddish orange to pinkish brown on head and back, white to yellowish on sides and ventral surface; a diagonal brown line connecting pectoral fin base and posterior end of dorsal fin base; several horizontal rows of blue spots on caudal peduncle; head with 2 short blue lines passing through and beneath eye, respectively; chin blue.



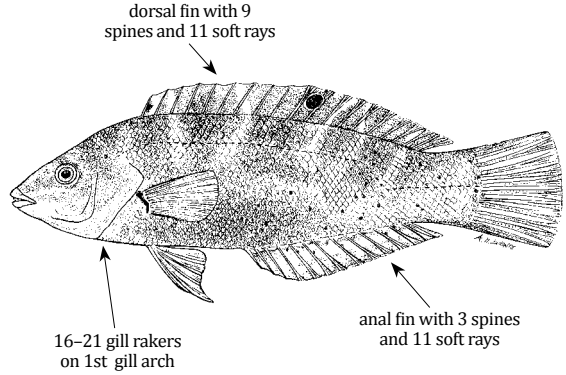

**Size:** To 35 cm (TL)

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***Coris batuensis*** (Bleeker, 1856)

**FAO names:** Batu coris (En)

**Local name (s):** Ba Tu Nga Thin Chaw.
**Habitat:** Sand-rubble bottoms near reefs of lagoons and seaward reefs in 2–30 m.
**Fisheries:** Line gear, gillnets.
**Distinctive Characters:** Body depth 3.0–3.8 in SL; dorsal profile of head gently curved; jaws prominent with 2 strong canines situated anteriorly in each jaw, following teeth slightly smaller; 1–2 separate canines on each side at rear of upper jaw; 13–15 pectoral fin rays; lateral line complete, with 51–53 pored scales.
**Colour:** Adults whitish to pale greenish with several dark bars on upper sides and ocellus marking on middle of dorsal fin; juveniles white anteriorly, grading to greenish with numerous reddish spots.



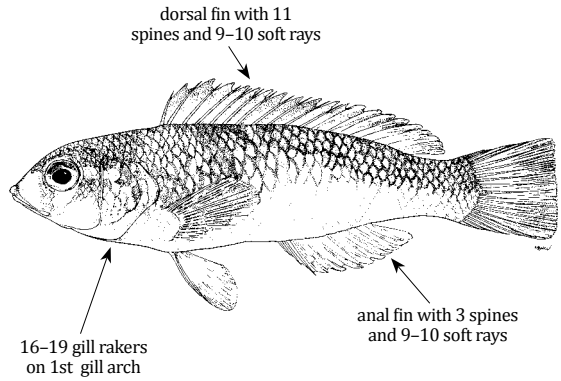

**Size:** To 17 cm (TL)

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***Decodon pacificus*** (Kamohara, 1952)

**FAO names:** Ten-tooth wrasse (En)

**Local name (s):** Thwar Sae Chaung Nga Thin Chaw.
**Habitat:** Deep reefs, to about 200 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body slender; dorsal profile of head convexly curved; anterior tip of head forming a broad angle with snout steeply inclined; 2 strong canines situated anteriorly in each jaw; 1–2 moderately small canines present on each side at rear of upper jaw; 16–17 pectoral fin rays; lateral line complete, with 29–31 pored scales.
**Colour:** Body pinkish red, paler below, with 5 red bands dorsally; bright yellow markings on snout and below eye.




**Size:** To about 20 cm (TL)

***Halichoeres argus*** (Bloch & Schneider, 1801)

**FAO names:** Argus coris (En)

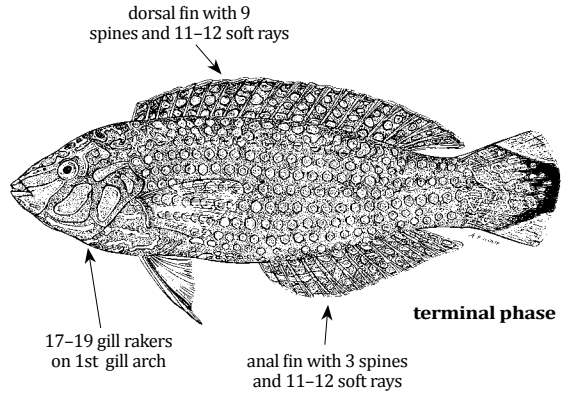
**Local name (s):** Set Pyauk Nga Thin Chaw.

**Habitat:** Seagrass and weed-covered reefs near shore in 1–5 m; usually in groups.

**Fisheries:** Line gear, gillnets.

**Distinctive Characters:** Body depth 2.8–3.4 in SL; 2 pairs of prominent canines situated anteriorly in each jaw; a large curved canine present on each side at rear of upper jaw; 14 pectoral fin rays; lateral line complete, with 27 pored scales.

**Colour:** Terminal phase reddish with light green spot on each scale of side, intricate pattern of curved pink, red, or orange bands on head, and often with dark margin on caudal fin. Initial phase with 5–6 white spots along back.




**Size:** To 11 cm (TL)

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***Halichoeres bicolor*** (Bloch & Schneider, 1801)

**FAO names:** Brown-striped wrasse (En)

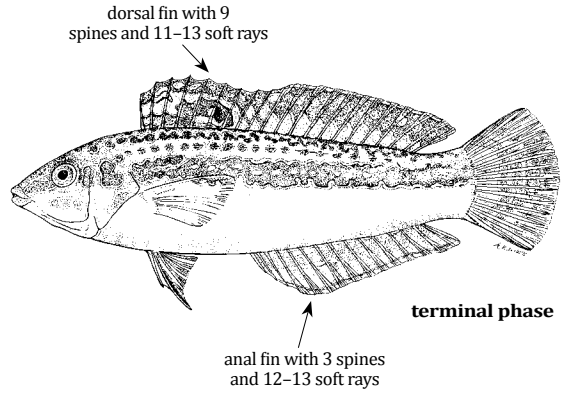
**Local name (s):** Nga Thin Chaw A Nyo Sin.

**Habitat:** Silty sand and mud bottoms near coastal reefs in 3–20 m.

**Fisheries:** Line gear, gillnets.

**Distinctive Characters:** Body depth 3.7–4.0 in SL; snout pointed; anterior teeth in upper and lower jaws enlarged to form canines; 13–15 pectoral fin rays; lateral line complete, with 27–28 pored scales.

**Colour:** Terminal phase white with pair of dark brown stripes, midlaterally and dorsally, often with black spot on middle of dorsal fin (disappears or is faded in large fish); smaller black spot on upper caudal fin base. Initial phase similar, but with narrower midlateral stripe.




**Size:** To 12 cm (TL)

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***Halichoeres leucoxanthus*** Randall & Smith, 1982

**FAO names:** Lemon Wrasse (En)

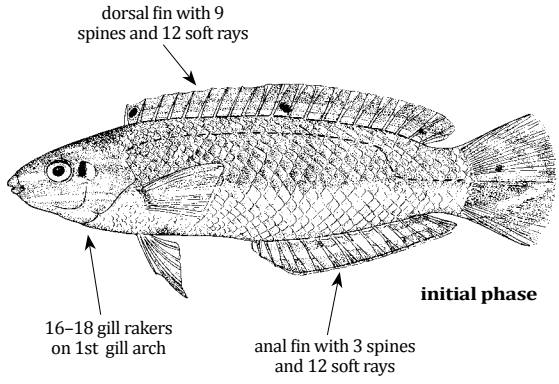
**Local name (s):** Than Pa Yar Nga Thin Chaw.

**Habitat:** Sand-rubble fringe of coral reefs usually in 20–40 m; in small groups

**Fisheries:** Line gear, gillnets.

**Distinctive Characters:** Body depth 3.5–3.9 in SL; dorsal profile of head slightly convex; jaw prominent; a single pair of prominent canines situated anteriorly in each jaw; a large curved canine present on each side at rear of upper jaw; 13 pectoral fin rays; lateral line complete, with 27 pored scales.

**Colour:** Terminal phase bright yellow above, lower half of body white; single black spot at front of dorsal fin and faint orange bands on head, breast and median fins. Initial phase similar, but with 3 black spots on dorsal fin.




**Size:** To 11 cm (TL)

***Halichoeres timorensis*** (Bleeker, 1852)

**FAO names:** Timor wrasse (En)

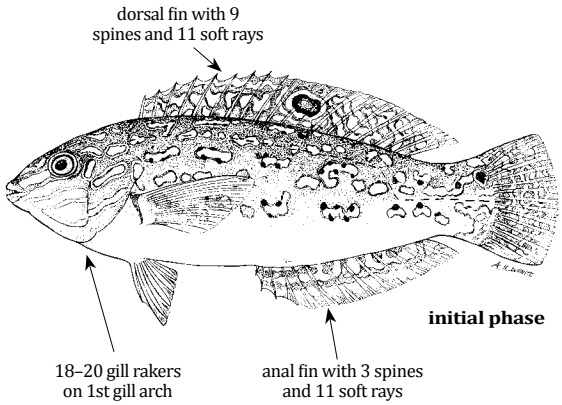
**Local name (s):** Timor Nga Thin Chaw.

**Habitat:** Coral and rocky reefs dominated by algal and soft coral growth in 5–15 m.

**Fisheries:** Line gear, gillnets.

**Distinctive Characters:** Body depth 3.1–3.5 in SL; a large curved canine present on each side at rear of upper jaw; lower jaw with 2 pairs of large slightly recurved canines anteriorly; 13 pectoral fin rays; lateral line complete, with 27–28 pored scales.

**Colour:** Terminal phase pale greenish with orange and green bands on head, short orange stripes and bars, as well as clusters of black spots on side, and orange bands on median fins. Initial phase similar, but with pale-edged black spot at middle of dorsal fin and smaller black spot on upper caudal fin base.




**Size:** To 12 cm (TL)

***Hemigymnus fasciatus*** (Bloch, 1792)

**FAO names:** Barred thicklip (En)
Tamarin à bandes noires (Fr)

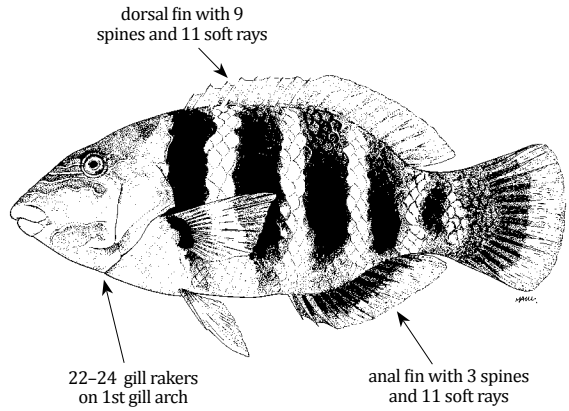
**Local name (s):** Bae Sin Gyi Nga Thin Chaw.

**Habitat:** Coral reefs and reef flats at depths to at least 20 m.

**Fisheries:** Line gear, gillnets.

**Distinctive Characters:** Body depth 2.3–2.6 in SL; dorsal profile of head only slightly convex; head forming an acute angle; jaws prominent though mouth small, with a pair of protruding canine teeth in jaws; lips large and fleshy, the lower lips split on the midline forming 2 lobes; a broad canine present at each side at rear of upper jaw; 13–14 pectoral fin rays; lateral line complete, with 27–28 pored scales.

**Colour:** Body with 5 large, broad black vertical bars with narrow white interspaces; head greenish above, yellowish below, with several blue-edged pink to orange bands; dorsal fin brown with bluish stripes and spots; anal fin black, with several blue stripes; caudal fin brown. Small individuals similar with yellow bars on body continued as yellow bars on dark head.




**Size:** To 50 cm (TL)

***Iniistius bimaculatus*** (Rüppell, 1829)

**FAO names:** Two-spot razorfish (En)

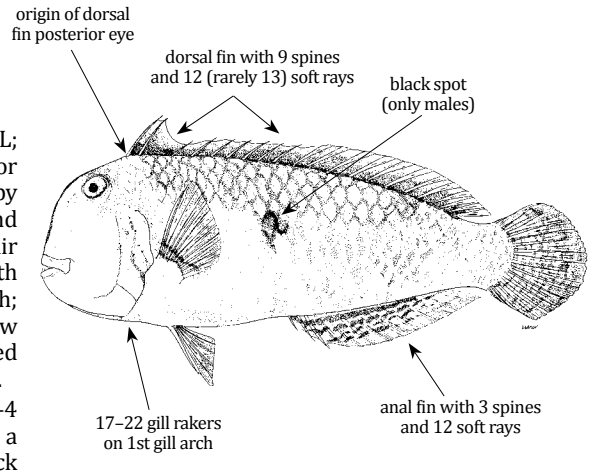
**Local name (s):** Mae Hnit Set Nga Thin Chaw.

**Habitat:** Sandy bottoms, at depths to at least 50 m.

**Fisheries:** Line gear, gillnets, bottom trawls.

**Distinctive Characters:** Body depth 2.6–3.1 in SL; snout very steep, almost vertical in adults, the anterior edge a sharp ridge; first 2 dorsal spines joined by membrane to rest of fin (though deeply incised) and closer together than remaining spines; a single pair of long, slender, recurved, and slightly ouflaring teeth anteriorly in jaws; no canine at corner of mouth; 12 pectoral fin rays; lateral line interrupted below posterior portion of dorsal fin base, with 19–20 pored scales in anterior portion and 4–5 in peduncular part.

**Colour:** Grey dorsally, yellow-white ventrally, with 3–4 poorly defined broad, dark vertical bars on sides; a prominent black spot behind pectoral fin (females lack spot).

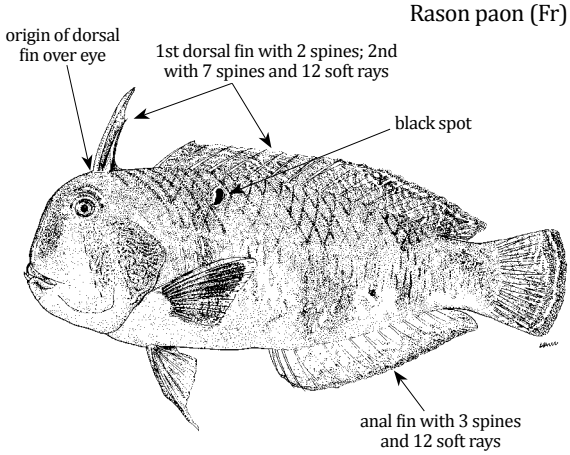



**Size:** To 20 cm (TL)

***Iniistius pavo*** (Valenciennes, 1840)

**FAO names:** Pavo razorfish (En)
Rason paon (Fr)

**Local name (s):** Suu Gyo Taung Nga Thin Chaw.
**Habitat:** Sandy bottoms, at depths of 7 to at least 30 m.
**Fisheries:** Line gear, gillnets, bottom trawls.
**Distinctive Characters:** Body deep and strongly compressed; snout very steep, almost vertical in adults, the anterior edge a sharp ridge; membrane between 2nd and 3rd dorsal fin spines fully separate and closer together than remaining spines; a single pair of long, slender, recurved, and slightly ouflaring teeth anteriorly in jaws; no canine at corner of mouth; 12 pectoral fin rays; lateral line interrupted below posterior portion of dorsal fin base, with 20–22 pored scales in anterior portion and 4–5 in peduncular part.
**Colour:** Grey dorsally, yellow-white ventrally, with 3–4 poorly defined broad, dark vertical bars on sides; adults with a prominent blue-edged black spot immediately above lateral line.

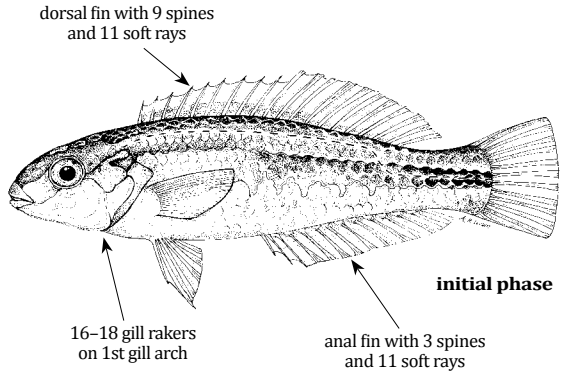



**Size:** To 35 cm (TL)

***Leptojulis chrysotaenia*** Randall & Ferraris, 1981

**FAO names:** Ochreband wrasse (En)

**Local name (s):** Thit Khwa Nga Thin Chaw.
**Habitat:** Sand slopes with scattered coral outcrops in 15–30 m; solitary or in small groups.
**Fisheries:** Line gear, gillnets.
**Distinctive Characters:** Body depth 3.7–4.0 in SL; dorsal profile of head evenly convex, the snout forming an average angle of 45° to horizontal axis of body; anterior canine teeth not strongly forward-projecting; 12–13 pectoral fin rays; lateral line continuous, with 27 pored scales.
**Colour:** Seldom seen terminal phase with lime green head marked with pinkish bands, greenish brown on back, shading to lime green below with irregular pinkish orange bars and reddish median fins. Initial phase pale grey to whitish with mid-lateral orange stripe, becoming brownish posteriorly.

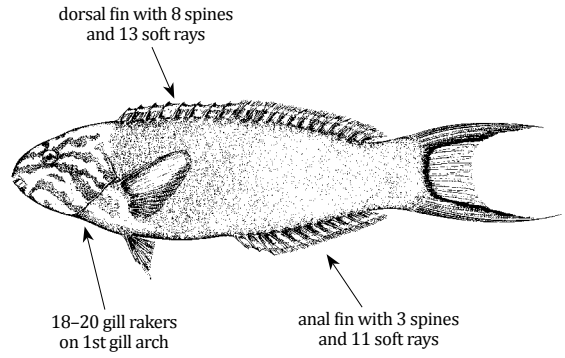



**Size:** To 11 cm (TL)

***Thalassoma lunare*** (Linnaeus, 1758)

**FAO names:** Moon wrasse (En)
Girelle verte (Fr)

**Local name (s):** La Chan A Hmee Nga Thin Chaw.
**Habitat:** coral and rock reefs at depths of 1–20 m.
**Fisheries:** Line gear, gillnets.
**Distinctive Characters:** Body depth 3.1–3.7 in SL; dorsal profile of head slightly convex; anterior tip of head forming an acute angle; jaws prominent, though mouth small; 2 prominent canines anteriorly in each jaw; no enlarged tooth at rear of upper jaw; 15 pectoral fin rays; lateral line complete, with 25 pored scales.
**Colour:** Bright green to blue with a vertical red band on each scale and several, mostly horizontal, prominent, red or purple lines on head; caudal fin green to blue basally and extending along upper and lower edges with a pink stripe directed toward each corner; midposterior portion of fin clear to yellow; pectoral fins blue with a prominent pink stripe from base to tip just below upper edge; small individuals greenish brown on upper half of body, blue-white below with narrow pale bars on back and a black spot on middle of dorsal fin.

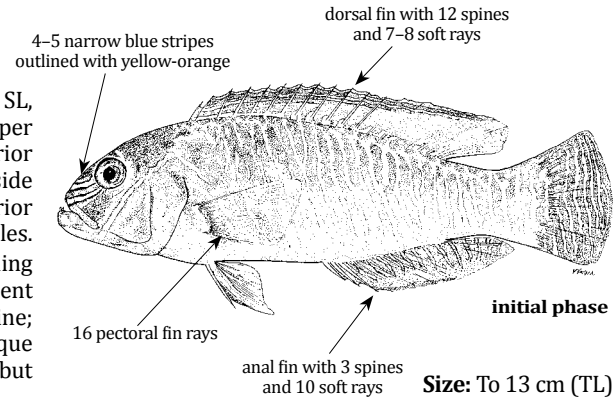



**Size:** To 25 cm (TL)

***Xiphocheilus typus*** Bleeker, 1856

**FAO names:** Bluebanded wrasse (En)

**Local name (s):** Hnar Pyar Sin Nga Thin Chaw.
**Habitat:** Coral reefs at depths of 35–85 m.
**Fisheries:** Line gear, gillnets, bottom trawls.
**Distinctive Characters:** Body depth 3.4–3.5 in SL, dorsal profile of head convex; jaws prominent, upper jaw with 2 widely separated prominent anterior canines; 1–2 large, curved canines present on each side of rear of upper jaw; lower jaw also with 2 large anterior canines; lateral line complete, with 27–29 pored scales.
**Colour:** Initial phase olivaceous above, becoming orange or pink below; a broad blackish band present dorsally on side below about sixth dorsal fin spine; sides with numerous narrow evenly spaced oblique blue bands. Terminal phase similar in colouration but generally lacking blue bands on body.

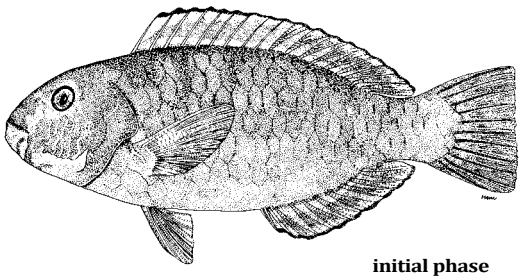


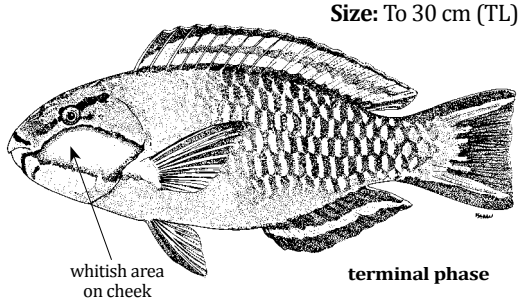

**Size:** To 13 cm (TL)

## SCARIDAE
Parrotfishes

***Chlorurus bleekeri*** (de Beaufort, 1940)

**FAO names:** Bleeker's parrotfish (En)
Perroquet joue blanche (Fr)
**Size:** To 30 cm (TL)

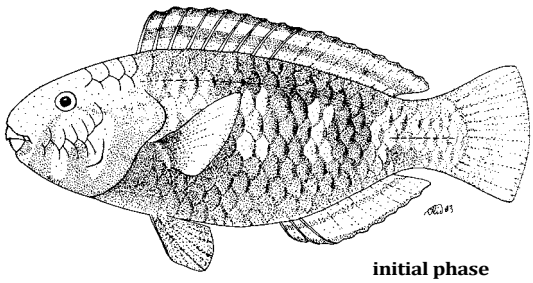


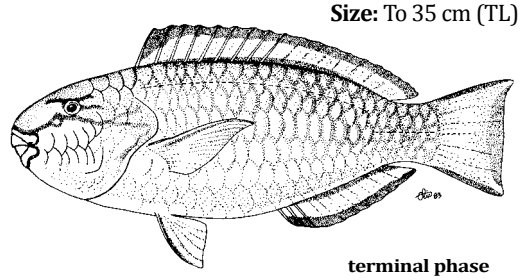




**Local name(s):** Balikar Nga Kyet Tu Yway.
**Habitat:** Sheltered coastal reefs, lagoons, and outer slopes in depths of 3–35 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 5–7 (usually 6) median predorsal scales; 2 rows of scales on cheek; 15 pectoral fin rays.
**Colour:** Initial phase dark brown with 3–4 broad pale bars. Terminal phase greenish, with pink scale edges, green central zone and outer margins on tail; large rectangular whitish area on cheek.

***Chlorurus capistratoides*** (Bleeker, 1847)

**FAO names:** Palecheek parrotfish (En)
Perroquet à jove pâle (Fr)
**Size:** To 35 cm (TL)

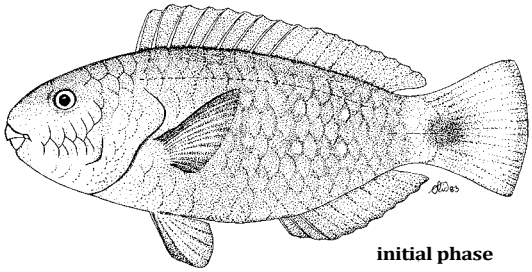


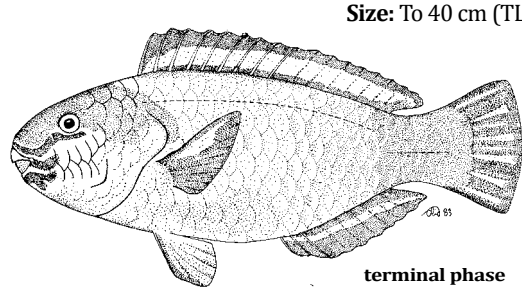

**Local name(s):** Mae Yaung Phyort Nga Kyet Tu Yway.
**Habitat:** Coral reefs at depths of 5–15 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 4 (occasionaly 3) median predorsal scales; 2 rows of scales on cheek; 15 (occasionaly 14) pectoral fin rays.
**Colour:** Initial phase with 4–5 withish bars and yellowish outer margin of pectoral fin, and pinkish tail. Terminal phase blue-green on back with pinkish streak on each scale of upper side, yellowish pectoral fin base, red anterior margin on pectoral fin, bluish green band around mouth and eye, and pale cheek.

***Clorurus sordidus*** (Forsskål, 1775)

**FAO names:** Daisy parrotfish (En)
Perroquet marguerite (Fr)
**Size:** To 40 cm (TL)



initial phase



terminal phase

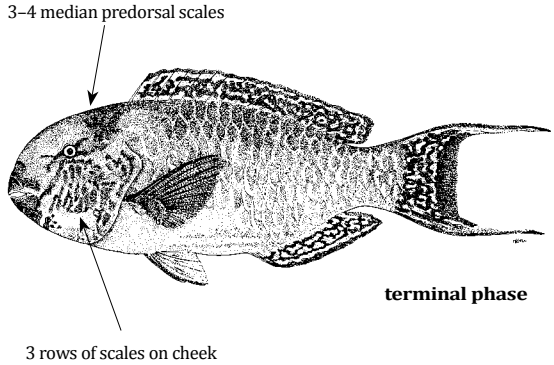
**Local name(s):** Daisy Nga Kyet Tu Yway.
**Habitat:** Coral reefs at depth of 1–30 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 4 median predorsal scales; 2 rows of scales on cheek; 15 (occasionaly 14) pectoral fin rays.

**Colour:** Initial phase uniformly dark or with 2 rows of 4 or 5 pale spots and/or pale caudal peduncle with dark central spot. Terminal phase overall greenish blue with rose pink to lavender scale edges, pinkish purple bands around mouth and eye, pale cheek and light green caudal fin base.

***Chlorurus strongylocephalus*** (Bleeker, 1855)

**FAO names:** Indian Ocean steephead parrotfish (En)

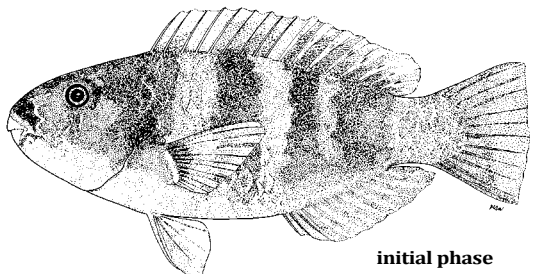
**Local name:** Gaung Mauk Nga Kyet Tu Yway.
**Habitat:** Coral reefs, primarily on exposed reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Characteristic steep dorsal profile; median predorsal scales 3–4; scales rows on cheek 3; pectoral fin rays 15–17 (usually 16).
**Colour:** Initial phase yellowish green dorsally, becoming red on sides and ventrally; edge of lips with a broad blue-green band. Terminal phase body green, the scales with a vertical lavender pink bar, shading dorsoanteriorly to lavender grey and to lavender-blue on snout; broad green band of upper lip continuing diffusely to eye; 3 narrow green bands diverging posteriorly from eye; cheek below green band yellow, shading ventrally to light green.



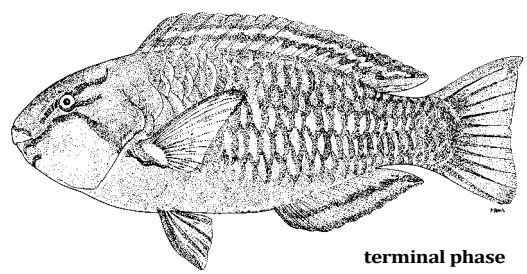

**Size:** To 70 cm (TL)

***Chlorurus troschelii*** (Bleeker, 1853)

**FAO names:** Troschel's parrotfish (En)
**Size:** To about 35 cm (TL)



initial phase

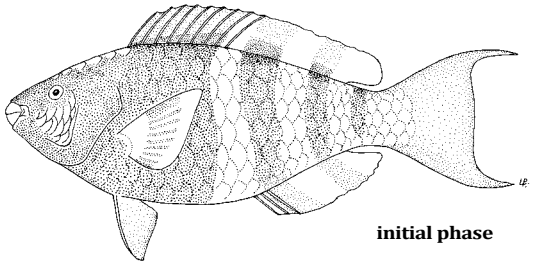


terminal phase

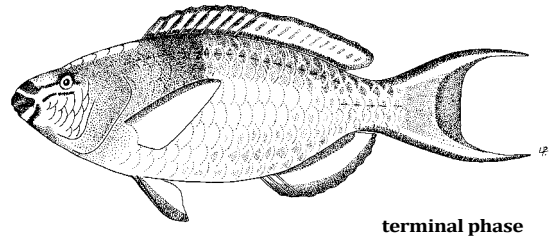
**Local name(s):** Tro Chel Nga Kyet Tu Yway.
**Habitat:** Coral reefs, mainly on seaward reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 5–7 median predorsal scales; 2 rows of scales on cheek; 15 pectoral fin rays.
**Colour:** Initial phase with 3–4 alternating black and white bars on body. Terminal phase bluish on anterodorsal and ventral parts of body, pale green of posterior side with pinkish scale edges, pale area on cheek bordered dorsally by a green line which is absent or indistinct ventrally (in *Chlorurus bleekeri* this area is entirely bordered by a green line), a bluish band from snout to eye.

***Scarus caudofasciatus*** (Günther, 1862)

**FAO names:** Redbarred parrotfish (En)
Perroquet à bandes rouges (Fr)
**Size:** To about 50 cm (TL)



initial phase

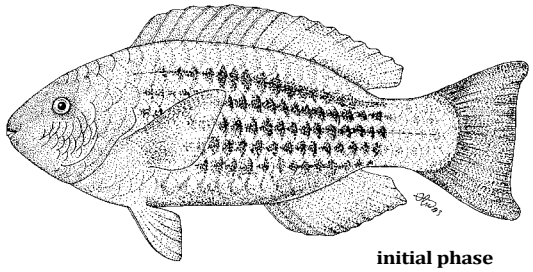


terminal phase

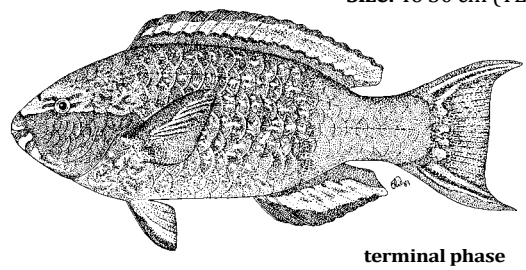
**Local name(s):** Ni Sinn Nga Kyet Tu Yway.
**Habitat:** Coral reefs, mainly on seaward reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 5–6 median predorsal scales; 3 rows of scales on cheek; 15–16 pectoral fin rays.
**Colour:** Initial phase dark brown, almost black with 4 pinkish-white bars (3 on posterior half of body, 4th on caudal peduncle). Terminal phase blue-green dorsally with pinkish scale margins; a green stripe anterior to eye and continued for short distance behind eye; blue-green markings on snout, lips and around orbit; dorsal and anal fins reddish pink with blue margin; dark-edged pinkish streak on each caudal fin lobe

***Scarus frenatus*** Lacepède, 1802

**FAO names:** Bridled parrotfish (En)
Perroquet à six bandes (Fr)
**Size:** To 50 cm (TL)



initial phase

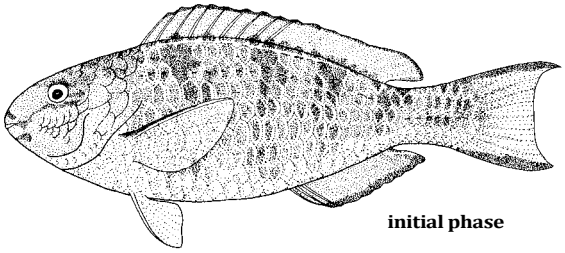


terminal phase

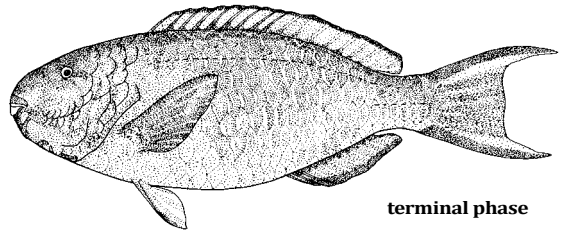
**Local name(s):** Zet Kyo Nga Kyet Tu Yway.
**Habitat:** Coral reefs, on shallow exposed reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 6–7 median predorsal scales; 3 rows of scales on cheek; 14–15 (usually 14) pectoral fin rays.
**Colour:** Initial phase characterized by 6 dark lines on posterior flank and brick red fins. Terminal phase characterized by abruptly green region posteriorly over body, caudal peduncle and caudal fin.

***Scarus ghobban*** Forsskål, 1775

**FAO names:** Blue-barred parrotfish (En)
**Size:** To 75 cm (TL)



initial phase

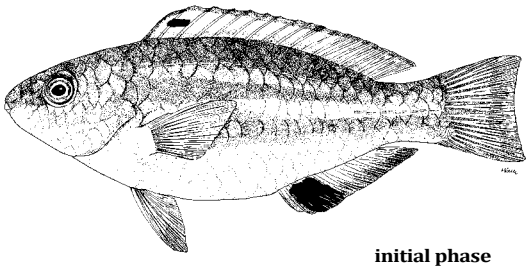


terminal phase

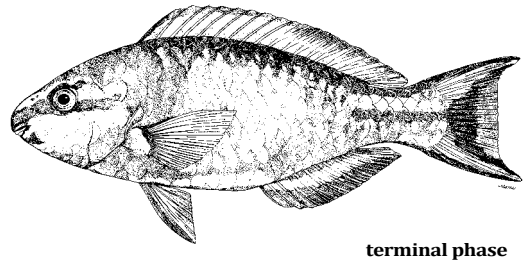
**Local name(s):** Pyar Sin Nga Kyet Tu Yway.
**Habitat:** Shallow reefs, on flats and reef fronts.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 6 median predorsal scales; 3 rows of scales on cheek; 15–16 (usually 15) pectoral fin rays.
**Colour:** Initial phase characterized by 4–5 diffuse dark bars on yellow body. Terminal phase bluish green with salmon-pink scale margins; a broad irregular green band from corner of mouth across lower part of head linked with 2 blue-green bands on chin; edge of upper lips salmon pink with a broad green band above; dorsal fin salmon-pink with blue-green margin.

***Scarus maculipinna*** Westneat, Satapoomin & Randall, 2007

**FAO names:** Spot fin parrotfish (En)
**Size:** To about 25 cm (TL)



initial phase

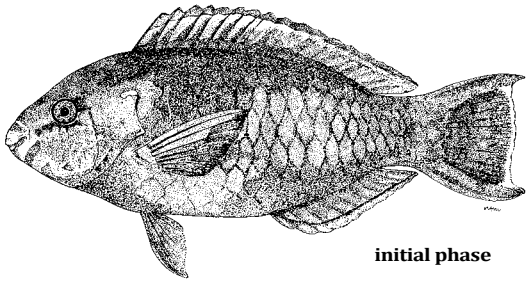


terminal phase

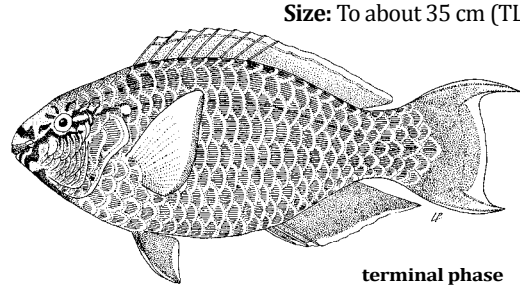
**Local name(s):** Hmee Set Nga Kyet Tu Yway.
**Habitat:** Primarily on reef crest and slope habitats.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 4 median predorsal scales; 3 rows of scales on cheek; 14 pectoral fin rays.
**Colour:** Initial phase brown above, pale to white below; 2 white stripes extending from behind eye to caudal peduncle, often a third white line below dorsal fin; a distinctive black spot on anal and second dorsal spine. Terminal phase complexly colored in blue-green, pink, and yellow, with dark saddle extending from postorbital region to 4th dorsal spine and slanting anteroventrally to just behind pectoral fin base; head with a broad green stripe on snout that divides to form a branch through upper eye, extending a short distance beyond, a branch through lower eye, extending on to opercle.

***Scarus niger*** Forsskål, 1775

**FAO names:** Dusky parrotfish (En)
Perroquet dorade (Fr)
**Size:** To about 35 cm (TL)



initial phase



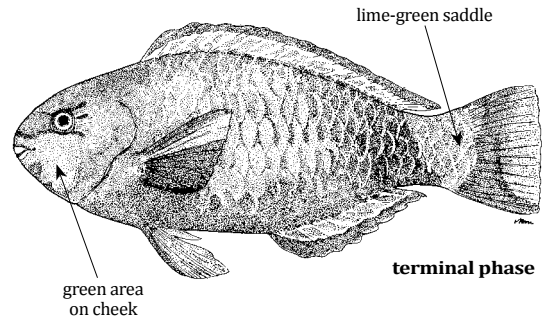
terminal phase

**Local name(s):** Me' Hmaun Nga Kyet Tu Yway.
**Habitat:** Occurs on exposed and sheltered reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 6–8 (usually 7) median predorsal scales; 3 rows of scales on cheek; 13–15 pectoral fin rays.
**Colour:** Initial phase and terminal phase similar with uniformly dark body and bright green dot at top end of line from mouth through eye to top of opercular opening.

***Scarus quoyi*** Valenciennes, 1840

**FAO names:** Quoy's parrotfish (En)

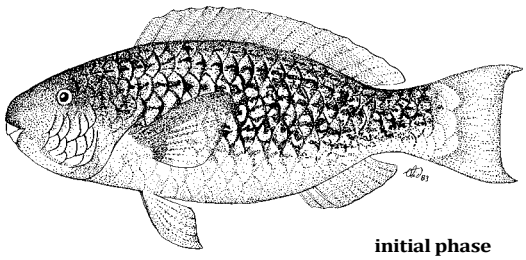
**Local name:** Kwaye Nga Kyet Tu Yway.
**Habitat:** Shallow coral reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 6 median predorsal scales; 3 scales rows on cheek; 14 pectoral fin rays.
**Colour:** Initial and terminal phase phase greenish to purplish or bluish; sometimes a pinkish area on pectoral fin region; usually a lime-green saddle on upper caudal fin base; broad green band on upper lip; distinctive green patch on cheek.



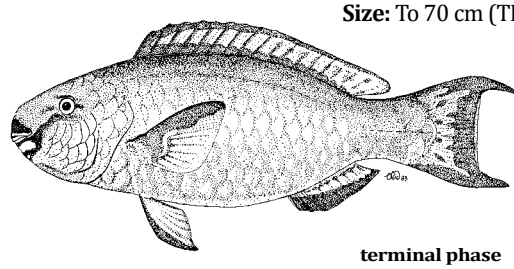

**Size:** To 30 cm (TL)

***Scarus rubroviolaceus*** Bleeker, 1849

**FAO names:** Ember parrotfish (En)
Perroquet braisé (Fr)
**Size:** To 70 cm (TL)



initial phase

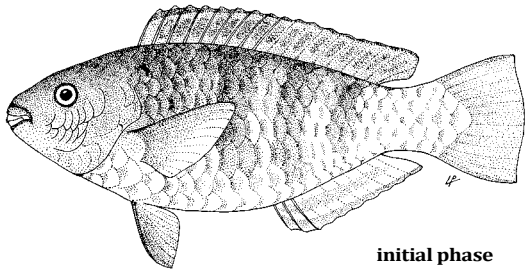


terminal phase

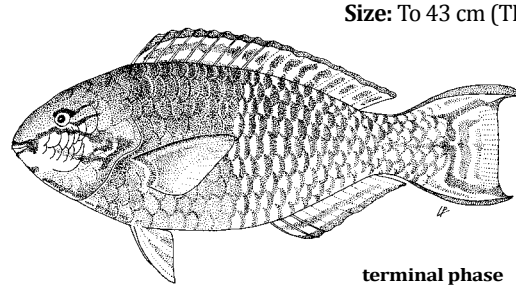
**Local name(s):** Pa Yin Yaung Nga Kyet Tu Yway.
**Habitat:** Coral reefs, on shallow exposed reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 6 median predorsal scales; 3 rows of scales on cheek; 14–16 (usually 15) pectoral fin rays; both phases with characteristic truncate snout.
**Colour:** Initial phase reddish brown to grey with dark irregular markings and white flecks on body. Terminal phase with brownish to dark green head and anterior body and light green posterior body.

***Scarus russelii*** Valenciennes, 1840

**FAO names:** Eclipse parrotfish (En)
Perroquet éclipse (Fr)
**Size:** To 43 cm (TL)



initial phase

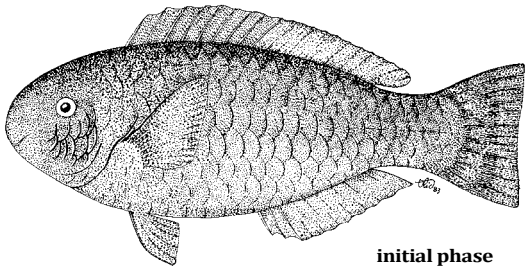


terminal phase

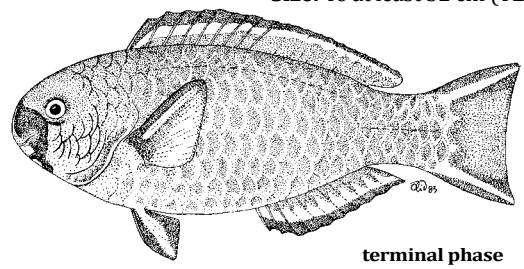
**Local name(s):** La Chann Nga Kyet Tu Yway.
**Habitat:** Shallow coral reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 4 median predorsal scales; 2 rows of scales on cheek; 13–15 pectoral fin rays.
**Colour:** Initial phase reddish brown on anterior half of body with an orange-red bar on each scale and faint dark bars posteriorly on body; lips dull red-orange, edged with dull blue-green. Terminal purplish on head and anterior half of body, green posteriorly with scales rimmed with salmon-pink; lower cheek with an area of dull yellow; upper lip bright blue-green and salmon; lower lip edged in bright blue-green, joining upper lip band and continuing as a band beneath and adjacent to orbit onto opercle; deep blue-green band rimming upper orbit; pectoral fin reddish.

***Scarus viridifucatus*** (Smith, 1956)

**FAO names:** Roundhead parrotfish (En)
Perroquet tête ronde (Fr)
**Size:** To at least 32 cm (TL)



initial phase



terminal phase

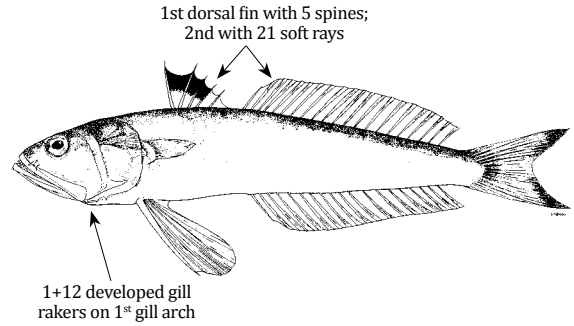
**Local name(s):** Gaung Lone Nga Kyet Tu Yway.
**Habitat:** Shallow coral reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** 3–5 median predorsal scales; 3 rows of scales on cheek; 13–15 pectoral fin rays.
**Colour:** Initial phase dark brown, sometimes with 5 faint irregular pale bars on body. Terminal phase body greenish, the scales rimmed with salmon pink; head dull green, shading to orangish ventrally, with a large area of brilliant blue-green shading to almost white centrally on side of snout extending onto chin.

# CHAMPSODONTIDAE
Gapers

***Champsodon longipinnis*** Matsubara & Amaoka, 1964

**FAO names:** Longfin crocodile toothfish (En)

**Local name(s):** Suu Shae Me Chaung Thwar Nga.
**Habitat:** Soft bottoms to depths of 267 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Snout length greater than eye diameter; premaxilla only shallowly notched lateral to symphysis; eye with dark posterodorsal cirrus split into two to four branches; breast, belly, and sides completely scaled; small fleshy tabs of skin in lower fold of eye; pectoral fin legth 8.3–8.7 in SL.
**Colour:** Body dark brown dorsally, with large, irregularly shaped dark blotches on sides; distal two thirds of spinous dorsal fin black; caudal fin base and tips of lobes dark brown; other fins pale.



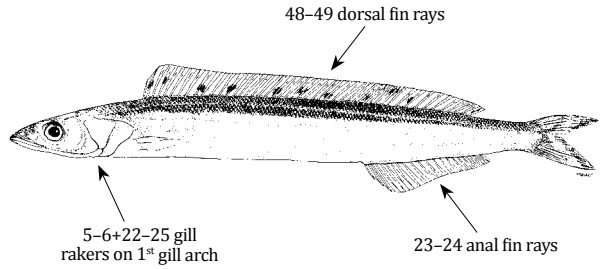

**Size:** To 11 cm (SL)

# AMMODYTIDAE
Sandlances

***Ammodytoides*** cf. ***xanthops*** Randall & Heemstra, 2008

**FAO names:** Yellow face sandlance (En)

**Local name(s):** Nga Hlan Htan Gaung Warr.
**Habitat:** Benthopelagic; depth range 26–62 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Body depth 8.4–10 in SL; eye diameter 6.9–7.2 in SL; teeth absent in both jaws; no small scales dorsally on opercle; no pelvic fin; 106–112 lateral line scales.
**Colour:** Purplish grey dorsally, pale silvery blue on sides and ventrally; yellow on interorbital and most of head anterior to eye; dusky on front of snout and tip of lower jaw; a series of black spots at base of dorsal fin; no black dots in fins; caudal fin with a broad blackish posterior border.
**Remarks:** Inclusion based on photographic record.

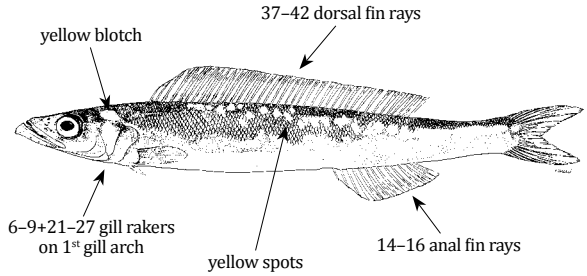



**Size:** To 15 cm (SL)

***Bleekeria mitsukurii*** Jordan & Evermann, 1902

**FAO names:** Mitsukuri's sandlance (En)

**Local name(s):** Nga Hlan Htan Mae Kwet.
**Habitat:** Benthopelagic; depth range 56–217 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Head length 3.5–4.0 in SL; eye diameter 4.7–5.7 in head length; very fine conical teeth on jaws; scales weakly ctenoid; pelvic fin vestigial, with 5 rays, about 20 in SL; 114–121 lateral line scales; 3½–4 scale rows above and 17–19 below lateral line; 26–30+23–26 vertebrae; 14–15 pectoral fin rays.
**Colour:** Body purplish grey with dull yellow mid-lateral stripe posteriorly; vertically elongate yellow spots dorsolaterally; a distinct yellow blotch above opercle; distal half of pectoral and dorsal fins yellow; caudal fin dusky with black-edged yellow inner margin; anal fin hyaline.

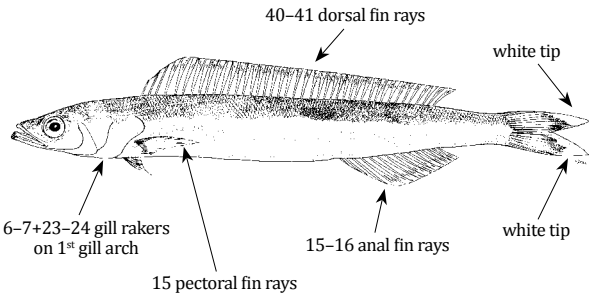



**Size:** To 13 cm (SL)

***Bleekeria*** sp. A *

**FAO names:** White-tipped sandlance (En)

**Local name(s):** Nga Hlan Htan Suu Hteik Phyu.
**Habitat:** Collected at 77 m depth.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Head length 3.9–4.0 in SL; eye diameter 5.5–5.6 in head length; very fine conical teeth on jaws; scales weakly ctenoid; pelvic fin vestigial, with 5 rays, <33 in SL; 104–107 lateral line scales; 3 scale rows above and 16–17 below lateral line; 29+25–26 vertebrae.
**Colour:** Body greyish above, whitish below; caudal fin darker, both tips of upper and lower lobes milky white; upper margin of dorsal fin darker, lower part hyaline; pectoral fin light yellow; anal fin hyaline.
**Remarks:** An undescribed species presently being described by Ida *et al*.

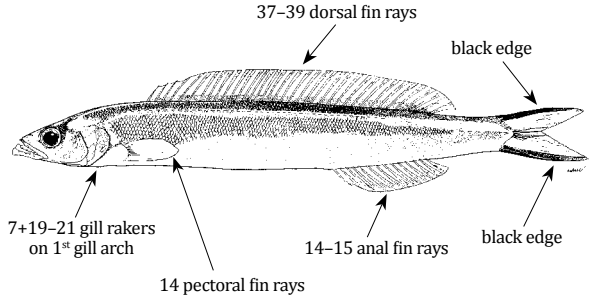



**Size:** To 11.4 cm (SL)

***Bleekeria*** sp. B *

**FAO names:** Black-edged fin sandlance (En)

**Local name(s):** Nga Hlan Htan Hmee Sinn.
**Habitat:** Collected between 42–43 m depth.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Head length 4.3–4.5 in SL; eye diameter 4.8–5.4 in head length; bands of canine teeth on jaws; scales weakly ctenoid; pelvic fins absent; 114–119 tubed lateral line scales; 2½–3 scale rows above and 15 below lateral line; 26+23–24 vertebrae.
**Colour:** Body salmon pink (darker dorsally and paler ventrally) with a yellow band along belly; dorsal fin hyaline with an orange band near its base; caudal fin yellow medially with black-edged upper and lower lobes.
**Remarks:** An undescribed species presently being described by Ida *et al*.



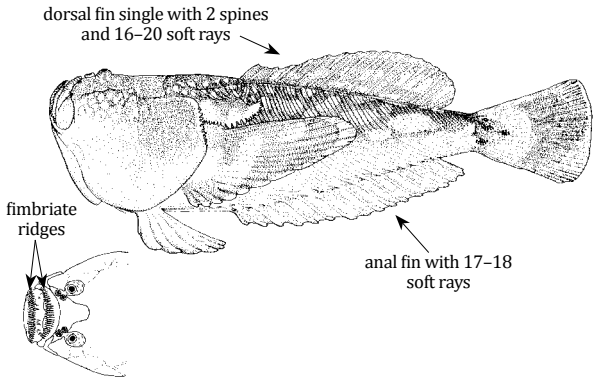

**Size:** To 10.3 cm (SL)

## URANOSCOPIDAE
Stargazers

***Ichthyscopus lebeck*** (Schneider, 1801)

**FAO names:** Longnosed stargazer (En)

**Local name(s):** Nga Bee Luu Hnar Shae.
**Habitat:** Occurs on soft bottoms in coastal waters.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Posterior edge of skull straight laterally; posterior nostril diagonally or longitudinally elongated; posterior portion of lateral line running very close to dorsal fin base; both lips with large branched fimbriate ridges cirri.
**Colour:** Body canary yellow, with buffer brown markings along sides, enclosing pure white round or oval spots; some spots of same white colour also on pectoral and dorsal fins; a dark bar across caudal and pectoral fins.

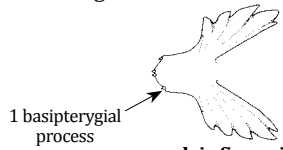



**Size:** To about 60 cm (TL)

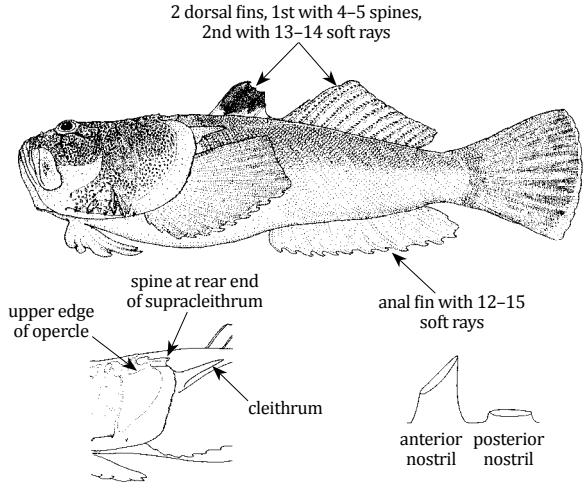
## *Uranoscopus affinis* Cuvier, 1829

**FAO names:** Onespined yellowtail stargazer (En)

**Local name(s):** Nga Bee Luu Hmee War.
**Habitat:** Littoral waters and on the continental shelf to depths of 200 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Upper edge of opercle ascending backward; supracleithrum with a sharp spine at rear end and one spine inside; posterior nostril a slit-like pore; 1 basipterygial process; anterodorsal area between both lateral lines completely scaly; posterior nostril a slit-like pore.
**Colour:** Body yellowish brown; pectoral and caudal fins orangish brown.



**pelvic fin region (ventral view)**



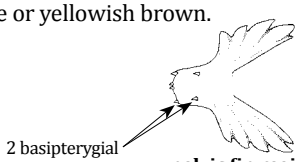
**thoracic region (lateral view)**

**Size:** To about 30 cm (TL)

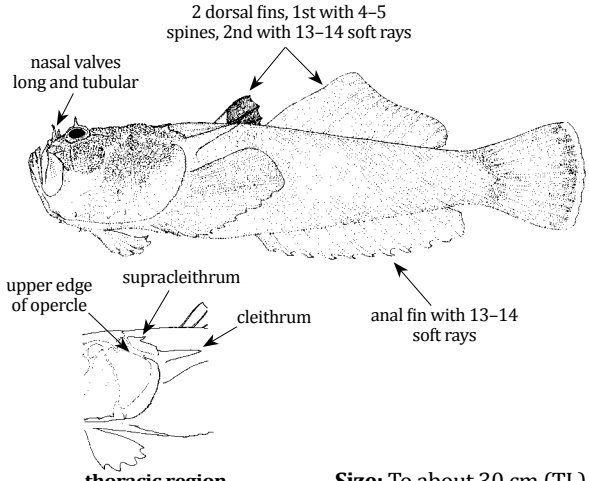
## *Uranoscopus cognatus* Cantor, 1849

**FAO names:** Twospined yellowtail stargazer (En)

**Local name(s):** Suu Hnit Chaung Nga Bee Luu.
**Habitat:** Soft bottoms to depths of 50–250 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Upper edge of opercle descending backward; supracleithrum with only one spine dorsally; both nasal valves long and tubular; 2 basipterygial processes; a short black cirrus on eye; respiratory valve inside lower jaw with a thread-like, pale appendage.
**Colour:** Body brown above, finely mottled and stippled dark brown; pectoral and caudal fins orange or yellowish brown.



**pelvic fin region (ventral view)**



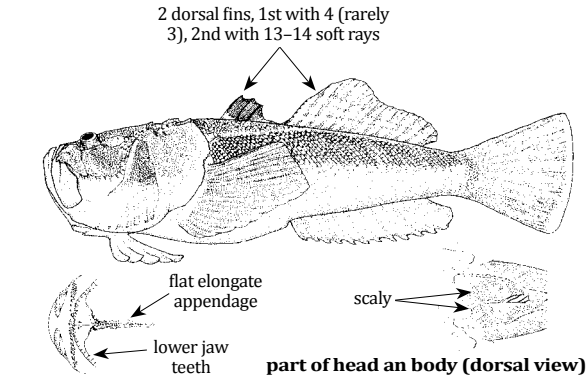
**thoracic region (lateral view)**

**Size:** To about 30 cm (TL)

## *Uranoscopus kaianus* Günther, 1880

**FAO names:** Kai stargazer (En)

**Local name(s):** Kai Nga Bee Luu.
**Habitat:** Deeper water, soft bottoms to depths of 200–300 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Upper edge of opercle ascending backward; supracleithrum with a sharp spine at rear end and 1 spine inside; posterior nostril a slit-like pore; 1 basipterygial process; anterodorsal area between both lateral lines completely scaly; 12–15 anal fin rays.
**Colour:** Upper head and body reddish brown; usually covered with pale spots, but variably minute in adults; pectoral and caudal fin reddish brown, the latter with a black margin posteriorly; 2nd dorsal fin pale.



**lower jaw and floor of mouth (dorsal view)**

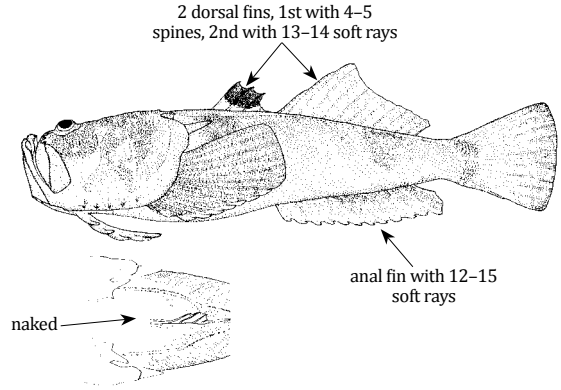
**part of head an body (dorsal view)**

**Size:** To about 24 cm (TL)

***Uranoscopus oligolepis*** Bleeker, 1878

**FAO names:** Drab naked nape stargazer (En)

**Local name(s):** Nga Bee Luu Shunt Chalk Yaung.
**Habitat:** Soft bottoms to depths of 50–150 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Upper edge of opercle ascending backward; supracleithrum with a sharp spine at rear end and 1 spine dorsally; posterior nostril a slit-like pore; 1 basipterygial process; anterodorsal area between both lateral lines naked.
**Colour:** Upper head and back plain olive brown; soft dorsal fin dusky; pectoral and caudal fins dusky olive to black, the latter with a white posterior margin.

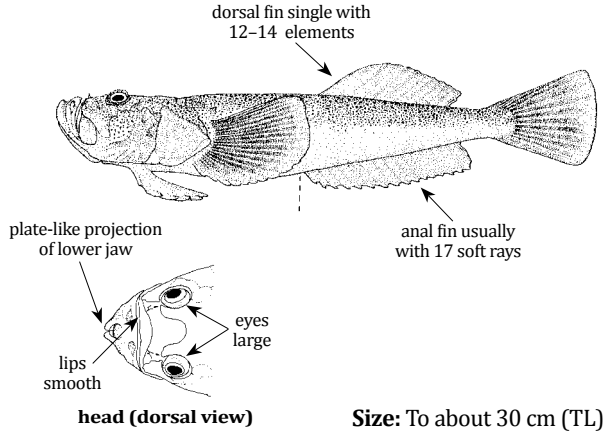



**Size:** To about 23 cm (TL)

***Xenocephalus australiensis*** (Kishimoto, 1989)

**FAO names:** Australian elongate stargazer (En)

**Local name(s):** Nga Bee Luu Lone Thwe.
**Habitat:** Juveniles in sandy or muddy bottoms of coastal areas; adults on continental slope to depths of about 500 m.
**Fisheries:** Occasionally bottom trawls, as bycatch.
**Distinctive Characters:** Posterior portion of lateral line running close to, but separated from, dorsal fin base; width of interorbital fossa 4–6 % of SL; eyes large, non-telescopic, located on dorsolateral edges of head; both lips with unbranched tiny cirri; tip of lower jaw with a plate-like projection; supracleithrum lacking spines.
**Colour:** Body brown scattered with small blackish spots (spot size decreasing with growth); fins brown.



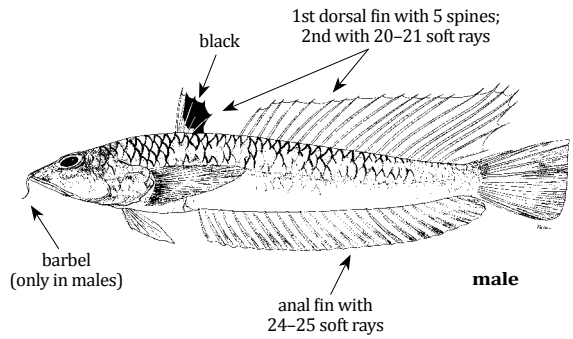

**Size:** To about 30 cm (TL)

## TRICHONOTIDAE
Sand divers

***Acanthaphritis barbata*** (Okamura & Kishida, 1963)

**FAO names:** None (En)

**Local name(s):** Be Hnote Thee Nga, Myet Lone Sein Nga A Mae Set.
**Habitat:** On soft bottoms at depths to 183 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Head depressed anteriorly; eyes large; interorbital space narrow; lower jaw not projecting beyond upper; barbel at tip of snout in males; 34–35 lateral line scales; 20–21 pectoral fin rays.
**Colour:** Brownish with a row of longitudinal yellow spots on back, and 2 rows of blue close-set spots on sides; pelvic fins white, anal fin yellowish.

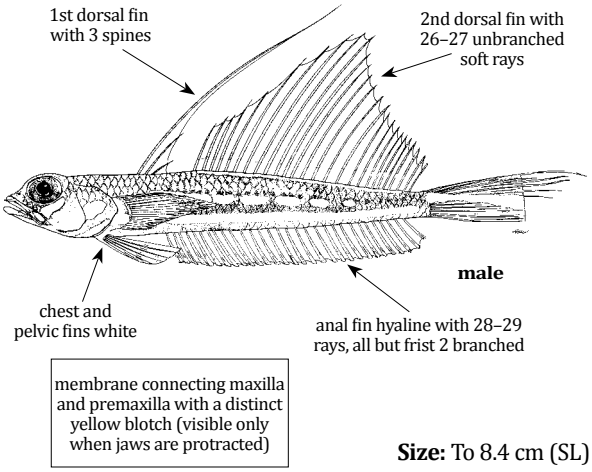



**Size:** To about 14 cm (TL)

***Pteropsaron indicum*** Victor & Kumar, 2019

**FAO names:** Indian Signalfish (En)

**Local name(s):** Nga Thae Htoe War Sinn.
**Habitat:** Soft bottoms at depths of 70–205 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Prominent maxillary spine present; cheeks naked; 28–29 anal fin rays, all but first two rays branched; dorsal margin of eye with a tab projecting into the iris; body covered with cycloid scales; ca. 40 lateral line scales; 17–18 pectoral fin rays; 14 caudal fin rays (9 are branched).
**Colour:** Pale grey with 2 bright yellow stripes on body, the uppermost sometimes broken in segments posteriorly not reaching to caudal fin; brigth yellow stripe along base of 2nd dorsal fin extending out along caudal fin; 3 yellow oblique bars anteriorly, one below eye (extending on maxilla tip), second on opercle, and third over pectoral fin base; branchiostegal rays bright yellow.

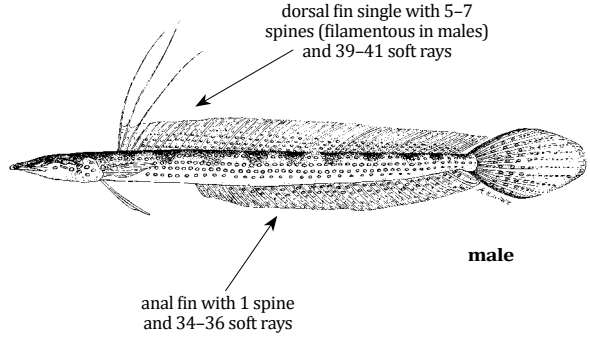



**Size:** To 8.4 cm (SL)

***Trichonotus*** cf. ***setiger*** Bloch & Schneider, 1801

**FAO names:** Spotted sand-diver (En)

**Local name(s):** Pin Le' Nga Thee Htoe Set Pyauk.
**Habitat:** Sand-rubble bottoms down to 60 m.
**Fisheries:** Rarely, as bycatch in bottom trawls.
**Distinctive Characters:** Body elongate, cylindrical; eye with dorsal iris flap consisting of numerous elongate strands extending ventrally; lower jaw with fleshy extension that projects beyond upper jaw; soft part of dorsal fin of male about twice height of fin of female; body entirely scaled; 12–15 pectoral fin rays; 52–55 lateral line scales.
**Colour:** Whitish to pale brown with 9–12 dark brown saddles or bars on upper half of side; about 6 horizontal rows of dark-edged blue or yellow spots on side and scattered blue spots on head.
**Remarks:** Inclusion based on photographic record.



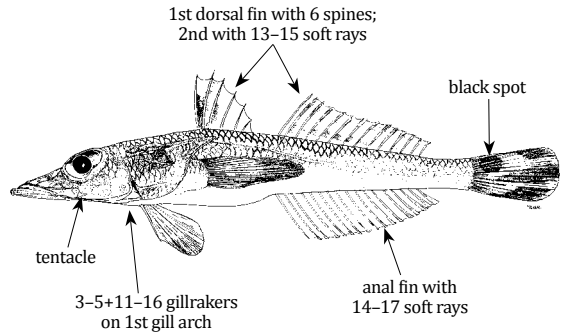

**Size:** To about 19 cm (TL)

## PERCOPHIDAE
Duckbills

***Bembrops caudimacula*** Steindachner, 1876

**FAO names:** Tailspot duckbill (En)

**Local name(s):** Be Hnote Thee Nga, Myet Lone Sein Nga A Hmee Kywet.
**Habitat:** On soft bottoms at depths of 186–500 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Head depressed anteriorly; lower jaw projecting beyond upper; lateral line descending gradually; lower jaw projecting beyond upper; maxilla with well-developed tentacle at posterior tip (characteristic of genus *Bembrops*); 42–54 lateral line scales; 19–25 pectoral fin rays; 3–4 and 5–7 scale rows between lateral line and origin of dorsal and anal fin, respectively.
**Colour:** Brownish with large dusky blotches along lateral line; membrane between anterior 3 spines of 1st dorsal fin with darker pigmentation; distinct black spot on upper base of caudal fin.




**Size:** To about 25 cm (TL)

***Bembrops platyrhynchus*** (Alcock, 1894)

**FAO names:** Natal duckbill (En)

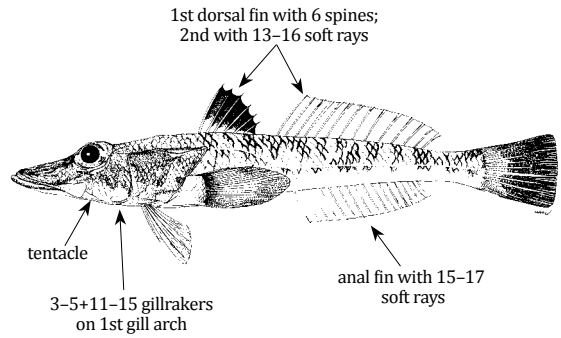
**Local name(s):** Be Hnote Thee Nga, Natal Myet Lone Sein Nga.

**Habitat:** On soft bottoms at depths of 200–549 m.

**Fisheries:** Deep bottom trawls, as bycatch.

**Distinctive Characters:** Head depressed anteriorly; lower jaw projecting beyond upper; lateral line descending gradually; lower jaw projecting beyond upper; maxilla with well-developed tentacle at posterior tip (characteristic of genus *Bembrops*); 47–57 lateral line scales; 22–25 pectoral fin rays; 2–4 and 4–6 scale rows between lateral line and origin of dorsal and anal fin, respectively.

**Colour:** Vague dusky bars along body, scales edged with black; outer ¾ of spinous dorsal fin black, the basal ¼ white, distal ¼ of caudal fin dusky.




**Size:** To about 25 cm (TL)

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***Bembrops*** sp. *

**FAO names:** Yellow-shoulder duckbill (En)

**Local name(s):** Be Hnote Thee Nga, Myet Lone Sein Nga Bae Suu Taung Mae.

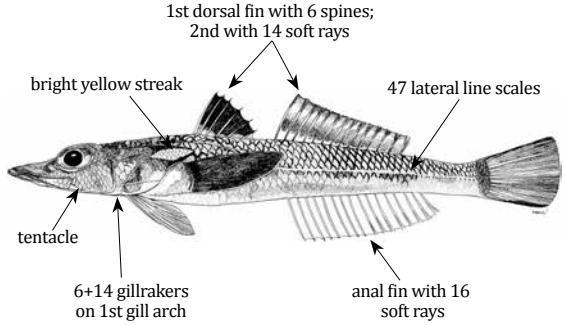
**Habitat:** On soft bottoms at depths of 322–376 m.

**Fisheries:** Deep bottom trawls, as bycatch.

**Distinctive Characters:** Similar to *Bembrops caudimacula* and *B. platyrhynchus* but more upper gill rakers; maxillary tentacle length 4.0 (vs. 9.5–10.5) in upper jaw length; 47 lateral line scales.

**Colour:** Greyish with body scales edged with black on dorsum; bright yellow streak at corner of opercle; same colouration also on anterior and posterior end of orbit; 1st dorsal fin almost entirely black; pectoral fin dusky with white inferior margin.

**Remarks:** An undescribed species presently being described by Das and Psomadakis.




**Size:** To about 21 cm (TL)

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***Chrionema chryseres*** Gilbert, 1905

**FAO names:** None (En)

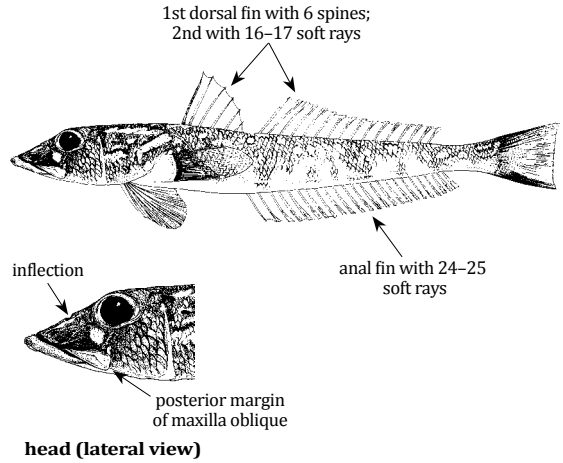
**Local name(s):** Be Hnote Thee Nga, Myet Lone Sein Nga Par Phyu Set.

**Habitat:** On soft bottoms at depths of 252–490 m.

**Fisheries:** Deep bottom trawls, as bycatch.

**Distinctive Characters:** Head moderately depressed; lower jaw projecting beyond upper; lateral line originating high on body and descending obliquely behind pectoral fin base and then continuing along ventral side of body; maxilla without tentacle; snout with a distinct inflection; 80–87 lateral line scales; 21–23 pectoral fin rays; 5–7+17 gill rakers on 1st gill arch.

**Colour:** Greyish, with irregular dark-edged yellow spots on head and body; upper jaws black-edged; 1st dorsal fin transparent; pelvic fins dark medially; caudal fin dusky on upper and lower edges.



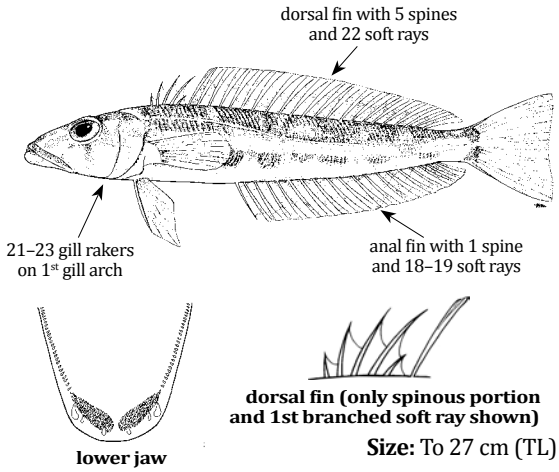

**Size:** To about 21 cm (TL)

# PINGUIPEDIDAE
Sandperches

***Parapercis alboguttata*** (Günther, 1872)

**FAO names:** Whitespot sandsmelt (En)

**Local name(s):** Thae Ka Ka Tit Phyu Set.
**Habitat:** Usually taken in trawling grounds between 50 and 120 m depth.
**Fisheries:** Bottom trawls, gillnets, hand lines.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; 3rd dorsal spine longest; spinous dorsal connected by membrane to 1st soft ray near base; 17–19 (rarely 17) pectoral fin rays; 58–62 lateral line scales; palatine teeth absent.
**Colour:** Body light red dorsally, shading to white ventrally; longitudinal rows of indistinct light red blotches on body, ending in two distinct dark red spots on base of caudal fin; snout light blue with oblique yellow lines.

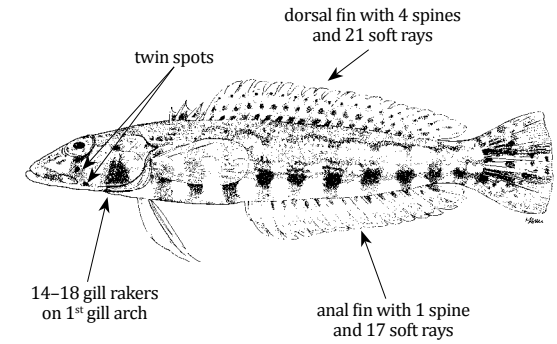



**Size:** To 27 cm (TL)

***Parapercis bimacula*** Allen & Erdmann, 2012

**FAO names:** Redbar sandperch (En)

**Local name(s):** Thae Ka Ka Tit Kyaw Suu Set Pyauk.
**Habitat:** Coastal reefs in depths of 2–20 m.
**Fisheries:** Mainly gillnets, hand lines.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected to 1st soft ray opposite tip of last spine; 17 (rarely 16) pectoral fin rays; 59 lateral line scales; palatine teeth absent.
**Colour:** Whitish with brown to reddish mottling on back; 10 brown to red bars (each enclosing a black spot) along lower side of body; reddish bar below eye enclosing 2 small spots (twin spots).
**Remarks:** A similar species *Parapercis clathrata* (Ogilby, 1910) also occurs in Myanmar; it can be distinguished by the absence of twin spots below the eye and by a large ocellus above gill opening in males.

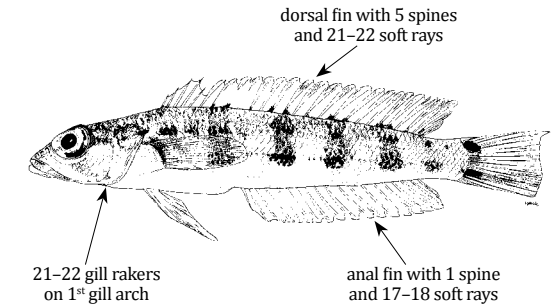



**Size:** To 12.5 cm (TL)

***Parapercis caudopellucida*** Johnson & Motomura, 2017

**FAO names:** Andaman sandperch (En)

**Local name(s):** Andaman Thae Ka Ka Tit.
**Habitat:** Deeper water in depths of 75–129 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected to 1st soft ray opposite tip of last spine; 17–18 pectoral fin rays; 53 lateral line scales; palatine teeth absent.
**Colour:** Reddish with a series of 6–7 irregular dusky double blotches along sides; upper lip red; a reddish bar below the eye; unpaired fins yellowish; a series of small black blotches at base of soft dorsal fin; caudal fin base with pair of blackish blotches.

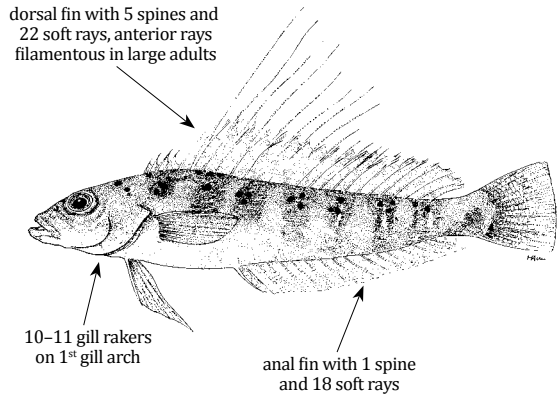



**Size:** To 10.5 cm (SL)

***Parapercis filamentosa*** (Steindachner, 1878)

**FAO names:** Threadfin sandperch (En)

**Local name(s):** Kyaw Su Shae Thae Ka Ka Tit.
**Habitat:** Probably on mud bottoms.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; spinous dorsal connected by membrane to 1st soft ray near base; 16 pectoral fin rays; 58–60 lateral line scales; palatine teeth absent.
**Colour:** Upper half of body with 7 dusky bars containing 3–4 dark brown dots in their lower part, the last 6 as 3 pairs; below each pair, on lower side, a large dusky blotch; 2 small dark brown spots, one above the other, at base of caudal fin.
**Remarks:** Recorded from Ranong, Thailand (most probably occurring also in Myanmar).

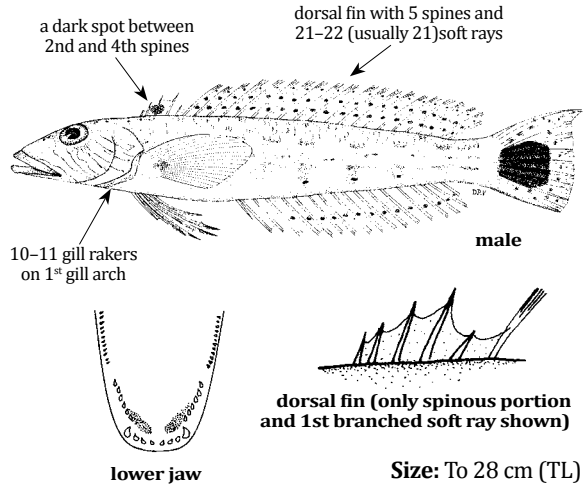



**Size:** To 18 cm (TL)

***Parapercis hexophtalma*** (Cuvier, 1829)

**FAO names:** Speckled sandperch (En)

**Local name(s):** Thae Ka Ka Tit Hmee Kywet.
**Habitat:** Inshore species generally found on sand or rubble substrata near coral reefs.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical; 4 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected to 1st soft ray opposite tip of last spine; 16–18 (usually 17) pectoral fin rays; anal fin with 1 spine and 17–18 (usually 17) soft rays; 58–60 lateral line scales; palatine teeth absent.
**Colour:** Upper part of body and head tan, with numerous dark flecks or small spots (male with 6–10 oblique dark lines on cheek, these replaced by small dark spots in female); 3–7 white-ringed black ocelli along ventral side; soft dorsal fin with 3–4 horizontal rows of dark spots on membranes; a large, oblong, black blotch on caudal fin.

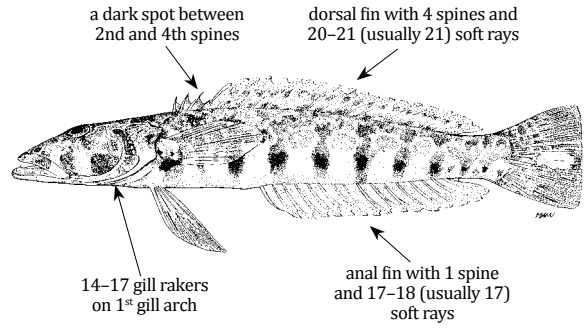



**Size:** To 28 cm (TL)

***Parapercis millepunctata*** (Günther, 1860)

**FAO names:** Spotted sandperch (En)

**Local name(s):** Thae Ka Ka Tit Set Pyauk.
**Habitat:** Usually found in clear water on sand and rubble around coral reefs.
**Fisheries:** Mainly gillnets, hand lines.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected to 1st soft ray opposite tip of last spine; usually 17 pectoral fin rays; 57–60 lateral line scales; palatine teeth absent.
**Colour:** Densely blotched pattern over back; upper side with network of inverted U-shaped white markings; lower side with 9–10 vertical black bars; tail usually with central black blotch, followed by posterior white blotch.
**Remarks:** Needs confirmation for Myanmar waters.

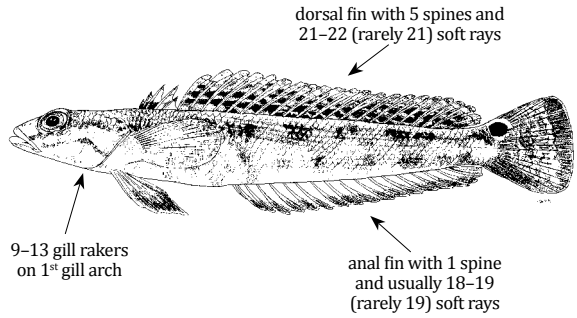



**Size:** To 18 cm (TL)

***Parapercis ommatura*** Jordan & Snyder, 1902

**FAO names:** Bluebelly sandperch (En)

**Local name(s):** Thae Ka Ka Tit hmee Hteik Kwet.
**Habitat:** Silty sand and rubble areas near reefs at depths of 10–40 m.
**Fisheries:** Mainly bottom trawls, bycatch.
**Distinctive Characters:** Body cylindrical; 4 pairs of canine teeth on lower jaw anteriorly; middle dorsal fin spines longest; membrane from spinous dorsal connected near base of 1st soft ray; 15–16 pectoral fin rays; 56–58 lateral line scales; palatine teeth absent.
**Colour:** Body light tan with three or four brownish 'Y' shaped marks on sides; cheek with two narrow longitudinal dark bands; upper part of caudal fin with rounded black spot.
**Remarks:** Needs confirmation for Myanmar waters.

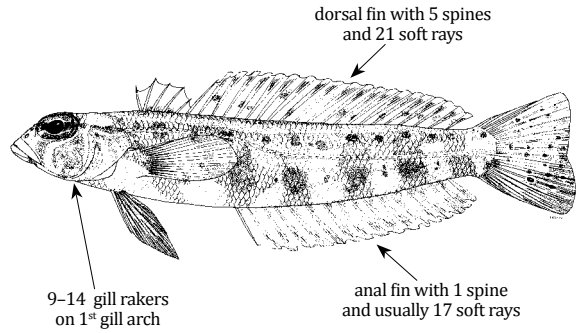



**Size:** To 11 cm (TL)

***Parapercis rubricaudalis*** Johnson & Motomura, 2017

**FAO names:** Redtail sandperch (En)

**Local name(s):** Thae Ka Ka Tit Hmee Ni.
**Habitat:** Deeper water in depths of 70–119 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected near base of 1st soft ray; 16 (rarely 15 or 17) pectoral fin rays; 56–58 lateral line scales; palatine teeth absent.
**Colour:** Six irregular broad orange to reddish transverse bands across body; a pair of small dark spots dorsally behind eyes; soft dorsal fin with 2–3 rows of red spots, anal fin reddish; pelvic fins bright orange-red; caudal fin with several irregular rows of dark red spots, lower third of fin distinctively crimson-red.

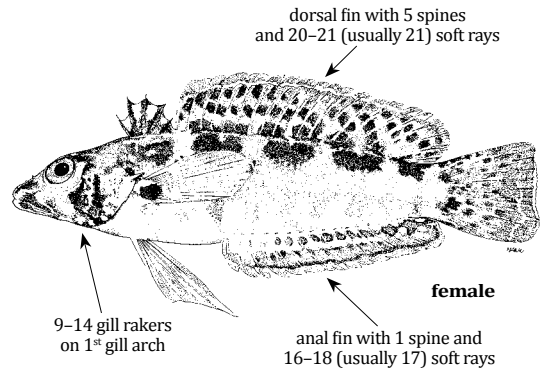



**Size:** To 8.7 cm (TL)

***Parapercis snyderi*** Jordan & Starks, 1905

**FAO names:** U-mark sandperch (En)

**Local name(s):** Thae Ka Ka Tit Kyaw Suu Kywet.
**Habitat:** Silty sand or rubble areas near reefs at depths of 10–40 m.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Body cylindrical; 4 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected near base of 1st soft ray; 13–15 (usually 14) pectoral fin rays; 38–43 lateral line scales; palatine teeth present.
**Colour:** Body pale brown dorsally with 3 U-shaped dark bars dorsally on body followed by 2 more posteriorly with the bottom of U missing (hence as double bars); a series of 8–9 dusky bars on lower side of body; cheek with 1 or 2 broad oblique dark brown bands (female) or with small dark spots (male); 1st dorsal fin blackish in males; caudal fin with rows of small black, brown and white spots.

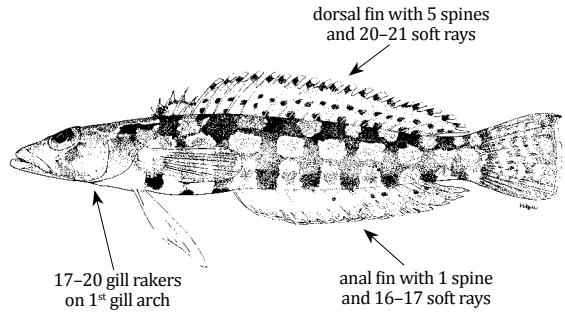



**Size:** To 11 cm (TL)

***Parapercis tetracantha*** (Lacepède, 1802)

**FAO names:** Reticulated sandperch (En)

**Local name(s):** Thae Ka Ka Tit Pike Kywet.
**Habitat:** Usually found on sand or rubble areas in shallow water.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected to 1st soft ray opposite tip of last spine; 17–18 pectoral fin rays; 59–65 lateral line scales; palatine teeth absent.
**Colour:** Body with 3 longitudinal series of large whitish spots with dark grey-brown interspaces forming a coarse reticulum; a dark grey-brown band from nape to interopercle containing a black ring just above gill opening; a broad dark grey-brown bar below eye; 3 black spots on each side of abdomen.

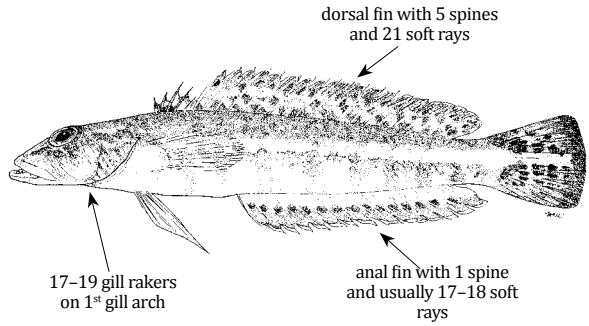



**Size:** To 26 cm (TL)

***Parapercis xanthozona*** (Bleeker, 1849)

**FAO names:** Yellowbar sandperch (En)

**Local name(s):** Thae Ka Ka Tit War Sinn.
**Habitat:** Protected waters of bays or lagoons in depths of 10–28 m.
**Fisheries:** Mainly bottom trawls, bycatch.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; middle dorsal fin spines longest; membrane from spinous dorsal connected to 1st soft ray opposite tip of last spine; usually 17 pectoral fin rays; 56–60 lateral line scales; palatine teeth absent.
**Colour:** Fine dark spotting over the back; white mid-lateral stripe from the upper pectoral base to tail; males with narrow diagonal lines on the cheek; an orange-yellow bar at base of pectoral fins.

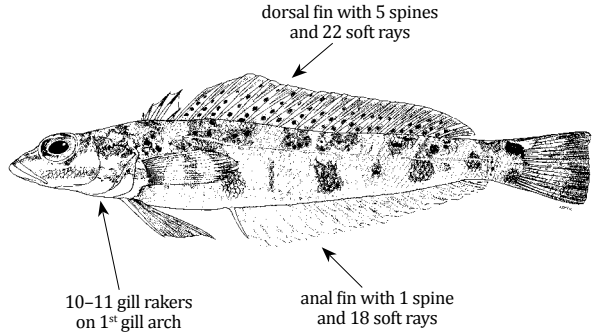



**Size:** To 26 cm (TL)

***Parapercis*** sp. 1 *

**FAO names:** Strømme's sandperch (En)

**Local name(s):** Sto Mar Thae Ka Ka Tit.
**Habitat:** Collected between 41–56 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical; 4 pairs of canine teeth on lower jaw anteriorly; middle dorsal spines longest; membrane from spinous dorsal connected to base of 1st soft ray; 16–17 pectoral fin rays; 59–60 lateral line scales; palatine teeth present.
**Colour:** Upper part of body and head pale, with about 7 poorly-defined U-shaped bars; a series of about 6 dark bars on side of body; a yellow spot in centres of scales below lateral line; distinct orangish bands on snout, postocular and subocular region; pelvic fins dusky; anal fin yellowish; base of caudal fin with brown bar enclosing a dark brown ocellus in its upper portion; distal third of caudal fin dark.
**Remarks:** Most probably an undescribed species presently being studied by Johnson & Psomadakis.

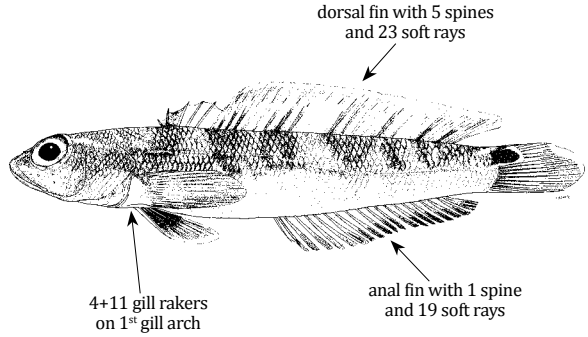



**Size:** To at least 9 cm (TL)

***Parapercis*** sp. 2 *

**FAO names:** Tailspot sandperch (En)

**Local name(s):** Thae Ka Ka Tit Bike Phyu.
**Habitat:** Collected between 181–184 m depth.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body cylindrical; 4 pairs of canine teeth on lower jaw anteriorly; last dorsal fin spine longest; last interspinous membrane of dorsal fin connected to 1st soft ray opposite tip of last spine; 18 pectoral fin rays; 63 lateral line scales; palatine teeth present.
**Colour:** Upper part of body with 6–7 irregular brown saddle marks extending onto base of dorsal fin; lower sides yellowish; a distinct dark brown ocellus, edged in white anteriorly and posteriorly, on upper caudal fin base; fins mostly yellowish.
**Remarks:** Possibly undescribed. Needs to be checked against *Parapercis striolata* (Weber, 1913).

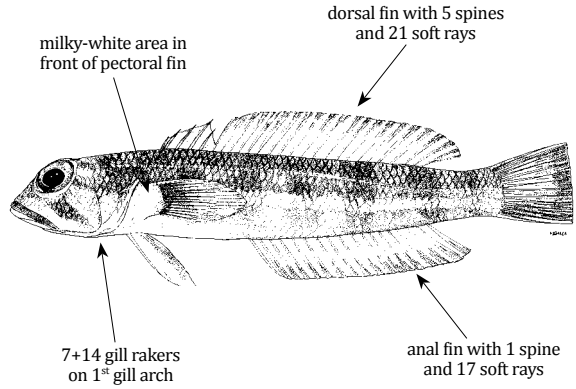



**Size:** To at least 12 cm (TL)

***Parapercis*** sp. 3 *

**FAO names:** Deep-water Andaman sandperch (En)

**Local name(s):** Thae Ka Ka Tit Shwe Sin.
**Habitat:** Collected between 119–125 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body cylindrical; 3 pairs of canine teeth on lower jaw anteriorly; 4th dorsal fin spine longest; last interspinous membrane of dorsal fin connected near base or opposite of 1st soft ray; 16 pectoral fin rays; 53 lateral line scales; palatine teeth absent.
**Colour:** Body reddish dorsally, fading to white ventrally; an horizontal ochre stripe at midbody; a broad milky white band from snout to posterior tip of maxilla bordered by red lip anteriorly and by oblique red band posteriorly; eye rimmed with yellow; caudal fin dusky with sparse yellowish flecks and submarginal darker band dorsally and ventrally, the latter connected to midbody band.
**Remarks:** Most probably an undescribed species presently being studied by Johnson & Psomadakis.



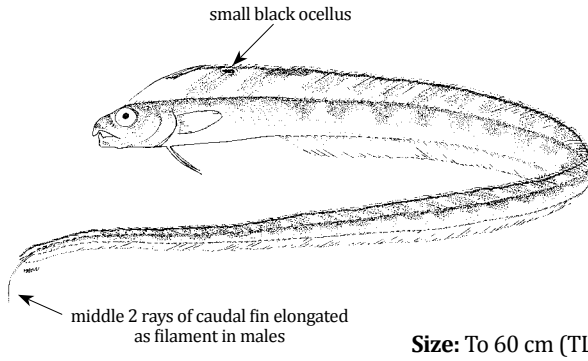

**Size:** To at least 12 cm (TL)

## BLENNIIDAE
Blennies

***Xiphasia setifer*** Swainson, 1839

**FAO names:** Hairtail blenny (En)

**Local name(s):** Nga Da Khunn Hnar Chunn.
**Habitat:** Occurs on mud or sand bottoms; takes refuge in tubes or burrows.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body compressed and extremely elongate, its depth 30–40 in SL; dorsal fin with 13–14 flexible spines and 105–119 segmented rays, fin origin in adults over anterior part of eye; anal fin rays 107–119; a large canine tooth on each side of lower jaw anteriorly.
**Colour:** Pale grey-brown with 20–28 indistinct broad dark bars extending onto dorsal fin; margin of sofy dorsal fin dusky with white edge.



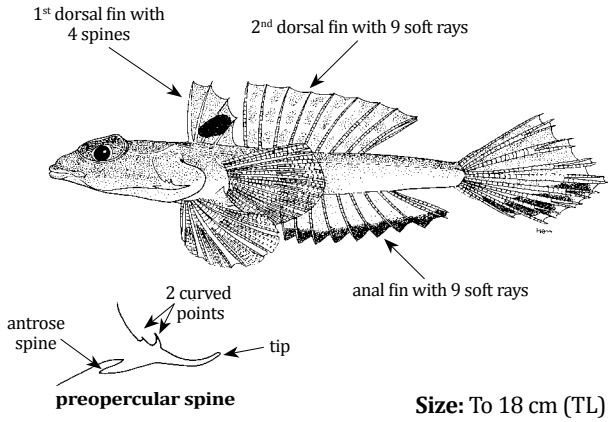

**Size:** To 60 cm (TL)

# CALLIONYMIDAE
Dragonets

## *Callionymus carebares* Alcock, 1890

**FAO names:** Indian deepwater dragonet (En)

**Local name(s):** Ye Net Indian Ga Lone Taung Nga.
**Habitat:** Benthic, deeper water, in depths of 135–330 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Head and body depressed; membrane behind last dorsal fin spine large; gill opening dorsal in position; preopercular spine with 2 (rarely 1) curved points on its dorsal edge and a strong antrose lower spine; 19–23 pectoral fin rays.
**Colour:** Head and body marbled or variegated; 1st dorsal with a large black spot; 2nd dorsal, anal and caudal fins transparent with wide blackish margin; pelvic fins blackish medially.

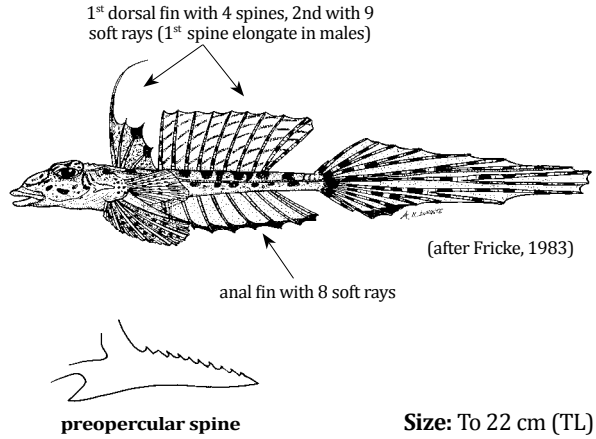



**Size:** To 18 cm (TL)

## *Callionymus* cf. *gardineri* Regan, 1908

**FAO names:** Gardiner's dragonet (En)

**Local name(s):** Ye Net Gardiner Ga Lone Taung.
**Habitat:** Benthic in depths of 35–55 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body depressed; membrane behind last dorsal fin spine large; gill opening dorsal in position; preopercular spine with 6–12 short spinules on its dorsal edge and and a strong antrose lower spine; 18–22 pectoral fin rays.
**Colour:** Head and body marbled or variegated; spinous dorsal with oblique stripes, which break up posteriorly into series of spots enclosed in dark rings; black blotch on distal portion of 3rd dorsal spine; caudal fin with some dark spots; anal fin with a dark distal edge.
**Remarks:** Inclusion based on photographic record.

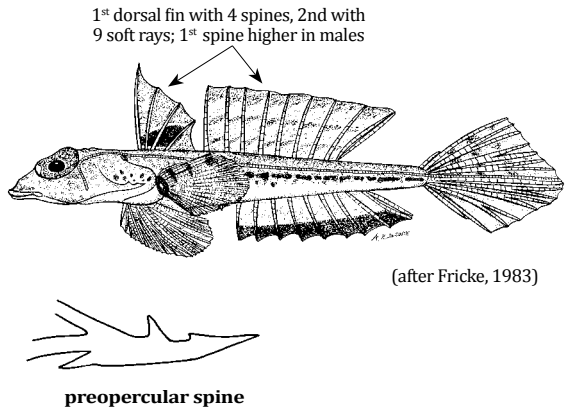



**Size:** To 22 cm (TL)

## *Callionymus kotthausi* Fricke, 1981

**FAO names:** Kotthaus' deepwater dragonet (En)

**Local name(s):** Ko Tharr Ye Net Ga Lone Taung Nga.
**Habitat:** Benthic, deeper water, in depths of 138–211 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Head and body depressed; membrane behind last dorsal fin spine large; gill opening dorsal in position; preopercular spine with 2–3 spinous points on dorsal edge and a strong antrose lower spine; anal fin with 8 rays; 20–21 pectoral fin rays.
**Colour:** Lower part of caudal fin colourless; anal fin with a broad black margin; sides of body with a row of small distinct black blotches a distinct black blotch at base of spinous dorsal fin.

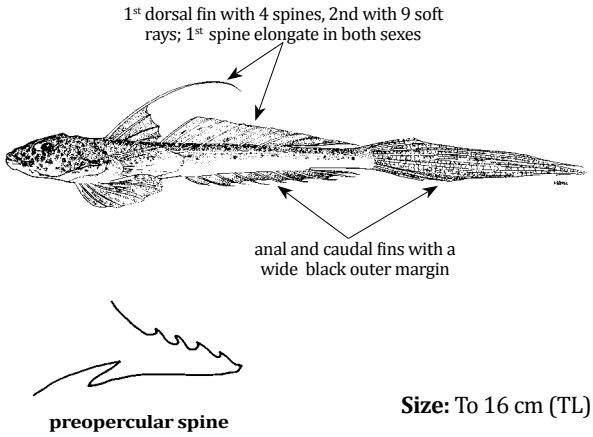



**Size:** To 10 cm (TL)

## *Callionymus margaretae* Regan, 1905

**FAO names:** Margaret's dragonet (En)

**Local name(s):** Margaret Ye Net Ga Lone Taung Nga.
**Habitat:** Benthic, coastal areas in depths of 22–107 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body depressed; membrane behind last dorsal fin spine large; gill opening dorsal in position; preopercular spine with 3–6 short spinules on dorsal edge and a strong antrose lower spine; anal fin with 8 rays; 16–21 pectoral fin rays.
**Colour:** A row of dark saddles on back and a row of elongate dark blotches just below lateral line; suborbital region of males with small dark spots; 2nd dorsal fin with elongate dark spots; caudal fin with vertical rows of black spots along central part of fin (fin may be plain dusky in females).

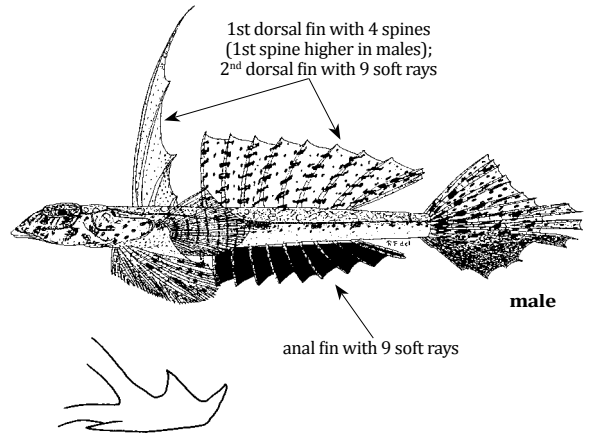



**Size:** To 16 cm (TL)

## *Callionymus meridionalis* Suwardji, 1965

**FAO names:** Whiteflag dragonet (En)

**Local name(s):** Suu Taung Phyu Ye Net Ga Lone Taung Nga.
**Habitat:** Benthic from shore to 80 m depth.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body depressed; membrane behind last dorsal fin spine large; gill opening dorsal in position; preopercular spine with upcurved tip and 1 strong curved point on dorsal edge and a strong antrose lower spine; 16–22 pectoral fin rays.
**Colour:** Head and body light brown, back with many light spots, ventral parts yellowish to white; sides with a row of dark blotches; pectoral fin base with a dusky spot; 1st dorsal fin in males whitish, in females black; 2nd dorsal, caudal, pectoral, and pelvic fins spotted with brown; anal fin black in males, with a distal black streak in females.

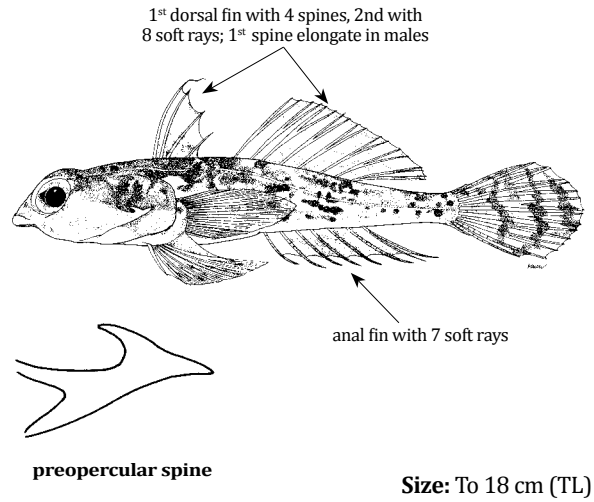



**Size:** To 10.8 cm (SL)

## *Synchiropus* cf. *altivelis* (Temminck & Schlegel, 1845) *

**FAO names:** Highfin bigeye dragonet (En)

**Local name(s):** Ye Net Ga Lone Taung Myet Pyuu.
**Habitat:** Edge of continental shelf, in depths of 70–600 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Head and body depressed; membrane behind last dorsal fin spine very small; gill opening sublateral; preopercular spine with 1 recurved point on dorsal edge and no antrose lower spine; 19–22 pectoral fin rays.
**Colour:** Head and body orange-red; dorsal fin with a large dark mark which becomes faint with growth; 3 rows of orange spots on soft dorsal fin and often across caudal fin.
**Remarks:** Specimens collected during Nansen trawl surveys off Myanmar are presently being studied by R. Fricke to assess their taxonomic status.



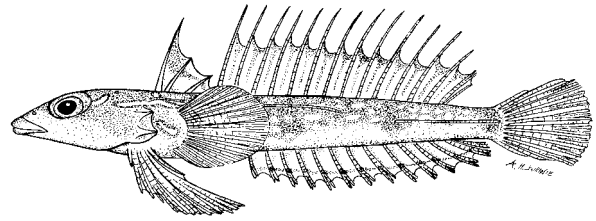

**Size:** To 18 cm (TL)

## DRACONETTIDAE
Deepwater dragonets

***Centrodraco ornatus*** (Fourmanoir & Rivaton, 1979)

**FAO names:** Ornate slope dragonet (En)

**Local name(s):** Ye Net Ga Lone Taung Suu Hteik Chunn.
**Habitat:** Deepwater, in depths of 300–360 m.
**Fisheries:** Deep bottom trawls, as bycatch.
**Distinctive Characters:** Body elongate and rounded; a simple spine on opercle and subopercle; 1st dorsal fin with 3 stout and pungent spines (1st spine elongate in males), 2nd with 14 filamentous soft rays; 13 anal fin rays; 22–24 pectoral fin rays; lateral line interrupted, the anterior part running to below base of 8th or 10th soft dorsal fin ray, and the posterior one from 10th–11th to base of caudal fin; cephalic leteral line system well developed.
**Colour:** Body reddish with many vermicular yellow spots on dorsal and lateral sides of body.



(after Nakabo & Yamamoto, 1980)

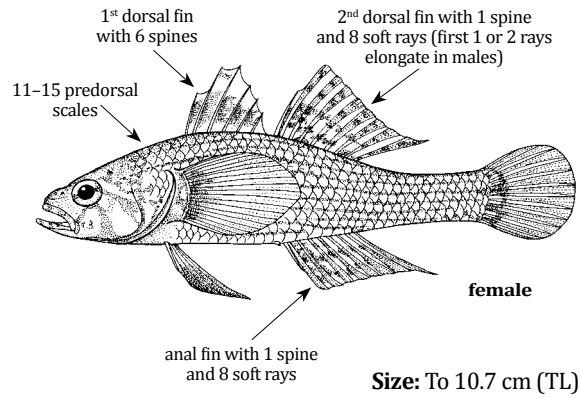
**Size:** To 12.5 cm (SL)

## ELEOTRIDAE
Sleepers

***Butis koilomatodon*** (Bleeker, 1849)

**FAO names:** Mud Sleeper (En)

**Local name(s):** Pin Le' Syunt Nga Pyet.
**Habitat:** Found in marine and estuarine habitats.
**Fisheries:** Caugth mainly with seine nets.
**Distinctive Characters:** Body robust, subcylindrical and compressed posteriorly; head slightly depressed; bony interorbital serration around dorsal margin of eye; lower jaw protruding beyond upper jaw; pelvic fins widely separated; cheek and operculum with ctenoid scales; no scales on interorbital area; 21–22 pectoral fin rays.
**Colour:** Blackish brown, with indistinct 4–5 broad dusky oblique bands on body; anteroventral part of pectoral fin with a distinct black spot edged by yellowish rim (more distinct in males); iris yellow.



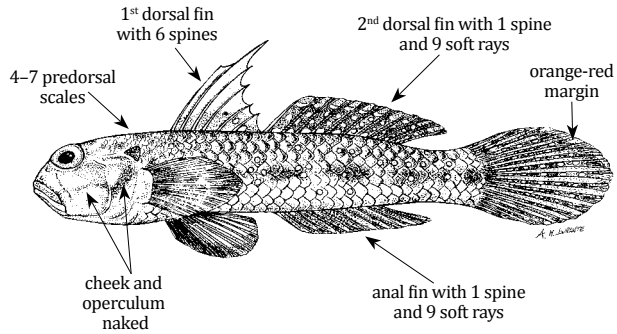

**Size:** To 10.7 cm (TL)

## GOBIIDAE
Gobies

***Acentrogobius cyanomos*** (Bleeker, 1849)

**FAO names:** Blue-spotted goby (En)

**Local name(s):** Pin Le' Nga Pyet Pyar Set Pyauk.
**Habitat:** Mangrove and estuarine habitats.
**Fisheries:** Caugth mainly with seine nets.
**Distinctive Characters:** Pelvic fins united medially; scales ctenoid, excluding those on nape, pectoral base and breast cycloid; longitudinal pattern of sensory-papillae rows on cheek; uniserial transverse row of sensory papillae just behind chin; 18 pectoral fin rays.
**Colour:** Pale brown to brownish with small dark brown to blackish blotch above rear corner of opercle; numerous bright pale-blue sspots on body and dorsal and caudal fins.

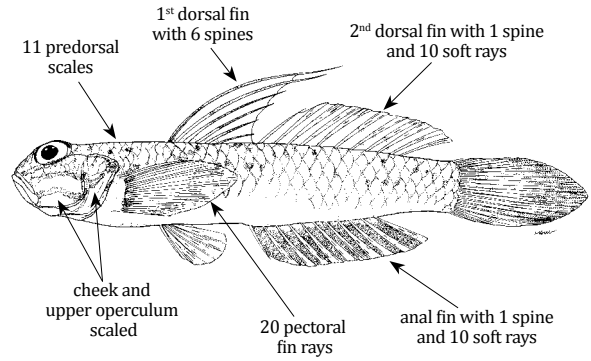



**Size:** To 11.5 cm (TL)

## *Acentrogobius* sp. *

**FAO names:** Yellow-striped cheek goby (En)

**Local name(s):** Pin Le' Nga Pyet Pahat Pyar Sinn.
**Habitat:** Soft bottoms, in depths of 58–59 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head length 3.7 in SL; eye diameter 3.0 in HL; small conical teeth present in bands in both jaws, several large caniniform teeth overhanging jaws on each side of premaxillary symphysis; scales large, deciduous, nape fully scaled; 6–7 lower gill rakers connected by membrane; no transverse rows of sensory papillae on cheek; 26 lateral line scales.
**Colour:** Head with 3 yellow stripes across the cheek, along lower edge of orbit; yellow spots on operculum with metallic blue background over lower two thirds; scattered yellow spots on pectoral fin base, nape and sides of trunk; median fins dusky with yellow spots.
**Remarks:** An undescribed species known from off southern India and Bangladesh (F.L. Pezold pers. comm., 2017) and now collected also in Myanmar.

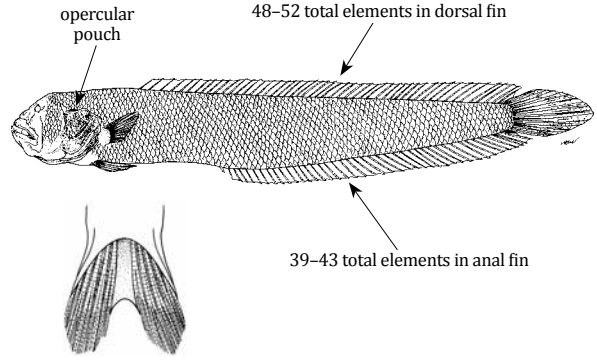



**Size:** To 9.7 cm (SL)

## *Amblyotrypauchen arctocephalus* (Alcock, 1890)

**FAO names:** Armour eelgoby (En)

**Local name(s):** Pin Le' Nga Pyet Ni Lone.
**Habitat:** Muddy bottoms, in depths of 17–183 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body slightly compressed; a pouch-like cavity at dorsal margin of operculum; eyes absent; fang-like teeth on jaws; scales on entire body, including some scale patches on head, cheek and opercle; pelvic fins with innermost rays joined by membrane for one third to one fourth their length; 14–18 pectoral fin rays.
**Colour:** Uniformly pinkish.

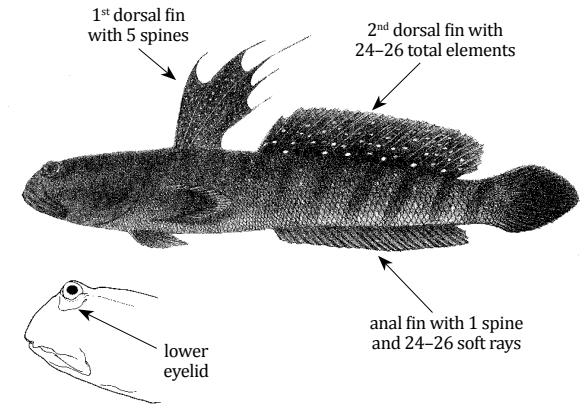



**Size:** To 15 cm (TL)

## *Boleophthalmus boddarti* (Pallas, 1770)

**FAO names:** Boddart's goggle-eyed goby (En)

**Local name(s):** Pin Le' Nga Pyet Phyu Set Pyauk.
**Habitat:** Lives on mud flats.
**Fisheries:** Occasionally caught in beach seines.
**Distinctive Characters:** Eyes close together, movable to above dorsal profile of head; caudal fin length 4.3–5.6 in SL; head length 3.3–4.0 SL; length of D2 base 2.1–2.5 in SL; 61–79 scales in longitudinal row; 25–35 predorsal scales; lower jaw teeth notched; pelvic fins united medially.
**Colour:** Head and body beige or brownish grey, slightly paler ventrally; dark brown line from anterior nostril to dorsal tip of operculum; brown spots on head and nape; 5–7 prominent dusky bars inclined anteriorly from dorsum, occasionally extending well below midline; numerous sky blue speckles scatterd on head, body and dorsal fins.

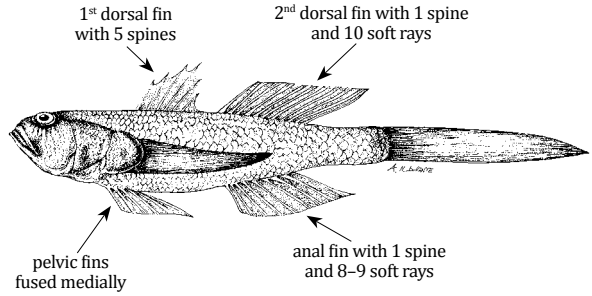



**Size:** To about 22 cm (TL)

***Egglestonichthys melanoptera*** (Visweswara Rao, 1971)

**FAO names:** Black-fin goby (En)

**Local name(s):** Pin Le' Nga Pyet Hmee Thwe'.
**Habitat:** Muddy bottoms, in depths of 50–74 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Eyes large, placed dorsolaterally; jaws nearly supraterminal, oblique, with outer row teeth protruding outside lips; head covered with scales; 21–22 pectoral fin rays; longitudinal scale count 35–45; 29–37 predorsal scales; opercles and cheeks fully scaled; scales on body and most of head ctenoid; transverse papillae pattern on head, papillae large and fleshy; all fins elongated and pointed.
**Colour:** Uniformly dark brown; fins black.

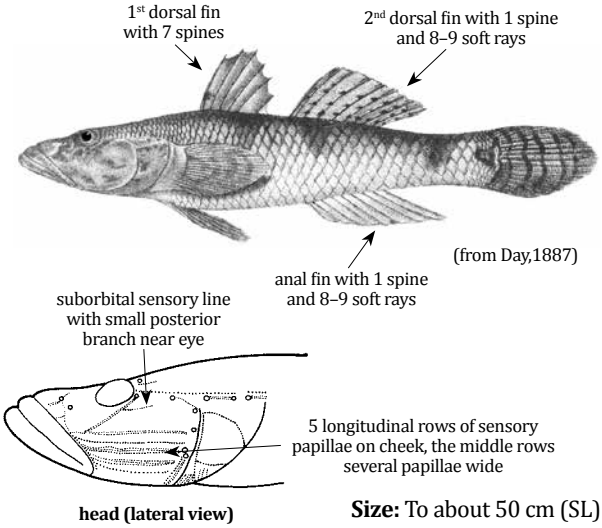



**Size:** To about 10 cm (TL)

***Glossogobius giuris*** (Hamilton, 1822)

**FAO names:** Tank goby (En)

**Local name(s):** Pin Le' Nga Pyet Tai Kee.
**Habitat:** Muddy bottoms, in depths of 50–70 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head flattened; lower jaw projecting; pelvic fins jointed but attached to the body only from their anterior part; gill openings extending forward to margin of preopercle; 22 pectoral fin rays; teeth in jaws large, sharp, recurved, well separated and unequal in size; caudal fin rounded.
**Colour:** Body brownish yellow with 5–6 dark and rounded spots on its sides (specimens living on dark substrates can be very dark, while specimens living on very light substrates show an ivory coloration); dorsal fins pale with small brownish spots forming longitudinal stripes; pelvic fins greyish.

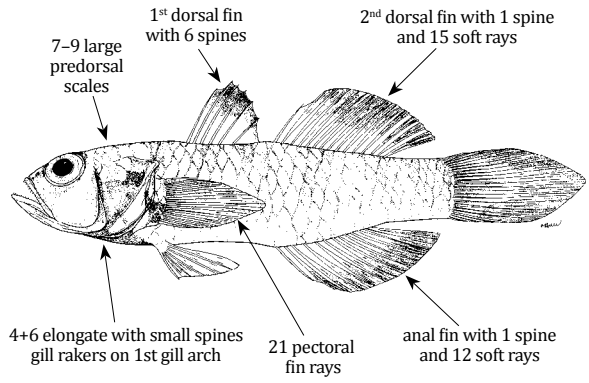



**Size:** To about 50 cm (SL)

**Gobiinae** sp. *

**FAO names:** Myanmar goby (En)

**Local name(s):** Pin Le' Nga Pyet Tan.
**Habitat:** Soft bottoms, in depths of 72–76 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head length 3.4–3.6 in SL; eye diameter 3.1–3.2 in HL; small conical teeth present in bands in both jaws with 28 large caniniform teeth overhanging jaws on each side of premaxillary symphysis in upper jaw, 10 on each side of mandibular symphysis in lower jaw; pelvic fins separate; scales large, deciduous, nape and upper opercle scaled; 26–28 scales in longitudinal row; a single anterior interorbital pore.
**Colour:** Overall whitish grey with 7 saddles on trunk; a yellow band below eye; a yellow spot on the upper rear corner of the opercle; median fins with dusky edges; caudal fin dusky, yellow at base.
**Remarks:** An undescribed species collected from off the coast of Myanmar presently under study by Pezold *et al*.

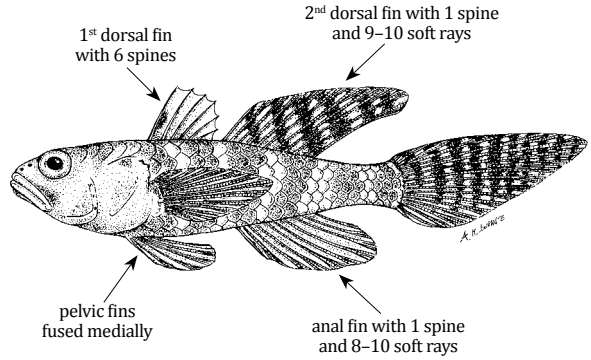



**Size:** To 8.2 cm (SL)

***Obliquogobius cometes*** (Alcock, 1890)

**FAO names:** Comet deepwater goby (En)

**Local name(s):** Pin Le' Nga Pyet A Hmee Taung.
**Habitat:** Hard sand bottoms in deeper water, 175–186 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head length 2.4–2.8 in SL; eye diameter 3.5–3.9 in HL; mouth very oblique, maxilla reaching a vertical through middle of the eye; both jaws with inner band of villiform teeth, and outer row of uniformly enlarged, acute, slightly curved teeth; scales large and very finely ctenoid; cheeks and opercles naked; all fins elongated; caudal fin long and pointed.
**Colour:** Transparent grey, with 7 broad bright yellow cross bands; gills showing through the opercle as a bright pink blotch; the 2nd dorsal and caudal fins beautifully pencilled in alternate, narrow, obliquely transverse stripes of black and white; anal fin with a broad dark border; ventrals blue-black.

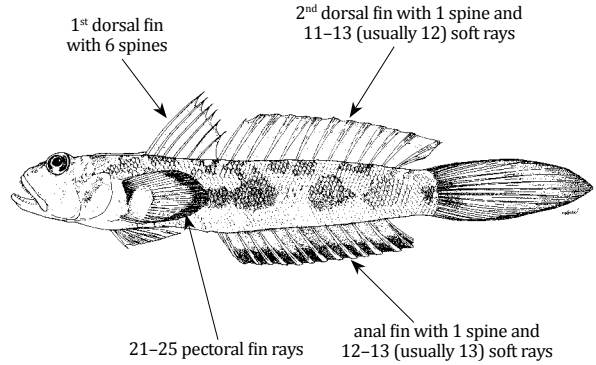



**Size:** To about 13 cm (TL)

***Oxyurichthys*** cf. ***auchenolepis*** Bleeker, 1876

**FAO names:** Scaly-nape tentacle goby (En)

**Local name(s):** Pin Le' Nga Pyet War Kyet.
**Habitat:** Soft bottoms, in depths of 56–60 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Body compressed; head deeper than wide, its length 21–28% of SL; upper jaw teeth in single row; upper lip constricted at premaxillary symphysis; fleshy knob or callus posterodorsally on eye in adults; scales ctenoid laterally on trunk posterior to middle of 1st dorsal fin, cycloid anteriorly; prepelvic region fully scaled; 1st dorsal fin low, spines of appressed fin not reaching posterior to 5th second dorsal fin element; pelvic fins rounded to oval, fused medially.
**Colour:** Head and body pale with yellowish blotches midlaterally and dorsally; dorsal fins with 3 rows of dusky orange spots or streaks and orange margins.
**Remarks:** Inclusion based on photographic record.

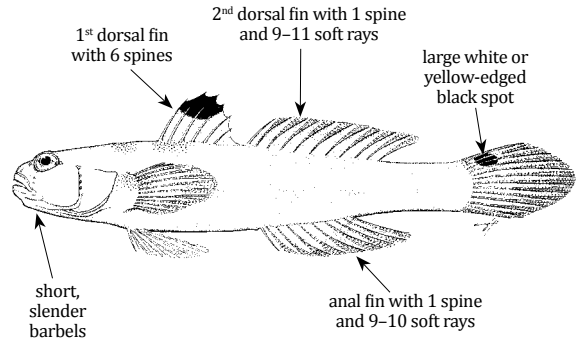



**Size:** To about 18.3 cm (TL)

***Parachaeturichthys polynema*** (Bleeker, 1853)

**FAO names:** Taileyed goby (En)

**Local name(s):** Pin Le' Nga Pyet A Hmee Me' Set.
**Habitat:** Muddy bottoms, in depths of 17–183 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Body depth 5.3–6.0 in SL; 20–22 pectoral fin rays; 25–30 scales in longitudinal series; caudal fin pointed, 3 in SL; scales on body ctenoid, cycloid on head, those on cheek small; pelvic fins joined to form a disc, not reaching anus.
**Colour:** Pale yellowish, the edges of the scales narrowly blackish; a white-edged black spot nearly as large as eye on upper part of caudal fin about one-third distance to posterior edge of fin; a large black spot distally on first three membranes of 1st dorsal fin.

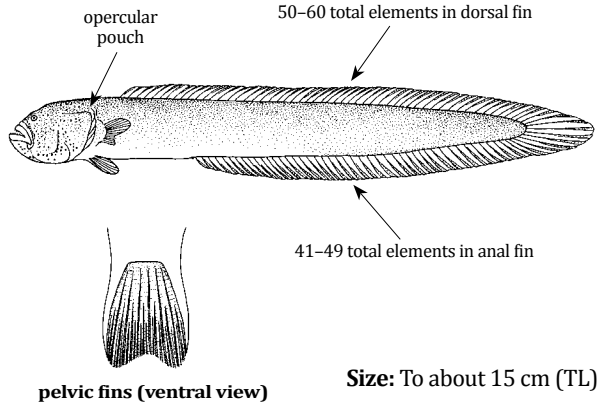



**Size:** To 15 cm (TL)

## *Paratrypauchen microcephalus* (Bleeker, 1860)

**FAO names:** Comb goby (En)

**Local name(s):** Pin Le' Nga Pyet Bee Ko Lone.
**Habitat:** Soft mud bottoms, in estuaries and coastal areas.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body slightly compressed; a pouch-like cavity at dorsal margin of operculum; no fang-like teeth on jaws (teeth on outer row sometimes strongly caninoid); body entirely scaled except abdomen and head; pelvic fins connected medially, but emarginate posteriorly, not forming a disc; eyes small; 12–20 pectoral fin rays.
**Colour:** Body reddish pink; whitish grey head with pinkish operculum; caudal fin dusky medially; remainder of caudal fin and other fins hyaline.

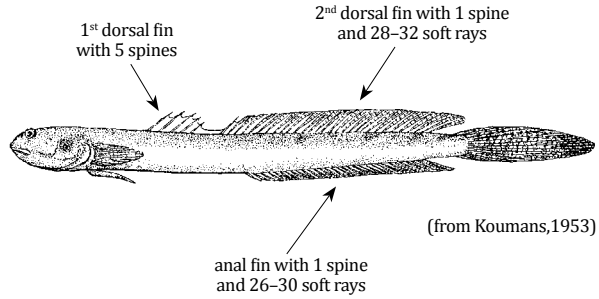



**Size:** To about 15 cm (TL)

## *Pseudapocryptes elongatus* (Cuvier, 1816)

**FAO names:** None (En)

**Local name(s):** Pin Le' Nga Pyet Lone Thwe'.
**Habitat:** Lives on mud flats.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Body depth 7.1–10.0 in SL; head length 4.5–6.7 in SL; head depth 9.1–12.5 in SL; pectoral fin length 7.7–10.0 in SL; pelvic fin length 8.3–11.1 in SL; pectoral fins lanceolate, with 17–21 rays; 150–275 scales in longitudinal series; lower eyelid absent; frenum well developed; caudal fin lanceolate; scales cycloid and small, covering most of body except for snout and most of ventral surface of head; teeth caninoid in both jaws in a single row.
**Colour:** Greenish brown dorsally, yellow brown ventrally; 6 black, diagonal, saddle-like blotches dorsally; dorsal fin elements slightly yellowish brown; caudal fin yellowish or dusky with more than 12 wavy, vertical, brown, broken lines; anal, pelvic and pectoral fins yellowish.

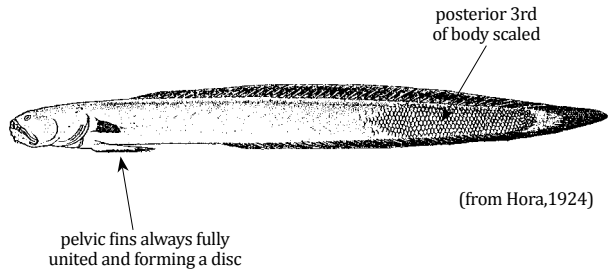



**Size:** To 20 cm (TL)

## *'Taenioides' nigrimarginatus* Hora, 1924

**FAO names:** Blackfin eel goby (En)

**Local name(s):** Pin Le' Nga Pyet Suu Taung Me'.
**Habitat:** Occurs along muddy bottoms of coastal rivers, estuaries, bays and lakes.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body with distinct cutaneous ridges; caudal, dorsal, and anal fins joined; canine teeth present in both jaws; no postsymphyseal canine teeth in lower jaw; upper lip thick, fleshy, with fringed dorsal margin; caudal fin short, the length usually subequal to head length; ventral surface of lower jaw usually with several clusters of long, fleshy barbels; scales posteriorly on the body, remaining parts naked.
**Colour:** Head and body pinkish or purplish to red; median fins with black margins.
**Remarks:** Generic position provisional (S. Bogorodsky pers. comm., 2019).

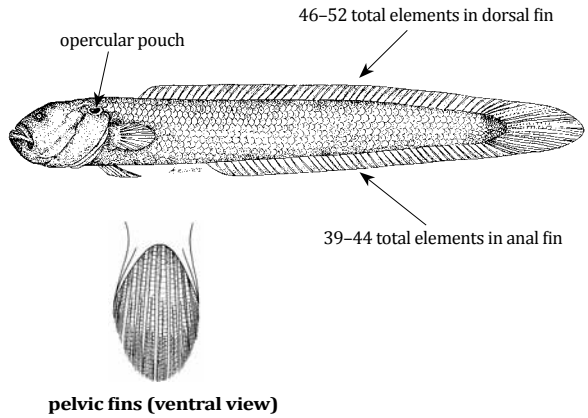



**Size:** To 23 cm (TL)

***Trypauchen pelaeos*** Murdy, 2006

**FAO names:** None (En)

**Local name(s):** Pin Le' Nga Pyet Ni Lone.
**Habitat:** Soft mud bottoms, in estuaries and coastal areas.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head and body slightly compressed; head length 5.6 or more in SL; predorsal length typically more than 4.5 in SL; prepelvic length 5.6 or more in SL; preanal length more than 2.8 in SL; a pouch-like cavity at dorsal margin of operculum; no fang-like teeth on jaws (teeth on outer row sometimes strongly caninoid); head naked; abdomen fully scaled; pelvic fins united and rounded posteriorly, typically forming a funnel-like disc; eyes rudimentary covered by skin; 16–20 pectoral fin rays; 19–20 caudal vertebrae.
**Colour:** Body reddish pink; whitish grey head with pinkish operculum; caudal fin dusky medially; remainder of caudal fin and other fins hyaline.





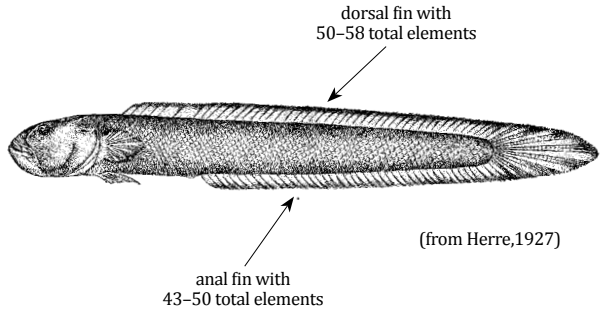

**pelvic fins (ventral view)**

**Size:** To about 15 cm (TL)

***Trypauchen vagina*** (Bloch & Schneider, 1801)

**FAO names:** Pink worm goby (En)

**Local name(s):** Pin Le' Nga Pyet Pan Yaung.
**Habitat:** Occurs along the bottom in tidal rivers and estuaries; burrows in mud.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Similar to *Trypauchen pelaeos* but 50–58 and 43–50 total elements in dorsal and anal fin, respectively; SL typically 1.2 or more in TL; head length less than 5.6 in SL; predorsal length less than 4.5 in SL; prepelvic length less than 5.6 in SL; preanal length 2.8 or less in SL; 23–24 caudal vertebrae.
**Colour:** Head and body entirely reddish.

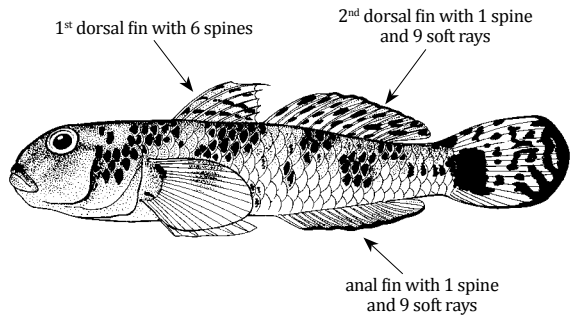



**Size:** To 22 cm (TL)

***Yongeichthys nebulosus*** (Forsskål, 1775)

**FAO names:** Shadow goby (En)

**Local name(s):** A Yeik Htwet Pin Le' Nga Pyet.
**Habitat:** Muddy bottoms, in depths of 17–183 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Head slightly compressed; jaws subequal; pelvic fins united medially; scales ctenoid, excepting those on breast and pectoral fin base cycloid; head naked; sensory canals and pores present on head; longitudinal pattern of sensory papillae rows on cheek, some rows multiple; aggregation of sensory papillae just behind chin; 17–18 pectoral fin rays; 25–28 scales in longitudinal row.
**Colour:** Head and body pale grey with irregular brown saddles and large dusky midlateral blotches; dorsal and caudal fins with rows of brown spots; pelvic and anal fins white with black margin.

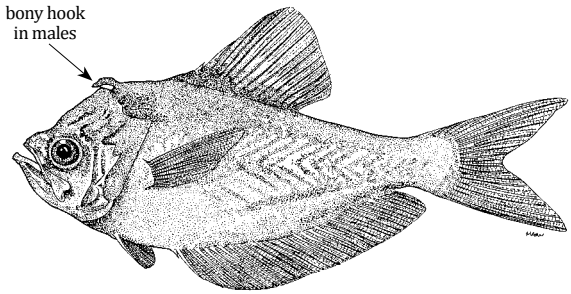



**Size:** To 10 cm (SL)

# KURTIDAE
Nurseryfishes

***Kurtus indicus*** Bloch, 1786

**FAO names:** Indian humphead (En)



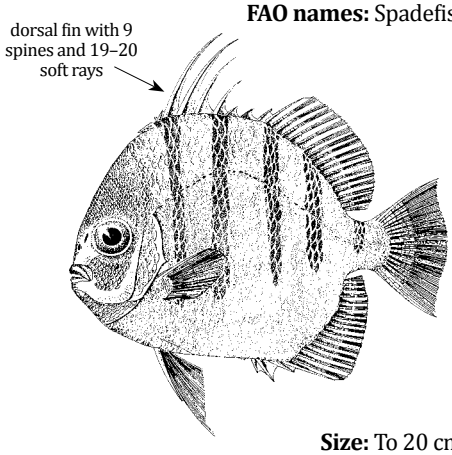

**Local name(s):** Nga Phauk Lauk.
**Habitat:** Lives in fresh, brakish and marine waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body oval-shaped, compressed; head humped and elevated, especially in males, which have a prominent protuberance or bony hook on forehead; a single, short-based dorsal fin with 5–7 rudimentary spines at front followed by 2 well-developed spines and 12 to 14 soft rays.
**Colour:** Semi-transparent pinkish white, with silvery reflections anteriorly on head and body.

**Size:** To 12.6 cm (TL)

# EPHIPPIDAE
Spadefishes

***Ephippus orbis*** (Bloch, 1787)

**FAO names:** Spadefish (En)

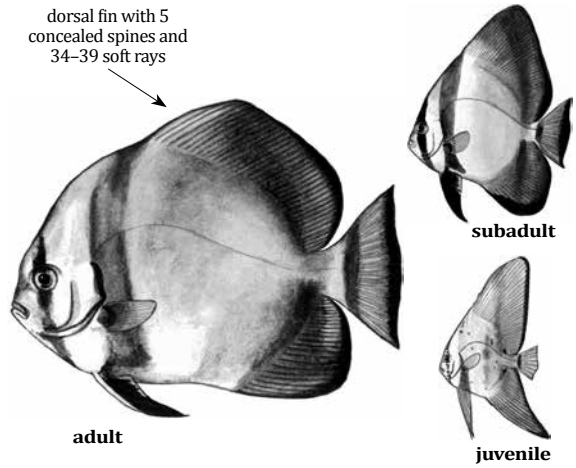



**Local name(s):** Sin Na Pu.
**Habitat:** Reef-associated; depth range 10–30 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body orbicular, strongly compressed; single dorsal fin with a deep notch before soft rayed part; pectoral fins shorter than head; mouth small, the maxilla not reaching past vertical at front edge of eye; jaws with bands of slender, incisiform teeth with a single lanceolate cusp; preopercle distinctly serrate, with a broad naked margin; opercle without spines; anal fin with 3 spines and 15–17 soft rays.
**Colour:** Head and body silvery bluegreen; 4–5 faint dark blue bars often visible on body; fins dusky.

**Size:** To 20 cm (TL)

***Platax orbicularis*** (Forsskål, 1775)

**FAO names:** Copper batfish (En)



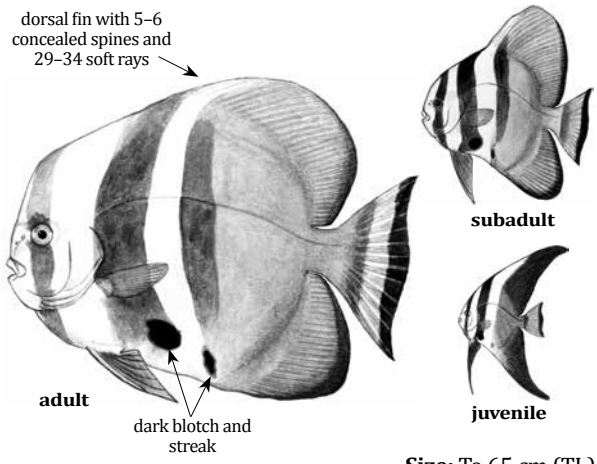

**Local name(s):** Nga Leik Pyar Gyi Phyu Me' Sinn.
**Habitat:** Adults found on or near reefs; juveniles occur inshore and are common in mangrove swamps, where they often float on their side at the surface and mimic floating leaves.
**Fisheries:** Bottom trawls; gillnets.
**Distinctive Characters:** Body orbicular, strongly compressed; forehead profile somewhat angular; 5 pores on each side of lower jaw; anal fin with 3 spines and 25–29 soft rays.
**Colour:** Adults (above 20 cm) yellowish silvery or dusky with a dark bar through eye and another bar just behind head; occasionally with a few small, scattered black spots on body; median fins yellowish, with black margins posteriorly; pelvic fins black; juveniles with dark vermiculated bar through eye; caudal fin transparent except for base, which is reddish brown.

**Size:** To 50 cm, common 25 cm (TL)

***Platax teira*** (Forsskål, 1775)

**FAO names:** Spotbelly batfish (En)

**Local name(s):** Nga Leik Pyar Gyi Phyu Hnit Sinn.
**Habitat:** Juveniles in shallow protected areas; adults in lagoons and seaward reefs down to 20 m.
**Fisheries:** Bottom trawls; gillnets.
**Distinctive Characters:** Body orbicular, strongly compressed; adults with high nearly vertical forehead and prominent hump on nape; 5 pores on each side of lower jaw; anal fin with 3 spines and 21–26 soft rays.
**Colour:** Yellowish silvery or dusky, with a black bar through eye and another dark bar from dorsal fin origin across rear edge of operculum and pectoral fin base to belly, where it usually encloses a black blotch, with another smaller black vertical streak often present at origin of anal fin; median fins dusky yellow, with black margins posteriorly.



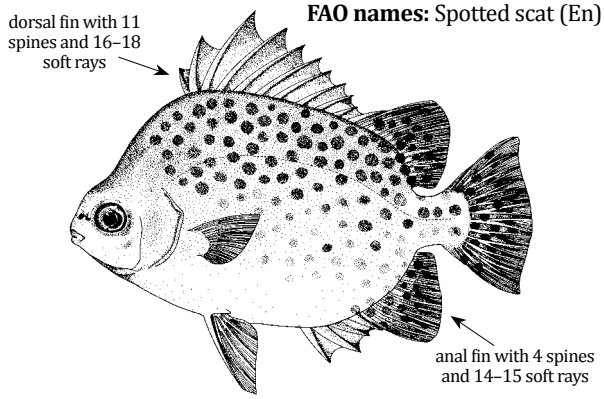

**Size:** To 65 cm (TL)

## SCATOPHAGIDAE
Scats

***Scatophagus argus*** (Linnaeus, 1766)

**FAO names:** Spotted scat (En)

**Local name(s):** Nga Khet, Nga Pa Thun.
**Habitat:** Occurs in estuaries, harbours, and lower reaches of fresh-water streams.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body quadrangular, strongly compressed; dorsal profile of head steeply ascending to dorsal fin origin; snout rounded; mouth small, horizontal, not protractile; teeth villiform, in several rows on jaws.
**Colour:** Greenish with black spots; in large adults, spots may be faint and restricted to dorsal part of flanks; juveniles with a few large roundish blotches or with about 5–6 broad, dark, vertical bars.



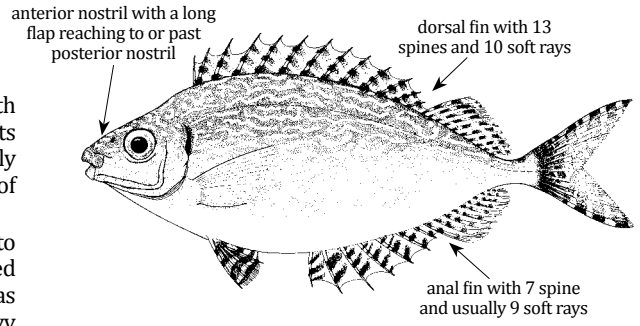

**Size:** To 38 cm, commom 20 cm (TL)

## SIGANIDAE
Rabbitfishes

***Siganus argenteus*** (Quoy & Gaimard, 1825)

**FAO names:** Streamlined spinefoot (En)
Sigan vermiculé (Fr)

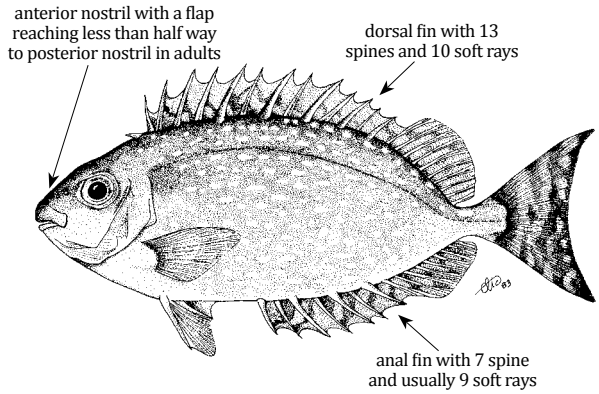
**Local name(s):** Nga Yan Sharr, Nga Suu Pyan.
**Habitat:** Coral reefs down to 40 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Juveniles and adults with body oval and compressed, slender, fusiform, its depth 2.4–3.0 in SL; snout pointed; caudal fin deeply forked; a forward-directed spine present in front of dorsal fin (true of all *Siganus* species).
**Colour:** Juveniles/adults: deep-sea blue above to paler blue below; head and trunk usually covered with small yellow spots, bars, and commas (frequently spots joining to form horizontal wavy lines, particularly on lower sides).




**Size:** To 46 cm, commom 25 cm (TL)

## *Siganus canaliculatus* (Park, 1797)

**FAO names:** White-spotted spinefoot (En)
Sigan pintade (Fr)

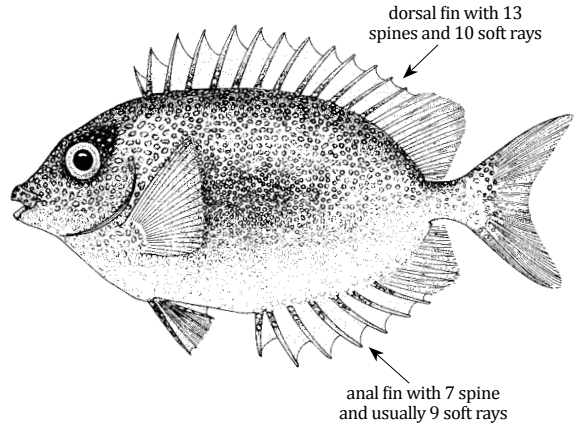



**Local name(s):** Nga Yan Sha, Nga Suu Pyan Phyu Set.
**Habitat:** Demersal, neritic, schooling in turbid inshore areas and inner reefs near river mouths down to 40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body compressed, moderately slender, its depth 2.3–2.8 in SL; head profile slightly concave above eye; snout pointed rather than blunt; caudal fin almost emarginate in specimens under 10 cm, forked in larger fish.
**Colour:** In life, highly variable, depending on mood of fish and colour of substrate; greenish grey above to silver on belly; numerous pearly blue spots covering nape and sides; 2–3 well-spaced rows of spots between lateral line and base of anterior half of dorsal fin; frightened and injured fish mottled brown.

**Size:** To 30 cm, common 20 cm (TL)

## *Siganus corallinus* (Valenciennes, 1835)

**FAO names:** Bluespotted spinefoot (En)
Sigan corail (Fr)

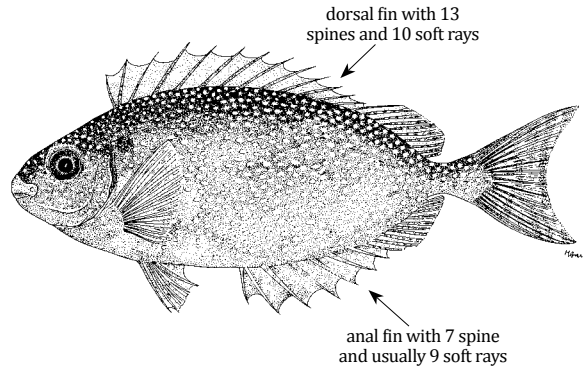



**Local name(s):** Nga Yan Sharr, Nga Suu Pyan Pyar Set.
**Habitat:** Coral reefs in depths to about 6 m; juveniles in seagrass beds.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.7–2.4 in SL; profile of head descending at an angle of about 45°, strongly concave before eyes and behind chin so that snout protrudes prominently; caudal fin emarginate in specimens under 5 cm, deeply forked in adults.
**Colour:** Head, body, and fins orange yellow; head, breast, and sides covered with pale blue ocelli with darker blue margins, which may cover whole of sides or be absent from posterior and lower sides; ocelli about pinhead size and about same size as interspaces, larger and more crowded on head, sometimes smaller on sides and much smaller than interspaces; iris unspotted.

**Size:** To 30 cm, common 20 cm (TL)

## *Siganus fuscescens* (Houttuyn, 1782)

**FAO names:** Mottled spinefoot (En)



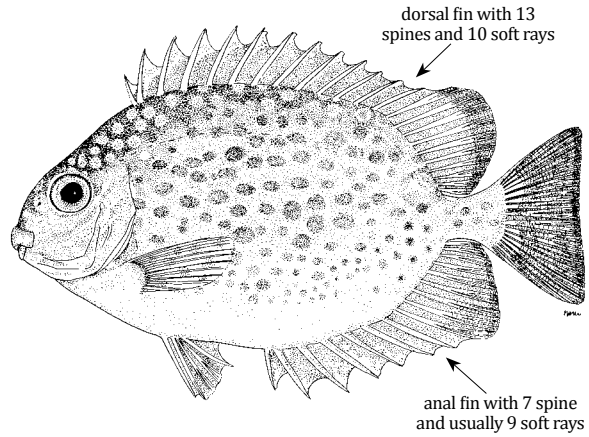

**Local name(s):** Nga Yan Sharr, Nga Suu Pyan Pyauk Kyar.
**Habitat:** In shallow coastal waters to depths of 50 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body compressed, fairly slender, its depth 2.3–2.9 in SL; head profile slightly to markedly concave above eye; caudal fin almost emarginate in specimens under 10 cm, deeply forked in large adults.
**Colour:** In life, highly variable, depending on mood of fish; olive green or brown above to silvery below; 180 to several hundred pearly blue spots on head and trunk; 4–6 rows of close-set spots between lateral line and base of anterior half of dorsal fin; frightened and injured fish mottled with splotches of light and dark brown and whitish.

**Size:** To 40, common 25 cm (TL)

***Siganus guttatus*** (Bloch, 1787)

**FAO names:** Orangepotted spinefoot (En)

**Local name(s):** Nga Suu Pyan Lein Hmaw.
**Habitat:** Fringing reefs in depths to about 6 m; juveniles in seagrass beds around river mouths.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.8–2.3 in SL; dorsal profile of head descending fairly steeply, slightly concave in front of eye; anterior nostril with a low rim; caudal fin emarginate to moderately forked in adults.
**Colour:** Blue above to silver below; large, roundish, bronze-gold spots over sides (except for thorax and, sometimes, lower belly), largest on midside where same size as pupil, slightly smaller on lower sides; head golden with sinuous blue lines radiating from mouth to eye and across cheeks; a bright yellow spot about size of orbit on sides at base of last few rays of dorsal fin; iris plain yellow.

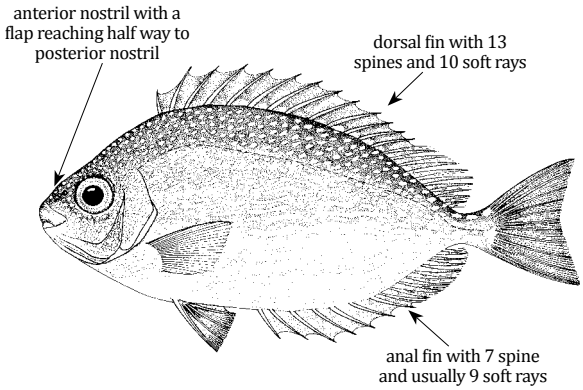



**Size:** To 45 cm, common 25 cm (TL)

***Siganus javus*** (Linnaeus, 1766)

**FAO names:** Streaked spinefoot (En)

**Local name(s):** Nga Yan Sharr, Nga Suu Pyan Kyar.
**Habitat:** Occurs in small schools of up to 10 individuals or so, in shallow coastal waters, brackish lagoons and rock or coral reefs.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body compressed, its depth 2.0–2.3 in SL; head profile slightly concave above orbit; snout short and blunt; caudal fin emarginate.
**Colour:** Back dark bronze, to paler below; numerous gun-metal blue spots on head and upper sides, about pinhead size on head but posteriorly just slightly smaller than pupil, coalescing into paler silvery blue undulating lines on mid-and lower sides.

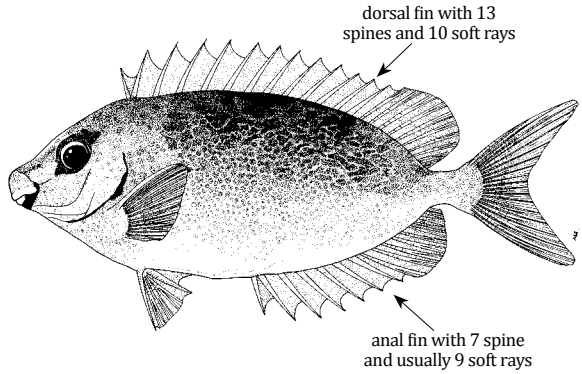



**Size:** To 55 cm (TL)

***Siganus puelloides*** Woodland & Randall, 1979

**FAO names:** Blackeye rabbitfish (En)

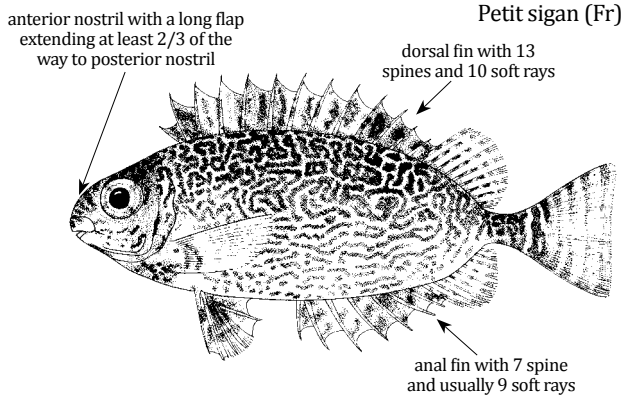
**Local name(s):** Nga Su Pyan Myet Lone Me'.
**Habitat:** Reef-associated; depth range 1–30 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body compressed, fairly slender, its depth 2.3–2.4 in SL; dorsal profile of head almost straight with slightly convex interorbital; snout rather long; caudal fin rather deeply forked.
**Colour:** Body and fins yellow or brownish yellow with numerous, small, close-set orange-yellow spots on body; a blackish bar across chin; a dark patch around eye, including 4–5 small black spots just above eye; gill opening with a black posterior margin.




**Size:** To 31 cm (TL)

## *Siganus spinus* (Linnaeus, 1758)

**FAO names:** Little spinefoot (En)
Petit sigan (Fr)

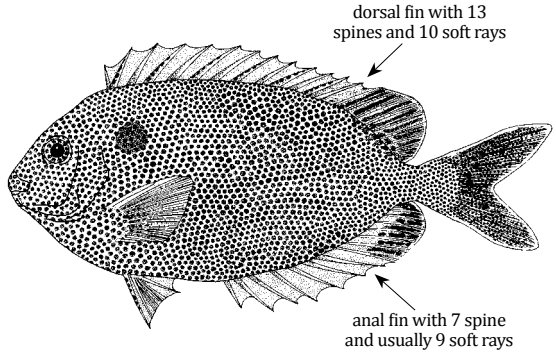



**Local name(s):** Nga Su Pyan Suu Pauk.
**Habitat:** Reef-associated; depth range 1–6 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body compressed, fairly slender, its depth 2.3–2.8 in SL; dorsal profile of head concave above eye; snout convex and blunt; caudal fin emarginate in juveniles, truncate in adults.
**Colour:** Head and body covered with a pearly blue to pale cream labyrinth on a brown to greyish brown background; pattern on body extending onto pelvic fins and spinous parts of dorsal and anal fins; prominent pale bar across base of caudal fin.
**Remarks:** Recorded at the border with Thailand Most likely occurring also in Myanmar (at least in the south-eastern part).

**Size:** To 24, common 18 cm (TL)

## *Siganus stellatus* (Forsskål, 1775)

**FAO names:** Brown-spotted spinefoot (En)
Sigan marguerite (Fr)

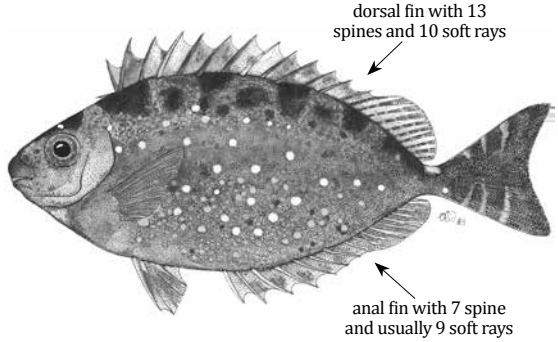



**Local name(s):** Nga Su Pyan Nyo Set Pyauk.
**Habitat:** Reef-associated; depth range 1–30 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 2.0–2.3 in SL; dorsal profile of head virtually a straight line descending at an angle of about 45°, ventral profile slightly concave below chin; caudal fin emarginate in young, gradually changing to deeply forked in old individuals; both caudal fin lobes usually broadly rounded at tips.
**Colour:** In life, greyish green with brown spots all over head and trunk; spots extending onto all fins, including basal portion of pectoral fin rays; iris silver, interrupted by 10 brown spots like the spokes of a wheel.
**Remarks:** Recorded at the border with Thailand Most likely occurring also in Myanmar (at least in the south-eastern part).

**Size:** To 40 cm, common 35 cm (TL)

## *Siganus sutor* (Valenciennes, 1835)

**FAO names:** African white-spotted spinefoot (En)



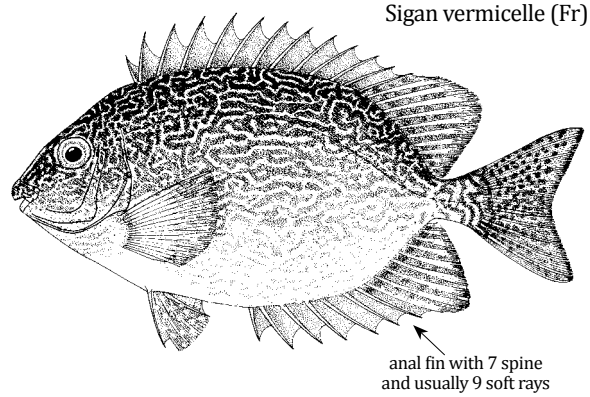

**Local name(s):** Nga Su Pale Set Pyauk.
**Habitat:** Reef-associated (also in brackish waters); depth range 1–12 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body compressed, fairly slender, its depth 2.2–2.6 in SL; dorsal profile of head virtually a straight line; caudal fin emarginate in juveniles, gradually changing to deeply forked in large individuals.
**Colour:** In life, olive to bronzy yellowish with widely scattered bluish white spots on body.
**Remarks:** The eastern population requires further study and is provisionally assigned to *S. sutor* (see Allen and Erdmann, 2012)

**Size:** To 45 cm, common 30cm (TL)

***Siganus vermiculatus*** (Valenciennes, 1835)

**FAO names:** Vermiculated spinefoot (En)
Sigan vermicelle (Fr)

**Local name(s):** Nga Su Pyan Kywet Kyar.
**Habitat:** An estuary dependent species, also found in brackish lagoons.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.9-2.2 in SL; dorsal profile of head convex, slightly concave above eye; caudal fin emarginate; dorsal fin with 13 spines and 10 soft rays.
**Colour:** Head and body totally covered with a vermiculate pattern; dark spots present on soft parts of dorsal and anal fins, arranged in rows, the proximal row prominent, other parts of these fins dusky; dark lines breaking into spots on caudal fin, spots arranged in 4 vertical rows; cheek, forehead and lips yellowish.

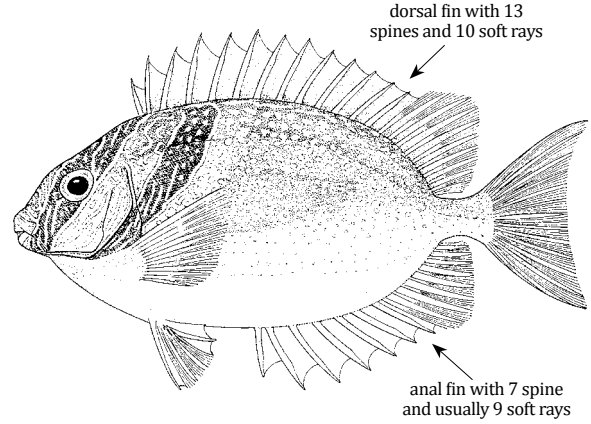



**Size:** To 45 cm, common 30 cm (TL)

***Siganus virgatus*** (Valenciennes, 1835)

**FAO names:** Doublebarred spinefoot (En)

**Local name(s):** NgaYan Sharr, Nar Hnit Sin Nga Suu Pyan.
**Habitat:** Around both hard coral reefs and areas of sand with patches of rock and soft coral.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.8-2.3 in SL; dorsal profile of head convex; anterior nostril with a high flange, a little higher and pointed posteriorly; caudal fin emarginate in juveniles to moderately forked in adults.
**Colour:** Brown band running from nape through eye to chin; another from base of 4th to 6th dorsal fin spines to base of pectoral fins; these bands with small blue spots or short lines; area between bands lemon yellow, with wavy blue lines breaking up into blue spots on cheek; sides of body lemon yellow above to silvery below, variously marked with small blue ocelli and short blue lines.



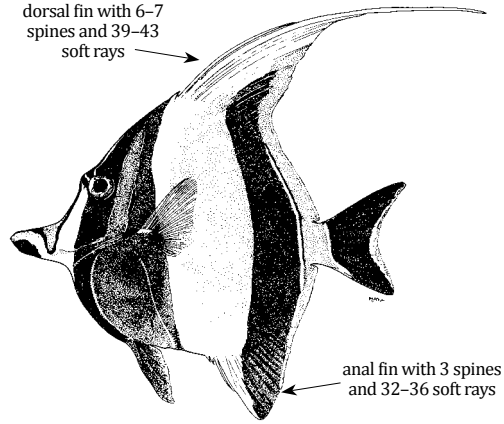

**Size:** To 33 cm, common 20 cm (TL)

## ZANCLIDAE
Moorish idol

***Zanclus cornutus*** (Linnaeus, 1758)

**FAO names:** Moorish idol (En)

**Local name(s):** Moe Yit Nga Leik Pyar.
**Habitat:** Coral reefs or rocky substrata to depths as great as 180 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body very deep, its depth 1.0–1.4 in SL, and very compressed; adults with a sharp bony projection in front of each eye (larger in males); snout narrow and strongly protruding.
**Colour:** White anteriorly, yellow posteriorly, with 2 broad black bars, the first nearly enclosing eye in its anterior part and broadening ventrally to include chest, pelvic fins, and half of abdomen; second black bar on posterior half of body, edged posteriorly with white and black lines, and extending into both dorsal and anal fins; a black-edged orange saddle-like marking on snout; chin black.



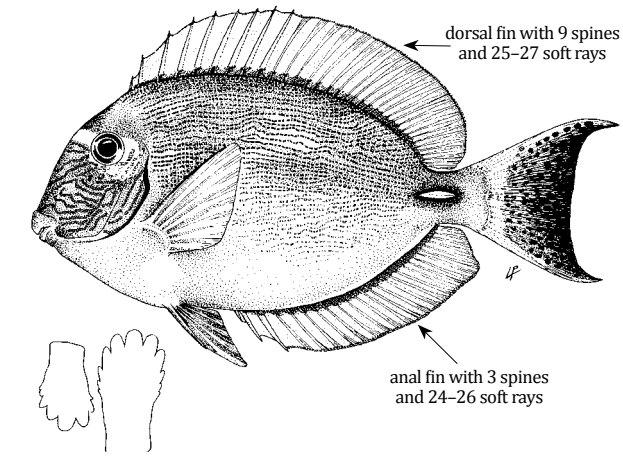

**Size:** To 23 cm, commom 16 cm (TL)

# ACANTHURIDAE
Surgeonfishes

***Acanthurus dussumieri*** Valenciennes, 1835

**FAO names:** Eyestripe surgeonfish (En)
Chirurgien couronné (Fr)

**Local name(s):** Nga Yan Sharr Myet Sinn.
**Habitat:** Reef-associated in depth greater than 15 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.9–2.1 in SL; dorsal profile of head strongly convex in large adults; caudal spine 3.0–5.0 in HL; caudal fin lunate; teeth fixed, denticulate on all of margin (true of other species of the genus).
**Colour:** Light brown with numerous longitudinal, slightly wavy purplish to bluish grey lines on body; similar, but more irregular lines on head; a yellow band about as wide as pupil extending anteriorly from eye and less distinctly posteriorly from eye; sheath of peduncular spine pale cream to white; dorsal and anal fins yellow, sometimes with traces of narrow bluish longitudinal bands distally caudal fin deep blue with numerous small blackish spots.

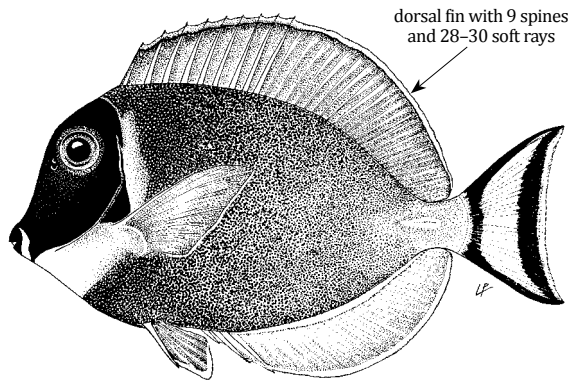



**Size:** To 54 cm (TL)

***Acanthurus leucosternon*** Bennett, 1833

**FAO names:** Powder blue surgeonfish (En)

**Local name(s):** Nga Yan Sharr Pyar Hmine.
**Habitat:** Inshore coral reefs in 1–25 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.7–1.9 in SL; caudal spine 2.5–3.0 in HL; caudal fin deeply lunate; anal fin with 3 spines and 26–28 soft rays.
**Colour:** Body sky blue with black face; a white band at base of lips; a broad white band crossing chin and chest; dorsal fin yellow with a white margin and black submarginal line; anal fin grey with a white margin and a narrow white basal band; caudal peduncle and spine yellow; caudal fin black with a crescentic central white region and a white posterior margin.

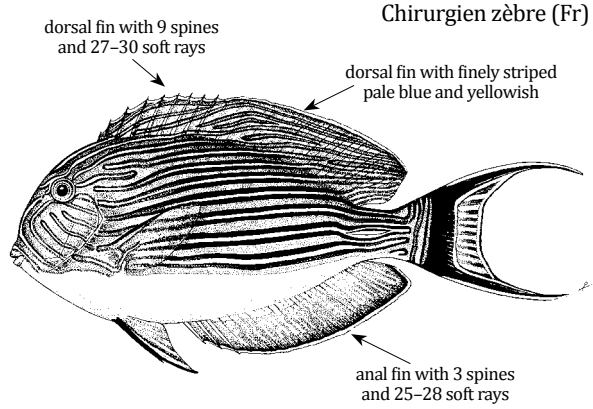



**Size:** To 23 cm (TL)

***Acanthurus lineatus*** (Linnaeus, 1758)

**FAO names:** Lined surgeonfish (En)
Chirurgien zèbre (Fr)

**Local name(s):** Nga Yan Sharr Line Sinn.
**Habitat:** Outer edge of reefs down to 6 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body moderately elongate and compressed, its depth 2.1–3.0 in SL; caudal spine 1.9–2.0 in HL; caudal fin deeply lunate.
**Colour:** Upper ¾ of body and head with alternating black-edged blue and yellow stripes; lower fourth pale lavender to bluish white; caudal fin blackish with a large, grey crescent centroposteriorly, edged at the front in bluish white and at the posterior margin with black; anal fin grey with a yellow basal band and a light blue margin; pelvic fins yellow-orange with a black submarginal line edged at the front in bluish white.

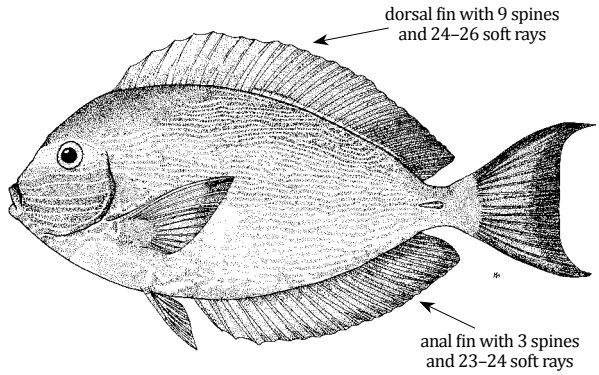



**Size:** To 38 cm (TL)

***Acanthurus mata*** (Cuvier, 1829)

**FAO names:** Elongate surgeonfish (En)

**Local name(s):** Nga Yan Sharr A Pyar Yaung.
**Habitat:** Coastal and offshore reefs, often in small groups in mid-waters.
**Fisheries:** Mainly gillnets, occasionaly bottom trawls.
**Distinctive Characters:** Body moderately elongate and compressed, its depth 2.1–2.5 in SL; caudal spine small; caudal peduncle slender, its depth 7.7–9.5 in SL; caudal fin of adults deeply emarginate, double emarginate in juveniles.
**Colour:** Dark brown with slightly irregular lengthwise blue lines on head and body; a small blackish spot at upper edge of opercle, preceded by a yellow band that continues in front of eye as double band; capable of colour change to overall pale blue.

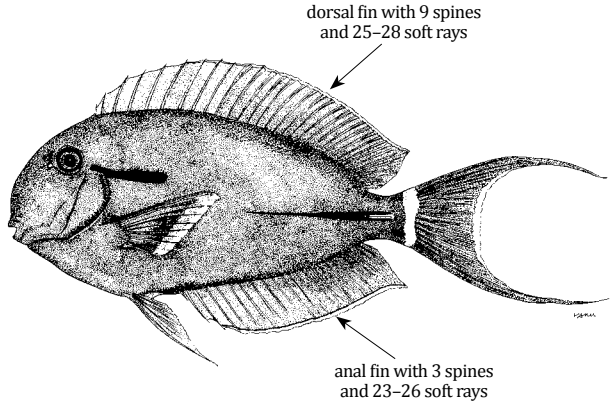



**Size:** To 50 cm (TL)

***Acanthurus nigricauda*** Duncker & Mohr, 1929

**FAO names:** Epaulette surgeonfish (En)

**Local name(s):** Nga Yan Sharr Par Net Sinn.
**Habitat:** Lagoons and bays, around isolated coral heads and rocks and on sandy bottoms.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body moderately deep and compressed, its depth 2.0–2.2 in SL; caudal spine 2.8–4.5 in HL; dorsal profile of head of large adults strongly convex; caudal fin progressively more lunate with age.
**Colour:** Brown without lines on body or spots on head; a horizontal black band passing posteriorly from upper end of gill opening (first appearing at about 6 cm SL); a horizontal black streak, enclosing and extending anteriorly from peduncular spine (first appearing at about 10 cm SL); dorsal and anal fins without stripes, the distal margin blue; outer fourth of pectoral fins abruptly pale (partly yellow in life); caudal fin blackish with awhite bar across base and a white posterior margin.

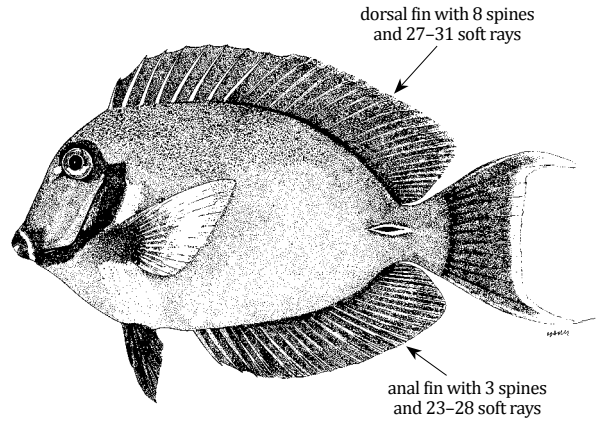



**Size:** To 40 cm (TL)

***Acanthurus pyroferus*** Kittlitz, 1834

**FAO names:** Mimic surgeonfish (En)

**Local name(s):** Nga Yan Sharr Mi Mic.
**Habitat:** Lagoon and seaward reefs in depths of 4–60 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.8–2.0 in SL; caudal spine 2.5–4.5 in HL; mouth distinctly protruding, hence dorsal profile of snout concave; caudal fin rounded in juveniles, progressively more lunate with age in adults.
**Colour:** Overall yellowish brown with white band around mouth, black margin around eye, brown or black band from chin to upper edge of gill cover, orange patch above pectoral fin base, and yellow margin on caudal fin. Juveniles entirely bright yellow.

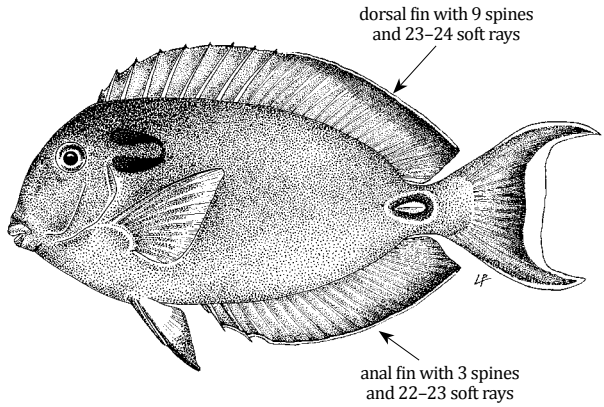



**Size:** To 29 cm (TL)

***Acanthurus tennentii*** Günther, 1861

**FAO names:** Doubleband surgeonfish (En)

**Local name(s):** Nga Yan Sharr Hnit Htut Kywet.
**Habitat:** Lagoon and seaward reefs down to 40 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.9–2.2 in SL; caudal spine 2.5–3.8 in HL; caudal fin emarginate to lunate.
**Colour:** Body dark brown to light tan with a pair of black streaks above and just behind upper edge of opercle; socket of caudal spine bordered in black with an outer blue margin; caudla fin with a white posterior margin.

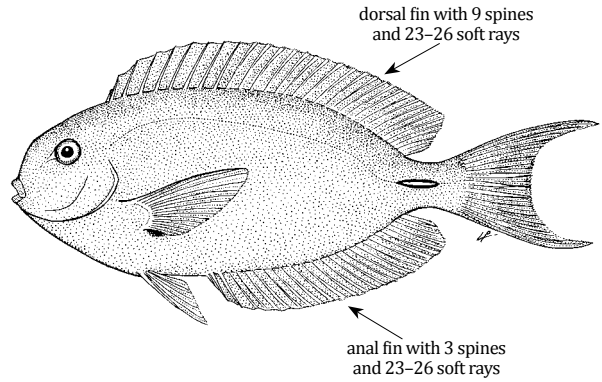



**Size:** To 31 cm (TL)

***Acanthurus thompsoni*** (Fowler, 1923)

**FAO names:** Thompson's surgeonfish (En)

**Local name(s):** Thompson Nga Yan Sharr.
**Habitat:** Outer seaward reef slopes and steep drop-offs in 4–75 m; usually in groups feeding on zooplankton high above the bottom.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body moderately elongate and compressed, its depth 2.2–2.4 in SL; dorsal profile of head distinctly convex; caudal spine small; caudal fin deeply emarginate.
**Colour:** Uniform light to dark brown with a darker brown spot in axil of pectoral fin (difficult to see on dark specimens) and a black spot at rear base of dorsal fin; caudal fin colored like the body in Hawaiian specimens but white elsewhere. Capable of rapidly changing color to pale greyish blue.

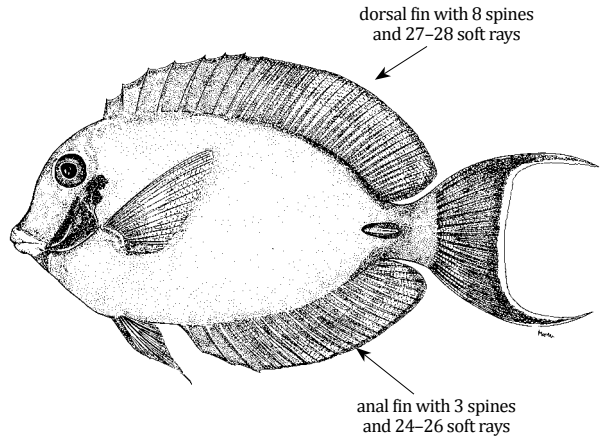



**Size:** To 27 cm (TL)

***Acanthurus tristis*** Randall, 1993

**FAO names:** Sad surgeonfish (En)

**Local name(s):** Nga Yan Sharr Nyo Sinn.
**Habitat:** Lagoon and outer reefs in depths of 2–30 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.8–2.0 in SL; caudal spine 2.5–4.7 in HL; mouth somewhat protruding; dorsal profile of snout convex; caudal fin of adults lunate.
**Colour:** Similar to *Acanthurus pyroferus* (see above); both species have dark band from chin to upper edge of gill cover, but *A. tristis* lacks dark patch around eye and has white instead of yellow margin on caudal fin.

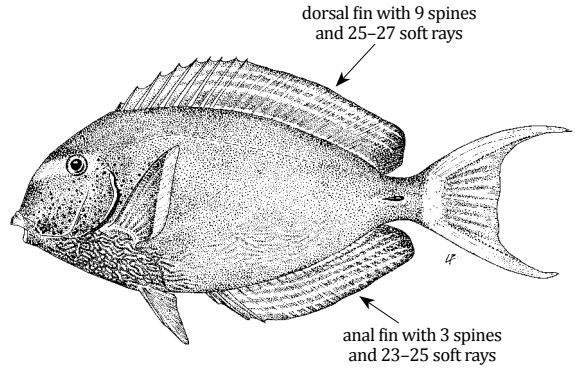



**Size:** To 25 cm (TL)

***Acanthurus xanthopterus*** Valenciennes, 1835

**FAO names:** Yellowfin surgeonfish (En)
Chirurgien aile jaune (Fr)

**Local name(s):** Nga Yan Sharr Hmee War.
**Habitat:** Lagoon and seaward reefs; adults are common in sandy habitats near reefs from 20 m to 90 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body moderately deep, its depth 1.9–2.2 in SL; caudal spine 4.4–5.7 in HL; dorsal profile of head convex; caudal fin deeply emarginate to lunate.
**Colour:** Body purplish grey when alive; greyish brown when preserved; a region of dull yellow in front of eye, a lesser extension posterior to lower part of eye; dorsal and anal fins brownish yellow with 4 longituinal blue bands and a blue-grey band at base; a whitish band across base of caudal peduncle; outher third of pectoral fins yellow; a broad blue area around caudal spine.

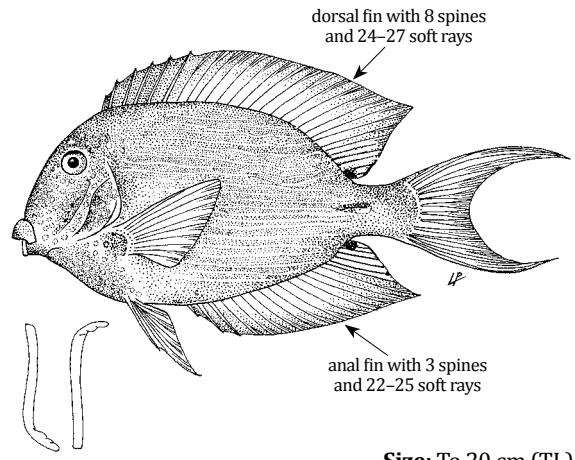



**Size:** To 62 cm, common 50 cm (TL)

***Ctenochaetus binotatus*** Randall, 1955

**FAO names:** Twospot bristletooth (En)

**Local name(s):** Nga Yan Sharr Phyu Hnit Set.
**Habitat:** Coral and rubble areas of reefs in 12-53 m; usually solitary.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, 1.8–2.3 in SL; mouth small, teeth numerous, movable, slender and elongate, with expanded incurved tips which are denticulate on the lateral margin (true of other species of the genus); caudal fin lunate.
**Colour:** Orange-brown with pale spots on head and breast, longitudinal pale lines on side, and black spot at rear base of dorsal and anal fins; juveniles dark brown with blue spots on head and breast, faint blue lines on body, and yellow tail.

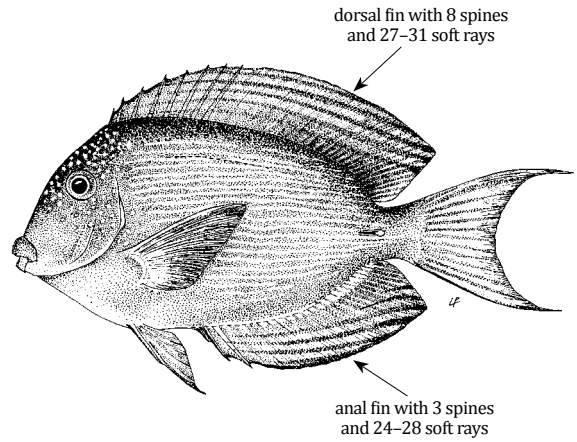



**Size:** To 20 cm (TL)

***Ctenochaetus striatus*** (Quoy & Gaimard, 1825)

**FAO names:** Striped bristletooth (En)

**Local name(s):** Nga Yan Sharr Sinn Gyaung.
**Habitat:** Various reef habitats from protected lagoons to ocean reefs; one of the most abundant and ubiquitous species of surgeonfishes
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed, its depth 1.9–2.3 in SL; mouth small, teeth numerous, movable, slender and elongate, with expanded incurved tips which are denticulate on the lateral margin (6 denticulations on upper and 4 on lower teeth); caudal fin lunate.
**Colour:** Dark olive to yellowish brown with blue or blue-grey lengthwise lines on body and small orange spots on head and nape; dorsal and anal fins with about 5 lengthwise dark bluish bands; pectoral fins pale with brownish yellow rays; a small blackish spot at rear base of dorsal fin of juveniles and small adults.




**Size:** To 26 cm (TL)

***Naso annulatus*** (Quoy & Gaimard, 1825)

**FAO names:** Whitemargin unicornfish (En)

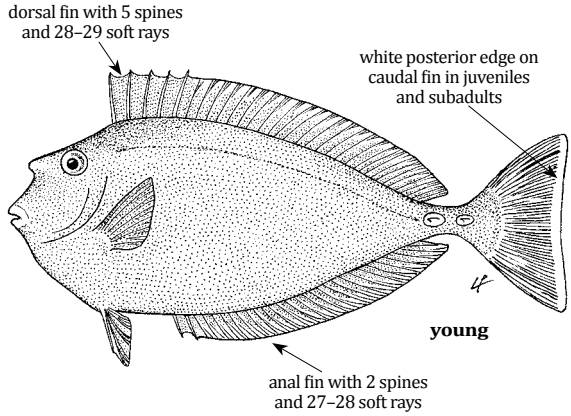
**Local name(s):** Nga Yan Sharr Hmee Phyu Sin.

**Habitat:** Outer reef slopes in 20–60 m; usually in small schools.

**Fisheries:** Mainly gillnets, occasionaly bottom trawls.

**Distinctive Characters:** Body moderately deep and compressed, its depth 2.2–3.0 in SL; adults with a long, tapering, horn-like projection extending nearly a head length in front of mouth (first developing as a bump on forehead of young of about 20 long); 2 bony plates on each side of caudal peduncle; caudal fin truncate in subadults, scalloped in adults, the large males with a long trailing filament from each corner.

**Colour:** Light bluish grey or brown, paler ventrally; edge of lips broadly white; juveniles and subadults with a white ring around caudal peduncle.




**Size:** To at least 100 cm (TL)

***Naso unicornis*** (Forsskål, 1775)

**FAO names:** Bluespine unicornfish (En)

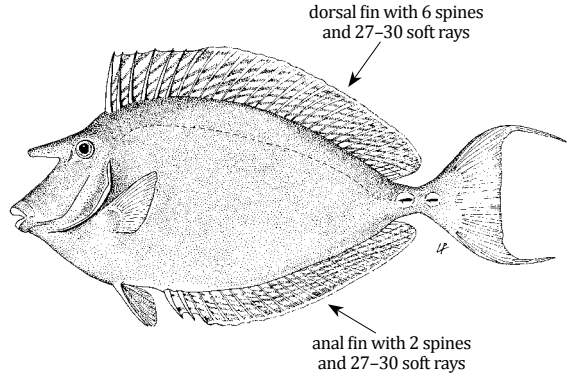
**Local name(s):** Gyo Pauk Nga Yan Sharr.

**Habitat:** An inshore species associated with coral reefs or rocky substrata.

**Fisheries:** Mainly gillnets.

**Distinctive Characters:** Body deep and compressed, its depth 1.8–2.6 in SL; adults with a median horn-like projection anterior to eyes which does not extend in front of mouth (first developing as a bump on forehead of young of about 12 long); 2 bony plates on each side of caudal peduncle.

**Colour:** Light olive to yellowish grey, the peduncular spines and a small area around each bright blue; edges of lips bluish; dorsal and anal fins with a blue margin and alternating narrow bands of light blue and brownish yellow; caudal fin yellowish grey, a little more yellow centroposteriorly.




**Size:** To 70 cm (TL)

***Zebrasoma desjardinii*** (Bennett, 1836)

**FAO names:** Indian sail-fin surgeonfish (En)

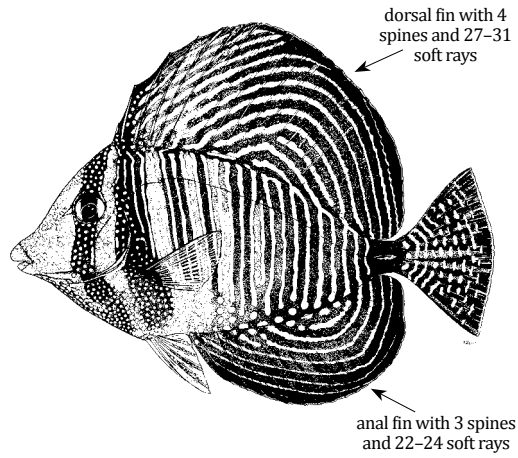
**Local name(s):** Nga Yan Sharr Lein Maw Sin Kyar.

**Habitat:** Lagoons and outer reefs in 3–30 m; solitary or in groups.

**Fisheries:** Mainly gillnets.

**Distinctive Characters:** Body very deep, its depth 1.8–2.0 in SL; dorsal profile of snout slightly concave; retractable spine present on each side of caudal peduncle; no patch of bristel-like setae in front of caudal spine; dorsal fin extremely elevated and sail-like; caudal fin truncate or convex.

**Colour:** Body grey with orange-marginated dark grey bars, large orange spots on lower side of body; a pair of blackish bars on head (one through eye) and small orange spots on snout and breast; dorsal and anal fins with curving yellow lines and/or spots.

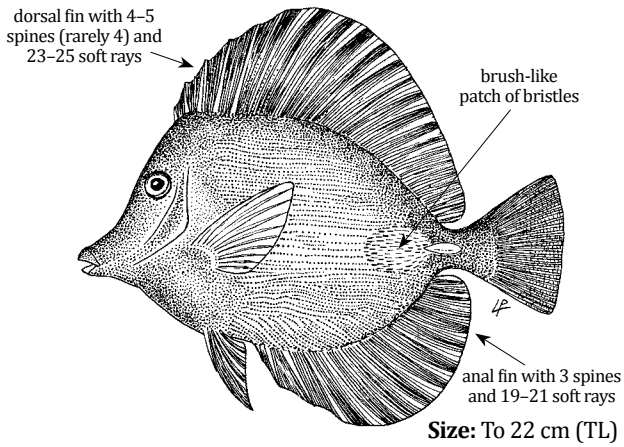



**Size:** To 40 cm (TL)

***Zebrasoma scopas*** (Cuvier, 1829)

**FAO names:** Brushtail Tang (En)

**Local name(s):** Nga Yan Sharr Hmee Gyan.
**Habitat:** Lagoons and outer reefs in down to 50 m; solitary or in groups.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body very deep, its depth 1.4–1.8 in SL; prominent protruding snout; retractable spine present on each side of caudal peduncle; brush-like, blackish patch of bristles immediately in front of caudal spine; caudal fin truncate, rounded in juveniles.
**Colour:** Dark brown, often lighter (yellowish brown) on head and anterior body, pale blue dots or longitudinal lines on head and body, and white caudal spine.



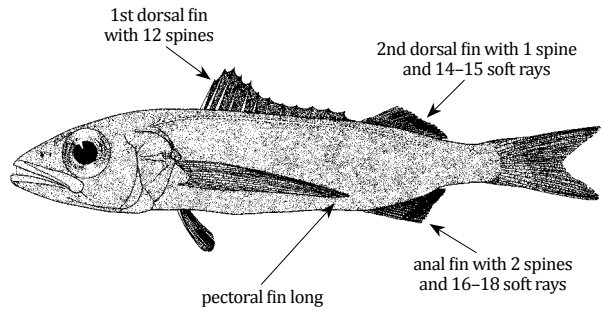

**Size:** To 22 cm (TL)

## SCOMBROLABRACIDAE
Longfin escolar

***Scombrolabrax heterolepis*** Roule, 1922

**FAO names:** Longfin escolar (En)
Escolier aile longue (Fr)

**Local name(s):** Suu Shae Nga Kun Shut.
**Habitat:** Continental shelves and slopes at depths between 100–900 m.
**Fisheries:** Deep bottom trawls, incidental catch.
**Distinctive Characters:** Body moderately elongate and compressed; eye very large, its diameter almost as long as snout; mouth large, a little protrusible jaws with strong lateral teeth; 2–3 large fangs at front of upper jaw; pectoral fins very long, nearly reaching anal fin origin; lateral line single, running closely to dorsal contour, ending slightly before end of second dorsal fin.
**Colour:** Body uniformly dark brown without distinct markings, fins darker; buccal cavity black.



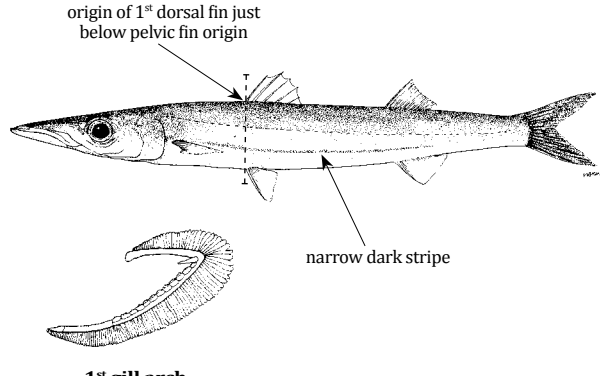

**Size:** To 30 cm (SL)

## SPHYRAENIDAE
Barracudas

***Sphyraena acutipinnis*** Day, 1876

**FAO names:** Sharpfin barracuda (En)

**Local name(s):** Pin Le Nga Mwe Doe Suu Htet.
**Habitat:** Inhabits lagoon and seaward reefs; also in bays; schooling species; nocturnally active.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Maxilla reaching to below anterior nostril; 1st gill arch with 1 prominent gill raker; caudal fin forked without a pair of lobes at posterior margin; 129–138 pored lateral line scales.
**Colour:** Body silvery grey, greenish dorsally with a narrow dark stripe on the lower flank; a dark marking present on body near pelvic fin base; caudal fin darkish.
**Remarks:** Needs confirmation for Myanmar waters.

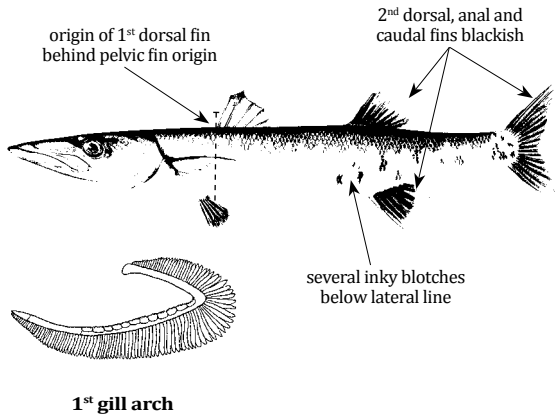



**Size:** To 80 cm, common 50 cm (TL)

## *Sphyraena barracuda* (Edwards, 1771)

**FAO names:** Great barracuda (En)
Barracuda (Fr)

**Local name(s):** Pin Le Nga Mwe Doe Gyi.
**Habitat:** Juveniles usually in estuaries or mangrove swamps; adults in open sea and close to reef. Diurnal, and solitary or in small schools.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Maxilla reaching at least to anterior margin of eye; no gill rakers on 1st gill arch; upper and lower gill arch with rough platelets which lack distinct spines; caudal fin forked in small juveniles, double emarginate in adults, 75–87 pored lateral line scales.
**Colour:** Adults dusky silver, bluish black dorsally with about 20 oblique dark bars on upper half of body, these not across lateral line; caudal fin black with white tips; some black blotches sometimes present on underside of posterior body; juveniles with a series of large dark blotches irregularly arranged on sides of body.

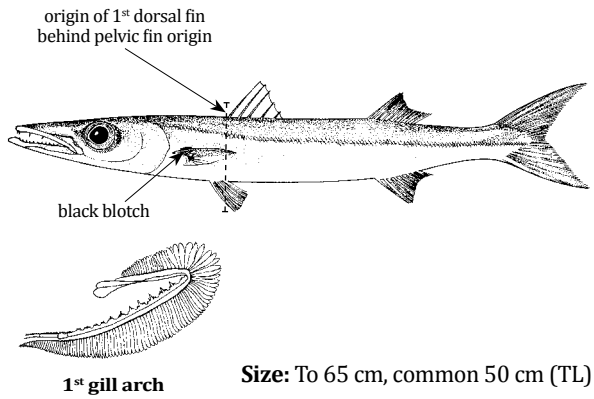



**Size:** To 200 cm, common 140 cm (TL)

## *Sphyraena forsteri* Cuvier, 1829

**FAO names:** Bigeye barracuda (En)
Bécune de Forster (Fr)

**Local name(s):** Pin Le Nga Mwe Doe Myat Lone Gyi.
**Habitat:** Nocturnally active, in large schools above lagoon patch reefs and along outer reef slopes by day.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Maxilla either not reaching anterior margin of eye, or to just below anterior margin; no gill rakers on 1st gill arch; upper and lower gill arch with many platelets, each bearing distinct small spines; caudal fin forked without a pair of lobes at posterior margin; 118–133 pored lateral line scales.
**Colour:** Blue or black above, sides silvery, without dark bars or chevrons; a black axillary blotch at base of pectoral fins; caudal fin darkish.

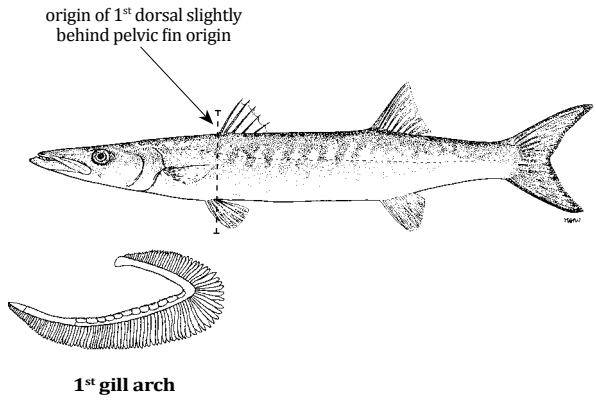



**Size:** To 65 cm, common 50 cm (TL)

## *Sphyraena jello* Cuvier, 1829

**FAO names:** Pickhandle barracuda (En)
Bécune jello (Fr)

**Local name(s):** Hlan Kai Pin Le Nga Mwe Doe.
**Habitat:** Inhabits bays, estuaries, and turbid inner lagoons. Diurnal; solitary or in small schools.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Maxilla reaching to just below anterior margin of eye; no gill rakers on 1st gill arch; upper and lower gill arch with rough platelets which lack distinct spines; caudal fin forked without a pair of lobes at posterior margin; 125–131 pored lateral line scales.
**Colour:** Body dusky yellowish green dorsally with about 20 dark crossbars reaching only slightly below lateral line; dorsal fins dusky green; anal fin pale; caudal fin dusky yellow; juveniles with fewer, more irregular crossbars.

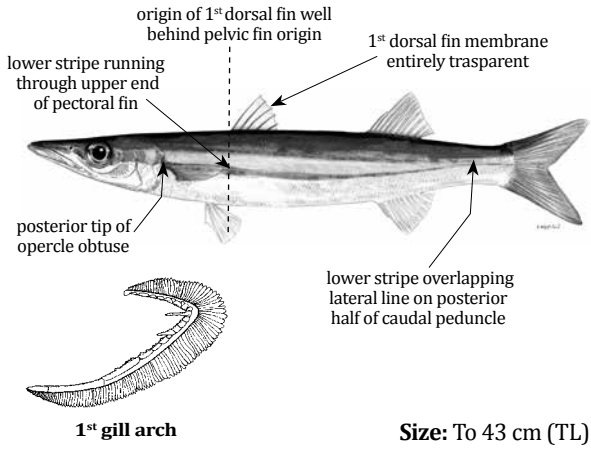



**Size:** To 150 cm, common 120 cm (TL)

## *Sphyraena obtusata* Cuvier, 1829

**FAO names:** Obtuse barracuda (En)
Bécune obtuse (Fr)

**Local name(s):** Htone Htai Pin Le Nga Mwe Doe.
**Habitat:** Inhabiting bays and estuaries.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Maxilla not reaching to below anterior margin of eye; 1st gill arch with 2 prominent gill rakers; caudal fin forked without a pair of lobes at posterior margin; tip of pectoral fins reaching past origin of 1st dorsal fin; 78–85 pored lateral line scales; 5–7½ scales above lateral line; 8½–9½ scales below lateral line.
**Colour:** Head and body dark green dorsally, silverry white below; body with 2 faint yellowish-brown longitudinal stripes (when fresh); anal and pelvic fins transparent; pectoral fin dusky, with a dark margin on base; caudal fin yellow, greenish near base, entire margin dusky.

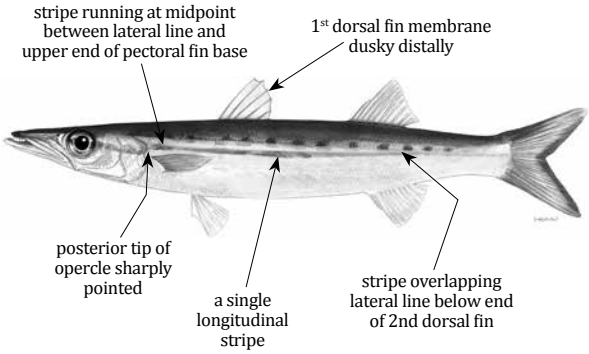



**Size:** To 43 cm (TL)

## *Sphyraena pinguis* Günther, 1874

**FAO names:** Red barracuda (En)

**Local name(s):** Pin Le Nga Mwe Doe Ni Yaung.
**Habitat:** Found near shore on mud, sandy mud or rock bottoms. Usually forms large schools.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Similar to *Sphyraena obtusata* but with 80–94 pored lateral line scales; 7½–9½ scales above lateral line; 10½–12½ scales below lateral line; posterior tip of opercle sharply pointed.
**Colour:** Head and body dark brown; 1st dorsal fin membrane dusky distally; body with a single longitudinal dark grey, dark brown or dark yellow (indistinct in some specimens) stripe running above pectoral fin base and extending to middle of caudal fin base; pectoral fins brown on upper half, transparent on lower half.

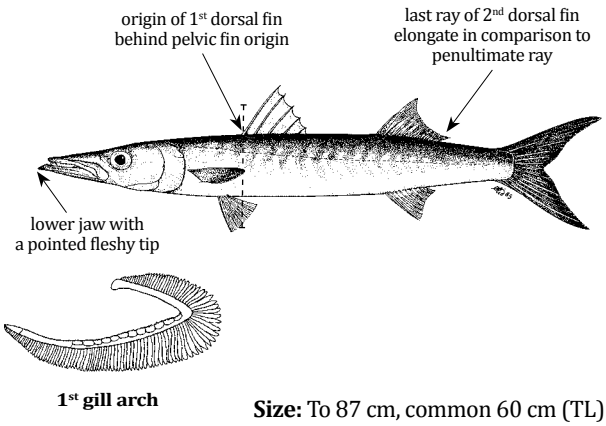



**Size:** To 32.6 cm (TL)

## *Sphyraena putnamae* Jordan & Seale, 1905

**FAO names:** Sawtooth barracuda (En)
Bécune chevronnée (Fr)

**Local name(s):** Pin Le Nga Mwe Doe Hlwa Thwar.
**Habitat:** Inhabiting bays and turbid inner lagoons. A nocturnally active species occurring in relatively large schools during the day.
**Fisheries:** Gillnets, line gears, bottom trawls.
**Distinctive Characters:** Maxilla reaching to just below anterior margin of eye; no gill rakers on 1st gill arch; upper and lower gill arch with rough platelets which lack distinct spines; caudal fin forked, in large adults with a pair of indistinct lobes at posterior margin; 123–136 pored lateral line scales.
**Colour:** About 15 dark chevron-shaped bars crossing lateral line on body; dorsal, caudal and upper part of pectoral fins dusky; pelvic and anal fins white.

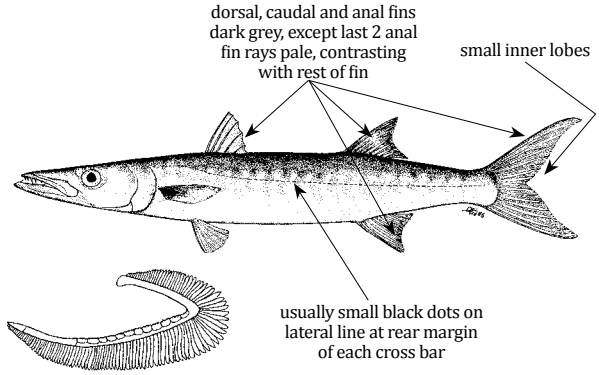



**Size:** To 87 cm, common 60 cm (TL)

***Sphyraena qenie*** Klunzinger, 1870

**FAO names:** Blackfin barracuda (En)

**Local name(s):** Pin Le Nga Mwe Doe Suu Me'.
**Habitat:** Inhabiting clear waters in the vicinity of coral reefs. Usually seen during the day in large semistationary schools.
**Fisheries:** Gillnets, line gears.
**Distinctive Characters:** Similar to *Sphyraena putnamae* but last ray of 2nd dorsal fin not elongate in comparison to penultimate ray; lower jaw without a pointed fleshy tip; 127–131 pored lateral line scales.
**Colour:** Body with 18–22 vertical or slightly curved dark crossbars extending well below lateral line; cross bars slightly wider than interspaces.
**Remarks:** Widespread in the Indo-Pacific. The exact geographical range is uncertain because of confusion with *Sphyraena jello* and *S. putnamae.*



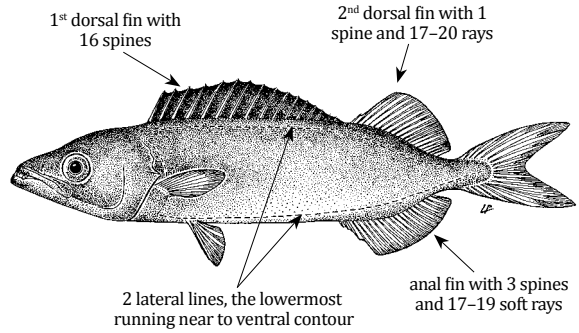

**Size:** To 140 cm, common 80 cm (TL)

## GEMPYLIDAE
Snake mackerels

***Neoepinnula orientalis*** (Gilchrist & von Bonde, 1924)

**FAO names:** Sackfish (En)
Escolier oriental (Fr)

**Local name(s):** Ye Net Nga Kunn Shut Ko Lone To.
**Habitat:** Benthopelgic on the upper slopes at depths between 200 and 570 m.
**Fisheries:** Deep water trawls.
**Distinctive Characters:** Body moderately deep and compressed, its depth 3.9–4.2 in SL; interorbital space wider than eye diameter; pectoral fins with 13–14 (rarely 15) rays; pelvic fins well developed and large with 1 spine and 5 rays; body entirely covered with small deciduous scales; caudal fin forked; 2 lateral lines on the sides, both originating from above the upper angle of the gill opening.
**Colour:** Uniformly dark brown; fins pale except blackish 1st dorsal fin; lining of buccal and branchial cavities black.

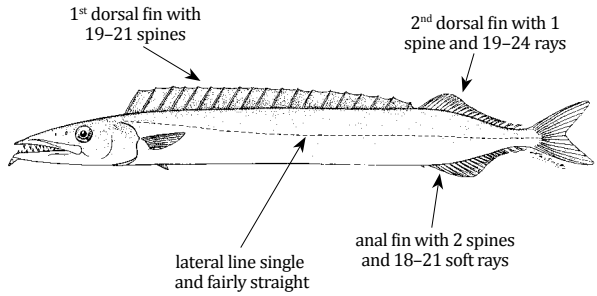



**Size:** To 30 cm (SL)

***Nesiarchus nasutus*** Johnson, 1862

**FAO names:** Black gemfish (En)
Escolier long nez (Fr)

**Local name(s):** Ye Net Nga Kunn Shut A Me'.
**Habitat:** Benthopelagic at depths between 200 and 1 200 m, migrating to midwater at night.
**Fisheries:** Deep water trawls.
**Distinctive Characters:** Body elongate and strogly compressed, its depth 10–13 in SL; dermal processes on tips of both jaws well developed; caudal peduncle without keels; gill rakers vestigial; lateral line single; pelvic fins well developed, with 1 spine and 5 soft rays.
**Colour:** Body dark brown with violet tint; fin membranes black; margin of anus black.

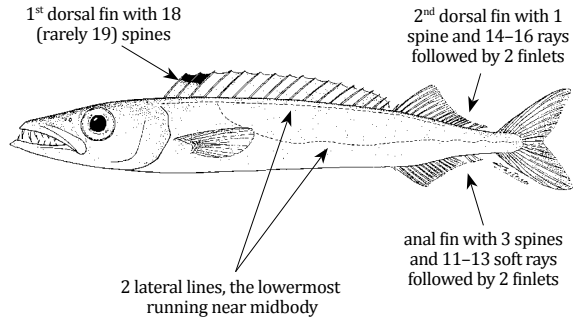



**Size:** To 130 cm (SL)

***Rexea bengalensis*** (Alcock, 1894)

**FAO names:** Bengal escolar (En)
Escolier bengalais (Fr)

**Local name(s):** Bengal Ye Net Nga Kunn Shut.
**Habitat:** Benthopelagic at depths of 143 to 820 m.
**Fisheries:** Deep water trawls.
**Distinctive Characters:** Body moderately elongated and compressed, its depth 6–7 in SL; interorbital space wider than eye diameter; pectoral fins with 14 (rarely 13 or 15) rays; pelvic fins represented by 1 spine (reduced to a subdermal knob in larger specimens); body entirely naked; 2 lateral lines on the sides, the lowermost branching from below the 5th to before the 6th spine of the 1st dorsal fin; the upper lateral line reaching at least to the end of the soft dorsal fin base; pyloric caeca 7 (rarely 8).
**Colour:** Body silvery, fins hyaline except a black blotch on membranes between 1st and 2nd dorsal fin spine.

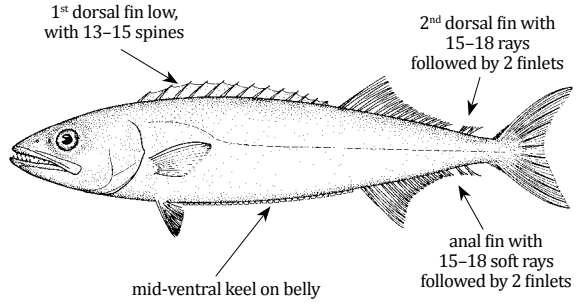



**Size:** To 20 cm (SL)

***Ruvettus pretiosus*** Cocco, 1829

**FAO names:** Oilfish (En)
Rouvet (Fr)

**Local name(s):** Ye Net Nga Kunn Shut Si Htwet.
**Habitat:** Oceanic, benthopelagic on continental slope and sea rises at depths of 200–700 m.
**Fisheries:** Deep water trawls; bycatch in the tuna longline fishery.
**Distinctive Characters:** Body semifusiform and slightly compressed, its depth 4.3–4.9 in SL; lower jaw slightly projecting before the upper; lateral line single, often obscure; skin very rough, scales medium-sized, interspersed with spinous bony tubercles; scaly keel on belly between pelvic fins and anus.
**Colour:** Body uniformly brown to dark brown; tips of the pectoral and pelvic fins black; margins of the second dorsal and anal fins white in young specimens.



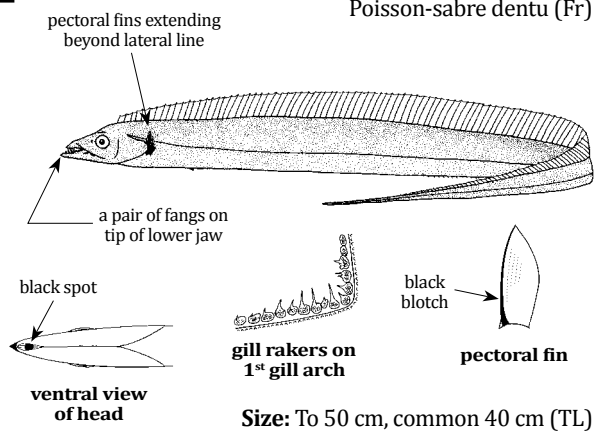

**Size:** To 200 cm (SL)

## TRICHIURIDAE
Cutlassfishes

***Eupleurogrammus glossodon*** (Bleeker, 1860)

**FAO names:** Longtooth hairtail (En)
Poisson-sabre dentu (Fr)

**Local name(s):** Nga Da Gon Thwar Shae.
**Habitat:** Benthopelagic, in coastal waters down to depths of about 80 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Body ribbon-like tapering to a point; eye small, located close to dorsal profile of head; lower margin of subopercle convex; pelvic fins scale-like, situated below 11th to 14th soft dorsal fin ray.
**Colour:** Fresh specimens are steel blue with metallic reflections, becoming silvery grey after death; dorsal side of posterior part of body slightly black; dermal process at tip of each jaw black.

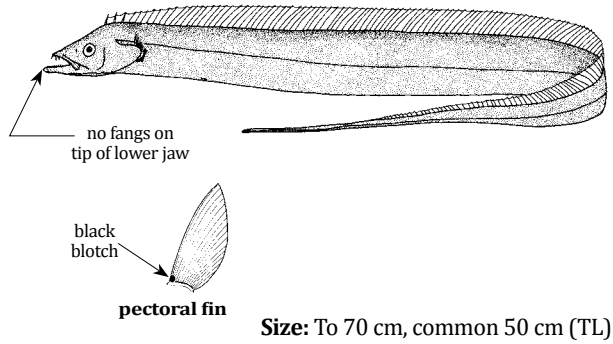



**Size:** To 50 cm, common 40 cm (TL)

## *Eupleurogrammus muticus* (Gray, 1831)

**FAO names:** Smallhead hairtail (En)
Poisson sabre asbas (Fr)

**Local name(s):** Nga Da Gon Gaung Thae.
**Habitat:** Benthopelagic, in coastal waters down to depths of about 80 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Similar to *Eupleurogrammus glossodon* but scale-like pelvic fins situated below 15th to 18th soft dorsal fin ray; eye located far from dorsal profile of head.
**Colour:** As in *E. glossodon* but no black spot behind dermal process on ventral side of lower jaw; both dorsal and ventral sides of posterior part of body black; a small pale black spot on base of anterior margin of pectoral fins.

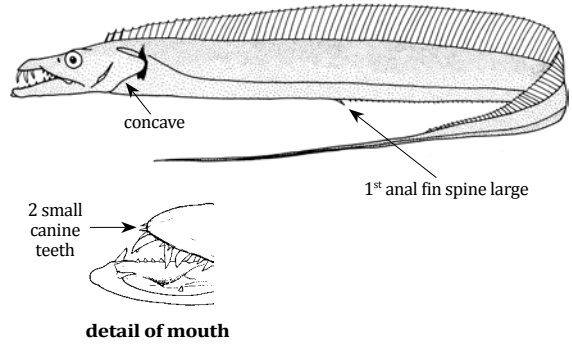



**Size:** To 70 cm, common 50 cm (TL)

## *Lepturacanthus savala* (Cuvier, 1829)

**FAO names:** Savalani hairtail (En)
Poisson-sabre cimeterre (Fr)

**Local name(s):** Savala Nga Da Gon.
**Habitat:** Benthopelagic, in coastal waters down to depths of about 100 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Body ribbon-like tapering to a point; pelvic fins absent; lower margin of subopercle concave; small canine teeth on upper jaw projecting forward; pectoral fins extending beyond lateral line; 1st anal fin spine large, its length 1/2 eye diameter; soft anal fin rays pungent, breaking through ventral skin.
**Colour:** Fresh specimens steel blue with metallic reflections, tapering part white; margin of anus pale; tip of both jaws black; inside of opercle and anterior part of the shoulder girdle pale black.

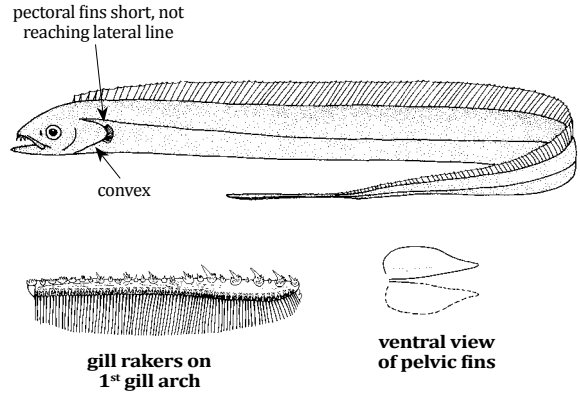



**Size:** To 100 cm, common 70 cm (TL)

## *Tentoriceps cristatus* (Klunzinger, 1884)

**FAO names:** Crested hairtail (En)
Poisson sabre manchot (Fr)

**Local name(s):** Nga Da Gon Gaung Lone.
**Habitat:** Benthopelagic or pelagic, in coastal waters at depths of 30 to 110 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Body ribbon-like tapering to a point; dorsal profile of head evenly convex; lower margin of subopercle convex; pelvic fins scale-like, situated below 47th to 50th soft dorsal fin ray.
**Colour:** Fresh specimens are silvery white, becoming silvery grey with dark cloud-like patches after death; jaws and dorsal and anal fin bases dusky.

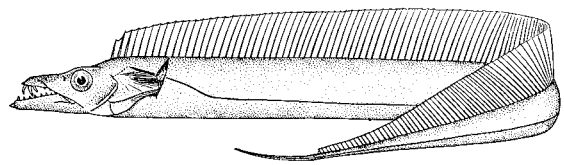



**Size:** To 90 cm, common 30–70 cm (TL)

***Trichiurus lepturus*** Linnaeus, 1758

**FAO names:** Largehead hairtail (En)
Poisson sabre commun (Fr)

**Local name(s):** Nga Da Gon Gaung Gyi.
**Habitat:** Benthopelagic, in coastal waters down to depths of about 100 m.
**Fisheries:** Bottom trawls, gillnets, line gears.
**Distinctive Characters:** Similar to *Lepturacanthus savala* but no small canine teeth projecting forward on upper jaw; 1st anal fin spine small, its length less than pupil diameter; soft anal fin rays slightly breaking through ventral skin in smaller specimens.
**Colour:** Fresh specimens steel blue with silvery reflection; pectoral fins semitransparent; other fins sometimes tinged with pale yellow, colour sometimes becoming uniformly silvery grey after death.



**Size:** To 120 cm, common 50–100 cm (TL)

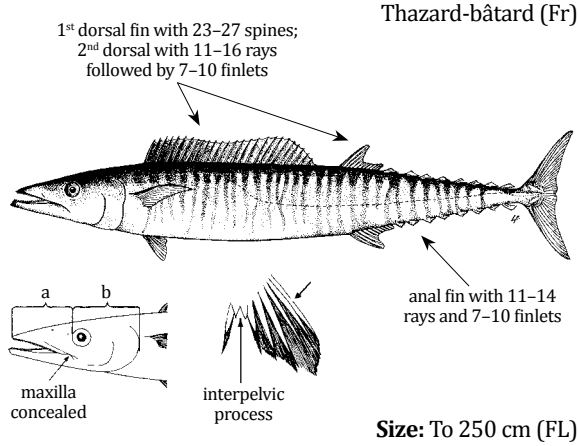
## SCOMBRIDAE

Tunas, mackerels and allies

***Acanthocybium solandri*** (Cuvier, 1832)

**FAO names:** Wahoo (En)
Thazard-bâtard (Fr)

**Local name(s):** Bee Zin Gyi.
**Habitat:** Epipelagic, oceanic.
**Fisheries:** Drift gillnets, trolling and line gears.
**Distinctive Characters:** Body very elongate, fusiform and only slightly laterally compressed; snout (a) about as long as rest of head (b); teeth strong, triangular, compressed, and finely serrate; gill rakers absent; 2 small flaps (interpelvic process) between pelvic fins.
**Colour:** Head and body iridescent blue-green dorsally, silvery below; live fish often show 24–30 dark blue vertical bars on sides which extend to below lateral line (the bars become dark grey after death).

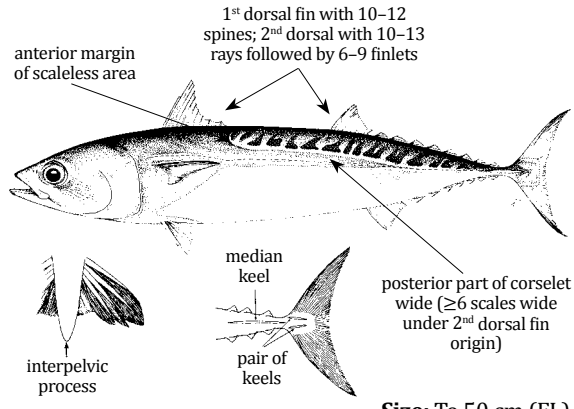



**Size:** To 250 cm (FL)

***Auxis rochei*** (Risso, 1810)

**FAO names:** Bullet tuna (En)
Bonitou (Fr)

**Local name(s):** Nga Me' Lone Kyee Zan.
**Habitat:** Epipelagic, neritic and oceanic.
**Fisheries:** Gillnets, seines.
**Distinctive Characters:** Body robust, elongate and rounded; 2 dorsal fins separated by a large interspace (at least equal to length of 1st dorsal fin base); teeth small and conical, in a single series; 43–48 gill rakers on 1st gill arch; pectoral fins short, not reaching vertical line from anterior margin of scaleless area above corselet.
**Colour:** Back bluish, turning to deep purple or almost black on head; scaleless area with pattern of 15 or more fairly broad, nearly vertical dark bars; belly white; pectoral and pelvic fins purple.

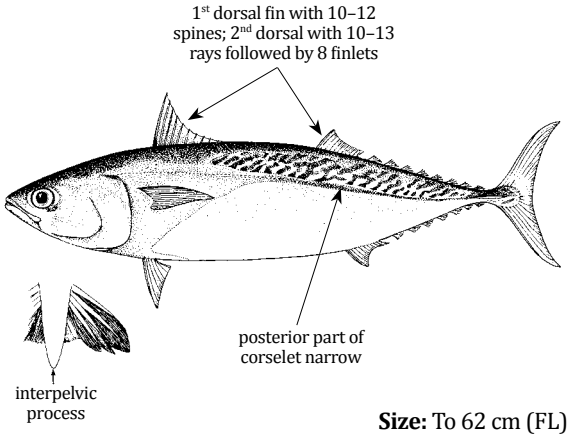



**Size:** To 50 cm (FL)

***Auxis thazard*** (Lacepède, 1800)

**FAO names:** Frigate tuna (En)
Auxide (Fr)

**Local name(s):** Free Gate Nga Me' Lone.
**Habitat:** Epipelagic, neritic and oceanic.
**Fisheries:** Gillnets, seines.
**Distinctive Characters:** Similar to *Auxis rochei*, but 36–42 gill rakers on 1st gill arch; pectoral fin reaching past vertical line from anterior margin of scaleless area above corselet; corselet well developed but narrow in its posterior part (no more than 5 scales wide under 2nd dorsal fin origin).
**Colour:** Back bluish, turning to deep purple or almost black on the head; a pattern of 15 or more narrow, oblique to nearly horizontal, dark wavy lines in scaleless area above lateral line; belly white; pectoral and pelvic fins purple.



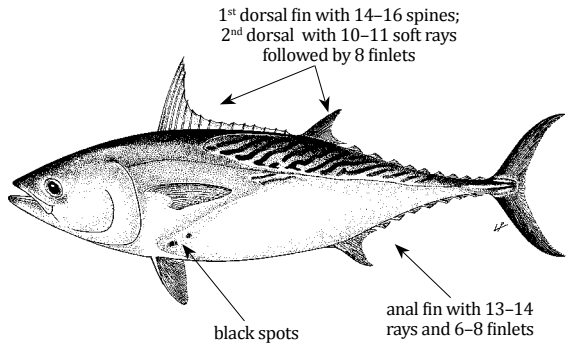

**Size:** To 62 cm (FL)

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***Euthynnus affinis*** (Cantor, 1849)

**FAO names:** Kawakawa (En)
Thonine orientale (Fr)

**Local name(s):** Kawa Kawa Nga Me' Lone.
**Habitat:** Epipelagic and neritic.
**Fisheries:** Gillnets, drift gillnets.
**Distinctive Characters:** Body robust, elongate and fusiform; teeth small and conical, in a single series; both dorsal fins separated by only a narrow interspace (not wider than eye) 2 flaps (interpelvic process) between pelvic fins; 25–29 pectoral fin rays; 29–35 gill rakers on 1st gill arch.
**Colour:** Back dark blue with a complicated striped pattern which does not extend forward beyond middle of 1st dorsal fin; lower sides and belly silvery white several characteristic dark spots between pelvic and pectoral fins (which, however, may not always be present).



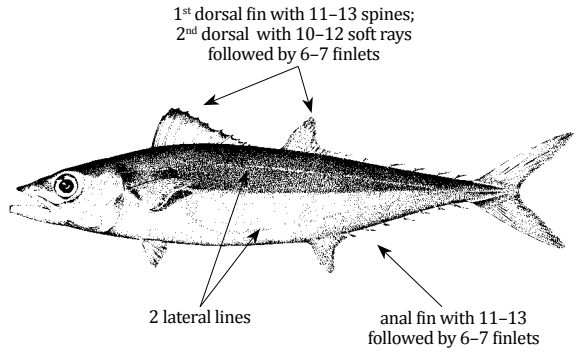

**Size:** To 100 cm, common 60 cm (FL)

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***Grammatorcynus bilineatus*** (Rüppell, 1836)

**FAO names:** Double-lined mackerel (En)
Thazard-kusara(Fr)

**Local name(s):** Bay Hnit Zinn Bee Zin.
**Habitat:** Found mainly around coral reefs. Forms large schools.
**Fisheries:** Bottom trawls, drift gillnets, long lines, purse seine.
**Distinctive Characters:** Body elongate, slightly compressed; eye large, 11.1–14.3 in FL; 20–30 slender conical teeth in jaws; rectangular patch of sharp teeth on tongue; a small single flap (interpelvic) process between pelvic fins; 2 lateral lines, the lower joining the upper behind pectoral fin base and at caudal fin base; 18–24 gill rakers on 1st gill arch.
**Colour:** Back and upper sides metallic blue-green; lower sides and belly silvery white without black spots. Juveniles with 2 rows of indistinct blotches under upper lateral line.

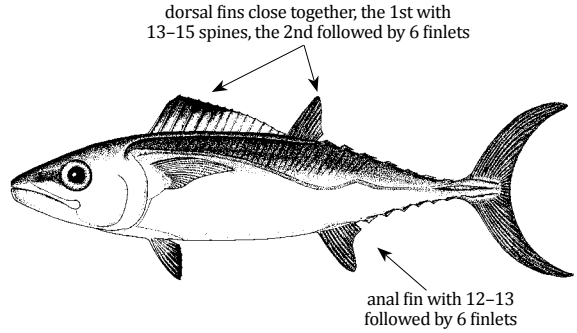



**Size:** To 63 cm (FL)

***Gymnosarda unicolor*** (Rüppell, 1838)

**FAO names:** Dogtooth tuna (En)
Bonite à gros yeux (Fr)

**Local name(s):** Khway Thwar Bee Zin.
**Habitat:** Offshore species found mainly around coral reefs. Usually solitary.
**Fisheries:** Bottom trawls, drift gillnets, long lines, purse seine.
**Distinctive Characters:** Body elongate and moderately compressed; mouth fairly large, upper jaw reaching to middle of eye; 14–31 large, conical teeth on upper jaw, 10–24 on lower jaw; 2 patches of teeth on upper surface of tongue; lateral line strongly undulating; interpelvic process large and single; 11–14 gill rakers on 1st gill arch.
**Colour:** Back and upper sides brilliant blue-black, lower sides and belly silvery; no lines, spots or other markings on body; anterior tip of first dorsal fin dark; other fins greyish.

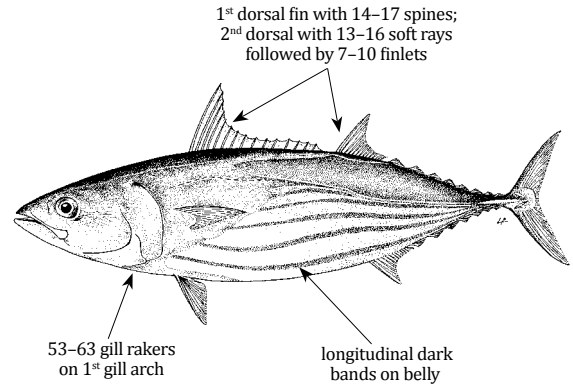



**Size:** To 247 cm, common 80 cm (FL)

***Katsuwonus pelamis*** (Linnaeus, 1758)

**FAO names:** Skipjack tuna (En)
Bonite à ventre rayé (Fr)

**Local name(s):** Nga Me' Lone Be Zin Kyarr.
**Habitat:** Epipelagic and oceanic.
**Fisheries:** Gillnets; drift gillnets.
**Distinctive Characters:** Body fusiform, elongate and rounded; teeth small and conical, in a single series; both dorsal fins separated by only a narrow interspace (not wider than eye); 2 flaps (interpelvic process) between pelvic fins.
**Colour:** Back dark purplish blue, lower sides and belly silvery, with 4–6 very conspicuous longitudinal dark bands which in live specimens may appear as discontinuous lines of dark blotches.

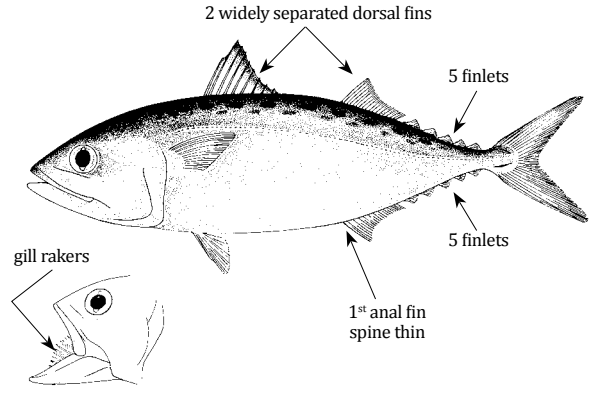



**Size:** To 111 cm (FL)

***Rastrelliger brachysoma*** (Bleeker, 1851)

**FAO names:** Short mackerel (En)
Maquereau trapu (Fr)

**Local name(s):** Pa Lar Tuu.
**Habitat:** Epipelagic, neritic species that tolerates slightly reduced salinities in estuarine habitats.
**Fisheries:** Gillnets, seines, drift gillnets, bottom trawls.
**Distinctive Characters:** Body very deep slightly compressed, its depth at posterior margin of opercle 3.7–4.3 in FL; head equal to or less than body depth; teeth in jaws small and conical; no teeth on roof of mouth; interpelvic process small and single; front and hind margins of eye covered by adipose eyelid; maxilla covered by lacrimal bone but extending nearly to end of lacrimal; gill rakers very long, visible when mouth is opened, 30–48 on lower limb of 1st gill arch.
**Colour:** Spinous dorsal fin yellowish with a black edge, pectoral and pelvic fins dusky, other fins yellowish.

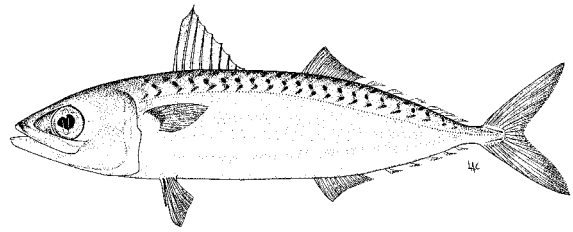



**Size:** To 35 cm (FL)

***Rastrelliger faughni*** Matsui, 1967

**FAO names:** Island mackerel (En)
Maquereau de îles (Fr)

**Local name(s):** Pa Lar Tuu Kyun Thar.
**Habitat:** Epipelagic, neritic.
**Fisheries:** Gillnets, seines, drift gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Rastrellinger brachysoma* but body more slender, its depth at posterior margin of opercle 4.9–6.0 in FL; gill rakers short, not visible in lateral view when mouth is opened wide; 21–26 gill rakers on lower limb of 1st gill arch; maxilla covered by lacrimal bone, extending only 3/4 length of lacrimal.
**Colour:** Belly yellowish silver; 2 rows of prominent spots at base of 1st dorsal fin, visible from above; 2 faint stripes at level of lateral line in some specimens; a black blotch behind pectoral fin base; outer margin of dorsal and pectoral fins dark.



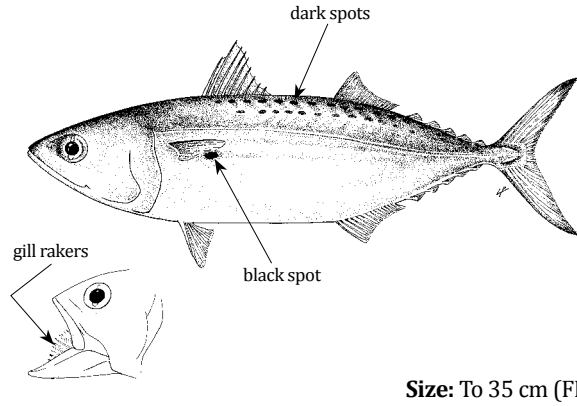
**Size:** To 26 cm (FL)

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***Rastrelliger kanagurta*** (Cuvier, 1816)

**FAO names:** Indian mackerel (En)
Maquereau des Indes (Fr)

**Local name(s):** Pa Lar Lum.
**Habitat:** Pelagic, schooling in coastal waters.
**Fisheries:** Gillnets, seines, drift gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Rastrellinger brachysoma* but body slimmer, its depth at posterior margin of opercle 4.3–5.2 in FL; head longer than body depth; 30–46 on lower limb of 1st gill arch.
**Colour:** Back blue-green with longitudinal dark bands dorsally (golden in fresh specimens), silvery below; 1 or 2 rows of small, dark spots on sides of dorsal fin bases; a black spot on body near lower margin of pectoral fins; dorsal fins yellowish with black tips; caudal and pectoral fins yellowish; other fins dusky.



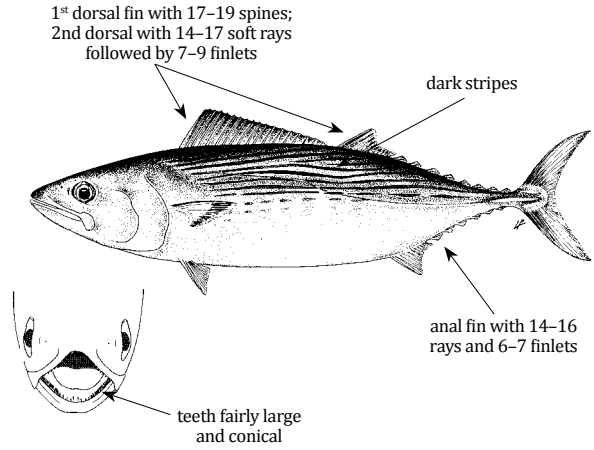

**Size:** To 35 cm (FL)

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***Sarda orientalis*** (Temminck & Schlegel, 1844)

**FAO names:** Oriental bonito (En)
Bonite oriental (Fr)

**Local name(s):** Nga Me Lone Bor Ni To.
**Habitat:** Pelagic in coastal waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Upper jaw reaching beyond posterior margin of eye; dorsal fins close together; teeth fairly large and conical, 10–20 on each side of upper and lower jaws; pelvic fins separated by 2 flaps (interpelvic process); caudal peduncle slender, with a prominent lateral keel between two smaller keels on each side; 8–13 gill rakers on 1st gill arch.
**Colour:** Back and upper sides steel blue, with 5–11 dark slightly oblique stripes running forward and downward; lower sides and belly silvery; juveniles (to 30 cm fork length) with several transverse bars; 1st dorsal fin solid black.

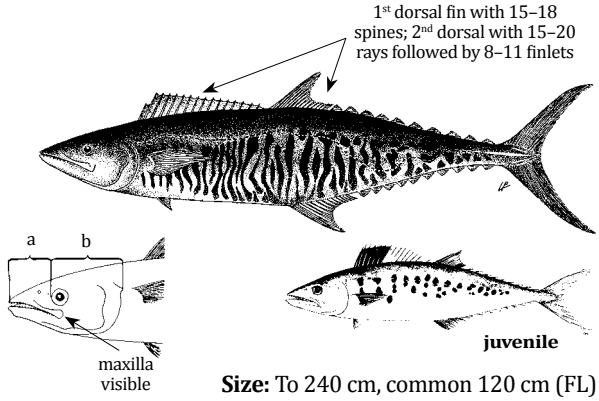



**Size:** To 100 cm, common 55 cm (FL)

## *Scomberomorus commerson* (Lacepède, 1800)

**FAO names:** Narrow-barred Spanish mackerel (En)
Thazard rayé indo-acifique (Fr)

**Local name(s):** Bee Zin Bae Sin Seik.
**Habitat:** Pelagic in coastal waters from 15 m to 200 m; found in small schools.
**Fisheries:** Gillnets, trolling and line gears.
**Distinctive Characters:** Body elongate, moderately strongly compressed; snout (a) much shorter than rest of head (b); teeth in jaws strong and compressed (last two characters true of all *Scomberomorus*); 1–8 gill rakers on 1st gill arch; lateral line abruptly bent downward below end of 2nd dorsal fin.
**Colour:** Back iridescent blue-grey, sides silver with bluish reflections, marked with numerous thin, wavy vertical bands; juveniles frequently spotted.

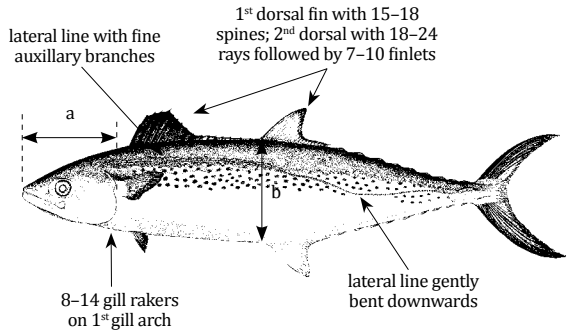



**Size:** To 240 cm, common 120 cm (FL)

## *Scomberomorus guttatus* (Bloch & Schneider, 1801)

**FAO names:** Indo-Pacific king mackerel (En)
Thazard ponctué indo-pacifique (Fr)

**Local name(s):** Nga Kunn Shut.
**Habitat:** Pelagic in coastal waters from 15 m to 200 m. Sometimes entering turbid estuarine waters; usually found in small schools.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body depth (b) less or nearly equal to head length (a); lateral line with many fine auxillary branches anteriorly, almost straight to below middle of 2nd dorsal fin and gently bent downward to middle of caudal peduncle; intestine with 2 folds and 3 limbs.
**Colour:** Blue on back, silvery on sides; about 3 irregular rows of dark round spots (smaller than eye) on sides of body; spinous dorsal fin dark up to eighth spine, white posteriorly, with distal margin black.

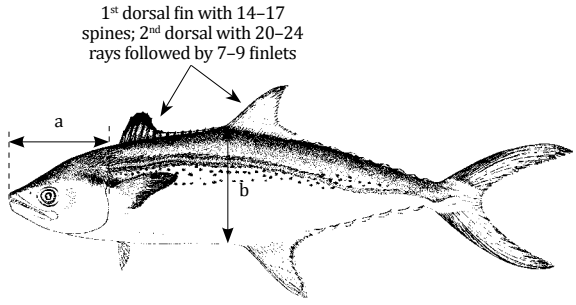



**Size:** To 76 cm, common 55 cm (FL)

## *Scomberomorus koreanus* (Kishinouye, 1915)

**FAO names:** Korean seerfish (En)
Thazard coréen (Fr)

**Local name(s):** Korea Nga Kunn Shut.
**Habitat:** Pelagic in neritic waters.
**Fisheries:** Gillnets.
**Distinctive Characters:** Similar to *Scomberomorus guttatus* but body depth (b) greater than head length (a); intestine with 4 folds and 5 limbs; 10–14 gill rakers on 1st gill arch.
**Colour:** Back iridescent greyish blue, sides silvery, with 2–3 irregular rows of small, dark, round spots (smaller than eye size); fins blackish; 1st dorsal fin black.

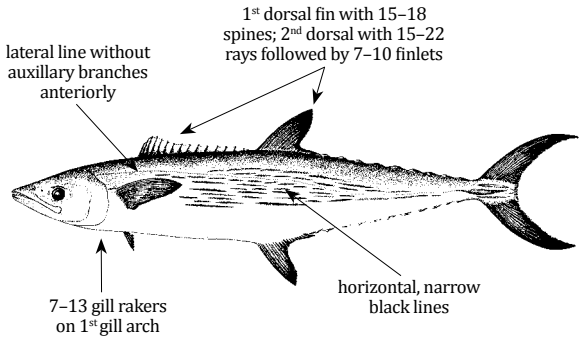



**Size:** To 150 cm, common 60 cm (FL)

***Scomberomorus lineolatus*** (Cuvier, 1829)

**FAO names:** Streaked seerfish (En)
Thazard cirrus (Fr)

**Local name(s):** Nga Kun Shut Sinn Kyarr.
**Habitat:** Unlike *Scomberomorus commerson* and *S. guttatus*, *S. lineolatus* is not encountered in very turbid waters or much reduced salinity.
**Fisheries:** Gillnets.
**Distinctive Characters:** Body elongate, strongly compressed; lateral line running almost straight to below second dorsal finlet, then slightly bent downward toward keel of caudal peduncle (which is very wide).
**Colour:** Back blue-grey; sides silvery white, upper part of body marked with a series of irregular, horizontal, narrow black lines sometimes breaking up into spots ventrally.



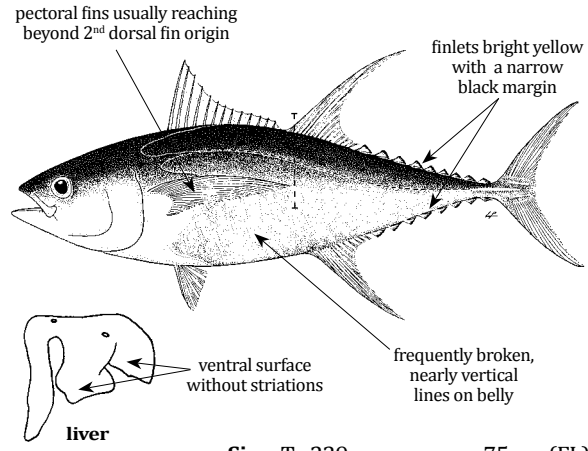

**Size:** To 100 cm, common 70 cm (FL)

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***Thunnus albacares*** (Bonnaterre, 1788)

**FAO names:** Yellowfin tuna (En)
Thon albacore (Fr)

**Local name(s):** Nga Mae Lone Suu Taung Warr.
**Habitat:** Epipelagic and mesopelagic in offshore waters from surface to 600 m.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Body elongate and fusiform, slightly compressed laterally; teeth small and conical, in a single series; 2 dorsal fins, separated only by a narrow interspace; 2 flaps (interpelvic process) between pelvic fins (above characters valid for all *Thunnus*); 2nd dorsal and anal fin greatly elongated in adults; 26–34 gill rakers on 1st gill arch; swimbladder present.
**Colour:** Back metallic dark blue changing through yellow to silver on belly; dorsal and anal fins, and dorsal and anal finlets bright yellow, the finlets with a narrow black border.



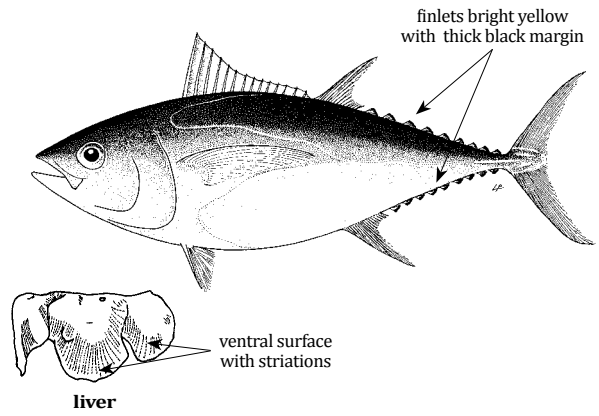

**Size:** To 239 cm, common 75 cm (FL)

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***Thunnus obesus*** (Lowe, 1839)

**FAO names:** Bigeye tuna (En)
Thon obèse (Fr)

**Local name(s):** Nga Mae Lone Myet Pyuu.
**Habitat:** Epipelagic and mesopelagic in offshore waters from surface to 250 m.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Similar to *Thunnus albacares* but more robust; 2nd dorsal and anal fin never greatly elongated; 23–31 gill rakers on 1st gill arch; ventral surface of liver with prominent striations; juveniles with very long pectoral fins, reaching well beyond origin of 2nd dorsal fin.
**Colour:** Back metallic dark blue, lower sides and belly whitish; a lateral iridescent blue band runs along sides in live specimens; 1st dorsal fin deep yellow, 2nd dorsal and anal fins light yellow.

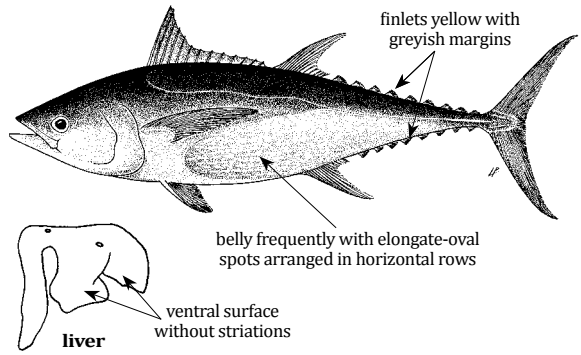



**Size:** To 200 cm, common 75 cm (FL)

***Thunnus tonggol*** (Bleeker, 1851)

**FAO names:** Longtail tuna (En)
Thon mignon (Fr)

**Local name(s):** Nga Mae Lone A Myee Shae.
**Habitat:** Predominantly coastal species avoiding very turbid waters and areas with reduced salinity such as estuaries.
**Fisheries:** Gillnets.
**Distinctive Characters:** Similar to *Thunnus albacares* but 2nd dorsal and anal fin lobes never greatly elongated; 19–27 (usually 26 or fewer) gill rakers on 1st gill arch; no swimbladder
**Colour:** Back dark blue or black; dorsal, pectoral, and pelvic fins blackish, tip of second dorsal and anal fins washed with yellow; anal fin silvery; caudal fin blackish, with streaks of yellowish green.



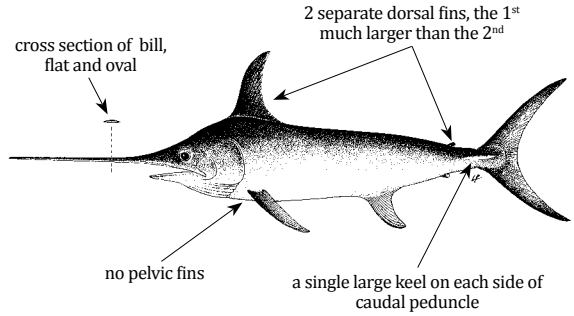

**Size:** To 145 cm, common 70 cm (FL)

## XIPHIIDAE
Swordfish

***Xiphias gladius*** Linnaeus, 1758

**FAO names:** Swordfish (En)
Espadon (Fr)

**Local name(s):** Nga E' Maung, Nga Ywet Tike.
**Habitat:** Epipelagic, primarily oceanic, also occurs in coastal waters.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Upper jaw flattened and prolonged into a long sword-like bill; pectoral fins falcate, a little rigid; two separate anal fins, the 1st much longer than the 2nd; juveniles with both jaws prolonged into long bills and dorsal and anal fins continuous.
**Colour:** Head and body blackish brown, dark grey, bronze or bluish black dorsally, paler below; fin membrane of 1st dorsal fin dark blackish brown, other fins brown or blackish brown.



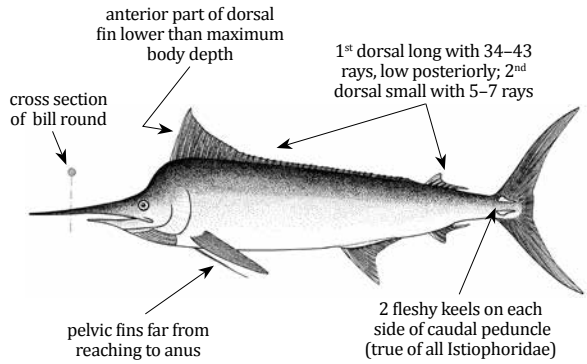

**Size:** To 455 cm, common 120 cm (TL)

## ISTIOPHORIDAE
Billfishes

***Istiompax indica*** (Cuvier, 1832)

**FAO names:** Black marlin (En)
Makaire noir (Fr)

**Local name(s):** Nga Ywet Tike A Me'.
**Habitat:** Oceanic, highly migratory, and epipelagic, usually above thermocline.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Upper jaw prolonged into a long bill, round in cross-section (true of all Istiophoridae); body elongate and robust, not compressed; profile of head distinctly elevated; pectoral fins rigid and not capable of folding flat against sides of body.
**Colour:** Body dark blue dorsally, silvery white ventrally; 1st dorsal fin membrane blue-black, usually unspotted; other fins brown-black; no markings or dots on sides of body; after death body turns greyish white.

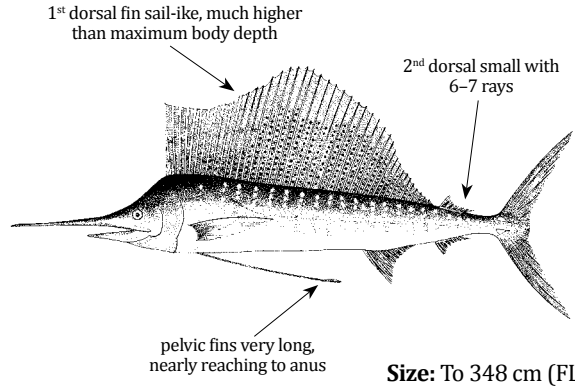



**Size:** To 465 cm (FL)

***Istiophorus platypterus*** (Shaw, 1792)

**FAO names:** Indo-Pacific sailfish (En)
Voilier indo-pacifique (Fr)

**Local name(s):** Indo-Pacific Nga Ywet Tike.
**Habitat:** Oceanic, epipelagic, and highly migratory, usually above thermocline.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Body elongate and compressed; 1st dorsal fin very high (middle rays longest) with about 42–49 rays; 2 separate anal fins, with 12–17 and 6–7 rays, respectively; pectoral fins falcate, with 17–20 rays.
**Colour:** Body dark bluish violet dorsally, silvery white ventrally; 1st dorsal membrane dark blue with many small black spots; more or less 20 horizontal bars on body, each consisting of several pale blue spots.



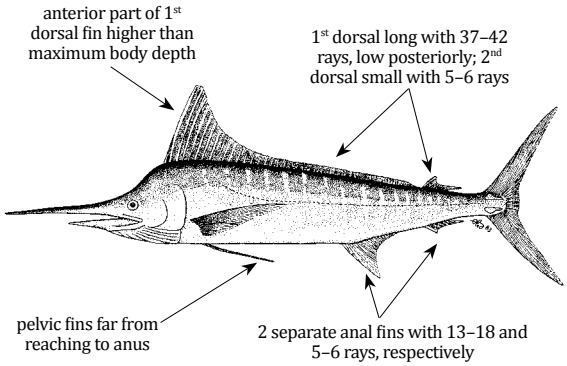

**Size:** To 348 cm (FL)

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***Kajikia audax*** (Philippi, 1887)

**FAO names:** Striped marlin (En)
Marlin rayé (Fr)

**Local name(s):** Nga Ywet Tike Bae Sin.
**Habitat:** Epipelagic and oceanic species, usually swimming above thermocline.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Body elongate-fusiform and fairly compressed; forehead fairly elevated; pectoral fins depressible to side of body, with 21–23 rays.
**Colour:** Body dark blue dorsally, silvery white ventrally; 1st dorsal fin membrane blue black; other fins dark brown; about 20 vertical bars, each consisting of several small pale blue spots or lines on body.



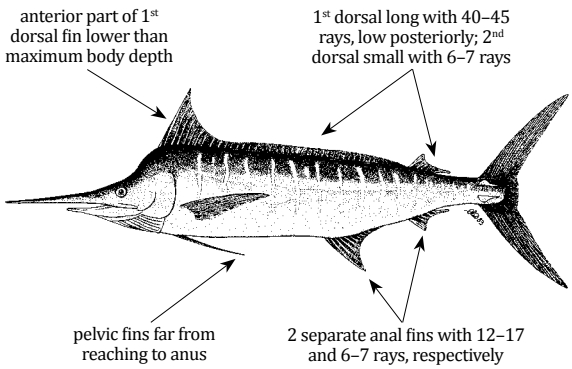

**Size:** To 420 cm, common 290 cm (TL)

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***Makaira nigricans*** Lacepède, 1802

**FAO names:** Blue marlin (En)
Makaire bleu (Fr)

**Local name(s):** Nga Ywet Tike A Pyar.
**Habitat:** Oceanic, epipelagic.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Body elongate-fusiform and not strongly compressed; forehead conspicuously elevated; pectoral fins depressible to side of body, with 20–23 rays.
**Colour:** Body blue dorsally, silvery white ventrally; 1st dorsal fin membrane blue black, unspotted; other fins dark brown; about 15 vertical bars, each consisting of pale blue spots and lines on body.
**Remarks:** Some authors such as Nakamura (1985) recognize Atlantic (*M. nigricans*) and Indo-Pacific (*M. mazara*) blue marlin as distinct species based on differences in lateral line morphology, but genetic data (Collette, McDowell and Graves, 2006) indicates that there is one world-wide cosmopolitan species in tropical and temperate waters.

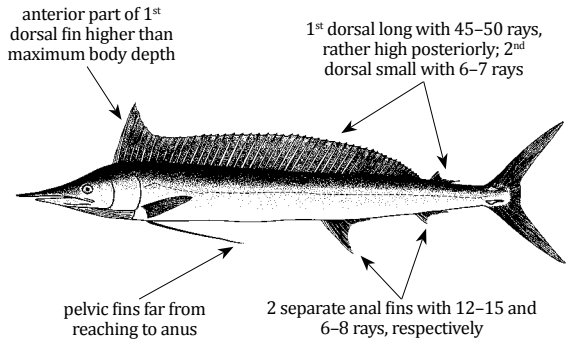



**Size:** To 500 cm, common 350 cm (TL)

***Tetrapturus angustirostris*** Tanaka, 1915

**FAO names:** Shortbill spearfish (En)
Makaire à rostre court (Fr)

**Local name(s):** Nga Ywet Tike Suu Taung To.
**Habitat:** Highly oceanic, migratory, and epipelagic, usually above thermocline.
**Fisheries:** Driftnets, line gears.
**Distinctive Characters:** Body elongate and fairly compressed; bill short, less than 15% of body length; forehead nearly straight; pectoral fins short with 17–19 rays; pelvic fins about twice the length of pectoral fins.
**Colour:** Body dark blue dorsally, blue splattered with brown laterally, and silvery white ventrally, without dots or stripes; 1st dorsal fin dark blue, without dots or blotches, remaining fins brown or dark brown; bases of 1st and 2nd anal fins often tinged with silvery white.



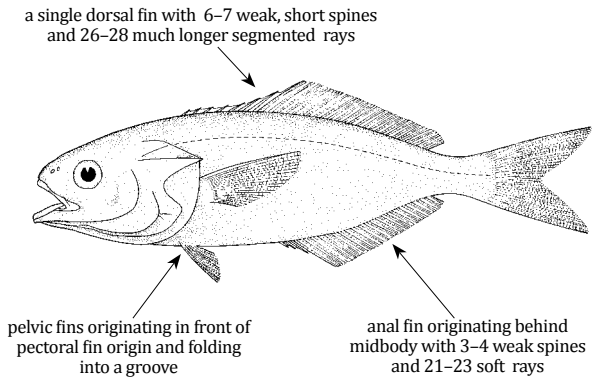

**Size:** To 230 cm, common 190 cm (TL)

## CENTROLOPHIDAE
Medusafishes

***Psenopsis cyanea*** (Alcock, 1890)

**FAO names:** Indian ruff (En)
Rouffe indien (Fr)

**Local name(s):** Nga Ye Myaw, Lae' San Hmwe Nga.
**Habitat:** Found in deep water from about 250 to 300 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body moderately deep, compressed, its depth 3.2–3.6 in SL; musculature soft; palate toothless; eye diameter less than 4 in HL; broad forward scoop on surface of opercle below the weak 2nd opercular spine; caudal peduncle short and compressed, without keels; subdermal canal system usually visible on sides (could be confused with lateral line); lateral line high, following dorsal profile; scales small, cycloid, very deciduous and extending onto bases of median fins.
**Colour:** Generally uniform brownish to violet, with a darker head and often with a spot on shoulder; opercles blackish and gill cavity dark; inside of mouth lightly speckled.

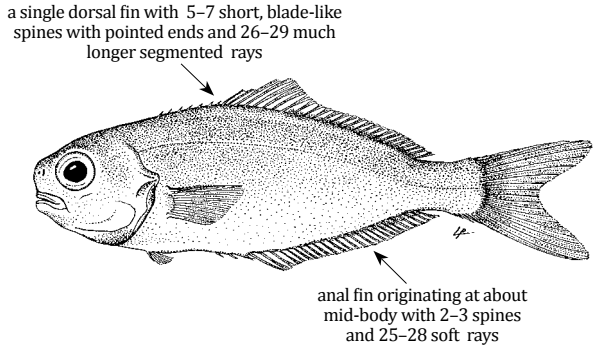



**Size:** To 25 cm, common 18 cm (TL)

***Psenopsis obscura*** Haedrich, 1967

**FAO names:** Obscure driftfish (En)

**Local name(s):** Lae' San Hmwe Nga Ye Myaw.
**Habitat:** Deep continental slope in depths of 200–800 m over sand and mud bottoms.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Psenopsis cyanea* but body more oval, its depth 2.6–3.2 in SL; eye larger, its diameter 3.2–3.7 in HL; anal fin originating at about mid-body, with 25–27 soft rays; musculature firm.
**Colour:** Dark brownish blue to brown, grading to tan on sides; a prominent darker area on shoulder near lateral line; inside of opercles and peritoneum dark; fins dusky.



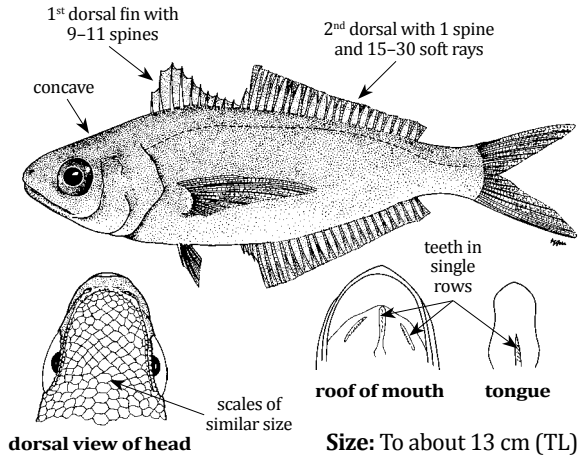

**Size:** To 20 cm (FL)

# NOMEIDAE
Driftfishes

## *Cubiceps kotlyari* Agafonova, 1989

**FAO names:** Kotlyar's cigarfish (En)

**Local name(s):** Sae Pyin Leik Ye Net Nga Ye Myaw.
**Habitat:** Bentho-pelagic-oceanic, in depths from 500–725 m.
**Fisheries:** Deep water bottom trawls.
**Distinctive Characters:** Body moderately elongate and compressed; dorsal profile strongly convex; snout moderately bluntly pointed with jaws slightly inferior; anal fin with 3 spines and 20–23 soft rays; teeth on midline of roof of mouth and tongue in single rows (rows usually raised); scales on top of head of similar size (pockets usually still evident when scales shed); eye large, equal to or greater than snout; pectoral fin broad and elongate, usually longer than head.
**Colour:** Body dark brown, operculum, thoracic region and fins blackish.

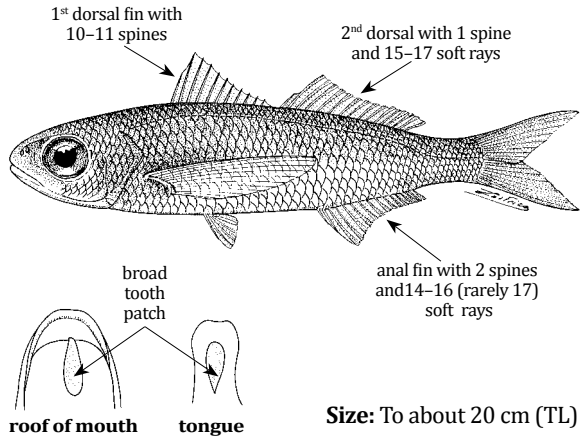



**Size:** To about 13 cm (TL)

## *Cubiceps pauciradiatus* Günther, 1872

**FAO names:** Longfin cigarfish (En)

**Local name(s):** Ye Net Nga Ye Myaw Suu Shae.
**Habitat:** Bathypelagic-oceanic, in depths from 58–1 000 m, found near surface at night.
**Fisheries:** Deep water bottom trawls.
**Distinctive Characters:** Body moderately elongate and compressed; snout short and blunt; mouth terminal; eye large, equal to or greater than snout; pectoral elongate, much longer than head; teeth patches on midline of roof of mouth and tongue large, broad and granular.
**Colour:** Body light tan to brown; operculum blackish; caudal fin dusky, other fins clear.

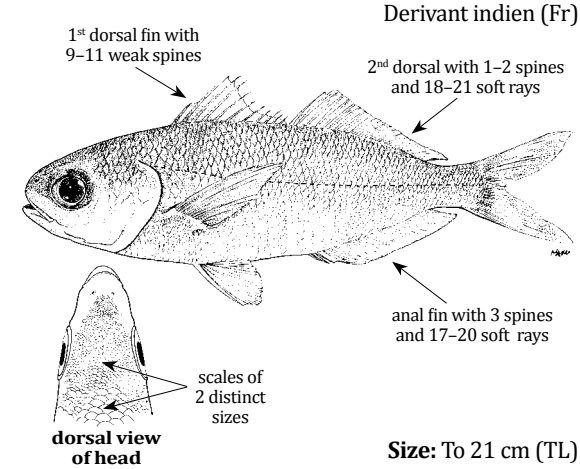



**Size:** To about 20 cm (TL)

## *Cubiceps whiteleggii* (Waite, 1894)

**FAO names:** Shadow driftfish (En)
Derivant indien (Fr)

**Local name(s):** Ye Net Nga Ye Myaw A Yeik Htwet.
**Habitat:** Deep waters on the continental slope.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body moderately elongate and compressed, ventral profile very convex; snout blunt and broad, mouth terminal or slightly inferior; teeth on midline of roof of mouth and tongue in single rows; scales on top of head in 2 sizes which merge above hind margin of eye; pelvic fins relatively long reaching anus; scales fairly small, cycloid, easily shed.
**Colour:** Silvery white when fresh, becoming brownish with well-defined scale pockets in preservative.

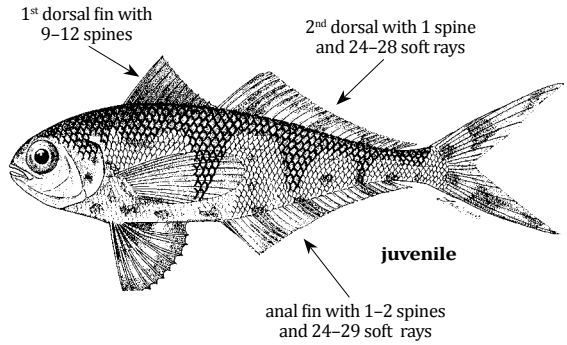



**Size:** To 21 cm (TL)

***Nomeus gronovii*** (Gmelin, 1789)

**FAO names:** Man-of-war fish (En)

**Local name(s):** Kwet Kyar Ye Net Nga Ye Myaw.
**Habitat:** Juveniles pelagic in coastal and offshore waters usually in association with floating Portuguese man-of-war, *Physalia*; adults possibly demersal in deep water.
**Fisheries:** Bottom trawls, incidental catch.
**Distinctive Characters:** Body elongate and rather compressed; snout rounded; predorsal scales extending to interorbital space; small conical teeth similar in both jaws; no teeth on tongue; pectoral fins extending far beyond the origin of the anal fin; ventral fins greatly expanded in juveniles.
**Colour:** Juveniles silvery white with striking dark blue back and dark blue markings on the sides; large dark fan-like pelvic fins and a deeply forked tail. Adults dark brown on dorsal side, silvery ventrally with dark pectoral and pelvic fins; remnants of dark brown and silvery skin present

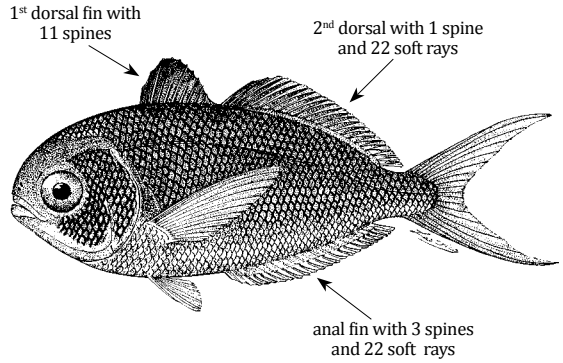



**Size:** To about 39 cm (TL)

***Psenes arafurensis*** Günther, 1889

**FAO names:** Dusky driftfish (En)

**Local name(s):** Ye Net Nga Ye Myaw Nyo Hmine.
**Habitat:** Pelagic-oceanic from surface to depths to 650 m, often associated with medusae.
**Fisheries:** Bottom trawls, incidental catch.
**Distinctive Characters:** Body firm, moderately deep and rather compressed; predorsal scales extending forward to about middle of eyes, of similar size and not separable into distinct patches; pectoral fin with 18 rays, its length equal to head; teeth small, conical, mostly uniserial, similar in both jaws.
**Colour:** Body with brownish mottled or banded colour pattern in small fish; adults uniformly coloured, almost black.

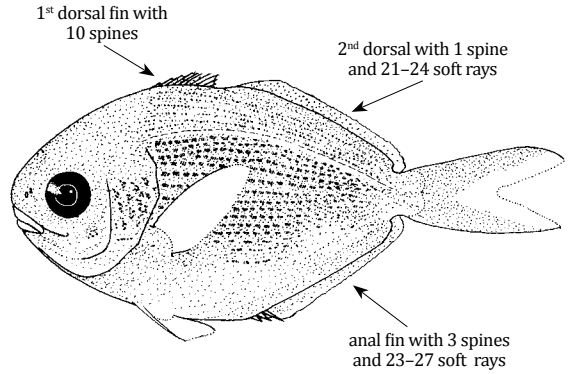



**Size:** To about 26 cm (TL)

***Psenes cyanophrys*** Valenciennes, 1833

**FAO names:** Freckled driftfish (En)

**Local name(s):** Ye Net Hmet Chauk Nga Ye Myaw.
**Habitat:** Oceanic, in association with floating objects.
**Fisheries:** Bottom trawls, incidental catch.
**Distinctive Characters:** Body firm, deep and rather compressed; predorsal scales extending forward to nostrils, of 2 distinct sizes: very small scales in anterior patch, sharply demarcated from larger posterior scales; pectoral fin with 18 rays, its length equal to or less than head; teeth in both jaws small and conical, mostly uniserial.
**Colour:** Overall brownish mottled colour pattern; several horizontal rows of dark spots on sides; a distinct dark band below eye; dorsal, pelvic, anal and caudal fins dark, the latter washed with yellow; pectoral fin transparent with a yellowish base.




**Size:** To about 30 cm (TL)

***Psenes pellucidus*** Lütken, 1880

**FAO names:** Bluefin driftfish (En)

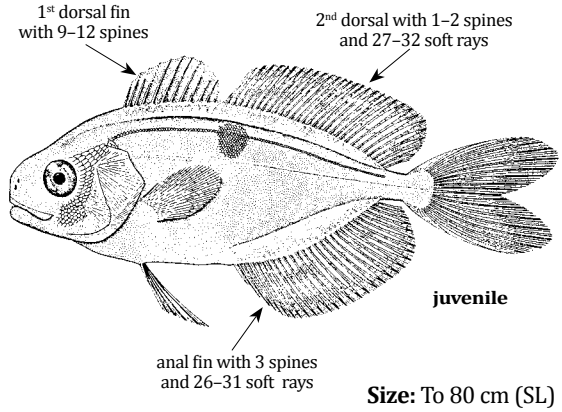
**Local name(s):** Ye Net Nga Ye Myaw Suu Taung Pyar.

**Habitat:** Meso- or epi-pelagic; juveniles live in association with drifting seaweed rather than jellyfish.

**Fisheries:** Bottom trawls, incidental catch.

**Distinctive Characters:** Body very compressed, flabby at all sizes; scales on top of head of similar size, not separable into distinct patches; pectoral fin short and rounded; teeth in lower jaw long, knife-like, close-set, very different from those in the upper jaw.

**Colour:** Translucent young with brown spotted colour pattern; adults dark brown to deep purple; eye dark blue.




**Size:** To 80 cm (SL)

## ARIOMMATIDAE

Ariommas

***Ariomma indicum*** (Day, 1871)

**FAO names:** Indian driftfish (En)
Ariomme indienne (Fr)

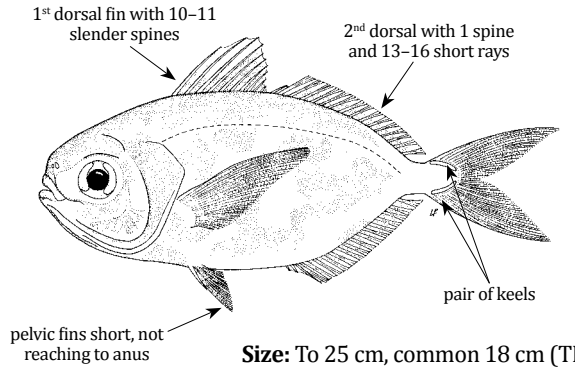
**Local name(s):** India Nga Ye Myaw.

**Habitat:** Muddy bottoms down to 300 m.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Body depth usually 2.0–2.4 in SL; caudal peduncle short, almost square in cross-section with two fleshy keels at base of caudal fin; no teeth on roof of mouth; anal fin with 3 spines and 14–15 soft rays; eyes large, surrounded by thick adipose tissue; caudal fin lobes not capable of folding into a single lobe.

**Colour:** Silvery with bluish tinge on back; inside opercle black; eye with 2 golden crescents separated by a vertical dark region; large specimens may be uniformly dark; fins greyish.




**Size:** To 25 cm, common 18 cm (TL)

## STROMATEIDAE

Silver pomfrets

***Pampus argenteus*** (Euphrasen, 1788)

**FAO names:** Silver pomfret (En)
Aileron argente (Fr)

**Local name(s):** Nga Moke Phyu, Ngwe Yaung Nga Moke Phyu.

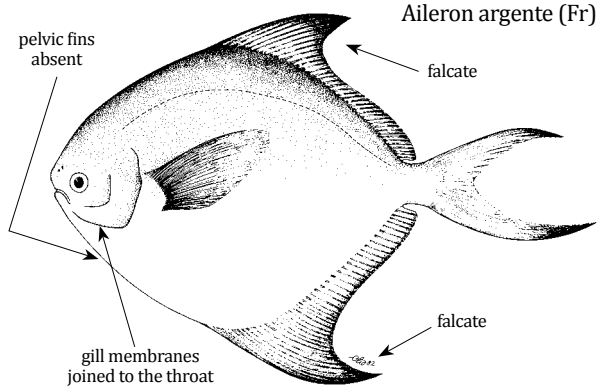
**Habitat:** Demersal on the continental shelf to about 80 m.

**Fisheries:** Bottom trawls, gillnets, seines.

**Distinctive Characters:** Body firm, very deep, oval, compressed; dorsal and anal fins preceded by 5–10 short, blade-like spines with pointed ends (embedded and barely visible in adults); dorsal fin rays 37–43; caudal fin deeply forked, lower lobe often extended.

**Colour:** Silvery white on sides, slightly darker bluish or greyish on back.

**Remarks:** The Indian Ocean population is now considered a distinct species, *Pampus candidus* (Cuvier, 1833) (see Divya *et al.*, 2019).

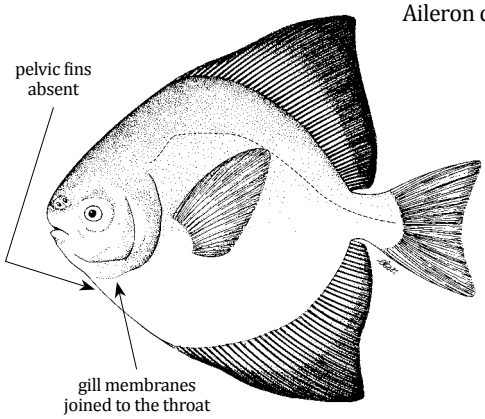



**Size:** To 60 cm, common 30 cm (SL)

***Pampus chinensis*** (Euphrasen, 1788)

**FAO names:** Chinese silver pomfret (En)
Aileron chinois (Fr)

**Local name(s):** Nga Moke Phyu, Ta Yoke Nga Moke Phyu.
**Habitat:** Inshore, demersal on the continental shelf over muddy bottoms; usually occurs in schools; sometimes enters estuaries.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Similar to *Pampus argenteus* but dorsal and anal fins not produced into a falcate lobe anteriorly; no blade-like spines before dorsal and anal fins; 43–50 dorsal fin rays; caudal fin not deeply forked, lobes equal in length.
**Colour:** Greyish to brownish dorsally, silvery white on sides; fins silvery to greyish, darkest distally.
**Remarks:** The Indian Ocean population is genetically different from type locality samples and may represent a distinct species (see Divya *et al*., 2019).



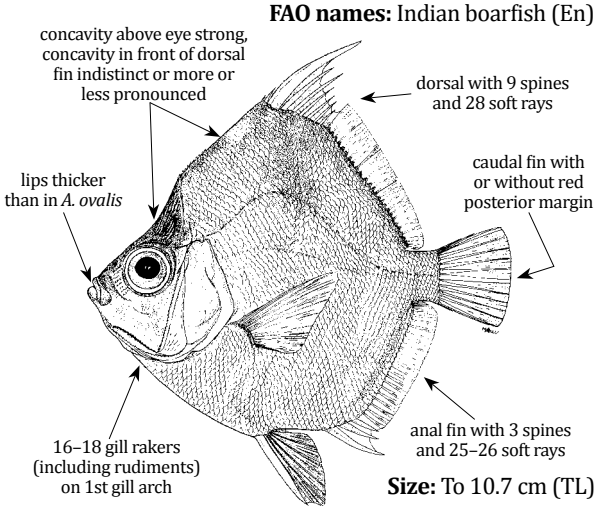

**Size:** To 40 cm, common 20 cm (SL)

## CAPROIDAE
Boarfishes

***Antigonia indica*** Parin & Borodulina, 1986

**FAO names:** Indian boarfish (En)

**Local name(s):** India Nga Wett Thoo.
**Habitat:** Depth range 78–310 m.
**Fisheries:** Deep water bottom trawls.
**Distinctive Characters:** Body deeply rhomboidal, its depth 1.0–1.2 in SL; eye diameter 2.6–3.1 in HL; distance between upper margin of eye and dorsal fin origin equals to or greater than head length; mouth gape almost horizontal when mouth closed; premaxilla bent in the middle at almost straight angle; posterior and lower profiles weakly convex to straight; apical creast of scales with smooth lateral surface; 13–14 (usually 13) pectoral fin rays.
**Colour:** In life, silvery pink with 2 poorly defined darker reddish transverse bars, one through eye and one from beginning of dorsal fin to beginning of anal fin; cheek, opercle, breast and belly whitish.

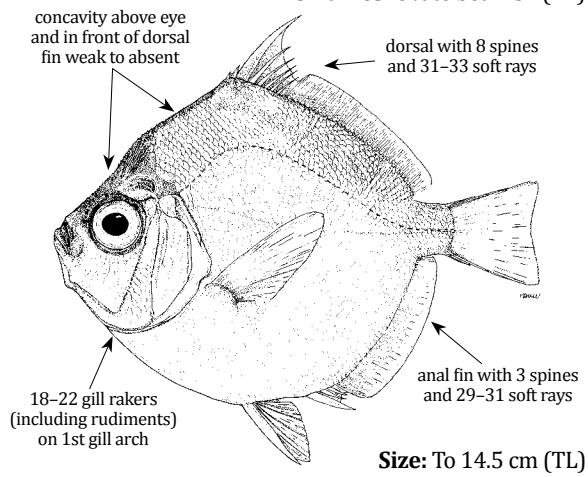



**Size:** To 10.7 cm (TL)

***Antigonia ovalis*** Parin & Borodulina, 2006

**FAO names:** Ovate boarfish (En)

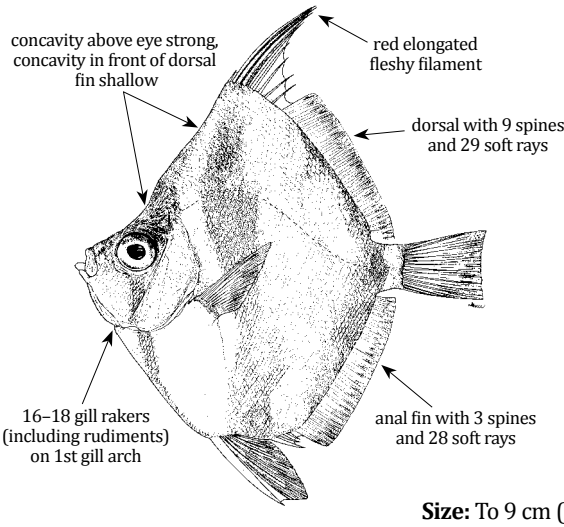
**Local name(s):** Nga Wett Thoo A Waing.
**Habitat:** Depth range 105–235 m.
**Fisheries:** Deep water bottom trawls.
**Distinctive Characters:** Body roundish-oval, its depth 0.8–1.2 (body depth decreasing with fish growth) in SL; eye diameter 2.6–2.9 in HL; distance between upper margin of eye and dorsal fin origin equals to or smaller than head length; lips thin; mouth gape strongly oblique when mouth closed; premaxilla straight; posterior and lower profiles of body rounded; apical creast of scales with smooth lateral surface; 13–14 (usually 14) pectoral fin rays.
**Colour:** In life, head, body and fins, reddish orange, with silvery tint on belly and flanks.




**Size:** To 14.5 cm (TL)

***Antigonia*** sp. *

**FAO names:** Emanuela's boarfish (En)



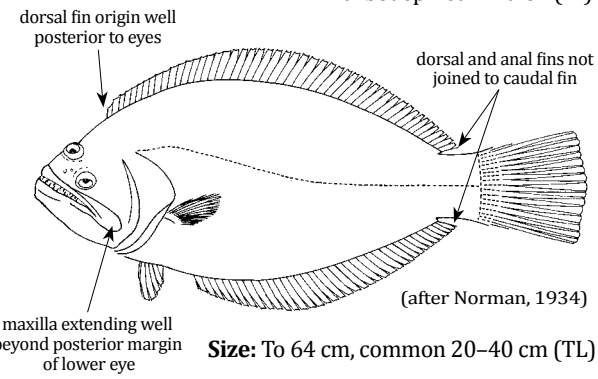

**Local name(s):** Nga Wett Thoo Daunt Chun.
**Habitat:** Depth range 99–129 m.
**Fisheries:** Deep water bottom trawls.
**Distinctive Characters:** Body deeply rhomboidal, its depth 0.8–0.9 in SL; eye diameter 2.8–3.1 in HL; distance between upper margin of eye and dorsal fin origin greater than head length; mouth gape almost horizontal when mouth closed; premaxilla bent in the middle at almost straight angle; posterior and lower profiles of body weakly convex; apical creast of scales with numerous spines throughout its lateral surface; 13 pectoral fin rays.
**Colour:** Similar to *Antigonia indica* (see above) but soft dorsal, anal and caudal fins bright-yellow in life and no red posterior margin on caudal fin.
**Remarks:** An undescribed species presently being described by Prokofiev *et al*.

**Size:** To 9 cm (TL)

## PSETTODIDAE
Spiny turbots

***Psettodes erumei*** (Bloch & Schneider, 1801)

**FAO names:** Indian halibut (En)
Turbot épineux-indien (Fr)



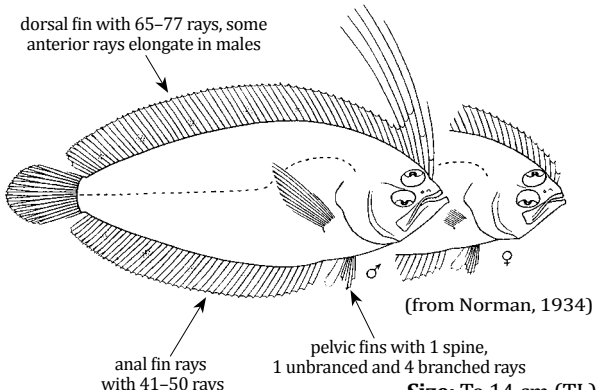

**Local name(s):** Nga Khway Sharr Gyi, India Sharr Gyi.
**Habitat:** On muddy and sandy bottoms along shallow coasts and estuaries to depths of 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body oval and flat, but thicker than that in most other flatfishes; mouth large with strong canine teeth; pelvic fins with 1 spine and 5 soft rays; both eyes on left or right side; anterior rays of dorsal and anal fins spinous.
**Colour:** Usually brown or grey, sometimes with 4 broad dark crossbars; dorsal, anal and caudal fin tips black; eyed side occasionally only partially coloured.

**Size:** To 64 cm, common 20–40 cm (TL)

## CITHARIDAE
Largescale flounders

***Brachypleura novaezeelandiae*** Günther, 1862

**FAO names:** Widemouth largescale flatfish (En)




**Local name(s):** Nga Khway Sharr Ar Pyae.
**Habitat:** On sand and mud bottoms at depths of 18–73 m; often in areas near river mouths.
**Fisheries:** Bottom trawls as bycatch.
**Distinctive Characters:** Body elliptical; both eyes on right side of head; all dorsal and anal fin rays, except a few at posterior end of fin, unbranched; caudal fin with 13–14 branched rays; scales large and deciduous, ctenoid on eyed side, cycloid or weakly ctenoid on blind side.
**Colour:** Ground colour yellowish or yellowish brown; dorsal, anal, and caudal fins paler than body with dark spots; spots on dorsal and anal fins near middle of rays; blind side whitish.

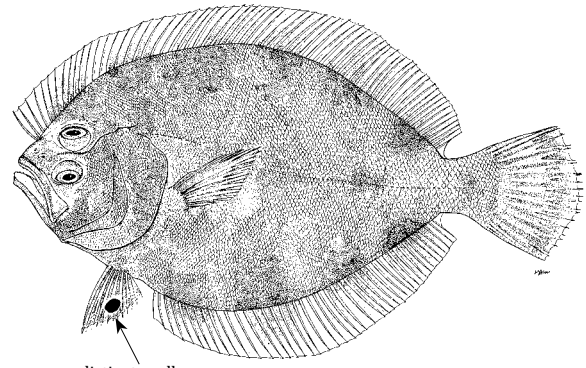
**Size:** To 14 cm (TL)

# PARALICHTHYIDAE
Sand flounders

## *Cephalopsetta ventrocellata* Dutt & Rao, 1965

**FAO names:** None (En)

**Local name(s):** Nga Khway Sharr Me' Set.
**Habitat:** On soft bottom to depths of 200 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Eyes on left side of head (true of all Paralichthyidae); head length 2.3–3.1 in SL; snout short, 4.7–5.9 in HL; 23–31 closely spaced teeth on lower jaw of blind side, no enlarged canines; scales on eyed side with feeble ctenii and those on blind side cycloid.
**Colour:** Background colour of eyed side brownish with varying pattern of irregular dark blotches; a distinct black spot enclosed by a light-coloured ring (ocellus) between the 3rd and 5th ray of pelvic fin of the ocular side.

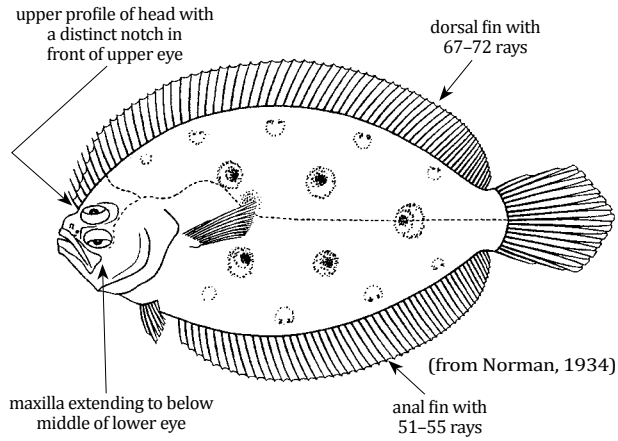



**Size:** To 16.8 cm (SL)

## *Pseudorhombus argus* Weber, 1913

**FAO names:** Peacock flounder (En)

**Local name(s):** Nga Khway Sharr Daung Kwet.
**Habitat:** On muddy and sandy bottoms at depths of 15–20 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body ovoid, its depth 1.9–2.2 in SL; teeth in both jaws small, close-set and slightly enlarged anteriorly; gill rakers slender and pointed, 10–16 on lower limb of 1st gill arch; scales on eyed side ctenoid, those on blind side cycloid.
**Colour:** Body brownish, 2 double or triple ocelli above and below lateral line and 1 on posterior third of straight section of lateral line; many dark spots and rings scattered on body and median fins.

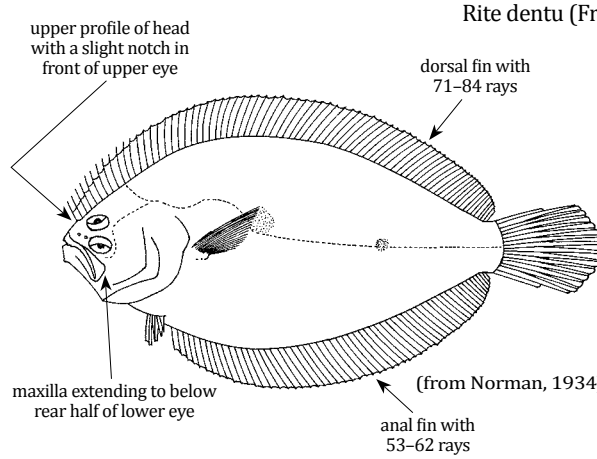



**Size:** To 25 cm (SL)

## *Pseudorhombus arsius* (Hamilton, 1822)

**FAO names:** Largetooth flounder (En)
Rite dentu (Fr)

**Local name(s):** Nga Khway Sharr Thwar Gyi
**Habitat:** On muddy and sandy bottoms along shallow coasts to depths of 200 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body ovoid, its depth 1.8–2.3 in SL; upper jaw teeth small, closely spaced posteriorly, becoming widely spaced and enlarged anteriorly; lower jaw teeth large, widely spaced, 8–18 on blind side of lower jaw; gill rakers longer than broad, 9–13 on lower limb of 1st gill arch; scales on eyed side ctenoid, those on blind side cycloid.
**Colour:** Background colour of eyed side brownish with varying pattern of dark spots but always a large black blotch and 1 or 2 smaller dark spots along lateral line.

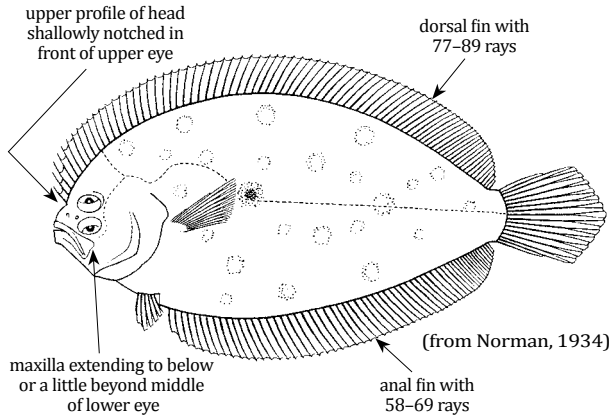



**Size:** To 45 cm, common 20 cm (SL)

***Pseudorhombus cinnamoneus*** (Temminck & Schlegel, 1846)

**FAO names:** Cinnamon flounder (En)

**Local name(s):** Thit Kja Pho Nga Khway Sharr.
**Habitat:** On mud and sand bottoms along shallow coasts or bays.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body deeply ovoid, its depth 2.0–2.1 in SL; teeth in upper jaw small, slightly enlarged anteriorly, those on lower jaw stronger and more widely separated from each other; gill rakers moderately long and slender, 10–12 on lower limb of 1st gill arch; scales ctenoid on eyed side, cycloid on blind side.
**Colour:** Body brownish, a distinct ocellus at junction of straight and curved parts of lateral line; many dark rings scattered on body, many dark spots on median fins.



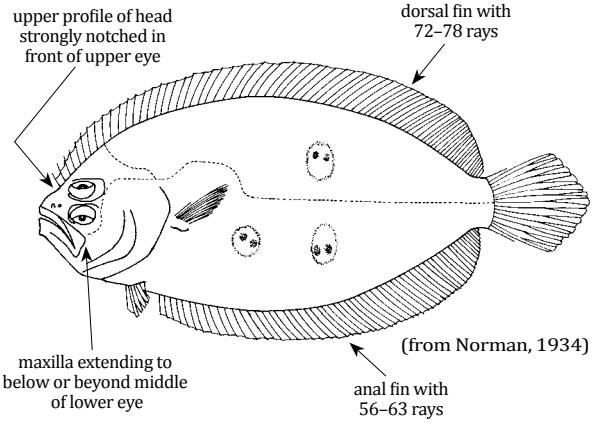

**Size:** To 35 cm, common 20–25 cm (SL)

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***Pseudorhombus dupliciocellatus*** Regan, 1905

**FAO names:** Ocellated flounder (En)

**Local name(s):** Daung Hmee Kywet Nga Khway Sharr.
**Habitat:** On mud and sand bottoms at depths of 50–150 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body ovoid, its depth 2.2–2.4 in SL; teeth in both jaws small, without strong canines; gill rakers palmate, as broad as long, 8–9 on lower limb of 1st gill arch; scales ctenoid on eyed side, cycloid on blind side.
**Colour:** One or two pairs of distinct double ocelli above and below lateral line; many darker rings and spots scattered on body and median fins.



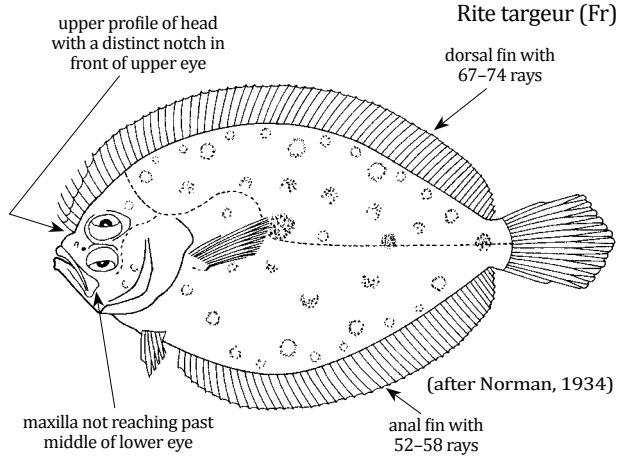

**Size:** To 40 cm, common 20–30 cm (SL)

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***Pseudorhombus elevatus*** Ogilby, 1912

**FAO names:** Deep flounder (En)
Rite targeur (Fr)

**Local name(s):** Ye Net Nga Khway Sharr.
**Habitat:** On clay, sand and mud bottoms at depths of 7–200 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body deeply ovoid, its depth 1.7–2.0 in SL; teeth in both jaws all small, not enlarged anteriorly; a broad flap-like membrane joining proximal half of 1st dorsal fin ray to head; scales ctenoid on eyed side and cycloid on blind side; gill rakers long and slender, 15–19 on lower limb of 1st gill arch.
**Colour:** Body pale brownish, a distinct large blotch at junction of straight and curved parts of lateral line, and many dark rings and spots scattered on body and median fins.

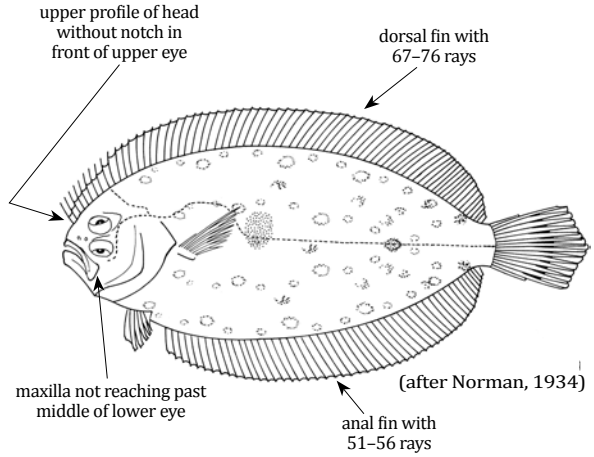



**Size:** To 20 cm, common 15 cm (SL)

## *Pseudorhombus javanicus* (Bleeker, 1853)

**FAO names:** Javan flounder (En)
Rite javanais (Fr)

**Local name(s):** Javan Nga Khway Sharr.
**Habitat:** On mud and sand bottoms of continental shelf.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body ovoid, its depth 2.1–2.4 in SL; teeth in both jaws small, with slightly enlarged teeth anteriorly; scales on eyed side ctenoid on anterior part and on dorsal and ventral margins on eyed side of body, cycloid on remaining areas; scales cycloid on blind side; gill rakers pointed, moderately short, 12–16 on lower limb of 1st gill arch.
**Colour:** Body brownish, a distinct, large dark blotch at junction of straight and curved parts of lateral line and a smaller blotch on middle of straight section of lateral line, many dark rings scattered on body.

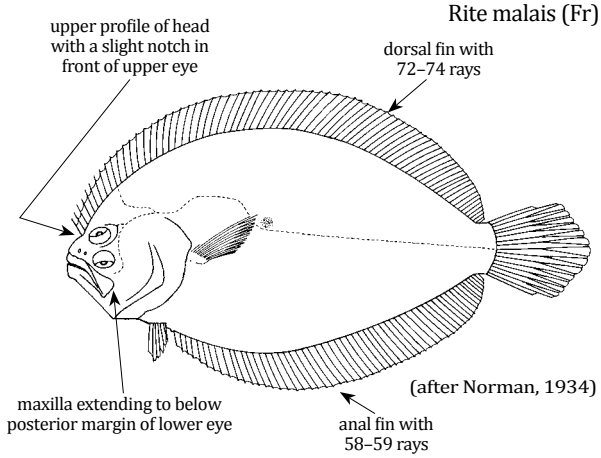



**Size:** To 35 cm, common 20 cm (SL)

## *Pseudorhombus malayanus* Bleeker, 1866

**FAO names:** Malayan flounder (En)
Rite malais (Fr)

**Local name(s):** Malayan Nga Khway Sharr.
**Habitat:** On mud and sand bottoms along shallow coasts or bays.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body deeply ovoid, its depth 1.8–2.0 in SL; teeth in upper jaw small and close-set laterally, and enlarged anteriorly; teeth in lower jaw stronger and more widely spaced than those of upper jaw; scales ctenoid on both sides of body; gill rakers moderately long, 8–10 on lower limb of 1st gill arch.
**Colour:** Body brownish, a small dark blotch at junction of straight and curved parts of lateral line.

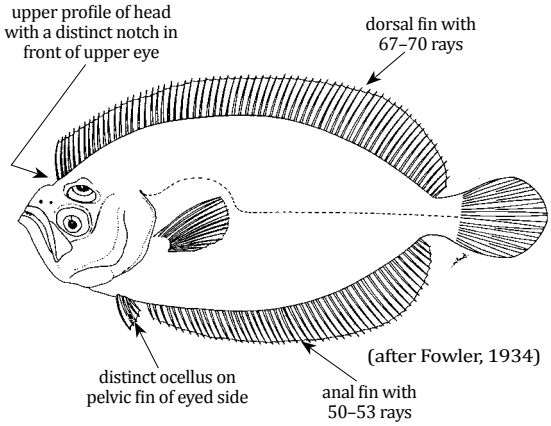



**Size:** To 35 cm, common 20 cm (SL)

## *Pseudorhombus megalops* Fowler, 1934

**FAO names:** Bigeye flounder (En)

**Local name(s):** Nga Khway Sharr Myet Pyuu.
**Habitat:** On mud and sand bottoms in moderately deep waters (about 200–270 m).
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Cephalopsetta ventrocellata* but head length 3.0–3.3 in SL; snout short, 3.9–4.5 in HL; 12–20 widely spaced large canines anteriorly on lower jaw of blind side; scales on eyed side with well-developed ctenii and those on blind side mostly ctenoid.
**Colour:** Body pale brownish, with many indistinct dark rings; pelvic fin of eyed side with very distinct black spot or ocellus between the 4th and 5th ray of pelvic fin of the ocular side.

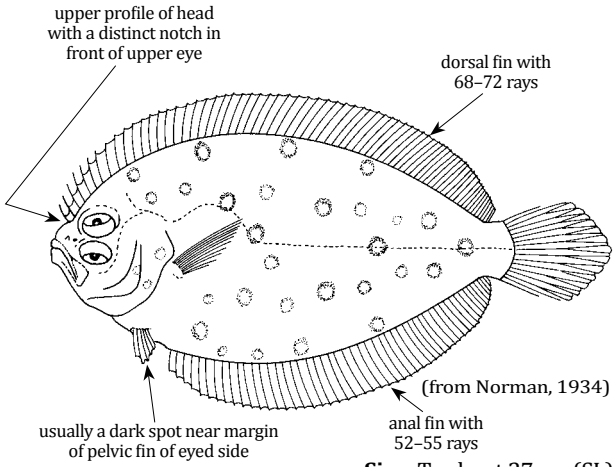



**Size:** To 35 cm, common 20 cm (SL)

***Pseudorhombus natalensis*** Gilchrist, 1904

**FAO names:** Natal flounder (En)

**Local name(s):** Natal Nga Khway Sharr.
**Habitat:** On mud and sand bottoms at depths of 60–260 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body ovoid, its depth 1.8–2.3 in SL; more than 20 close-set teeth on lower jaw of blind side (no developed canine teeth); scales ctenoid on eyed side; nearly all scales on blind side cycloid; gill rakers pointed, longer than broad, 10–13 on lower limb of first gill arch.
**Colour:** Body pale brownish, eyed side with about 5 longitudinal rows of dark rings; median fins with a row of small dark spots; dark spot near margin of pelvic fin (eyed side).

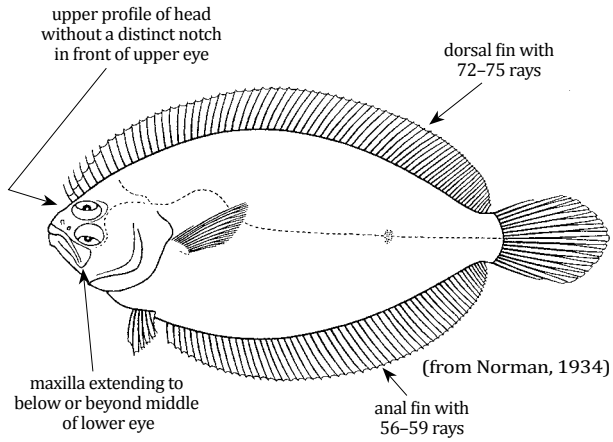



**Size:** To about 27 cm (SL)

***Pseudorhombus neglectus*** Bleeker, 1866

**FAO names:** Neglected flounder (En)

**Local name(s):** Oo Pat Khar Nga Khway Sharr.
**Habitat:** On mud and sand bottoms of continental shelf at depths of 30–40 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elliptical, its depth 1.9–2.1 in SL; teeth in upper jaw small, slightly enlarged anteriorly, teeth in lower jaw larger and more widely spaced than those in upper jaw; scales ctenoid on eyed side, cycloid on blind side; gill rakers pointed and moderately short, 9–10 on lower limb of 1st gill arch.
**Colour:** Body pale brownish, with small ocelli at junction between curved and straight portions of lateral line and another one near middle of straight section of lateral line.

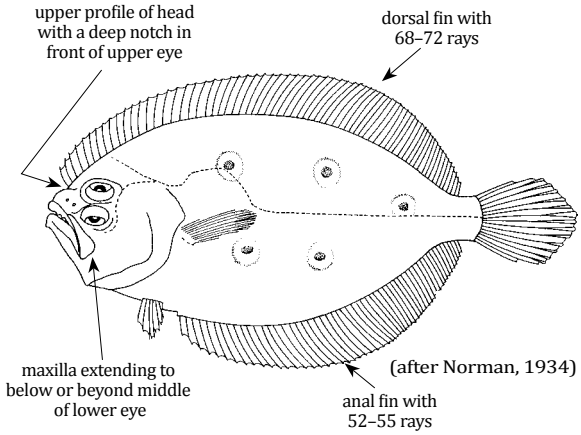



**Size:** To about 25 cm (SL)

***Pseudorhombus quinquocellatus*** Weber & Beaufort, 1929

**FAO names:** Five-eyed flounder (En)

**Local name(s):** Ngar Set Pyauk Nga Khway Sharr.
**Habitat:** On mud and sand bottoms of continental shelf at depths of 80–100 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body ovoid, its depth 2.0–2.1 in SL; teeth in upper jaw small and close-set with 3–4 pairs of canines anteriorly, teeth in lower jaw stronger and more widely spaced than those in upper jaw; scales ctenoid on eyed side, mostly cycloid on blind side, but sometimes with some ctenoid; gill rakers pointed and rather short, 9–13 on lower limb of 1st gill arch.
**Colour:** Body uniformly brownish, 2 ocelli above and below lateral line and 1 ocellus on posterior third of straight section of lateral line; many indistinct rings scattered on body and median fins.

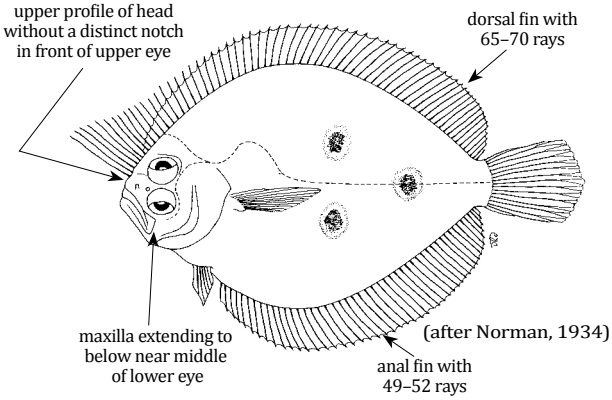



**Size:** To 20 cm, common 10–15 cm (SL)

***Pseudorhombus triocellatus*** (Bloch & Schneider, 1801)

**FAO names:** Threespotted flounder (En)
Rite à trois taches (Fr)

**Local name(s):** Thone Set Nga Khway Sharr.
**Habitat:** Inhabits mud and sand bottoms in shallow waters on the continental shelf.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body deeply ovoid, its depth 1.5–1.8 in SL; teeth in both jaws small, not enlarged anteriorly; scales ctenoid on eyed side, cycloid on blind side; gill rakers long and slender, 20–25 on lower limb of 1st gill arch.
**Colour:** Body brownish, with 1 ocellus above and one below lateral line and 1 ocellus on posterior third of straight section of lateral line; many indistinct spots and blotches on body.



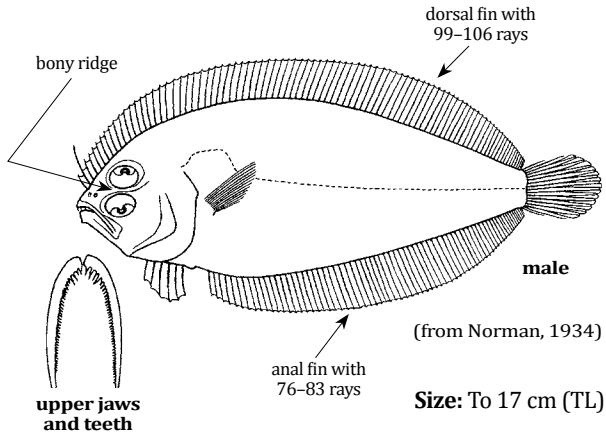

**Size:** To 15 cm, common 10 cm (SL)

## BOTHIDAE
Lefteye flounders

***Arnoglossus japonicus*** Hubbs, 1915

**FAO names:** Japanese lefteye flounder (En)

**Local name(s):** Be' Myet Lone Japan Khway Sharr.
**Habitat:** On mud, sand and gravel bottoms at depths of 86–154 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elliptical, elongate; interorbital region narrow with continous bony ridge; head length 3.6–3.9 in SL; maxilla reaching to about middle of lower eye; anterior teeth of upper jaw larger than posterior teeth; lower jaw teeth widely spaced; a single row of teeth in jaws; no gill rakers on upper limb; cycloid scales on ocular side; 2nd dorsal fin ray elongated in males; 65–73 lateral line scales; caudal fin rounded.
**Colour:** Pale brownish, no dark blotch on pectoral and pelvic fins.

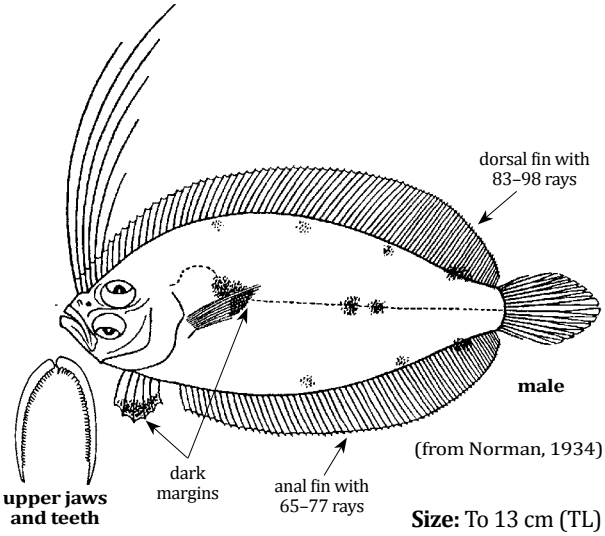



**Size:** To 17 cm (TL)

***Arnoglossus macrolophus*** Alcock, 1889

**FAO names:** Largecrested lefteye flounder (En)

**Local name(s):** Bae' Myet Lone Hmwe Shae Khway Sharr.
**Habitat:** On mud, sand and gravel bottoms at depths of 18–141 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elliptical, elongate, strongly compressed; head length 3.6–4.1 in SL; interorbital region narrow with continuous bony ridge; maxilla reaching to about middle of lower eye; teeth in both jaws small, closely spaced; cycloid scales on ocular side; anterior 4–5 rays of dorsal fin greatly elongate in males, not or only slightly elongate in females; 48–62 lateral line scales; caudal fin pointed.
**Colour:** Body brownish; 5 indistinct dusky spots on body below base of dorsal fin; 4 spots below base of anal fin; the posteriormost spots more distinct and extending onto fins; dark blotch on pectoral and pelvic fins.

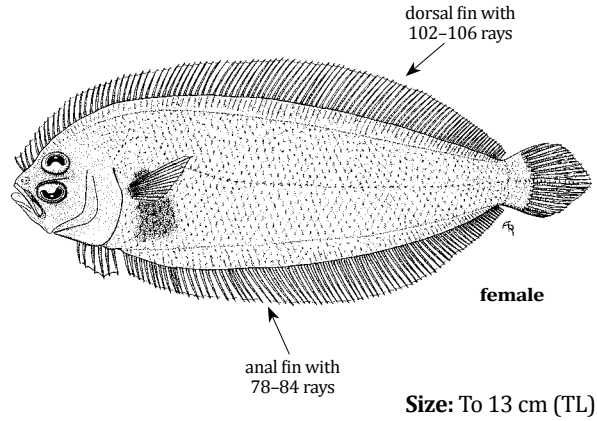



**Size:** To 13 cm (TL)

***Arnoglossus yamanakai*** Fukui, Yamada & Ozawa, 1988

**FAO names:** Yamanaka's lefteye flounder (En)

**Local name(s):** Be' Myet Lone Yama Khway Sharr.
**Habitat:** On soft bottoms at depths of 65–130 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Arnoglossus japonicus* but head smaller, its length 4.0–4.5 in SL; upper eye closer to the dorsal margin of head; teeth in both jaws in 2 rows (inner row teeth very small and covered by membrane); scales on ocular side feebly ctenoid; 63–68 lateral line scales; caudal fin pointed.
**Colour:** Body nearly transparent, uniformly light brownish with dark brownish peritoneum; no dark blotch on pectoral and pelvic fins.

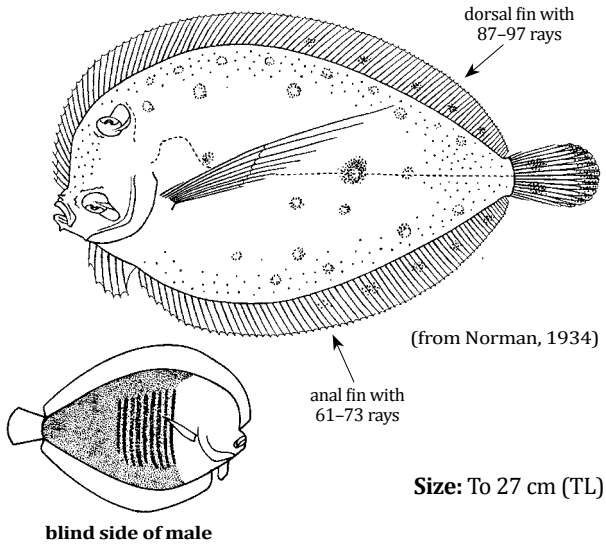



**Size:** To 13 cm (TL)

***Bothus myriaster*** (Temminck & Schlegel, 1846)

**FAO names:** Oval flounder (En)

**Local name(s):** Be' Myet Lone Lone Waing Khway Sharr.
**Habitat:** On mud bottoms at depths of 10–155 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body ovoid, its depth 1.6–2.0 in SL; interorbital region broad and concave, wider in males than females; maxilla reaching to or slightly beyond anterior margin of lower eye; teeth in upper jaw biserial; pectoral fin on eyed side with 8–10 rays, longer in males than females; males with a strong rostral spine and smaller spines around orbits; eye of adult males with a broad flap on posterior margin; scales mostly cycloid on eyed side, cycloid on blind side.
**Colour:** Eyed side brown with many dark spots; a dark brown blotch above junction of straight and curved portions of lateral line and another on middle of straight section of lateral line; margin of caudal fin blackish; pectoral fin of eyed side with faint cross bars.

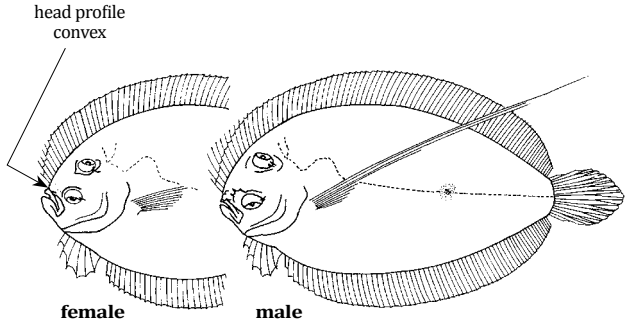



**Size:** To 27 cm (TL)

***Bothus pantherinus*** (Rüppell, 1830)

**FAO names:** Leopard flounder (En)
Rombou léopard (Fr)

**Local name(s):** Kyar Thit Khway Sharr.
**Habitat:** On sand and mud bottoms at depths of 0–150 m; often found close to reefs.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Bothus myriaster* but head profile distinctly convex; all scales on eyed side ctenoid; usually 2–3 tentacles on each eye; 9-12 pectoral fin rays on eyed side; lateral line with 74–87 scales.
**Colour:** Eyed side with numerous dark spots, blotches, and rings on body and median fins; 1 distinct dark blotch on middle of straight section of lateral line; blind side tan or whitish, without distinctive markings.
**Remarks:** Needs confirmation for Myanmar waters.

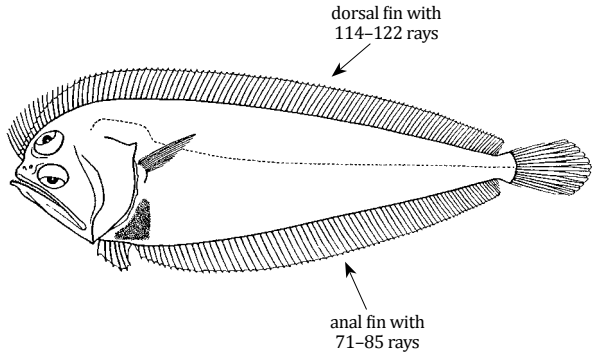



**Size:** To 30 cm (TL)

***Chascanopsetta lugubris*** Alcock, 1894

**FAO names:** Pelican flounder (En)
Perpeire pélican (Fr)

**Local name(s):** Be' Myet Lone Pelican Khway.
**Habitat:** On soft bottoms at depths of 120–977 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body rather elongate, and thin; interorbital space narrow; maxilla long (1.4 in head length or more) extending backward well beyond posterior edge of eye; teeth small, slender (no distinct canines), depressible on lower jaw; gill rakers absent, although 1 or 2 rudiments may be present on lower limb of 1st arch; scales small, cycloid on both sides, about 190 in lateral line.
**Colour:** Eyed side greyish or yellowish brown, with or without numerous spots; fins dusky; peritoneum black, visible through the thin abdominal walls; blind side uniformly light.



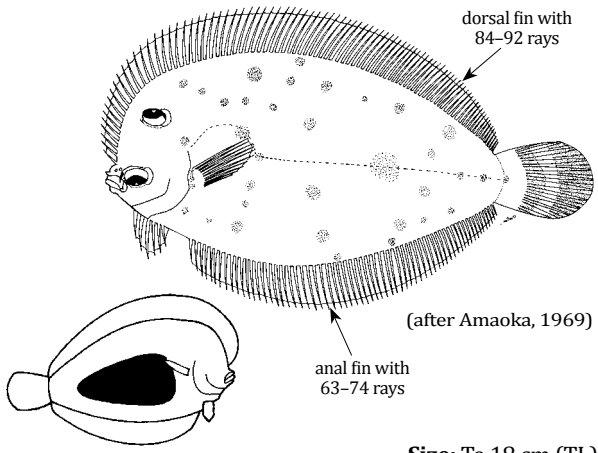

**Size:** To 40 cm, common 25 cm (TL)

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***Crossorhombus azureus*** (Alcock, 1889)

**FAO names:** Blue flounder (En)

**Local name(s):** Be' Myet Lone Khway Sharr Pyar.
**Habitat:** On mud bottoms, at depths of 13–60 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body ovoid, its depth 1.7–2.0 in SL; interorbital region broad and concave, wider in males than females; maxilla reaching to or slightly beyond anterior margin of lower eye; teeth in upper jaw biserial; pectoral fin on eyed side with 11–14 rays, its length 1.3–1.6 in HL in both sexes; males with a rostral spine, 1–3 low bony bumps around orbits; eye of adult males with a flap on posterior margin.
**Colour:** Eyed side brownish grey, with darker spots and blotches; caudal fin with 2 distinct dark bands; blind side whitish in females; males with distinct bluish black pyriform colour pattern on blind side.



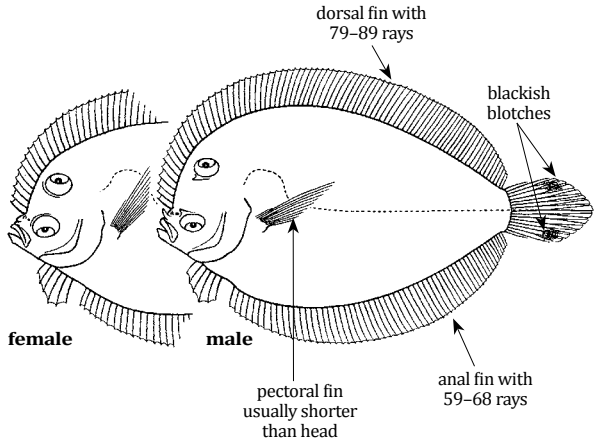

**Size:** To 18 cm (TL)

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***Engyprosopon grandisquama*** (Temminck & Schlegel, 1846)

**FAO names:** Largescale flounder (En)
Perpeire à grandes écailles (Fr)

**Local name(s):** Be' Myet Lone A Kje Gyi Khway Sharr.
**Habitat:** On mud and sand bottoms on the continental shelf at depths of about 10–100 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body deeply ovate and flat, its depth 1.6–1.9 in SL; in adults, eyes separated by a more or less concave space (wider than one eye diameter); maxilla extending to below anterior margin of lower eye; teeth in upper jaw biserial; gill rakers on 1st gill arch short, not serrate, absent on upper limb, 5–8 on lower limb; scales large, with short ctenii on eyed side, cycloid on blind side; 36–48 scales in lateral line; adult males have spines on snout and on rim of each orbit, and a broader space between eyes than females.
**Colour:** Eyed side light brown; many dark spots and rings scattered on head and body; caudal fin with a pair of large prominent jet-black blotches.




**Size:** To 11 cm, common 8 cm (SL)

## *Engyprosopon maldivense* (Regan, 1908)

**FAO names:** Olive wide-eyed flounder (En)

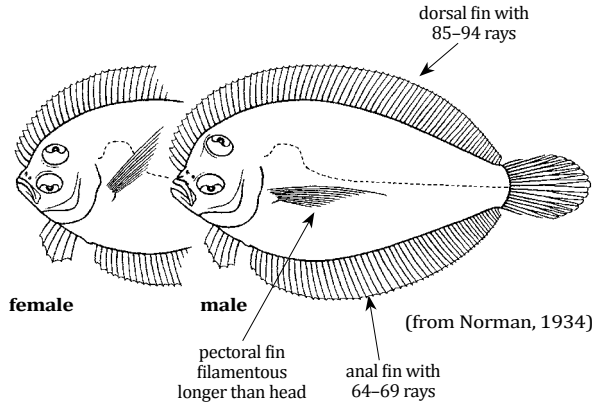
**Local name(s):** Be' Myet Lone Myet Pyuu Khway Sharr.

**Habitat:** On sand and mud bottoms at depths of 30–215 m.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Similar to *Engyprosopon grandisquama* but body less deep, its depth 1.8–2.1 in SL; maxilla longer, extending to below anterior 1/3 of lower eye; pectoral rays elongated into filaments, longer than head length; rostral spine present in adult males but no spine on rim of each orbit; caudal fin lacking a pair of black blotches.

**Colour:** Eyed side pale brownish, with pale blotches on body.




**Size:** To about 13 cm (SL)

## *Grammatobothus polyophthalmus* (Bleeker, 1865)

**FAO names:** Many-eyed flounder (En)

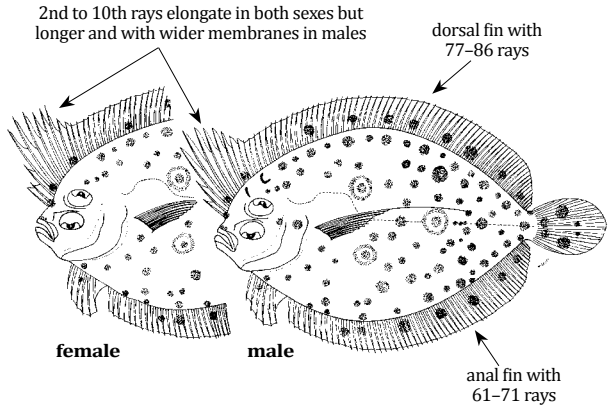
**Local name(s):** Be' Myet Lone Set Pyauk Khway Sharr.

**Habitat:** On mud, sand, and rubble bottoms to 90 m depth.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Body deeply ovoid and flat, its depth 1.5–1.8 in SL; interorbital region narrow, concave in both sexes; maxilla reaching to or slightly beyond anterior margin of lower eye; teeth in both jaws uniserial; gill rakers short, 7–8 gill rakers on lower limb of 1st gill arch; scales on eyed side ctenoid; scales on blind side cycloid; lateral line on both sides of body; pectoral fin filamentous in males.

**Colour:** Eyed side pale brownish, with 3 large, prominent dark ocelli, 1 each above and below pectoral fin, 1 on middle of straight section of lateral line; head, body and fins with many small, distinct, dark spots.




**Size:** To about 21 cm (TL)

## *Laeops guentheri* Alcock, 1890

**FAO names:** Günther's flounder (En)

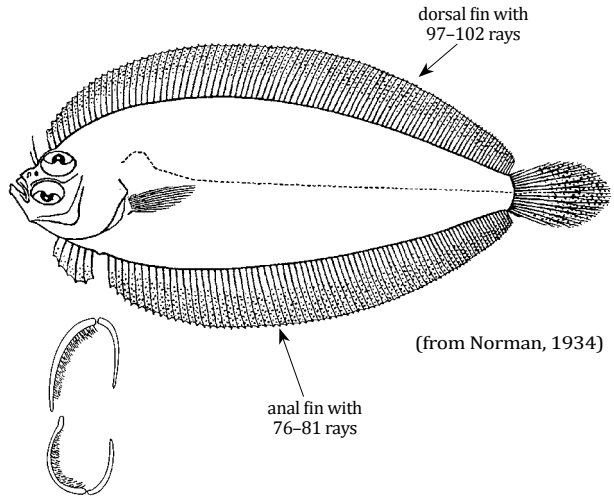
**Local name(s):** Be' Myet Lone Gunther Khway Sharr.

**Habitat:** On and-mud or sand and broken shell bottoms at depths of 15–329 m.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Body lanceolate, moderately compressed, its depth 2.5–3.0 in SL; head length 4.3–5.0 in SL; interorbital region narrow with continuous bony ridge; upper profile convex above and behind eye; mouth small, maxilla hardly reaching anterior margin of lower eye; all upper jaw teeth and all lower-jaw teeth confined to blind side (true of all species of the genus); teeth in villiform bands; 6–8 small gill rakers on lower part of anterior arch; scales cycloid on both sides of body; dorsal fin origin above posterior nostril of blind side; 1st two dorsal rays detached from remainder of fin, none of the rays prolonged.

**Colour:** Pale brownish; dorsal and anal fins darker towards their margins; caudal dusky.

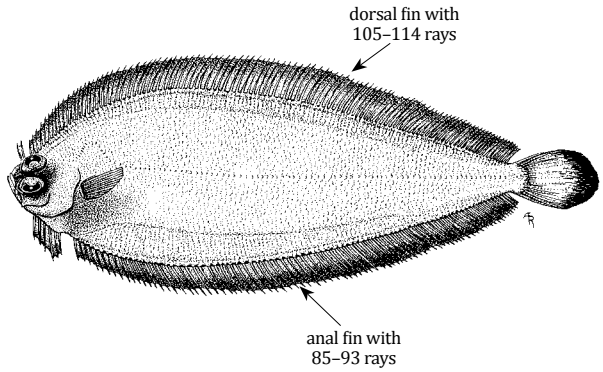



**Size:** To 14 cm (TL)

## *Laeops kitaharae* (Smith & Pope, 1906)

**FAO names:** None (En)

**Local name(s):** Be' Myet Lone Khway Sharr Gaung Thae.
**Habitat:** On sand-mud or sand-and-broken shell bottoms at depths of 15–329 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Laeops guentheri* but head extremely small, its length 5.9–7.3 in SL; caudal peduncle more slender, its depth 2.1–2.7 in SL; more dorsal (105–114) and anal (85–93) fin rays; fewer gill rakers (about 4) on lower limb of 1st gill arch.
**Colour:** Pale brownish; dorsal and anal fins darker towards their margins; caudal dusky.

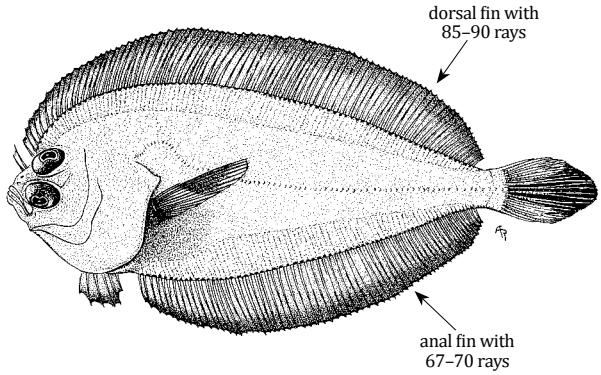



**Size:** To 20 cm (TL)

## *Laeops macrophthalmus* (Alcock, 1889)

**FAO names:** Large-eyed flounder (En)

**Local name(s):** Be' Myet Lone Khway Sharr.
**Habitat:** On soft bottoms to depths of 183 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Laeops guentheri* but deeper body, its depth less than 2.5 in SL; fewer dorsal (85–90) and anal (67–70) fin rays; teeth uniserial; mouth larger, maxilla extending to beyond anterior margin of eye.
**Colour:** Brownish; dorsal and anal fins darker towards their margins ; middle rays of caudal and distal part of left pectoral dark brown or blackish.

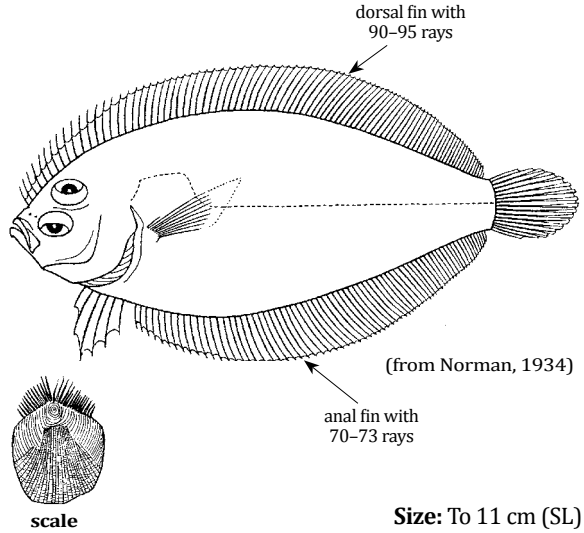



**Size:** To about 12 cm (TL)

## *Psettina profunda* (Weber, 1913)

**FAO names:** Weber's deepwater flounder (En)

**Local name(s):** Weber Be' Myet Lone Khway Sharr.
**Habitat:** On sand and mud bottoms at depths of 99–112 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elliptical, moderately compressed, its depth 2.3 in SL; head length 3.8 in SL; eye diameter 3.3 in HL; eyes separated by a narrow scaly space in males or bony ridge in females; scales small and not deciduous, strongly ctenoid on ocular side, blind side with cycloid scales (true of all species of the genus); 6–7 gill rakers on lower limb of 1st gill arch; 55–60 lateral line scales; caudal fin rounded; pectoral fin with 5 rays on blind side; left pelvic fin very long, longest ray 1.7–1.8 in HL.
**Colour:** Eyed side reddish brown, with irregular black spots and blotches; dark spots along upper and lower margins of body; median fins with brown blotches.

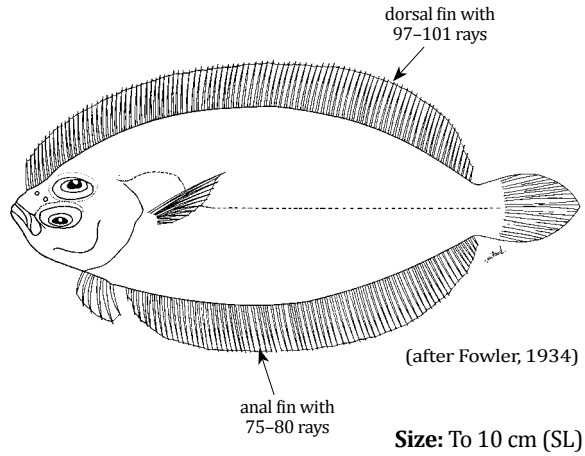



**Size:** To 11 cm (SL)

***Psettina variegata*** (Fowler, 1934)

**FAO names:** Fowler's variegated flounder (En)

**Local name(s):** Be' Myet Lone Fo Lar Khway Sharr.
**Habitat:** On sand and mud bottoms to depths of 112 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Psettina profunda* but body more slender, its depth about 2.5–2.7 in SL; 7–8 gill rakers on lower limb of 1st gill arch; head 3.5 in SL; 72 lateral line scales; dark spots or blotches along upper and lower margins of body including basal parts of dorsal and anal fins.
**Colour:** Eyed side pale brownish, with irregular black spots and blotches; a dark patch on distal part of pectoral fin; distal part of caudal fin with a broad blackish band.



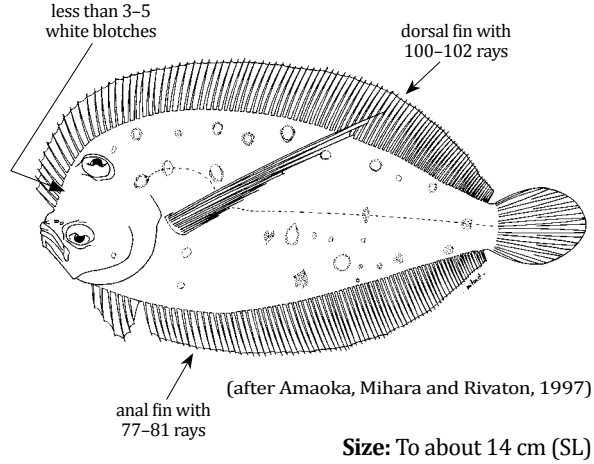
(after Fowler, 1934)

**Size:** To 10 cm (SL)

***Tosarhombus longimanus*** Amaoka, Mihara & Rivaton, 1997

**FAO names:** New Caledonian longarmed flounder (En)

**Local name(s):** Be' Myet Lone Caledonia Khway Sharr.
**Habitat:** On sand and mud bottoms at depths of 217–310 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Tosarhombus nielseni* (see below) but body shallower; pectoral fin on eyed side greatly elongate and much longer than head in males; 3–5 white blotches along head margin.
**Colour:** Light brown; anterior margin of head darkened; series of 3–5 white blotches along head margin in front upper eye; diffused dark blotch at junction of straight and curved parts of lateral line, and a few obscure dark blotches on straight portion of lateral line; many indistinct whitish markings on entire body, some with dark rings.



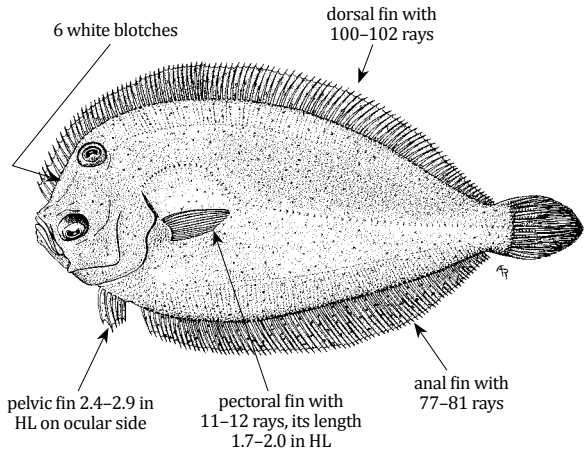
(after Amaoka, Mihara and Rivaton, 1997)

**Size:** To about 14 cm (SL)

***Tosarhombus nielseni*** Amaoka & Rivaton, 1991

**FAO names:** Nielsen's flounder (En)

**Local name(s):** Be' Myet Lone Nielsen Khway Sharr.
**Habitat:** On sand and mud bottoms at depths of 124–230 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body ovate; eyes separated by a wide concave space, broader in males than in females and young; males with a very short rostral spine (absent or feeble in females and young); no orbital spine; maxilla extending beyond anterior margin of lower eye; diameter of lower eye 4.0–4.9 in HL; teeth in upper jaw biserial; gill rakers on 1st gill arch moderate in length, pointed, not serrate, absent on upper limb, 8–9 on lower limb; scales moderate, deciduous with feeble ctenii on eyed side, cycloid on blind side; 66–70 scales in lateral line.
**Colour:** Females, uniform light brown; males, pale violet on middle part of body on ocular side.

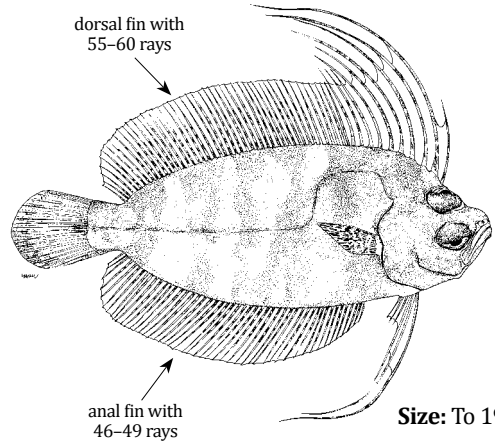



**Size:** To 17.5 cm (SL)

## POECILOPSETTIDAE
Bigeye flounders

***Marleyella bicolorata*** (von Bonde, 1922)

**FAO names:** Comb flounder (En)

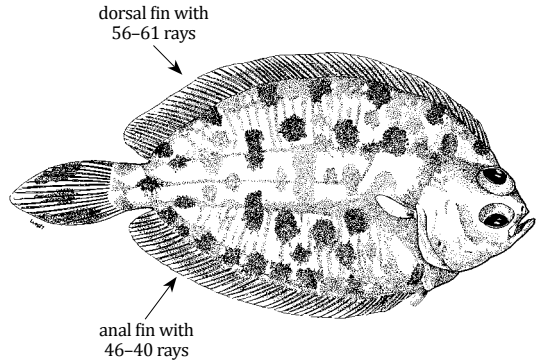



**Local name(s):** Nyar Myet Lone Bee Khway Sharr.
**Habitat:** On sand and mud bottoms to depths of 20–406 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body oval; origin of dorsal fin above eyes, behind posterior nostril on blind side; no tentacles on eyes; anterior rays of dorsal and right pelvic fin prolonged, especially in males; lateral line strongly curved over pectoral fin; teeth on outer surface of upper jaw in males; scales weakly ctenoid on eyed side, cycloid on blind side.
**Colour:** Eyed side dark brown, with black spots and blotches forming vague crossbars; dark bar on caudal fin base; blind side dark brown.

**Size:** To 19 cm (SL)

***Poecilopsetta colorata*** Günther, 1880

**FAO names:** Coloured righteye flounder (En)



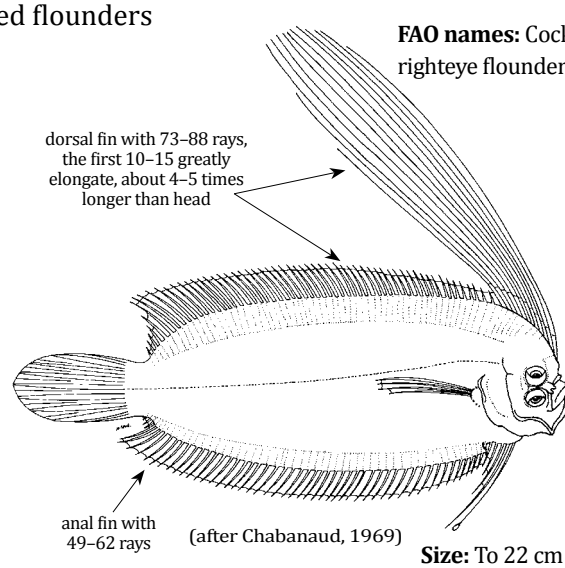

**Local name(s):** Nyar Myet Lone Yaung Sone Khway Sharr.
**Habitat:** On sand and mud bottoms to depths of 214–800 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body oval; origin of dorsal fin above eyes, behind nasal organ on blind side; eyes separated by a narrow bony ridge; no tentacles on eyes; no prolonged fin rays; lateral line strongly curved over pectoral fin; 90–109 lateral line scales.
**Colour:** Brownish to dusky grey, indistinct dusky spots on body, fins dusky; caudal fin with 2 distinct dusky spots.

**Size:** To 17 cm (SL)

## SAMARIDAE
Crested flounders

***Samaris cristatus*** Gray, 1831

**FAO names:** Cockatoo righteye flounder (En)



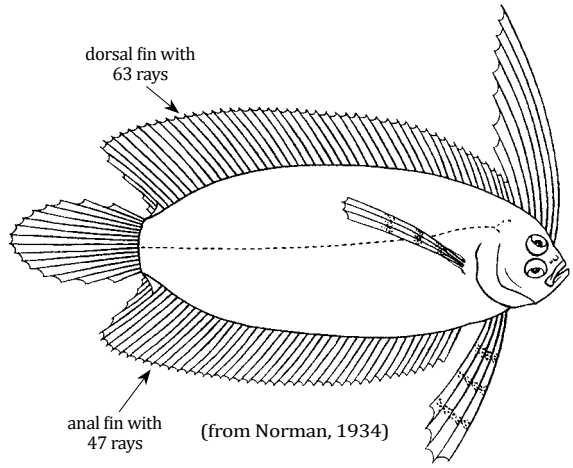

**Local name(s):** Nga Khway Sharr A Mouk Shae.
**Habitat:** On sandy bottoms at depths of about 20 to 70 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongated; origin of dorsal fin in front of upper eye; anterior dorsal fin rays and rays of pelvic fin on eyed side elongate; pectoral fin on eyed side with 4 rays, pectoral fin on blind side missing or rudimentary; 1st pelvic fin ray with a paddle-like extension; all caudal fin rays unbranched; 63–82 lateral line scales; scales ctenoid on eyed side.
**Colour:** Body on eyed side brownish with darker spots and blotches; elongate anterior dorsal fin rays white, remainder of dorsal fin, anal fin, and caudal fin brown; blind side of body whitish.

**Size:** To 22 cm (TL)

***Samaris macrolepis*** Norman, 1927

**FAO names:** Large-scale crested righteye flounder (En)

**Local name(s):** Nga Khway Sharr A Mouk A Kje Gyi.
**Habitat:** On sandy bottoms at depths of about 20 to 70 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Samaris cristatus* but only first 8 rays moderately prolonged, the first ray 2.5 in HL, others decreasing in height from first; fewer dorsal and anal fin rays; only 49 lateral line scales.
**Colour:** Brownish, mottled and spotted with paler and darker; median fins with brown spots; pelvic of ocular side with 3 narrow cross-bars.



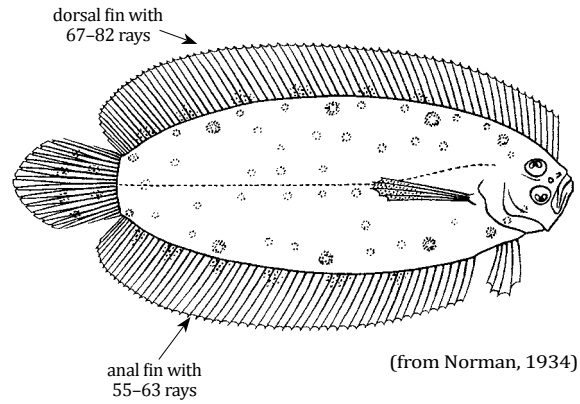

**Size:** To about 5 cm (TL)

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***Samariscus huysmani*** Weber, 1913

**FAO names:** Huysman's flounder (En)

**Local name(s):** Nga Khway Sharr Hay Mann.
**Habitat:** On sandy bottoms at depths of about 90–122 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongated; origin of dorsal fin in front of upper eye; none of the rays of the dorsal or pelvic fins elongate and filamentous; head length 4.4–4.7 in SL; caudal with the middle rays branched; 5 pectoral fin rays; 60–78 scales in lateral line; scales ctenoid on both sides.
**Colour:** Pale brownish, with a number of darker spots and rings, of which a row of 5 rings along upper edge and 4 along lower edge of body are most conspicuous; median fins paler, with traces of small brown spots; pectoral fin brown, its distal portion darker.



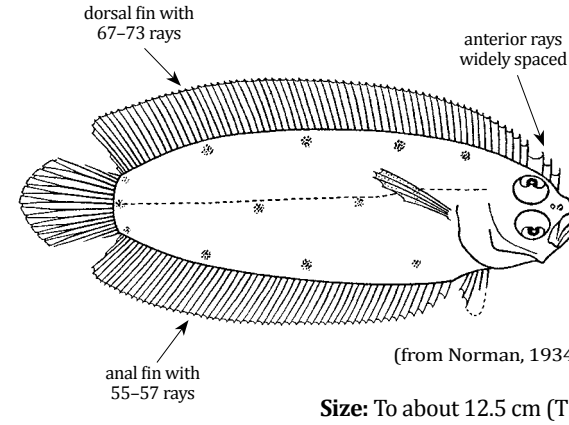

**Size:** To about 12 cm (TL)

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***Samariscus maculatus*** (Günther, 1880)

**FAO names:** Spotted righteye flounder (En)

**Local name(s):** Nga Khway Sharr Set Pyauk.
**Habitat:** On soft bottoms at depths of 252–319 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Similar to *Samariscus huysmani* but head larger, its length 3.7–4.0 in SL; anterior dorsal fin rays more widely spaced than the following rays; eyes larger and closer together.
**Colour:** Pale brownish, with a series of 5 well separated black spots along upper margin of body, a similar row along lower edge, and a third, composed of 3 spots, along lateral line; median fins with irregular blackish dots and blackish margins; pectoral fin variegated with black.



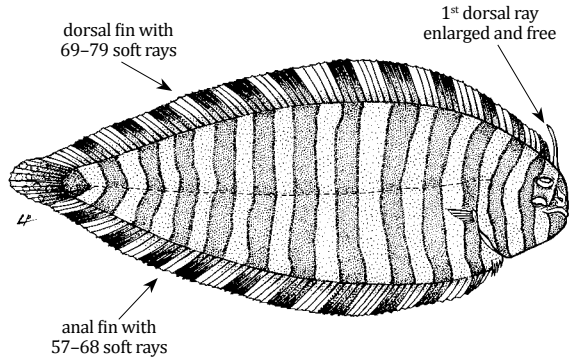

**Size:** To about 12.5 cm (TL)

# SOLEIDAE
Soles

***Aesopia cornuta*** Kaup, 1858

**FAO names:** Unicorn sole (En)

**Local name(s):** Nga Khway Sharr A Kyarr.
**Habitat:** On soft bottoms to at least 100 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; dorsal and anal fins joined to caudal fin; 1st ray of dorsal fin enlarged and free; 11–15 pectoral fin rays; scales smooth, cycloid or weakly ctenoid on both sides.
**Colour:** Background colour greyish or brown with 15–16 black-edged dark bars; caudal fin blackish with pale or yellow spots.

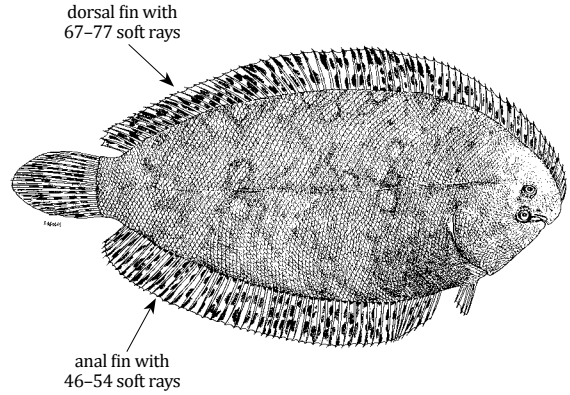



**Size:** To 25 cm (SL)

***Aseraggodes cyanеus*** (Alcock, 1890)

**FAO names:** None (En)

**Local name(s):** Nga Khway Sharr Suu Taung Kyar.
**Habitat:** On sand and mud bottoms at depths of about 36–270 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body oval; caudal fin separate from dorsal and anal fins; pectoral fins absent; scales ctenoid on both sides of body; mouth extending to below middle of eye or beyond; upper eye greater than interorbital width, its diameter 6–8 in HL.
**Colour:** Body and fins on right side very dark olive, with some blackish flecks arranged in 5 cross series; blind side uniformly clouded with blue-black; dorsal and anal fins usually with blackish punctulations on the membranes.

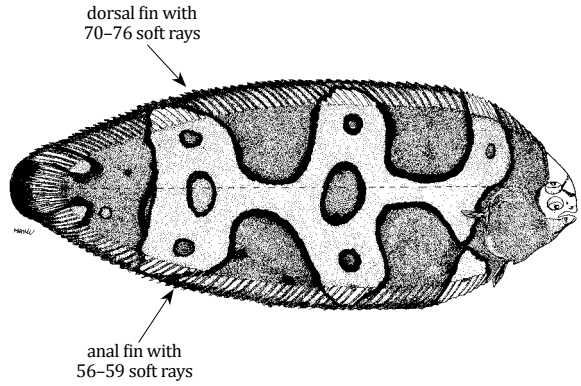



**Size:** To 11 cm (TL)

***Brachirus annularis*** Fowler, 1934

**FAO names:** Annular sole (En)

**Local name(s):** Nga Khway Sharr Kwet Kyarr.
**Habitat:** Known from depths of 175–271 m.
**Fisheries:** Deep bottom trawls.
**Distinctive Characters:** Body elongate; dorsal and anal fins joined to caudal fin; opercular membrane joined to upper rays of pectoral fins to form a pocket; scales ctenoid on both sides of body; pectoral fin with 6–9 rays on ocular side and 8–9 on blind side; pectoral fins small, with unbranched elements.
**Colour:** Ocular side of body tan with a regular pattern of 6–7 large pale brown annular patches, each patch outlined in dark brown, some extending onto fins; margins of fins dark brown.

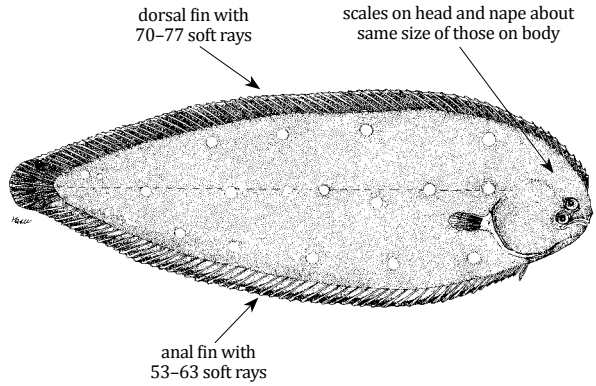



**Size:** To 13 cm (TL)

***Dagetichthys albomaculatus*** (Kaup, 1858)

**FAO names:** Kaup's sole (En)

**Local name(s):** Kaup Khway Sharr.
**Habitat:** Mainly on sand or mud bottoms in coastal waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate, broad anteriorly and tapering posteriorly; dorsal and anal fins joined to caudal fin; pectoral fins equal in size; interorbital space scaly and narrow; mouth curved, cleft extending to a little beyond middle of upper eye; lower lip distinctly fringed; scales ctenoid on eyed side, cycloid on blind side; 16 caudal fin rays.
**Colour:** Brownish with 2–5 rows of widely separated white spots; median fins blackish towards their edges on both sides, and with a narrow white margin; pectoral fin on ocular side blackish with a pale margin posteriorly.



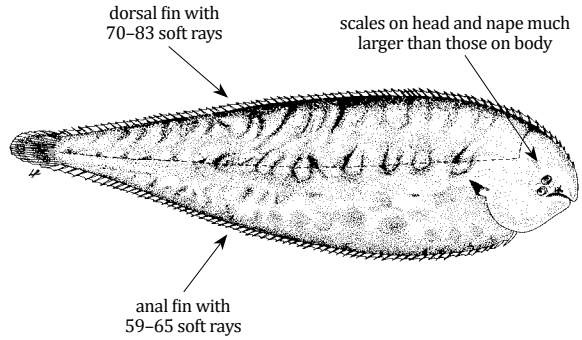

**Size:** To about 20 cm (SL)

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***Dagetichthys commersonnii*** (Lacepède, 1802)

**FAO names:** Commerson's sole (En)
Sole de Commerson (Fr)

**Local name(s):** Kaw Mar Son Nga Khway Sharr.
**Habitat:** Mainly on sand or mud bottoms in coastal waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate, broad anteriorly and tapering posteriorly; dorsal and anal fins joined to caudal fin; pectoral fins equal in size; interorbital space scaly and narrow; mouth curved, cleft reaching posteriorly only to vertical through middle of upper eye; lower lip distinctly fringed; scales ctenoid on eyed side, cycloid on blind side; 12 caudal fin rays.
**Colour:** Grey or brown on eyed side of body; dorsal, anal, and caudal fins dusky towards edges of both sides and with a conspicuous white margin; pectoral fins dusky.



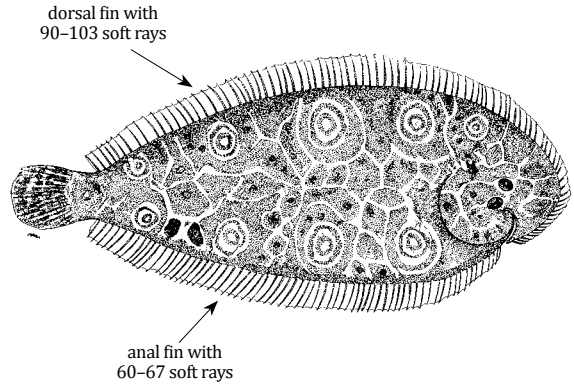

**Size:** To 32 cm, common 20 cm (TL)

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***Heteromycteris oculus*** (Alcock, 1889)

**FAO names:** Eyed sole (En)

**Local name(s):** Nga Khway Sharr Myet Lone Kwet.
**Habitat:** Mainly on sand or mud bottoms in coastal waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body oval, strongly; caudal fin separate from dorsal and anal fins; pectoral fins absent; snout forming distinct hook; mouth inferior, markedly contorted; ocular side lips not fringed; scales not extending to bases of dorsal and anal fins.
**Colour:** Body and fins on right side very dark olive, with some blackish flecks arranged in 5 cross series; blind side uniformly clouded with blue-black; dorsal and anal fins usually with blackish punctulations on the membranes.

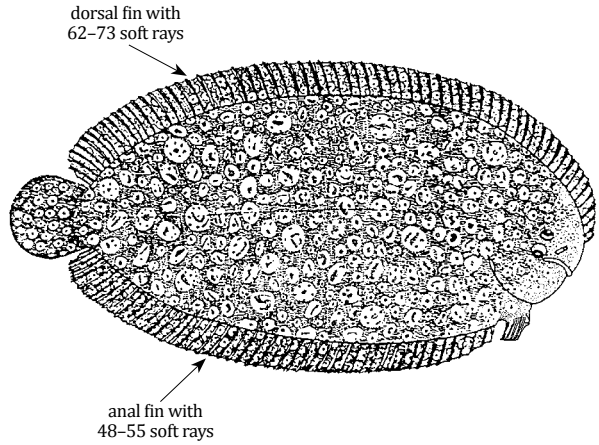



**Size:** To 15 cm (TL)

***Pardachirus pavoninus*** (Lacepède, 1802)

**FAO names:** Peacock sole (En)

**Local name(s):** Khwar Sharr Set Pyauk Lone Kwet.
**Habitat:** On sand or mud bottoms in coastal waters to about 40 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body oval; caudal fin separate from dorsal and anal fins; pectoral fins absent; pelvic fin bases unequal in length, the right one with an elongate base and attached posteriorly to genital papilla; series of toxin glands with pores along bases of dorsal- and anal fin rays; feebly ctenoid scales on both sides of body; 18 caudal fin rays.
**Colour:** Reddish brown, densely spotted on head; body and fins of eyed surface also with spots of various sizes and shapes, spots bordered by a dark rim and some with a blackish spot in centre.



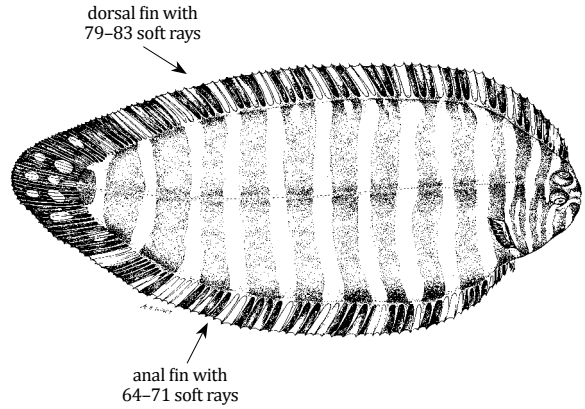

**Size:** To about 30 cm (TL)

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***Zebrias altipinnis*** (Alcock, 1890)

**FAO names:** High-fin zebra sole (En)

**Local name(s):** Khwar Sharr Myin Kyarr Hmee Kwet.
**Habitat:** On mud bottoms at depths of 45–75 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; eyes nearly contiguous, without tentacle; posterior rays of dorsal and anal fins completely joined to caudal fin; pectoral fins on ocular and blind side equal in length, about 6–8 in HL; scales moderately ctenoid on both sides of body.
**Colour:** Ocular side of body and fins pale with a number of alternate crossbars of ash-brown; caudal fin purple-brown with large ash-brown blotches.



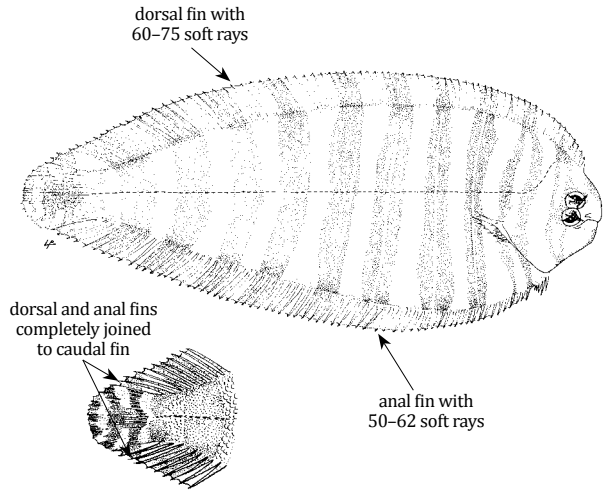

**Size:** To about 20 cm (TL)

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***Zebrias quagga*** (Kaup, 1858)

**FAO names:** Fringefin zebra sole (En)

**Local name(s):** Khwar Sharr Pan Phwar Hmee Kwet.
**Habitat:** On sand and mud bottoms in depths of 47–60 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; eyes practically contiguous; each eye with a small tentacle; posterior rays of dorsal and anal fins more or less completely joined to caudal fin; pectoral fins unequal in length; scales moderately ctenoid on both sides of body.
**Colour:** Light brown with 10 or 11 darker simple or double crossbars wider than pale interspaces, continued in oblique slant on dorsal and anal fins; posteriormost pale interspace whitish; caudal fin dark brown, with a narrow U-shaped whitish band on its base.

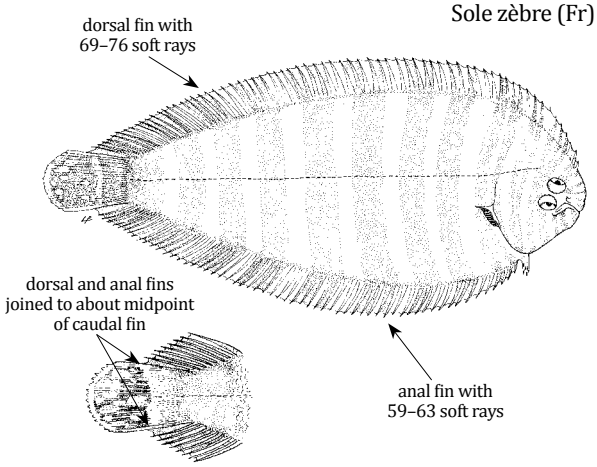



**Size:** To about 15 cm (TL)

***Zebrias synapturoides*** (Jenkins, 1910)

**FAO names:** Indian zebra sole (En)
Sole zèbre (Fr)

**Local name(s):** India Khwar Sharr Myin Kyarr.
**Habitat:** On sand/mud bottoms along shallow coasts and estuaries to 84 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; dorsal and anal fins joined to about midpoint of caudal fin; eyes nearly contiguous, without tentacle; pectoral fin shorter than eye, with 11 rays on eyed side; pectoral fin on blind side rather smaller; scales strongly ctenoid on both sides of body.
**Colour:** Ocular side greyish, with 12–13 darker crossbars, broader than the interspaces; posterior part of caudal fin with a blackish circular area, margined with yellowish white, and with a number of bright yellow spots and blotches in the centre.



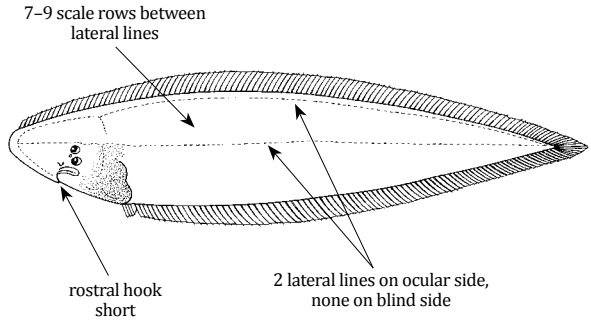

**Size:** To 15 cm, common 10 cm (TL)

## CYNOGLOSSIDAE
Tonguesoles

***Cynoglossus arel*** (Bloch & Schneider, 1801)

**FAO names:** Largescale tonguesole (En)

**Local name(s):** Nga Khway Sharr A Kje Gyi.
**Habitat:** On muddy and sandy bottoms to depths of about 125 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; dorsal and anal fins joined to caudal fin interorbital space small, scaly; snout obtusely pointed; corner of mouth extending posteriorly to or beyond lower eye, about midway between gill opening and tip of snout; scales large, ctenoid on eyed side of body, cycloid on blind side; usually 10 caudal fin rays.
**Colour:** Eyed side uniform brown, with a dark patch on gill cover; blind side white.

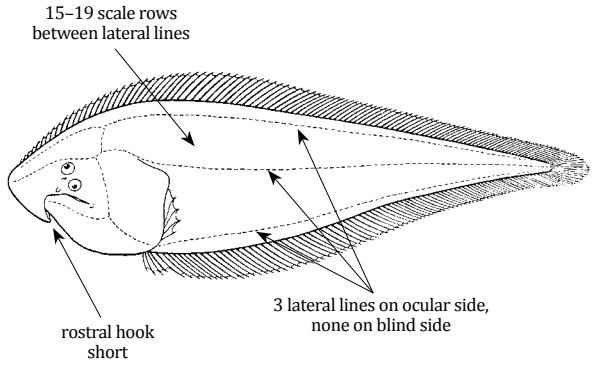



**Size:** To 40 cm, common 20–30 cm (TL)

***Cynoglossus carpenteri*** Alcock, 1889

**FAO names:** Hooked tonguesole (En)
Langue crochet (Fr)

**Local name(s):** Nga Khway Sharr Ar Kauk.
**Habitat:** On muddy and sandy bottoms at depths of about 120–450 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; interorbital space small, scaly; snout obtusely pointed; corner of mouth extending posteriorly to well beyond lower eye, either slightly nearer to gill opening than to tip of snout or midway between them; scales cycloid on ocular side, except on posterior part of body where they are ctenoid; scales all cycloid on blind side; usually 10 caudal fin rays.
**Colour:** Eyed side brownish, with darker opercular region; blind side whitish.

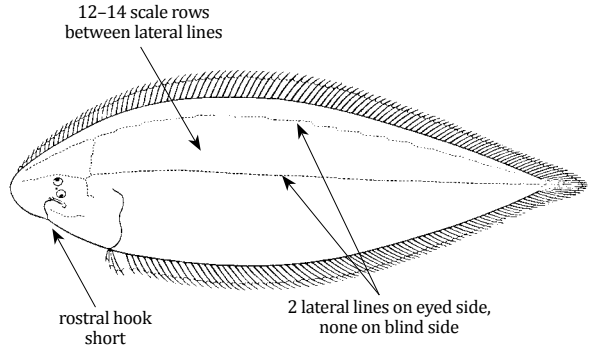



**Size:** To 23 cm, common 15 cm (TL)

***Cynoglossus cynoglossus*** (Hamilton, 1822)

**FAO names:** Bengal tonguesole (En)

**Local name(s):** Bingalar Nga Khway Sharr Ar Kauk.
**Habitat:** On muddy and sandy bottoms, often in shallow areas, including brackish waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; eyes not contiguous; snout rounded; corner of mouth not reaching posteriorly beyond vertical through posterior margin of lower eye, nearer to tip of snout than to gill opening; scales on both sides of body ctenoid; usually 10 caudal fin rays.
**Colour:** Eyed side uniformly brown-grey, with vague dark marbling.



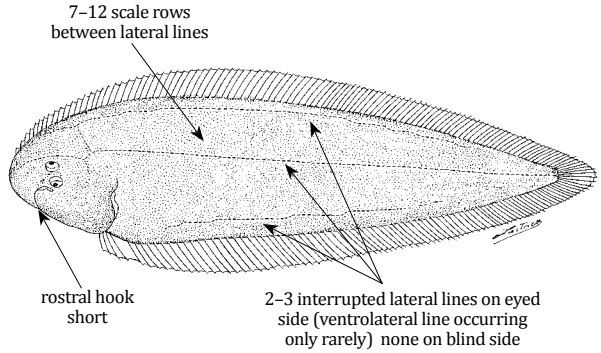

**Size:** To 20 cm, common 10–15 cm (TL)

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***Cynoglossus kopsii*** (Bleeker, 1851)

**FAO names:** Shortheaded tonguesole (En)

**Local name(s):** Gaung Toe Nga Khway Sharr.
**Habitat:** On muddy and sandy bottoms at depths of about 24–204 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; eyes relatively large and nearly contiguous; snout short rounded to somewhat obtusely pointed; corner of mouth extending to below vertical from anterior half of fixed eye, much nearer to tip of snout than to gill opening; scales on both sides of body ctenoid; 10 caudal fin rays.
**Colour:** Eyed side reddish brown, sometimes with irregular brown-black patches; a large black blotch on gill cover.



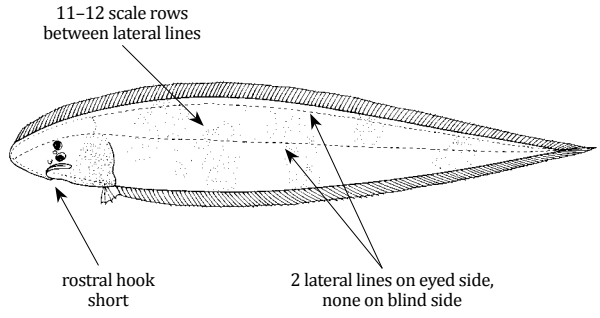

**Size:** To 18.7 cm (TL)

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***Cynoglossus lingua*** Hamilton, 1822

**FAO names:** Long tonguesole (En)

**Local name(s):** Nga Khway Sharr Ko Lone Shae.
**Habitat:** Mainly on muddy and sandy bottoms on the inner continental shelf, often entering estuaries.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; eyes separated by small interorbital space; snout obtusely pointed; corner of mouth reaching well beyond vertical through posterior margin of lower eye, much nearer to gill opening than to tip of snout; scales comparatively large, ctenoid on eyed side of body, cycloid on blind side; 10 caudal fin rays.
**Colour:** Eyed side reddish brown, sometimes with irregular brown-black patches; a large black blotch on gill cover.

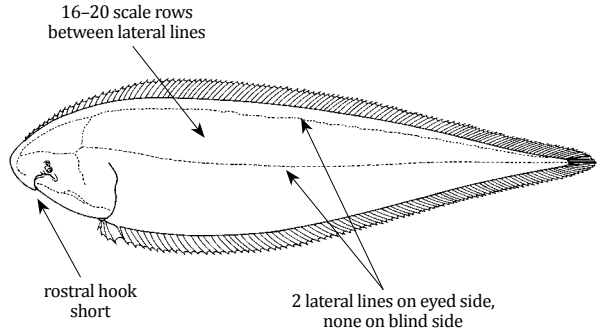



**Size:** To 40 cm, common 20–30 cm (TL)

***Cynoglossus monopus*** (Bleeker, 1849)

**FAO names:** None (En)

**Local name(s):** Malabar Nga Khway Sharr.
**Habitat:** On muddy and sandy bottoms of the continental shelf to depths of 25 m; enters estuaries.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body moderately elongate; eyes pedunculate without interorbital space; snout short and obtusely pointed; corner of mouth reaching well beyond lower eye, and nearer to tip of snout than to gill opening; scales moderate in size, ctenoid on both sides of body; 10 caudal fin rays.
**Colour:** Eyed side uniformly light brown; blind side white.

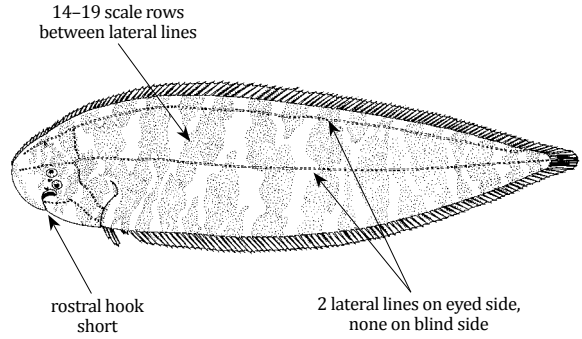



**Size:** To 17 cm, common 15 cm (TL)

***Cynoglossus puncticeps*** (Richardson, 1846)

**FAO names:** Speckled tonguesole (En)
Langue tachetée (Fr)

**Local name(s):** Nga Khway Sharr A Yaung Tauk.
**Habitat:** On sandy and muddy bottoms to about 140 m; also in lower courses of rivers and in estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; eyes separated by small, scaly interorbital space; snout rounded; corner of jaws not reaching posteriorly beyond vertical through posterior margin of lower eye, a little nearer to tip of snout than to gill opening; scales ctenoid on both sides of body; usually 10 caudal fin rays.
**Colour:** Eyed side yellow-brown, with very distinct irregular dark brown blotches, often forming irregular cross bands; some rays of dorsal and anal fins dashed with dark brown.

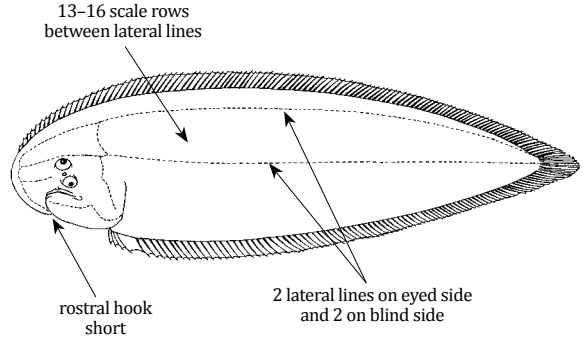



**Size:** To 18 cm, common 8–10 cm (TL)

***Cynoglossus quadrilineatus*** (Bleeker, 1851)

**FAO names:** Fourlined tonguesole (En)

**Local name(s):** Nga Khway Sharr Lay Sinn.
**Habitat:** On muddy and sandy bottoms of the inner continental shelf to about 80 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; eyes separated by small, scaly interorbital space; snout rounded; corner of mouth reaching posteriorly beyond lower eye, nearer to gill opening than to tip of snout; scales ctenoid on eyed side of body, cycloid on blind side; usually 12 caudal fin rays.
**Colour:** Eyed side brown with an irregular dark blotch on gill cover; blind side white.
**Remarks:** *Cynoglossus bilineatus* (Lacepède, 1802) is a junior synonym of this species.

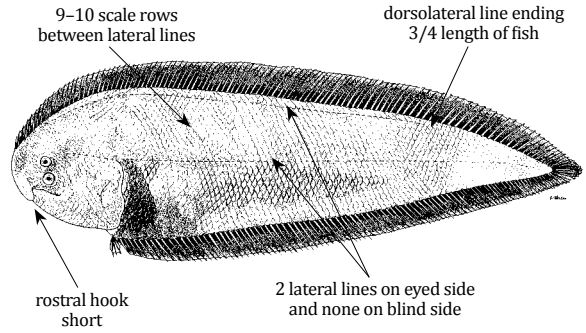



**Size:** To 40 cm, common 15–30 cm (TL)

***Cynoglossus*** cf. ***praecisus*** Alcock, 1890

**FAO names:** Indian tonguesole (En)

**Local name(s):** India Nga Khway Sharr.
**Habitat:** Collected at 116 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body elongate; eyes separated by small interorbital space; snout rounded; corner of mouth extending slightly beyond to posterior margin of lower eye, nearer to tip of snout than to gill opening; scales ctenoid on both sides of body; 1 ocular side nostril; 109 and 97 dorsal and anal fin rays, respectively; 8 caudal fin rays.
**Colour:** Eyed side reddish brown; abdomen region nearly black; blind side white; dorsal and anal fins black.
**Remarks:** The Myanmar specimens need to be checked against the types of *Cynoglossus praecisus* for confirmation.

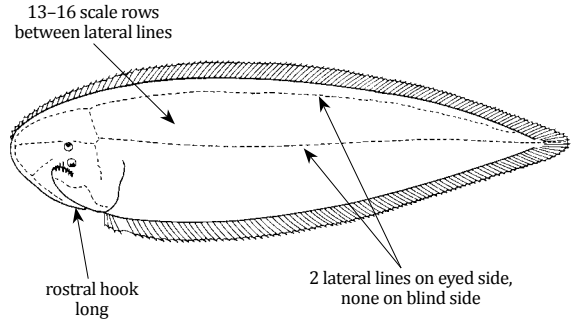



**Size:** To about 18 cm (TL)

***Paraplagusia bilineata*** (Bloch, 1787)

**FAO names:** Doublelined tonguesole (En)
Langue a deux ligne (Fr)

**Local name(s):** Line Hnit Zin Nga Khway Sharr.
**Habitat:** On muddy and sandy bottoms of the inner continental shelf; also in estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; eyes separated by small, scaly interorbital space; snout rounded; corner of mouth not reaching beyond vertical through posterior margin of lower eye, nearer to gill opening than to tip of snout; mouth fringed with branched labial papillae; scales ctenoid on both sides of body; 75–97 scales in midlateral line; usually 8 caudal fin rays.
**Colour:** Eyed side brown with pale ocelli and sometimes spotted or marbled with darker patches; blind side tinged with yellow.

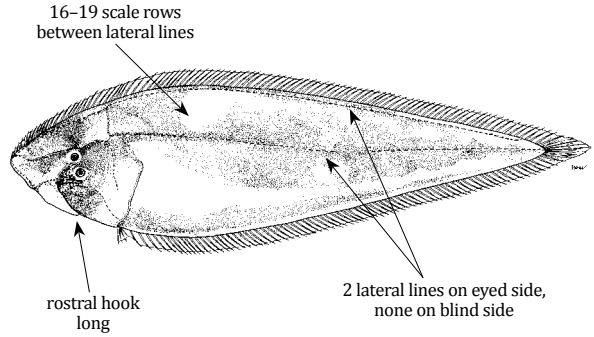



**Size:** To 30 cm, common 25 cm (TL)

***Paraplagusia bleekeri*** Kottelat, 2013

**FAO names:** Bleeker's tonguesole (En)

**Local name(s):** Balika Nga Khway Sharr.
**Habitat:** On muddy and sandy bottoms of the inner continental shelf; also in estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body elongate; eyes separated by small, scaly interorbital space; snout rounded; corner of mouth not reaching beyond vertical through posterior margin of lower eye, nearer to gill opening than to tip of snout; mouth fringed with branched labial papillae; scales ctenoid on both sides of body; 100–117 scales in midlateral line; usually 8 caudal fin rays.
**Colour:** Eyed side brown with pale ocelli and sometimes spotted or marbled with darker patches; blind side tinged with yellow.
**Remarks:** All references to *Paraglagusia blochii* (Bleeker, 1851) should refer to this species (see Kottelat, 2013)



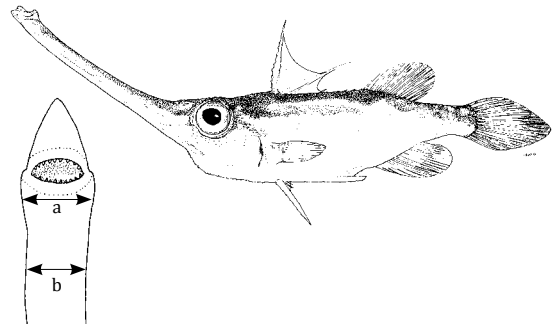

**Size:** To 22 cm (TL)

# TRIACANTHODIDAE
Spikefishes

**FAO names:** Longsnout spikefish (En)

***Halimochirurgus centriscoides*** Alcock, 1899

**Local name(s):** Hnar Shae Nga Suu Htoe.
**Habitat:** Demersal between depths of 99–527 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Snout extremely long and tubular, its length much greater than that of rest of head; width of mouth immediately behind snout (a) equal to, or only slightly greater than, snout width (b); mouth symmetrically placed, not twisted to one side or the other; teeth conical in both jaws, often mostly embedded and difficult to see; third dorsal fin spine usually barely protruding through surface of skin, occasionally better developed but still less than 1/2 length of second.
**Colour:** Uniformly reddish or orange.

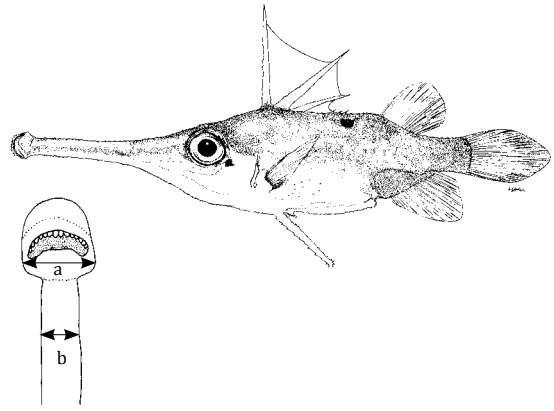



**Size:** To 15 cm (TL)

**FAO names:** Trumpetsnout spikefish (En)

***Macrorhamphosodes platycheilus*** Fowler, 1934

**Local name(s):** Pa Lway Hmote Nga Suu Htoe.
**Habitat:** Demersal between depths of 99–527 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Snout extremely long and tubular, its length much greater than that of rest of head; width of mouth immediately behind snout (a) about twice the snout width (b); mouth usually twisted to either the right or left, except in small specimens; teeth in lower jaw easily seen; gill opening extending ventrally to between levels of 3/4 down pectoral fin base and below pectoral fin base; third dorsal fin spine moderately well developed, about 2/3 length of second.
**Colour:** Upper half of head and body reddish brown; lower half silvery.

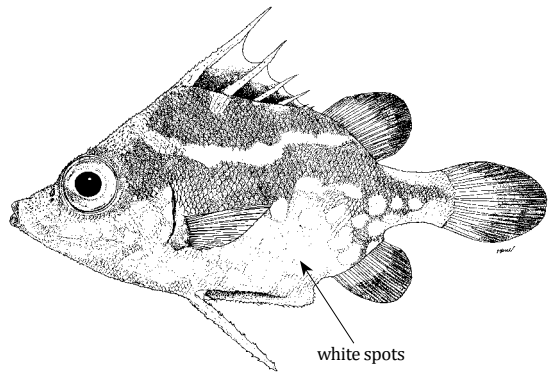



**Size:** To 13 cm (TL)

***Mephisto albomaculosus*** Matsuura, Psomadakis & Mya Than Tun, 2018

**FAO names:** White spotted spikefish (En)

**Local name(s):** Nga Suu Htoe Phyu Set Pyauk.
**Habitat:** Demersal between depths of 74–379 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Similar to *Mephisto fraserbrunneri* (see next page) but distinct white spots on ventral half of head and body; fewer pseudobranch lamellae (16 vs. 18–19); more teeth in jaws (25 on both jaws vs. 17 on upper and 19–20 in lower jaw); pelvis narrower (width 12.8 in SL vs. 8.5–8.8 in SL); pelvic width in pelvic length (4.0 vs. 2.7–2.8).
**Colour:** Head and body pinkish red with many white spots on side of head and body below level of eye; long longitudinal white line running on dorsal half of side of body from just above eye to below sixth dorsal fin spine; basal third of spinous dorsal fin membrane dark red with pale margin; all other fins pale pink with distal third red.

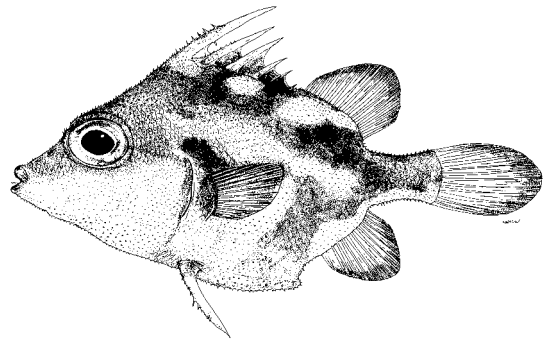



**Size:** To 11.4 cm (SL)

**FAO names:** Fraser-Brunner's spikefish (En)

***Mephisto fraserbrunneri*** Tyler, 1966

**Local name(s):** Nga Suu Htoe Kyaw Kwet.
**Habitat:** Demersal between depths of 70–337 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Deep body, depth about half of SL; short snout; origin of anal fin distinctly posterior to origin of soft dorsal fin; 6 dorsal spines, decreasing in length from first to last; conical teeth in both jaws.
**Colour:** Head and body pinkish red except for the silvery pale area bordering the abdominal cavity laterally; the pinkish color becoming deeper dorsally and blotched with darker red.



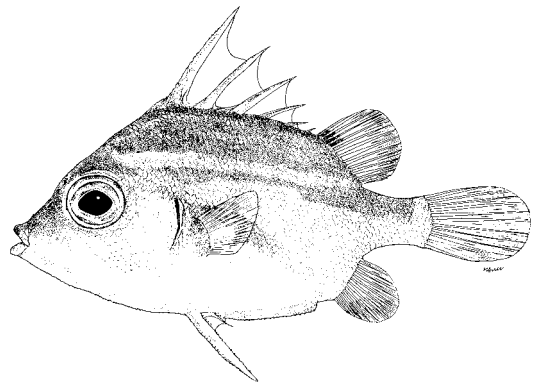
**Size:** To 10 cm (SL)

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**FAO names:** Shortsnout spikefish (En)

***Triacanthodes ethiops*** Alcock, 1894

**Local name(s):** Nga Suu Htoe Hnar To.
**Habitat:** Demersal between depths of 50–125 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Deep body, depth about half of SL; snout shorter than rest of head, its length about equal to or shorter than orbit diameter; interorbital flat to slightly concave; teeth in 2 series in both jaws, a major series and an internal series of 1–6 (usually 2) isolated teeth.
**Colour:** Generally reddish, paler below with 3 yellowish principal stripes and 2 reddish yellow supplemental stripes, upper between dorsal fin base and uppermost principal line, lower between uppermost and middle principal stripes at about mid-body extending posteriorly onto caudal peduncle.



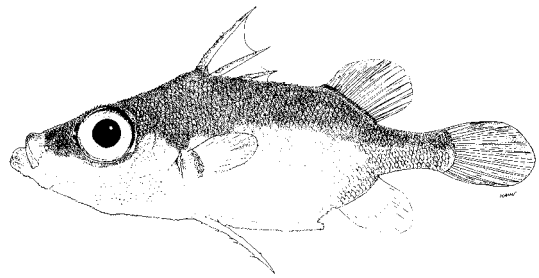
**Size:** To 9 cm (SL)

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**FAO names:** Fleshy-lipped spikefish (En)

***Tydemania navigatoris*** Weber, 1913

**Local name(s):** Nga Suu Htoe Hnote Kham Htu.
**Habitat:** Demersal between depths of 50–607 m.
**Fisheries:** Bottom trawls, as bycatch.
**Distinctive Characters:** Body moderately deep, depth about 4 in SL; snout shorter than rest of head, its length about equal to or shorter than orbit diameter; mouth supraterminal; teeth compressed from front to back, wider than thick, truncated distally; lips large, swollen, spongy to touch.
**Colour:** Reddish, darker above; some specimens with a blue stripe from eye through gill opening and pectoral base to halfway back on body.



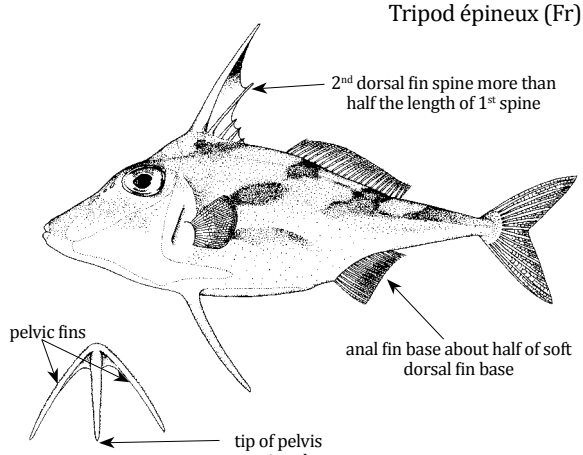
**Size:** To 12 cm (SL)

# TRIACANTHIDAE
Tripodfishes

## *Pseudotriacanthus strigilifer* (Cantor, 1849)

**FAO names:** Longspined tripodfish (En)
Tripod épineux (Fr)

**Local name(s):** Nga Sin, Thone Chaung Htouk Suu Shae.
**Habitat:** Coastal and estuarine waters, over sandy or muddy substrates, to depths of usually 60 m, occasionally to 100 m.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Scale-covered ventral surface of pelvis much wider anteriorly than posteriorly, distinctly tapered to a point.
**Colour:** Upper half of head and body dusky silver, and lower half silvery, with large, elongate, brown to orange blotches, usually with darker margins; distal two-thirds of 1st dorsal fin spine usually blackish; a dusky blotch on the pectoral fin.

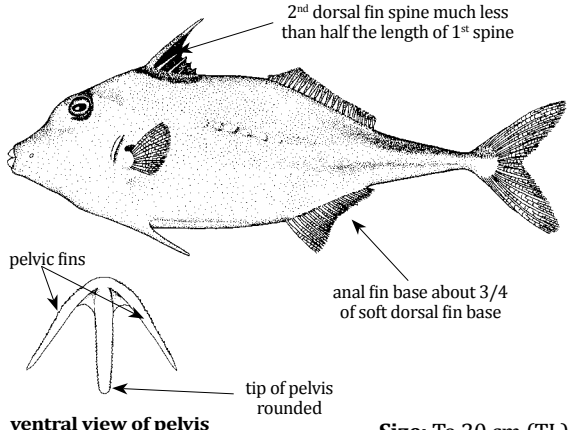



**Size:** To 25 cm (TL)

## *Triacanthus biaculeatus* (Bloch, 1786)

**FAO names:** Short-nosed tripodfish (En)
Tripodin nez court (Fr)

**Local name(s):** Nga Sin, Thone Chaung Htouk Hnar To.
**Habitat:** Coastal and estuarine waters, over sandy or muddy substrate, to depths of 60 m.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Scale-covered ventral surface of pelvis almost as wide anteriorly as posteriorly, not distinctly tapered to a point; outline of head from base of first dorsal fin spine to above eye an even slightly convex curve or almost a straight line; postorbital length about equal to diameter of orbi; spiny dorsal fin membrane black between first and third spines.
**Colour:** Upper side dusky silver and lower side creamy silver, with an indistinct silvery stripe along midside of body; spiny dorsal fin membrane very dark between 1st and 3rd spines, and usually equally dark between 3rd and 5th spines.

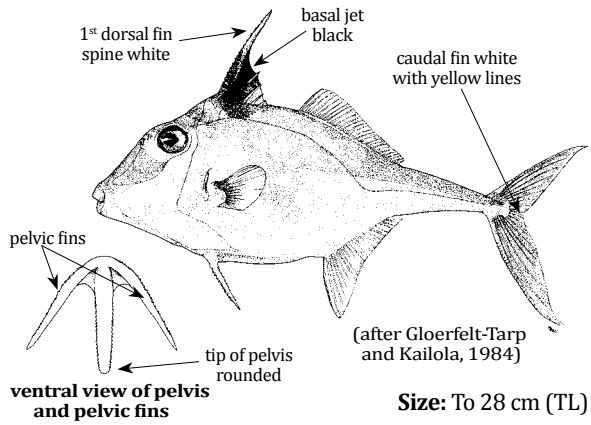



**Size:** To 30 cm (TL)

## *Triacanthus nieuhofii* Bleeker, 1852

**FAO names:** Silver tripodfish (En)

**Local name(s):** Ngwe Yaung Thone Chaung Htouk.
**Habitat:** Coastal, over sandy or muddy substrate.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Similar to *Triacanthus biaculeatus* but spiny dorsal fin membrane jet black between 1st and 2nd spines, slightly to much less darker between 2nd and 3rd spines, and pale between 3rd and 5th spines; outline of head between base of 1st dorsal fin spine and eyes somewhat convex in front of spine and then straight or slightly concave over eye.
**Colour:** Dorsal half of body silvery light brown, ventral half silvery white; several irregular dark yellow blotches on mid-body; soft dorsal, anal and pectoral fins pale.

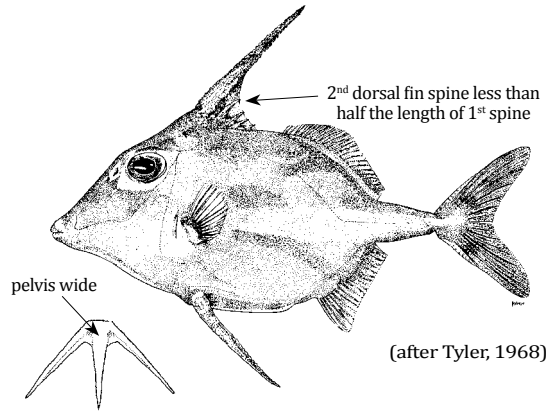



**Size:** To 28 cm (TL)

***Tripodichthys oxycephalus*** (Bleeker, 1851)

**FAO names:** Short-tail tripodfish (En)

**Local name(s):** Nga Sin, Thone Chaung Htouk Hmee To.
**Habitat:** Coastal, over sandy or muddy substrate, to depths of 35 m.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Scale-covered ventral surface of pelvis much wider anteriorly than posteriorly, distinctly tapered to a point; anal fin base usually 1.5–1.7 in soft dorsal fin base; caudal peduncle short, 4.3–5.2 in SL; pelvis wide between bases of pelvic fin spines, its width usually slightly less than 4 times in length of pelvis.
**Colour:** Silvery; snout and area beneath eye dusky; dusky blotches on back, above and behind pectoral fin, and from pectoral fin to middle of base of anal fin.



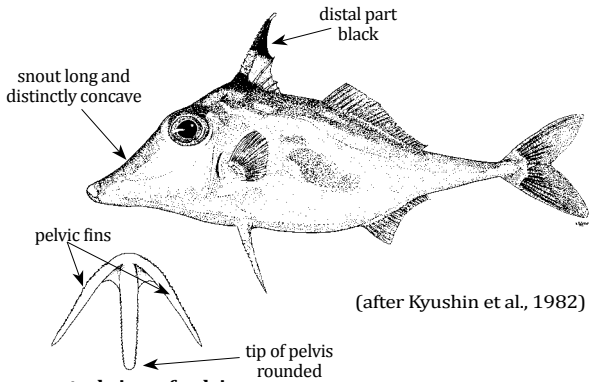

**ventral view of pelvis and pelvic fins**

**Size:** To 20 cm (TL)

***Trixiphichthys weberi*** (Chaudhuri, 1910)

**FAO names:** Blacktip tripodfish (En)

**Local name(s):** Nga Sin, Thone Chaung Htouk Suu Me'.
**Habitat:** Coastal, over sandy or muddy substrate, to depths of 65 m.
**Fisheries:** Mainly bottom trawls, as bycatch.
**Distinctive Characters:** Scale-covered ventral surface of pelvis almost as wide anteriorly as posteriorly, not distinctly tapered to a point; postorbital distance (eye to upper end of gill opening) short (14.7–19.2 in SL), slightly more than 1/2 diameter of orbit; snout long (3.6–4.7 in SL), distinctly concave and much compressed anteriorly.
**Colour:** Silvery with diffuse dusky blotches on snout, back and sides.




**ventral view of pelvis and pelvic fins**

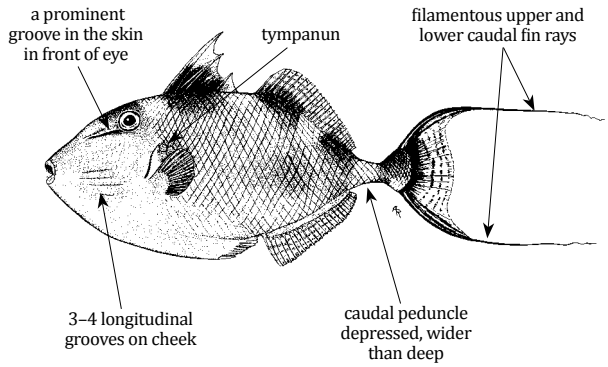
**Size:** To 30 cm (TL)

## BALISTIDAE
Triggerfishes

***Abalistes filamentosus*** Matsuura & Yoshino, 2004

**FAO names:** filamentous-fin triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga Hme Phyar Shae.
**Habitat:** Inhabits mud and silt sand bottoms between 61–180 m depth.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Body moderately deep, compressed; 2 dorsal fins with 3 spines and 25–27 rays, respectively; 22–25 anal fin rays; scales enlarged above pectoral fin base and just behind gill opening to form a flexible tympanum; cheek with 3 or 4 longitudinal grooves; upper and lower rays of caudal fin greatly produced into filaments both in males and females; mouth terminal.
**Colour:** Ground color of body dark brown dorsally, mottled with irregular pale markings, becoming white ventrally; cheek brown with greenish tinge; proximal part of spinous dorsal fin dark brown.

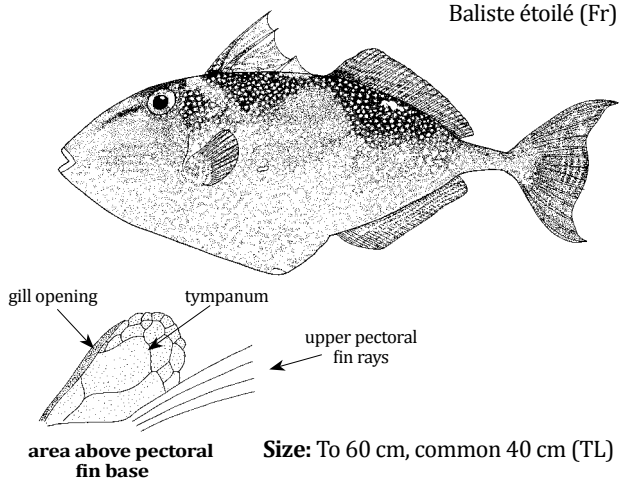



**Size:** To 32.5 cm (SL)

***Abalistes stellatus*** (Anonymous, 1798)

**FAO names:** Starry triggerfish (En)
Baliste étoilé (Fr)

**Local name(s):** Nga Than, Kha Loke Nga Kje Pyauk.
**Habitat:** Inhabits mud and silt sand bottoms to depths of 350 m. Also in estuaries.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Abalistes filamentosus* but no filamentous rays in caudal fin; 26–27 and 24–26 dorsal and anal fin rays, respectively; no longitudinal grooves on cheeks; yellow/pale blue spots and yellow reticulations on the body.
**Colour:** Grey-brown to olivaceous on back, pale below, with small pale blue or yellow spots dorsally and larger yellow spots ventrally (frequently faint); 3 large white blotches on back, disappearing in large specimens; soft dorsal and anal fins with yellow, slightly oblique stripes; pectoral fins yellow.

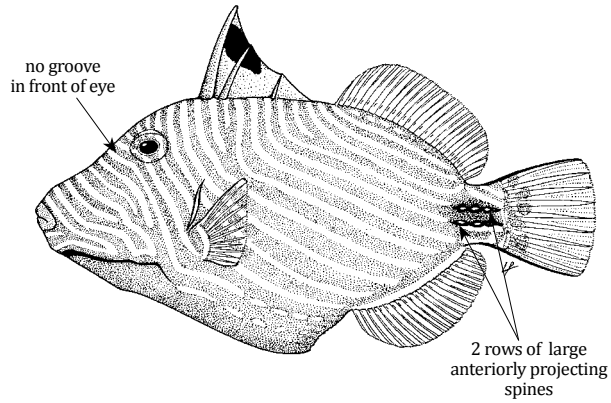



**Size:** To 60 cm, common 40 cm (TL)

***Balistapus undulatus*** (Park, 1797)

**FAO names:** Orange-striped triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga Lein Maw.
**Habitat:** Coral reefs at depths to 50 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 24–27 rays, respectively; 20–24 anal fin rays; tympanum present; scales of caudal peduncle with 2 longitudinal rows of large anteriorly projecting spines; no groove in front of eye; caudal peduncle compressed; mouth terminal.
**Colour:** Dark green to dark brown with oblique curved orange lines on posterior head and body; oblique band of narrow blue and orange stripes from around mouth to below pectoral fins; large round black blotch around peduncular spines; rays of soft dorsal, anal, and pectoral fins orange; caudal fin orange.

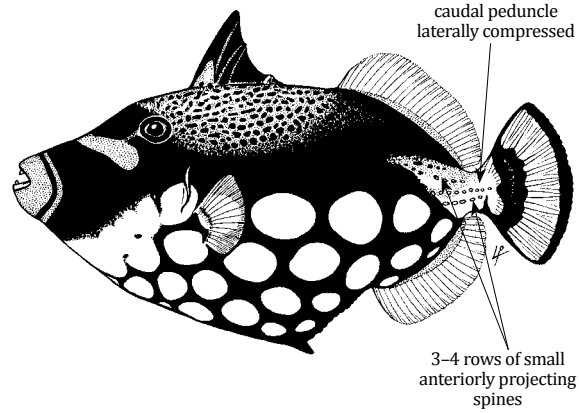



**Size:** To about 30 cm (TL)

***Balistoides conspicillum*** (Bloch & Schneider, 1801)

**FAO names:** Clown triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga Lu Pyet.
**Habitat:** Outer reef areas adjacent to steep drop-offs at depths to 75 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 25–27 rays, respectively; 21–23 anal fin rays; scales of cheek in an even, relatively complete covering; tympanum present; 3 or 4 rows of small anteriorly projecting spines on caudal peduncle; prominent groove extending anteriorly from front of eye for a distance of about 1 eye diameter; mouth terminal.
**Colour:** Black with large round white blotches on ventral half of body; a yellow network on back; white or yellowish band across snout in front of eye; lips and area around mouth orange-yellow; broad vertical white, slightly yellowish band on caudal fin.

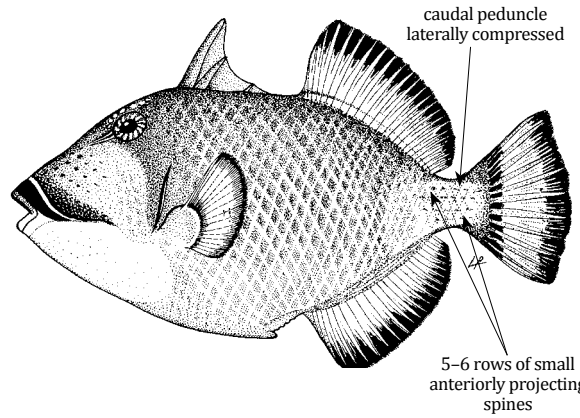



**Size:** To about 50 cm (TL)

***Balistoides viridescens*** (Bloch & Schneider, 1801)

**FAO names:** Dotty triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga Hmee Bya.
**Habitat:** Coral reefs at depths to 50 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 25–26 rays, respectively; 22–24 anal fin rays; cheek covered with scales but scaleless area around lips, continuing and narrowing posterior to corner of mouth; tympanum present; prominent groove extending anteriorly from front of eye for a distance of about 1 eye diameter; mouth terminal.
**Colour:** Yellowish grey to brown, the centres of scales broadly dark brown or greenish; the area around anteriorly projecting spines pale; broad blackish band containing a pale line from above mouth to half-way across cheek; soft dorsal, anal, and caudal fins with broad blackish borders.

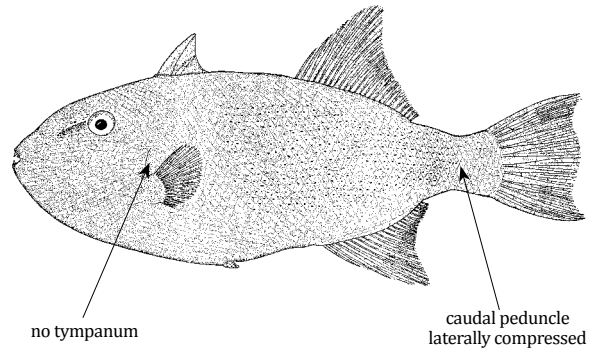



**Size:** To 75 cm (TL)

***Canthidermis maculatus*** (Bloch, 1786)

**FAO names:** Ocean triggerfish (En)
Baliste rude (Fr)

**Local name(s):** Nga Than, Kha Loke Nga Mae Set.
**Habitat:** Occurs in offshore waters.
**Fisheries:** Driftnets.
**Distinctive Characters:** Body elongate; 2 dorsal fins with 3 spines and 23–26 rays, respectively; 20–23 anal fin rays; mouth terminal; tympanum absent; cheeks evenly scaly; caudal fin double emarginate in adults (rounded in juveniles); mouth terminal.
**Colour:** Head, body and fins of adults dark, lighter below with elongated white spots that may disappear with growth.

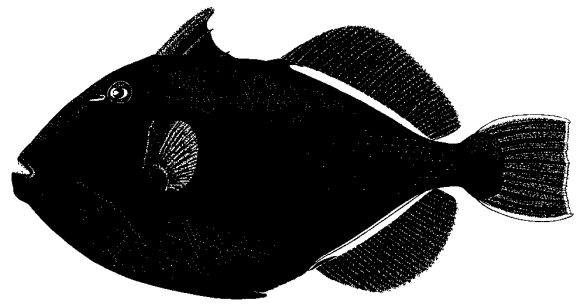



**Size:** To 50 cm (TL)

***Melichthys indicus*** Randall & Klausewitz, 1973

**FAO names:** Indian triggerfish (En)

**Local name(s):** Nga Than, India Kha Loke Nga.
**Habitat:** Coral reefs at depths to 35 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 30–35 rays, respectively; 27–30 anal fin rays; upper and lower profiles of head prominently convex, giving the body a distinctive ovoide shape; head scale rows from corner of mouth to lower end of gill opening; tympanum present; a groove in front of eye; caudal peduncle compressed; mouth terminal.
**Colour:** Body dark brown (sometimes bluish or violet in life), the posterior half of body with many longitudinal narrow yellow lines; bases of soft dorsal and anal fins with a distinct white line; dorsal, anal and caudal fins black with a narrow white margin; narrow blue bands radiating from eye.

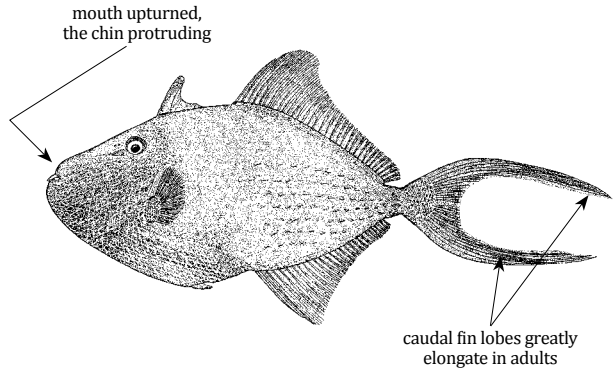


**Size:** To 25 cm (TL)

***Odonus niger*** (Rüppell, 1836)

**FAO names:** Red-toothed triggerfish (En)
Baliste dents rouges (Fr)

**Local name(s):** Nga Than, Kha Loke Nga Thwar Ni.
**Habitat:** Occurs on current-swept seaward coral reefs to depths of 40 m.
**Fisheries:** mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 33–36 rays, respectively; 28–31 anal fin rays; mouth upturned, chin protruding; 2 upper teeth projecting and canine-like; prominent groove in the skin in front of eye; caudal peduncle compressed laterally.
**Colour:** Blue to dark purplish blue; soft dorsal, anal and caudal fins margin light blue; teeth red.



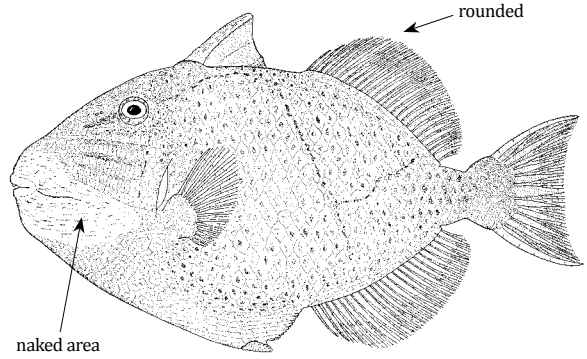

**Size:** To 50 cm, common 30 cm (TL)

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***Pseudobalistes flavimarginatus*** (Rüppell, 1829)

**FAO names:** Yelloface triggerfish (En)

**Local name(s):** Nga Than, Myet Nar War Kha Loke Nga.
**Habitat:** Coral reefs at depths to 70 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; anterior part of cheek largely naked; 2 dorsal fins with 3 spines and 24–27 rays, respectively; anal fin with 23–25 rays; mouth terminal; tympanum present; small spines in 5 or 6 rows on side of, and a short distance anterior to, caudal peduncle; a prominent groove extending anteriorly from front of eye for a distance of about 1 eye diameter; caudal peduncle compressed; mouth terminal.
**Colour:** Light greyish yellow, the scale centres darker yellowish grey; anterior and ventral part of head orange-yellow; margins of soft dorsal, anal, and caudal fins orange-yellow.



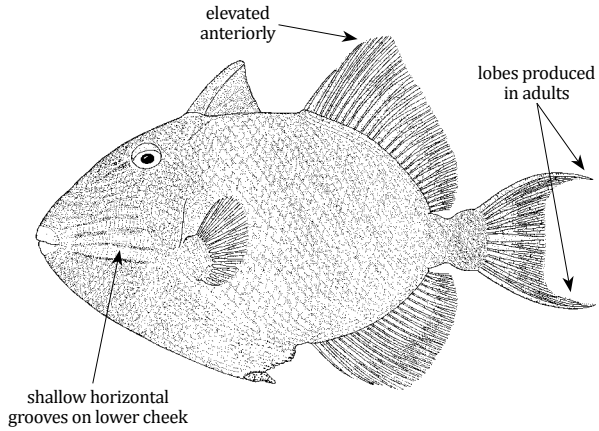

**Size:** To 60 cm (TL)

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***Pseudobalistes fuscus*** (Bloch & Schneider, 1801)

**FAO names:** Yellow-spotted triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga War Set Pyauk.
**Habitat:** Occurs solitary in coral reefs at depths to 77 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Similar to *Pseudobalistes flavimarginatus* but no rows of spines on caudal peduncle; soft dorsal and anal fins elevated anteriorly; upper and lower caudal fin lobes produced in adults.
**Colour:** Deep blue to greyish blue with small yellow spots, these often forming irregular network; margins of soft dorsal, anal, and caudal fins light blue; juveniles yellow-orange with iridiscent blue stripes and spots.

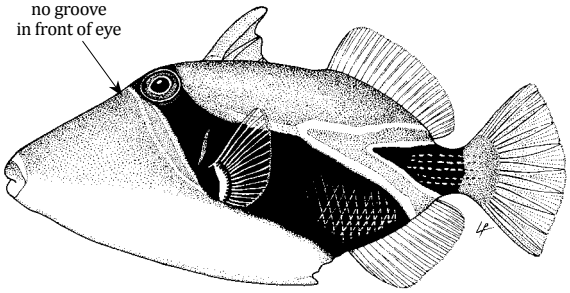



**Size:** To 55 cm (TL)

***Rhinecanthus rectangulus*** (Bloch & Schneider, 1801)

**FAO names:** Wedge-tail triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga Me' Sin.
**Habitat:** Occurs in shallow outer reefs at depths to 20 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 22–25 rays, respectively; 20–22 anal fin rays; mouth terminal; tympanum present; no groove in front of eye; caudal peduncle with 4 rows of forwardly-curved small spines; caudal peduncle compressed.
**Colour:** A broad, oblique black band running on side of body from eye through gill opening to anterior part of anal fin base; caudal peduncle with a black triangular blotch produced into a point below middle of soft dorsal fin.



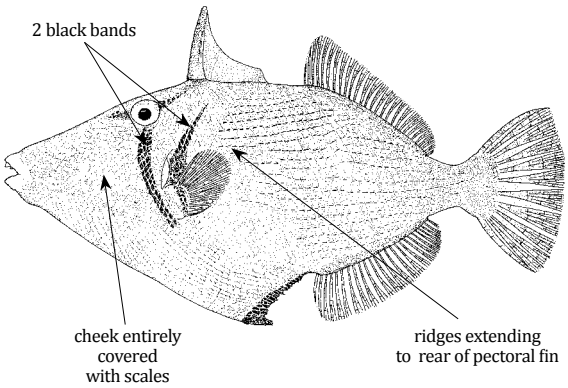

**Size:** To 25 cm (TL)

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***Sufflamen bursa*** (Bloch & Schneider, 1801)

**FAO names:** Boomerang triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga Myet.
**Habitat:** Seaward reefs in mixed coral, sand, and rubble areas in depths of 3–90 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 22–25 rays, respectively; 20–22 anal fin rays; tympanum present; deep groove in front of eye; dorsal and ventral profiles of head nearly straight; series of longitudinal ridges (following scale rows) bearing small spiny tubercles on body, upper ridges extending to rear of pectoral fins.
**Colour:** Greyish to brown with white chin and belly, distinctive curved yellow to brownish band behind eye, similar-coloured bar above gill opening, and white diagonal line behind mouth.



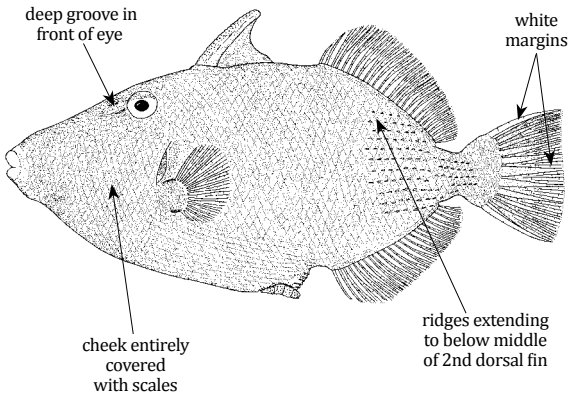

**Size:** To 24 cm (TL)

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***Sufflamen chrysopterum*** (Bloch & Schneider, 1801)

**FAO names:** Halfmoon triggerfish (En)

**Local name(s):** Nga Than, Kha Loke Nga La Chan.
**Habitat:** Lagoon and seaward reefs in depths of 2–30 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep, compressed; 2 dorsal fins with 3 spines and 26–28 rays, respectively; 23–26 anal fin rays; tympanum present; dorsal and ventral profiles of head nearly straight; series of longitudinal ridges (following scale rows) bearing small spiny tubercles on body, ridges extending forward to below middle of 2nd dorsal fin; caudal peduncle compressed.
**Colour:** Overall brown (bluish chin and belly in male); narrow yellow-orange to bluish bar behind eye; white-edged, yellow-brown triangular marking on caudal fin; capable of changing colour to overall light yellowish brown.

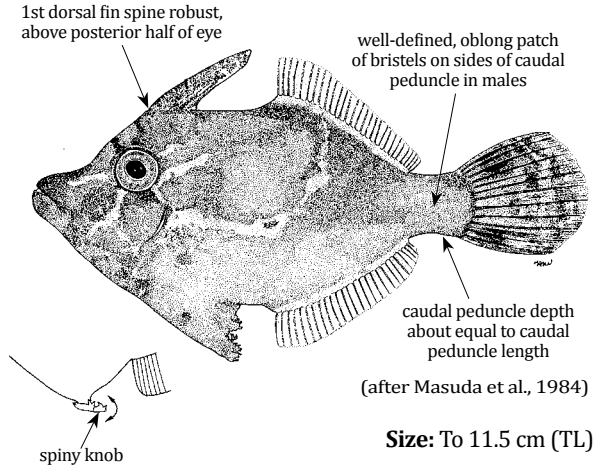



**Size:** To 22 cm (TL)

# MONACANTHIDAE
Filefishes, leatherjackets

## *Acreichthys tomentosus* (Linnaeus, 1758)

**FAO names:** Matted leatherjacket filefish (En)



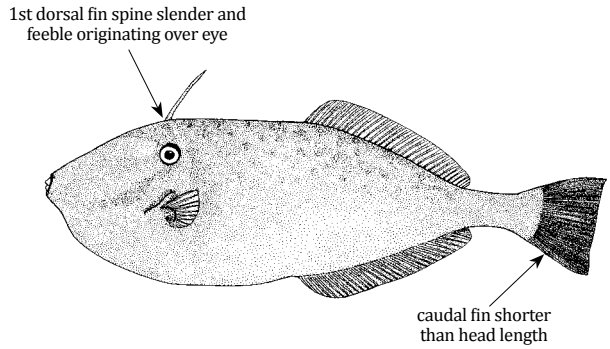

(after Masuda et al., 1984)

**Local name(s):** Nyo Kywet Kyar Nga Hlwar Parr.
**Habitat:** Inhabits reef, weed and rubble areas on shallow coral reefs.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body moderately oblong and strongly compressed; dorsal fin with 2 anterior spines well separated from soft part of fin; 27–29 dorsal rays; anal fin with 26–28 rays; dorsal profile of head concave; 1st dorsal spine, 1.0–1.1 in HL, with relatively large prominent barbs; short skin flaps on 1st dorsal fin and on body; pelvic fin rudiment with a movable spiny knob at its tip.
**Colour:** Mottled brown to yellowish brown, usually with diffuse whitish bands through eye, on middle of body and back.

**Size:** To 11.5 cm (TL)

## *Aluterus monoceros* (Linnaeus, 1758)

**FAO names:** Unicorn leatherjacket filefish (En)
Bourse loulou (Fr)

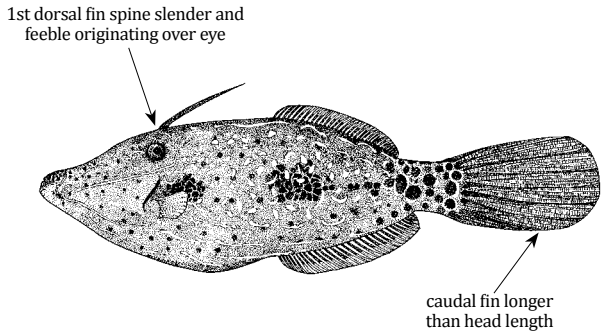



**Local name(s):** Nga Hlwar Parr, A Yae Htuu Nga.
**Habitat:** Semi-pelagic on the continental shelf down to 88 m.
**Fisheries:** Driftnets, bottom trawls.
**Distinctive Characters:** Body moderately deep and compressed; dorsal fin with 2 anterior spines well separated from soft part of fin; 45–53 dorsal rays; anal fin with 47–53 rays; snout profile straight to convex; rudimentary pelvic spine plate-like in juveniles, disappearing in large specimens.
**Colour:** Uniform light grey to sandy or with darker blotches and spots; fins yellowish with caudal more dusky.

**Size:** To 76 cm, common 40 cm (TL)

## *Aluterus scriptus* (Osbeck, 1765)

**FAO names:** Scribbled leatherjacket filefish (En)



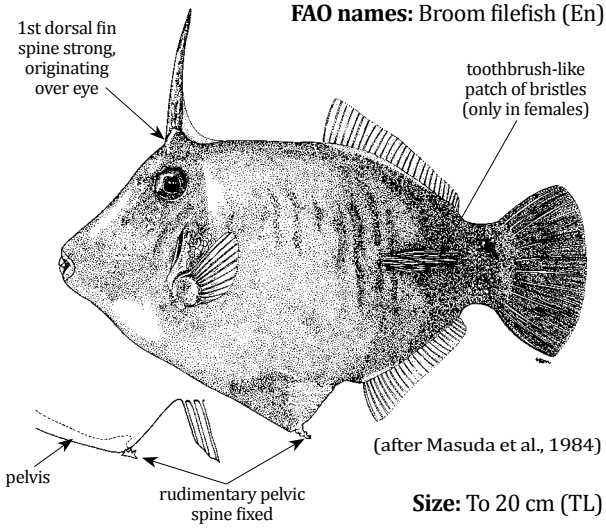

**Local name(s):** Nga Hlwar Parr, Set Pyauk A Yae Htuu.
**Habitat:** Lagoons and seaward reefs from 2–80 m.
**Fisheries:** Driftnets, bottom trawls.
**Distinctive Characters:** Body elongate, strongly compressed; dorsal fin with 2 spines and 43–50 rays; anal fin with 46–52 rays; snout profile prominently concave; spinous pelvic spine rudimentary or absent.
**Colour:** Ground colour olive brown to grey, with blue lines and dark spots; juveniles may be yellowish brown with dark spots.

**Size:** To 100 cm (TL)

## *Amanses scopas* (Cuvier, 1829)

**FAO names:** Broom filefish (En)

**Local name(s):** Nga Hlwar Parr, Ta Pyet Hle A Yae Htuu Nga.
**Habitat:** Coral reefs in depth of 5–20 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed; dorsal fin with 2 spines and 26–29 rays; anal fin rays 22–25; pelvic spine rudiment bound immovably to rear end of pelvis; dorsal profile of snout straight to slightly concave; males with 5–6 posteriorly directed, long spines in front of caudal peduncle; females with a toothbrush-like patch of bristles.
**Colour:** Body brown, darker on head, with several incomplete dark brown crossbars on middle of side.



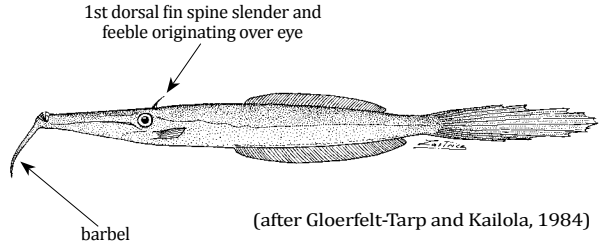

(after Masuda et al., 1984)

**Size:** To 20 cm (TL)

## *Anacanthus barbatus* Gray, 1830

**FAO names:** Barbled leatherjacket (En)

**Local name(s):** Nga Hlwar Parr, Mote Seik Shae Nga.
**Habitat:** Soft bottoms, near reefs, preferring areas of weeds and seawhips.
**Fisheries:** Driftnets, gillnets, bottom trawls.
**Distinctive Characters:** Body extremely elongate, its depth at anal fin origin about 10–11 in SL; dorsal fin with single feeble and inconspicuous spine and 48–50 rays; anal fin rays 58–62; gill opening about as long as eye, nearly horizontal, its posterior end below front edge of eye; fleshy barbel on chin; caudal fin rhomboidal.
**Colour:** Generally brownish with whitish stripe middorsally from mouth to caudal fin base; brown stripe from snout to posterior body; whitish to yellow ventrally on head and body, often with brown reticulum; may also assume strongly blotched pattern.



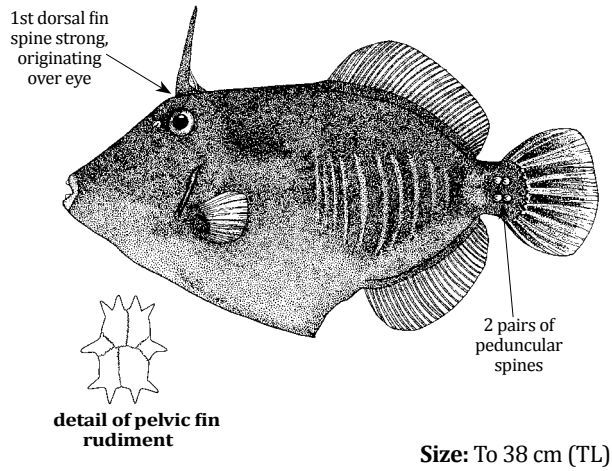

(after Gloerfelt-Tarp and Kailola, 1984)

**Size:** To 35 cm (TL)

## *Cantherhines dumerilii* (Hollard, 1854)

**FAO names:** Whitespotted filefish (En)
Bourse à taches blanches (Fr)

**Local name(s):** Nga Hlwar Parr, Phyu Set A Yae Htuu Nga.
**Habitat:** Coral reefs in depth of 5–20 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Body deep and compressed; dorsal fin with 2 spines and 34–39 rays; anal rays 29–34; dorsal profile of snout nearly straight; 2 pairs of spines on each side on caudal peduncle (small in juveniles and adult females, enlarged and recurved in adult males); pelvic fin rudiment fixed, consisting of 3 pairs of encasing scales.
**Colour:** Pale grey to greenish brown with about 12–14 vertical dark bars on body, more evident posteriorly; lips whitish; soft dorsal, anal and pectoral fins pale yellowish; adult males with caudal fin, part of caudal peduncle, and peduncle spines orange, juveniles greyish with white spots.

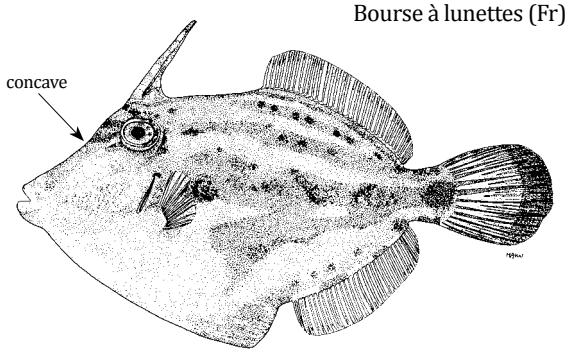



**Size:** To 38 cm (TL)

***Cantherhines fronticinctus*** (Günther, 1867)

**FAO names:** Spectacled filefish (En)
Bourse à lunettes (Fr)

**Local name(s):** Nga Hlwar Parr, A Yae Htuu Nga Myet Hman.
**Habitat:** Outer reefs to 40 m depth, usually below 15 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Similar to *Cantherhines dumerilii* but no peduncular spines; dorsal profile of snout concave, 32–35 dorsal fin rays; 30–32 anal fin rays.
**Colour:** Brown, frequently with darker blotches around eye and on sides (those on sides often horizontally elongate); white bar across tail base.




(after Masuda et al., 1984)

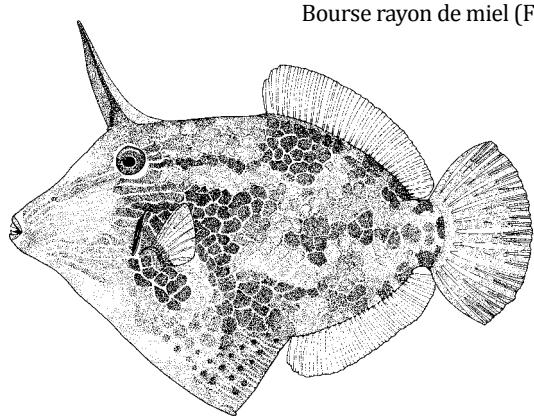
**Size:** To 24 cm (TL)

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***Cantherhines pardalis*** (Rüppell, 1837)

**FAO names:** Honeycomb filefish (En)
Bourse rayon de miel (Fr)

**Local name(s):** Nga Hlwar Parr, Pyar Ohn Kywet A Yae Htuu Nga.
**Habitat:** Outer reefs in 2–20 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Similar to *Cantherhines dumerilii* but males with a brush-like patch of setae on caudal peduncle; dorsal profile of snout slightly concave, 32–36 dorsal fin rays; 29–32 anal fin rays.
**Colour:** Body bluish grey with bluish stripes on head; pale grey "honeycomb" network on body; usually white spot on upper caudal fin base.



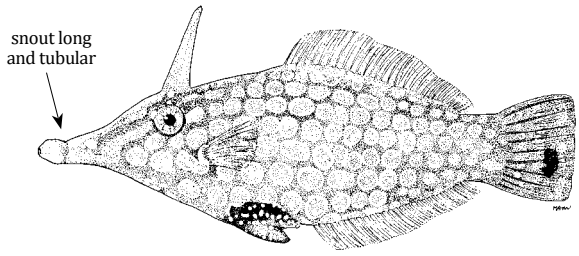
**Size:** To 25 cm (TL)

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***Oxymonacanthus longirostris*** (Bloch & Scheider, 1801)

**FAO names:** Harlequin filefish (En)

**Local name(s):** Nga Hlwar Parr, Hman Ku Kywet A Yae Htuu Nga.
**Habitat:** Lagoon and seaward reefs in depths of 1–35 m.
**Fisheries:** Mainly gillnets, popular aquarium fish.
**Distinctive Characters:** Body relatively elongate; dorsal fin with 2 spines and 31–35 rays; 29–32 anal fin rays; snout produced into a tube, turning upwards at mouth; pelvic fin rudiment small and non-movable.
**Colour:** Body green with 6–7 rows of orange spots, and black spot or bar on posterior caudal fin; males with white-spotted black patch on pelvic flap; females sometimes with black colouration on flap, but lacking white spots.



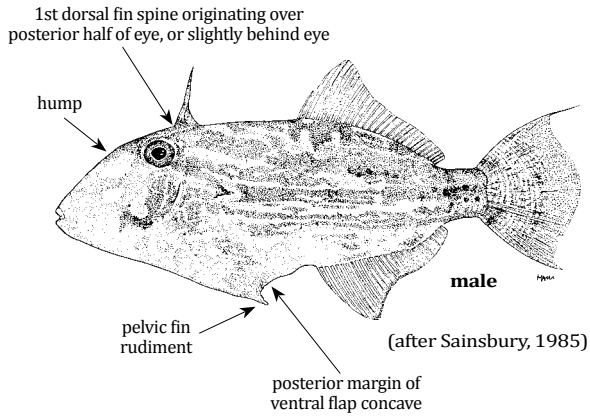

(after Schroeder, 1980)

**Size:** To 10 cm (TL)

***Paramonacanthus pusillus*** (Rüppell, 1829)

**FAO names:** Sinhalese leatherjacket (En)

**Local name(s):** Nga Hlwar Parr, Sin Hale A Yae.
**Habitat:** Mud or sand bottoms in 28–79 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Females relatively deep-bodied with straight to slightly convex snout and low fins; males more slender with convex snout, usually with prominent hump in front of nostrils, and elevated soft dorsal and anal fins; dorsal fin with 2 spines and 25–30 rays; 24–29 anal fin rays; 11–13 pectoral fin rays; posterior margin of ventral flap concave; movably articulated pelvic fin rudiment extending rearwards of flap; upper and lower lobe of caudal fin filamentous in male; caudal peduncle lacking bristles or spines.
**Colour:** Greyish on dorsal half with 3–4 broad, diffuse brown stripes, grading to white on ventral portion of head and body.



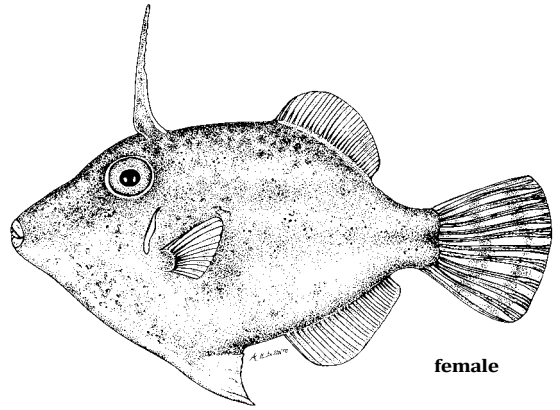

**Size:** To 19 cm (SL)

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***Paramonacanthus tricuspis*** (Hollard, 1854)

**FAO names:** Estuary filefish (En)

**Local name(s):** Nga Hlwar Parr, Kun Nee A Yae Htuu Nga.
**Habitat:** Mud or sand bottoms in 10–78 m depth.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Paramonacanthus pusillus* but 26–29 and 27–30 dorsal and anal fin rays, respecively; 11–12 (mostly 12) pectoral fin rays; 1st dorsal spine originating over posterior third of eye, or slightly behind eye; dorsal profile of snout straight to convex in males, rarely with obvious hump in front of nostrils, straight to slightly concave in females and juveniles; only upper lobe of caudal fin filamentous in males.
**Colour:** Variable brownish to yellow.



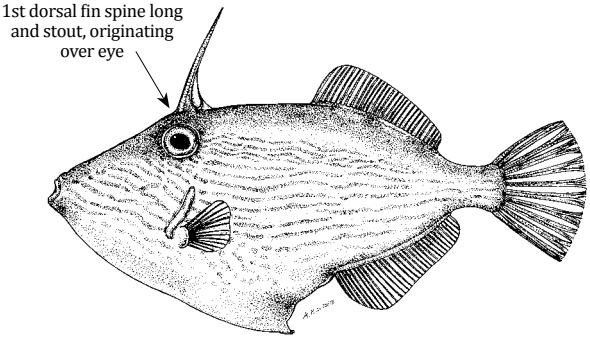

**Size:** To 13 cm (TL)

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***Thamnaconus multilineatus*** (Tanaka, 1918)

**FAO names:** Blackvent filefish (En)

**Local name(s):** Nga Hlwar Parr, Nyo Sin Kyar A Yae Htuu Nga.
**Habitat:** Shallow coral reefs.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body deep and compressed; dorsal fin with 2 spines and 32–33 rays; 30–32 anal fin rays; rudimentary pelvic spine fixed; soft dorsal and anal fins noticeably higher anteriorly; non-movable pelvic fin rudiment projecting prominently rearward of ventral flap; caudal peduncle unarmed.
**Colour:** Brownish grey with wavy horizontal dark brown lines covering entire head and body except dorsal- and ventralmost parts, the lines breaking into elongate spots ventrally.



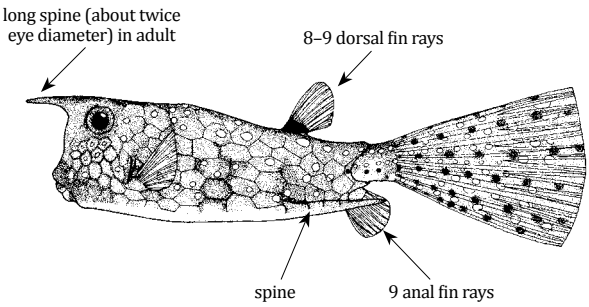

**Size:** To 26 cm (TL)

# OSTRACIIDAE
Boxfishes

***Lactoria cornuta*** (Linnaeus, 1758)

**FAO names:** Longhorn cowfish (En)

**Local name(s):** Nga Nwarr, Thit Tar Nga Suu Shae.
**Habitat:** Coastal on coral and rocky reefs, to depths of 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** A sharp, strong spine projecting anteriorly from upper edge of each eye (true of all species in the genus); a second pair of spines extending posteriorly from posteroventral edge of carapace (also generic); caudal fin greatly elongate, one half to two-thirds of carapace length.
**Colour:** Body yellowish brown with light blue spots on sides; dorsal, anal and pectoral fins pale; caudal fin yellowish with light blue spots.



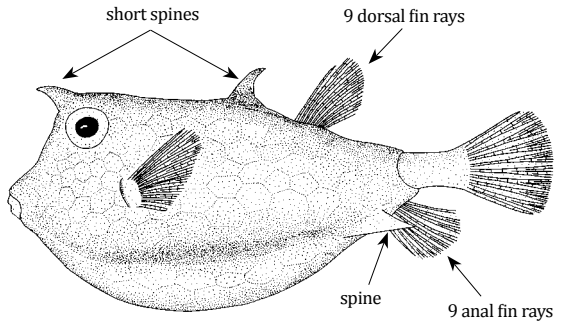

**Size:** To 50 cm (TL)

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***Lactoria diaphana*** (Bloch & Schneider, 1801)

**FAO names:** Roundbelly cowfish (En)

**Local name(s):** Nga Nwarr, Thit Tar Nga Bike.
**Habitat:** Coastal on coral and rocky reefs, to a depth of 50 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** A short, strong spine extending anteriorly from upper edge of each eye; second pair of spines directed posteriorly, one on each side of lower rear edge of carapace; small thorn-like spine on middle of back; dorsal profile of snout steep and concave; ventral profile of carapace broadly rounded; caudal fin slightly rounded.
**Colour:** Pale greenish grey with brown blotching and fine "honeycomb" reticulum.



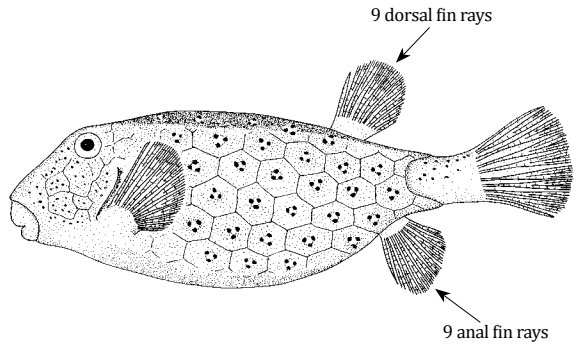

**Size:** To 25 cm (TL)

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***Ostracion cubicus*** Linnaeus, 1758

**FAO names:** Yellow trunkfish (En)

**Local name(s):** Nga Nwarr, Thit Tar Nga A War.
**Habitat:** Coastal on coral reefs and flat bottoms, to a depth of 75 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace quadrangular in cross section without spines (true of all species in the genus); back gently convex without median dorsal ridge; large adults with a bump on anterior part of snout; caudal fin rounded.
**Colour:** Body brownish yellow with white spots edged in black or rimmed with small black spots; small juveniles bright yellow with round small black spots.

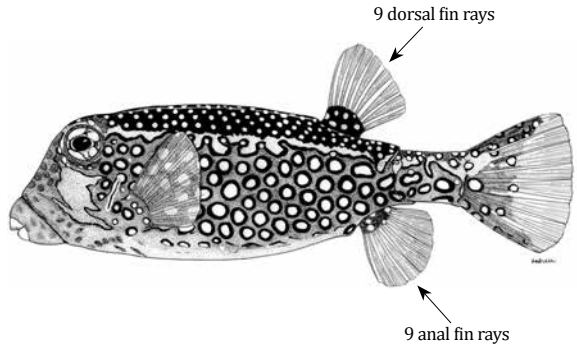



**Size:** To 45 cm (TL)

***Ostracion meleagris*** Shaw, 1796

**FAO names:** Spotted boxfish (En)

**Local name(s):** Nga Nwarr, Thit Tar Nga Set Pyauk.
**Habitat:** Coastal, lagoon, and outer reefs down to 30 m depth.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Carapace quadrangular in cross section without spines; back gently convex without median dorsal ridge; dorsal profile of snout more or less straight, without bony protuberance above upper lip; caudal fin rounded.
**Colour:** Males with white spots on black back, bluish head and sides with bright yellow spots, and yellow stripe (often broken) on upper edge of carapace; females entirely dark brown to blackish with numerous white spots on head and body.



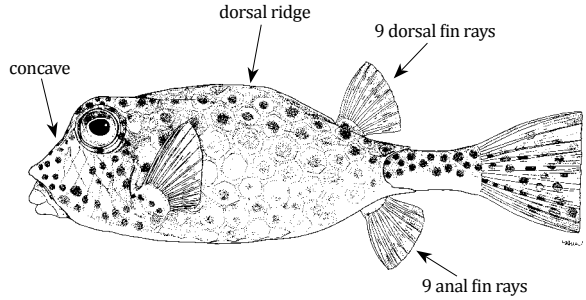

**Size:** To 18 cm (TL)

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***Ostracion nasus*** Bloch, 1785

**FAO names:** Shortnose boxfish (En)

**Local name(s):** Nga Nwarr, Thit Tar Nga Hnar To.
**Habitat:** Sheltered bays exposed to heavy silt and mud bottoms in 3–40 m.
**Fisheries:** Bottom trawls, gillnets, seines.
**Distinctive Characters:** Carapace quadrangular in cross section without spines, becoming oval anteriorly, sides and ventral surface concave; dorsal ridge relatively high and conspicuous; anal fin overlapping level of posterior part of dorsal fin; profile of snout concave, produced into knob above mouth; caudal fin rounded.
**Colour:** Pale grey to yellowish with brown spots, usually one per hexagonal plate of carapace.



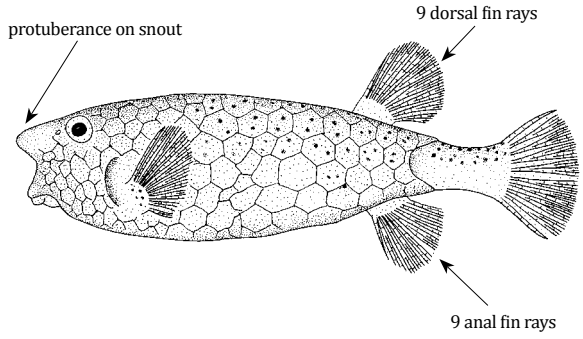

**Size:** To 30 cm (TL)

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***Ostracion rhinorhynchos*** Bleeker, 1851

**FAO names:** Horn-nosed boxfish (En)

**Local name(s):** Nga Nwarr, Thit Tar Nga Hnar Bu Chun.
**Habitat:** Coastal on coral reefs and flat bottoms, to a depth of 50 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Carapace quadrangular in cross section; no spines on carapace and no ridge on dorsal midline; a large protuberance on snout; ridges and back gently rounded; caudal fin rounded.
**Colour:** Body blue-grey with blue lines bordering hexagonal bony plates of carapace; many small black spots on carapace; fins pale.




**Size:** To 35 cm (TL)

***Tetrosomus concatenatus*** (Bloch, 1785)

**FAO names:** Triangular boxfish (En)

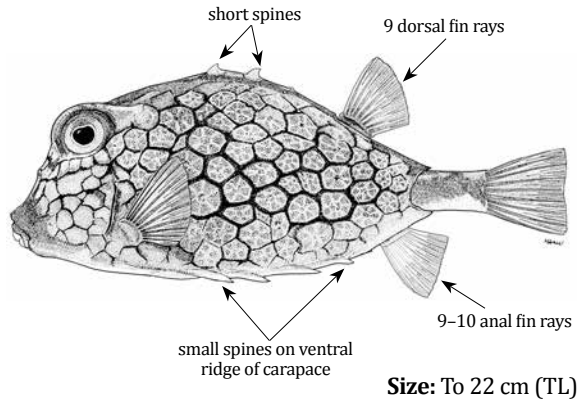
**Local name(s):** Nga Nwarr, Thit Tar Nga Kyaw Bu Chun.

**Habitat:** Seagrass and weed bottoms of coastal reefs down to 60 m depth.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Carapace triangular in cross section with moderately elevated dorsal ridge containing two small spines on middle portion; dorsal profile of snout straight to slightly concave; caudal fin truncate to slightly rounded; juveniles with large spines along dorsal and ventral ridges.

**Colour:** Pale grey to yellowish brown with darker brown network of hexagons and small blue spots or large spots enclosing stellate pale lines.




**Size:** To 22 cm (TL)

***Tetrosomus gibbosus*** (Linnaeus, 1758)

**FAO names:** Humpback boxfish (En)
Coffre bossu (Fr)

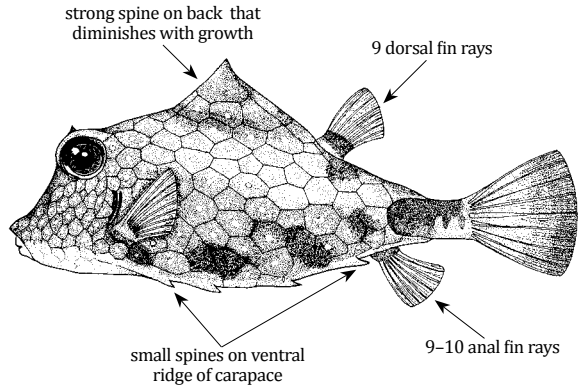
**Local name(s):** Nga Nwarr, Thit Tar Nga Kyaw Bu Chun.

**Habitat:** Coastal, frequently found in seagrass beds and sandy bottoms to depths of 63 m.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Carapace triangular in cross-section with elevated dorsal ridge containing a strong spine and smaller ones on ventral ridges.

**Colour:** Body light brown to yellowish grey with brown network of hexagons and irregular blotches frequently found on side; dorsal, anal, and pectoral fins pale and caudal fin dusky.




**Size:** To 22 cm (TL)

## TETRAODONTIDAE

Puffers

***Arothron hispidus*** (Linnaeus, 1758)

**FAO names:** White-spotted puffer (En)

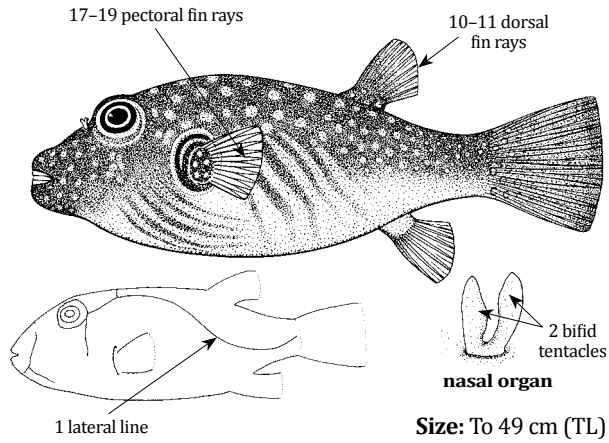
**Local name(s):** Nga Pu Tinn Phyu Set Pyauk.

**Habitat:** Mixed coral, sand, rubble, and weed bottoms down to 75 m depth.

**Fisheries:** Bottom trawls, gillnets.

**Distinctive Characters:** Nasal organ with 2 bifid tentacles (true of all species in the genus); a single lateral line on side of body (also generic); head and body covered with small spinules except for snout and posterior caudal peduncle; 10–11 anal fin rays.

**Colour:** Body grey to greenish brown with white ring around eye (sometimes absent in large individuals); white spots on snout, upper side, and caudal fin base; white bands on belly (sometimes absent), and large white-edged, black spot (sometimes surrounding yellow concentric rings) around pectoral fin base.

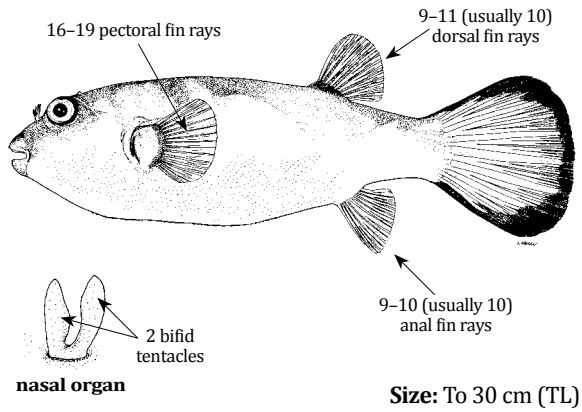



**Size:** To 49 cm (TL)

***Arothron immaculatus*** (Bloch & Schneider, 1801)

**FAO names:** Immaculate puffer (En)

**Local name(s):** Nga Pu Tinn Hmee Htik Me'.
**Habitat:** Coastal mangroves, seagrass beds, weedy areas, and silt bottoms near reefs in depths of 3–45 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nasal organ with 2 bifid tentacles; a single lateral line on side of body; head and body covered with small spinules except around eye, gill opening, fins, and posterior caudal peduncle.
**Colour:** Body pale grey to brown, grading to white on ventral surface, large yellowish-brown to nearly black spot surrounding pectoral fin base, and black-edged, yellow tail. Sometimes assumes mottled pattern.

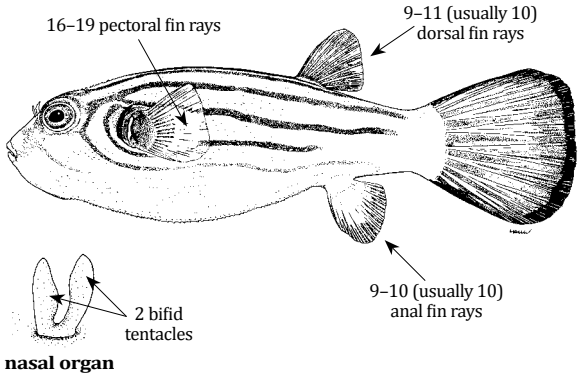



**Size:** To 30 cm (TL)

***Arothron manilensis*** (Marion de Procé, 1822)

**FAO names:** Narrow-lined puffer (En)

**Local name(s):** Nga Pu Tinn Line Sin.
**Habitat:** Coastal seagrass beds, weedy areas, and sandsilt bottoms near reefs; juveniles in mangroves; in depths of 2–20 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Nasal organ with 2 bifid tentacles; a single lateral line on side of body; head and body covered with small spinules (may be embedded).
**Colour:** Brownish to greenish grey dorsally, whitish to pale yellowish ventrally, with several brown to yellowish longitudinal stripes on side, including one that sometimes arcs around front of pectoral fin base.

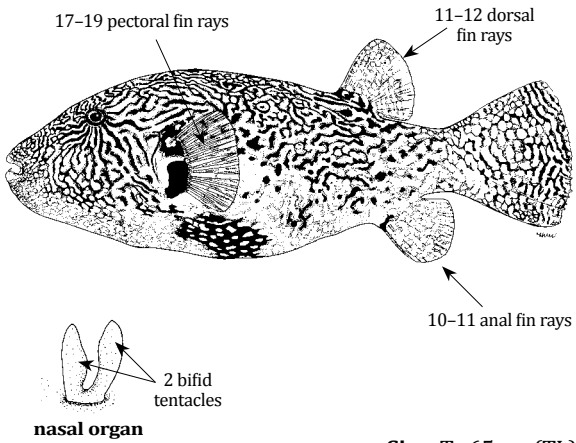



**Size:** To 31 cm (TL)

***Arothron mappa*** (Lesson, 1831)

**FAO names:** Map puffer (En)

**Local name(s):** Nga Pu Tinn Myay Pone Kywet.
**Habitat:** Lagoon and seaward reefs in 4–30 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Nasal organ with 2 bifid tentacles; a single lateral line on side of body; head and body covered with small spinules except for snout and posterior part of caudal peduncle.
**Colour:** Yellowish grey with irregular maze of black bands, spoke-like marks around eye, irregular black botch around pectoral fin base, and extensive black blotch on belly.

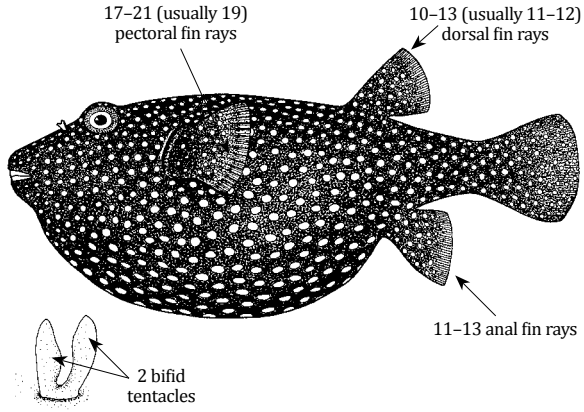



**Size:** To 65 cm (TL)

***Arothron meleagris*** (Anonymous, 1798)

**FAO names:** Guineafowl puffer (En)

**Local name(s):** Nga Pu Tinn Pa Le' Pyauk.
**Habitat:** Rich coral areas and rocky bottoms of coastal, lagoon, and outer reefs down to 15 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Nasal organ with 2 bifid tentacles; a single lateral line on side of body; head and body covered with small spinules except around mouth, caudal peduncle, and variable area of back, spinules best developed on ventral surface.
**Colour:** Body black with small white spots covering head, body, and fins; less common variety entirely or mainly yellow.

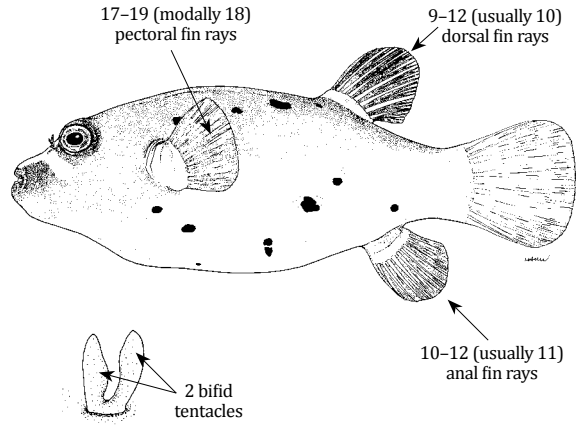



**Size:** To 32 cm (TL)

***Arothron nigropunctatus*** (Bloch & Schneider, 1801)

**FAO names:** Blackspotted puffer (En)

**Local name(s):** Nga Pu Tinn Mae Kywet Kyar.
**Habitat:** Lagoon and seaward reefs in depths of 3–25 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Nasal organ with 2 bifid tentacles; a single lateral line on side of body; head and body covered with small spinules except around mouth, caudal peduncle, and variable area of back, spinules best developed on ventral surface.
**Colour:** Body with variable pattern, often pale grey with dark patches around eye and on snout, white bar across top of snout, and widely scattered black spots. Sometimes with variable amount of yellow on head and body.

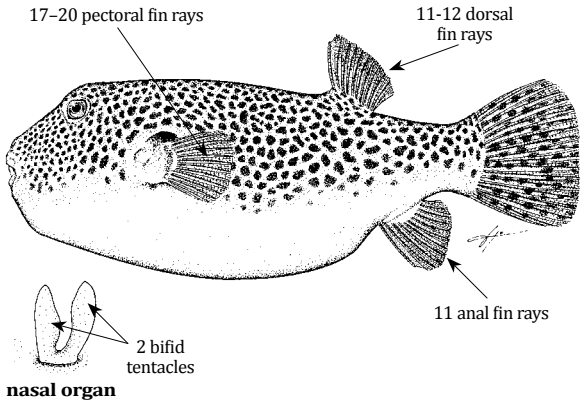



**Size:** To 30 cm (TL)

***Arothron stellatus*** (Anonymous, 1798)

**FAO names:** Stellate puffer (En)

**Local name(s):** Nga Pu Tinn Kyaw Me' Set Pyauk.
**Habitat:** Adults on deep slopes and outer reefs; juveniles inshore, usually on muddy substrates and estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nasal organ with 2 bifid tentacles; a single lateral line on side of body; small spinules on head and body except top of snout, base of fins, and side of caudal peduncle, the spinules most evident ventrally.
**Colour:** Adults white with small black spots on head, body, and caudal fin, those on pectoral fin base and around gill opening largest; juveniles yellow to orange with small black spots, the abdomen with broad, irregular, oblique, black bands.

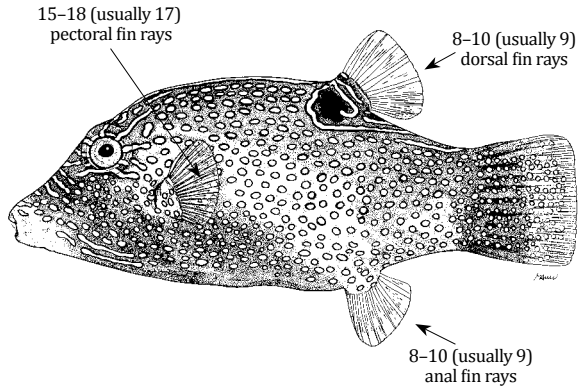



**Size:** To 120 cm, common 54 cm (TL)

***Canthigaster papua*** (Bleeker, 1848)

**FAO names:** Papuan toby (En)

**Local name(s):** Nga Pu Tinn Phyu Pyar Set Pyauk.
**Habitat:** Coral reefs to 35 m depth.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Nasal organ barely visible without aid of magnification (true of all species in the genus); dorsal surface posterior to eyes distincly keeled (also generic); body moderately compressed, covered with scattered prickles; snout long and conical.
**Colour:** Reddish brown with small blue-white spots on head, body, and caudal fin, blue eye spokes, blue lines on snout and back, and prominent blue-edged black spot at dorsal fin base; also frequently orange at snout tip and around eye.



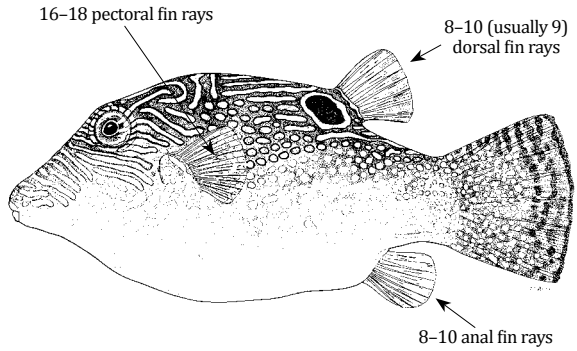

**Size:** To about 9 cm (TL)

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***Canthigaster petersii*** (Bianconi, 1854)

**FAO names:** Peter's toby (En)

**Local name(s):** Nga Pu Tinn Hnar Sin Kyar.
**Habitat:** Coral reefs in depths to 25 m.
**Fisheries:** Mainly gillnets.
**Distinctive Characters:** Nasal organ barely visible without aid of magnification; dorsal surface posterior to eyes distincly keeled; body moderately compressed, covered with scattered prickles; snout long and conical.
**Colour:** Brown with numerous white spots on snout, side of body, and caudal fin; bluish white lines mainly around eye region and on upper back; belly abruptly white; prominent white-edged black spot below dorsal fin base; posterior third of caudal fin orange-red with 2 narrow white bars and greenish margin.



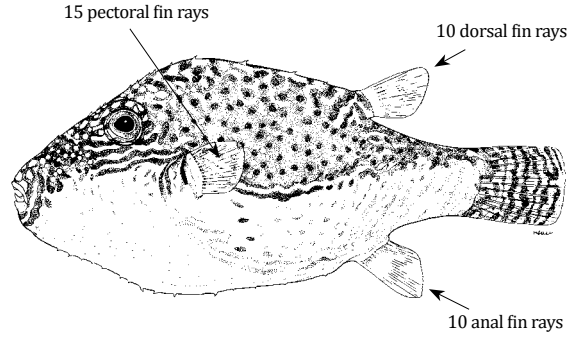

**Size:** To about 9 cm (TL)

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***Canthigaster punctata*** Matsuura, 1992

**FAO names:** None (En)

**Local name(s):** Nga Pu Tinn Pyar Set Pyauk.
**Habitat:** Coral reefs in depths to 92 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Nasal organ barely visible without aid of magnification; dorsal surface posterior to eyes distincly keeled; body covered with scattered prickles; snout long and conical; a raised skin fold on back extending from above posterior edge of eye to dorsal fin origin.
**Colour:** Dorsal half of body light brown with many small blue spots; an elongate horseshoe-shaped yellow band on side of body; ventral half of body white with many blue and yellow spots; snout with many yellow spots and irregular yellow lines; caudal fin light yellow with several vertical blue lines; dark brown spot on upper and lower caudal fin base.

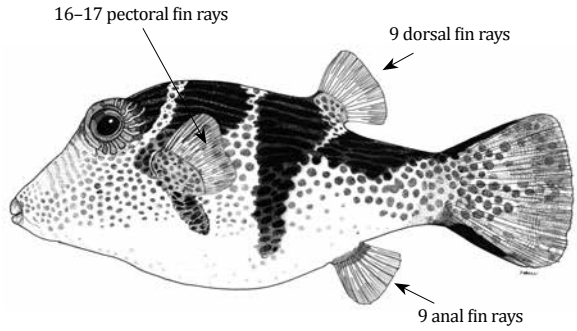



**Size:** To about 9 cm (TL)

***Canthigaster valentini*** (Bleeker, 1853)

**FAO names:** Black-saddled Toby (En)

**Local name(s):** Nga Pu Tinn Kyaw Mae Kywet.
**Habitat:** Coral reefs in depths to 92 m.
**Fisheries:** Gillnets, bottom trawls.
**Distinctive Characters:** Nasal organ barely visible without aid of magnification; dorsal surface posterior to eyes distincly keeled; body moderately compressed, covered with scattered prickles; snout long and conical.
**Colour:** Generally white with light brown spots and four dark brown to blackish saddles, two middle ones extending onto belly.

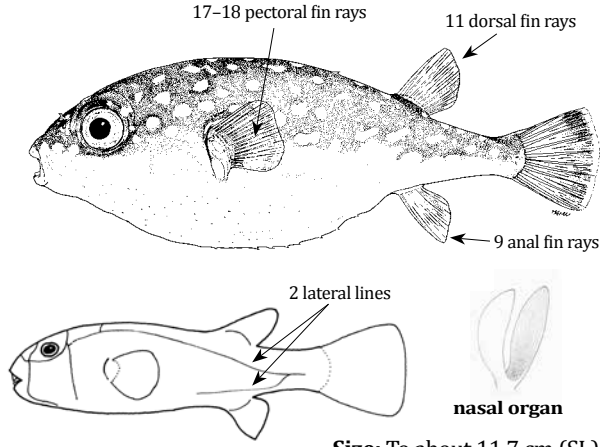



**Size:** To about 10 cm (TL)

***Chelonodontops alvheimi*** Psomadakis, Matsuura & Htun Thein, 2018

**FAO names:** Alvheim's pufferfish (En)

**Local name(s):** Nga Pu Tinn Kyaw Phyu Kywet Kyarr.
**Habitat:** Deeper water in depths of 72–164 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Nasal organ a depression with a low rim and anterior and posterior flaps (true of all species in the genus); 2 lateral lines, the upper joining the lower in the region above or behind anal fin (also generic); patch of spinules on back from internarial region to dorsal fin origin and another on throat to anus; caudal peduncle slender, its depth 12.8–13.5 in SL; caudal fin short, its length 5.4–5.7 in SL.
**Colour:** Greenish brown with white spots on head and body; 3 indistinct dark cross bars on dorsum; iris bright yellow; dorsal, anal and pectoral fins hyaline; caudal fin brownish with irregular blakish band posteriorly and hyaline margin.

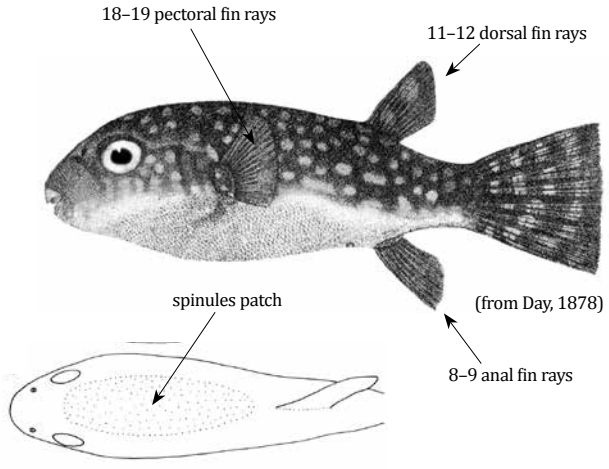



**Size:** To about 11.7 cm (SL)

***Chelonodontops leopardus*** Day, 1878

**FAO names:** Banded leopard blowfish (En)

**Local name(s):** Nga Pu Tinn Kyar Thit Kywet.
**Habitat:** Inhabits in coastal waters and enters the lower reaches of rivers and lagoons.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Chelonodontops alvheimi* but patch of spinules on back from interorbital region to midpoint between pectoral fin and dorsal fin origin and another on throat to anus; caudal peduncle depth 6.6–8.2 in SL; caudal fin length 3.1–4.1 in SL.
**Colour:** Greenish brown with white spots on head and body; 3 indistinct dark cross bars on dorsum; dorsal, anal and pectoral fins dusky; caudal fin dark brown with several rows of vertical white spots.

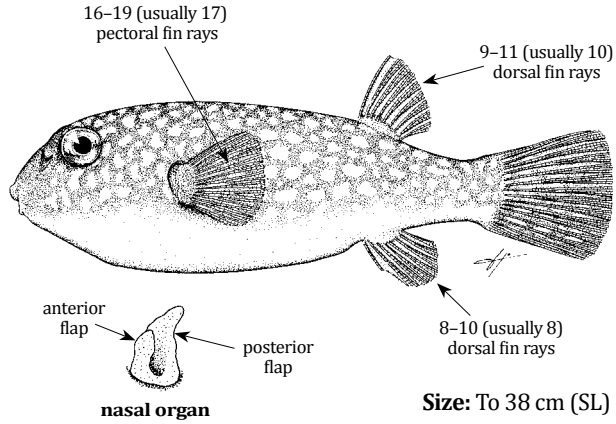



**Size:** To about 14.3 cm (SL)

***Chelonodontops patoca*** (Hamilton, 1822)

**FAO names:** Milkspotted puffer (En)

**Local name(s):** Nga Pu Tinn Noh Set Pyauk.
**Habitat:** Inhabits coastal waters and enters the lower reaches of rivers and lagoons.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Chelonodontops alvheimi* but nasal organ a depression with anterior flap smaller than posterior flap; spinule patch on back extending from behind interorbital region nearly to just anterior to dorsal fin origin; usually 8 anal fin rays; caudal peduncle depth 6.7–8.3 in SL; caudal fin length 3.2–4.2 in SL.
**Colour:** Grey to brown dorsally with large round to ovate white spots (sometimes with dark centres), shading to white ventrally; a broad streak of yellow on lower side within the white ventral side.

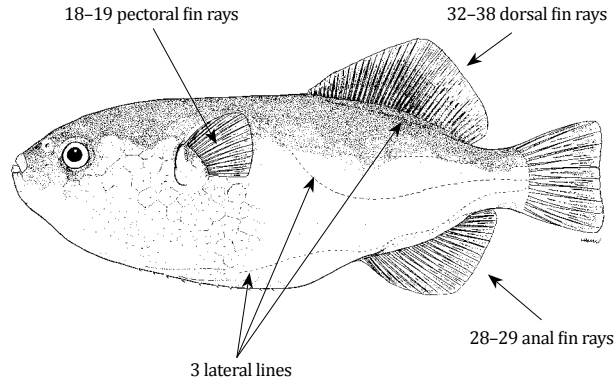



**Size:** To 38 cm (SL)

***Chonerhinos naritus*** (Richardson, 1848)

**FAO names:** Yellow pufferfish (En)

**Local name(s):** Nga Pu Tinn A War.
**Habitat:** Coastal and estuarine waters. Known to migrate towards rivers upstream for spawning.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nasal organ with flaps greatly reduced and olfactory lamellae almost entirely exposed; 3 lateral lines on side of body; spinules restricted to ventral parts of head and body up to level of pectoral fin; dorsal and anal fins with long bases.
**Colour:** Extremely variable, from grey-brown dorsally, bright yellow ventrally to grey-brown dorsally, silvery white ventrally; fins yellowish except basal parts of dorsal fin in both colour morphs.

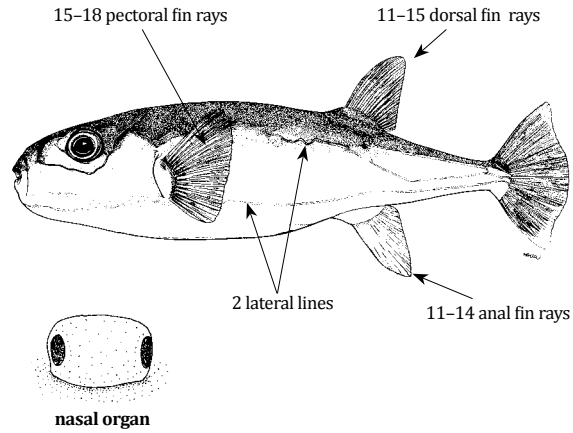



**Size:** To 29 cm (TL)

***Lagocephalus cheesemanii*** (Clarke, 1897)

**FAO names:** Cheeseman's Puffer (En)

**Local name(s):** Nga Pu Tinn Lone Thway.
**Habitat:** Continental shelf over sandy or muddy bottoms; juveniles may occur in estuaries.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Nasal organ a tubular papilla set in a depression with a nostril at each end (applies to all species of the genus); 2 lateral lines, the lower in a ventrolateral ridge from front of chin to lower base of caudal fin (also generic); spinules on the back in a rhomboidal patch, extending from the region between nasal organ to posterior part of pectoral fin; ventral surface of head and belly covered with spinules; caudal fin double emarginate with middle rays posteriorly produced.
**Colour:** Back, dark brown to brownish black; lower half of body silvery white with a yellowish tinge; dorsal and pectoral fins dark; anal fin pale; caudal fin dark brown to black with white tips.

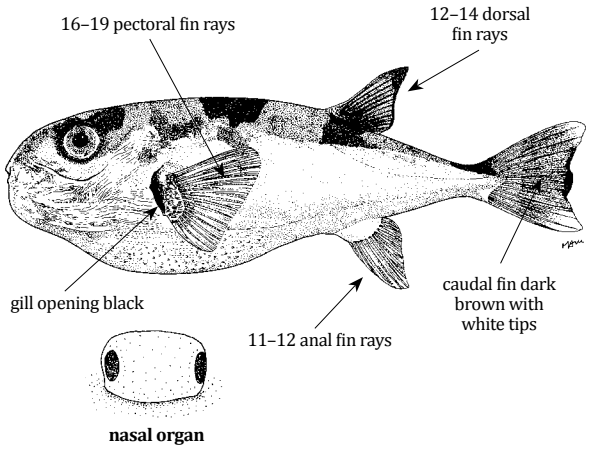



**Size:** To about 31 cm (SL)

## *Lagocephalus guentheri* Miranda Ribeiro, 1915

**FAO names:** Diamondback puffer (En)

**Local name(s):** Nga Pu Tinn Sein Hmee Kywet.
**Habitat:** occurs mainly on the continental shelf.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** A rhomboidal or elliptical-shaped spinule patch extending from above a point half way between nostril and eye to the posterior part of the pectoral fin; patch of spinules ventrally on body from below nostrils and ending a 1/2 to 2/3 eye diameter anterior to anus; caudal fin with a slight posterior extension medially that makes it appear to be double emarginate (only in fresh specimens).
**Colour:** Dorsal half of body light brown with several dusky bands; side of head and body broadly silvery; ventral part of body milky white; dorsal fin dusky; pectoral and anal fins pale; gill opening black internally; caudal fin dark brown, the lobe tips white.

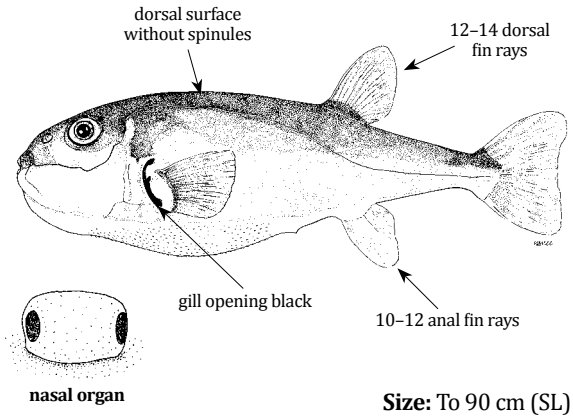



**Size:** To 26 cm (TL)

## *Lagocephalus inermis* (Temminck & Schlegel, 1850)

**FAO names:** Smooth blaasop (En)

**Local name(s):** Nga Pu Tinn Wun Phyu.
**Habitat:** Occurs mainly on the continental shelf edge.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Minute soft protuberances on belly (no spinules) from below eye almost to anus, otherwise body and head smooth; 17–18 pectoral fin rays; caudal fin slightly concave.
**Colour:** Greenish or dark grey above, lower half of body silvery white; gill opening black internally; distal third of dorsal fin dark; pectoral and anal fins pale; caudal fin dusky.

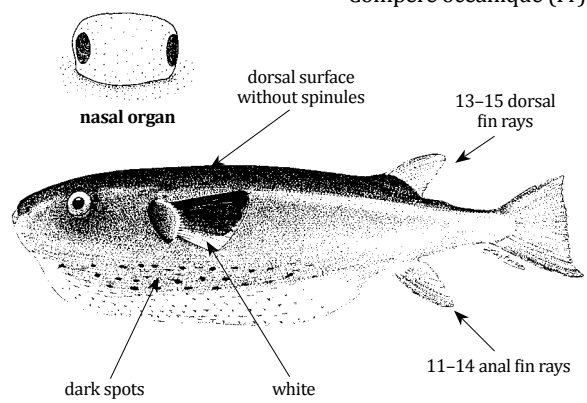



**Size:** To 90 cm (SL)

## *Lagocephalus lagocephalus* (Linnaeus, 1758)

**FAO names:** Oceanic puffer (En)
Compère océanique (Fr)

**Local name(s):** Sa Mu Dra Nga Pu Tinn.
**Habitat:** Primarily offshore and pelagic but occasionally occurring in coastal waters.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Body smooth except for well-developed spinules on belly from chin to anus; 13–16 pectoral fin rays; caudal fin lunate, lower lobe longer than upper in adults.
**Colour:** Adults dark green, brownish grey, or blue above, white below; juveniles with about 9 bars on back, from eye to dorsal fin; dark spots on front and middle of belly and on side near pectoral base in specimens less than 33 cm; pectoral fins dark, except lower 1/3 of fin white.

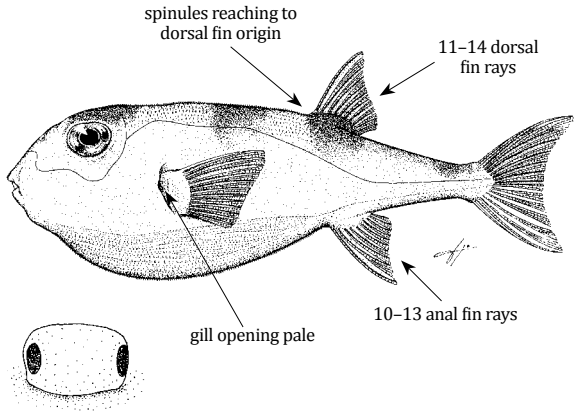



**Size:** To 61 cm (TL)

## *Lagocephalus lunaris* (Bloch & Schneider, 1801)

**FAO names:** Lunartail puffer (En)

**Local name(s):** La Chan Hmee Nga Pu Tin.
**Habitat:** Mainly marine, occasionally enters estuaries.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** A broad patch of spinules dorsally on head and body from above posterior edge of nostrils to origin of dorsal fin; patch of spinules ventrally on body from below anterior edge of eyes to below tip of pectoral fins; 16–17 pectoral fin rays; caudal fin deeply emarginate.
**Colour:** Grey dorsally without obvious dark markings, silvery on side and ventrally, sometimes with a golden sheen on lower side; caudal fin yellowish grey on upper half, the lower half bluish white.

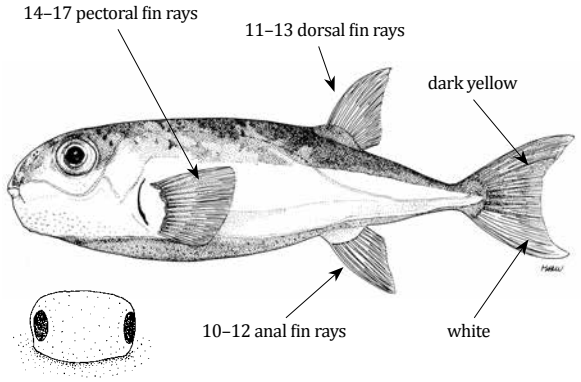



**Size:** To 45 cm (SL)

## *Lagocephalus spadiceus* (Richardson, 1845)

**FAO names:** Half-smooth golden pufferfish (En)
Tétraodon-lièvre doré (FR)

**Local name(s):** Hmee War Hmine Nga Pu Tin.
**Habitat:** Essentially an inhabitant of marine waters, but enters the mouths of rivers.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Lagocephalus guentheri* but caudal fin slightly lunate, without a medial posterior extension; caudal fin with dark yellow upper lobe and white ventral lobe.
**Colour:** Dorsal half of body greyish brown, side silvery white, and belly white; pectoral and anal fins pale; dorsal fin dusky; caudal fin with 2/3 of dorsal lobe yellow and 1/3 of ventral lobe white.

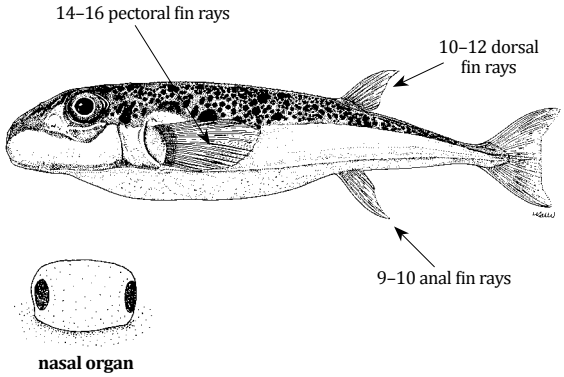



**Size:** To 43 cm (TL)

## *Lagocephalus suezensis* Clark & Gohar, 1953

**FAO names:** Suez pufferfish (En)

**Local name(s):** Nga Pu Tinn Pain Thway.
**Habitat:** Shallow sandy areas surrounding reefs, depths of about 80 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** A patch of spinules on back from snout to dorsal fin origin; belly covered with spinules; caudal fin deeply lunate.
**Colour:** Dorsal half of body greyish with numerous small brown spots and larger dark spots and blotches; sides silvery white, and belly white; dorsal, anal and pectoral fins pale; caudal fin with yellow upper lobe and white ventral lobe.

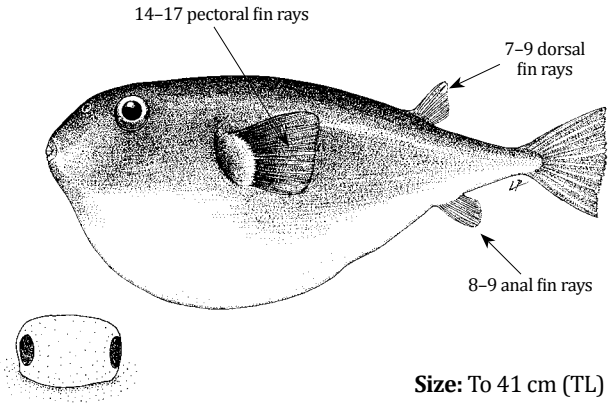



**Size:** To 18 cm (TL)

***Sphoeroides pachygaster*** (Müller & Troschel, 1848)

**FAO names:** Blunthead puffer (En)

**Local name(s):** Nga Pu Tinn Gound Tone.
**Habitat:** Deeper water species, depths of 50–480 m, usually 50–250 m
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nasal organ a tubular papilla set in a depression with a nostril at each end; a single lateral line on side of body; body smooth, completely devoid of spinules and lappets.
**Colour:** Uniform brown or grey on dorsal and lateral surfaces, fading ventrally to a totally unpigmented ventral surface; tip of or all lower rays of the caudal fin white.



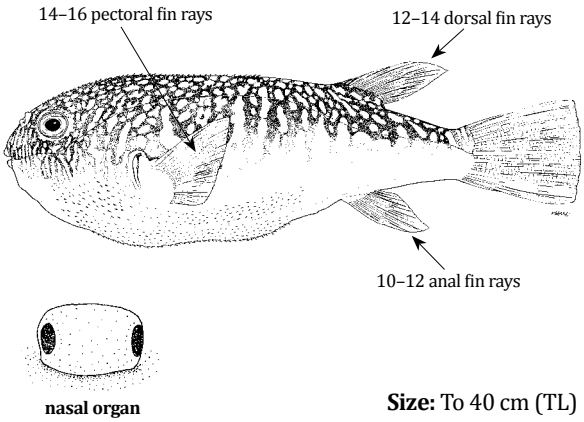

**Size:** To 41 cm (TL)

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***Takifugu oblongus*** (Bloch, 1786)

**FAO names:** Lattice blaasop (En)

**Local name(s):** Nga Pu Tinn War Phyu Kywet.
**Habitat:** Lives in shallow coastal waters, but enters brackish waters.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nasal organ covered by small sac with 2 nostrils; 2 lateral lines, the lower along the ventrolateral part of peduncle on a low skin ridge; belly, top of head and front part of back covered with spinules (spinules on back and belly well separated); caudal fin truncated.
**Colour:** Brownish above with pale spots, yellowish white below; transverse white bars on back from snout to caudal peduncle.



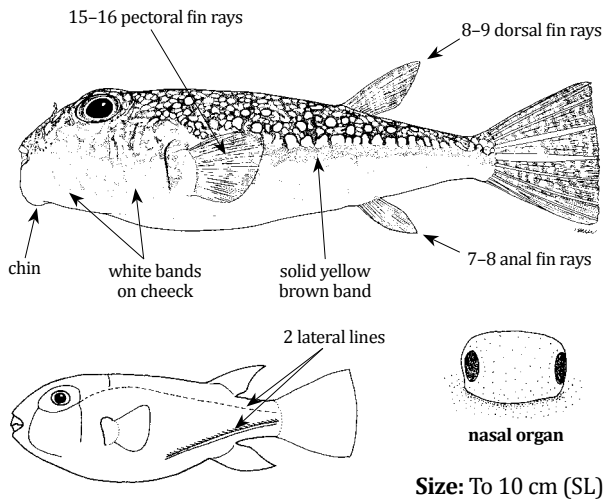

**Size:** To 40 cm (TL)

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***Torquigener brevipinnis*** (Regan, 1903)

**FAO names:** Yellow-striped puffer (En)

**Local name(s):** Nga Pu Tinn War Line Sin.
**Habitat:** Sandy bottoms in depths of 20–100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Nasal organ covered by small sac with 2 nostrils (applies to all species of the genus); 2 lateral lines (also generic); ventrolateral skin fold extending behind pectoral fin to caudal fin base (also generic); chin well developed (also generic); spinules covering entire head and body from level of nasal organs and chin to just before dorsal fin base and vent; caudal fin truncated.
**Colour:** Dorsum with many small, round or oval, pale yellowish spots outlined by small brownish dots; yellowish brown band laterally from behind pectoral fin to caudal fin base; 3 slightly oblique, narrow, creamy white bands traversing cheek just anterior to gill opening.

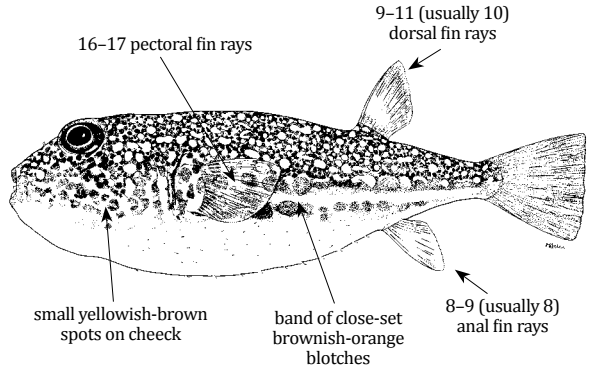



**Size:** To 10 cm (SL)

***Torquigener florealis*** (Cope, 1871)

**FAO names:** Floral puffer (En)

**Local name(s):** Pan Pwint Kywet Nga Pu Tinn.
**Habitat:** Sandy bottoms in depths to about 238 m, usually 90–128 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Similar to *Torquigener brevipinnis* but higher dorsal, anal and pectoral fin ray counts; dorsal and anal fins somewhat rounded (vs. pointed); different colour pattern (see description below).
**Colour:** Numerous small whitish spots on back, delineated by rosette of smaller brown spots; lateral band of close-set brownish orange blotches; cheek with small yellowish brown spots.



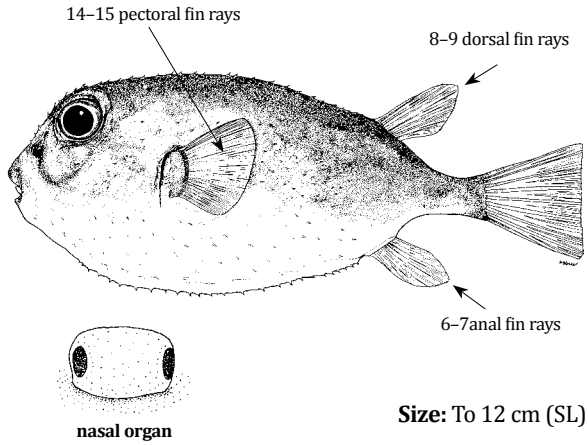

**Size:** To 19 cm (SL)

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***Tylerius spinosissimus*** (Regan, 1908)

**FAO names:** Spiny blaasop (En)

**Local name(s):** Nga Pu Tinn Suu Htu.
**Habitat:** Sandy bottoms, deepwater in 103–435 m.
**Fisheries:** Bottom trawls.
**Distinctive Characters:** Nasal organ a tubular papilla set in a depression with a nostril at each end; 2 well-developed lateral lines extending along body to base of caudal fin; no ventro-lateral skinfold; small spines moderately dense on body, extending well onto caudal peduncle.
**Colour:** Body greyish brown; dark blotch above and behind eye, another at base of dorsal fin; fins pale; rear margin of caudal fin darker; usually dark dots all over white belly.




**Size:** To 12 cm (SL)

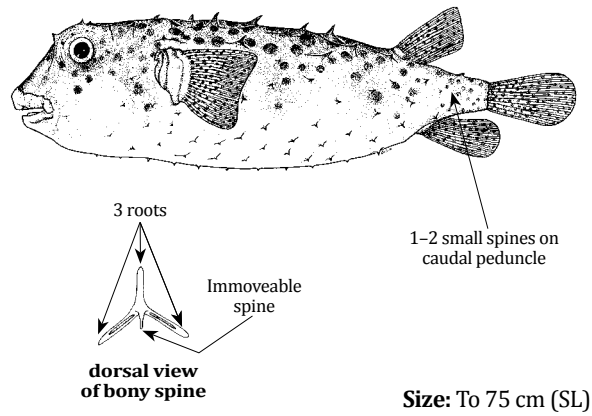
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## DIODONTIDAE
Porcupinefishes

***Chilomycterus reticulatus*** (Linnaeus, 1758)

**FAO names:** Spotfin burrfish (En)

**Local name(s):** Nga Pu Tinn Suu Pyan.
**Habitat:** Young pelagic; adults on reefs and soft bottoms to depths of 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** All or most body spines of back and sides fixed in an erect position (not movable through 90°) and 3-rooted; 1-2 small spines entirely on dorsal surface of caudal peduncle; 12–14 dorsal fins; 11–14 anal fins; 19–22 pectoral fins rays; normally 10 caudal fin rays.
**Colour:** Small, relatively wide-spaced black spots on head, body and fins, and four diffuse brown bars (sometimes very faint or absent), including one below eye.

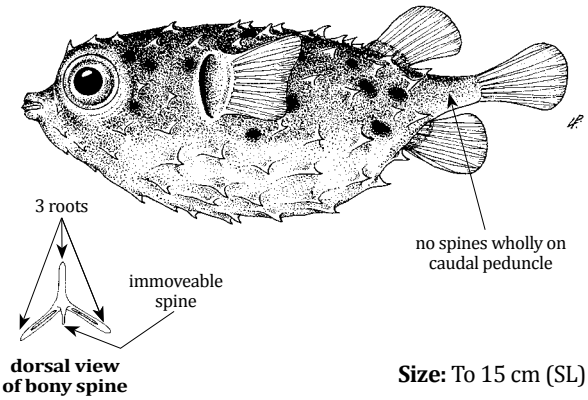



**Size:** To 75 cm (SL)

***Cyclichthys orbicularis*** (Bloch, 1785)

**FAO names:** Birdbeak burrfish (En)
Porc-épine bécard (Fr)

**Local name(s):** Hnget Hnote Thee Nga Pu Tinn.
**Habitat:** Found from surface to 150 m, usually over soft bottoms, but occasionally on reefs.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Body bearing massive but relatively short, immovable spines; 4 dorsally between pectoral fin bases, 8–9 anterior to dorsal fin base; a short, movable spine near corner of mouth; all spines on top of head 3-rooted.
**Colour:** Back brown to grey, white on belly; clusters of spots occasionally merged to form blotches; no dark spots on fins; a light area often surrounds the spine bases on back and sides.



**dorsal view of bony spine**

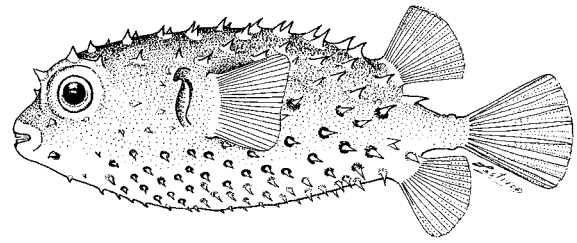
**Size:** To 15 cm (SL)

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***Cyclichthys spilostylus*** (Leis & Randall, 1982)

**FAO names:** Spotbase burrfish (En)

**Local name(s):** Nga Pu Tinn Me' Set Pyauk.
**Habitat:** Found in coastal waters in the vicinity of reefs.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Cyclichthys orbicularis* but spines more numerous, 5–6 dorsally between pectoral fin bases, 11–12 anterior to dorsal fin base; no movable spines; some spines on top of head with 4 roots; nasal organs separated by more than one eye diameter; teeth thick.
**Colour:** Body with many small unclustered black spots at base of spines laterally and ventrally.



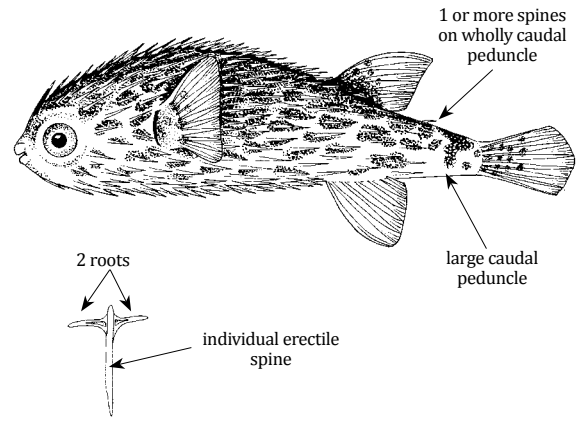
**Size:** To 35 cm (SL)

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***Diodon eydouxii*** Brissout de Barneville, 1846

**FAO names:** Pelagic porcupinefish (En)

**Local name(s):** Yay Pyaw Hlwar Nga Pu Tinn.
**Habitat:** Pelagic-oceanic, surface schooling species.
**Fisheries:** Purse seines, incidental catch.
**Distinctive Characters:** All body spines erectile (movable through at least 90°) and 2-rooted (except a few around gill opening or dorsal fin base) (applies to all species of the genus); nearly uniform short spines; one or more small spines entirely on dorsal surface of caudal peduncle; 13–17 spines from snout to dorsal fin base; 10–14 spines from lower jaw to anus; 16–18 dorsal fins; 16–18 anal fins; 19–22 pectoral fins rays.
**Colour:** Back and sides blue, with small elongate black spots; fins with spots; dark gular band; belly silvery white.



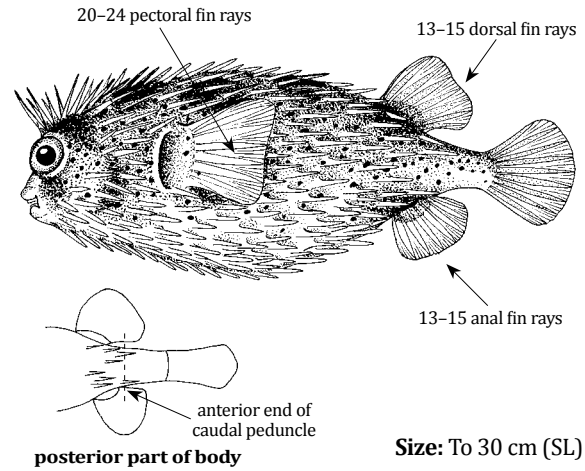
**dorsal view of bony spine**

**Size:** To 27 cm (SL)

## *Diodon holocanthus* Linnaeus, 1758

**FAO names:** Longspined porcupinefish (En)
Porc-épine ballon (Fr)

**Local name(s):** Nga Pu Tinn Suu Shae.
**Habitat:** Juveniles pelagic, to about 6 to 9 cm; larger fish found in a variety of benthic habitats from shallow reefs to open, soft bottoms to at least 100 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** All body spines erectile (movable through at least 90°) and 2-rooted (except a few around gill opening or dorsal fin base); no spines entirely on caudal peduncle; no small downward-pointing spine below anterior margin of eye; 12–15 spines along ventral midline from lower jaw to anus; 12–16 spines from snout to dorsal base; a pair of short barbels on chin.
**Colour:** Back brown to grey white on belly; 6 large dark blotches on back and head; many small black spots on back and sides; blotch below eye coninues over interorbital; no spots on fins.

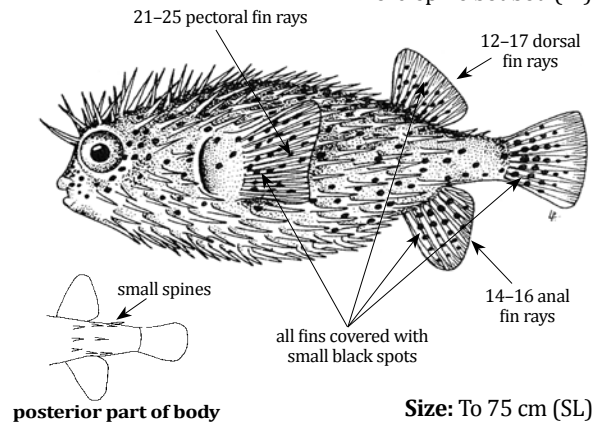



**Size:** To 30 cm (SL)

## *Diodon hystrix* Linnaeus, 1758

**FAO names:** Spot-fin porcupinefish (En)
Porc-épine boubou (Fr)

**Local name(s):** Nga Pu Tinn Suu Pyan Hmee Set Pyauk.
**Habitat:** Juveniles pelagic, to about 20 cm; larger fish on reefs to at least 50 m.
**Fisheries:** Bottom trawls, gillnets.
**Distinctive Characters:** Similar to *Diodon holocanthus* but one or more small spines entirely on caudal peduncle; higher dorsal, anal and pectoral ray fin counts; 14–19 spines along ventral midline from lower jaw to anus; 16–20 spines from snout to dorsal base; no barbels on chin.
**Colour:** Benthic stage grey to brown with back, sides and fins covered with small black spots; dark gutter band present; belly white, surrounded by dusky ring.

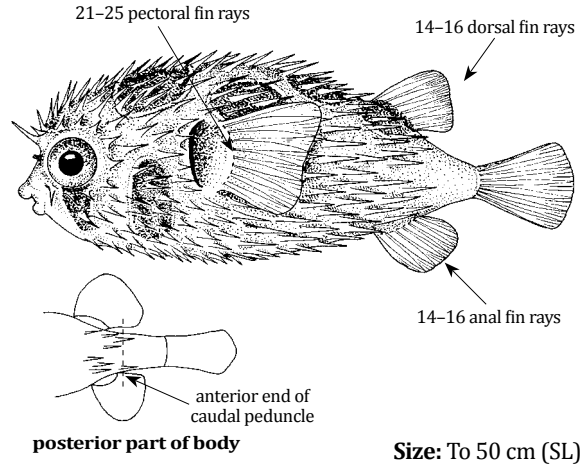



**Size:** To 75 cm (SL)

## *Diodon liturosus* Shaw, 1804

**FAO names:** Blackblotched porcupinefish (En)

**Local name(s):** Nga Pu Tinn Suu Pyan Me' Kywet.
**Habitat:** Coral reefs in depth from 1–90 m.
**Fisheries:** Gillnets.
**Distinctive Characters:** All body spines erectile (movable through at least 90°) and 2-rooted (except a few around gill opening or dorsal fin base); numerous, short erectile spines on head and body; spines on forehead much shorter than those behind pectoral fins, none entirely on caudal peduncle; small downward-pointing spine below anterior margin of eye; 17–22 spines from lower jaw to anus; 16–21 spines from snout to dorsal fin base.
**Colour:** Brown grading to white ventrally, with large white-edged, dark brown to black blotches below eye, on back, and on side.

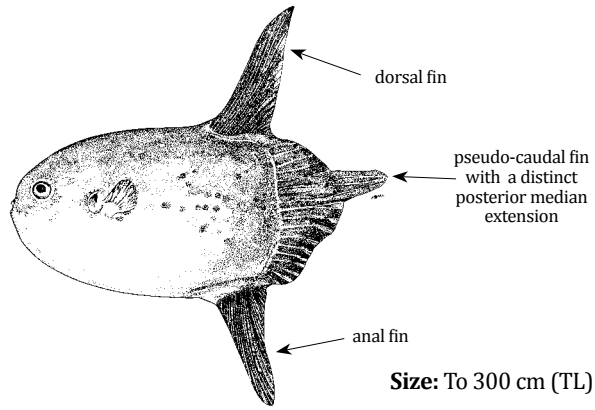



**Size:** To 50 cm (SL)

# MOLIDAE
Molas

## *Masturus lanceolatus* (Liénard, 1840)

**FAO names:** Point-tailed sunfish (En)

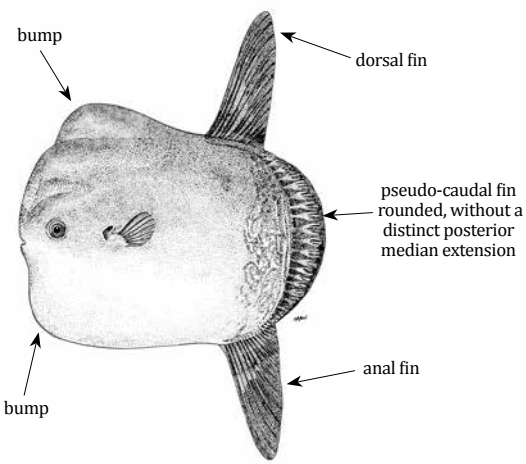



**Local name(s):** Nay Min Nga, Ta Paing Pyat Nga Hmee Chun.
**Habitat:** Oceanic, pelagic.
**Fisheries:** Drifnets.
**Distinctive Characters:** Body deep and compressed, its depth about 1.5 in length; midpart of pseudo-caudal fin (clavus) posteriorly projected (very long in juveniles, noticeably shorter in adults); lips not funnel-like, closing in roundish form; skin with rough texture; pectoral fin small and rounded, not fitting into shallow groove on side of body.
**Colour:** Grey to bluish grey.

**Size:** To 300 cm (TL)

## *Mola alexandrini* (Ranzani, 1839)

**FAO names:** Short ocean sunfish (En)

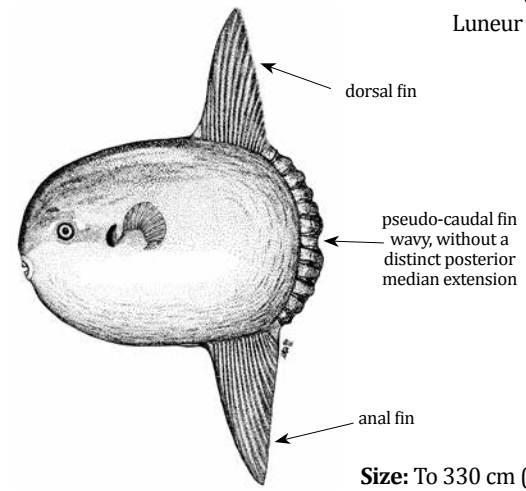



**Local name(s):** Nay Min Nga, Ta Paing Pyat Nga Hmee To.
**Habitat:** Oceanic, pelagic.
**Fisheries:** Drifnets.
**Distinctive Characters:** Body deep and compressed, its depth usually equal to length; lips not funnel-like, closing in roundish form; dorsal profile of head and chin with bump, more evident with age; skin with rough texture; pectoral fin small and rounded, not fitting into shallow groove on side of body; pseudo-caudal fin (clavus) rounded, supported by 14–17 fin rays, of which 8–15 bear ossicles; ossicles close together, much broader than spaces between them.
**Colour:** Brown to grey above, often with pale blotches; paler below.
**Remarks:** Previously known as *Mola ramsayi* (Giglioli, 1883) which is now regarded as a junior synonym.

**Size:** To 300 cm (TL)

## *Mola mola* (Linnaeus, 1758)

**FAO names:** Ocean sunfish (En)
Luneur (Fr)




**Local name(s):** Nay Min Nga, Ta Paing Pyat Nga Hmee Lone.
**Habitat:** Oceanic, pelagic.
**Fisheries:** Drifnets.
**Distinctive Characters:** Similar to *Mola alexandrini* but dorsal profile of head and chin without bump; pseudo-caudal fin (clavus) wavy, supported by 10–13 fin rays, of which 8 or 9 bear ossicles; ossicles widely separated, less broad than spaces between them.
**Colour:** Grey to dark grey on back; grey-brown or brownish green on sides, with silvery reflections and dusky below; sides sometimes with small light spots.

**Size:** To 330 cm (TL)

***Ranzania laevis*** (Pennant, 1776)

**FAO names:** Slender mola (En)
Ranzania (Fr)

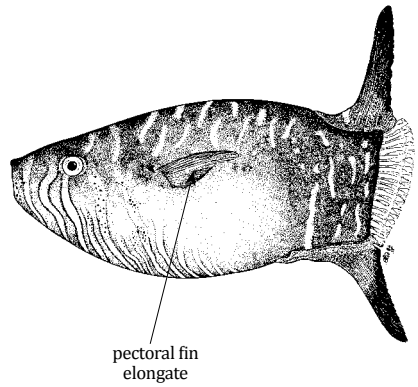
**Local name(s):** Nay Min Nga, Ta Paing Pyat Nga Lone Thway.

**Habitat:** Oceanic, epipelagi and generally solitary.

**Fisheries:** Drifnets.

**Distinctive Characters:** Body moderately deep, more or less oblong in lateral profile, body depth approximately 2 times in body length; lips funnel-like, closing as a vertical slit; skin smooth; pectoral fins elongate, fitting into shallow groove on side of body; pelvic fins absent.

**Colour:** Dorsal half of body dark blue; side and ventral parts of body brilliant silver with several blue, grey, brown or green darkish stripes and spots; series of dark stripes curving below and behind eye to ventral part of head and body.




**Size:** To 90 cm (TL)

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# Index of subfamilies, families and higher taxa


## A

**ACANTHEPHYRIDAE** . . . . . 27, 50
**ACANTHURIDAE** . . . . . 261, 558
**ACANTHURIFORMES** . . 249, 254, 260, 261, 265, 466
**ACANTHUROIDEI** . . . . . 260
**ACROPOMATIDAE** . . . . . 243, 380
**ACROPOMATIFORMES** . 243, 244, 246, 252–254, 256
**AETOBATIDAE** . . . . . 191, 213
**ALBULIDAE** . . . . . 222, 270
**ALBULIFORMES** . . . . . 222
**ALEPOCEPHALIDAE** . . . . . 227
**ALEPOCEPHALIFORMES** . . . . . 227
**ALOPIIDAE** . . . . . 157, 164
**AMBASSIDAE** . . . . . 243
**AMBLYOPINAE** . . . . . 259
**AMMODYTIDAE** . . . . . 257, 533
**ANACANTHOBATIDAE** . . . . . 189, 203
**ANCISTROCHEIRIDAE** . . . . . 131
**ANGUILLIDAE** . . . . . 225, 287
**ANGUILLIFORMES** . . . . . 223
**ANOPLOGASTRIDAE** . . . . . 236
**ANTENNARIIDAE** . . . . . 9, 233, 330
**ANTHIADINAE** . . . . . 244
**ANTIGONIIDAE** . . . . . 265
**APISTIDAE** . . . . . 240, 362
**APLOACTINIDAE** . . . . . 241, 366
**APOGONIDAE** . . . . . 8, 246, 404
**ARCIDAE** . . . . . 88, 91
**ARGENTINIDAE** . . . . . 227, 311
**ARGENTINIFORMES** . . . . . 227
**ARGONAUTIDAE** . . . . . 141
**ARIIDAE** . . . . . 9, 306
**ARIOMMATIDAE** . . . . . 264, 580
**ARISTEIDAE** . . . . . 25, 29
**ASPIDOCHIROTIDA** . . . . . 148
**ATELEOPODIDAE** . . . . . 229, 311
**ATELEOPODIFORMES** . . . . . 229
**ATHERINIDAE** . . . . . 235, 334
**ATHERINIFORMES** . . . . . 235
**AULOPIFORMES** . . . . . 229
**AULOSTOMIDAE** . . . . . 238, 355

## B

**BABYLONIIDAE** . . . . . 106, 117
**BALISTIDAE** . . . . . 268, 605
**BATHYCLUPEIDAE** . . . . . 253, 508
**BATRACHOIDIDAE** . . . . . 233, 328
**BATRACHOIDIFORMES** . . . . . 233
**BELONIDAE** . . . . . 235, 335
**BELONIFORMES** . . . . . 235
**BEMBRIDAE** . . . . . 241, 367
**BERYCIDAE** . . . . . 237, 349
**BERYCIFORMES** . . . . . 236
**BLENNIIDAE** . . . . . 258, 543
**BLENNIOIDEI** . . . . . 258
**BOTHIDAE** . . . . . 266, 587
**BRAMIDAE** . . . . . 249, 442
**BREGMACEROTIDAE** . . . . . 231, 320
**BUCCINIDAE** . . . . . 106

## C

**CAESIONIDAE** . . . . . 250, 458
**CALAPPIDAE** . . . . . 66, 70
**CALLANTHIIDAE** . . . . . 245, 399
**CALLIONYMIDAE** . . . . . 258, 544
**CALLIONYMOIDEI** . . . . . 258
**CAPROIDEI** . . . . . 265
**CAPROIDAE** . . . . . 265, 581
**CARANGIDAE** . . . . . 4, 248, 415
**CARAPIDAE** . . . . . 233, 327
**CARCHARHINIDAE** . . . . . 159, 173
**CARCHARHINIFORMES** . . . . . 158
**CARDIIDAE** . . . . . 90, 98
**CARIDEA** . . . . . 27
**CARPILIIDAE** . . . . . 67, 74
**CENTRARCHIFORMES** . . . . . 246, 253, 254
**CENTRISCIDAE** . . . . . 238, 356
**CENTROLOPHIDAE** . . . . . 264, 577
**CENTROPHORIDAE** . . . . . 155, 161
**CEPOLIDAE** . . . . . 255, 515
**CEPOLINAE** . . . . . 255
**CHAETODONTIDAE** . . . . . 254, 511
**CHAMPSODONTIDAE** . . . . . 256, 533
**CHANDIDAE** . . . . . 243
**CHANIDAE** . . . . . 226, 304
**CHAUNACIDAE** . . . . . 234, 330
**CHIMAERIDAE** . . . . . 217, 218
**CHIMAERIFORMES** . . . . . 217
**CHIROCENTRIDAE** . . . . . 225, 226, 302
**CHIROTEUTHIDAE** . . . . . 131
**CHLOROPHTHALMIDAE** . . . . . 229, 312
**CHTENOPTERYGIDAE** . . . . . 132
**CIRRHITIDAE** . . . . . 254
**CITHARIDAE** . . . . . 266, 582
**CLUPEIDAE** . . . . . 4, 225, 226, 288
**CLUPEIFORMES** . . . . . 225
**COLOCONGRIDAE** . . . . . 223, 276
**CONGRIDAE** . . . . . 224, 282
**CORBICULIDAE** . . . . . 90
**CORYPHAENIDAE** . . . . . 248, 435
**CRANCHIIDAE** . . . . . 133
**CYMODOCEACEAE** . . . . . 4
**CYNOGLOSSIDAE** . . . . . 267, 598
**CYPRAEIDAE** . . . . . 105, 112
**CYRENIDAE** . . . . . 90, 100
**CYTTOPSINAE** . . . . . 237

## D

**DACTYLOPTERIDAE** . . . . . 241, 366
**DASYATIDAE** . . . . . 184, 185, 190, 204
**DENDROBRANCHIATA** . . . . . 25
**DENDROCHIROTIDA** . . . . . 148
**DICERATIIDAE** . . . . . 234
**DIODONTIDAE** . . . . . 269, 625
**DIRETMIDAE** . . . . . 236, 348
**DRACONETTIDAE** . . . . . 258, 546

**DREPANEIDAE** . . . . . 253, 510
**DUSSUMIERIIDAE** . . . . . 226, 294

## E

**ECHENEIDAE** . . . . . 248, 415
**ECHINORHINIDAE** . . . . . 155, 160
**ECHINORHINIFORMES** . . . . . 155
**ELEOTRIDAE** . . . . . 259, 546
**ELOPIDAE** . . . . . 222, 270
**ELOPIFORMES** . . . . . 222
**EMMELICHTHYIDAE** . . . . . 249, 444
**ENGRAULIDAE** . . . . . 4, 225, 226, 295
**EPHIPPIDAE** . . . . . 260, 552
**EPIGONIDAE** . . . . . 246, 411
**EPINEPHELINAE** . . . . . 244
**ETMOPTERIDAE** . . . . . 156, 162
**EXOCOETIDAE** . . . . . 235, 341

## F

**FISTULARIIDAE** . . . . . 238, 356

## G

**GALEOCERDIDAE** . . . . . 178
**GADIFORMES** . . . . . 231
**GEMPYLIDAE** . . . . . 262, 566
**GERREIDAE** . . . . . 250, 463
**GINGLYMOSTOMATIDAE** . . . . . 158
**GLAUCOSTEGIDAE** . . . . . 187, 196
**GOBIIDAE** . . . . . 259, 546
**GOBIIFORMES** . . . . . 259
**GOBIINAE** . . . . . 259
**GOBIOIDEI** . . . . . 259
**GOBIONELLINAE** . . . . . 259
**GONORYNCHIFORMES** . . . . . 226
**GONOSTOMATIDAE** . . . . . 228
**GRAMMISTINAE** . . . . . 244
**GRAPSIDAE** . . . . . 69, 84
**GURGESIELLIDAE** . . . . . 189, 203
**GYMNURIDAE** . . . . . 190, 204

## H

**HAEMULIDAE** . . . . . 8, 251, 465
**HALOSAURIDAE** . . . . . 222
**HAPALOGENYIDAE** . . . . . 251
**HEMIGALEIDAE** . . . . . 159, 172
**HEMIRAMPHIDAE** . . . . . 235, 337
**HEMISCYLLIIDAE** . . . . . 157, 165
**HEXANCHIDAE** . . . . . 155, 160
**HEXATRYGONIDAE** . . . . . 189, 203
**HISTIOTEUTHIDAE** . . . . . 133
**HOLOCENTRIDAE** . . . . . 237, 349
**HOLOTHURIIDAE** . . . . . 149
**HOPLICHTHYIDAE** . . . . . 242, 372
**HOWELLIDAE** . . . . . 243, 379
**HYDROCHARITACEAE** . . . . . 4

## I

**INACHIDAE** . . . . . 67, 75
**IPNOPIDAE** . . . . . 229
**ISTIOPHORIDAE** . . . . . 264, 575
**ISTIOPHORIFORMES** . . . . . 263, 264

## K

**KURTIDAE** . . . . . 260, 552
**KURTIFORMES** . . . . . 260
**KURTOIDEI** . . . . . 260
**KYPHOSIDAE** . . . . . 253, 509

## L

**LABRIDAE** . . . . . 256, 522
**LABROIDEI** . . . . . 255
**LACTARIIDAE** . . . . . 247, 414
**LAMNIDAE** . . . . . 157, 164
**LAMNIFORMES** . . . . . 156
**LAMPRIFORMES** . . . . . 231
**LATIDAE** . . . . . 243, 379
**LEIOGNATHIDAE** . . . . . 249, 436
**LETHRINIDAE** . . . . . 251, 474
**LETHRININAE** . . . . . 251
**LINGULIDAE** . . . . . 144, 145
**LIOPROPOMATINAE** . . . . . 244
**LOBOTIDAE** . . . . . 250, 251, 462, 466
**LOLIGINIDAE** . . . . . 126
**LOPHIIDAE** . . . . . 233, 329
**LOPHIIFORMES** . . . . . 233
**LUCINIDAE** . . . . . 89, 97
**LUTJANIDAE** . . . . . 8, 250, 444
**LYSIOSQUILLIDAE** . . . . . 13

## M

**MACROURIDAE** . . . . . 232, 320
**MAJIDAE** . . . . . 67, 76
**MALACANTHIDAE** . . . . . 247, 413
**MALLEIDAE** . . . . . 89, 94
**MATUTIDAE** . . . . . 66, 73
**MEGALOPIDAE** . . . . . 222, 270
**MELANONIDAE** . . . . . 232
**MELONGENIDAE** . . . . . 106, 117
**MENIDAE** . . . . . 249, 435
**MOBULIDAE** . . . . . 192, 214
**MOLIDAE** . . . . . 269, 628
**MONACANTHIDAE** . . . . . 268, 610
**MONOCENTRIDAE** . . . . . 236, 347
**MONODACTYLIDAE** . . . . . 253, 511
**MONOTAXINAE** . . . . . 251
**MORIDAE** . . . . . 9, 232, 322
**MORINGUIDAE** . . . . . 225, 286
**MUGILIDAE** . . . . . 8, 255, 516
**MUGILOIDEI** . . . . . 255
**MULLIDAE** . . . . . 252, 500
**MURAENESOCIDAE** . . . . . 224, 279
**MURAENIDAE** . . . . . 223, 272
**MURICIDAE** . . . . . 105, 114
**MYCTOPHIDAE** . . . . . 4, 230, 317
**MYCTOPHIFORMES** . . . . . 230
**MYLIOBATIDAE** . . . . . 191, 212
**MYLIOBATIFORMES** . . . . . 189
**MYTILIDAE** . . . . . 88, 92

## N

**NARCINIDAE** 187, 198
**NARKIDAE** 188, 200
**NAUTILIDA** 118
**NAUTILIDAE** 120
**NEMICHTHYIDAE** 225, 286
**NEMIPTERIDAE** 251, 480
**NEOSCOPELIDAE** 230, 317
**NEPHROPIDAE** 56, 57
**NETTASTOMATIDAE** 224, 281
**NOMEIDAE** 264, 578
**NOTACANTHIDAE** 223
**NOTACANTHIFORMES** 222

## O

**OCTOPODA** 119
**OCTOPODIDAE** 137
**OCTOPOTEUTHIDAE** 134
**ODONTASPIDIDAE** 156, 163
**ODONTODACTYLIDAE** 13, 14
**OGCOCEPHALIDAE** 234, 331
**OMMASTREPHIDAE** 134
**ONEIRODIDAE** 234
**ONYCHOTEUTHIDAE** 136
**OPHICHTHIDAE** 224, 276
**OPHIDIIDAE** 232, 322
**OPHIDIIFORMES** 232
**OPISTOGNATHIDAE** 245, 400
**ORECTOLOBIFORMES** 157
**OREGONIIDAE** 68, 76
**OSTRACIIDAE** 269, 614
**OSTRACOBERYCIDAE** 244, 398
**OSTREIDAE** 87, 89, 96
**OXUDERCINAE** 259

## P

**PALAEMONIDAE** 28, 51
**PALINURIDAE** 55, 56, 58
**PANDALIDAE** 28, 53
**PANGASIIDAE** 227, 305
**PARALEPIDIDAE** 230
**PARALICHTHYIDAE** 266, 583
**PARAZENIDAE** 237
**PASIPHAEIDAE** 27, 50
**PEGASIDAE** 238, 355
**PEMPHERIDAE** 252, 507
**PENAEIDAE** 23, 25, 31
**PENTACEROTIDAE** 254, 515
**PENTANCHINAE** 158, 168
**PERCIFORMES** 243, 255, 256, 258–260, 262–265
**PERCOIDEI** 243
**PERCOPHIDAE** 257, 537
**PERISTEDIIDAE** 242, 370
**PHOSICHTHYIDAE** 228
**PILUMNIDAE** 68, 77
**PINGUIPEDIDAE** 257, 539
**PLATYCEPHALIDAE** 242, 373
**PLATYRHINIDAE** 187, 197
**PLECTROGENIIDAE** 241, 367
**PLEOCYEMATA** 27
**PLESIOBATIDAE** 190, 211
**PLESIOPIDAE** 245
**PLEURONECTIDAE** 266, 267
**PLEURONECTIFORMES** 265
**PLOTOSIDAE** 227, 305
**POECILOPSETTIDAE** 266, 593
**POLYMIXIIDAE** 231, 320
**POLYMIXIIFORMES** 231
**POLYNEMIDAE** 252, 496
**POMACANTHIDAE** 254, 513, 514
**POMACENTRIDAE** 255, 521
**POMATOMIDAE** 247, 414
**PORTUNIDAE** 65, 68, 77
**POTAMIDIDAE** 104, 109
**PRIACANTHIDAE** 246, 401
**PRISTIDAE** 186, 193
**PRISTIGASTERIDAE** 226, 303
**PROSCYLLIIDAE** 158, 169
**PSETTODIDAE** 265, 582
**PSEUDOCARCHARIIDAE** 156, 163
**PSEUDOCHROMIDAE** 245
**PTERELEOTRIDAE** 259
**PTERIIDAE** 88, 92

## R

**RACHYCENTRIDAE** 247, 414
**RAJIDAE** 184, 188, 201
**RAJIFORMES** 188
**RANINIDAE** 66, 70
**RHINCODONTIDAE** 158, 167
**RHINIDAE** 186, 194
**RHINOBATIDAE** 186, 195
**RHINOCHIMAERIDAE** 217, 218
**RHINOPRISTIFORMES** 186
**RHINOPTERIDAE** 191, 213

## S

**SAMARIDAE** 267, 593
**SCARIDAE** 255, 256, 528
**SCATOPHAGIDAE** 260, 553
**SCIAENIDAE** 252, 487
**SCOMBRIDAE** 4, 263, 569
**SCOMBRIFORMES** 262, 263, 264, 265
**SCOMBROIDEI** 262
**SCOMBROLABRACIDAE** 262, 563
**SCOMBROLABRACOIDEI** 262
**SCORPAENIDAE** 240, 241, 358
**SCORPAENIFORMES** 239
**SCYLIORHINIDAE** 158, 167
**SCYLLARIDAE** 55, 56, 63
**SEPIADARIIDAE** 126
**SEPIIDA** 118
**SEPIIDAE** 120
**SEPIOIDEA** 118
**SEPIOLIDAE** 125
**SERGESTIDAE** 26, 49
**SERRANIDAE** 8, 244, 381
**SERRANINAE** 244
**SESARMIDAE** 69, 85
**SETARCHIDAE** 239, 357
**SICYONIIDAE** 46
**SIGANIDAE** 261, 553
**SILLAGINIDAE** 247, 411

**SILURIFORMES** . . . . . 227
**SOLEIDAE** . . . . . 8, 267, 595
**SOLENOCERIDAE** . . . . . 26, 47
**SOMNIOSIDAE** . . . . . 156, 163
**SPARIDAE** . . . . . 251, 473
**SPHYRAENIDAE** . . . . . 262, 563
**SPHYRAENOIDEI** . . . . . 262
**SPHYRNIDAE** . . . . . 159, 182
**SPRATELLOIDIDAE** . . . . . 225
**SQUALIDAE** . . . . . 155, 161
**SQUALIFORMES** . . . . . 155
**SQUILLIDAE** . . . . . 13, 16
**STEGOSTOMATIDAE** . . . . . 157, 166
**STERNOPTYCHIDAE** . . . . . 228
**STICHOPODIDAE** . . . . . 152
**STOMIIDAE** . . . . . 228
**STOMIIFORMES** . . . . . 228
**STROMATEIDAE** . . . . . 265, 580
**STROMATEOIDEI** . . . . . 264
**STROMBIDAE** . . . . . 105, 110
**SYCYONIIDAE** . . . . . 26
**SYMPHYSANODONTIDAE** . . . . . 244, 398
**SYNAGROPIDAE** . . . . . 243
**SYNANCEIIDAE** . . . . . 240, 364
**SYNAPHOBRANCHIDAE** . . . . . 223, 271
**SYNBRANCHIDAE** . . . . . 239
**SYNBRANCHIFORMES** . . . . . 239
**SYNGNATHIDAE** . . . . . 239, 357
**SYNGNATHIFORMES** . . . . . 238, 241
**SYNODONTIDAE** . . . . . 230, 312

## T

**TEGULIDAE** . . . . . 104
**TERAPONTIDAE** . . . . . 246, 400
**TETRAODONTIDAE** . . . . . 269, 616
**TETRAODONTIFORMES** . . . . . 267
**TETRAROGIDAE** . . . . . 240, 363
**TEUTHIDA** . . . . . 119
**TEUTHOIDEA** . . . . . 119
**THYSANOTEUTHIDAE** . . . . . 136
**TORPEDINIDAE** . . . . . 185, 188, 201
**TORPEDINIFORMES** . . . . . 187
**TRACHICHTHYIDAE** . . . . . 236, 347
**TRACHICHTHYIFORMES** . . . . . 236
**TRACHINOIDEI** . . . . . 256
**TRACHIPTERIDAE** . . . . . 231, 319
**TRIACANTHIDAE** . . . . . 268, 604
**TRIACANTHODIDAE** . . . . . 267, 602
**TRIAKIDAE** . . . . . 159, 170
**TRICHIURIDAE** . . . . . 263, 567
**TRICHONOTIDAE** . . . . . 257, 536
**TRIDACNINAE** . . . . . 90, 98
**TRIGLIDAE** . . . . . *9*, 242, 368
**TROCHIDAE S.L.** . . . . . 104, 107
**TURBINIDAE** . . . . . 104, 108

## U

**URANOSCOPIDAE** . . . . . 257, 534

## V

**VARUNIDAE** . . . . . 69, 86
**VENERIDAE** . . . . . 90, 101

## X

**XIPHIIDAE** . . . . . 263, 575
**XIPHIOIDEI** . . . . . 263

## Z

**ZANCLIDAE** . . . . . 261, 557
**ZEIDAE** . . . . . 237, 354
**ZEIFORMES** . . . . . 237

# Index of scientific names

## A


*Abalistes filamentosus* . . . . . 605, 606
*Abalistes stellatus* . . . . . 606
*Ablabys macracanthus* . . . . . 363
*Ablabys taenianotus* . . . . . 363
*Ablennes hians* . . . . . 335
*Abudefduf bengalensis* . . . . . 521
*Abudefduf sordidus* . . . . . 521
*Abudefduf* spp. . . . . 521
*Abudefduf vaigiensis* . . . . . 521
*Acanthaphritis barbata* . . . . . 536
*Acanthephyra eximia* . . . . . 50
*Acanthephyra fimbriata* . . . . . 27
*Acanthocepola abbreviata* . . . . . 515
*Acanthocepola indica* . . . . . 515
*Acanthocybium solandri* . . . . . 263, 569
*Acanthopagrus berda* . . . . . 473
*Acanthurus* . . . . . 261
*Acanthurus dussumieri* . . . . . 558
*Acanthurus leucosternon* . . . . . 558
*Acanthurus lineatus* . . . . . 558
*Acanthurus mata* . . . . . 559
*Acanthurus nigricauda* . . . . . 559
*Acanthurus pyroferus* . . . . . 559, 560
*Acanthurus tennentii* . . . . . 560
*Acanthurus thompsoni* . . . . . 560
*Acanthurus tristis* . . . . . 560
*Acanthurus xanthopterus* . . . . . 561
*Acentrogobius cyanomos* . . . . . 546
*Acentrogobius* sp. . . . . 547
*Acetes indicus* . . . . . 49
*Acetes japonicus* . . . . . 49
*Acetes* spp. . . . . 6, 23
*Acreichthys tomentosus* . . . . . 610
*Acropoma* . . . . . 243
*Acropoma argentistigma* . . . . . 380
*Acropoma lacrima* . . . . . 380
*Acropoma splendens* . . . . . 380
*Acropora* . . . . . 512
*Actinopyga echinites* . . . . . 149
*Actinopyga lecanora* . . . . . 149
*Aesopia cornuta* . . . . . 595
*Aethaloperca rogaa* . . . . . 381
*Aetobatus flagellum* . . . . . 213
*Aetobatus ocellatus* . . . . . 213
*Aetomylaeus maculatus* . . . . . 212
*Aetomylaeus nichofii* . . . . . 212
*Aetomylaeus* spp. . . . . 212
*Aetomylaeus vespertilio* . . . . . 212
*Albula oligolepis* . . . . . 270
*Aldrovandia* . . . . . 222
*Alectis* . . . . . 248
*Alectis ciliaris* . . . . . 415
*Alectis indica* . . . . . 416
*Alepes djedaba* . . . . . 416
*Alepes kleini* . . . . . 416
*Alepes melanoptera* . . . . . 417
*Alepocephalus* . . . . . 227
*Allenbatrachus grunniens* . . . . . 328
*Allenbatrachus reticulatus* . . . . . 328
*Alopias pelagicus* . . . . . 164
*Alopias superciliosus* . . . . . 164
*Aluterus* . . . . . 268
*Aluterus monoceros* . . . . . 610
*Aluterus scriptus* . . . . . 610
*Amanses scopas* . . . . . 611
*Ambassis* cf. *nalua* . . . . . 243
*Amblygaster leiogaster* . . . . . 288
*Amblygaster sirm* . . . . . 288
*Amblyotrypauchen arctocephalus* . . . . . 547
*Ammodytoides* cf. *xanthops* . . . . . 533
*Ammodytoides xanthops* . . . . . 8
*Amphioctopus aegina* . . . . . 137, 138
*Amphioctopus marginatus* . . . . . 137
*Amphioctopus neglectus* . . . . . 138, 139
*Amphioctopus rex* . . . . . 138, 139
*Amphioctopus siamensis* . . . . . 139
*Anacanthus* . . . . . 268
*Anacanthus barbatus* . . . . . 611
*Anampses caeruleopunctatus* . . . . . 522
*Ancistrocheirus lesueurii* . . . . . 131
*Anguilla bengalensis* . . . . . 287
*Anguilla bengalensis bengalensis* . . . . . 287
*Anguilla bengalensis labiata* . . . . . 287
*Anguilla bicolor* . . . . . 287
*Anguilla bicolor bicolor* . . . . . 287
*Anguilla bicolor pacifica* . . . . . 287
*Anodontostoma chacunda* . . . . . 288, 289
*Anodontostoma thailandiae* . . . . . 289
*Anoplogaster cornuta* . . . . . 236
*Anoxypristis cuspidata* . . . . . 193
*Antennarius hispidus* . . . . . 330
*Antennatus nummifer* . . . . . 330
*Antigonia* . . . . . 265
*Antigonia indica* . . . . . 581
*Antigonia ovalis* . . . . . 581
*Antigonia* sp. . . . . 582
*Antigonia undulata* . . . . . 582
*Anyperodon leucogrammicus* . . . . . 382
*Aphareus furca* . . . . . 444
*Aphareus rutilans* . . . . . 444
*Apistus carinatus* . . . . . 362
*Apogonichthyoides* cf. *maculipinnis* . . . . . 559
*Apogonichthyoides enigmaticus* . . . . . 559
*Apogonichthyoides miniatus* . . . . . 8, 246
*Apogonichthyoides nigripinnis* . . . . . 404
*Apogonichthyoides sialis* . . . . . 404
*Apogon hyalosoma* . . . . . 8
*Apogon* sp. . . . . 404
*Apolemichthys xanthurus* . . . . . 513
*Aprion virescens* . . . . . 445
*Apristurus investigatoris* . . . . . 167, 168
*Apristurus macrostomus* . . . . . 168
*Argonauta argo* . . . . . 141
*Argonauta hians* . . . . . 142
*Argyropelecus aculeatus* . . . . . 228
*Ariomma indicum* . . . . . 580
*Ariosoma* cf. *gnanadossi* . . . . . 282
*Aristaeomorpha foliacea* . . . . . 29
*Aristeopsis edwardsiana* . . . . . 29
*Aristeus alcocki* . . . . . 30
*Aristeus mabahissae* . . . . . 30
*Aristeus virilis* . . . . . 31
*Arius arius* . . . . . 306
*Arius gagora* . . . . . 306
*Arius maculatus* . . . . . 306
*Arius subrostratus* . . . . . 307
*Arius venosus* . . . . . 307
*Arnoglossus japonicus* . . . . . 587, 588
*Arnoglossus macrolophus* . . . . . 587
*Arnoglossus yamanakai* . . . . . 588

*Arothron hispidus* 616
*Arothron immaculatus* 617
*Arothron manilensis* 617
*Arothron mappa* 617
*Arothron meleagris* 618
*Arothron nigropunctatus* 618
*Arothron stellatus* 618
*Aseraggodes cyaneus* 595
*Ashtoret lunaris* 73
*Asquamiceps* 227
*Astronesthes lamellosus* 228
*Astronesthes martensii* 228
*Ateleopus indicus* 311
*Atelomycterus marmoratus* 168
*Atherinomorus pinguis* 334
*Atrobucca antonbruun* 487
*Atropus atropos* 417
*Atule mate* 418
*Aulostomus chinensis* 355
*Aulotrachichthys* sp. 347
*Aurigequula fasciata* 436
*Aurigequula longispina* 436
*Austriella corrugata* 97
*Auxis* 263
*Auxis rochei* 569, 570
*Auxis thazard* 570
*Avicennia* 2
*Avocettina infans* 286

## B

*Babylonia areolata* 117
*Bahaba chaptis* 488
*Balistapus undulatus* 606
*Balistoides conspicillum* 606
*Balistoides viridescens* 607
*Bathyclupea hoskynii* 508
*Bathycongrus nasicus* 282
*Bathymyrus echinorhynchus* 282
*Bathypterois atricolor* 229
*Bathypterois guentheri* 229
*Bathytoshia lata* 204
*Bathyuroconger* cf. *vicinus* 283
*Batrachocephalus mino* 307
*Bembradium* 241
*Bembradium* cf. *magnoculum* 367
*Bembras andamanensis* 368
*Bembras leslieknappi* 368
*Bembras* spp. 368
*Bembrops* 537
*Bembrops caudimacula* 537, 538
*Bembrops platyrhynchus* 538
*Bembrops* sp. 538
*Benthobatis* cf. *yangi* 198
*Benthobatis moresbyi* 198
*Benthobatis yangi* 8
*Benthosema fibulatum* 317, 318
*Benthosema pterotum* 318
*Beryx long* 349
*Beryx splendens* 349
*Blachea xenobranchialis* 283
*Bleekeria mitsukurii* 533
*Bleekeria* sp. A 534
*Bleekeria* sp. B 534
*Bodianus* 256
*Bodianus leucostictus* 523
*Bodianus mesothorax* 523
*Bohadschia vitiensi* 150
*Boleophthalmus boddarti* 547
*Bolinichthys supralateralis* 318
*Bothus myriaster* 588
*Bothus pantherinus* 588
Brachiopods 143
*Brachirus annularis* 595
*Brachirus orientalis* 8
*Brachypleura novaezeelandiae* 582
*Brachypterois serrulifer* 358
*Brama dussumieri* 442
*Brama orcini* 443
*Brama pauciradiata* 443
*Brama* sp. 443
*Branchiostegus sawakinensis* 413
*Bregmaceros mcclellandi* 320
*Brevitrygon heterura* 205
*Brevitrygon imbricata* 205
*Bruguiera* 2
*Bufoceratias thele* 234
*Butis koilomatodon* 546
*Bythaelurus hispidus* 168

## C

*Caesio caerulaurea* 458
*Caesio cuning* 458
*Caesio lunaris* 459
*Caesio* spp. 458
*Caesio teres* 459
*Caesio xanthonota* 459
*Calappa bilineata* 70
*Calappa calappa* 71
*Calappa clypeata* 66
*Calappa exanthematosa* 71
*Calappa lophos* 72
*Calappa pustulosa* 72
*Callionymus carebares* 544
*Callionymus* cf. *gardineri* 544
*Callionymus kotthausi* 544
*Callionymus margaretae* 545
*Callionymus meridionalis* 545
*Callistoctopus ornatus* 139
*Cantherhines* 268
*Cantherhines dumerilii* 611, 612
*Cantherhines fronticinctus* 612
*Cantherhines pardalis* 612
*Canthidermis maculatus* 607
*Canthigaster papua* 619
*Canthigaster petersii* 619
*Canthigaster punctata* 619
*Canthigaster valentini* 620
*Carangoides armatus* 418
*Carangoides bajad* 418
*Carangoides chrysophrys* 419
*Carangoides coeruleopinnatus* 419
*Carangoides dinema* 419
*Carangoides equula* 420
*Carangoides ferdau* 420
*Carangoides fulvoguttatus* 420
*Carangoides gymnostethus* 421
*Carangoides hedlandensis* 421
*Carangoides malabaricus* 421
*Carangoides oblongus* 422
*Carangoides orthogrammus* 422
*Carangoides plagiotaenia* 422
*Carangoides praeustus* 423
*Carangoides talamparoides* 423
*Caranx* 248
*Caranx heberi* 423
*Caranx ignobilis* 424
*Caranx lugubris* 424
*Caranx melampygus* 424

*Caranx sexfasciatus* 425
*Caranx tille* 425
*Carcharhinus albimarginatus* 173
*Carcharhinus altimus* 173
*Carcharhinus amblyrhynchoides* 174
*Carcharhinus amblyrhynchos* 174
*Carcharhinus amboinensis* 174
*Carcharhinus brevipinna* 175
*Carcharhinus dussumieri* 175
*Carcharhinus falciformis* 175
*Carcharhinus leucas* 176
*Carcharhinus limbatus* 176
*Carcharhinus longimanus* 176
*Carcharhinus macloti* 177
*Carcharhinus melanopterus* 177
*Carcharhinus plumbeus* 177
*Carcharhinus sealei* 178
*Carcharhinus sorrah* 178
*Carcharias taurus* 163
*Carinosquilla spinosa* 16
*Carpilius convexus* 74
*Carpilius maculatus* 74, 75
*Catenella* 2
*Centriscus scutatus* 356
*Centroberyx druzhinini* 349
*Centrodraco ornatus* 546
*Centrophorus granulosus* 161, 162
*Centrophorus moluccensis* 162
*Centrophorus uyato* 162
*Centropyge* 559
*Centropyge flavipectoralis* 514
*Centroscyllium ornatum* 162
*Cephalopholis argus* 382
*Cephalopholis boenak* 382
*Cephalopholis formosa* 383
*Cephalopholis microprion* 383
*Cephalopholis miniata* 383
*Cephalopholis polyspila* 384
*Cephalopholis sonnerati* 384
*Cephalopsetta ventrocellata* 583, 585
*Cephaloscyllium* cf. *silasi* 169
*Cephaloscyllium silasi* 8
*Cerithidea obtusa* 109
*Chaenogaleus macrostoma* 172
*Chaetodon andamanensis* 511
*Chaetodon collare* 511
*Chaetodon triangulum* 512
*Chaetodon xanthocephalus* 512
*Champsodon longipinnis* 533
*Chanos chanos* 304
*Charybdis* 6
*Charybdis annulata* 77
*Charybdis feriatus* 78
*Charybdis hellerii* 78
*Charybdis natator* 79
*Charybdis riversandersoni* 79
*Chascanopsetta lugubris* 589
*Chauliodus sloanei* 228
*Chaunax aff. nebulosus* 331
*Chaunax apus* 330, 331
*Chaunax fimbriatus* 331
*Chaunax multilepis* 331
*Chaunax nebulosus* 331
*Cheilinus chlorourus* 523
*Cheilopogon abei* 341
*Cheilopogon cyanopterus* 341
*Cheilopogon furcatus* 341
*Cheilopogon intermedius* 342
*Cheilopogon spilonotopterus* 342
*Cheilopogon spilopterus* 342
*Cheilopogon suttoni* 343
*Chelidoperca investigatoris* 384
*Chelidoperca* cf. *occipitalis* 385
*Chelidoperca* sp. A 385
*Chelidoperca* sp. B 386
*Chelidoperca stella* 385
*Chelon macrolepis* 516
*Chelon melinopterus* 516
*Chelonodontops alvheimi* 621
*Chelonodontops alvheimi* 620
*Chelonodontops leopardus* 620
*Chelonodontops patoca* 621
*Chelon parsia* 517
*Chelon planiceps* 517
*Chelon subviridis* 517
*Chicoreus brunneus* 114
*Chicoreus ramosus* 115
*Chicoreus torrefactus* 115
*Chilomycterus reticulatus* 625
*Chiloscyllium burmensis* 165
*Chiloscyllium griseum* 165
*Chiloscyllium hasseltii* 165
*Chiloscyllium indicum* 166
*Chiloscyllium punctatum* 166
*Chimaera* sp. 218
*Chirocentrus dorab* 302
*Chirocentrus nudus* 302
*Chiroteuthis veranyi* 131
*Chlorophthalmus acutifrons* 312
*Chlorophthalmus corniger* 312
*Chlorurus bleekeri* 528, 529
*Chlorurus capistratoides* 528
*Chlorurus strongylocephalus* 529
*Chlorurus troschelii* 529
*Choerodon* 256
*Choerodon robustus* 524
*Chonerhinos naritus* 621
*Chriodorus* 235
*Chrionema chryseres* 8, 538
*Chromis gunting* 522
*Chromis* cf. *gunting* 522
*Chrysochir aureus* 488
*Chtenopteryx sicula* 132
*Cirrhitus pinnulatus* 254
*Cistopus* cf. *indicus* 140
*Cloridopsis scorpio* 16
*Clorurus sordidus* 529
*Clupanodon thrissa* 289
*Cociella punctata* 373
*Cociella* sp. 373
*Coelophrys micropus* 331
*Coelorinchus* cf. *mycterismus* 321
*Coelorinchus flabellispinis* 320
*Coilia dussumieri* 295
*Coilia neglecta* 295
*Coilia ramcarati* 295
*Coilia reynaldi* 295
*Coilia* spp. 295
*Coloconger raniceps* 276
*Conger cinereus* 283
*Congresox talabanoides* 279
*Congresox talabon* 279
*Congresox talabonoides* 279
*'Congromuraena'* 284
*'Congromuraena' musteliceps* 284
*Cookeolus japonicus* 401
*Coris batuensis* 524
*Corythoichthys* 239
*Coryphaena equiselis* 435
*Coryphaena hippurus* 435
*Coryphaenoides macrolophus* 321
*Crassostrea belcheri* 96

*Crenidens macracanthus* 473
*Crenimugil crenilabis* 518
*Cromileptes altivelis* 386
*Crossorhombus azureus* 589
*Cruriraja andamanica* 203
*Ctenacis* cf. *fehlmanni* 169
*Ctenochaetus binotatus* 561
*Ctenochaetus striatus* 561
*Cubiceps kotlyari* 578
*Cubiceps pauciradiatus* 578
*Cubiceps whiteleggii* 578
*Cyclichthys orbicularis* 626
*Cyclichthys spilostylus* 626
*Cymodocea rotundata* 3, 4
*Cymodocea serrulata* 3
*Cynoglossus arel* 598
*Cynoglossus bilineatus* 600
*Cynoglossus carpenteri* 598
*Cynoglossus cynoglossus* 599
*Cynoglossus kopsii* 599
*Cynoglossus lingua* 599
*Cynoglossus monopus* 600
*Cynoglossus puncticeps* 600
*Cynoglossus quadrilineatus* 600
*Cynoglossus* sp. 601
*Cynoglossus* spp. 6
*Cypraea tigris* 112
*Cypselurus naresii* 343
*Cypselurus oligolepis* 343
*Cypselurus opisthopus* 344
*Cypselurus poecilopterus* 344
*Cyttopsis* 237
*Cyttopsis rosea* 354

## D

*Dactyloptena macracantha* 366
*Dactyloptena orientalis* 367
*Dagetichthys albomaculatus* 596
*Dagetichthys commersonnii* 596
*Dasyscopelus brachygnathos* 230
*Daysciaena albida* 488
*Decapterus* 248, 426, 427
*Decapterus akaadsi* 425, 427
*Decapterus kurroides* 426
*Decapterus macarellus* 426
*Decapterus macrosoma* 426
*Decapterus muroadsi* 427
*Decapterus russelli* 427
*Decapterus smithvanizi* 427
*Decodon pacificus* 8, 524
*Dendrochirus zebra* 358
*Dendrophysa russelii* 489
*Deveximentum hanedai* 436
*Deveximentum insidiator* 437
*Deveximentum megalolepis* 437
*Diagramma melanacrum* 465
*Diagramma picta* 466
*Diagramma* spp. 465
*Diaphus regani* 230
*Diaphus thiollierei* 230
*Diaphus watasei* 230
*Diceratias bispinosus* 234
*Dicrolene aff. mesogramma* 323
*Dicrolene aff. nigricaudis* 323
*Dicrolene mesogramma* 323
*Dicrolene nigricaudis* 323
*Dicrolene* sp. 323
*Dictyosquilla foveolata* 17
*Diodon eydouxii* 626
*Diodon holocanthus* 627
*Diodon hystrix* 627
*Diodon liturosus* 627
*Diploprion bifasciatum* 386
*Dipterygonotus balteatus* 460
*Dipturus johannisdavisi* 201
*Dipturus* sp. 202
*Diretmichthys parini* 348
*Dolomena variabilis* 110
*Drepane longimana* 510
*Drepane punctata* 510
*Dugong dugon* 3
*Dussumieria acuta* 294
*Dussumieria elopsoides* 294
*Dysomma bucephalus* 271
*Dysomma muciparus* 271
*Dysommina* sp. 271

## E

*Ebosia falcata* 358
*Echeneis naucrates* 415
*Echidna nebulosa* 272
*Echinorhinus brucus* 8, 160
*Echinorhinus* cf. *brucus* 160
*Egglestonichthys melanoptera* 548
*Elagatis bipinnulata* 428
*Elates ransonnettii* 373
*Eleutheronema tetradactylum* 496, 497
*Eleutheronema tridactylum* 497
*Ellochelon vaigiensis* 518
*Elops machnata* 270
*Encephaloides armstrongi* 75
*Encrasicholina heteroloba* 296
*Encrasicholina punctifer* 296
*Engyprosopon grandisquama* 589, 590
*Engyprosopon maldivense* 590
*Enhalus acoroides* 3, 4
*Entermopha* 2
*Ephippus orbis* 552
*Epigonus thai* 411
*Epinephelus* 7
*Epinephelus amblycephalus* 387
*Epinephelus areolatus* 387
*Epinephelus bleekeri* 387
*Epinephelus chlorostigma* 388
*Epinephelus coeruleopunctatus* 388
*Epinephelus coioides* 388
*Epinephelus diacanthus* 389
*Epinephelus epistictus* 389
*Epinephelus erythrurus* 389
*Epinephelus fasciatus* 390
*Epinephelus faveatus* 390
*Epinephelus fuscoguttatus* 390
*Epinephelus heniochus* 391
*Epinephelus lanceolatus* 391
*Epinephelus latifasciatus* 391
*Epinephelus malabaricus* 392
*Epinephelus merra* 392
*Epinephelus multinotatus* 392
*Epinephelus ongus* 393
*Epinephelus quoyanus* 393
*Epinephelus radiatus* 393
*Epinephelus rivulatus* 394
*Epinephelus sexfasciatus* 394
*Epinephelus* spp. 5
*Epinephelus tauvina* 394
*Epinephelus undulosus* 395
*Episesarma* 85
*Episesarma chentongense* 85

*Episesarma palawanense* . . . 85
*Episesarma singaporense* . . . 85
*Episesarma versicolor* . . . 85
*Equulites elongatus* . . . 437
*Equulites leuciscus* . . . 438
*Equulites oblongus* . . . 438
*Eridacnis radcliffei* . . . 169
*Erisphex aniarus* . . . 8, 366
*Erisphex* cf. *aniarus* . . . 366
*Erugosquilla woodmasoni* . . . 17
*Erythrocles schlegelii* . . . 444
*Escualosa thoracata* . . . 289
*Etelis* . . . 250, 445
*Etelis carbunculus* . . . 445
*Etelis coruscans* . . . 445
*Etelis radiosus* . . . 446
*Eubleekeria jonesi* . . . 438
*Euleptorhamphus viridis* . . . 337
*Eupleurogrammus glossodon* . . . 567, 568
*Eupleurogrammus muticus* . . . 568
*Euprymna* cf. *morsei* . . . 125
*Eusphyra blochii* . . . 182
*Euthynnus affinis* . . . 570
*Exocoetus monocirrhu* . . . 344
*Exocoetus volitans* . . . 345
*Exopalaemon styliferus* . . . 51

## F

*Facciolella* sp. . . . 281
*Filimanus similis* . . . 497
*Filimanus xanthonema* . . . 497
*Fistularia commersonii* . . . 356
*Fistularia petimba* . . . 356

## G

*Galene bispinosa* . . . 77
*Galeocerdo cuvier* . . . 178
*Gavialiceps taeniola* . . . 284
*Gephyroberyx* sp. . . . 347
*Gerres erythrourus* . . . 463
*Gerres filamentosus* . . . 463
*Gerres longirostris* . . . 463
*Gerres macracanthus* . . . 464
*Gerres oblongus* . . . 464
*Gerres oyena* . . . 464
*Gerres phaiya* . . . 465
*Glaucostegus granulatus* . . . 196
*Glaucostegus obtusus* . . . 196
*Glaucostegus thouin* . . . 197
*Glaucostegus typus* . . . 197
*Glossanodon* sp. . . . 311
*Glossogobius giuris* . . . 548
*Glyphis gangeticus* . . . 179
*Glyphis siamensis* . . . 179
*Glyptophidium argenteum* . . . 323
*Gnathanodon speciosus* . . . 428
*Gnathodentex aurolineatus* . . . 474
Gobiinae sp. . . . 548
*Grammatobothus polyophthalmus* . . . 590
*Grammatonotus* sp. . . . 399
*Grammatorcynus bilineatus* . . . 570
*Grammoplites knappi* . . . 374
*Grammoplites scaber* . . . 374
*Grapsus albolineatus* . . . 84
*Grapsus tenuicrustatus* . . . 85
*Grimalditeuthis bonplandi* . . . 132
*Gymnocaesio gymnoptera* . . . 460
*Gymnocranius elongatus* . . . 474
*Gymnocranius grandoculis* . . . 475
*Gymnocranius griseus* . . . 475
*Gymnocranius microdon* . . . 475
*Gymnocranius robinsoni* . . . 475
*Gymnosarda unicolor* . . . 571
*Gymnothorax* cf. *sokotrensis* . . . 274
*Gymnothorax fimbriatus* . . . 272
*Gymnothorax flavimarginatus* . . . 273
*Gymnothorax isingteena* . . . 273
*Gymnothorax javanicus* . . . 273
*Gymnothorax minor* . . . 274
*Gymnothorax reticularis* . . . 274
*Gymnothorax thyrsoideus* . . . 275
*Gymnothorax tile* . . . 223
*Gymnura poecilura* . . . 204
*Gymnura zonura* . . . 204

## H

*Halichoeres* . . . 256
*Halichoeres argus* . . . 525
*Halichoeres bicolor* . . . 525
*Halichoeres leucoxanthus* . . . 525
*Halichoeres timorensis* . . . 526
*Halicmetus* cf. *ruber* . . . 332
*Halieutaea coccinea* . . . 332
*Halieutaea fumosa* . . . 332
*Halieutaea indica* . . . 333
*Halieutaea* sp. . . . 333
*Halimochirurgus* . . . 267
*Halimochirurgus centriscoides* . . . 602
*Haliporus taprobanensis* . . . 47
*Halodule pinifolia* . . . 3, 4
*Halodule uninervis* . . . 3, 4
*Halophila beccarii* . . . 3
*Halophila decipiens* . . . 3
*Halophila minor* . . . 4
*Halophila ovalis* . . . 3, 4
*Hapalogenys* . . . 466, 251
*Hapalogenys bengalensis* . . . 466
*Hapalogenys filamentosus* . . . 466
*Hapalogenys merguiensis* . . . 466
*Harpadon nehereus* . . . 312
*Harpadon nudus* . . . 313
*Harpadon* sp. . . . 313
*Harpadon* spp. . . . 312
*Harpadon squamosus* . . . 313
*Harpago chiragra* . . . 110
*Harpiosquilla* . . . 19
*Harpiosquilla annandalei* . . . 18
*Harpiosquilla harpax* . . . 18
*Harpiosquilla melanoura* . . . 19
*Harpiosquilla raphidea* . . . 19
*Hemiarius sona* . . . 308
*Hemiarius sumatranus* . . . 308
*Hemigaleus microstoma* . . . 172
*Hemigymnus fasciatus* . . . 526
*Hemipristis elongata* . . . 172
*Hemiramphus* . . . 338
*Hemiramphus archipelagicus* . . . 337
*Hemiramphus far* . . . 338
*Hemiramphus lutkei* . . . 338
*Hemiramphus* spp. . . . 337, 338
*Heniochus acuminatus* . . . 512, 513
*Heniochus diphreutes* . . . 513
*Heptranchias perlo* . . . 160
*Herklotsichthys quadrimaculatus* . . . 290
*Heterocarpus chani* . . . 53
*Heterocarpus sibogae* . . . 53
*Heterocarpus woodmasoni* . . . 54

*Heteromycteris oculus* 596
*Hexanchus griseus* 160
*Hexanematichthys sagor* 308
*Hexatrygon bickelli* 203
*Himantura leoparda* 205, 206
*Himantura uarnak* 206
*Himantura undulata* 206
*Hippocampus kuda* 357
*Hippocampus* 239
*Hippopus* 87
*Hippopus hippopus* 98
*Hirundichthys oxycephalus* 345
*Hirundichthys speculiger* 345
*Histiopterus typus* 515
*Histioteuthis hoylei* 133
*Holothuria lessoni* 6, 150
*Holothuria scabra* 6, 6
*Holothuria scabra var. versicolor* 150
*Holothuria spinifera* 151
*Holoturia (Metriatyla) lessoni* 146
*Holoturia (Metriatyla)scabra* 146
*Hoplichthys gregoryi* 372
*Hoplostethus druzhinini* 8, 348
*Hoplostethus shubnikovi* 348
*Howella* cf. *brodiei* 379
*Hydrolagus africanus* 8, 218
*Hydrolagus* cf. *africanus* 218
*Hypopleuron caninum* 324
*Hyporhamphus* 338
*Hyporhamphus affinis* 338, 339
*Hyporhamphus balinensis* 339
*Hyporhamphus dussumieri* 339, 340
*Hyporhamphus limbatus* 339
*Hyporhamphus quoyi* 340
*Hyporhamphus* spp. 339

## I

*Iago garricki* 170
*Iago omanensis* 170, 171
*Iago* sp. *A* 171
*Ibacus novemdentatus* 63
*Ichthyscopus lebeck* 534
*Ilisha megaloptera* 303
*Ilisha melastoma* 303
*Ilishas* 226, 303
*Ilisha sirishai* 303
*Inegocia japonica* 374
*Iniistius* 256
*Iniistius bimaculatus* 526
*Iniistius pavo* 527
*Inimicus* 364
*Inimicus cuvieri* 364
*Inimicus sinensis* 364
*Istigobius diadema* 259
*Istiompax indica* 575
*Istiophorus* 264
*Istiophorus platypterus* 576
*Isurus oxyrinchus* 164

## J

*Jaydia novaeguineae* 405
*Jaydia poeciloptera* 405
*Jaydia queketti* 405
*Jaydia smithi* 406
*Jaydia striata* 406
*Jaydia truncata* 406
*Jenkinsia* 225
*Johnius amblycephalus* 489–492
*Johnius belangerii* 489
*Johnius borneensis* 490, 491
*Johnius carouna* 490
*Johnius carutta* 490
*Johnius coitor* 491
*Johnius dussumieri* 491
*Johnius macropterus* 491
*Johnius macrorhynus* 492
*Johnius plagiostoma* 492
*Johnius* spp. 490

## K

*Kajikia audax* 576
*Karalla daura* 439
*Karalla dusssumieri* 440
*Katsuwonus pelamis* 571
*Kempella stridulans* 20
*Ketengus typus* 309
*Kumococius rodericensis* 375
*Kurtus indicus* 552
*Kyphosus bigibbus* 509
*Kyphosus cinerascens* 509
*Kyphosus vaigiensis* 510

## L

*Labeo rohita* 5
*Lactarius lactarius* 414
*Lactoria cornuta* 614
*Lactoria diaphana* 614
*Laeops clarus* 8
*Laeops guentheri* 590, 591
*Laeops kitaharae* 591
*Laeops macrophthalmus* 591
*Laevistrombus canarium* 111
*Lagocephalus cheesemanii* 621
*Lagocephalus guentheri* 622, 623
*Lagocephalus inermis* 622
*Lagocephalus lagocephalus* 622
*Lagocephalus lunaris* 623
*Lagocephalus spadiceus* 623
*Lagocephalus suezensis* 623
*Lambis lambis* 111
*Lamiopsis* 159
*Lamiopsis temminckii* 179
*Lampadena luminosa* 318
*Lampanyctus* cf. *nobilis* 319
*Lamprogrammus fragilis* 324
*Lates calcarifer* 5, 379
*Leiognathus equula* 440
*Lepidamia natalensis* 562
*Lepidotrigla longipinnis* 368
*Lepidotrigla omanensis* 8, 369
*Lepidotrigla psolokerkos* 369
*Lepidotrigla* spp. 368
*Leptojulis chrysotaenia* 527
*Leptomelanosoma indicum* 6, 498
*Lepturacanthus savala* 6, 568, 569
*Lestidiops mirabilis* 230
*Lestrolepis intermedius* 230
*Lestrolepis japonica* 230
*Lethrinus* 7, 251
*Lethrinus atkinsoni* 476
*Lethrinus erythropterus* 476
*Lethrinus harak* 476
*Lethrinus lentjan* 477
*Lethrinus microdon* 477
*Lethrinus nebulosus* 477
*Lethrinus obsoletus* 478

*Lethrinus olivaceus* 478
*Lethrinus ornatus* 478
*Lethrinus rubrioperculatus* 479
*Lethrinus* spp. 476
*Lingula anatina* 6, 145
*Linuparus somniosus* 55, 58
*Liocranchia reinhardti* 133
*Lipocheilus carnolabrum* 446
*Lobotes surinamensis* 462
*Loliolus (Loliolus) hardwickei* 126
*Loliolus (Nipponololigo) beka* 127
*Lophiodes mutilus* 329
*Lophiodes triradiatus* 329
*Lophiomus setigerus* 329
*Loxodon macrorhinus* 179
*Lutjanus* 7, 250
*Lutjanus argentimaculatus* 446
*Lutjanus bengalensis* 447
*Lutjanus biguttatus* 447
*Lutjanus bohar* 447
*Lutjanus carponotatus* 448
*Lutjanus decussatus* 448
*Lutjanus ehrenbergii* 448
*Lutjanus erythropterus* 449
*Lutjanus fulviflamma* 449
*Lutjanus fulvus* 449
*Lutjanus gibbus* 450
*Lutjanus indicus* 450
*Lutjanus johnii* 450
*Lutjanus kasmira* 451
*Lutjanus lemniscatus* 451
*Lutjanus lunulatus* 451
*Lutjanus lutjanus* 452
*Lutjanus madras* 452
*Lutjanus malabaricus* 452
*Lutjanus monostigma* 453
*Lutjanus quinquelineatus* 453
*Lutjanus rivulatus* 453
*Lutjanus sebae* 454
*Lutjanus* spp. 446
*Lutjanus timorensis* 454
*Lutjanus vitta* 454
*Lyncina vitellus* 112
*Lysiosquillina maculata* 15

## M

*Macolor niger* 455
*Macrobrachium* 28
*Macrobrachium equidens* 51
*Macrobrachium lar* 51
*Macrobrachium malcolmsonii* 52
*Macrobrachium rosenbergii* 52
*Macrorhamphosodes* 267
*Macrorhamphosodes platycheilus* 602
*Maculabatis gerrardi* 206
*Maculabatis pastinacoides* 207
*Magnisudis indica* 230
*Makaira* 264
*Makaira mazara* 576
*Makaira nigricans* 576
*Malacanthus brevirostris* 413
*Malacanthus latovittatus* 413
*Malacocephalus laevis* 321
*Malleus albus* 94
*Malleus malleus* 95
*Malleus regula* 95
*Malthopsis* cf. *annulifera* 333
*Malthopsis gigas* 334
*Malthopsis* cf. *lutea* 334
*Mancinella alouina* 116
*Marcia opima* 101
*Marleyella bicolorata* 593
*Masturus lanceolatus* 628
*Matuta planipes* 73
*Matuta victor* 74
*Mauritia eglantina* 113
*Mauritia mauritiana* 113
*Megalaspis cordyla* 428
*Megalops cyprinoides* 270
*Megatrygon microps* 207
*Megokris sedili* 31
*Melanonus zugmayeri* 232
*Melanostomias* sp. 228
*Melichthys indicus* 607
*Mene maculata* 435
*Mephisto albomaculosus* 602
*Mephisto fraserbrunneri* 602, 603
*Meretrix meretrix* 102
*Metanephrops andamanicus* 55, 57
*Metapenaeopsis* 24
*Metapenaeopsis barbata* 25
*Metapenaeopsis menoui* 25
*Metapenaeopsis palmensis* 32
*Metapenaeopsis sinica* 32
*Metapenaeopsis stridulans* 33
*Metapenaeus* 24, 33
*Metapenaeus affinis* 33
*Metapenaeus brevicornis* 34
*Metapenaeus dobsoni* 34
*Metapenaeus ensis* 35
*Metapenaeus lysianassa* 35
*Metapenaeus monoceros* 36
*Metapenaeus tenuipes* 36
*Minous* 365
*Minous coccineus* 365
*Minous inermis* 365
*Minous monodactylus* 365
*Minous radiatus* 366
*Miyakella nepa* 20
*Mobula alfredi* 214
*Mobula birostris* 214
*Mobula kuhlii* 215
*Mobula mobular* 215
*Mobula* spp. 7
*Mobula tarapacana* 215
*Mobula thurstoni* 216
*Mola alexandrini* 628
*Mola mola* 628
*Mola ramsayi* 628
*Monocentris japonica* 347
*Monodactylus argenteus* 511
*Monomia gladiator* 80
*Monomitopus* sp. 324
*Monopterus cuchia* 239
*Monotaxis grandoculis* 479
*Moolgarda* 518
*Moolgarda cunnesius* 518, 520
*Moolgarda engeli* 519
*Moolgarda pedaraki* 519
*Moolgarda perusii* 519
*Moolgarda seheli* 520
*Moolgarda speigleri* 520
*Moringua raitaborua* 286
*Moringua* sp. 286
*Mugil cephalus* 520
*Mulloidichthys* 500
*Mulloidichthys ayliffe* 500, 501
*Mulloidichthys flavolineatus* 501
*Mulloidichthys vanicolensis* 501
*Muraenesox bagio* 280

*Muraenesox cinereus* 280
*Murex ternispina* 116
*Mustelus mosis* 8, 171
*Mustelus stevensi* 171
*Myripristis botche* 350
*Myripristis hexagona* 350
*Myripristis murdjan* 350
*Myripristis* spp. 349

## N

*Narcine atzi* 198
*Narcine brevilabiata* 199, 200
*Narcine lingula* 199
*Narcine maculata* 199
*Narcine* sp. 200
*Narcine* spp. 198
*Narcine timlei* 200
*Narke dipterygia* 200
*Naso* 261
*Naso annulatus* 562
*Naso unicornis* 562
*Naucrates ductor* 429
*Nautilus pompilius* 120
*Nebrius ferrugineus* 167
*Neenchelys buitendijki* 276
*Neenchelys cheni* 276
*Neenchelys* spp. 276
*Negaprion* 159
*Negaprion acutidens* 180
*Nemapteryx nenga* 309
*Nematalosa galathae* 291
*Nematalosa galatheae* 290
*Nematalosa nasus* 291
*Nematopalaemon* 28
*Nematopalaemon tenuipes* 52
*Nemichthys scolopaceus* 287
*Nemipterus* 251
*Nemipterus bipunctatus* 480
*Nemipterus furcosus* 480
*Nemipterus hexodon* 480
*Nemipterus japonicus* 481
*Nemipterus marginatus* 481
*Nemipterus nematophorus* 481
*Nemipterus peronii* 482
*Nemipterus randalli* 482
*Nemipterus zysron* 482
*Neobathyclupea melanoptera* 509
*Neobythites* aff. *pallidus* 325
*Neobythites alcocki* 325
*Neobythites andamanensis* 325
*Neobythites pallidus* 325
*Neobythites steatiticus* 326
*Neocentropogon affinis* 363
*Neoepinnula* 262
*Neoepinnula orientalis* 566
*Neoharriotta pinnata* 218
*Neomerinthe erostris* 359
*Neomerinthe* spp. 359
*Neoniphon opercularis* 351
*Neoniphon sammara* 351
*Neoniphon* spp. 351
*Neoscopelus 'microchir'* 317
*Neoscopelus microchir* 8
*Neotrygon caeruleopunctata* 207
*Nephropsis carpenteri* 57, 58
*Nephropsis stewarti* 58
*Nesiarchus nasutus* 262, 566
*Nettastoma solitarium* 281
*Netuma bilineata* 309
*Netuma thalassina* 310
*Nibea maculata* 492
*Nibea soldado* 493
*Nomeus gronovii* 579
*Notacanthus* 223
*Nototodarus hawaiiensis* 134
*Nuchequula blochii* 440
*Nuchequula gerreoides* 441
*Nuchequula longicornis* 8, 441
*Nuchequula* spp. 440

## O

*Obliquogobius cometes* 549
*Octopus* 118
*Octopus* cf. *vulgaris* 141
*'Octopus' cyanea* 140
*Odontanthias rhodopeplus* 395
*Odontodactylus cultrifer* 14
*Odontodactylus japonicus* 14
*Odontodactylus scyllarus* 15
*Odonus niger* 608
*Oneirodes* 234
*Onigocia macrolepis* 375
*Onychoteuthis banksii* 136
*Ophichthus cephalozona* 277
*Ophichthus lithinus* 277
*Ophichthus naga* 277
*Ophichthus nansen* 278
*Ophidion* 326
*Ophidion* sp. 326
*Opisthopterus tardoore* 304
*Opistognathus rosenbergii* 400
*Oplophorus gracilirostris* 27
*Oratosquillina interrupta* 21
*Oratosquillina nordica* 21
*Oratosquillina perpensa* 22
*Orbiraja powelli* 202
*Ornithoteuthis volatilis* 135
*Osteogeneiosus militaris* 310
*Ostichthys acanthorhinus* 351
*Ostichthys convexus* 352
*Ostichthys daniela* 352
*Ostichthys japonicus* 352
*Ostorhinchus apogonoides* 407
*Ostorhinchus bryx* 407
*Ostorhinchus cookii* 407
*Ostorhinchus cyanosoma* 408
*Ostorhinchus fleurieu* 408
*Ostorhinchus fukuii* 409
*Ostorhinchus gularis* 409
*Ostorhinchus nigrocincta* 409
*Ostorhinchus pleuron* 409
*Ostorhinchus quadrifasciatus* 410
*Ostracion cubicus* 614
*Ostracion meleagris* 615
*Ostracion nasus* 615
*Ostracion rhinorhynchos* 615
*Ostracoberyx dorygenys* 398
*Otolithes cuvieri* 493
*Otolithes ruber* 6, 493
*Otolithoides biauritus* 494
*Otolithoides pama* 494
*Owstonia nudibucca* 516
*Oxymonacanthus* 268
*Oxymonacanthus longirostris* 612
*Oxyporhamphus* 235
*Oxyporhamphus convexus* 340
*Oxyurichthys* cf. *auchenolepis* 549

# P


*Palinurus* . . . 6
*Palinustus waguensis* . . . 55, 59
*Pampus argenteus* . . . 580, 581
*Pampus candidus* . . . 580
*Pampus chinensis* . . . 581
*Pampus* spp. . . . 6
*Pangasius* cf. *pangasius* . . . 305
*Panna heterolepis* . . . 494
*Panulirus* . . . 55
*Panulirus homarus* . . . 55, 59
*Panulirus longipes* . . . 60
*Panulirus ornatus* . . . 55, 60, 62
*Panulirus penicillatus* . . . 61
*Panulirus polyphagus* . . . 55, 61
*Panulirus versicolor* . . . 55, 62
*Parabathymyrus* sp. . . . 284
*Paracaesio xanthura* . . . 455
*Parachaeturichthys polynema* . . . 549
*Paragaleus longicaudatus* . . . 173
*Paramaja gibba* . . . 76
*Parambassis* cf. *rang* . . . 243
*Paramonacanthus pusillus* . . . 613
*Paramonacanthus tricuspis* . . . 613
*Paranibea* cf. *semiluctuosa* . . . 495
*Paranibea semiluctuosa* . . . 8
*Parapenaeopsis* . . . 24, 25
*Parapenaeopsis (Alcockpenaeopsis) hungerfordii* . . . 37
*Parapenaeopsis (Batepenaeopsis) tenella* . . . 37
*Parapenaeopsis (Ganjampenaeopsis) uncta* . . . 38
*Parapenaeopsis (Kishinouyepenaeopsis) cornuta* . . . 38
*Parapenaeopsis (Mierspenaeopsis) hardwickii* . . . 39
*Parapenaeopsis (Mierspenaeopsis) sculptilis* . . . 40
*Parapenaeopsis (Parapenaeopsis) coromandelica* . . . 40
*Parapenaeopsis (Parapenaeopsis) stylifera* . . . 40
*Parapenaeus longipes* . . . 41
*Parapeneopsis (Kishinouyepenaeopsis) maxillipedo* . . . 39
*Parapercis alboguttata* . . . 539
*Parapercis bimacula* . . . 539
*Parapercis caudopellucida* . . . 539
*Parapercis clathrata* . . . 539
*Parapercis filamentosa* . . . 540
*Parapercis hexophtalma* . . . 540
*Parapercis millepunctata* . . . 540
*Parapercis ommatura* . . . 541
*Parapercis rubricaudalis* . . . 541
*Parapercis snyderi* . . . 541
*Parapercis* sp. 1 . . . 542
*Parapercis* sp. 2 . . . 543
*Parapercis* sp. 3 . . . 543
*Parapercis striolata* . . . 543
*Parapercis tetracantha* . . . 542
*Parapercis xanthozona* . . . 542
*Paraplagusia bilineata* . . . 601
*Paraplagusia bleekeri* . . . 601
*Parapriacanthus* sp. . . . 507
*Parapterois heterura* . . . 359
*Parascolopsis* . . . 251
*Parascolopsis aspinosa* . . . 483
*Parascolopsis* aff. *qantasi* . . . 484
*Parascolopsis eriomma* . . . 483
*Parascolopsis inermis* . . . 483
*Parascolopsis quantasi* . . . 484
*Parascolopsis* sp. . . . 484
*Parascombrops glossodon* . . . 380, 381
*Parascombrops* sp. . . . 381
*Parascorpaena* . . . 359
*Parascorpaena picta* . . . 359
*Parastromateus niger* . . . 429
*Paratrypauchen microcephalus* . . . 550
*Pardachirus pavoninus* . . . 597
*Parexocoetus brachypterus* . . . 346
*Parexocoetus mento* . . . 346
*Parupeneus* spp. . . . 501
*Parupeneus barberinus* . . . 501
*Parupeneus chrysopleuron* . . . 502
*Parupeneus cyclostomus* . . . 502
*Parupeneus heptacanthus* . . . 502, 503
*Parupeneus indicus* . . . 503
*Parupeneus jansenii* . . . 503
*Parupeneus macronemus* . . . 503
*Parupeneus pleurostigma* . . . 504
*Parupeneus trifasciatus* . . . 504
*Pasiphaea unispinosa* . . . 50
*Pastinachus ater* . . . 208
*Pateobatis bleekeri* . . . 208
*Pateobatis fai* . . . 208
*Pateobatis jenkinsii* . . . 209
*Pegasus volitans* . . . 355
*Pegophysema philippiana* . . . 97
*Pelates quadrilineatus* . . . 400
*Pellona ditchela* . . . 304
*Pempheris flavicycla* . . . 507, 508
*Pempheris malabarica* . . . 508
*Pempheris vanicolensis* . . . 508
*Penaeus* . . . 24, 25
*Penaeus (Fenneropenaeus) indicus* . . . 41
*Penaeus (Fenneropenaeus) merguiensis* . . . 42
*Penaeus (Fenneropenaeus) penicillatus* . . . 42
*Penaeus (Marsupenaeus) japonicus* . . . 43
*Penaeus (Marsupenaeus) pulchricaudatus* . . . 8, 43
*Penaeus (Melicertus) canaliculatus* . . . 43
*Penaeus (Melicertus) latisulcatus* . . . 44
*Penaeus (Melicertus) longistylus* . . . 44
*Penaeus (Penaeus) monodon* . . . 45
*Penaeus (Penaeus) semisulcatus* . . . 45
*Penaeus semisulcatus* . . . 4
*Pennahia anea* . . . 495
*Pennahia ovata* . . . 495
*Pentaprion longimanus* . . . 465
*Peristedion* . . . 242, 370
*Peristedion liorhynchus* . . . 370
*Perna viridis* . . . 92
*Perulibatrachus* cf. *aquilonarius* . . . 328
*Photolateralis stercorarius* . . . 441
*Photonectes* sp. . . . 228
*Photopectoralis aureus* . . . 442
*Photopectoralis bindus* . . . 442
*Physalia* . . . 579
*Physiculus* . . . 9
*Physiculus roseus* . . . 322
*Pinctada* . . . 87
*Pinctada margaritifera* . . . 92
*Pinctada maxima* . . . 5, 93
*Pinctada radiata* . . . 93
*Pinjalo* . . . 250
*Pinjalo lewisi* . . . 455
*Pinjalo pinjalo* . . . 456
*Pirenella cingulata* . . . 109
*Pisodonophis boro* . . . 278
*Pisodonophis cancrivorus* . . . 278
*Platax* . . . 260
*Platax orbicularis* . . . 552
*Platax teira* . . . 553
*Platybelone argalus* . . . 335
*Platycéphale indien* . . . 375
*Platycephalus* . . . 375
*Platycephalus indicus* . . . 375
*Platyrhina psomadakisi* . . . 197
*Plectorhinchus albovittatus* . . . 467

*Plectorhinchus ceylonensis* 467
*Plectorhinchus chaetodonoides* 467
*Plectorhinchus flavomaculatus* 468
*Plectorhinchus gibbosus* 468
*Plectorhinchus lineatus* 468
*Plectorhinchus macrospilus* 469
*Plectorhinchus picus* 469
*Plectorhinchus* spp. 467
*Plectorhinchus unicolor* 469
*Plectorhinchus vittatus* 470
*Plectranchias* sp. 1 395
*Plectranchias* sp. 2 396
*Plectrogenium nanum* 367
*Plectropomus* 7
*Plectropomus pessuliferus* 396
*Pleistacantha pungens* 76
*Plesiobatis daviesi* 211
*Plesionika quasigrandis* 54
*Plesionika semilaevis* 28
*Plesiops auritus* 245
*Plicofollis dussumieri* 310
*Plicofollis platystomus* 311
*Plotosus canius* 305
*Plotosus lineatus* 305
*Plotosus* spp. 305
*Podophthalmus vigil* 80
*Poecilopsetta colorata* 593
*Pogonoperca punctata* 8
*Polydactylus microstoma* 498, 499
*Polydactylus plebeius* 498
*Polydactylus sexfilis* 499
*Polydactylus sextarius* 499
*Polydactylus siamensis* 499
*Polyipnus indicus* 228
*Polymetme corythaeola* 228
*Polymixia fusca* 320
*Polynemus melanochir* 500
*Polynemus paradiseus* 500
*Pomacanthus annularis* 514
*Pomacanthus imperator* 514
*Pomadasys* 251
*Pomadasys andamanensis* 470
*Pomadasys argenteus* 470
*Pomadasys argyreus* 471
*Pomadasys furcatu* 471
*Pomadasys guoraca* 8
*Pomadasys kaakan* 471
*Pomadasys maculatus* 472
*Pomadasys olivaceus* 472
*Pomadasys* spp. 470
*Pomadasys trifasciatus* 472
*Pomadasys unimaculatus* 473
*Pomatomus saltatrix* 414
*Portunus* 6
*Portunus pelagicus* 81, 82
*Portunus reticulatus* 82
*Portunus sanguinolentus* 81
*Priacanthus blochii* 401
*Priacanthus hamrur* 402
*Priacanthus macracanthus* 402
*Priacanthus prolixus* 402
*Priacanthus sagittarius* 403
*Priacanthus tayenus* 403
*Prionace glauca* 180
*Pristiapogon fraenatus* 410
*Pristigenys refulgens* 403
*Pristipomoides auricilla* 456
*Pristipomoides filamentosus* 456
*Pristipomoides multidens* 457
*Pristipomoides sieboldii* 457
*Pristipomoides typus* 457
*Pristipomoides zonatus* 458
*Pristis clavata* 193
*Pristis pristis* 193
*Pristis zijsron* 194
*Pristotis obtusirostris* 522
*Prognichthys brevipinnis* 346
*Proscyllium magnificum* 170
*Protonibea diacantha* 496
*Psammoperca waigiensis* 379
*Psenes arafurensis* 579
*Psenes cyanophrys* 579
*Psenes pellucidus* 580
*Psenopsis cyanea* 577
*Psenopsis obscura* 577
*Psettina profunda* 591, 592
*Psettina variegata* 592
*Psettodes erumei* 582
*Pseudanthias emma* 396
*Pseudanthias gibbosus* 397
*Pseudanthias pillai* 397
*Pseudanthias rubrizonatus* 397
*Pseudapocryptes elongatus* 550
*Pseudobalistes flavimarginatus* 608
*Pseudobalistes fuscus* 608
*Pseudochromis andamanensis* 245
*Pseudochromis caudalis* 245
*Pseudorhombus argus* 583
*Pseudorhombus arsius* 583
*Pseudorhombus cinnamoneus* 584
*Pseudorhombus dupliciocellatus* 584
*Pseudorhombus elevatus* 584
*Pseudorhombus javanicus* 585
*Pseudorhombus malayanus* 585
*Pseudorhombus megalops* 585
*Pseudorhombus natalensis* 586
*Pseudorhombus neglectus* 586
*Pseudorhombus quinquocellatus* 586
*Pseudorhombus triocellatus* 587
*Pseudotriacanthus strigilifer* 604
*Ptereleotris* 259
*Ptereleotris microlepis* 259
*Pteria* 87
*Pteria penguin* 94
*Pterocaesio chrysozona* 460
*Pterocaesio marri* 461
*Pterocaesio pisang* 461
*Pterocaesio randalli* 461
*Pterocaesio* spp. 460
*Pterocaesio tessellata* 462
*Pterocaesio tile* 462
*Pterois antennata* 360
*Pterois miles* 360
*Pterois russelii* 360
*Pteroplatytrygon violacea* 209
*Pteropsaron indicum* 537
*Pterotolithus maculatus* 496
*Pterygotrigla* 242, 369, 370
*Pterygotrigla cf. arabica* 369, 370
*Pterygotrigla hemisticta* 370
*Pterygotrigla macrorhynchus* 370
*Puelurus sewelli* 55, 62
*Pycnocraspedum* cf. *squamipinne* 326
*Pycnocraspedum squamipinne* 326
*Pyramodon ventralis* 327

## R

*Rachycentron canadum* 414
*Raconda russeliana* 304
*Rajella* sp. 202

*Ranina ranina* . . . . . 6, 70
*Ranzania laevis* . . . . . 629
*Rastrelliger brachysoma* . . . . . 571
*Rastrelliger faughni* . . . . . 572
*Rastrelliger kanagurta* . . . . . 572
*Rastrellinger brachysoma* . . . . . 572
*Rastrellinger kanagurta* . . . . . 6
*Remora remora* . . . . . 415
*Rexea bengalensis* . . . . . 567
*Rhabdamia gracilis* . . . . . 246
*Rhabdamia gracilis* . . . . . 8
*Rhabdosargus sarba* . . . . . 474
*Rhina ancylostoma* . . . . . 194
*Rhincodon typus* . . . . . 7, 157, 167
*Rhinecanthus rectangulus* . . . . . 609
*Rhinobatos annandalei* . . . . . 195
*Rhinobatos lionotus* . . . . . 195
*Rhinobatos ranongensis* . . . . . 196
*Rhinomugil corsula* . . . . . 8
*Rhinoptera javanica* . . . . . 213, 214
*Rhinoptera jayakari* . . . . . 214
*Rhizophora* . . . . . 2
*Rhizoprionodon acutus* . . . . . 180
*Rhizoprionodon oligolinx* . . . . . 181
*Rhynchobatus* . . . . . 186
*Rhynchobatus australiae* . . . . . 194
*Rhynchobatus laevis* . . . . . 195
*Rhynchoconger squaliceps* . . . . . 285
*Rhynchorhamphus georgii* . . . . . 340
*Roa jayakari* . . . . . 513
*Rochia nilotica* . . . . . 107
*Rogadius melanopterus* . . . . . 376
*Rogadius pristiger* . . . . . 376
*Rogadius serratus* . . . . . 376
*Rogadius tuberculatus* . . . . . 377
*Ruvettus pretiosus* . . . . . 262, 567

## S

*Saccostrea cuccullata* . . . . . 96
*Sacura sanguinea* . . . . . 398
*Samaris cristatus* . . . . . 267, 593, 594
*Samariscus huysmani* . . . . . 594
*Samariscus maculatus* . . . . . 594
*Samaris macrolepis* . . . . . 594
*Sarda orientalis* . . . . . 572
*Sardinella albella* . . . . . 291
*Sardinella brachysoma* . . . . . 291
*Sardinella daniva* . . . . . 288
*Sardinella fimbriata* . . . . . 292
*Sardinella gibbosa* . . . . . 292
*Sardinella lemuru* . . . . . 292
*Sardinella melanura* . . . . . 293
*Sardinella* spp. . . . . 293
*Sargocentron caudimaculatum* . . . . . 353
*Sargocentron diadema* . . . . . 353
*Sargocentron melanospilos* . . . . . 353
*Sargocentron praslin* . . . . . 354
*Sargocentron spiniferum* . . . . . 354
*Sargocentron* spp. . . . . 353
*Satyrichthys laticeps* . . . . . 371
*Satyrichthys milleri* . . . . . 371
*Saurenchelys* sp. . . . . 281
*Saurida lessepsianus* . . . . . 313
*Saurida longimanus* . . . . . 314
*Saurida micropectoralis* . . . . . 314
*Saurida* spp. . . . . 313
*Saurida tumbil* . . . . . 314
*Saurida undosquamis* . . . . . 314
*Sauromuraenesox vorax* . . . . . 280
*Scalicus investigatoris* . . . . . 371, 372
*Scalicus orientalis* . . . . . 372
*Scalicus serrulatus* . . . . . 372
*Scarus caudofasciatus* . . . . . 530
*Scarus frenatus* . . . . . 530
*Scarus ghobban* . . . . . 530
*Scarus maculipinna* . . . . . 531
*Scarus niger* . . . . . 531
*Scarus quoyi* . . . . . 531
*Scarus rubroviolaceus* . . . . . 532
*Scarus russelii* . . . . . 532
*Scarus viridifucatus* . . . . . 532
*Scatophagus argus* . . . . . 553
*Scoliodon* cf. *laticaudus* . . . . . 181
*Scoliodon laticaudus* . . . . . 8
*Scolopsis* . . . . . 251
*Scolopsis affinis* . . . . . 484
*Scolopsis bilineata* . . . . . 485
*Scolopsis ciliata* . . . . . 485
*Scolopsis margaritifera* . . . . . 485
*Scolopsis monogramma* . . . . . 486
*Scolopsis* sp. B . . . . . 486
*Scolopsis taenioptera* . . . . . 486
*Scolopsis vosmeri* . . . . . 486, 487
*Scolopsis xenochrous* . . . . . 487
*Scomber* . . . . . 263
*Scomberoides* . . . . . 248
*Scomberoides commersonnianus* . . . . . 429
*Scomberoides lysan* . . . . . 430
*Scomberoides tala* . . . . . 430
*Scomberoides tol* . . . . . 430
*Scomberomorus* . . . . . 263, 573
*Scomberomorus commerson* . . . . . 573, 574
*Scomberomorus guttatus* . . . . . 573
*Scomberomorus guttatus* . . . . . 573, 574
*Scomberomorus koreanus* . . . . . 573
*Scomberomorus lineolatus* . . . . . 574
*Scombrolabrax heterolepis* . . . . . 563
*Scorpaenopsis neglecta* . . . . . 361
*Scorpaenopsis obtusa* . . . . . 361
*Scorpaenopsis oxycephala* . . . . . 361
*Scorpaenopsis possi* . . . . . 362
*Scorpaenopsis ramaraoi* . . . . . 362
*Scylla olivacea* . . . . . 65, 82
*Scylla serrata* . . . . . 65, 82, 83
*Scylla* spp. . . . . 4, 5, 83
*Scylla tranquebarica* . . . . . 83
*Selar boop* . . . . . 431
*Selar crumenophthalmus* . . . . . 431
*Selaroides leptolepis* . . . . . 431
*Sepia aculeata* . . . . . 120
*Sepia brevimana* . . . . . 121
*Sepiadarium kochii* . . . . . 126
*Sépia inerme* . . . . . 125
*Sepia kobiensis* . . . . . 121
*Sepia latimanus* . . . . . 122
*Sepia lycidas* . . . . . 122
*Sepia pharaonis* . . . . . 123
*Sepia prashadi* . . . . . 123
*Sepia recurvirostra* . . . . . 124
*Sepia stellifera* . . . . . 124
*Sepiella inermis* . . . . . 125
*Sepioteuthis lessoniana* . . . . . 127
*Seriolina nigrofasciata* . . . . . 432
*Setarches guentheri* . . . . . 357
*Setarches longimanus* . . . . . 357
*Setipinna* . . . . . 296
*Setipinna breviceps* . . . . . 296
*Setipinna taty* . . . . . 296
*Setipinna tenuifilis* . . . . . 297
*Setipinna wheeleri* . . . . . 297

*Sicyonia parajaponica* . . . 46
*Siganus argenteus* . . . 553
*Siganus canaliculatus* . . . 554
*Siganus corallinus* . . . 554
*Siganus fuscescens* . . . 554
*Siganus guttatus* . . . 555
*Siganus javus* . . . 555
*Siganus puelloides* . . . 555
*Siganus spinus* . . . 556
*Siganus* spp. . . . 553
*Siganus stellatus* . . . 556
*Siganus sutor* . . . 556
*Siganus vermiculatus* . . . 557
*Siganus virgatus* . . . 557
*Sigmops elongatus* . . . 228
*Sillaginopodys chondropus* . . . 411
*Sillaginopsis domina* . . . 411
*Sillago aeolus* . . . 412
*Sillago ingenuua* . . . 412
*Sillago sihama* . . . 412
*Sinobatis andamanensis* . . . 203
*Siphamia tubifer* . . . 8, 246
*Sirembo jerdoni* . . . 327
*Snyderina guentheri* . . . 364
*Solenocera choprai* . . . 47
*Solenocera crassicornis* . . . 48
*Solenocera halli* . . . 48
*Sonneratia* . . . 2
*Sphagemacrurus richardi* . . . 322
*Sphoeroides pachygaster* . . . 624
*Sphyraena barracuda* . . . 564
*Sphyraena forsteri* . . . 564
*Sphyraena jello* . . . 564, 566
*Sphyraena obtusata* . . . 565
*Sphyraena pinguis* . . . 565
*Sphyraena putnamae* . . . 565, 566
*Sphyraena qenie* . . . 566
*Sphyrna lewini* . . . 182
*Sphyrna mokarran* . . . 182
*Sphyrna zygaena* . . . 183
*Spottobrotula mahodadi* . . . 327
*Spratelloides* . . . 225
*Spratelloides delicatulus* . . . 293
*Spratelloides gracilis* . . . 293
*Squilloides leptosquilla* . . . 22
*Stegostoma fasciatum* . . . 166
*Stegostoma tigrinum* . . . 166
*Stemonosudis rothschildi* . . . 230
*Sthenoteuthis oualaniensis* . . . 135
*Stichopus chloronotus* . . . 152
*Stichopus herrmanni* . . . 152
*Stichopus horrens* . . . 153
*Stichopus variegatus* . . . 152
*Stolephorus andhraensis* . . . 297
*Stolephorus baganensis* . . . 297
*Stolephorus baweanensis* . . . 8
*Stolephorus commersonnii* . . . 298
*Stolephorus indicus* . . . 298
*Stolephorus insularis* . . . 298
*Stolephorus waitei* . . . 299
*Strongylura leiura* . . . 335
*Strongylura strongylura* . . . 336
*Strophidon sathete* . . . 275
*Sudis hyalina* . . . 230
*Sufflamen bursa* . . . 609
*Sufflamen chrysopterum* . . . 609
*Suggrundus macracanthus* . . . 377
*Sunagocia carbunculus* . . . 377
*Sunagocia otaitensis* . . . 378
*Symbolophorus evermanni* . . . 319
*Symphysanodon* cf. *katayamai* . . . 398
*Symphysanodon* cf. *maunaloae* . . . 399
*Symphysanodon* cf. *xanthopterygion* . . . 399
*Synagrops aff. japonicus* . . . 381
*Synaphobranchus affinis* . . . 272
*Synchiropus* cf. *altivelis* . . . 545
*Synodus* cf. *randalli* . . . 316
*Synodus dermatogenys* . . . 314
*Synodus hoshinonis* . . . 315
*Synodus indicus* . . . 315
*Synodus jaculum* . . . 315
*Synodus macrops* . . . 316
*Synodus randalli* . . . 8
*Synodus* spp. . . . 314
*Synodus variegatus* . . . 316
*Syringodium isotoefolium* . . . 3, 4

## T

*Taeniamia fucata* . . . 410
*Taenioides nigrimarginatus* . . . 550
*Taeniura lymma* . . . 209
*Taeniurops meyeni* . . . 210
*Takifugu oblongus* . . . 624
*Talismania* . . . 227
*Talparia talpa* . . . 114
*Taningia danae* . . . 134
*Taractichthys steindachneri* . . . 443
*Tectus pyramis* . . . 107
*Tegillarca granosa* . . . 91
*Tegillarca nodifera* . . . 91
*Telatrygon crozieri* . . . 210
*Temera* cf. *hardwickii* . . . 201
*Tentoriceps cristatus* . . . 568
*Tenualosa ilisha* . . . 6, 293
*Tenualosa toli* . . . 294
*Terapon jarbua* . . . 400
*Terapon theraps* . . . 401
*Tetrapturus* . . . 264
*Tetrapturus angustirostris* . . . 577
*Tetronarce* aff. *formosa* . . . 201
*Tetrosomus concatenatus* . . . 616
*Tetrosomus gibbosus* . . . 616
*Thalassia hemprichii* . . . 4
*Thalassina* . . . 2
*Thalassoma* . . . 256
*Thalassoma lunare* . . . 527
*Thamnaconus multilineatus* . . . 613
*Thelenota ananas* . . . 153
*Thenus* . . . 6, 55
*Thenus* cf. *parindicus* . . . 64
*Thenus indicus* . . . 55, 63, 64
*Thenus orientalis* . . . 63
*Thenus parindicus* . . . 64
*Thryssa* . . . 299–302
*Thryssa baelama* . . . 299
*Thryssa dussumieri* . . . 299
*Thryssa hamiltonii* . . . 300
*Thryssa kammalensis* . . . 300
*Thryssa mystax* . . . 300
*Thryssa setirostris* . . . 301
*Thryssa spinidens* . . . 301
*Thryssa stenosoma* . . . 301
*Thryssa vitrirostris* . . . 302
*Thryssina* . . . 299–302
*Thunnus* . . . 263, 574
*Thunnus albacares* . . . 574, 575
*Thunnus obesus* . . . 574
*Thunnus tonggol* . . . 575
*Thysanophrys celebica* . . . 378
*Thysanophrys chiltonae* . . . 378

*Torquigener brevipinnis* 625
*Torquigener brevipinnis* 624
*Torquigener florealis* 625
*Tosarhombus longimanus* 592
*Tosarhombus nielseni* 592
*Trachinocephalus myops* 317
*Trachinocephalus trachinus* 317
*Trachinotus* 248
*Trachinotus africanus* 432
*Trachinotus baillonii* 433
*Trachinotus blochii* 433
*Trachinotus botla* 433
*Trachinotus* spp. 432
*Trachipterus* cf. *trachypterus* 319
*Trachysalambria aspera* 46
*Triacanthodes ethiops* 603
*Triacanthus biaculeatus* 604
*Triacanthus nieuhofii* 604
*Triaenodon* 159
*Triaenodon obesus* 181
*Trichiurus lepturus* 6, 569
*Trichonotus* cf. *setiger* 537
*Trichonotus setiger* 8
*Tridacna* 87
*Tridacna gigas* 98
*Tridacna maxima* 99
*Tridacna squamosa* 99
*Triplophos hemingi* 228
*Tripodichthys oxycephalus* 605
*Tripterodon* 260
*Trixiphichthys weberi* 605
*Trypauchen pelaeos* 551
*Trypauchen vagina* 551
*Turbo argyrostomus* 108
*Turbo marmoratus* 108
*Tydemania navigatoris* 603
*Tylerius spinosissimus* 625
*Tylosurus acus* 336
*Tylosurus acus melanotus* 336
*Tylosurus crocodilus* 336
*Tylosurus crocodilus crocodilus* 336

## U

*Ulua mentalis* 434
*Ulva* 2
*Upeneus* spp. 504
*Upeneus guttatus* 504
*Upeneus margarethae* 505
*Upeneus moluccensis* 505
*Upeneus sulphureus* 505
*Upeneus sundaicus* 506
*Upeneus supravittatus* 506
*Upeneus tragula* 506
*Upeneus vittatus* 507
*Uranoscopus affinis* 535
*Uranoscopus cognatus* 535
*Uranoscopus kaianus* 535
*Uranoscopus oligolepis* 536
*Uraspis helvola* 434
*Uraspis uraspis* 434
*Uroconger* cf. *lepturus* 285
*Urogymnus asperrimus* 210
*Urogymnus granulatus* 211
*Urogymnus polylepis* 211
*Uropterygius xanthopterus* 275
*Uroteuthis (Photololigo) chinensis* 128
*Uroteuthis (Photololigo) duvaucelii* 128
*Uroteuthis (Photololigo) edulis* 129
*Uroteuthis (Photololigo) machelae* 8, 129
*Uroteuthis (Photololigo) sibogae* 130
*Uroteuthis (Photololigo) singhalensis* 130

## V

*Valamugil buchanani* 519
*Varuna litterata* 86
*Varuna yui* 86
*Volegalea cochlidium* 117

## W

*Wattsia mossambica* 479

## X

*Xenentodon* cf. *cancila* 337
*Xenocephalus australiensis* 536
*Xenomystax trucidans* 285
*Xiphasia setifer* 258, 543
*Xiphias gladius* 575
*Xiphocheilus typus* 528
*Xiphonectes hastatoides* 84
*Xylocarpus* 2
*Xyrias revulsus* 279

## Y

*Yongeichthys nebulosus* 551

## Z

*Zameus squamulosus* 163
*Zanclus cornutus* 557
*Zebrasoma* 261
*Zebrasoma desjardinii* 562
*Zebrasoma scopas* 563
*Zebrias altipinnis* 597
*Zebrias quagga* 597
*Zebrias synapturoides* 598
*Zenopsis nebulosa* 355

# Index of FAO English and French common names

## A


Abe's flyingfish . . . 341
Adusta murex . . . 114
African chimaera . . . 218
African pompano . . . 415, 432
African sailfin flyingfish . . . 346
African spear lobster . . . 58
African white-spotted spinefoot . . . 556
Agujon needlefish . . . 336
Aiguillat à nez court d'Indonésie . . . 161
Aiguillat élégant . . . 162
Aiguille crocodile . . . 336
Aiguillette ocelée . . . 336
Aiguille voyeuse . . . 336
Aileron argente . . . 580
Aileron chinois . . . 581
Akiami paste shrimp . . . 49
Alcock's cusk eel . . . 325
Alcock's scorpionfish . . . 365
Alcock's spider crab . . . 76
Alfonsinos . . . 237, 349
Alfred's manta . . . 214
Alice franche . . . 295
Alice taches d'or . . . 295
Alose à gros yeux . . . 303
Alose à museau court . . . 289
Alose blanche . . . 289
Alose chaconde . . . 288
Alose-écaille indienne . . . 304
Alose indienne . . . 303
Alose palli . . . 290
Alose paluva . . . 293
Alose toli . . . 294
Alou rock shell . . . 116
Alvheim's pufferfish . . . 620
Amberstripe scad . . . 427
Anchois bombra . . . 298
Anchois indien . . . 298
Anchois joues tachetées . . . 299
Anchois-moustache cornu . . . 301
Anchois-moustache cristal . . . 302
Anchois-moustache mamata . . . 300
Anchois-moustache mandeli . . . 299
Anchois-moustache sardelle . . . 300
Anchois-moustache sardin . . . 299
Anchovies . . . 226, 295
Andaman butterflyfish . . . 511
Andaman chimaera . . . 218
Andaman cusk eel . . . 325
Andaman deep-reef perchlet . . . 395
Andaman deep-sea argentine . . . 311
Andaman deep-water anthias . . . 398
Andaman deepwater cardinalfish . . . 411
Andaman grunt . . . 470
Andaman hind . . . 384
Andaman legskate . . . 203
Andaman lobster . . . 57
Andaman luminous roughy . . . 347
Andaman luminous sweeper . . . 507
Andaman numbfish . . . 200
Andaman perchlet . . . 386
Andaman pomfret . . . 443
Andaman pygmy skate . . . 203
Andaman sandperch . . . 539
Andaman Sea deepwater flathead . . . 368
Andaman splendid perch . . . 399
Andaman tonguesole . . . 601
Andaman waspfish . . . 363
Anderson's swimming crab . . . 79
Andhra anchovy . . . 297
Angelfishes . . . 254, 513
Angelot . . . 194
Anglerfishes . . . 233, 329
Annandale's guitarfish . . . 195
Annandale's harpiosquillid mantis shrimp . . . 18
Annular sole . . . 595
Anoli aile longue . . . 314
Anoli bigarré . . . 316
Anoli croix . . . 316
Anoli indien . . . 315
Anoli phare . . . 315
Arabian gurnard . . . 369
Arabian perchlet . . . 385
Arabian red shrimp . . . 30
Arabian roughy . . . 348
Arabian smooth-hound . . . 171
Arabian whip lobster . . . 62
Arche granuuleuse . . . 91
Arche noduleuse . . . 91
Areolate grouper . . . 387
Argentines . . . 227, 311
Argonaute mineur . . . 142
Argonaute papier . . . 141
Argonauts . . . 119, 141
Argus coris . . . 525
Ariommas . . . 264, 580
Ariomme indienne . . . 580
Aristeid shrimps . . . 25, 29
Ark shells . . . 88, 91
Armored gurnards . . . 242, 370
Armorheads . . . 254, 515
Armour eelgoby . . . 547
Arrow bulleye . . . 403
Arrow crabs . . . 67, 75
Ascidians . . . 233
Asian brown mussel . . . 92
Asiatic hard clam . . . 102
Australian elongate stargazer . . . 536
Auxide . . . 570
Avicule épaisse . . . 94
Avocet snipe eel . . . 286


## B


Baelama anchovy . . . 299
Bagan anchovy . . . 297
Balibot canin . . . 305
Balibot rayé . . . 305
Balinese garfish . . . 339
Bali sardinella . . . 292
Baliste dents rouges . . . 608
Baliste étoilé . . . 606
Baliste rude . . . 607
Bamboo sharks . . . 165
Banana fusilier . . . 461
Banana prawn . . . 42
Banded eagle ray . . . 212
Banded grouper . . . 387
Banded grunter . . . 471
Banded-legged swimming crab . . . 77
Banded leopard blowfish . . . 620

Banded lizardfish . . . 314
Banded mantis shrimps . . . 13
Bandfishes . . . 255, 515
Barbel flyingfish . . . 344
Barbled leatherjacket . . . 611
Barbure à doigts oranges . . . 497
Barbure à grande bouche . . . 499
Barbure à petite bouche . . . 498
Barbure à quatre doigts . . . 496
Barbure à six doigts . . . 499
Barbure à tâche noire . . . 499
Barbure à trois doigts . . . 497
Barbure indien . . . 498
Barbure paradis . . . 500
Barbure paradis à doigts noirs . . . 500
Barbure rayé . . . 498
Barbure sept doigts des Indes . . . 497
Barcheek trevally . . . 422
Barracuda . . . 564
Barracudas . . . 262, 563
Barracudinas . . . 230
Barramundi . . . 379
Barred-chest grouper . . . 390
Barred cusk eel . . . 326
Barred queenfish . . . 430
Barred soapfish . . . 386
Barred thicklip . . . 526
Barspotted moray . . . 274
Bartail flathead . . . 375
Batfishes . . . 234, 331
Bathyclupeids . . . 253, 508
Batoid fishes . . . 184
Batu coris . . . 524
Bay sillago . . . 412
Bearded croaker . . . 489
Beardfishes . . . 231, 320
Beardless sea catfish . . . 307
Bear paw clam . . . 98
Beauclaire aile court . . . 401
Beauclaire aile sagitté . . . 403
Beauclaire miroir . . . 402
Beauclaire Pacifique . . . 402
Beauclaire tache pourpre . . . 403
Beautimous wampeejaw . . . 399
Bécune chevronnée . . . 565
Bécune de Forster . . . 564
Bécune jello . . . 564
Beka squid . . . 127
Belanger's croaker . . . 489
Belcher's cupped oyster . . . 96
Bengal sergeant . . . 521
Bengal snapper . . . 447
Bengal thryssa . . . 301
Bengal tonguesole . . . 599
Bengal whipray . . . 205
Bénitier allongé . . . 99
Bénitier écailleux . . . 99
Bénitier géant . . . 98
Bénitier tacheté . . . 98
Bigeyes . . . 246, 401
Bigeye scad . . . 431
Bigeye snapper . . . 452
Bigeye thresher . . . 164
Bigeye trevally . . . 425
Bigeye tuna . . . 574
Bigfin reef squid . . . 127
Big-head pennah croaker . . . 495
Bignose shark . . . 173
Bigscaled ponyfish . . . 437
Bigsnout croaker . . . 492
Billfishes . . . 263, 264, 575
Birdbeak burrfish . . . 626
Bird shrimp . . . 35
Bivalves . . . 87
Black and white snapper . . . 455
Blackbanded trevally . . . 432
Black-barred halfbeak . . . 338
Blackbelt cardinalfish . . . 409
Blackblotched porcupinefish . . . 627
Blackblotch squirrelfish . . . 353
Blackchins . . . 230, 317
Blackeared grunt . . . 472
Blackear lizardfish . . . 315
Black-edged fin sandlance . . . 534
Blackeye rabbitfish . . . 555
Blackfin barracuda . . . 566
Black-fin deep-sea herring . . . 509
Blackfin eel goby . . . 550
Black-fin goby . . . 548
Blackfin scad . . . 417
Blackfin slatey . . . 465
Blackfin squirrelfish . . . 351
Blackfoot firefish . . . 359
Blackfringe bigeye . . . 403
Black gemfish . . . 566
Black hammer oyster . . . 95
Blackhand paradise fish . . . 500
Black jack . . . 424
Blacklip pearl oystersian . . . 92
Black marlin . . . 575
Blackmouth angler . . . 329
Blackmouth croaker . . . 487
Black pomfret . . . 429
Black-saddled Toby . . . 620
Black-spined murex . . . 116
Blackspot sergeant . . . 521
Blackspot shark . . . 178
Blackspot snapper . . . 448
Blackspotted gurnard . . . 370
Black-spotted mantis shrimp . . . 16
Blackspotted puffer . . . 618
Blackspot threadfin . . . 499
Black-tailed harpiosquillid mantis shrimp . . . 19
Blacktail snapper . . . 449
Blacktip grouper . . . 390
Blacktip reef shark . . . 177
Blacktip sardinella . . . 293
Blacktip sea catfish . . . 310
Blacktip shark . . . 176
Blacktip soldierfish . . . 350
Blacktip trevally . . . 423
Blacktip tripodfish . . . 605
Blackvent filefish . . . 613
Blanche à pagaies . . . 465
Blanche commune . . . 464
Blanche élégante . . . 464
Blanche elévée . . . 463
Bleeker's parrotfish . . . 528
Bleeker's tonguesole . . . 601
Bleeker's whipray . . . 208
Blennies . . . 258, 543
Bloch's gizzard shad . . . 291
Blotched stingray . . . 210
Blotched tigertoothed croaker . . . 496
Blubberlip snapper . . . 453
Bludger . . . 421
Blue-and-gold fusilier . . . 458
Bluebanded wrasse . . . 528
Blue-barred parrotfish . . . 530
Bluebelly sandperch . . . 541
Bluecheek silver grunt . . . 471
Bluefin driftfish . . . 580

Bluefin trevally . . . 424
Bluefish . . . 247, 414
Blue flounder . . . 589
Bluelined hind . . . 383
Blue-lined large-eye bream . . . 475
Blue marlin . . . 576
Blueringed angelfish . . . 514
Blue Sea chub . . . 509
Blue shark . . . 180
Bluespine unicornfish . . . 562
Bluespot mullet . . . 520
Bluespotted cornetfish . . . 356
Blue-spotted goby . . . 546
Bluespotted large-eye bream . . . 475
Blue-spotted maskray . . . 207
Bluespotted ribbontail ray . . . 209
Bluespotted spinefoot . . . 554
Bluespotted wrasse . . . 522
Bluestripe herring . . . 290
Blue tilefish . . . 413
Blue trevally . . . 420
Blunthead puffer . . . 624
Bluntnose guitarfish . . . 196
Bluntnose lizardfish . . . 317
Bluntnose sixgill shark . . . 160
Boarfishes . . . 265, 581
Bobtail squids . . . 125
Boddart's goggle-eyed goby . . . 547
Bombay duck . . . 312
Bonefishes . . . 222, 270
Bonite à gros yeux . . . 571
Bonite à ventre rayé . . . 571
Bonite oriental . . . 572
Bonitou . . . 569
Bony fishes . . . 219
Bony flyingfish . . . 345
Boomerang triggerfish . . . 609
Bottlenose wedgefish . . . 194
Bottletail squids . . . 126
Bouqet araignée . . . 52
Bouqet chagrin . . . 51
Bouqet géant . . . 52
Bouqet rosna . . . 51
Bouqet singe . . . 51
Bouqet mousson . . . 52
Bourrugue chèvre . . . 489
Bourse à lunettes . . . 612
Bourse à taches blanches . . . 611
Bourse loulou . . . 610
Bourse rayon de miel . . . 612
Bowmouth guitarfish . . . 194
Box crabs . . . 66, 70
Boxfishes . . . 269, 614
Bramble . . . 155
Bramble shark . . . 160
Bramble sharks . . . 155, 160
Brassy chub . . . 510
Bregmacère de l'océan Indien . . . 320
Bridled cardinalfish . . . 410
Bridled grouper . . . 391
Bridled parrotfish . . . 530
Bristlemouths . . . 228
Bristletooth conger . . . 285
Bristly catshark . . . 168
Broadbanded cardinalfish . . . 410
Broadbared lionfis . . . 360
Broadclub cuttlefish . . . 122
Broad cowtail stingray . . . 208
Broadfin shark . . . 179
Broad geloina . . . 101
Broadmouth catshark . . . 168
Broadnose catshark . . . 167
Brochete de mer . . . 379
Bronze catfish . . . 309
Bronze croaker . . . 494
Broom filefish . . . 611
Brotula barbe-de-boue . . . 322
Brotula multibarbata . . . 322
Brownback trevally . . . 423
Brownbanded bamboo shark . . . 166
Brown banded cusk eel . . . 327
Brown chub . . . 509
Brownfish . . . 151
Brown-marbled grouper . . . 390
Brown numbfish . . . 200
Brown sandfish . . . 150
Brownspot bigeye . . . 402
Brownspotted grouper . . . 388
Brown-spotted spinefoot . . . 556
Brown stingray . . . 204
Brown-striped wrasse . . . 525
Brushtail Tang . . . 563
Buccaneer anchovy . . . 296
Buccin à carreaux . . . 117
Bulbous box crab . . . 71
Bulbous spider crab . . . 75
Bullet tuna . . . 569
Bullseye cardinalfish . . . 404
Bull shark . . . 176
Bumalo . . . 312
Bumpnose trevally . . . 421
Bunquelovelies . . . 244, 398
Burma hairfin anchovy . . . 297
Burmese bamboo shark . . . 165
Butterfishes . . . 264
Butterflyfishes . . . 254, 511
Butterfly rays . . . 190, 204

## C

Caesio à croissant . . . 459
Caesio à dos jaune . . . 459
Caesio à dos jaune et bleu . . . 459
Caesio azuror . . . 458
Caesio ceinture d'or . . . 460
Caesio ventre rouge . . . 458
Calicagère bleue . . . 509
Calmar baril . . . 130
Calmar cracheur . . . 127
Calmar du Mozambique . . . 129
Calmar épée . . . 129
Calmar indien . . . 128
Calmar mitre . . . 128
Calmar pectiné sicilienne . . . 132
Calmar siboga . . . 130
Calmar tonnelet . . . 127
Capucin à bande jaune . . . 501
Capucin de Vanicolo . . . 501
Carangue à dos brun . . . 423
Carangue aile blanche . . . 420
Carangue aîle bleue . . . 424
Carangue balo . . . 421
Carangue cavallys . . . 423
Carangue cocole . . . 423
Carangue côtière . . . 419
Carangue crépuscule . . . 419
Carangue démêloir . . . 434
Carangue des îles . . . 422
Carangue grimée . . . 422
Carangue langue blanche . . . 434
Carangue lentigine . . . 418

Carangue monique . . . 421
Carangue nez bossu . . . 421
Carangue noire . . . 424
Carangue paia . . . 434
Carangue pailletée . . . 420
Carangue postillon . . . 422
Carangue royale . . . 428
Carangue sap-sap . . . 418
Carangue tachetée . . . 420
Carangue tapir . . . 419
Carangue têtue . . . 424
Carangue tille . . . 425
Carangue vorace . . . 425
Cardinalfish . . . 408
Cardinalfishes . . . 246, 404
Caridean shrimps . . . 27
Caroun croaker . . . 490
Carpet sharks . . . 157
Castagnole mignonne . . . 442
Castagnoline noire . . . 429
Catfishes . . . 227
Catsharks . . . 158, 167
Celebes flathead . . . 378
Cephalopods . . . 118
Chacunda gizzard shad . . . 288
Chambered nautiluses . . . 118, 120
Chano . . . 304
Chaptis bahaba . . . 488
Chardin gros nez . . . 291
Checkered snapper . . . 448
Cheeseman's Puffer . . . 621
Chen's worm eel . . . 276
Chétodon à collier . . . 511
Chevrette akiami . . . 49
Chevrette jawla . . . 49
Chien corail . . . 168
Chimaeras . . . 217
Chimère faucillée . . . 218
Chinese gizzard shad . . . 289
Chinese numbfish . . . 199
Chinese silver pomfret . . . 581
Chinese trumpetfish . . . 355
Chinese velvet shrimp . . . 32
Chipiloua commun . . . 136
Chiragra spider conch . . . 110
Chirocalmar de Grimaldi . . . 132
Chirocalmar de Verany . . . 131
Chirocentre dorab . . . 302
Chirocentre sabre . . . 302
Chiroteuthid squids . . . 131
Chirurgien aile jaune . . . 561
Chirurgien couronné . . . 558
Chirurgien zèbre . . . 558
Chocolate hind . . . 382
Cigale glabre . . . 63
Cinnabar goatfish . . . 502
Cinnamon flounder . . . 584
Cleftbelly trevally . . . 417
Cloudy grouper . . . 389
Clown triggerfish . . . 606
Clubfoot sillago . . . 411
Clubhook squids . . . 136
Clubnose guitarfish . . . 197
Coachwhip trevally . . . 422
Coastal mud shrimp . . . 48
Coastal trevally . . . 419
Cobia . . . 247, 414
Cockatoo righteye flounder . . . 593
Cockatoo waspfish . . . 363
Codlets . . . 231, 320
Coffre bossu . . . 616
Cohana delagoa . . . 480
Cohana élégante . . . 482
Cohana japonaise . . . 481
Cohana tolu . . . 482
Coitor croaker . . . 491
Colas à bande dorée . . . 457
Colas bagnard . . . 458
Colas dentu . . . 457
Colas drapeau . . . 456
Colas fil . . . 456
Colas lavande . . . 457
Collared monocle bream . . . 486
Colocongrids . . . 223, 276
Coloured righteye flounder . . . 593
Comb-finned squids . . . 132
Comb flounder . . . 593
Comb goby . . . 550
Comère rubari . . . 416
Comet deepwater goby . . . 549
Comète fine . . . 426
Comète indienne . . . 427
Comète maquereau . . . 426
Comète saumon . . . 428
Comète torpille . . . 428
Commercial top . . . 107
Commerson's anchovy . . . 298
Commerson's sole . . . 596
Common bluestripe snapper . . . 451
Common box crab . . . 72
Common clubhook squid . . . 136
Common dolphinfish . . . 435
Common flower crab . . . 81
Common geloina . . . 100
Common hairfin anchovy . . . 297
Common moon crab . . . 74
Common octopus . . . 141
Common pike conger . . . 280
Common ponyfish . . . 440
Common silverbiddy . . . 464
Common spider conch . . . 111
Common squillid mantis shrimp . . . 22
Compère océanique . . . 622
Concertina fish . . . 510
Conchs . . . 105, 110
Congaturi halfbeak . . . 339
Conger eels . . . 224, 282
Cook's cardinalfish . . . 407
Copper batfish . . . 552
Coral catshark . . . 168
Coral hind . . . 383
Coral reef halfbeak . . . 338
Coral shrimp . . . 38
Cordonnier fil . . . 415
Cordonnier plume . . . 416
Cornet crochu . . . 136
Cornetfishes . . . 238, 356
Cornette à taches bleues . . . 356
Cornette rouge . . . 356
Corrugated lucine . . . 97
Coryphène commune . . . 435
Courbine à grande nagoire . . . 491
Courbine barbiche . . . 489
Courbine caroune . . . 490
Courbine carutte . . . 490
Courbine chinoise . . . 491
Courbine de Belanger . . . 489
Courbine dentue . . . 490
Courbine dorée . . . 488
Courbine kathala . . . 492
Courbine longnez . . . 492
Courbine lugubre . . . 495

Courbine pintade . . . 496
Cownose rays . . . 191, 213
Cowries . . . 105, 112
Cow sharks . . . 155, 160
Crabs . . . 65
Cranch squids . . . 133
Crested flounders . . . 267, 593
Crested hairtail . . . 568
Crevette arc-en-ciel . . . 40
Crevette banane . . . 42
Crevette chamois méridionale . . . 32
Crevette chien . . . 37
Crevette cigogne . . . 36
Crevette corail . . . 38
Crevette flamand . . . 41
Crevette geante tigrée . . . 45
Crevette glabre . . . 37
Crevette glissante . . . 35
Crevette jaune . . . 34
Crevette javelot . . . 39
Crevette jinga . . . 33
Crevette kadal . . . 34
Crevette kidi . . . 40
Crevette mouchetée . . . 36
Crevette nylon indienne . . . 54
Crevette nylon mino . . . 53
Crevette oiseau . . . 35
Crevette queue rouge . . . 42
Crevette royale à taches rouges . . . 44
Crevette royale blanche . . . 41
Crevette royale occidentale . . . 44
Crevette sorcier . . . 43
Crevette tigrée verte . . . 45
Crevette torpille . . . 39
Crevette uncta . . . 38
Crevette violoneux . . . 33
Crimson jobfish . . . 456
Crimson snapper . . . 449
Croakers . . . 252, 487
Crocodile shark . . . 156, 163
Croupia roche . . . 462
Crown squirrelfish . . . 353
Crucifix crab . . . 78
Curryfish . . . 152
Curvespine cuttlefish . . . 124
Cusk eels . . . 232, 322
Cutlassfishes . . . 263, 567
Cutthroat eels . . . 223, 271
Cuttlefish . . . 118
Cuttlefishes . . . 118, 120
Cyrène bengali . . . 100
Cyrène érodée . . . 100
Cyrène large . . . 101
Cythérée commune . . . 102

## D

Daggertooth pike conger . . . 280
Daisy parrotfish . . . 529
Damselfishes . . . 255, 521
Daniela's soldierfish . . . 352
Darkbanded fusilier . . . 462
Dark-finned velvetfish . . . 366
Dark-shouldered snake eel . . . 277
Dark-striped squirrelfish . . . 354
Dart-gobies . . . 259
Dash-and-dot goatfish . . . 501
Decorated ponyfish . . . 441
Deemed red shrimp . . . 30
Deepbody sardinella . . . 291
Deepbody silverbiddy . . . 463
Deep flounder . . . 584
Deepsea bristly scorpionfishes . . . 239, 357
Deepsea shrimps . . . 27, 50
Deep-water Andaman sandperch . . . 543
Deepwater cardinalfishes . . . 246, 411
Deepwater demonic snake eel . . . 277
Deepwater dragonets . . . 258, 546
Deepwater flatheads . . . 241, 367
Deepwater longtail red snapper . . . 445
Deep-water redfish . . . 149
Deep-water red snapper . . . 445
Deepwater scorpionfish . . . 357
Deepwater spider crabs . . . 68, 76
Delagoa threadfin bream . . . 480
Delicate round herring . . . 293
Demi-bec congaturi . . . 339
Demi-bec saltou . . . 337
Derivant indien . . . 578
Devil firefish . . . 360
Devil rays . . . 192, 214
Devis' anchovy . . . 296
Diagramme arlequin . . . 467
Diagramme de Sri Lanka . . . 467
Diagramme noir . . . 468
Diagramme oriental . . . 470
Diagramme voilier . . . 466
Diamondback puffer . . . 622
Diamondback squid . . . 136
Dog conch . . . 111
Dogfish sharks . . . 155, 161
Dog shrimp . . . 37
Dogtooth tuna . . . 571
Dolphinfishes . . . 248, 435
Donkey croaker . . . 495
Dorab wolf-herring . . . 302
Dories . . . 237, 354
Dory snapper . . . 449
Dotted grouper . . . 389
Dottybacks . . . 245
Dotty triggerfish . . . 607
Doubleband surgeonfish . . . 560
Doublebar goatfish . . . 504
Doublebarred spinefoot . . . 557
Double-lined mackerel . . . 570
Doublelined tonguesole . . . 601
Double-spine seadevils . . . 234
Doublespotted queenfish . . . 430
Doubletooth soldierfish . . . 350
Doublewhip threadfin bream . . . 481
Drab naked nape stargazer . . . 536
Dragonets . . . 258, 544
Dreamers . . . 234
Driftfishes . . . 264, 578
Druzhinin's alfonsino . . . 349
Duckbill eels . . . 224, 281
Duckbills . . . 257, 537
Duck's-bill lingula . . . 145
Dusky driftfish . . . 579
Dusky parrotfish . . . 531
Duskytail grouper . . . 387
Dussumier's halfbeak . . . 339
Dussumier's ponyfish . . . 440
Dussumier's thryssa . . . 299
Dwarf flathead . . . 373
Dwarf sawfish . . . 193
Dwarf thronyhead . . . 367
Dwarf whipray . . . 205

## E


Eagle rays . . . 191, 212
Echinoderms . . . 148
Eclipse parrotfish . . . 532
Eel catfish . . . 305
Eel catfishes . . . 227, 305
Eels . . . 223
Eglantine cowrie . . . 113
Elongate bulleye . . . 402
Elongate giant clam . . . 99
Elongate ponyfish . . . 437
Elongate surgeonfish . . . 559
Elusive cardinalfish . . . 404
Emanuela's boarfish . . . 582
Ember parrotfish . . . 532
Emissole d'Arabie . . . 171
Emma's basslet . . . 396
Empereur à bandes oranges . . . 478
Empereur békine . . . 476
Empereur bossu . . . 479
Empereur gris . . . 475
Empereur honteux . . . 479
Empereur lentille . . . 477
Empereur moris . . . 477
Empereur orné . . . 478
Empereur Saint Pierre . . . 476
Empereur strié . . . 474
Empereur tidents . . . 477
Emperor angelfish . . . 514
Emperor nautilus . . . 120
Emperor red snapper . . . 454
Emperors . . . 251, 474
Encornet bande violette . . . 135
Encornet cachalot . . . 131
Encornet-outre de Reinhardt . . . 133
Encornet planeur . . . 135
Encornet-poulpe de Taning . . . 134
Engraved catfish . . . 309
Epaulette surgeonfish . . . 559
Escolier aile longue . . . 563
Escolier bengalais . . . 567
Escolier long nez . . . 566
Escolier oriental . . . 566
Espadon . . . 575
Estuary filefish . . . 613
Evermann's lanternfish . . . 319
Evermann's snake eel . . . 277
Exocet à grandes écailles . . . 343
Exocet aile jaune . . . 344
Exocet alle courte . . . 346
Exocet boue . . . 344
Exocet casque . . . 345
Exocet codène . . . 341
Exocet de Sutton . . . 343
Exocet marbré . . . 342
Exocet miroir . . . 345
Exocet pharaon . . . 343
Exocet tacheté . . . 341
Exocet voilier . . . 346
Exocet voilier africain . . . 346
Exocet volant . . . 345
Eyed sole . . . 596
Eyestripe surgeonfish . . . 558


## F


Fabricius' swimming crab . . . 84
Falcate-fin mullet . . . 519
Falcate lionfish . . . 358
False Indian flathead lobster . . . 64
False Japanese rock shrimp . . . 46
False moorish idol . . . 513
False trevally . . . 247, 414
Fangtooths . . . 236
Fanrays . . . 187, 197
Fertile venus . . . 101
Fiddler shrimp . . . 33
Filamentous-fin triggerfish . . . 605
Filefishes . . . 268, 610
Fimbriated moray . . . 272
Finback catsharks . . . 158, 169
Finescale roughy . . . 347
Finless cutthroat eel . . . 271
Finless sleeper ray . . . 201
Fintail serpent eel . . . 276
Firebrand murex . . . 115
Five-eyed flounder . . . 586
Five-lined snapper . . . 453
Flagfin cardinalfish . . . 406
Flamingo shrimp . . . 41
Flatfishes . . . 265
Flathead grey mullet . . . 520
Flatheads . . . 242
Flathead sillago . . . 411
Flatmouth sea catfish . . . 311
Flat needlefish . . . 335
Fleshy-lipped spikefish . . . 603
Floral puffer . . . 625
Floral wrasse . . . 523
Flower moon crab . . . 73
Flowervase jewell squid . . . 133
Fluted giant clam . . . 99
Flyingfishes . . . 235, 341
Flying gurnards . . . 241, 366
Flying halfbeak . . . 340
Flying squids . . . 134
Forgeron tacheté . . . 510
Forktailed threadfin bream . . . 480
Forktail large-eye bream . . . 474
Fourfinger threadfin . . . 496
Fourlined terapon . . . 400
Fourlined tonguesole . . . 600
Fourline hogfish . . . 523
Four-toothed mantis shrimp . . . 22
Fowler's variegated flounder . . . 592
Fraser-Brunner's spikefish . . . 603
Freckled driftfish . . . 579
Freckled goatfish . . . 506
Freckled hind . . . 383
Freckled tilefish . . . 413
Freckleface reef-eel . . . 275
Freshwater eels . . . 225, 287
Freshwater garfish . . . 337
Frigate tuna . . . 570
Frilled sharks . . . 155
Frillgill conger . . . 283
Fringefin zebra sole . . . 597
Fringelip flathead . . . 378
Fringelip mullet . . . 518
Fringescale sardinella . . . 292
Frogfishes . . . 233, 330
Froghead eel . . . 276
Fusilier à une bande . . . 462
Fusilier banana . . . 461
Fusilier de Marr . . . 461
Fusilier de Randall . . . 461
Fusilier élégant . . . 460
Fusilier ligne olive . . . 462
Fusilier marbré . . . 460
Fusiliers . . . 250, 458

## G


Gagora catfish . . . 306
Galathea gizzard shad . . . 290
Gastropods . . . 103
Gavial eel . . . 284
Ganges shark . . . 179
Gapers . . . 256, 533
Gardiner's dragonet . . . 544
Gazza minuta . . . 439
Gazza rhombea . . . 439
Geloina bengalensis . . . 100
Geloina coaxans . . . 100
Geloina erosa . . . 100
Geloina expansa . . . 101
George's halfbeak . . . 340
Ghost flatheads . . . 242, 372
Giant box crab . . . 71
Giant clam . . . 98
Giant clams . . . 90, 98
Giant devilray . . . 215
Giant freshwater whipray . . . 211
Giant glass shrimp . . . 50
Giant grouper . . . 391
Giant guitarfish . . . 197
Giant guitarfishes . . . 187, 196
Giant harpiosquillid mantis shrimp . . . 19
Giant manta . . . 214
Giant moray . . . 273
Giant mud crab . . . 83
Giant red shrimp . . . 29
Giant river prawn . . . 52
Giant sea catfish . . . 310
Giant stingray . . . 211
Giant stingrays . . . 190
Giant sweetlips . . . 467
Giant tiger prawn . . . 45
Giant trevally . . . 424
Giant triangular batfish . . . 334
Girdled horn shell . . . 109
Girelle verte . . . 527
Gladiator crab . . . 80
Glassfishes . . . 243
Glass shrimps . . . 27, 50
Goat catfish . . . 308
Goatee croaker . . . 489
Goatfishes . . . 252, 500
Goatsbeard brotula . . . 322
Gobies . . . 259, 546
Gogla . . . 476, 477, 559, 560, 561
Goldband fusilier . . . 460
Goldband goatfish . . . 505
Goldband jobfish . . . 457
Golden ponyfish . . . 442
Golden sandfish . . . 150
Goldenstripe ponyfish . . . 439
Golden Sweeper . . . 508
Golden trevally . . . 428
Goldflag jobfish . . . 456
Goldlined seabream . . . 474
Goldlip pearl oyster . . . 93
Goldsaddle goatfish . . . 502
Goldsilk seabream . . . 473
Gold-spot mullet . . . 517
Goldspotted grenadier anchovy . . . 295
Goldstripe sardinella . . . 292
Goret à six bandes . . . 471
Graceful sharkgno Graceful s . . . 174
Gracilaria . . . 2
Grande verrrue tigre . . . 493
Grand requin-marteau . . . 182
Granular ark . . . 91
Granulated guitarfish . . . 196
Grapsid crabs . . . 69, 84
Greasyback shrimp . . . 35
Greasy grouper . . . 394
Great barracuda . . . 564
Greater argonaut . . . 141
Great hammerhead . . . 182
Greenback mullet . . . 517
Greeneyes . . . 229, 312
Greenfish . . . 152
Green jobfish . . . 445
Green tiger prawn . . . 45
Green turban . . . 108
Grenadiers . . . 232, 320
Grey bambooshark . . . 165
Grey cutthroat . . . 272
Grey large-eye bream . . . 475
Grey reef shark . . . 174
Grey sharpnose shark . . . 181
Grey stingfish . . . 365
Grimaldi's chiroteuthid squid . . . 132
Grondeur à joues bleus . . . 471
Grondeur argenté . . . 470
Grondeur javelot . . . 471
Grondin d'Oman . . . 369
Grondin encré . . . 370
Grondin volant cocarde . . . 366
Grondin volant étoilé . . . 367
Gros poulpe bleu . . . 140
Ground sharks . . . 158
Groupers . . . 244, 381
Grunters . . . 246, 400
Grunting toadfish . . . 328
Grunts . . . 251, 465
Guineafowl puffer . . . 618
Guitarfishes . . . 186, 195
Gular cardinalfish . . . 409
Gulf damselfish . . . 522
Gulper shark . . . 161
Gulper sharks . . . 155, 161
Günther Ngwe War Nga . . . 473
Günther's flounder . . . 590
Günther's karanteen . . . 473
Günther's waspfish . . . 364
Gurnards . . . 242, 368
Gway Puzun . . . 49
Gyap Pazun . . . 63
Gyap Puzun . . . 63, 64


## H


Hairtail blenny . . . 543
Hairy crabs . . . 68, 77
Hakes . . . 231
Halfbeaks . . . 235, 337
Halfmoon grouper . . . 394
Halfmoon triggerfish . . . 609
Half-mourning croaker . . . 495
Half-smooth golden pufferfish . . . 623
Halosaurs . . . 222
Hamilton's thryssa . . . 300
Hammerhead sharks . . . 159, 182
Hammer oysters . . . 89, 94
Haneda's ponyfish . . . 436
Hardenberg's anchovy . . . 298
Hardnose shark . . . 177
Hareng à bande bleue . . . 290
Hareng gracile . . . 293

Hareng ronde . . . 293
Harlequin catshark . . . 169
Harlequin filefish . . . 612
Harlequin sweetlips . . . 467
Harry hotlips . . . 468
Hatchetfishes . . . 228
Hawaiian flying squid . . . 134
Hawkfishes . . . 254
Heller's swimming crab . . . 78
Herrings . . . 225, 288
Herring scad . . . 417
Hidden-nostril duckbill eel . . . 281
Highfin bigeye dragonet . . . 545
High-fin zebra sole . . . 597
Hilsa kelee . . . 290
Hilsa shad . . . 293
Holbiche indienne . . . 169
Holbiche mignonne . . . 168
Holbiche platnez . . . 167
Holothurians . . . 233
Holothurie ananas . . . 153
Honeycomb filefish . . . 612
Honeycomb grouper . . . 392
Honeycomb whipray . . . 206
Hooded cuttlefish . . . 123
Hooded oyster . . . 96
Hooghly croacker . . . 494
Hooked tonguesole . . . 598
Hooktooth shark . . . 172
Horn-nosed boxfish . . . 615
Horn shells . . . 104, 109
Horseshoe crab . . . 2
Hound needlefish . . . 336
Houndsharks . . . 159, 170
Huître-capuchon . . . 96
Huître creuse de Belcher . . . 96
Humpback boxfish . . . 616
Humpback cowrie . . . 113
Humpback greeneye . . . 312
Humpback grouper . . . 386
Humpback red snapper . . . 450
Humphead snapper . . . 454
Humpnose big-eye bream . . . 479
Huysman's flounder . . . 594

## I

Immaculate puffer . . . 617
Imposter trevally . . . 423
Indian anchovy . . . 298
Indian bandfish . . . 515
Indian boarfish . . . 581
Indian Bunquelovely . . . 399
Indian conger . . . 282
Indian deep-sea herring . . . 508
Indian deepwater dragonet . . . 544
Indian driftfish . . . 580
Indian flathead lobster . . . 63
Indian goatfish . . . 503
Indian grooved shrimp . . . 47
Indian halibut . . . 582
Indian handfish . . . 333
Indian humphead . . . 552
Indian ilisha . . . 303
Indian jellynose fish . . . 311
Indian lanternbelly . . . 380
Indian lizardfish . . . 315
Indian mackerel . . . 572
Indian mimic goatfish . . . 500
Indian nylon shrimp . . . 54
Indian Ocean lobsterette . . . 58
Indian Ocean oriental sweetlips . . . 470
Indian Ocean steephead parrotfish . . . 529
Indian pellona . . . 304
Indian pike conger . . . 279
Indian pink shrimp . . . 54
Indian ring skate . . . 202
Indian rough shrimp . . . 46
Indian ruff . . . 577
Indian sail-fin surgeonfish . . . 562
Indian scad . . . 427
Indian sevenfinger threadfin . . . 497
Indian sharpnose ray . . . 210
Indian snapper . . . 450, 452
Indian squid . . . 128
Indian swellshark . . . 169
Indian threadfin . . . 498
Indian threadfish . . . 416
Indian triggerfish . . . 607
Indian velvetchin . . . 466
Indian white prawn . . . 41
Indian yellow-tail angelfish . . . 513
Indian zebra sole . . . 598
Indonesian bamboo shark . . . 165
Indonesian shortfin eel . . . 287
Indonesian shortsnout spurdog . . . 161
Indo-Pacific king mackerel . . . 573
Indo-Pacific sailfish . . . 576
Indo-Pacific sergeant . . . 521
Indo-Pacific tarpon . . . 270
Inshore squids . . . 126
Intermediate flyingfish . . . 342
Island mackerel . . . 572
Island trevally . . . 422
Ivory whelks . . . 106, 117

## J

Jacks . . . 248, 415
Jansen's goatfish . . . 503
Japanese blunthorn lobster . . . 59
Japanese flathead . . . 374
Japanese lefteye flounder . . . 587
Japanese odontodactylid mantis shrimp . . . 14
Japanese rubyfish . . . 444
Japanese soldierfish . . . 352
Japanese splitfin . . . 381
Japanese threadfin bream . . . 481
Jarbua terapon . . . 400
Javanese cownose ray . . . 213
Javan flounder . . . 585
Javelin grunter . . . 471
Jawfishes . . . 245, 400
Jawla paste shrimp . . . 49
Jayakar's butterflyfish . . . 513
Jellynose fishes . . . 229, 311
Jenkin's whipray . . . 209
Jewel squids . . . 133
Jinga shrimp . . . 33
Jobfishes . . . 444
John's snapper . . . 450
Jumping halfbeak . . . 337

## K

Kadal shrimp . . . 34
Kai stargazer . . . 535
Kammal thryssa . . . 300
Kanda . . . 519
Karut croaker . . . 490

Kathala croaker . . . 492
Kaup's sole . . . 596
Kawakawa . . . 570
Keeltail needlefish . . . 335
Kelee shad . . . 290
Kemp's plain mantis shrimp . . . 20
Kiddi shrimp . . . 40
King ocellate octopus . . . 138
Kisslip cuttlefish . . . 122
Kobi cuttlefish . . . 121
Koch's bottletail squid . . . 126
Korean seerfish . . . 573
Kotlyar's cigarfish . . . 578
Kotthaus' deepwater dragonet . . . 544
Kuhl's devilray . . . 215

## L

Labre pointillé . . . 523
Lamp shells . . . 6, 144, 145
Langouste barriolée . . . 62
Langouste de vase . . . 61
Langouste diablotin . . . 60
Langouste festonnée . . . 59
Langouste fourchette . . . 61
Langouste ornée . . . 60
Langoustine andamane . . . 57
Langoustine indienne . . . 58
Langue a deux ligne . . . 601
Langue crochet . . . 598
Langue tachetée . . . 600
Lanternbellies . . . 243, 380
Lanternfishes . . . 230, 317
Lantern sharks . . . 156, 162
Largecrested lefteye flounder . . . 587
Large-eye croaker . . . 492
Large-eyed flounder . . . 591
Large-head cutthroat eel . . . 271
Largehead flathead . . . 373
Largehead hairtail . . . 569
Large-head pike conger . . . 280
Largemouthed catfish . . . 309
Largemouth threadfin . . . 499
Large-scale crested righteye flounder . . . 594
Largescaled terapon . . . 401
Largescale flounder . . . 589
Largescale flounders . . . 266, 582
Largescale flyingfish . . . 343
Largescale mullet . . . 516
Largescale tonguesole . . . 598
Largespined flathead . . . 377
Largespot sweetlips . . . 469
Largespotted dart . . . 433
Largetooth flounder . . . 583
Largetooth sawfish . . . 193
Lattice blaasop . . . 624
Lattice monocle bream . . . 486
Lavender jobfish . . . 457
Leatherjackets . . . 268, 610
Lefteye flounders . . . 266, 587
Legskates . . . 189, 203
Lemonfish . . . 468
Lemon Wrasse . . . 525
Leopard flounder . . . 588
Leopard whipray . . . 205
Leslie Knapp's deepwater flathead . . . 368
Lesser argonaut . . . 142
Lesser bream . . . 442
Lesser tigertooth croaker . . . 493
Lessespian lizardfish . . . 313
Lightfishes . . . 228
Lighthouse lizardfish . . . 315
Lined surgeonfish . . . 558
Lined sweetlips . . . 468
Lingulas . . . 144, 145
Lingule bec-de-cane . . . 145
Little gulper shark . . . 162
Little Indian squid . . . 126
Little spinefoot . . . 556
Live sharksucker . . . 415
Lizardfishes . . . 229, 230, 312
Lobejaw ilisha . . . 303
Lobsterettes . . . 56, 57
Lobsters . . . 55, 118
Longarm mullet . . . 518
Long-barbel goatfish . . . 503
Long barrel squid . . . 130
Longcomb sawfish . . . 194
Longface emperor . . . 478
Longfin bannerfish . . . 512
Longfin cigarfish . . . 578
Longfin conger . . . 283
Longfin croaker . . . 491
Longfin crocodile toothfish . . . 533
Longfin emperor . . . 476
Longfin escolar . . . 262, 563
Long-fin goatfish . . . 506
Longfin grouper . . . 393
Longfin lizardfish . . . 314
Longfinned bullseye . . . 401
Longfinned halfbeak . . . 337
Longfinned mullet . . . 519
Longfin silverbiddy . . . 465
Longfin snake-eel . . . 278
Longfin trevally . . . 418
Longfin yellowtail . . . 432
Longheaded eagle ray . . . 213
Longhorn cowfish . . . 614
Longjaw thryssa . . . 301
Longlegged spiny lobster . . . 60
Longnose chimaeras . . . 218
Longnosed stargazer . . . 534
Longnose gurnard . . . 370
Longnose houndshark . . . 170
Longnose seabat . . . 334
Longnose trevally . . . 419
Longrakered trevally . . . 434
Longsnout flathead . . . 378
Longsnout spikefish . . . 602
Longsnout stinger . . . 364
Longspined porcupinefish . . . 627
Longspined silverbiddy . . . 464
Longspined tripodfish . . . 604
Longspine ponyfish . . . 436, 441
Long-tailed butterfly ray . . . 204
Longtailed carpetsharks . . . 157
Longtail seamouth . . . 355
Longtail tuna . . . 575
Long tonguesole . . . 599
Long tooth conger . . . 283
Longtooth hairtail . . . 567
Long-trunk cutthroat eel . . . 271
Longnose chimaeras . . . 217
Loutène vase . . . 133
Lowfin houndshark . . . 171
Lucinas . . . 89
Lucine de mangrove . . . 97
Lucine ridée . . . 97
Lucines . . . 97
Luminous lanternfish . . . 318
Lunar fusilier . . . 459

Lunartail puffer . . . . . 623
Lunartail snapper . . . . . 451
Luneur . . . . . 435, 628
Lutke's halfbeak . . . . . 338

## M

Mâchoiron canard . . . . . 311
Mâchoiron fouet . . . . . 306
Mâchoiron goujon . . . . . 308
Mâchoiron imberbe . . . . . 307
Mâchoiron sagor . . . . . 308
Mâchoiron savate . . . . . 307
Mâchoiron soldat . . . . . 310
Mâchoiron surmulet . . . . . 308
Mâchoiron tacheté . . . . . 306
Mâchoiron titan . . . . . 310
Mâchoiron veiné . . . . . 307
Mackerels . . . . . 263, 569
Mackerel scad . . . . . 426
Mackerel sharks . . . . . 156, 157, 164
Maculated ivory whelk . . . . . 117
Mafou . . . . . 414
Magnificent catshark . . . . . 170
Maigre noire . . . . . 487
Maillet droit . . . . . 95
Makaire à rostre court . . . . . 577
Makaire bleu . . . . . 576
Makaire noir . . . . . 575
Malabar blood snapper . . . . . 452
Malabar grouper . . . . . 392
Malabar Sweeper . . . . . 508
Malabar trevally . . . . . 421
Malayan flounder . . . . . 585
Malayan mud shrimp . . . . . 48
Maldague robuste . . . . . 524
Mamila griffée . . . . . 485
Mamila joues blanches . . . . . 487
Mamila lisse . . . . . 483
Mamila rosée . . . . . 483
Mangrove lucine . . . . . 97
Mangrove Nga Parr Ni . . . . . 446
Mangrove red snapper . . . . . 446
Mangrove whipray . . . . . 211
Man-of-war fish . . . . . 579
Manta rays . . . . . 192
Mante géante . . . . . 214
Many-eyed flounder . . . . . 590
Manyspotted flyingfish . . . . . 342
Map puffer . . . . . 617
Maquereau de îles . . . . . 572
Maquereau des Indes . . . . . 572
Maquereau trapu . . . . . 571
Margaretha's goatfish . . . . . 505
Margaret's dragonet . . . . . 545
Margined flyingfish . . . . . 341
Marignan aile noire . . . . . 351
Marignan ombré . . . . . 349
Marignan poklé . . . . . 350
Marignan rouge et argent . . . . . 353
Marignan tacheté . . . . . 351
Marine smelts . . . . . 227
Marlin rayé . . . . . 576
Maroon-spot mantis shrimp . . . . . 21
Marr's fusilier . . . . . 461
Marsh clams . . . . . 90, 100
Marteau blanc . . . . . 94
Marteau noir . . . . . 95
Matajuel bleu . . . . . 413
Matted leatherjacket filefish . . . . . 610
Mediterranean dealfish . . . . . 319
Medusafishes . . . . . 264, 577
Melongenas . . . . . 106, 117
Mélongène spiralée . . . . . 117
Mergui velvetchin . . . . . 466
Mérou à bandes . . . . . 391
Mérou à flocons . . . . . 393
Mérou aréolé . . . . . 387
Mérou bande . . . . . 387
Mérou bossu . . . . . 386
Mérou bride . . . . . 391
Mérou demideuil . . . . . 387
Mérou demi-lune . . . . . 394
Mérou écharpe . . . . . 390
Mérou élégant . . . . . 382
Mérou epineux . . . . . 389
Mérou gâteau de cire . . . . . 392
Mérou lancéolé . . . . . 391
Mérou-loche vagabonde . . . . . 396
Mérou longues ailes . . . . . 393
Mérou loutre . . . . . 394
Mérou Malabar . . . . . 392
Mérou marron . . . . . 390
Mérou nébuleux . . . . . 389
Mérou ondulé . . . . . 395
Mérou oriflamme . . . . . 390
Mérou pâle . . . . . 389
Mérou pintade . . . . . 388
Mérou plate grise . . . . . 392
Mérou six raies . . . . . 394
Mérou taches oranges . . . . . 388
Mérou zébre . . . . . 393
Milandre chicor . . . . . 172
Milandre faucille . . . . . 172
Milandre harpon . . . . . 172
Milkfish . . . . . 226, 304
Milk shark . . . . . 180
Milkspotted puffer . . . . . 621
Miller's armored gurnard . . . . . 372
Mimic surgeonfish . . . . . 559
Mimika bobtail squid . . . . . 125
Mino nylon shrimp . . . . . 53
Mirrorwing flyingfish . . . . . 345
Mitre squid . . . . . 128
Mojarras . . . . . 250, 463
Moke Seik Phyu Pyauk . . . . . 320
Molas . . . . . 269, 628
Mole cowrie . . . . . 114
Molluscs . . . . . 233
Monkey river prawn . . . . . 51
Monogrammed monocle bream . . . . . 486
Monsoon river prawn . . . . . 52
Moon crabs . . . . . 66, 73
Moonfish . . . . . 249, 435
Moonfishes . . . . . 435
Moonies . . . . . 253, 511
Moontail bullseye . . . . . 402
Moon wrasse . . . . . 527
Moorish idol . . . . . 261, 557
Moras . . . . . 232, 322
Morays . . . . . 223, 272
Morénésoce commun . . . . . 280
Moresby's blind numbfish . . . . . 198
Mottled eagle ray . . . . . 212
Mottled fusilier . . . . . 460
Mottled Sally-light-foot . . . . . 84
Mottled spinefoot . . . . . 554
Moule verte asiatique . . . . . 92
Mourine javanaise . . . . . 213
Moustached thryssa . . . . . 300
Mo Yar Thi Myit Puzun . . . . . 52

Mozambique large-eye bream . . . 479
Mozambique squid . . . 129
Mud Sleeper . . . 546
Mud spiny lobster . . . 61
Metavay sawbelly . . . 348
Mitsukuri's sandlance . . . 533
Mulet à grandes écailles . . . 516
Mulet à grosse tête . . . 520
Mulet à queue bleue . . . 519
Mulet à tache bleue . . . 520
Mulet boxeur . . . 518
Mulet chiraya . . . 520
Mulet dos vert . . . 517
Mulet joue d'or . . . 517
Mulet longue aile . . . 518
Mulet mopiro . . . 518
Mulet oeil de perdrix . . . 519
Mulet otomebora . . . 516
Mulet tade . . . 517
Mullets . . . 255, 516
Murénésoce-dague . . . 280
Murex . . . 105, 114
Murex bruni . . . 114
Murex noire-épine . . . 116
Murex rameux . . . 115
Murex torréfié . . . 115
Mya Than Tun's perchlet . . . 385
Myanmar goby . . . 548

## N

Naked cheek bandfish . . . 516
Nansen's snake eel . . . 278
Narrow-banded hardyhead silverside . . . 334
Narrow-barred Spanish mackerel . . . 573
Narrow-lined puffer . . . 617
Narrow sawfish . . . 193
Natal duckbill . . . 538
Natal flounder . . . 586
Nautile flammé . . . 120
Needle cuttlefish . . . 120
Needlefishes . . . 235, 335
Needlescaled queenfish . . . 430
Neglected flounder . . . 586
Neglected grenadier anchovy . . . 295
Neglected ocellate octopus . . . 138
New Caledonian longarmed flounder . . . 592
New Guinea's cardinalfish . . . 405
Nielsen's flounder . . . 592
Noble lanternfish . . . 319
Nodular ark . . . 91
Northern five-toothed mantis shrimp . . . 21
Notchedfin threadfin bream . . . 482
Notched flathead . . . 375
Numbfishes . . . 187, 198
Nurseryfishes . . . 260, 552
Nurse sharks . . . 158, 167

## O

Oblique-banded grouper . . . 393
Oblique-banded snapper . . . 458
Oblique-barred monocle bream . . . 487
Oblong ponyfish . . . 438
Obscure driftfish . . . 577
Obscure flathead . . . 376
Obtuse barracuda . . . 565
Obtuse horn shell . . . 109
Oceanic basslets . . . 243, 379
Oceanic paddler crab . . . 86
Oceanic puffer . . . 622
Oceanic whitetip shark . . . 176
Ocean sunfish . . . 628
Ocean triggerfish . . . 607
Ocellated eagleray . . . 213
Ocellated flounder . . . 584
Ocellated waspfish . . . 362
Ochrebanded goatfish . . . 506
Ochreband wrasse . . . 527
Octopuses . . . 119, 137
Octopus squids . . . 134
Odontodactylid mantis shrimps . . . 13, 14
Offshore cardinalfish . . . 407
Oilfish . . . 567
Old woman octopus . . . 140
Olive grunt . . . 472
Olive wide-eyed flounder . . . 590
Oman gurnard . . . 369
Oman numbfish . . . 198
Onespined yellowtail stargazer . . . 535
Onespot snapper . . . 453
Onestick stingfish . . . 365
One-stripe anthias . . . 397
Onestripe fusilier . . . 462
Opahs . . . 231
Orange deepsea shrimp . . . 50
Orangefin ponyfish . . . 442
Orangelined cardinalfish . . . 410
Orangemouth anchovy . . . 302
Orange mud crab . . . 82
Orangepotted spinefoot . . . 555
Orange-spotted grouper . . . 388
Orangespotted trevally . . . 418
Orange-striped emperorn . . . 478
Orange-striped triggerfish . . . 606
Oriental bonito . . . 572
Oriental flying gurnard . . . 367
Oriental sillago . . . 412
Ornate dogfish . . . 162
Ornate eagle ray . . . 212
Ornate emperor . . . 478
Ornate slope dragonet . . . 546
Ornate spiny lobster . . . 60
Ornate threadfin bream . . . 480
Orphie carénée . . . 335
Orphie plate . . . 335
Ostracoberycids . . . 244, 398
Otomebora mullet . . . 516
Oval flounder . . . 588
Ovate boarfish . . . 581
Oxeye scad . . . 431
Oysters . . . 89, 96

## P

Pacific deer cowrie . . . 112
Pacific Kyway Poke . . . 112
Pacific yellowtail emperor . . . 476
Pagre berda . . . 473
Painted scorpionfish . . . 359
Painted spiny lobster . . . 62
Painted sweetlips . . . 466
Palaemonid shrimps . . . 28, 51
Pallid pearlfish . . . 327
Pama croaker . . . 494
Pandalid shrimps . . . 28, 53
Pangasiid catfishes . . . 227, 305
Papillose flathead . . . 377
Papuan toby . . . 619
Paradise threadfin . . . 500

Parin's spinyfish . . . 348
Parrotfishes . . . 256, 528
Pastel odontodactylid mantis shrimp . . . 14
Pastenague queue à ruban . . . 209
Pastenague violette . . . 209
Pavillon . . . 512
Pavo razorfish . . . 527
Peacock flounder . . . 583
Peacock hind . . . 382
Peacock sole . . . 597
Pearlfishes . . . 233, 327
Pearl oysters . . . 88, 92
Pearly-finned cardinalfish . . . 405
Pearly monocle bream . . . 485
Peau bleue . . . 180
Pêche-madame argenté . . . 412
Pêche-madame camus . . . 411
Pêche-madame diablotin . . . 411
Pêche-madame halanda . . . 412
Pêche-madame oriental . . . 412
Pelagic basslet . . . 379
Pelagic cods . . . 232
Pelagic eagle rays . . . 191, 213
Pelagic porcupinefish . . . 626
Pelagic stingray . . . 209
Pelagic thresher . . . 164
Péliau chanos . . . 414
Pelican flounder . . . 589
Pellonas . . . 226, 303
Penaeid shrimps . . . 25, 31
Penaeoid shrimps . . . 25
Penguin wing oyster . . . 94
Perchlets . . . 243
Perch-like fishes . . . 243
Perpeire à grandes écailles . . . 589
Perpeire pélican . . . 589
Perroquet à bandes rouges . . . 530
Perroquet à jove pâle . . . 528
Perroquet à six bandes . . . 530
Perroquet braisé . . . 532
Perroquet dorade . . . 531
Perroquet éclipse . . . 532
Perroquet joue blanche . . . 528
Perroquet marguerite . . . 529
Perroquet tête ronde . . . 532
Peters' monocle bream . . . 484
Peter's toby . . . 619
Petite encornet indien . . . 126
Petite squale-chagrin . . . 162
Petit sigan . . . 556
Pharao flyingfish . . . 343
Pharaoh cuttlefish . . . 123
Pickhandle barracuda . . . 564
Pieuvre . . . 141
Pigeye shark . . . 174
Pike congers . . . 224, 279
Pike Kwet Kin Puzun . . . 17
Pillai's anthias . . . 397
Pilotfish . . . 429
Pineapple fish . . . 347
Pinecone fishes . . . 236, 347
Pinecone soldierfish . . . 350
Pinjalo . . . 456
Pink ear emperor . . . 477
Pink whipray . . . 208
Pink worm goby . . . 551
Pintadine à lèvre dorée . . . 93
Pintadine à lèvre noire . . . 92
Pintadine radiée . . . 93
Pipefishes . . . 238, 239, 357
Plaintail turkeyfish . . . 360
Point-tailed sunfish . . . 628
Poisson ananas . . . 347
Poisson ange impérial . . . 514
Poisson pierre gris . . . 365
Poisson pilote . . . 429
Poisson sabre asbas . . . 568
Poisson-sabre cimeterre . . . 568
Poisson sabre commun . . . 569
Poisson-sabre dentu . . . 567
Poisson sabre manchot . . . 568
Pomfrets . . . 249, 442
Pompaneau africain . . . 432
Pompaneau lune . . . 433
Pompaneau muscadin . . . 433
Pompaneau pierrot . . . 433
Pompano à quille noire . . . 417
Pompano dolphinfish . . . 435
Ponyfishes . . . 249, 436
Porcelaine bossue . . . 113
Porcelaine daim du Pacific . . . 112
Porcelaine églantine . . . 113
Porcelaine taupe . . . 114
Porcelaine tigre . . . 112
Porc-épine ballon . . . 627
Porc-épine bécard . . . 626
Porc-épine boubou . . . 627
Porcupinefishes . . . 269, 625
Porcupine whipray . . . 210
Porgies . . . 251, 473
Poss's scorpionfish . . . 362
Potamide obtus . . . 109
Potamide sanglé . . . 109
Poulpe de sables . . . 137
Poulpe négligé ocellé . . . 138
Poulpe royale ocellé . . . 138
Poulpe siamois ocellé . . . 139
Poulpe veiné . . . 137
Poulpe vieille femme . . . 140
Pourpre petit-bourgeon . . . 116
Powder blue surgeonfish . . . 558
Prawns . . . 23
Prickly redfish . . . 153
Pronghorn spiny lobster . . . 61
Psomadakis' fanray . . . 197
Ptérocère commun . . . 111
Ptérocère rugueux . . . 110
Pufferfishes . . . 267
Puffers . . . 269, 616
Pugnose ponyfish . . . 437
Purpleback flying squid . . . 135
Purple mud crab . . . 83
Purplespot bigeye . . . 403
Purpuras . . . 105, 114
Pustule box crab . . . 72
Pygmy ribbontail catshark . . . 169
Pygmy skates . . . 189, 203
Pyramid top . . . 107

## Q

Quakerfish . . . 413
Quoy's halfbeak . . . 340
Quoy's parrotfish . . . 531

## R

Rabbitfishes . . . 261, 553
Raconda . . . 304
Radial stinger . . . 366

Rainbow runner . . . 428
Rainbow sardine . . . 294
Rainbow shrimp . . . 40
Rama Rao's scorpionfish . . . 362
Ramcarat grenadier anchovy . . . 295
Ramose murex . . . 115
Randall's fusilier . . . 461
Randall's lizardfish . . . 316
Randall's threadfin bream . . . 482
Ranong guitarfish . . . 196
Ranzania . . . 629
Rascasse serran . . . 357
Rason paon . . . 527
Rasp-tongue splitfin . . . 380
Rayed pearl oystersian brown mussel . . . 93
Razorbelly scad . . . 416
Rearfin flyingfish . . . 344
Red-bar anthias . . . 397
Red barracuda . . . 565
Redbarred parrotfish . . . 530
Redbar sandperch . . . 539
Redbelly yellowtail fusilier . . . 458
Redblotched perchlet . . . 384
Red cornetfish . . . 356
Red filament threadfin bream . . . 481
Redmouth grouper . . . 381
Red patched grunter . . . 473
Red pinjalo . . . 455
Red reef crab . . . 74
Red scad . . . 425
Redsmooth scorpionfish . . . 357
Red-spot king prawn . . . 44
Redtail butterflyfish . . . 511
Redtail prawn . . . 42
Redtail sandperch . . . 541
Redtail scad . . . 426
Red-toothed triggerfish . . . 608
Reef crabs . . . 67, 74
Reef odontodactylid mantis shrimp . . . 15
Reeve's croaker . . . 488
Reinhardt's cranch squid . . . 133
Rémora commun . . . 415
Rémora des requins . . . 415
Remoras . . . 248, 415
Renard à gros yeux . . . 164
Renard pélagique . . . 164
Requiem sharks . . . 159, 173
Requin aiguille gris . . . 181
Requin à joues blanches . . . 175
Requin à museau pointu . . . 180
Requin à nez rude . . . 177
Requin à queue tachetée . . . 178
Requin à tache noire . . . 178
Requin babosse . . . 173
Requin baleine . . . 167
Requin balestrine . . . 174
Requin bordé . . . 176
Requin bouledogne . . . 176
Requin-chabot bambou . . . 166
Requin-chabot birman . . . 165
Requin-chabot élégant . . . 166
Requin-chabot gris . . . 165
Requin-chabot indonésien . . . 165
Requin chat arlequin . . . 169
Requin chat pygmée . . . 169
Requin corail . . . 181
Requin crocodile . . . 163
Requin dagsit . . . 174
Requin épée . . . 181
Requin gracile . . . 174
Requin grandes ailes . . . 179
Requin gris . . . 177
Requin griset . . . 160
Requin-hâ à gros yeux . . . 170
Requin-hâ long nez . . . 170
Requin limon faucille . . . 180
Requin-marteau commun . . . 183
Requin-marteau halicorne . . . 182
Requin nourrice fauve . . . 167
Requin océanique . . . 176
Requin perlon . . . 160
Requin pointe blanche . . . 173
Requin pointes noires . . . 177
Requin sagrin . . . 179
Requin soyeux . . . 175
Requin taureau . . . 163
Requin tigre commun . . . 178
Requin tisserand . . . 175
Requin zèbre . . . 166
Reticulated mantis shrimp . . . 17
Reticulated sandperch . . . 542
Reticulate flower crab . . . 82
Reticulate whipray . . . 206
Reynald's grenadier anchovy . . . 295
Rhomboid toothpony . . . 439
Rib-bar cardinalfish . . . 409
Ribbonfishes . . . 231, 319
Rice-paddy eel . . . 278
Richard's whiptail . . . 322
Ridge-back lobsterette . . . 57
Ridgeback shrimp . . . 47
Ridged swimming cra . . . 79
Rite à trois taches . . . 587
Rite dentu . . . 583
Rite javanais . . . 585
Rite malais . . . 585
Rite targeur . . . 584
Robber harpiosquillid mantis shrimp . . . 18
Robust tuskfish . . . 524
Rock shells . . . 105, 114
Rock shrimps . . . 26, 46
Rohu . . . 5
Rombou léopard . . . 588
Rosenberg's jawfish . . . 400
Roshna prawn . . . 51
Rosy cod . . . 322
Rosy dory . . . 354
Rosy dwarf monocle bream . . . 483
Rouffe indien . . . 577
Rouget-barbé badeau . . . 503
Rouget-barbet barberin . . . 501
Rouget-barbet cinnabare . . . 502
Rouget-barbet doré . . . 502
Rouget-barbet double-tache . . . 504
Rouget-barbet indien . . . 503
Rouget-barbet pastille . . . 504
Rouget-souris à bande sombre . . . 506
Rouget-souris ocre . . . 506
Rouget-souris orangé . . . 507
Rough flathead . . . 374
Rough-nose conger . . . 282
Rough river prawn . . . 51
Roundbelly cowfish . . . 614
Roundhead parrotfish . . . 532
Roundheads . . . 245
Roundhead soldierfish . . . 352
Round herrings . . . 226, 294
Round scorpionfish . . . 359
Round whipray . . . 207
Rouvet . . . 567
Rovers . . . 249, 444
Roving coralgrouper . . . 396

Rusty jobfish . . . . . 444

## S

Sabre squirrelfish . . . . . 354
Sackfish . . . . . 566
Saddle grunt . . . . . 472
Sad surgeonfish . . . . . 560
Sagor catfish . . . . . 308
Sailfin armourhead . . . . . 515
Sailfin flyingfish . . . . . 346
Saint Pierre argenté . . . . . 355
Salicoque balafrée . . . . . 47
Salicoque des vases côtières . . . . . 48
Sammara squirrelfish . . . . . 351
Sandbar shark . . . . . 177
Sandbird octopus . . . . . 137
Sand divers . . . . . 257, 536
Sandfish . . . . . 151
Sand flounders . . . . . 266, 583
Sandlances . . . . . 257, 533
Sandperches . . . . . 257, 539
Sandtiger sharks . . . . . 156, 163
Sandtiger shark . . . . . 163
Sapsap à deux taches . . . . . 440
Sapsap boxeur . . . . . 437
Sapsap dentu . . . . . 439
Sapsap fil . . . . . 438
Sapsap vaguelette . . . . . 440
Sapsap voile orange . . . . . 442
Sardine arc-en-ciel . . . . . 294
Sardine arc-en-ciel gracile . . . . . 294
Sardinellas . . . . . 225, 288
Sardinella tachetee . . . . . 288
Sardinelle blanche . . . . . 291
Sardinelle dorée . . . . . 292
Sardinelle queue noire . . . . . 293
Sargue doré . . . . . 474
Sauteur carsia . . . . . 430
Sauteur leurre . . . . . 430
Sauteur sabre . . . . . 430
Sauteur talang . . . . . 429
Savalani hairtail . . . . . 568
Sawfishes . . . . . 186, 193
Saw-jawed monocle bream . . . . . 485
Sawmaxilla scorpionfish . . . . . 358
Sawtooth barracuda . . . . . 565
Sawtooth duckbill eel . . . . . 281
Scads . . . . . 248, 415
Scalloped hammerhead . . . . . 182
Scalloped spiny lobster . . . . . 59
Scaly Bombay duck . . . . . 313
Scaly dragonfishes . . . . . 228
Scaly hairfin anchovy . . . . . 296
Scaly-nape tentacle goby . . . . . 549
Scarlet seabat . . . . . 332
Scarlet shrimp . . . . . 29
Scarlet snapper . . . . . 446
Scats . . . . . 260, 553
Scissors chromis . . . . . 522
Scorpionfishes . . . . . 240, 358
Scribbled leatherjacket filefish . . . . . 610
Sea catfishes . . . . . 227, 306
Seachubs . . . . . 253, 509
Seahorses . . . . . 239, 357
Seamoths . . . . . 238, 355
Sea cucumbers . . . . . 146, 148
Sea mussels . . . . . 88, 92
Sea perches . . . . . 243, 379
Searobins . . . . . 368
Sea toads . . . . . 234, 330
Seiche aiguille . . . . . 120
Seiche baisers . . . . . 122
Seiche capuchon . . . . . 123
Seiche étoilée . . . . . 124
Seiche grandes mains . . . . . 122
Seiche hameçon . . . . . 124
Seiche kobi . . . . . 121
Seiche petites mains . . . . . 121
Seiche pharaon . . . . . 123
Sélar à bande dorée . . . . . 431
Sélar aile noire . . . . . 417
Sélar coulisou . . . . . 431
Sélar harangule . . . . . 417
Sélar oeil de boeuf . . . . . 431
Sélar queue jaune . . . . . 418
Sélar subari . . . . . 416
Selenka's sea cucumber . . . . . 153
Sentinel crab . . . . . 80
Sépiole mimika . . . . . 125
Sépiolette de Koch . . . . . 126
Sergestid shrimps . . . . . 26, 49
Sergestoid shrimps . . . . . 25
Seriola . . . . . 248
Seriola rivoliana . . . . . 432
Sériole amourez . . . . . 432
Sériole limon . . . . . 432
Serpenton des rizières . . . . . 278
Serrated flathead . . . . . 376
Serrate razorfish . . . . . 356
Sesarmid crabs . . . . . 69, 85
Shadow driftfish . . . . . 578
Shadowfin soldierfish . . . . . 349
Shadow goby . . . . . 551
Shadow trevally . . . . . 419
Shads . . . . . 225, 288
Shaggy angler . . . . . 330
Sharknose conger . . . . . 284
Sharks . . . . . 154
Shark sucker . . . . . 415
Sharpear enope squid . . . . . 131
Sharpfin barracuda . . . . . 563
Sharpnose hammer croaker . . . . . 490
Sharpnose sevengill shark . . . . . 160
Sharptooth jobfish . . . . . 457
Shiny bird squid . . . . . 135
Shortbill spearfish . . . . . 577
Short-body spaghetti eel . . . . . 286
Shortclub cuttlefish . . . . . 121
Shortfin bigeye . . . . . 401
Shortfin flyingfish . . . . . 346
Shortfin lizardfish . . . . . 314
Shortfin mako . . . . . 164
Shortfin neoscopelid . . . . . 317
Shortfin scad . . . . . 426
Shortheaded tonguesole . . . . . 599
Shorthead hairfin anchovy . . . . . 296
Shortlip numbfish . . . . . 199
Short mackerel . . . . . 571
Shortnose boxfish . . . . . 615
Shortnose chimaeras . . . . . 217, 218
Shortnose conger . . . . . 284
Short-nosed tripodfish . . . . . 604
Short ocean sunfish . . . . . 628
Shortsnout scorpionfish . . . . . 361
Shortsnout spikefish . . . . . 603
Shortspine monkfish . . . . . 329
Shorttail cownose ray . . . . . 214
Short-tail tripodfish . . . . . 605
Short-tooth cardinalfishfinned cardin . . . . . 407
Shovelnose sea catfish . . . . . 307

Shrimpfishes . . . 238, 356
Shrimps . . . 23
Shrimp scad . . . 416
Siamese ocellate octopus . . . 139
Siboga squid . . . 130
Sicilian comb-finned squid . . . 132
Sicklefin chimaera . . . 218
Sicklefin devilray . . . 215
Sicklefin lemon shark . . . 180
Sicklefin weasel shark . . . 172
Sicklefishes . . . 253, 510
Sickle pomfret . . . 443
Sidespot goatfish . . . 504
Sigan corail . . . 554
Sigan marguerite . . . 556
Sigan pintade . . . 554
Sigan vermicelle . . . 557
Sigan vermiculé . . . 553
Silky shark . . . 175
Sillagos . . . 247, 411
Silverbiddies . . . 250, 463
Silver grunt . . . 470
Silver moony . . . 511
Silvermouth turban . . . 108
Silver pomfret . . . 580
Silver pomfrets . . . 265, 580
Silversides . . . 235, 334
Silver sillago . . . 412
Silverspot squirrelfish . . . 353
Silver-spotted lanternbelly . . . 380
Silver-stripe round herring . . . 293
Silvertip shark . . . 173
Silver tripodfish . . . 604
Silvery John dory . . . 355
Sin croaker . . . 491
Singapore rough shrimp . . . 31
Singapore toadfish . . . 328
Sixbar grouper . . . 394
Sixfinger threadfin . . . 499
Sixgill stingray . . . 203
Sixgill stingrays . . . 189, 203
Skates . . . 188, 201
Skinnycheek lanternfish . . . 318
Skinny gurnard . . . 369
Skipjack tuna . . . 571
Sleeper rays . . . 188, 200
Sleepers . . . 259, 546
Sleeper sharks . . . 156, 163
Slender alfonsino . . . 349
Slender bambooshark . . . 166
Slender conger . . . 285
Slender dwarf monocle bream . . . 484
Slender fusilier . . . 460
Slender giant moray . . . 275
Slender grouper . . . 382
Slender mola . . . 629
Slender ponyfish . . . 441
Slender rainbow sardine . . . 294
Slender red scad . . . 427
Slender silverbiddy . . . 464
Slender snipe eel . . . 287
Slender threadfin bream . . . 482
Slender thryssa . . . 301
Slender weasel shark . . . 173
Slickheads . . . 227
Slimeheads . . . 236, 347
Slipper lobsters . . . 56, 63
Sliteye shark . . . 179
Small-eyed squillid mantis shrimp . . . 20
Smalleye stingray . . . 207
Smallfin gulper shark . . . 162
Smallhead hairtail . . . 568
Smallmouth threadfin . . . 498
Smallscale bonefish . . . 270
Smallscale scorpionfish . . . 361
Smallspined flathead . . . 374
Smallspot numbfish . . . 199
Smallspotted dart . . . 433
Small-toothed conger . . . 285
Small toothed jobfish . . . 444
Smalltooth emperor . . . 477
Smith's cardinalfish . . . 406
Smoky seabat . . . 332
Smooth angler . . . 329
Smoothback guitarfish . . . 195
Smoothbelly sardinella . . . 288
Smooth blaasop . . . 622
Smooth dwarf monocle bream . . . 483
Smooth fan lobster . . . 63
Smooth hammerhead . . . 183
Smoothnose wedgefish . . . 195
Smooth nylon shrimp . . . 53
Smoothounds . . . 170
Smoothshell shrimp . . . 37
Smooth squillid mantis shrimp . . . 17
Smoothtail mobula . . . 216
Snaggletooth shark . . . 172
Snake eels . . . 224, 276
Snake mackerels . . . 262, 566
Snappers . . . 250, 444
Snipe eels . . . 225, 286
Snowflake moray . . . 272
Snubnose pompano . . . 433
Softhead grenadier . . . 321
Sokotra moray . . . 274
Soldier catfish . . . 310
Soldier croaker . . . 493
Soldierfishes . . . 237, 349
Sole de Commerson . . . 596
Solenocerid shrimps . . . 26, 47
Soles . . . 267, 595
Sole zèbre . . . 598
Solitary duckbill eel . . . 281
Sombre sweetlips . . . 469
Sona sea catfish . . . 308
Southern velvet shrimp . . . 32
Spadefish . . . 552
Spadefishes . . . 260, 552
Spadenose shark . . . 181
Spaghetti eels . . . 225, 286
Spangled emperor . . . 477
Spanish flag snapper . . . 448
Spanner crab . . . 70
Spanner crabs . . . 66, 70
Spear shrimp . . . 39
Speckled sandperch . . . 540
Speckled shrimp . . . 36
Speckled tonguesole . . . 600
Spectacled filefish . . . 612
Speigler Ka Beluu . . . 520
Speigler's mullet . . . 520
Spider crab . . . 76
Spider crabs . . . 67
Spider prawn . . . 52
Spikefishes . . . 267, 602
Spineless cuttlefish . . . 125
Spinner shark . . . 175
Spinous mantis shrimp . . . 16
Spiny blaasop . . . 625
Spinycheek grouper . . . 389
Spinycheek lanternfish . . . 317
Spiny eels . . . 223

Spinyfins . . . 236, 348
Spiny flathead . . . 375
Spiny flatheads . . . 373
Spinyjaw greeneye . . . 312
Spiny lobsters . . . 56, 58
Spinysnout squirrelfish . . . 351
Spiny turbots . . . 265, 582
Spiny waspfish . . . 363
Spiral melongena . . . 117
Splendid perches . . . 245, 399
Splitlevel hogfishe . . . 523
Spotbase burrfish . . . 626
Spotbelly batfish . . . 553
Spotcheek emperor . . . 479
Spotfin burrfish . . . 625
Spotfin cardinalfish . . . 405
Spotfin flyingfish . . . 341
Spotfin frogfish . . . 330
Spot fin parrotfish . . . 531
Spotfin perchlet . . . 396
Spot-fin porcupinefish . . . 627
Spottail needlefish . . . 336
Spot-tail shark . . . 178
Spottail sleeper ray . . . 200
Spotted boxfish . . . 615
Spotted catfish . . . 306
Spotted croaker . . . 496
Spotted flathead . . . 373
Spotted reef crab . . . 75
Spotted righteye flounder . . . 594
Spotted sand-diver . . . 537
Spotted sandperch . . . 540
Spotted sardinella . . . 288
Spotted scat . . . 553
Spotted sicklefish . . . 510
Spotted stinger . . . 364
Spotted sweetlips . . . 469
Spotty-face anchovy . . . 299
Spotwing helmet gurnard . . . 366
Squale bouclé . . . 160
Squale-chagrin cagaou . . . 162
Squale-chagrin commun . . . 161
Squale-grogneur velouté . . . 163
Squalus hemipinnis . . . 161
Squalus lalannei . . . 161
Squalus sp. . . . 161
Square-shelled crab . . . 77
Squaretail mullet . . . 518
Squid . . . 118
Squids . . . 119
Squilla . . . 2
Squillid mantis shrimps . . . 13, 16
Squirrelfishes . . . 236, 237, 349
Sri Lanka sweetlips . . . 467
Stained flyingfish . . . 342
Stargazers . . . 256, 257, 534
Starry cuttlefish . . . 124
Starry triggerfish . . . 606
Stellar gurnard . . . 368
Stellar Perchlet . . . 385
Stellate puffer . . . 618
Stinger flatheads . . . 241, 367
Stingrays . . . 190, 204
Stomatopods . . . 11
Stonefish . . . 149
Stonefishes . . . 240, 364
Stork shrimp . . . 36
Stout red shrimp . . . 31
Straight hammer oyster . . . 95
Streaked seerfish . . . 574
Streaked spinefoot . . . 555
Streamlined spinefoot . . . 553
Strict snake eel . . . 279
Striped bristletooth . . . 561
Striped eel catfish . . . 305
Striped grouper . . . 391
Striped large-eye bream . . . 474
Striped marlin . . . 576
Striped ponyfish . . . 436
Striped threadfin . . . 498
Strombe isabelle . . . 111
Strombe variable . . . 110
Strømme's sandperch . . . 542
Strong spine silverbiddy . . . 465
Longtail silverbiddy . . . 463
Stubby lanternfish . . . 318
Suez pufferfish . . . 623
Sulphur goatfish . . . 505
Surgeonfishes . . . 260, 261, 558
Sutton's flyingfish . . . 343
Swamp ceriths . . . 104, 109
Swamp eels . . . 239
Sweepers . . . 252, 507
Swimming crabs . . . 68, 77
Swordfish . . . 263, 575
Swordtip squid . . . 129

## T

Tade mullet . . . 517
Taileyed goby . . . 549
Tailspot duckbill . . . 537
Tailspot sandperch . . . 543
Taiwanese torpedo . . . 201
Talang queenfish . . . 429
Tamarin à bandes noires . . . 526
Indian Signalfish . . . 537
Tang's snapper . . . 446
Taning's octopus squid . . . 134
Tank goby . . . 548
Tarpon Indo-Pacifique . . . 270
Tarpons . . . 222, 270
Tassergal . . . 414
Taupe bleu . . . 164
Tawny nurse shark . . . 167
Tenpounder . . . 270
Tenpounders . . . 222, 270
Ten-tooth wrasse . . . 524
Tétraodon-lièvre doré . . . 623
Thazard-bâtard . . . 569
Thazard cirrus . . . 574
Thazard coréen . . . 573
Thazard-kusara . . . 570
Thazard ponctué indo-pacifique . . . 573
Thazard rayé indo-acifique . . . 573
Thet Tant Khun Gyan . . . 40
Thet Tant Nga Kway Nyo . . . 294
Thin Phyu . . . 493
Thin War . . . 488
Thin War Gyi . . . 488
Thit Khwa Nga Thin Chaw . . . 527
Thit Kja Pho Nga Khway Sharr . . . 584
Thit Tar Nga A War . . . 614
Thit Tar Nga Bike . . . 614
Thit Tar Nga Hnar Bu Chun . . . 615
Thit Tar Nga Hnar To . . . 615
Thit Tar Nga Kyaw Bu Chun . . . 616
Thit Tar Nga Set Pyauk . . . 615
Thit Tar Nga Suu Shae . . . 614
Thit Tar Pin Le' Ga Nann . . . 71
Thompson Nga Yan Sharr . . . 560

Thompson's surgeonfish . . . 560
Thon albacore . . . 574
Thonine orientale . . . 570
Thon mignon . . . 575
Thon obèse . . . 574
Thorny deepwater spider crab . . . 76
Thorny flathead . . . 376
Threadfin breams . . . 251, 480
Threadfins . . . 252, 496
Threadfin sandperch . . . 540
Threadfin sea catfish . . . 306
Threefinger threadfin . . . 497
Three-spot swimming crab . . . 81
Threespotted flounder . . . 587
Thresher sharks . . . 157, 164
Thumbprint emperor . . . 476
Tiger cardinalfish . . . 406
Tiger cowrie . . . 112
Tiger shark . . . 178
Tigertooth croacker . . . 493
Tilefishes . . . 247, 413
Tile taches de son . . . 413
Tille trevally . . . 425
Timor snapper . . . 454
Timor wrasse . . . 526
Toadfishes . . . 233, 328
Toli shad . . . 294
Tomato hind . . . 384
Tonguesoles . . . 267, 598
Tooth ponyfish . . . 439
Topes . . . 170
Top shells . . . 104, 107
Torpedos . . . 188, 201
Torpedo scad . . . 428
Torpedo shrimp . . . 39
Travancore skate . . . 201
Trépang curry . . . 152
Trépang vert . . . 152
Triangle butterflyfish . . . 512
Triangular boxfish . . . 616
Triggerfishes . . . 268, 605
Triplecross lizardfish . . . 316
Triplespines . . . 268
Tripletail . . . 462
Tripletails . . . 250, 462
Tripod épineux . . . 604
Tripod fishes . . . 229
Tripodfishes . . . 268, 604
Tripodin nez court . . . 604
Trocha nacrier . . . 107
Trompette chinoise . . . 355
Tropical mottled eel . . . 287
Tropical two-wing flyingfish . . . 345
Troque obélisque . . . 107
Troschel's parrotfish . . . 529
True lobsters . . . 56, 57
Trumpetfishes . . . 238, 355
Trumpetsnout spikefish . . . 602
Tuberculated flathead . . . 377
Tunas . . . 262, 263, 569
Turban shells . . . 104, 108
Turbo bouche-d'argent . . . 108
Turbot épineux-indien . . . 582
Turbo vert . . . 108
Twinbar cardinalfish . . . 404
Twoblotch ponyfish . . . 440
Two-lined monocle bream . . . 485
Twospined yellowtail stargazer . . . 535
Twospot banded snapper . . . 447
Twospot bristletooth . . . 561
Two-spot razorfish . . . 526
Two-spot red snapper . . . 447
Two-striped box crab . . . 70
Two-tone goatfish . . . 504

## U

U-mark sandperch . . . 541
Unarmed dwarf monocle bream . . . 483
Uncta shrimp . . . 38
Unicorn cod . . . 320
Unicorn leatherjacket filefish . . . 610
Unicorn sole . . . 595
Upturned snout rattail . . . 321

## V

Variable conch . . . 110
Variegated lizardfish . . . 316
Varunid crabs . . . 69, 86
Veined catfish . . . 307
Veined octopus . . . 137
Velvet dogfish . . . 163
Velvetfishes . . . 241, 366
Ventral-barred moray . . . 274
Venus clams . . . 90, 101
Vénus fertile . . . 101
Verany's long-armed squid . . . 131
Vermiculated spinefoot . . . 557
Verrue bronzée . . . 494
Verrue tigre . . . 493
Vieille ananas . . . 384
Vielle Andaman . . . 384
Vielle chocolat . . . 382
Vielle ciosomoer . . . 382
Vielle de corail . . . 383
Vielle lignes bleues . . . 383
Vielle roga . . . 381
Vielle tache de rousseur . . . 383
Vielle taches blanches . . . 388
Violet vinegar crab . . . 85
Violon crépuscule . . . 400
Vivaneau à cinq bandes . . . 453
Vivaneau a queue noir . . . 449
Vivaneau à raies bleues . . . 451
Vivaneau à raies jaunes . . . 451
Vivaneau bourgeois . . . 454
Vivaneau chien rouge . . . 447
Vivaneau cramoisi . . . 449
Vivaneau damier . . . 448
Vivaneau des mangroves . . . 446
Vivaneau de Timor . . . 454
Vivaneau drapeau . . . 448
Vivaneau du à bande blanche . . . 447
Vivaneau du Bengale . . . 447
Vivaneau écarlate . . . 446
Vivaneau eglefin . . . 453
Vivaneau encrier . . . 448
Vivaneau flamme . . . 445
Vivaneau gros yeux . . . 452
Vivaneau job . . . 445
Vivaneau madras . . . 452
Vivaneau malabar . . . 452
Vivaneau maori . . . 453
Vivaneau pagaie . . . 450
Vivaneau plat . . . 455
Vivaneau queue . . . 451
Vivaneau rouillé . . . 444
Vivaneau rubis . . . 445
Vivaneau têtu . . . 454
Vivaneau tidents . . . 444

Vivaneau verrue . . . 446
Vivaneau ziebelo . . . 450
Vivanette queue jaune . . . 455
Voilier indo-pacifique . . . 576

## W

Wahoo . . . 569
Waigieu seaperch . . . 379
Waspfishes . . . 240, 363
Wasp scorpionfishes . . . 240, 362
Wavy-lined grouper . . . 395
Weasel sharks . . . 159, 172
Weber's deepwater flounder . . . 591
Wedgefishes . . . 186, 194
Wedge-tail triggerfish . . . 609
Western king prawn . . . 44
Western kuruma prawn . . . 43
Whale shark . . . 7, 158, 167
Whipfin ponyfish . . . 438
Whipfin silverbiddy . . . 463
White-blotched grouper . . . 392
Whitecheek monocle bream . . . 487
Whitecheek shark . . . 175
White-eye moray . . . 275
Whitefin trevally . . . 420
Whitefin wolf-herring . . . 302
Whiteflag dragonet . . . 545
White hammer oyster . . . 94
Whitemargin unicornfish . . . 562
Whitemouth jack . . . 434
White sardine . . . 289
White sardinella . . . 291
Whitespot sandsmelt . . . 539
Whitespotted filefish . . . 611
Whitespotted grouper . . . 388
White-spotted gummy shark . . . 171
White-spotted puffer . . . 616
White spotted spikefish . . . 602
White-spotted spinefoot . . . 554
Whitespotted whipray . . . 206
Whitestreaked grouper . . . 393
White-striped octopus . . . 139
White-tipped sandlance . . . 534
Whitetip reef shark . . . 181
Whitetongue jack . . . 434
Widemouth largescale flatfish . . . 582
Winghead shark . . . 182
Witch prawn . . . 43
Wolf-herrings . . . 226, 302
Wrasses . . . 255, 256, 522

## Y

Yamanaka's lefteye flounder . . . 588
Yang's blind numbfish . . . 198
Yelloface triggerfish . . . 608
Yellow-and-blueback fusilier . . . 459
Yellowback fusilier . . . 459
Yellowband goatfish . . . 502
Yellowbar sandperch . . . 542
Yellow-edged moray . . . 273
Yelloweye Sweeper . . . 507
Yellow face sandlance . . . 533
Yellowfin dwarf monocle bream . . . 484
Yellowfin goatfish . . . 501
Yellowfin needlefish . . . 335
Yellowfin pygmy angelfish . . . 514
Yellowfin sandlance . . . 534
Yellowfin scorpionfish . . . 361
Yellowfin surgeonfish . . . 561
Yellowfin tuna . . . 574
Yellow-headed butterflyfish . . . 512
Yellowing flyingfish . . . 344
Yellow line ponyfish . . . 438
Yellow moon crab . . . 73
Yellow pike conger . . . 279
Yellow pufferfish . . . 621
Yellow seahorse . . . 357
Yellow-shoulder duckbill . . . 538
Yellow shrimp . . . 34
Yellowspotted bandfish . . . 515
Yellowspotted trevally . . . 420
Yellow-spotted triggerfish . . . 608
Yellowstreaked snapper . . . 451
Yellowstriped cardinalfish . . . 408
Yellow-striped cheek goby . . . 547
Yellowstriped goatfish . . . 507
Yellow-striped puffer . . . 624
Yellowstripe goatfish . . . 501
Yellowstripe scad . . . 431
Yellowstripe slopefish . . . 398
Yellowtail blue snapper . . . 455
Yellowtail catfish . . . 305
Yellowtail scad . . . 418
Yellowthread threadfin . . . 497
Yellow trunkfish . . . 614

## Z

Zebra lionfish . . . 358
Zebra mantis shrimp . . . 15
Zebra shark . . . 157, 166
Zonetail butterfly ray . . . 204

# Index of local names

## A


Abe Nga Pyan . . . 341
Africa Nga Htaw Butt . . . 432
Africa Nga Kywet Hmee . . . 218
Africa Ye Net Puzun . . . 58
Africa Ywet Tike Nga Pyan . . . 346
A Hmee Kyar A Kyee Kywet Nga . . . 413
A Hmee Nee War Nga . . . 399
A Hmee Nee War Nga Bae War Zin . . . 398
Ahmee Paing Nga Pyan . . . 344
A Hmwe Gyan Kyaung Nga Mann . . . 168
A Kjee Gyi Gone Kyarr . . . 401
A Kjee Gyi Nga Pyan . . . 343
A Kjee Tann Si Ka Beluu . . . 516
A Kjee Thae Ye Nut Tha Mee . . . 361
A Kyee Kywet Nga . . . 413
A Kyee Kywet Nga Bae Sinn . . . 413
A Lan Toung Nga Palway . . . 411
Alcock Nga Kyauk Tone . . . 365
Alcock Pin Le' Pink Ku Ga Nann . . . 76
Ale Alat Nga Pyan . . . 342
A Mee Zin Nga Kjee Mar . . . 354
A Moe Khone Ka Mar . . . 96
A Mouk Shae Nga . . . 435
A Nanda Kin Puzun . . . 18
Ananda Kyei Nga Mann Khar . . . 195
Andaman Hnar Shae Leik Kyauk . . . 203
Andaman Japu Leik Kyauk . . . 203
Andaman Kyauk Nga . . . 384
Andaman Mway Nga Shint . . . 325
Andaman Na Kjee Nga . . . 363
Andaman Nga Gone . . . 470
Andaman Nga Khway Sharr . . . 601
Andaman Nga Kywet Hmee . . . 218
Andaman Nga Leik Pyarr . . . 511
Andaman Phone Gyi Nga . . . 411
Andaman Thae Ka Ka Tit . . . 539
Andaman Yaung Sone Ka Ka Tit . . . 399
Andaman Ye Net Nga Moke . . . 443
Andaman Ye Net Suu Nga Gaung . . . 368
Anderson Pin Le' Ga Nann . . . 79
Andra Nga Nga Ni Tu Ngwe Zinn . . . 297
A Ni Yaung Nga Kjee Mar . . . 353
A Pu Paing Nga Mee Toung . . . 287
A Pyar Set Nga Phaung Yoe . . . 356
A Pyar Ye Ba Wei Gyi . . . 140
Arab Nga Mann Mote Soe . . . 171
Arabya Pin Le' Nga Gaung Pwa . . . 348
Arabya Ye Net Kywe Pa Done . . . 369
Argonaut Ye Ba Wei Gyi . . . 141
Ar Ni . . . 109
Ar Ni Kyauk Nga . . . 381
Ar Ray Bya . . . 30
Ar Ye Bya Ye Net Puzun Htote . . . 62
A Seik Shi Kin Puzun . . . 16
A Shin Poke . . . 270
Asia Gone Mar . . . 102
A Sin Gyaung Gone Kha Yu . . . 91
Asi Phuu Mae Nga Yaung . . . 310
A War Line Kyo Warr . . . 502
Awar Yaung Nga Pyan . . . 344
A Yae Htuu Nga . . . 610
A Yae Htuu Nga Myet Hman . . . 612
A Yae Yoe Nga Mann . . . 167
A Yeik Htwet Nga Kjee Mar . . . 349
A Yeik Htwet Pin Le' Nga Pyet . . . 551
A Yeik Htwet Zar Gyan . . . 420
Ayeyarwady Yae Cho Nga Mann . . . 179
A Yit Khway Kha Yu . . . 117


## B


Bae Hmat Kyo Warr . . . 504
Bae Hnit Sin Kyo Warr . . . 504
Bae' Leik A Hmee Chaw . . . 216
Bae' Leik Beluu . . . 214
Bae' Leik Dee Doke Hmee To . . . 214
Bae' Leik Gye Doke Chaung Hmee . . . 215
Bae' Leik Gyo Taung . . . 215
Bae' Leik Gyo Taung Phyu . . . 215
Bae Leik Soon Kyaw Kywet Kyar . . . 212
Bae' Leik Soon Kyaw Me' Phyu Set . . . 213
Bae' Leik Soon Lin Yone Gaung Shae . . . 213
Bae Line Kyar Nga Kyarr Ma . . . 521
Bae line Nga Pyan . . . 341
Bae' Myet Lone Hmwe Shae Khway Sharr . . . 587
Bae Pyar Gyi Kinn Mon . . . 127
Bae Sin Gyi Nga Thin Chaw . . . 526
Bae Sinn Za Yaw . . . 498
Bae War Line Kyo Warr . . . 501
Bagan Nga Par Sharr . . . 297
Balika Nga Khway Sharr . . . 601
Balikar Nga Kyet Tu Yway . . . 528
Bali Nga Kone Nyo . . . 292
Bamar Kyei Nga Mann Phar . . . 197
Ba Mar Nga Pa Sharr . . . 297
Bangalar Nga Kyarr Ma . . . 521
Barry Nga . . . 398
Ba Tu Nga Thin Chaw . . . 524
Baung Gyi . . . 107
Baung Lai . . . 107
Baung Kha Yu . . . 107
Bay Hnit Zinn Bee Zin . . . 570
Ba Yin Ye Ba Wei . . . 138
Bee Pone Ye Net Kinn Mon . . . 132
Bee Zin Bae Sin Seik . . . 573
Bee Zin Gyi . . . 569
Be Hnote Thee Gone . . . 145
Be' Hnote Thee Hlwa Thwar Nga . . . 281
Be Hnote Thee Nga . . . 536, 538
Be' Hnote Thee Nga Shint . . . 281
Be' Hnote Thee Tago Taw Nga . . . 281
Bekar Kinn Mon . . . 127
Belanger Nga Poke Thin . . . 489
Be' Leik Kyaw Phyu Sin . . . 214
Be' Leik Soon Kyaw Sin Lay . . . 212
Be' Leik Soon Kyaw Zin Gyi Tin . . . 212
Be Lu Gaung Pin Le' Ga Nann . . . 84
Belu Kyei Nga Mann Khar . . . 197
Be' Myet Lone A Kje Gyi Khway Sharr . . . 589
Be' Myet Lone Caledonia Khway Sharr . . . 592
Be' Myet Lone Fo Lar Khway Sharr . . . 592
Be' Myet Lone Gunther Khway Sharr . . . 590
Be' Myet Lone Japan Khway Sharr . . . 587
Be' Myet Lone Khway Sharr . . . 591
Be' Myet Lone Khway Sharr Gaung Thae . . . 591
Be' Myet Lone Khway Sharr Pyar . . . 589
Be' Myet Lone Lone Waing Khway Sharr . . . 588
Be' Myet Lone Myet Pyuu Khway Sharr . . . 590
Be' Myet Lone Nielsen Khway Sharr . . . 592
Be' Myet Lone Pelican Khway . . . 589

Be' Myet Lone Set Pyauk Khway Sharr . . . . . 590
Be' Myet Lone Yama Khway Sharr . . . . . 588
Bengal corvina . . . . . 488
Bengal escolar . . . . . 567
Bengali geloina . . . . . 100
Bengal Nga Leik Kyauk . . . . . 205
Bengal Ye Net Nga Kunn Shut . . . . . 567
Bhu Htit Nga Sin Ninn . . . . . 375
Bingalar Gone . . . . . 100
Bingalar Nga Khway Sharr Ar Kauk . . . . . 599
Bin Ga Lar Nga Tha Pyar . . . . . 301
Bony Nga Pyan . . . . . 345
Bu Done Sin Gone Kha Yu . . . . . 91
Byar San Wike . . . . . 415
Byar San Wike Gaung Lone . . . . . 416

## C

Caroun Nga Poke Thin . . . . . 490
Celebe Nga Sin Ninn . . . . . 378
Chaw Hywe KjeiNga Mann Khar . . . . . 195
Chaw Kalet Kyauk Nga . . . . . 382
Chay Tan Shae Kyauk Puzun . . . . . 60
Cook Nga Kyarr Ma . . . . . 407

## D

Dah Hteik Kinn Mon . . . . . 129
Daisy Nga Kyet Tu Yway . . . . . 529
Da Ma Naing . . . . . 428
Danilar Nga Kjee Mar . . . . . 352
Da Pya Kin Puzun . . . . . 18
Datsu Nga Phaung Yoe Hnote Thee To . . . . . 339
Daung Hmee Kywet Nga Khway Sharr . . . . . 584
Dee Yay Taw Gone Kha Yu . . . . . 97
Dee Ye Net Puzun . . . . . 30
Delago Shwe Nga . . . . . 480
De Yay Taw Nga Leik Kyauk . . . . . 211
Din Gar Ni Nga . . . . . 515
Din Gar Ni Nga Byaung Chaw . . . . . 516
Din Gar Ni Nga Kyaw Me' Set . . . . . 515

## E

Emma Kyauk Nga . . . . . 396

## F

Free Gate Nga Me' Lone . . . . . 570

## G

Gaung Chaw Nga Sin Ninn . . . . . 376
Gaung Chun Ka Beluu . . . . . 517
Gaung Gyi Nga Oat Pharr . . . . . 328
Gaung Gyi Thae Puzun . . . . . 46
Gaung Lone Nga Kjee Mar . . . . . 352
Gaung Lone Nga Kyet Tu Yway . . . . . 532
Gaung Mauk Nga Kyet Tu Yway . . . . . 529
Gaung Pwa Gote Me' . . . . . 489
Gaung Pwa Gyi . . . . . 495
Gaung Pwa Mote Seik Toe . . . . . 488
Gaung Pyar Ka Beluu . . . . . 520
Gaung Toe Nga Khway Sharr . . . . . 599
Gaung Toe Nga Ni Tu . . . . . 296
Gaung War Za Yaw . . . . . 497
Ginga Pazun Pann Yaung . . . . . 33
Gone . . . . . 92
Gone Kha Yu . . . . . 100
Gone Pyar Gyi . . . . . 101
Gone Yaung Ma . . . . . 145
Gote Kywet Nga Dinga . . . . . 440
Gote Me' Hmat Nga Thin Chaw . . . . . 523
Gular Nga Kyarr Ma . . . . . 409
Gyin . . . . . 91
Gyo Jar Khun Gyan Pa Zun . . . . . 41
Gyo Pauk Nga Yan Sharr . . . . . 562
Gyo Shae Kywe Nga Mann . . . . . 182
Gyo Toe Kywe Nga Mann . . . . . 182, 183

## H

Haneda Nga Dinga . . . . . 436
Hin Cho Khat . . . . . 429
Hlan Kai Pin Le Nga Mwe Doe . . . . . 564
Hlan Thwar Khun Gyan Puzun . . . . . 39
Hlwa Thwar Nga Mann . . . . . 172
Hman Ku Kywet A Yae Htuu Nga . . . . . 612
Hman Yaung Nga Pyan . . . . . 345
Hmee Hteik Me' Nga Sin Ninn . . . . . 375
Hmee Kho Yaung Hnar Chun Nga Mann . . . . . 181
Hmee Lay Daunt Ka Beluu . . . . . 518
Hmee Net Kin Puzun . . . . . 19
Hmee Ni Nga Leik Pyarr . . . . . 511
Hmee Pyar Kyaung Nga Mann Pu . . . . . 169
Hmee Set Nga Kyet Tu Yway . . . . . 531
Hmee Shae Leik Sun . . . . . 204
Hmee She Myet Pyuu Nga Mann . . . . . 164
Hmee She Ye Paw Nga Mann . . . . . 164
Hmee Ta Chan Mae Nga Gone . . . . . 465
Hmee Ta Chaung Shae Nga Sin Nin . . . . . 373
Hmee Tan Mae Set Kyo Warr . . . . . 501
Hmee Thway Nga Shint . . . . . 284
Hmee War Hmine Nga Pu Tin . . . . . 623
Hnar Chaw Nga Mann Khar . . . . . 195
Hnar Chun Leik Kyauk . . . . . 201
Hnar Chun Nga Mann . . . . . 160
Hnar Chun Pin Lei Nga Shint . . . . . 284
Hnar Khaung Gyi Nga Mann . . . . . 173
Hnar Ni Sinn Kyo Warr . . . . . 505
Hnar Pyar Kyei Nga Mann Khar . . . . . 197
Hnar Pyar Sin Kyo Warr . . . . . 502
Hnar Pyar Sin Nga Thin Chaw . . . . . 528
Hnar Pyawt Nga . . . . . 311
Hnarr Pyar Nga Mann . . . . . 181
Hnar Shae Nga Sin Ninn . . . . . 378
Hnar Shae Nga Suu Htoe . . . . . 602
Hnar Shae Ye Net Kywe Pa Done . . . . . 370
Hnar Suu Par Leik Kyauk . . . . . 202
Hnar Toe Ye Nat Tha Mee . . . . . 361
Hnar Tone Kyei Nga Mann Khar . . . . . 196
Hnar Tone Nga Mann . . . . . 160
Hnar To Pin Le' Nga Shint . . . . . 284
Hnar Yaung Gyi Nga Poke Thin . . . . . 492
Hnget Hnote Thee Nga Pu Tinn . . . . . 626
Hnin Si Daw Yi Nga . . . . . 354
Hnin Si Yaung Kyauk Nga . . . . . 322
Hnit Yaung Phyar Kyo Warr . . . . . 504
Hnote Kham Hmway Ka Beluu . . . . . 518
Hnote Kham Hmwe Shae Kyo . . . . . 503
Hnote Kham Htuu Nga Gone . . . . . 466
Hnote Kham Mee Ka Mar . . . . . 92
Hnote Kham To Nga Let Htone . . . . . 199
Hnote Khan Pyi Gyi Nga . . . . . 122
Hnote Thee Lan Ko Lone Thway Nga Shint . . . . . 287
Hnote Thee Lan Nga Shint . . . . . 286
Hnote Thee Mar Nga Mann . . . . . 177
Hoogyi Nat Ka Daw . . . . . 494
Hsi Paing Lone Kinn Mon . . . . . 130
Hta Min Ni . . . . . 204

Htar Wa Ya Nga Mee Eain . . . . . 319
Hteik Chun Kinn Mon . . . . . 131
Hteik Me' Set Nga Kyarr Ma . . . . . 521
Htone Htai Pin Le Nga Mwe Doe . . . . . 565

## I

India A Hmee Ni War Nga . . . . . 399
India Hmee Warr Nga Leik Pyarr . . . . . 513
India Kha Loke Nga . . . . . 607
India Khwar Sharr Myin Kyarr . . . . . 598
India King Puun . . . . . 64
India King Puzun Pyar . . . . . 63
India Kinn Mon . . . . . 128
India Kyaung Nga Mann . . . . . 169
India Kyaw Kywet Leik Kyauk . . . . . 202
India Kyo Warr . . . . . 500
India Mayan Pyar Nga Gone . . . . . 466
India Nga Ni Tu . . . . . 298
India Nga Oat Phar . . . . . 333
India Nga Parr Ni . . . . . 450
India Nga Pulway . . . . . 315
India Nga Shwe . . . . . 279
India Nga Wett Thoo . . . . . 581
India Nga Ye Myaw . . . . . 580
India Nga Zin Bya . . . . . 303
India Pann Zin . . . . . 427
India Pelona Zin Bya . . . . . 304
India Pin Lae Nga Shint . . . . . 282
India Samudra Ye Net Puzun Htote . . . . . 58
India Sharr Gyi . . . . . 582
India Ye Lite Puzun . . . . . 41
India Ye Net Nylon Puzun . . . . . 54
India Ye Net Puzun Pan Yaung . . . . . 54
India Ye Net Sin Gyaung Puzun . . . . . 47
India Ye Net Zin Bya . . . . . 508
India Za Yaw . . . . . 497
Indiya Kinn Mon . . . . . 126
Indo-Pacific Nga Ywet Tike . . . . . 576
Indo Su To Nga Shint . . . . . 287

## J

Japan Be' Leik Dee Doke . . . . . 213
Japan Kin Puzun . . . . . 14
Japan Kyauk Puzun . . . . . 46
Japan Nga Kjee Mar . . . . . 352
Japan Nga Ni Lay . . . . . 444
Japan Nga Sin Ninn . . . . . 374
Jate Soke Khwet Gyi Pyi Gyi Nga . . . . . 123
Javan Nga Khway Sharr . . . . . 585
Jort Nga Phaung Yoe Hnote Thee To . . . . . 340

## K

Ka Beluu A Kjee Gyi . . . . . 516
Kadi Khun Gyan Puzun . . . . . 40
Kadipar Thae Puzun . . . . . 32
Kai Nga Bee Luu . . . . . 535
Ka Ka Dit . . . . . 379
Kakan Nga Gone . . . . . 471
Ka Ku Yan . . . . . 498
Ka la Ngu Kyar Put . . . . . 422
Ka la Ngu Shwe Zinn Kyar . . . . . 428
Ka Law Le' . . . . . 270
Kanda Ka Beluu . . . . . 519
Kan Yoe Tann Byar San Wike . . . . . 419
Kan Yoe Tan Nga Kyarr Ma . . . . . 407
Kaup Khway Sharr . . . . . 596
Kawa Kawa Nga Me' Lone . . . . . 570
Kaw Mar Son Nga Khway Sharr . . . . . 596
Kemp Kin Puzun . . . . . 20
Kha Loke Nga Hmee Bya . . . . . 607
Kha Loke Nga Hme Phyar Shae . . . . . 605
Kha Loke Nga Kje Pyauk . . . . . 606
Kha Loke Nga La Chan . . . . . 609
Kha Loke Nga Lein Maw . . . . . 606
Kha Loke Nga Lu Pyet . . . . . 606
Kha Loke Nga Mae Set . . . . . 607
Kha Loke Nga Me' Sin . . . . . 609
Kha Loke Nga Myet . . . . . 609
Kha Loke Nga Thwar Ni . . . . . 608
Kha Loke Nga War Set Pyauk . . . . . 608
Khar Kone Kyway Poke . . . . . 113
Kha Yar Kha Yu . . . . . 109
Kha Yin . . . . . 96
Kha Yu . . . . . 109
Kha Yu Hpin Wine . . . . . 109
Kha Yu Nyo . . . . . 92
Kha Yu Oh Soke . . . . . 109
Kha Yu Sein . . . . . 108
Kha Yu Zedi . . . . . 107
Khu Myort . . . . . 153
Khun Chaw Puzun . . . . . 37
Khun Gyan Puzun Htate Kwet . . . . . 38
Khwar Hnit Htut Nga Kjee Mar . . . . . 350
Khwar Sharr Myin Kyarr Hmee Kwet . . . . . 597
Khwar Sharr Pan Phwar Hmee Kwet . . . . . 597
Khwar Sharr Set Pyauk Lone Kwet . . . . . 597
Khway Kha Yu . . . . . 111
Khway Pazun Bawk Jate . . . . . 37
Khway Thwar Bee Zin . . . . . 571
Khway Thwar Seik Nga Sin Nin . . . . . 376
Khwet Ka Mar . . . . . 96
King Puzun Pyar . . . . . 63
Kin Puzun A Mae Set . . . . . 16
Kin Puzun Beluu . . . . . 19
Kin Puzun Lone Chaw . . . . . 17
Kin Saunt Pin Le' Ga Nann . . . . . 80
Kjee Chaw Pin Le' Nga Gaung Pwa . . . . . 347
Kjee Ni Yaung Nga Wa Toke . . . . . 510
Kjee Ni Yaung Nga Yaung . . . . . 309
Kobi Pyi Gyi Nga . . . . . 121
Ko Lone Pyar Nga Dinga . . . . . 439
Ko Lone Thwae Nga Mann . . . . . 173
Ko Lone Thway Nga Kjee Mar . . . . . 351
Ko Lone Thway Pin Le' Nga Shint . . . . . 285
Ko Lone To Pin Le' Nga Shint . . . . . 286
Kone Hnee Nga Gone . . . . . 472
Korea Nga Kunn Shut . . . . . 573
Ko Tharr Ye Net Ga Lone Taung Nga . . . . . 544
Kun Nee A Yae Htuu Nga . . . . . 613
Kuruma Thae Puzun . . . . . 43
Kwaye Nga Kyet Tu Yway . . . . . 531
Kwet Kyar Ye Net Nga Ye Myaw . . . . . 579
Kyar Kwet Kyway Poke . . . . . 112
Kyar Let Thae Jate Ket . . . . . 98
Kyarr Nga Mann . . . . . 166, 178
Kyarr Puzun . . . . . 45
Kyar Swe Nga Poke Thin . . . . . 493
Kyar Thit Khway Sharr . . . . . 588
Kyauk Kha Yu . . . . . 114
Kyauk Kha Yu Nyo . . . . . 116
Kyauk Nga A Hmee Ta Chan Me' . . . . . 387
Kyauk Nga A net Zin . . . . . 390
Kyauk Nga A Ni Taung . . . . . 384
Kyauk Nga A Nyo Kwet . . . . . 390
Kyauk Nga A Nyo Kwet Kyar . . . . . 393
Kyauk Nga A Nyo Kyaw Sett . . . . . 389
Kyauk Nga A Nyo Sett . . . . . 392
Kyauk Nga Apaw Hmee Chun . . . . . 395

Kyauk Nga A Phyu Sett Pyauk . . . . . 393
Kyauk Nga A Sin Chauk Sinn . . . . . 394
Kyauk Nga A War Set . . . . . 387
Kyauk Nga Bae Ni Sin . . . . . 397
Kyauk Nga Bae Zin . . . . . 385
Kyauk Nga Bay Zinn . . . . . 391
Kyauk Nga Belu Gyi . . . . . 391
Kyauk Nga Hline Zin . . . . . 395
Kyauk Nga Hmee Htik Phyu . . . . . 397
Kyauk Nga Hmee War Set . . . . . 386
Kyauk Nga Hnar Phyu Sin . . . . . 397
Kyauk Nga Hnar Sin Kyar . . . . . 395
Kyauk Nga Khar Kone . . . . . 386
Kyauk Nga Ko Lone Thwe . . . . . 382
Kyauk Nga Kyaw Ni Set . . . . . 398
Kyauk Nga Kyet Pha . . . . . 382
Kyauk Nga La Ta Chan . . . . . 394
Kyauk Nga Lein Maw Set . . . . . 388
Kyauk Nga Mae Kywet . . . . . 390
Kyauk Nga Ni Kywet . . . . . 384
Kyauk Nga Nyo Pyauk Gyi . . . . . 394
Kyauk Nga Nyo Set Pyouk . . . . . 388
Kyauk Nga Phyu Kywet . . . . . 392
Kyauk Nga Phyu Pyar Set . . . . . 385
Kyauk Nga Phyu Set . . . . . 388
Kyauk Nga Pyar Ohn Kywet . . . . . 392
Kyauk Nga Pyar Sin . . . . . 383
Kyauk Nga Set Pyauk . . . . . 383
Kyauk Nga Sinn Kyar . . . . . 387
Kyauk Nga Su Taung Ni Set . . . . . 396
Kyauk Nga Tein Kywet . . . . . 389
Kyauk Nga Yea Yet Shae . . . . . 393
Kyauk Puzun . . . . . 59, 60
Kyauk Tan Kin Puzun . . . . . 15
Kyauk Tann Nga Mann Nyo . . . . . 174
Kyauk Tan Pin Le' Ga Nann Ni . . . . . 74
Kyaung Nga Mann A Thee Kywet . . . . . 170
Kyaung Nga Mann Hnar Pyar . . . . . 167
Kyaung Nga Mann Kywet Kyar . . . . . 169
Kyaw Mee Set Ye Net Kywe Pa Done . . . . . 370
Kyaw Ni Kywet Nga Gone . . . . . 473
Kyaw Ni Nyo Set Kyo Warr . . . . . 502
Kyaw Sein Ka Beluu . . . . . 517
Kyaw Set Pyork Leik . . . . . 204
Kyaw Sin Ye Net Puzun Htote . . . . . 57
Kyaw Su Shae Thae Ka Ka Tit . . . . . 540
Kyaw Su Taung Waing Ye Net Nga . . . . . 349
Kyaw Suu Kwet Kyei Nga Mann . . . . . 196
Kyaw Suu Shae Mway Nga Shint . . . . . 278
Kyaw War Set Kyo Warr . . . . . 503
Kyaw Yoe Toe Pyi Gyi Nga . . . . . 121
Kyay Kwe Nat Ka Daw . . . . . 495
Kyet Chay Khat Pin Le' Ga Nan . . . . . 78
Kyet Hin Garr Thee Myort . . . . . 152
Kyet Pha Na Kjee Nga . . . . . 363
Kyway Kha Yu . . . . . 112, 114
Kyway Kha Yu Set . . . . . 113
Kyway Poke . . . . . 113
Kywe Pa Done Taung Pan Mee Set . . . . . 366
Kywe Pa Donn Taung Pan Set . . . . . 367
Kywet Gyi Nga Gone . . . . . 469

## L

La Bai Nga . . . . . 435
La Chan A Hmee Nga Thin Chaw . . . . . 527
La Chan Hmee Nga Pu Tin . . . . . 623
La Chann Nga Kyet Tu Yway . . . . . 532
Lae' San Hmwe Nga . . . . . 577
Lae' San Hmwe Nga Ye Myaw . . . . . 577
Lay Line Gone Kyarr . . . . . 400
Lay Sin Nga Thin Chaw . . . . . 523
Lay Thi Daw Nga . . . . . 511
Leik Kyauk Be Lu . . . . . 211
Leik Kyauk Nharr Pyort . . . . . 203
Leik Pyar Gaung Pone Nga Yaung . . . . . 308
Lein Maw Pa Sat Nga Tha Pyar . . . . . 302
Lein Maw War Line Kyo Warr . . . . . 503
Lemon Kywet Nga Gone . . . . . 468
Let Chaung Hnote Kham Nga Sin Nin . . . . . 378
Let Tan Shae Ka Beluu . . . . . 518
Let Tan Shae Ye Net Kinn Mon . . . . . 131
Let Tan Thae Ye Net Kinn Mon . . . . . 132
Line Chauk Sin Nga Gone . . . . . 471
Line Hnit Zin Nga Khway Sharr . . . . . 601
Line Kauk Gone Kyarr . . . . . 400
Line Sin Nga Gone . . . . . 468
Lone Thar Puzun . . . . . 34
Lone Thway Kinn Mon . . . . . 130
Lunn Nga Mann . . . . . 175

## M

Maditer Yae Nga Dagon . . . . . 319
Mae Hnit Set Nga Thin Chaw . . . . . 526
Mae Phyu Nga Mann . . . . . 175
Mae Yaung Phyort Nga Kyet Tu Yway . . . . . 528
Mahar Zar Gyan . . . . . 424
Malabar Nga Khway Sharr . . . . . 600
Malabar Ta Pyet Hlae Nga . . . . . 508
Malabar Zar Gyan . . . . . 421
Malayan Nga Khway Sharr . . . . . 585
Margaret Ye Net Ga Lone Taung Nga . . . . . 545
Maroon Kin Puzun . . . . . 21
Ma Yan Yaung Pin Le Shyunt Ga Nann . . . . . 85
Mee Eain Wun Bike Nga . . . . . 381
Mee Tauk Kyauk Kha Yu . . . . . 115
Me' Hmaun Nga Kyet Tu Yway . . . . . 531
Mi Kyaung Nga Mann . . . . . 163
Mi Kyaung Thwar Kyar Htoe Nga . . . . . 356
Milar Than Ma Ni Nga Mi Gyaung . . . . . 371
Mite Tee Kinn Mon . . . . . 128
Moe Yit Nga Leik Pyar . . . . . 557
Mote Seik Hnit Chaun Mway Nga Shint . . . . . 326
Mote Seik Nga Pyan . . . . . 344
Mote Seik Shae Mway Nga Shint . . . . . 322
Mote Seik Shae Nga . . . . . 611
Mote Seik Shae Nga Me Gyaung . . . . . 372
Mo Zum Bit Kinn Mon . . . . . 129
Mway Nga Shint . . . . . 323
Mway Nga Shint Bae Hmwe Shae . . . . . 323
Mway Nga Shint Gaung Gyi . . . . . 324
Mway Nga Shint Hmee Chun . . . . . 276
Mway Nga Shint Hmee Lone . . . . . 326
Mway Nga Shint Kyarr . . . . . 277
Mway Nga Shint Kyaw Me' Hmat . . . . . 326
Mway Nga Shint Kyaw Set Pyauk . . . . . 325, 327
Mway Nga Shint Kyaw Set Pyouk . . . . . 279
Mway Nga Shint Kyaw Sinn . . . . . 327
Mway Nga Shint Kywe Su Mae . . . . . 277
Mway Nga Shint Mote Sheik . . . . . 324
Mya Than Tun Kyauk Nga Set . . . . . 385
Myat Lone Gyi A Hmee Khwet . . . . . 402
Myat Lone Gyi A Nyo Set . . . . . 402
Myat Lone Gyi Auk Ye Yet Shae . . . . . 401
Myat Lone Gyi Hmar Hmee Kway . . . . . 403
Myat Lone Gyi Hmar Kaing Hmee . . . . . 403
Myat Lone Gyi La Wun A Hmee . . . . . 402
Myat Lone Gyi Myat Pyuu . . . . . 403
Myat Lone Gyi Ye Yet Toe . . . . . 401

Myat San Kje A War Zin . . . . . 431
Myaul Let Myit Puzun . . . . . 51
Myay Nga Shint Myet Lone Pyar . . . . . 325
Myee Gaung Pwa . . . . . 495
Myeik Mayan Pyar Nga Gone . . . . . 466
Myet Hnar Phone Nga Leik Pyarr . . . . . 514
Myet lone Gyi Nga Poke Thin . . . . . 492
Myet Lone Sein Mae Chun Nga . . . . . 312
Myet Lone Sein Nga A Hmee Kywet . . . . . 537
Myet Lone Sein Nga A Mae Set . . . . . 536
Myet Lone Sein Nga Bae Suu Taung Mae . . . . . 538
Myet Lone Sein Nga Kyaw Khone . . . . . 312
Myet Lone Sein Nga Par Phyu Set . . . . . 538
Myet Lone Sein Ye Net Nga Moke . . . . . 442
Myet Lone Thae Kin Puzun . . . . . 20
Myet Lone War Ta Pyet Hlae Nga . . . . . 507
Myet Nar War Kha Loke Nga . . . . . 608
Myet Pyuu Argonaut Yet Ba Wei . . . . . 142
Myet Taung Hmyay Nga Sin Ninn . . . . . 377
Myit Myat Nga Mee Eain . . . . . 319
Myit Puzun Khun Gyan . . . . . 51
Myort Na Garr . . . . . 153
Myort Nyo . . . . . 150
Myort Nyo Hmaung . . . . . 151

## N

Nagar Gaung Chun Nga . . . . . 321
Nagar Gaung Nga . . . . . 320
Nagar Gaung Pyawt Nga . . . . . 321
Nagar Gaung To Nga . . . . . 321
Na Kje Ye Nat Tha Me . . . . . 362
Nandar Hlaing Kha Yu . . . . . 117
Nansen Mway Nga Shint . . . . . 278
Nar Hnit Sin Nga Suu Pyan . . . . . 557
Nar Me' Nga Gone . . . . . 472
Natal Myet Lone Sein Nga . . . . . 538
Natal Nga Khway Sharr . . . . . 586
Natal Sally-light-foot . . . . . 85
Nat Ka Daw A Chauk . . . . . 494
Nat Ka Daw Gyi . . . . . 494
Nat Ka Daw Kyaw Kywet . . . . . 492
Nat Ka Daw Ngwe Pyauk . . . . . 496
Nat Ka Daw Sit Thar . . . . . 493
Nat Soe Ye Nat Tha Mee . . . . . 360
Naw Ti Lus Pin Lae Kha Yu . . . . . 120
Nay Min Nga . . . . . 628, 629
Ne Net Nylon Puzun . . . . . 50
Nga Bee Luu Hmee War . . . . . 535
Nga Bee Luu Hnar Shae . . . . . 534
Nga Bee Luu Lone Thwe . . . . . 536
Nga Bee Luu Shunt Chalk Yaung . . . . . 536
Nga Da Gon Gaung Gyi . . . . . 569
Nga Da Gon Gaung Lone . . . . . 568
Nga Da Gon Gaung Thae . . . . . 568
Nga Da Gon Thwar Shae . . . . . 567
Nga Da Khunn Hnar Chunn . . . . . 543
Nga Da La . . . . . 304
Nga Da Lwe Kyaw Su Me' . . . . . 302
Nga Da Lwe Kyaw Su Phyu . . . . . 302
Nga Dama Bike Ye Yet Me' . . . . . 417
Nga Dhama . . . . . 435
Nga Dinga A Hlarr Shae . . . . . 438
Nga Dinga A Kjee . . . . . 437
Nga Dinga Awar . . . . . 438
Nga Dinga Hnar . . . . . 437
Nga Dinga Hnar Chun . . . . . 440
Nga Dinga Khant Nyar . . . . . 441
Nga Dinga Kyaw Zin . . . . . 436
Nga Dinga Lone Thway . . . . . 437
Nga Dinga Pain Thae . . . . . 441
Nga Dinga Shwe Yaung . . . . . 442
Nga Dinga Su Taung Shae . . . . . 436
Nga Dinga Suu Shae . . . . . 441
Nga Dinga Suu Taung Shae . . . . . 438
Nga E' Maung . . . . . 575
Nga Ga Lone . . . . . 330
Nga Ga Lone Kyaw Set . . . . . 330
Nga Gati Par . . . . . 366
Nga Gone Belu Gyi . . . . . 467
Nga Gone Hnote Kham Htuu . . . . . 468
Nga Gone Line Sin . . . . . 470
Nga Gone Mae Pyar . . . . . 471
Nga Gone Pyaung . . . . . 469
Nga Gyee Seik . . . . . 270
Nga Hlan Htan Gaung Warr . . . . . 533
Nga Hlan Htan Hmee Sinn . . . . . 534
Nga Hlan Htan Mae Kwet . . . . . 533
Nga Hlan Htan Suu Hteik Phyu . . . . . 534
Nga Hlwar Parr . . . . . 610–613
Nga Hnut . . . . . 312
Nga Hnut Hnar Chunn . . . . . 313
Nga Hnut Kjee Htuu . . . . . 313
Nga Htaw Butt Hnar To . . . . . 433
Nga Htaw Butt Kyaw Me' Zin . . . . . 432
Nga Htaw Butt Kywet Gyi . . . . . 433
Nga Htaw Butt Myet Taung Zin . . . . . 432
Nga Htaw Butt Ngar Kywet . . . . . 433
Nga Kein Ta Yar . . . . . 358, 359, 360, 361, 362
Nga Khet . . . . . 553
Nga Khway Sharr A Kje Gyi . . . . . 598
Nga Khway Sharr A Kyarr . . . . . 595
Nga Khway Sharr A Mouk A Kje Gyi . . . . . 594
Nga Khway Sharr A Mouk Shae . . . . . 593
Nga Khway Sharr Ar Kauk . . . . . 598
Nga Khway Sharr Ar Pyae . . . . . 582
Nga Khway Sharr A Yaung Tauk . . . . . 600
Nga Khway Sharr Daung Kwet . . . . . 583
Nga Khway Sharr Gyi . . . . . 582
Nga Khway Sharr Hay Mann . . . . . 594
Nga Khway Sharr Ko Lone Shae . . . . . 599
Nga Khway Sharr Kwet Kyarr . . . . . 595
Nga Khway Sharr Lay Sinn . . . . . 600
Nga Khway Sharr Me' Set . . . . . 583
Nga Khway Sharr Myet Lone Kwet . . . . . 596
Nga Khway Sharr Set Pyauk . . . . . 594
Nga Khway Sharr Suu Taung Kyar . . . . . 595
Nga Khway Sharr Thwar Gyi . . . . . 583
Nga Kjee Mar Gaung Thae . . . . . 350
Nga Kone Nyo A Gyee Phwar . . . . . 292
Nga Kone Nyo A Phyu . . . . . 291
Nga Kone Nyo Hmee Me' . . . . . 293
Nga Kone Nyo Lone Thway . . . . . 293
Nga Kone Nyo Ngwe Sinn . . . . . 293
Nga Kone Nyo Shwe Zinn . . . . . 292
Nga Kone Nyo Wa Toke . . . . . 291
Nga Kunn Shut . . . . . 573
Nga Kun Shut Pann Zin . . . . . 426
Nga Kun Shut Sinn Kyarr . . . . . 574
Nga Kutt . . . . . 415
Nga Kutt Pali . . . . . 366
Nga Kyar Ma Bae Hmyet . . . . . 404
Nga Kyarr Ma . . . . . 404, 522
Nga Kyarr Ma A Lan Suu Taung . . . . . 406
Nga Kyarr Ma A War Zin . . . . . 408
Nga Kyarr Ma Bae Hnit Sinn . . . . . 404
Nga Kyarr Ma Bae Kyarr . . . . . 406
Nga Kyarr Ma Bae Line Sinn . . . . . 410
Nga Kyarr Ma Bae Mae Sinn . . . . . 409
Nga Kyarr Ma Hmee Yin Hmat . . . . . 408
Nga Kyarr Ma Hmee Yin Kwet . . . . . 408

Nga Kyarr Ma Hnar Kyar . . . . . 410
Nga Kyarr Ma Kha But Net . . . . . 409
Nga Kyarr Ma Lein Maw Line . . . . . 410
Nga Kyarr Ma Mae Chaw . . . . . 405
Nga Kyarr Ma Pale Suu Taung . . . . . 405
Nga Kyarr Ma Suu Taung Mae . . . . . 405
Nga Kyarr Ma Thwar To . . . . . 407
Nga Kyauk Pha . . . . . 329
Nga Kyauk Pha Ar Me' . . . . . 329
Nga Kyauk Pha Suu Toe . . . . . 329
Nga Kyauk Tone Hnar Shae . . . . . 364
Nga Kyauk Tone Ni Sin Kyar . . . . . 366
Nga Kyauk Tone Pa War Kyarr . . . . . 365
Nga Kyauk Tone Pa War Nyo . . . . . 365
Nga Kyauk Tone Set Pyauk . . . . . 364
Nga Kyaw Nyo Pein Thaye . . . . . 294
Nga Kyee Kann Su Taung Pyar . . . . . 424
Nga Kye Kann Myet Pyuu . . . . . 431
Nga Kye Kann Myet Pyuu Gyi . . . . . 431
Nga Kyi Kann Ahmee War . . . . . 418
Nga Kyo Nyo Kyaw Su Shae . . . . . 290
Nga Kyo Nyo Nyo Bae Me' Set . . . . . 291
Nga Kywet . . . . . 272–275, 320, 321, 386
Nga Kywet Hmee Hnar Shae' . . . . . 218
Nga Kywet Kyar Put Hmee . . . . . 322
Nga Leik Kyauk Gaung Lone Phae Pyarr Hmee . . . 210
Nga Leik Kyauk Hnar Chun . . . . . 210
Nga Leik Kyauk Ja Pu Hmee Shae . . . . . 205
Nga Leik Kyauk Kyar Put Hmee . . . . . 208, 209
Nga Leik Kyauk Kyar Thit Kywet . . . . . 205
Nga Leik Kyauk Kyaw A Pyar Set . . . . . 207
Nga Leik Kyauk Kyaw Phyu Set . . . . . 206
Nga Leik Kyauk Kyaw Pyarr Set Hmee Pyar . . . 209
Nga Leik Kyauk Kyaw Set Pyauk . . . . . 206
Nga Leik Kyauk Kyaw Waing . . . . . 207
Nga Leik Kyauk Me' Pann Yaung . . . . . 208
Nga Leik Kyauk Myet Lone Thae . . . . . 207
Nga Leik Kyauk Nwar Mee . . . . . 208
Nga Leik Kyauk Nyo . . . . . 204
Nga Leik Kyauk Pyar Eain Kywet . . . . . 206
Nga Leik Kyauk Suu Pyann . . . . . 210, 211
Nga Leik Pyar Gyi Phyu Hnit Sinn . . . . . 553
Nga Leik Pyar Gyi Phyu Me' Sinn . . . . . 552
Nga Leik Pyarr A Pyarr Sin . . . . . 514
Nga Leik Pyarr Gaung Warr . . . . . 512
Nga Leik Pyarr Gja Pu . . . . . 514
Nga Leik Pyarr Myet Hnar Sinn . . . . . 513
Nga Let Htone Hmee Set Pyauk . . . . . 200
Nga Let Htone Kyaw Kywet . . . . . 200
Nga Let Htone Myet Kan . . . . . 198
Nga Let Htone Nyo . . . . . 200
Nga Let Htone Set Pyouk . . . . . 199
Nga Lett War Chauk Kywet . . . . . 429
Nga Lett War Khun Hnit Kywet . . . . . 430
Nga Lett War Set Hnit Kywet . . . . . 430
Nga Lett War Shit Sin Kywet . . . . . 430
Nga Lin Noah . . . . . 331–334
Nga Mae Lone A Myee Shae . . . . . 575
Nga Mae Lone Myet Pyuu . . . . . 574
Nga Mae Lone Suu Taung Warr . . . . . 574
Nga Mann Be Lu . . . . . 194
Nga Mann Chaw . . . . . 175
Nga Mann Mee Kwet . . . . . 178
Nga Mann Mote Soe Hnar Shae . . . . . 170
Nga Mann Mote Soe Myet Pyuu . . . . . 170
Nga Mann Mote Soe Phyu Set . . . . . 171
Nga Mann Mote Soe Suu Taung Gyi . . . . . 171
Nga Mann Myet Hmae . . . . . 179
Nga Mann Out Hmee Me' . . . . . 178
Nga Mann Pu Su Taung Me' . . . . . 176
Nga Mann Pyar . . . . . 180
Nga Mann Swe Thwe . . . . . 193
Nga Mann Swe Thwe Ja Pu . . . . . 193
Nga Mann Swe Thwe Su Shae . . . . . 194
Nga Mann Swe Thwe Thwar Gyi . . . . . 193
Nga Mann Taung Me' . . . . . 174
Nga Mann Taung Phyu . . . . . 173
Nga Mann Wet Myet Hmay . . . . . 174
Nga Mee Eain Ja Pu . . . . . 318
Nga Mee Eain Mae Yinn Me' . . . . . 380
Nga Mee Eain Me' Tuu . . . . . 381
Nga Mee Eain Parr A Yay Htuu . . . . . 318
Nga Mee Eain Suu Me' . . . . . 317
Nga Mee Eain Suu Taung To . . . . . 317
Nga Mee Eain Tauk Pa . . . . . 318
Nga Me' Lone Be Zin Kyarr . . . . . 571
Nga Me Lone Bor Ni To . . . . . 572
Nga Me' Lone Kyee Zan . . . . . 569
Nga Moke Mae . . . . . 429
Nga Moke Phyu . . . . . 580, 581
Nga Moke Seik . . . . . 320
Nga Nar Nat . . . . . 347
Nga Ni Tu aung Gyi . . . . . 298
Nga Ni Tu Kyaw Me' . . . . . 298
Nga Ni Tu Parr Set Pyauk . . . . . 299
Nga Ni Tu Pyar Mae Chun . . . . . 299
Nga Ni Tuu Ngwe Zinn . . . . . 296
Nga Nwarr . . . . . 614–616
Nga Oat Phar . . . . . 331, 332
Nga Oat Phar Gyi . . . . . 334
Nga Oat Phar Hnar . . . . . 333
Nga Oat Phar Hnar Shae . . . . . 334
Nga Oat Phar Nyo . . . . . 333
Nga Oat Pharr . . . . . 328
Nga Palway Thae Htoe Bae Kywet . . . . . 412
Nga Palway Thae Htoe Chae Pyar . . . . . 411
Nga Par Ni A Ni . . . . . 455
Nga Par Ni Bae Zin Kyar . . . . . 458
Nga Parr Ni A Hmee Me' . . . . . 449
Nga Parr Ni A Hmee Me' Zin . . . . . 451
Nga Parr Ni A Hmee Shae . . . . . 445
Nga Parr Ni A Pyar Lay Zin . . . . . 447
Nga Parr Ni A Pyar Zinn . . . . . 451
Nga Parr Ni A Sein Yaung . . . . . 445
Nga Parr Ni Aye Ka Yit . . . . . 454
Nga Parr Ni Dhar Basat . . . . . 457
Nga Parr Ni Gaung Pyar Zinn . . . . . 453
Nga Parr Ni Hteik Kywet . . . . . 457
Nga Parr Ni Ka Lar . . . . . 452
Nga Parr Ni Kharr Kone . . . . . 450
Nga Parr Ni Kyaw Me' Kywet . . . . . 449
Nga Parr Ni Kyaw Ni Kywet . . . . . 450
Nga Parr Ni Kyaw Nyo Kwet . . . . . 448
Nga Parr Ni Kyaw Nyo Zin . . . . . 448
Nga Parr Ni Kyaw Phyu Hnit Set . . . . . 447
Nga Parr Ni Kyet Thway Yaung . . . . . 456
Nga Parr Ni Lein Maw Yaung . . . . . 444
Nga Parr Ni Line Ngar Zinn . . . . . 453
Nga Parr Ni Myet Pyuu . . . . . 452
Nga Parr Ni Nyo Sinn . . . . . 454
Nga Parr Ni Pada Mya Yaung . . . . . 445
Nga Parr Ni Pann Ni Thway . . . . . 456
Nga Parr Ni Pan Nu Yaung . . . . . 449
Nga Parr Ni Pyar Nyo Zin . . . . . 448
Nga Parr Ni Pyar War Zinn . . . . . 455
Nga Parr Ni Shwe A Zinn . . . . . 457
Nga Parr Ni Shwe War Yaung . . . . . 456
Nga Parr Ni Sin Lone Chaw . . . . . 446
Nga Parr Ni Suu Taung Warr . . . . . 453
Nga Parr Ni Than Lwin Yaung . . . . . 451
Nga Parr Ni Thwar Thaye . . . . . 444
Nga Parr Ni Thway Yaung . . . . . 452

Nga Parr Ni War Hmainn . . . . . 455
Nga Parr Ni War Nyo Yaung . . . . . 446
Nga Par Sharr A Phyu . . . . . 289
Nga Par Sharr A Pyar Sin . . . . . 290
Nga Par Sharr Kyaw Suu Shae . . . . . 289
Nga Pa Sharr Par Hmwe Shay . . . . . 296
Nga Pa Sharr Shwe Gaung . . . . . 297
Nga Pa Sharr Zet Lan . . . . . 296
Nga Pa Thun . . . . . 553
Nga Phauk Lauk . . . . . 552
Nga Phaung Yoe A Hmeen Keel . . . . . 336
Nga Phaung Yoe A Me' Set . . . . . 336
Nga Phaung Yoe Bae Kywet . . . . . 338
Nga Phaung Yoe Bae Set . . . . . 335
Nga Phaung Yoe Bae Sinn . . . . . 338
Nga Phaung Yoe Hnote Thee To . . . . . 337, 339, 340
Nga Phaung Yoe Mote Soe . . . . . 336
Nga Phaung Yoe Ni . . . . . 356
Nga Phaung Yoe Pyan . . . . . 340
Nga Phaung Yoe Su Taung Shae . . . . . 337
Nga Phaung Yoe Suu Line Ahmee . . . . . 335
Nga Phaung Yoe Suu War . . . . . 335
Nga Pi Puzun . . . . . 49
Nga Poke Thin Hnar Chun . . . . . 490
Nga Poke Thin Hnar Lone . . . . . 491
Nga Poke Thin Moke Seik To . . . . . 489
Nga Poke Thin Suu Hteik Me' . . . . . 490
Nga Pon Na . . . . . 500
Nga Pon Na Let Mae . . . . . 500
Nga Pulway Hmee Me' Set . . . . . 315
Nga Pulway Hnar Tone . . . . . 317
Nga Pulway Ko Gyarr . . . . . 314
Nga Pulway Kyet Chay Khat . . . . . 316
Nga Pulway Kywet Kyarr . . . . . 316
Nga Pulway Nar Me' . . . . . 315
Nga Pulway Nyo Gyar . . . . . 316
Nga Pulway Suu Taung Kyarr . . . . . 313
Nga Pulway Suu Taung Shae . . . . . 314
Nga Pulway Suu Taung To . . . . . 314
Nga Pu Tinn A War . . . . . 621
Nga Pu Tinn Gound Tone . . . . . 624
Nga Pu Tinn Hmee Htik Me' . . . . . 617
Nga Pu Tinn Hnar Sin Kyar . . . . . 619
Nga Pu Tinn Kyar Thit Kywet . . . . . 620
Nga Pu Tinn Kyaw Mae Kywet . . . . . 620
Nga Pu Tinn Kyaw Me' Set Pyauk . . . . . 618
Nga Pu Tinn Kyaw Phyu Kywet Kyarr . . . . . 620
Nga Pu Tinn Line Sin . . . . . 617
Nga Pu Tinn Lone Thway . . . . . 621
Nga Pu Tinn Mae Kywet Kyar . . . . . 618
Nga Pu Tinn Me' Set Pyauk . . . . . 626
Nga Pu Tinn Myay Pone Kywet . . . . . 617
Nga Pu Tinn Noh Set Pyauk . . . . . 621
Nga Pu Tinn Pain Thway . . . . . 623
Nga Pu Tinn Pa Le' Pyauk . . . . . 618
Nga Pu Tinn Phyu Pyar Set Pyauk . . . . . 619
Nga Pu Tinn Phyu Set Pyauk . . . . . 616
Nga Pu Tinn Pyar Set Pyauk . . . . . 619
Nga Pu Tinn Sein Hmee Kywet . . . . . 622
Nga Pu Tinn Suu Htu . . . . . 625
Nga Pu Tinn Suu Pyan . . . . . 625
Nga Pu Tinn Suu Pyan Hmee Set Pyauk . . . . . 627
Nga Pu Tinn Suu Pyan Me' Kywet . . . . . 627
Nga Pu Tinn Suu Shae . . . . . 627
Nga Pu Tinn War Line Sin . . . . . 624
Nga Pu Tinn War Phyu Kywet . . . . . 624
Nga Pu Tinn Wun Phyu . . . . . 622
Nga Pyarr Gyi . . . . . 414
Nga Pyaw Thi Pa Zun Phyu . . . . . 42
Nga Pyin . . . . . 415
Nga Pyin Bae Sin . . . . . 415
Ngar Set Pyauk Nga Khway Sharr . . . . . 586
Nga Set Pyauk Nyo Chaw . . . . . 460
Nga Shwe Gaung Gyi . . . . . 280
Nga Shwe Nyo . . . . . 280
Nga Shwe Thwar Seik . . . . . 280
Nga Shwe War . . . . . 279
Nga Sin . . . . . 604, 605
Nga Sin Ninn Gaung Gyi . . . . . 373
Nga Sin Ninn Hmee Sin Kyar . . . . . 375
Nga Sin Ninn Lone Chaw . . . . . 377
Nga Sin Ninn Lu Gyan . . . . . 374
Nga Sin Ninn Set Pyauk . . . . . 373
Nga Sin Ninn Suu Gyi . . . . . 377
Nga Sin Ninn Tha Ye' . . . . . 372
Nga Si Ooe . . . . . 463
Nga Si Ooe Ko Lone Thwae . . . . . 464
Nga Si Ooe Kyaw Suu Shae . . . . . 463
Nga Si Ooe Suu Mar . . . . . 463
Nga Si Ooe Suu Shae . . . . . 464
Nga Su Khet . . . . . 357
Nga Su Pale Set Pyauk . . . . . 556
Nga Su Pyan . . . . . 347
Nga Su Pyan Kywet Kyar . . . . . 557
Nga Su Pyan Myet Lone Me' . . . . . 555
Nga Su Pyan Nyo Set Pyauk . . . . . 556
Nga Su Pyan Suu Pauk . . . . . 556
Nga Suu Htoe Hnar To . . . . . 603
Nga Suu Htoe Hnote Kham Htu . . . . . 603
Nga Suu Htoe Kyaw Kwet . . . . . 603
Nga Suu Htoe Phyu Set Pyauk . . . . . 602
Nga Suu Pyan . . . . . 553
Nga Suu Pyan Kyar . . . . . 555
Nga Suu Pyan Lein Hmaw . . . . . 555
Nga Suu Pyan Phyu Set . . . . . 554
Nga Suu Pyan Pyar Set . . . . . 554
Nga Suu Pyan Pyauk Kyar . . . . . 554
Nga Tan . . . . . 305
Nga Tan Hmee War . . . . . 305
Nga Tan Nga . . . . . 330
Nga Tee . . . . . 414
Nga Tein . . . . . 304
Nga Thae Htoe War Sinn . . . . . 537
Nga Tha Lauk . . . . . 293
Nga Tha Lauk Yauk Pha . . . . . 290, 294
Nga Than . . . . . 605–609
Nga Than Than . . . . . 288
Nga Than Than Kyaw Set . . . . . 288
Nga Tha Pyar Gote Myee Kywet . . . . . 300
Nga Tha Pyar Kyaw Me' . . . . . 300
Nga Tha Pyar Kyaw Tachan Me' . . . . . 300
Nga Tha Pyar Myee Yoe Shae . . . . . 301
Nga Tha Pyar Pain Thway . . . . . 301
Nga Tha Pyar Par Yoe Shae . . . . . 299
Nga Thet Tant . . . . . 428
Nga Thin Chaw A Nyo Sin . . . . . 525
Nga Wa Toke Nyo . . . . . 509
Nga Wa Toke Pyar . . . . . 509
Nga Wet Sut A Pyar Sinn . . . . . 475
Nga Wet Sut Hmee Khwa . . . . . 474
Nga Wet Sut Hnar To . . . . . 479
Nga Wet Sut Hnar Toe . . . . . 478
Nga Wet Sut Hnar Yaung Shae . . . . . 477
Nga Wet Sut Hnar Zinn . . . . . 477
Nga Wet Sut Kyaw Line Sin . . . . . 474
Nga Wet Sut Kyaw Net Kwet . . . . . 476
Nga Wet Sut Kyaw Nyo Zin . . . . . 476
Nga Wet Sut Lein Maw Zinn . . . . . 478
Nga Wet Sut Myet Hnar Shae . . . . . 478
Nga Wet Sut Myet Lone Gyi . . . . . 475
Nga Wet Sut Myet Pyuu . . . . . 479
Nga Wet Sut Pan Yaung Nar . . . . . 477

Nga Wet Sut Parr Hmart . . . . . 479
Nga Wet Sut Pyar Kwet . . . . . 475
Nga Wet Sut Su Taung Shae . . . . . 476
Nga Wett Thoo A Waing . . . . . 581
Nga Wett Thoo Daunt Chun . . . . . 582
Nga Wun Pu . . . . . 288
Nga Yan Sha . . . . . 554
Nga Yan Sharr . . . . . 553–555
NgaYan Sharr . . . . . 557
Nga Yan Sharr A Pyar Yaung . . . . . 559
Nga Yan Sharr Hmee Gyan . . . . . 563
Nga Yan Sharr Hmee Phyu Sin . . . . . 562
Nga Yan Sharr Hmee War . . . . . 561
Nga Yan Sharr Hnit Htut Kywet . . . . . 560
Nga Yan Sharr Lein Maw Sin Kyar . . . . . 562
Nga Yan Sharr Line Sinn . . . . . 558
Nga Yan Sharr Mi Mic . . . . . 559
Nga Yan Sharr Myet Sinn . . . . . 558
Nga Yan Sharr Nyo Sinn . . . . . 560
Nga Yan Sharr Par Net Sinn . . . . . 559
Nga Yan Sharr Phyu Hnit Set . . . . . 561
Nga Yan Sharr Pyar Hmine . . . . . 558
Nga Yan Sharr Sinn Gyaung . . . . . 561
Nga Yaung A Kyaw Mar . . . . . 307
Nga Yaung Baik Kywet . . . . . 306
Nga Yaung Belu Gyi . . . . . 310
Nga Yaung Gaung Pyar . . . . . 311
Nga Yaung Hnar Lone . . . . . 306
Nga Yaung Hnar Toe . . . . . 307
Nga Yaung Pa Zat Pyae . . . . . 309
Nga Yaung Si Phuu Net . . . . . 309
Nga Yaung Sue Gyi . . . . . 306
Nga Ye Myaw . . . . . 577
Nga Ywet Tike . . . . . 575
Nga Ywet Tike A Me' . . . . . 575
Nga Ywet Tike A Pyar . . . . . 576
Nga Ywet Tike Bae Sin . . . . . 576
Nga Ywet Tike Suu Taung To . . . . . 577
Nga Za Yaw . . . . . 496
Nga Zin Bya Myee Yoe Gyi . . . . . 303
Nga Zin Bya Myet Pyue . . . . . 303
Ngwe Hnote Kham Kha Yu . . . . . 108
Ngwe Nar Jay . . . . . 108
Ngwe Sin Chaung Nga . . . . . 334
Ngwe War Nga Shwe Set . . . . . 473
Ngwe Yaung Beik Nga Mee Eain . . . . . 380
Ngwe Yaung Daw Li Nga . . . . . 355
Ngwe Yaung Nga Gone . . . . . 470
Ngwe Yaung Nga Moke Phyu . . . . . 580
Ngwe Yaung Nga Palway Thae Htoe . . . . . 412
Ngwe Yaung Nga Si Ooe . . . . . 464
Ngwe Yaung Set Nga Kjee Mar . . . . . 353
Ngwe Yaung Thone Chaung Htouk . . . . . 604
Ni Sinn Nga Kyet Tu Yway . . . . . 530
Ni Thone Set Pin Le' Ga Nann . . . . . 81
Noah Nga Mann . . . . . 180
Not Myort Ni . . . . . 149
Nwa Thow Nga Mann . . . . . 176
Nyar Myet Lone Bee Khway Sharr . . . . . 593
Nyar Myet Lone Yaung Sone Khway Sharr . . . . . 593
Nyo Kywet Kyar Nga Hlwar Parr . . . . . 610
Nyo Set Pyauk Kyo Warr . . . . . 506
Nyo Sin Kyar A Yae Htuu Nga . . . . . 613

## O

Oman Kyaw Kywet Nga Let Htone . . . . . 198
Oo Pat Khar Nga Khway Sharr . . . . . 586
Out Hnote Kham Hmway Toe Nga Yaung . . . . . 307

## P

Pa Kann . . . . . 14–22
Pa Lar Lum . . . . . 572
Pa Lar Tuu . . . . . 571
Pa Lar Tuu Kyun Thar . . . . . 572
Palecheek parrotfish . . . . . 528
Pa Lei Gyi . . . . . 510
Pa Lei Pauk Mee Set . . . . . 510
Pa Lei Pauk Zin Line . . . . . 510
Pale Ka Mar . . . . . 93
Pa Le' Nga . . . . . 327
Pa Lin Hnote Thee Nga Mann . . . . . 194
Pa Lin Pone Pyi Gyi Nga . . . . . 126
Pa Lway Hmote Nga Paung Yoe . . . . . 355
Pa Lway Hmote Nga Suu Htoe . . . . . 602
Pann Yaung Pin Le' Ga Nann . . . . . 83
Pann Zin . . . . . 417
Pann Zin Daunt Gyoe Gaung . . . . . 416
Pann Zin Kyaw Taung Me' . . . . . 417
Pann Zin Lone Thwae . . . . . 427
Pann Zin Parr Mae Hmat . . . . . 416
Pann Zin Ye Yet To . . . . . 426
Pan Pwint Kywet Nga Pu Tinn . . . . . 625
Pan Pwint Pin Le' Ga Nann . . . . . 73
Pan Zin A Ni . . . . . 425
Pan Zin Hmee Ni . . . . . 426
Pan Zin Pa Yin Yaung Zin . . . . . 427
Parr Zin Kyauk Nga . . . . . 391
Pasat Mae Nga Poke Thin . . . . . 487
Paset Ni Nga Su Khet . . . . . 357
Pauk Chun Ka Mar . . . . . 94
Pauk Chun Me' ka Mar . . . . . 95
Pa Yin Yaung Nga Kyet Tu Yway . . . . . 532
Pazat Thae Za Yaw . . . . . 498
Pazun Bawt Jate . . . . . 52
Pazun Bawt Jate A Si Htwet . . . . . 35
Pazun Bawt Jate Set Pyauk . . . . . 36
Pa Zun Kyarr . . . . . 45
Pazun Kyar Yoe . . . . . 43
Pazun Kyaung . . . . . 40
Pazun Kyaw Yoe Ni Set . . . . . 44
Pazun Mee Ni . . . . . 44
Pa Zun Mee Ni . . . . . 42
Pa Zun Phyu . . . . . 42
Pa Zun Pyaung Htote . . . . . 51
Pazun Seik Kalay . . . . . 35
Pa Zun Sein Kyarr . . . . . 45
Pa Zut Gyi Kyaung Nga Mann . . . . . 168
Peinn Ne` Thee Myort . . . . . 152
Phar Gaung Nga Shint . . . . . 276
Pharoa Nga Pyan . . . . . 343
Phar Roe Sin Kyar Pyi Gyi Nga . . . . . 123
Phyu Set A Yae Htuu Nga . . . . . 611
Pin Gwin Ka Mar . . . . . 94
Pink Ku Kha Yu . . . . . 110
Pin Lae Kawe Nga Kyarr Ma . . . . . 522
Pin Lae Kwe Nga Pulway . . . . . 412
Pinlae Nga Khu . . . . . 305
Pinlae Nga Kjee . . . . . 305
Pin Lae Nga Yant . . . . . 414
Pin Le' Ga Nann . . . . . 72
Pin Le' Ga Nann Kyar . . . . . 85
Pin Le' Ga Nann Lein Hmaw . . . . . 82
Pin Le' Ga Nann Let Me' . . . . . 78
Pin Le' Ga Nann Ni Set . . . . . 75
Pin Le' Ga Nann Pyar . . . . . 81
Pin Le' Ga Nann Set Pyauk . . . . . 84
Pin Le' Ga Nann War . . . . . 73
Pin Le' Hlaw Tet Ga Nann . . . . . 86

Pin Lei Hmee Chun Nga Shint . . . . . 282
Pin Lei Hnar Gyan Nga Shint . . . . . 282
Pin Lei Nga Mywe Doe A Kyarr . . . . . 311
Pin Lei Nga Oat Pharr . . . . . 330
Pin Lei Nga Oat Pharr Kywet Kyar . . . . . 331
Pin Lei Nga Oat Pharr War Set . . . . . 331
Pin Lei Pa Hat Shae Nga Shint . . . . . 283
Pin Lei Suu Taung Shae Nga Shint . . . . . 283
Pin Lei Thwar Shae Nga Shint . . . . . 283
Pin Le' Kyaw Hnit Zin Ga Nann . . . . . 70
Pin Le' Kyaw Set Ga Nann . . . . . 77
Pin Le' Kyaw Zinn Ga Nann . . . . . 79
Pin Le' La Ga Nann . . . . . 74
Pin Le' Lay Daunt Ga Nann . . . . . 77
Pin Le' Nga Byay Ma . . . . . 462
Pin Le' Nga Gaung Pwa . . . . . 347, 348
Pin Le Nga Mwe Doe Gyi . . . . . 564
Pin Le Nga Mwe Doe Hlwa Thwar . . . . . 565
Pin Le Nga Mwe Doe Myat Lone Gyi . . . . . 564
Pin Le Nga Mwe Doe Ni Yaung . . . . . 565
Pin Le Nga Mwe Doe Suu Htet . . . . . 563
Pin Le Nga Mwe Doe Suu Me' . . . . . 566
Pin Le' Nga Pyet A Hmee Me' Set . . . . . 549
Pin Le' Nga Pyet A Hmee Taung . . . . . 549
Pin Le' Nga Pyet Bee Ko Lone . . . . . 550
Pin Le' Nga Pyet Hmee Thwe' . . . . . 548
Pin Le' Nga Pyet Tan . . . . . 548
Pin Le' Nga Pyet Lone Thwe' . . . . . 550
Pin Le' Nga Pyet Ni Lone . . . . . 547, 551
Pin Le' Nga Pyet Pahat Pyar Sinn . . . . . 547
Pin Le' Nga Pyet Pan Yaung . . . . . 551
Pin Le' Nga Pyet Phyu Set Pyauk . . . . . 547
Pin Le' Nga Pyet Pyar Set Pyauk . . . . . 546
Pin Le' Nga Pyet Suu Taung Me' . . . . . 550
Pin Le' Nga Pyet Tai Kee . . . . . 548
Pin Le' Nga Pyet War Kyet . . . . . 549
Pin Le' Nga Shint Gaung Gyi . . . . . 271
Pin Le' Nga Shint Gaung Line Zin . . . . . 274
Pin Le' Nga Shint Gyi . . . . . 273
Pin Le' Nga Shint Ko Lone Shae . . . . . 271
Pin Le' Nga Shint Kyar . . . . . 273
Pin Le' Nga Shint Line Zin . . . . . 274
Pin Le' Nga Shint Lone . . . . . 275
Pin Le' Nga Shint Myet Lone Phyu . . . . . 275
Pin Le' Nga Shint Nyo . . . . . 272
Pin Le' Nga Shint Phyu Set . . . . . 274
Pin Le' Nga Shint Set . . . . . 272
Pin Le' Nga Shint War . . . . . 273
Pin Le' Nga Shint Ye Yet Pyork . . . . . 271
Pin Le' Nga Thee Htoe Set Pyauk . . . . . 537
Pin Le' Phone Gyi Ga Nann . . . . . 70
Pin Le' Pink Ku Ga Nann . . . . . 75
Pin Le' Shyunt Ga Nann . . . . . 83
Pin Le' Suu Thit Tar Ga Nann . . . . . 71
Pin Le' Syunt Nga Pyet . . . . . 546
Piramid Kha Yu . . . . . 107
Poe Pha Lan Nga . . . . . 355
Poss Ye Nat Tha Mee . . . . . 362
Pulway Kyar Let Thae . . . . . 99
Pyar Ohn Kywet A Yae Htuu Nga . . . . . 612
Pyar Set Ka Beluu . . . . . 520
Pyar Sin Nga Kyet Tu Yway . . . . . 530
Pyaung Le' Kha Yu . . . . . 110
Pyi Gyi Nga Gaung Toe . . . . . 125
Pyi Taw Thar . . . . . 428

## R

Rama Ye Nat Tha Mee . . . . . 362
Ramo Kyauk Kha Yu . . . . . 115
Randall Shwe Nga . . . . . 482
Ra Nong Kyei Nga Mann Khar . . . . . 196

## S

Sabre Nga Kjee Mar . . . . . 354
Sae Pyin Leik Ye Net Nga Ye Myaw . . . . . 578
Sae Yaung Chal Kyauk Puzun . . . . . 62
Sa Mu Dra Nga Pu Tinn . . . . . 622
Sandarr Puzun A War . . . . . 34
Sapar Khin Mway Nga Shint . . . . . 278
Sat Pyar Kyauk Nga . . . . . 386
Savala Nga Da Gon . . . . . 568
Scarlet Ye Net Puzun . . . . . 29
Seik Nga Yaung . . . . . 308
Sein Kyaw Yoe Ye Net Kinn Mon . . . . . 136
Set Pyauk A Yae Htuu . . . . . 610
Set Pyauk Na Kjee Nga . . . . . 364
Set Pyauk Nga Gone . . . . . 467, 469
Set Pyauk Nga Pyan . . . . . 342
Set Pyauk Nga Thin Chaw . . . . . 522, 525
Set Pyauk Ye Net Kywe Pa Done . . . . . 368
Set Pyauk Ye Net Suu Nga Gaung . . . . . 368
Sett Pyauk Thanda Kyauk Nga . . . . . 396
Set Waing Lone Pin Le' Ga Nann . . . . . 72
Shadow Zar Gyan . . . . . 419
Shae Myaw Kyar Let Thae . . . . . 99
Shar Gyan Mee Eain Wun Bike . . . . . 380
Shunn Htin Nga Pyan . . . . . 342
Shunt Kyauk Puzun . . . . . 61
Shut . . . . . 102
Shwe A Sin Bae Me' Zinn . . . . . 462
Shwe A Sin Hmee Kwet . . . . . 460, 461
Shwe A Sin Hmee Ni Kwet . . . . . 461
Shwe A Sin Shwe Kywet . . . . . 461
Shwe A Sin War Zinn . . . . . 462
Shwe Hnote Kham Ka Mar . . . . . 93
Shwe Kwayt Mee Tan Thwe . . . . . 295
Shwe Line Zin Nga Gone . . . . . 474
Shwe Nga A Hmee Khwa . . . . . 480
Shwe Nga A Nyo Line . . . . . 486
Shwe Nga Hmee Hteik Warr . . . . . 480
Shwe Nga Hmee Tan Shae . . . . . 481
Shwe Nga Hmee War Hnit . . . . . 481
Shwe Nga Hmee Warr . . . . . 484
Shwe Nga Hnar Kyarr . . . . . 486
Shwe Nga Hnin Si . . . . . 483
Shwe Nga Kha Kone . . . . . 483
Shwe Nga Ko Lone Thwae . . . . . 482
Shwe Nga Ko Lone Thwai . . . . . 484
Shwe Nga Kyaw Phyu Kywet . . . . . 487
Shwe Nga Kyaw Sue Ni Set . . . . . 484
Shwe Nga Kyaw Sue Pyat . . . . . 482
Shwe Nga Lein Maw Zinn . . . . . 481
Shwe Nga Mae Hlwa Thwar . . . . . 485
Shwe Nga Pale Yaung . . . . . 485
Shwe Nga Parr Line Hnit Zinn . . . . . 485
Shwe Nga Parr Phyu . . . . . 487
Shwe Nga Parr Phyu Kywet . . . . . 486
Shwe Nga Phyu Ni Kyarr . . . . . 483
Shwe Puzun . . . . . 34
Shwe Set Par Ka Beluu . . . . . 517
Shwe War Myort . . . . . 150
Shwe Wun Ni Hmee Kwet Ko Lone Thway . . . . . 460
Shwe Wun Ni Hmee Kywet . . . . . 459
Shwe Wun Ni Hmee War . . . . . 458
Shwe Wun Ni Kyaw War Zinn . . . . . 459
Shwe Wun Ni Moe Pyar . . . . . 459
Shwe Wun Ni Pyar War Sinn . . . . . 458
Shwe Yaung Line Kyo Warr . . . . . 505

Shwe Yaung Nga Dinga . . . . . 442
Shwe Yaung Ta Pyet Hlae Nga . . . . . 508
Singapore Nga Oat Pharr . . . . . 328
Singapore Thae Puzun Nyo . . . . . 31
Sin Hale A Yae . . . . . 613
Sinhalese leatherjacket . . . . . 613
Sink O Pone Kinn Mon . . . . . 133
Sin Kyar Kyway Poke . . . . . 114
Sin Na Pu . . . . . 552
Sin Nga Poke Thin . . . . . 491
Sit Thar Nga Yaung . . . . . 310
Smith Nga Kyarr Ma . . . . . 406
Soke Khwet Gyi Pyi Gyi Nga . . . . . 122
Soke Khwet Thae Pyi Gyi Nga . . . . . 120
Sona Nga Yaung . . . . . 308
Sri Lanka Nga Gone . . . . . 467
Sto Mar Thae Ka Ka Tit . . . . . 542
Stout Ye Net Puzun Ni . . . . . 31
Su Kway Pyi Gyi Nga . . . . . 124
Sulphur Yaung Kyo Warr . . . . . 505
Su Ma Shi Pyi Gyi Nga . . . . . 125
Su Taung Kauk Nga Mann . . . . . 172
Su Taung Me' Nga Let Htone . . . . . 201
Su Taung Shae Ka Beluu . . . . . 519
Su Taung Toe Nga Pyan . . . . . 346
Su Taung War Ye Nut Tha Mee . . . . . 361
Sutton Nga Pyan . . . . . 343
Suu Gaung Nga Sin Ninn . . . . . 376
Suu Gyo Taung Nga Thin Chaw . . . . . 527
Suu Hnar Hteik Nga Kjee Mar . . . . . 351
Suu Hnit Chaung Nga Bee Luu . . . . . 535
Suu Htaung Ka Beluu . . . . . 519
Suu Hteik Me' Nga Kjee Mar . . . . . 350
Suu Htuu Pin Le' Nga Gaung Pwa . . . . . 348
Suu Kutt Nga Mann . . . . . 180
Suu Leik Kyauk . . . . . 202
Suu Line Net Nga Mi Gyaung . . . . . 370
Suu Mae Kyauk Nga . . . . . 389
Suu Mar Nga Si Ooe . . . . . 465
Suu Na Kjee Nga . . . . . 363
Suu Net Suu Kha Yu . . . . . 116
Suu Nga Mann . . . . . 161
Suu Shae Kyauk Puzun . . . . . 61
Suu Shae Me Chaung Thwar Nga . . . . . 533
Suu Shae Myet Khone Me' Nga Leik Pyarr . . . . 512
Suu Shae Nga Kun Shut . . . . . 563
Suu Shae Nga Poke Thin . . . . . 491
Suu Taung Kwaye Ye Net Nga Moke . . . . . 443
Suu Taung Mae Nga Kjee Mar . . . . . 351
Suu Taung Me' Kyauk Tann Nga Mann . . . . . 177
Suu Taung Phyu Kyauk Tann Nga Mann. . . . . 181
Suu Taung Phyu Nga Mann . . . . . 176
Suu Taung Phyu Ye Net Ga Lone Taung Nga . . . . 545
Suu Taung Shae Kyo Warr . . . . . 506
Suu Taung Shae Nga Leik Pyarr . . . . . 513
Suu Taung War Kyo Warr . . . . . 501
Suu To Nga Sin Ninn . . . . . 374

## T

Ta Paing Pyat Nga Hmee Chun . . . . . 628
Ta Paing Pyat Nga Hmee Lone . . . . . 628
Ta Paing Pyat Nga Hmee To . . . . . 628
Ta Paing Pyat Nga Lone Thway . . . . . 629
Ta Pyat Hlae Nga . . . . . 507
Ta Pyet Hle A Yae Htuu Nga . . . . . 611
Taung Pan Hnit Htut Nga Pyan . . . . . 345
Taung Pan Mae Set Nga Pyan . . . . . 341
Tawni The' Nga Mann . . . . . 167
Ta Yaw Tha Mar Thae Puzun . . . . . 33
Ta Yoke Dah . . . . . 435
Tayoke Kadipar Thae Puzun . . . . . 32
Tayoke Nga Let Htone . . . . . 199
Ta Yoke Nga Moke Phyu . . . . . 581
Tee Gaung Mway Nga Shint . . . . . 276
Thae Ka Ka Tit Bike Phyu . . . . . 543
Thae Ka Ka Tit hmee Hteik Kwet . . . . . 541
Thae Ka Ka Tit Hmee Kywet . . . . . 540
Thae Ka Ka Tit Hmee Ni . . . . . 541
Thae Ka Ka Tit Kyaw Suu Kywet . . . . . 541
Thae Ka Ka Tit Kyaw Suu Set Pyauk . . . . . 539
Thae Ka Ka Tit Phyu Set . . . . . 539
Thae Ka Ka Tit Pike Kywet . . . . . 542
Thae Ka Ka Tit Set Pyauk . . . . . 540
Thae Ka Ka Tit Shwe Sin . . . . . 543
Thae Ka Ka Tit War Sinn . . . . . 542
Thae` Luu Myort . . . . . 150
Thae` Myort . . . . . 151
Thae Nga Mann . . . . . 166
Thae Set Pyauk Ye Ba Wei . . . . . 137
Thae Thaung Nga Mann . . . . . 177
Thai gizzard shad . . . . . 289
Thai Nga Wun Pu . . . . . 289
Thanda Kyauk Tan Kyaung Nga Mann . . . . . 168
Thandar Khun Gyan Puzun . . . . . 38
Thandar Kyauk Nga . . . . . 383
Thandar Nga Phaung Yoe . . . . . 338
Than Lwin Yaung Nga Gone . . . . . 472
Than Ma Ni Ghaung Sut Nga . . . . . 515
Than Ma Ni Nga Mi Gyaung . . . . . 371
Than Ma Ni Suu Thwar Nga Mi Gyaung . . . . . 372
Than Mar Nga Thin Chaw . . . . . 524
Than Pa Yar Nga Thin Chaw . . . . . 525
Thar Man Kin . . . . . 15
Thar Man Kin Puzun . . . . . 22
Thar Man Nga Dinga . . . . . 440
Thar Man Pink Ku Kha Yu . . . . . 111
Thar Man Ye Ba Wei . . . . . 141
Thaya Phu Nga Kjee Mar . . . . . 353
The' Nga Mann Kyarr . . . . . 163
Thone Chaung Htouk Hmee To . . . . . 605
Thone Chaung Htouk Hnar To . . . . . 604
Thone Chaung Htouk Suu Me' . . . . . 605
Thone Chaung Htouk Suu Shae . . . . . 604
Thone Myaunt Nga Leik Pyarr . . . . . 512
Thone Set Nga Khway Sharr . . . . . 587
Thu Ye Gaung Pin Le' Ga Nann . . . . . 80
Thwar Gyan Pin Lei Nga Shint . . . . . 285
Thwar Kauk Nga Mann . . . . . 172
Thwar Lay Chaung Kin Puzun . . . . . 21, 22
Thwar Sae Chaung Nga Thin Chaw . . . . . 524
Thwar Ta Chaung Mway Nga Shint . . . . . 324
Thwar Thae Pin Le' Nga Shint . . . . . 285
Thwaye Gyaw Ye Ba Wei . . . . . 137
Timor Nga Parr Ni . . . . . 454
Timor Nga Thin Chaw . . . . . 526
Tin Teik Myet Hnar Nga Shin . . . . . 275
Torpedo Khun Gyan Puzun . . . . . 39
Tor Pe To Nga Let Htone . . . . . 201
Tro Chel Nga Kyet Tu Yway . . . . . 529
Tunt Khauk Gone Kha Yu . . . . . 97
Tu Yoe Ka Mar . . . . . 95

## U

U Pet Khar Hmee Tan Thwe . . . . . 295
U Pet Khar Ye Ba Wei . . . . . 138

## V

Venus Gone . . . . . 101

## W

Waing Ni Pauk . . . . . 436–442
Waing Ni Pauk Shwe Sinn . . . . . 439
Waing Ni Pauk Thwar Pauk Nga . . . . . 439
War Nu Line Sin Kyo Warr . . . . . 507
War Nyo Line Kyo Warr . . . . . 506
Way La Nga Mann . . . . . 167
Weber Be' Myet Lone Khway Sharr . . . . . 591
Wet Wun Let Thae Ka Mar . . . . . 98
Wintnar . . . . . 101

## Y

Yan Kha Rat Hmee Tan Thwe . . . . . 295
Yan Nga Let Htone Myet Kan . . . . . 198
Yar Zamut Kwet Pin Le' Ga Nann . . . . . 82
Yauk Thwar . . . . . 100
Yauk Thwar A Nyo . . . . . 92
Yaung Sone Kin Puzun . . . . . 14
Yaung Sone Mae Yoe Mar Nga . . . . . 400
Yaung Sone Pann Nga Thin Chaw . . . . . 523
Yay Nalt Hmee Tan Thwe . . . . . 295
Yay Pyaw Hlwar Nga Pu Tinn . . . . . 626
Ye Ba Wei A Phwar Gyi . . . . . 140
Ye Ba Wei Kinn Mon . . . . . 134
Ye Ba Wei Phyu Sin . . . . . 139
Ye Cho Pa Zun Htote . . . . . 52
Ye Gyo Nga Phaung Yoe . . . . . 337
Ye Myin War . . . . . 357
Ye Na gar . . . . . 357
Ye Nat Tha Mee Gyo Taung . . . . . 358
Ye Nat Tha Mee Hlwa Mae Yoe . . . . . 358
Ye Nat Tha Mee Hmee Pyaung . . . . . 360
Ye Nat Tha Mee Nauk Mee Shae . . . . . 359
Ye Nat Tha Mee Pu To . . . . . 359
Ye Nat Tha Mee Pyar Kje . . . . . 360
Ye Nat Tha Mee Sae Chal . . . . . 359
Ye Net A Nyo Yaung Walone Nga Mann . . . . . 166
Ye Net Ga Lone Taung Myet Pyuu . . . . . 545
Ye Net Ga Lone Taung Suu Hteik Chunn . . . . . 546
Ye Net Gardiner Ga Lone Taung . . . . . 544
Ye Net Gaung Gyi Puzun . . . . . 53
Ye Net Gu Per Lay Nga Mann . . . . . 162
Ye Net Guper Nga Mann . . . . . 161
Ye Net Hawaii Kinn Mon . . . . . 134
Ye Net Hmet Chauk Nga Ye Myaw . . . . . 579
Ye Net Hteik Chun Kinn Mon . . . . . 135
Ye Net Indian Ga Lone Taung Nga . . . . . 544
Ye Net Indo Hnar Toe Nga Mann . . . . . 161
Ye Net Indonesia Walone Nga Mann . . . . . 165
Ye Net Kinn Mon Mayan Pyar . . . . . 135
Ye Net Kinn Mon Pu Toe . . . . . 133
Ye Net Ko Lone Thway Nga Ni . . . . . 349
Ye Net Kyauk Puzun Su Toe . . . . . 59
Ye Net Lein Maw Puzun . . . . . 50
Ye Net Malay Puzun . . . . . 48
Ye Net Mee Kho Yaung Nga Mann . . . . . 165
Ye Net Mway Nga Shint . . . . . 277
Ye Net Myanmar Walone Nga Mann . . . . . 165
Ye Net Myort Ni . . . . . 149
Ye Net Nga Khway Sharr . . . . . 584
Ye Net Nga Kunn Shut A Me' . . . . . 566
Ye Net Nga Kunn Shut Ko Lone To . . . . . 566
Ye Net Nga Kunn Shut Si Htwet . . . . . 567
Ye Net Nga Mann . . . . . 161
Ye Net Nga Mann Pyar . . . . . 163
Ye Net Nga Moke Myet Pyuu . . . . . 443
Ye Net Nga Ye Myaw A Yeik Htwet . . . . . 578
Ye Net Nga Ye Myaw Nyo Hmine . . . . . 579
Ye Net Nga Ye Myaw Suu Shae . . . . . 578
Ye Net Nga Ye Myaw Suu Taung Pyar . . . . . 580
Ye Net Nylon Puzun . . . . . 53
Ye Net Phyuu Suu Nga Mann . . . . . 160
Ye Net Puzun . . . . . 30
Ye Net Puzun Htoke Gyi . . . . . 29
Ye Net Puzun Htote . . . . . 57
Ye Net Puzun Kyaw Zinn . . . . . 47
Ye Net Shunt Puzun . . . . . 48
Ye Net Su Pink Ku Pin Le' Ga Nann . . . . . 76
Ye Net Suu Cheik Kinn Mon . . . . . 136
Ye Net Suu Nga Gaung Pyar . . . . . 367
Ye Net Suu Shae Nga Mann . . . . . 162
Ye Net Suu Taung Mae Zin Bya . . . . . 509
Ye Net Suu Taung Toe Nga Mann . . . . . 162
Ye Net Walone Nga Mann Pain Thae . . . . . 166
Ye Paw Hlwar Nga Leik Kyauk . . . . . 209
Ye Paw Hlwar Nga Mee Pyar . . . . . 379
Ye Yat Toe Nga Kun Shut Nga Mann . . . . . 164
Ye Yet Me' Ye Net Kywe Pa Done . . . . . 369
Ye Yet Pyar Kje Nga Mann . . . . . 179
Ye Yet Shae Nga Si Ooe . . . . . 465
Ye Yet Sin Gyaung Ye Net Kywe Pa Done . . . . . 369
Yoedaya Ye Ba Wei . . . . . 139
Ywet Teik Nga Pyan . . . . . 346

## Z

Zar Gyan A Hmee Hteik Me' . . . . . 423
Zar Gyan A Hmyin Shae . . . . . 418
Zar Gyan A Mae Yaung . . . . . 424
Zar Gyan A Pyar Yaung . . . . . 420
Zar Gyan A War Set . . . . . 420
Zar Gyan Gyi . . . . . 423
Zar Gyan Hlar Pyu . . . . . 434
Zar Gyan Hnar Shae . . . . . 419
Zar Gyan Hnar To . . . . . 421
Zar Gyan Kyaw Nyo . . . . . 423
Zar Gyan Kyun Thar . . . . . 422
Zar Gyan Lein Maw Pyauk . . . . . 418
Zar Gyan Lone Shae . . . . . 425
Zar Gyan Myet Pyuu . . . . . 425
Zar Gyan Ouk Mae Shae . . . . . 422
Zar Gyan Pa Sat Phyu . . . . . 434
Zar Gyan Shwe Kyaw Set . . . . . 421
Zar Gyan Ye Yet Shae . . . . . 434
Zaung Hlar Thi Zin Pyi Gyi Nga . . . . . 124
Za Yaw A Net Kywet . . . . . 499
Za Yaw Arr Pyae . . . . . 499
Za Yaw Gyi . . . . . 497
Zebra Ye Nat Tha Mee . . . . . 358
Zet Kyo Nga Kyet Tu Yway . . . . . 530

## APPENDIX 1 - Fish species new to science discovered on the 2015 *Dr. Fridtjof Nansen* Myanmar survey arranged by year of description

| Species | Year of description | Author/s | Family | Class | Depth (m) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|
| *Platyrhina psomadakisi* | 2016 | White & Last | Platyrhinidae | Chondrichthyes | 69 | 10°20'58"N | 97°46'8"E |
| *Owstonia nudibucca* | 2016 | Smith-Vaniz & Johnson | Cepolidae | Osteichthyes | 265-272 | 14°31'12"N | 93°44'24"E |
| *Neobathyclupea melanoptera* | 2016 | Prokofiev, Gon & Psomadakis | Bathyclupeidae | Osteichthyes | 767-772 | 17.1493°N | 94.1045°E |
| *Ostichthys daniela* | 2017 | Greenfield, Randall & Psomadakis | Holocentridae | Osteichthyes | 121-129 | 13°3.21'N | 96°41.62"E |
| *Ostichthys convexus* | 2017 | Greenfield, Randall & Psomadakis | Holocentridae | Osteichthyes | 121-129 | 13°3.21'N | 96°41.62"E |
| *Parapercis caudopellucida* | 2017 | Johnson & Motomura | Pinguipedidae | Osteichthyes | 125-129 | 13°03.21'N | 96°41.62'E |
| *Lepidotrigla psolokerkos* | 2018 | Gomon & Psomadakis | Triglidae | Osteichthyes | 147-156 | 14°1.96'N | 96°9.21'E |
| *Bembras leslieknappi* | 2018 | Imamura, Psomadakis & Htun Thein | Bembridae | Osteichthyes | 81-184 | 10°23.33' N | 97°24.81' E |
| *Bembras andamanensis* | 2018 | Imamura, Psomadakis & Htun Thein | Bembridae | Osteichthyes | 116 | 14°10.26' N | 95°2.55' E |
| *Mephisto albomaculosus* | 2018 | Matsuura, Psomadakis & Mya Than Tun | Triacanthodidae | Osteichthyes | 376-379 | 10°21.85'N | 96°44.83'E |
| *Chelonodontops alvheimi* | 2018 | Psomadakis, Matsuura & Htun Thein | Tetraodontidae | Osteichthyes | 115-117 | 14°27.29'N | 94°3.79'E |
| *Pseudanthias emma* | 2018 | Gill & Psomadakis | Serranidae | Osteichthyes | 105 | 11°39.96'N | 97°16.16'E |
| *Ophichthus nansen* | 2018 | McCosker & Psomadakis | Ophichthidae | Osteichthyes | 103-106 | 14°41.49'N | 95°29.32'E |
| *Ophichthus naga* | 2018 | McCosker & Psomadakis | Ophichthidae | Osteichthyes | 455-459 | 14°03.73'N | 95°19.09'E |
| *Rhinobatos ranongensis* | 2019 | Last, Séret & Naylor | Rhinobatidae | Chondrichthyes | 66-106 | 10°20.97'N | 97°46.14'E |

## APPENDIX 2 - Undescribed and possibly undescribed fish species from the R/V *Dr. Fridtjof Nansen* Myanmar surveys

| Species/taxa | Family | Class | 2013 survey* | 2015 survey | 2018 survey | Undescribed | Possibly undescribed |
|---|---|---|---|---|---|---|---|
| *Squalus* sp. | Squalidae | Chondrichthyes | | X | | | X |
| *Iago* sp. A | Triakidae | Chondrichthyes | X | X | X | X | |
| *Narcine* sp. | Narcinidae | Chondrichthyes | X | X | X | | X |
| *Tetronarce* aff. *formosa* | Torpedinidae | Chondrichthyes | X | X | X | | X |
| *Dipturus* sp. | Rajidae | Chondrichthyes | | X | | X | |
| *Rajella* sp. | Rajidae | Chondrichthyes | | X | | | X |
| *Chimaera* sp. | Chimaeridae | Chondrichthyes | | X | X | X | |
| *Dysommina* sp. | Synaphobranchidae | Osteichthyes | | X | X | | X |
| *Gymnothorax* cf. *sokotrensis* | Muraenidae | Osteichthyes | | X | | | X |
| *Facciolella* sp. | Nettastomatidae | Osteichthyes | | X | X | | X |
| *Saurenchelys* sp. | Nettastomatidae | Osteichthyes | | X | X | | X |
| *Parabathymyrus* sp. | Congridae | Osteichthyes | | X | | | X |
| *Moringua* sp. | Moringuidae | Osteichthyes | | X | | | X |
| *Glossanodon* sp. | Argentinidae | Osteichthyes | X | X | X | X | |
| *Harpadon* sp. | Synodontidae | Osteichthyes | | X | X | | X |
| *Dicrolene* aff. *mesogramma* | Ophidiidae | Osteichthyes | | X | X | | X |
| *Dicrolene* aff. *nigricaudis* | Ophidiidae | Osteichthyes | | X | X | | X |
| *Monomitopus* sp. | Ophidiidae | Osteichthyes | | X | | | X |
| *Neobythites* aff. *pallidus* | Ophidiidae | Osteichthyes | X | X | X | | X |
| *Ophidion* sp. | Ophidiidae | Osteichthyes | X | X | X | | X |
| *Chaunax* aff. *nebulosus* | Chaunacidae | Osteichthyes | X | | | | X |

Appendix 2 - Continued

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Halieutaea* sp. | Ogcocephalidae | Osteichthyes | X | X | X | X | |
| *Malthopsis* cf. *annulifera* | Ogcocephalidae | Osteichthyes | X | X | X | | X |
| *Malthopsis* cf. *lutea* | Ogcocephalidae | Osteichthyes | X | X | X | | X |
| *Aulotrachichthys* sp. | Trachichthyidae | Osteichthyes | | X | X | | X |
| *Gephyroberyx* sp. | Trachichthyidae | Osteichthyes | X | X | X | | X |
| *Cocciella* sp. | Platycephalidae | Osteichthyes | X | X | X | X | |
| *Howella* cf. *brodiei* | Howellidae | Osteichthyes | | X | X | | X |
| *Parascombrops* sp. | Acropomatidae | Osteichthyes | | X | X | | X |
| *Synagrops* aff. *japonicus* | Acropomatidae | Osteichthyes | X | X | X | X | |
| *Chelidoperca* sp. A | Serranidae | Osteichthyes | X | X | X | | X |
| *Chelidoperca* sp. B | Serranidae | Osteichthyes | X | | X | X | |
| *Plectranthias* sp.1 | Serranidae | Osteichthyes | | X | X | | X |
| *Plectranthias* sp.2 | Serranidae | Osteichthyes | | X | X | | X |
| *Grammatonotus* sp. | Callanthiidae | Osteichthyes | | X | X | | X |
| *Apogon* sp. | Apogonidae | Osteichthyes | | X | | X | |
| *Brama* sp. | Bramidae | Osteichthyes | | X | | X | |
| *Parascolopsis* cf. *qantasi* | Nemipteridae | Osteichthyes | | | X | X | |
| *Parascolopsis* sp. | Nemipteridae | Osteichthyes | X | X | X | X | |
| *Parapriacanthus* sp. | Pempheridae | Osteichthyes | | X | X | | X |
| *Bleekeria* sp. A | Ammodytidae | Osteichthyes | | X | | X | |
| *Bleekeria* sp. B | Ammodytidae | Osteichthyes | | | X | X | |
| *Bembrops* sp. | Percophidae | Osteichthyes | | X | X | X | |
| *Parapercis* sp. 1 | Pinguipedidae | Osteichthyes | | | X | | X |
| *Parapercis* sp. 2 | Pinguipedidae | Osteichthyes | | | X | | X |
| *Parapercis* sp. 3 | Pinguipedidae | Osteichthyes | | | X | | X |

Appendix 2 - Continued

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *Synchiropus* cf. *altivelis* | Callionymidae | Osteichthyes | X | X | | | X |
| *Acentrogobius* sp. | Gobiidae | Osteichthyes | | X | | X | |
| Gobiinae sp. | Gobiidae | Osteichthyes | | X | | X | |
| *Antigonia* sp. | Caproidae | Osteichthyes | | X | X | X | |
| *Cynoglossus* cf. *praecisus* | Cynoglossidae | Osteichthyes | | X | X | | X |

# LIST OF COLOUR PLATES


**PLATE I**

1. ODONTODACTYLIDAE: *Odontodactylus cultrifer*
2. ODONTODACTYLIDAE: *Odontodactylus japonicus*
3. SQUILLIDAE: *Dictyosquilla foveolata*
4. SQUILLIDAE: *Erugosquilla woodmasoni*
5. SQUILLIDAE: *Kempella stridulans*
6. SQUILLIDAE: *Harpiosquilla annandalei*
7. SQUILLIDAE: *Harpiosquilla harpax*
8. SQUILLIDAE: *Squilloides leptoquilla*

**PLATE II**

9. ARISTEIDAE: *Aristaeomorpha foliacea*
10. ARISTEIDAE: *Aristeus alcocki*
11. ARISTEIDAE: *Aristeus mabahisse*
12. ARISTEIDAE: *Aristeus virilis*
13. PENAEIDAE: *Parapenaeopsis sculptilis*
14. PENAEIDAE: *Parapenaeopsis uncta*
15. PENAEIDAE: *Penaeus pulchricaudatus*
16. SICYONIIDAE: *Sicyonia parajaponica*

**PLATE III**

17. SOLENOCERIDAE: *Haliporus taprobanensis*
18. SOLENOCERIDAE: *Solenocera choprai*
19. PASIPHAEIDAE: *Pasiphaea unispinosa*
20. PANDALIDAE: *Heterocarpus chani*
21. PANDALIDAE: *Heterocarpus woodmasoni*
22. PANDALIDAE: *Plesionika* cf. *semilaevis*
23. PANDALIDAE: *Plesionika quasigrandis*
24. PSALIDOPODIDAE: *Psalidopus huxleyi*

**PLATE IV**

25. NEPHROPIDAE: *Metanephrops andamanicus*
26. NEPHROPIDAE: *Nephropsis carpenteri*
27. PALINURIDAE: *Panulirus polyphagus*
28. PALINURIDAE: *Puerulus sewelli*
29. PALINURIDAE: *Linuparus somniosus*
30. POLYCHELIDAE: *Polycheles typhlops*
31. SCYLLARIDAE: *Ibacus novemdentatus*
32. SCYLLARIDAE: *Thenus* cf. *parindicus*

**PLATE V**

33. CALAPPIDAE: *Calappa clypeata*
34. CALAPPIDAE: *Calappa lophos*
35. MAJIDAE: *Paramaja gibba*
36. OREGONIIDAE: *Pleistacantha pungens*
37. INACHIDAE: *Encephaloides armstrongi*
38. PILUMNIDAE: *Galene bispinosa*

**PLATE VI**

39. PORTUNIDAE: *Charybdis feriatus*
40. PORTUNIDAE: *Charybdis riversandersoni*
41. PORTUNIDAE: *Charybdis natator*
42. PORTUNIDAE: *Portunus hastatoides*
43. PORTUNIDAE: *Portunus pelagicus*
44. PORTUNIDAE: *Portunus sanguinolentus*

**PLATE VII**

45. ARCIDAE: *Tegillarca granosa*
46. MYTILIDAE: *Perna viridis*
47. PTERIIDAE: *Pinctada margaritifera*
48. CARDIIDAE: *Tridacna gigas*
49. ROCHIDAE s.l.: *Rochia nilotica*
50. TURBINIDAE: *Turbo marmoratus*
51. STROMBIDAE: *Lambis lambis*
52. MURICIDAE: *Chicoreus ramosus*

**PLATE VIII**

53. NAUTILIDAE: *Nautilus pompilius*
54. SEPIIDAE: *Sepia aculeata*
55. SEPIIDAE: *Sepia latimanus*
56. SEPIIDAE: *Sepia pharaonis*
57. OCTOPODIDAE: *Callistoctopus ornatus*
58. OCTOPODIDAE: *'Octopus' cyanea*

**PLATE IX**

59. HOLOTHURIIDAE: *Actinopyga echinites*
60. HOLOTHURIIDAE: *Actinopyga_lecanora*
61. HOLOTHURIIDAE: *Bohadschia vitiensis*
62. HOLOTHURIIDAE: *Holothuria lessoni*
63. HOLOTHURIIDAE: *Holothuria scabra*
64. HOLOTHURIIDAE: *Holothuria spinifera*
65. HOLOTHURIIDAE: *Stichopus chloronotus*
66. HOLOTHURIIDAE: *Stichopus hermanni*

**PLATE X**

67. HEXANCHIDAE: *Heptranchias perlo*
68. SQUALIDAE: *Squalus hemipinnis*
69. SQUALIDAE: *Squalus* sp.
70. CENTROPHORIDAE: *Centrophorus uyato*
71. HEMISCYLLIIDAE: *Chiloscyllium hasseltii*
72. HEMISCYLLIIDAE: *Chiloscyllium punctatum*
73. PROSCYLLIIDAE: *Cephaloscyllium* cf. *silasi*
74. PROSCYLLIIDAE: *Ctenacis* cf. *fehlmanni*

**PLATE XI**

75. PROSCYLLIIDAE: *Proscyllium magnificum*
76. TRIAKIDAE: *Iago omanensis*
77. TRIAKIDAE: *Iago* sp. A
78. TRIAKIDAE: *Mustelus* cf. *mosis*
79. TRIAKIDAE: *Mustelus stevensi*

80. CARCHARHINIDAE: *Carcharhinus leucas*
81. CARCHARHINIDAE: *Carcharhinus melanopterus*
82. CARCHARHINIDAE: *Scoliodon* cf. *laticaudus*

**PLATE XII**

83. RHINIDAE: *Rhynchobatus australiae*
84. RHINOBATIDAE: *Rhinobatos annandalei*
85. RHINOBATIDAE: *Rhinobatos lionotus*
86. RHINOBATIDAE: *Rhinobatos ranongensis*
87. PLATYRHINIDAE: *Platyrhina psomadakisi*
88. NARCINIDAE: *Benthobatis* cf. *yangi*
89. NARCINIDAE: *Narcine* sp.
90. TORPEDINIDAE: *Tetronarce* aff. *formosa*

**PLATE XIII**

91. RAJIDAE: *Dipturus* sp.
92. RAJIDAE: *Rajella* sp.
93. HEXATRYGONIDAE: *Hexatrygon bickelli*
94. DASYATIDAE: *Maculabatis gerrardi*
95. DASYATIDAE: *Brevitrygon* cf. *imbricata*
96. DASYATIDAE: *Maculabatis pastinacoides*

**PLATE XIV**

97. DASYATIDAE: *Neotrygon* cf. *caeruleopunctata*
98. DASYATIDAE: *Pateobatis jenkinsii*
99. DASYATIDAE: *Telatrygon crozieri*
100. DASYATIDAE: *Urogymnus granulatus*
101. RHINOPTERIDAE: *Rhinoptera javanica*
102. MOBULIDAE: *Mobula thurstoni*

**PLATE XV**

103. MEGALOPIDAE: *Megalops cyprinoides*
104. MURAENIDAE: *Gymnothorax javanicus*
105. MURAENIDAE: *Gymnothorax fimbriatus*
106. MURAENIDAE: *Gymnothorax thyrsoideus*
107 MURAENIDAE: *Gymnothorax minor*
108. MURAENIDAE: *Gymnothorax* cf. *sokotrensis*
109. COLOCONGRIDAE: *Coloconger raniceps*
110. MURAENESOCIDAE: *Congresox talabon*

**PLATE XVI**

111. NETTASTOMATIDAE: *Saurenchelys* sp.
112. CONGRIDAE: *Ariosoma* cf. *gnanadossi*
113. CONGRIDAE: *Bathycongrus nasicus*
114. CONGRIDAE: *Bathyuroconger* cf. *vicinus*
115. CONGRIDAE: *'Congromuraena' musteliceps*
116. CONGRIDAE: *Uroconger* cf. *lepturus*

**PLATE XVII**

117. CLUPEIDAE: *Sardinella gibbosa*
118. CLUPEIDAE: *Tenualosa toli*
119. DUSSUMIERIIDAE: *Dussumieria acuta*
120. ENGRAULIDAE: *Coilia dussumieri*
121. ENGRAULIDAE: *Coilia ramcarati*
122. ENGRAULIDAE: *Setipinna taty*
123. ENGRAULIDAE: *Stolephorus indicus*
124. CHIROCENTRIDAE: *Chirocentrus nudus*

**PLATE XVIII**

125. PRISTIGASTERIDAE: *Ilisha melastoma*
126. PRISTIGASTERIDAE: *Raconda russeliana*
127. PLOTOSIDAE: *Plotosus canius*
128. PANGASIDAE: *Pangasius myanmar*
129. ARGENTINIDAE: *Glossanodon* sp.
130. ATELEOPODIDAE: *Ateleopus indicus*
131. CHLOROPHTHALMIDAE: *Chlorophthalmus corniger*
132. SYNODONTIDAE: *Harpadon nehereus*

**PLATE XIX**

133 SYNODONTIDAE: *Harpadon* sp.
134. SYNODONTIDAE: *Saurida micropectoralis*
135. SYNODONTIDAE: *Saurida* cf. *randalli*
136. SYNODONTIDAE: *Trachinocephalus trachinus*
137. NEOSCOPELIDAE: *Neoscopelus 'microchir'*
138. TRACHIPTERIDAE: *Trachipterus* cf. *trachypterus*
139. POLYMIXIIDAE: *Polymixia fusca*
140. BREGMACEROTIDAE: *Bregmaceros mcclellandi*

**PLATE XX**

141. MACROURIDAE: *Coelorinchus* cf. *mycterismus*
142. MORIDAE: *Physiculus* cf. *roseus*
143. OPHIDIIDAE: *Dicrolene* aff. *nigricaudis*
144. OPHIDIIDAE: *Monomitopus* sp.
145. OPHIDIIDAE: *Neobythites andamanensis*
146. OPHIDIIDAE: *Neobythites* aff. *pallidus*
147. OPHIDIIDAE: *Neobythites steatiticus*
148. OPHIDIIDAE: *Ophidion* sp.
149. OPHIDIIDAE: *Sirembo jerdoni*
150 OPHIDIIDAE: *Spottobrotula mahodadi*

**PLATE XXI**

151. CARAPIDAE: *Pyramodon ventralis*
152. CARAPIDAE: *Pyramodon* sp. (vexillifer stage larva)
153. BATRACHOIDIDAE: *Perulibatrachus* cf. *aquilonarius*
154. ANTENNARIIDAE: *Antennarius hispidus*
155. ANTENNARIIDAE: *Antennatus nummifer*
156. CHAUNACIDAE: *Chaunax* aff. *nebulosus*
157. OGCOCEPHALIDAE: *Halieutaea coccinea*
158. OGCOCEPHALIDAE: *Halieutaea fumosa*

**PLATE XXII**

159. TRACHICHTHYIDAE: *Aulotrachichthys* sp.
160. TRACHICHTHYIDAE: *Gephyroberyx* sp.
161. TRACHICHTHYIDAE: *Hoplostethus shubnikovi*
162. TRACHICHTHYIDAE: *Hoplostethus druzhinini*
163. DIRETMIDAE: *Diretmichthys parini*
164. HOLOCENTRIDAE: *Ostichthys acanthorhinus*
165. HOLOCENTRIDAE: *Sargocentron* cf. *melanospilos*

166. ZEIDAE: *Cyttopsis rosea*

**PLATE XXIII**

167. ZEIDAE: *Zenopsis nebulosa*
168. CENTRISCIDAE: *Centriscus scutatus*
169. SYNGNATHIDAE: *Corythoichthys benedetto*
170. SETARCHIDAE *Setarches longimanus*
171. SCORPAENIDAE: *Ebosia falcata* (female)
172. SCORPAENIDAE: *Ebosia falcata* (male)
173. TETRAROGIDAE: *Ablabys macracanthus*
174. TETRAROGIDAE: *Ablabys taenianotus*

**PLATE XXIV**

175. TETRAROGIDAE: *Neocentropogon affinis*
176. TETRAROGIDAE: *Snyderina guentheri*
177. APLOACTINIDAE: *Erisphex* cf. *aniarus*
178. PLECTROGENIIDAE: *Plectrogenium nanum*
179. BEMBRIDAE: *Bembradium* cf. *magnoculum*
180. BEMBRIDAE: *Bembras andamanensis*
181. BEMBRIDAE: *Bembras leslieknappi*
182. TRIGLIDAE: *Pterygotrigla* cf. *arabica*

**PLATE XXV**

183. TRIGLIDAE: *Lepidotrigla omanensis*
184. TRIGLIDAE: *Lepidotrigla longipinnis*
185. PERISTEDIIDAE: *Scalicus serrulatus*
186. PERISTEDIIDAE: *Satyrichthys milleri*
187. PLATYCEPHALIDAE: *Cociella punctata*
188. PLATYCEPHALIDAE: *Cociella* sp.
189. HOWELLIDAE: *Howella* cf. *brodiei*
190. LATIDAE: *Lates calcarifer*
191. ACROPOMATIDAE: *Acropoma argentistigma*
192. ACROPOMATIDAE: *Parascombrops glossodon*

**PLATE XXVI**

193. ACROPOMATIDAE: *Parascombrops* sp.
194. ACROPOMATIDAE: *Synagrops* aff. *japonicus*
195. SERRANIDAE: *Cephalopholis formosa*
196. SERRANIDAE: *Cephalopholis sonnerati*
197. SERRANIDAE: *Chelidoperca investigatoris*
198. SERRANIDAE: *Chelidoperca* cf. *occipitalis*
199. SERRANIDAE: *Chelidoperca* sp. A
200. SERRANIDAE: *Chelidoperca* sp. B

**PLATE XXVII**

201. SERRANIDAE: *Epinephelus amblycephalus*
202. SERRANIDAE: *Epinephelus areolatus*
203. SERRANIDAE: *Epinephelus bleekeri*
204. SERRANIDAE: *Epinephelus coioides*
205. SERRANIDAE: *Epinephelus heniochus*
206. SERRANIDAE: *Epinephelus latifasciatus*
207. SERRANIDAE: *Epinephelus radiatus*
208. SERRANIDAE: *Epinephelus sexfasciatus*

**PLATE XXVIII**

209. SERRANIDAE: *Plectranthias* sp. 1
210. SERRANIDAE: *Plectranthias* sp. 2
211. SERRANIDAE: *Plectropomus pessuliferus*
212. SERRANIDAE: *Pseudanthias emma*
213. SERRANIDAE: *Pseudanthias gibbosus*
214. SERRANIDAE: *Pseudanthias rubrizonatus*
215. SERRANIDAE: *Pseudanthias pillai*
216. SERRANIDAE: *Sacura sanguinea*

**PLATE XXIX**

217. SYMPHYSANODONTIDAE: *Symphysanodon* cf. *maunaloae*
218. SYMPHYSANODONTIDAE: *Symphysanodon* cf. *xanthopterygion*
219. CALLANTHIIDAE: *Grammatonotus* sp.
220. OPISTOGNATHIDAE: *Opistognathus rosenbergii*
221. PRIACANTHIDAE: *Priacanthus hamrur*
222. PRIACANTHIDAE: *Priacanthus tayenus*
223. PRIACANTHIDAE: *Priacanthus sagittarius*
224. PRIACANTHIDAE: *Pristigenys refulgens*

**PLATE XXX**

225. APOGONIDAE: *Apogon* sp.
226. APOGONIDAE: *Jaydia poeciloptera*
227. APOGONIDAE: *Jaydia smithi*
228. APOGONIDAE: *Jaydia striata*
229. APOGONIDAE: *Jaydia truncata*
230. APOGONIDAE: *Ostorhinchus apogonoides*
231. APOGONIDAE: *Ostorhinchus quadrifasciatus*
232. APOGONIDAE: *Ostorhinchus pleuron*

**PLATE XXXI**

233. SILLAGINIDAE: *Sillaginopsis domina*
234. SILLAGINIDAE: *Sillago ingenuua*
235. MALACANTHIDAE: *Branchiostegus sawakinensis*
236. RACHYCENTRIDAE: *Rachycentron canadum*
237. CARANGIDAE: *Alectis indica* (juvenile)
238. CARANGIDAE: *Alectis ciliaris* (juvenile)
239. CARANGIDAE: *Alepes kleini*
240. CARANGIDAE: *Carangoides armatus*

**PLATE XXXII**

241. CARANGIDAE: *Carangoides chrysophrys*
242. CARANGIDAE: *Decapterus akaadsi*
243. CARANGIDAE: *Decapterus russelli*
244. CARANGIDAE: *Decapterus smithvanizi*
245. CARANGIDAE: *Scomberoides commersonnianus*
246. CARANGIDAE: *Scomberoides tol*
247. CARANGIDAE: *Selaroides leptolepis*
248. CARANGIDAE: *Seriolina nigrofasciata*

**PLATE XXXIII**

249. LEIOGNATHIDAE: *Aurigequula fasciata*
250. LEIOGNATHIDAE: *Leiognathus longispina*
251. LEIOGNATHIDAE: *Deveximentum insidiator*
252. LEIOGNATHIDAE: *Deveximentum megalolepis*
253. LEIOGNATHIDAE: *Nuchequula longicornis*
254. LEIOGNATHIDAE: *Photopectoralis bindus*

**PLATE XXXIV**

255. BRAMIDAE: *Brama dussumieri*
256. BRAMIDAE: *Brama* sp.
257. EMMELICHTHYIDAE: *Erythrocles schlegelii*
258. LUTJANIDAE: *Lipocheilus carnolabrum*
259. LUTJANIDAE: *Lutjanus erythropterus*
260. LUTJANIDAE: *Lutjanus malabaricus* (juvenile)
261. LUTJANIDAE: *Lutjanus quinquelineatus*
262. LUTJANIDAE: *Pristipomoides typus*

**PLATE XXXV**

263. LUTJANIDAE: *Lutjanus sebae* (juvenile)
264. CAESIONIDAE: *Caesio xanthonota*
265. GERREIDAE: *Gerres macracanthus*
266. HAEMULIDAE: *Diagramma picta* (juvenile)
267. HAEMULIDAE: *Hapalogenys bengalensis*
268. HAEMULIDAE: *Pomadasys andamanensis*
269. HAEMULIDAE: *Pomadasys argyreus*
270. HAEMULIDAE: *Pomadasys guoraca*

**PLATE XXXVI**

271. LETHRINIDAE: *Gymnocranius elongatus*
272. LETHRINIDAE: *Lethrinus nebulosus*
273. LETHRINIDAE: *Lethrinus rubrioperculatus*
274. LETHRINIDAE: *Wattsia mossambica*
275. NEMIPTERIDAE: *Nemipterus hexodon*
276. NEMIPTERIDAE: *Nemipterus japonicus*
277. NEMIPTERIDAE: *Nemipterus marginatus*
278. NEMIPTERIDAE: *Nemipterus nematophorus*

**PLATE XXXVII**

279. NEMIPTERIDAE: *Nemipterus peronii*
280. NEMIPTERIDAE: *Nemipterus zysron*
281. NEMIPTERIDAE: *Parascolopsis aspinosa*
282. NEMIPTERIDAE: *Parascolopsis* sp.
283. SCIAENIDAE: *Atrobucca antonbruun*
284. SCIAENIDAE: *Chrysochir aureus*
285. SCIAENIDAE: *Johnius amblycephalus*
286. SCIAENIDAE: *Johnius macrorhynus*

**PLATE XXXVIII**

287. SCIAENIDAE: *Otolithoides biauritus*
288. SCIAENIDAE: *Otolithoides pama*
289. SCIAENIDAE: *Paranibea* cf. *semiluctuosa*
290. SCIAENIDAE: *Protonibea diacantha*
291. SCIAENIDAE: *Pennahia anea*
292. SCIAENIDAE: *Pterotolithus maculatus*
293. POLYNEMIDAE: *Leptomelanosoma indicum*
294. POLYNEMIDAE: *Polynemus melanochir*

**PLATE XXXIX**

295. MULLIDAE: *Parupeneus heptacanthus*
296. MULLIDAE: *Parupeneus jansenii*
297. MULLIDAE: *Upeneus guttatus*
298. MULLIDAE: *Upeneus moluccensis*
299. MULLIDAE: *Upeneus sundaicus*
300. MULLIDAE: *Upeneus sulphureus*
301. MULLIDAE: *Upeneus margarethae*
302. MULLIDAE: *Upeneus vittatus*

**PLATE XL**

303. PEMPHERIDAE: *Parapriacanthus* sp.
304. BATHYCLUPEIDAE: *Bathyclupea hoskynii*
305. CHAETODONTIDAE: *Chaetodon andamanensis*
306. CHAETODONTIDAE: *Chaetodon decussatus*
307. CHAETODONTIDAE: *Chaetodon collare*
308. CHAETODONTIDAE: *Chaetodon falcula*
309. CHAETODONTIDAE: *Chaetodon trifasciatus*
310. POMACANTHIDAE: *Centropyge eibli*

**PLATE XLI**

311. CEPOLIDAE: *Acanthocepola abbreviata*
312. CEPOLIDAE: *Acanthocepola indica*
313. CEPOLIDAE: *Owstonia nudibucca*
314. MUGILIDAE: *Moolgarda seheli*
315. POMACENTRIDAE: *Amphiprion akallopisos*
316. POMACENTRIDAE: *Amphiprion ephippium*
317. POMACENTRIDAE: *Chromis flavipectoralis*
318. POMACENTRIDAE: *Chrysiptera rollandi*

**PLATE XLII**

319. POMACENTRIDAE: *Chromis* cf. *gunting*
320. POMACENTRIDAE: *Pristotis obtusirostris*
321. LABRIDAE: *Bodianus neilli*
322. LABRIDAE: *Bodianus leucostictus*
323. LABRIDAE: *Choerodon robustus* (male)
324. LABRIDAE: *Cirrhilabrus cyanopleura*
325. LABRIDAE: *Decodon pacificus*
326. LABRIDAE: *Xiphocheilus typus*

**PLATE XLIII**

327. LABRIDAE: *Halichoeres hortulanus* (male)
328. LABRIDAE: *Halichoeres leucoxanthus* (female)
329. LABRIDAE: *Halichoeres timorensis* (female)
330. LABRIDAE: *Halichoeres chrysotaenia*
331. LABRIDAE: *Iniistius pavo*
332. LABRIDAE: *Iniistius bimaculatus*
333. SCARIDAE: *Chlorurus capistratoides* (male)
334. SCARIDAE: *Chlorurus capistratoides* (female)

**PLATE XLIV**

335. SCARIDAE: *Chlorurus troschelii* (male)
336. SCARIDAE: *Chlorurus troschelii* (female)
337. SCARIDAE: *Scarus viridifucatus* (male)
338. SCARIDAE: *Scarus quoyi* (male)
339. SCARIDAE: *Scarus tricolor* (male)
340. SCARIDAE: *Scarus janthinopterus* (female)
341. AMMODYTIDAE: *Ammodytoides* cf. *xanthops*
342. AMMODYTIDAE: *Bleekeria mitsukurii*

**PLATE XLV**

343. AMMODYTIDAE: *Bleekeria* sp. A
344. AMMODYTIDAE: *Bleekeria* sp. B
345. URANOSCOPIDAE: *Ichthyscopus lebeck*
346. URANOSCOPIDAE: *Uranoscopus cognatus*
347. URANOSCOPIDAE: *Uranoscopus affinis*
348. URANOSCOPIDAE: *Uranoscopus oligolepis*
349. URANOSCOPIDAE: *Xenocephalus australiensis*
350. TRICHONOTIDAE: *Trichonotus* cf. *setiger*

**PLATE XLVI**

351. TRICHONOTIDAE: *Acanthaphritis barbata*
352. TRICHONOTIDAE: *Pteropsaron indicum*
353. PERCOPHIDAE: *Bembrops caudimacula*
354. PERCOPHIDAE: *Bembrops platyrhynchus*
355. PERCOPHIDAE: *Bembrops* sp.
356. PERCOPHIDAE: *Chrionema chryseres*
357. PINGUIPEDIDAE: *Parapercis alboguttata*
358. PERCOPHIDAE: *Parapercis caudopellucida*

**PLATE XLVII**

359. PINGUIPEDIDAE: *Parapercis* sp. 1
360. BLENNIIDAE: *Xiphasia setifer*
361. CALLIONYMIDAE: *Callionymus carebares*
362. CALLIONYMIDAE: *Callionymus filamentosus* (female)
363. CALLIONYMIDAE: *Callionymus meridionalis* (male)
364. CALLIONYMIDAE: *Callionymus octostigmatus* (male)
365. CALLIONYMIDAE: *Synchiropus* cf. *altivelis* (male)
366. DRACONETTIDAE: *Centrodraco ornatus*

**PLATE XLVIII**

367. ELEOTRIDAE: *Butis koilomatodon*
368. GOBIIDAE: *Acentrogobius cyanomos*
369. GOBIIDAE: *Acentrogobius* sp.
370. GOBIIDAE: *Amblyotrypauchen arctocephalus*
371. GOBIIDAE: *Boleophthalmus boddarti*
372. GOBIIDAE: *Egglestonichthys melanoptera*
373. GOBIIDAE: *Glossogobius giuris*
372. GOBIIDAE: *Egglestonichthys melanoptera*
374. GOBIIDAE: Gobiinae sp.

**PLATE XLIX**

375. GOBIIDAE: *Parachaeturichthys polynema*
376. GOBIIDAE: *Yongeichthys nebulosus*
377. KURTIDAE: *Kurtus indicus*
378. EPHIPPIDAE: *Ephippus orbis*
379. EPHIPPIDAE: *Platax teira* (juvenile)
380. SCATOPHAGIDAE: *Scatophagus argus*

**PLATE L**

381. SIGANIDAE: *Siganus canaliculatus*
382. SIGANIDAE: *Siganus corallinus*
383. SIGANIDAE: *Siganus guttatus*
384. SIGANIDAE: *Siganus javus*
385. SIGANIDAE: *Siganus magnificus*
386. SIGANIDAE: *Siganus sutor*
387. ACANTHURIDAE: *Acanthurus leucosternon*
388. ACANTHURIDAE: *Acanthurus mata*

**PLATE LI**

389. ACANTHURIDAE: *Ctenochaetus truncatus*
390. ACANTHURIDAE: *Naso annulatus* (juvenile)
391. SCOMBROLABRACIDAE: *Scombrolabrax heterolepis*
392. SPHYRAENIDAE: *Sphyraena pinguis*
393. GEMPYLIDAE: *Neoepinnula orientalis*
394. GEMPYLIDAE: *Rexea bengalensis*
395. GEMPYLIDAE: *Ruvettus pretiosus*
396. TRICHIURIDAE: *Lepturacanthus savala*

**PLATE LII**

397. TRICHIURIDAE: *Tentoriceps cristatus*
398. SCOMBRIDAE: *Rastrellinger brachysoma*
399. SCOMBRIDAE: *Rastrellinger faughni*
400. SCOMBRIDAE: *Rastrellinger kanagurta*
401. SCOMBRIDAE: *Scomberomorus commerson* (juvenile)
402. SCOMBRIDAE: *Scomberomorus guttatus*
403. CENTROLOPHIDAE: *Psenopsis obscura*
404. NOMEIDAE: *Cubiceps kotlyari*

**PLATE LIII**

405. NOMEIDAE: *Cubiceps pauciradiatus*
406. NOMEIDAE: *Cubiceps whiteleggii*
407. STROMATEIDAE: *Pampus argenteus*
408. STROMATEIDAE: *Pampus chinensis*
409. CAPROIDAE: *Antigonia ovalis*
410. CAPROIDAE: *Antigonia rubescens*

**PLATE LIV**

411. CAPROIDAE: *Antigonia* sp.
412. CITHARIDAE: *Brachypleura novaezeelandiae*
413. PARALICHTHYIDAE: *Cephalopsetta ventrocellata*
414. PARALICHTHYIDAE: *Pseudorhombus dupliocellatus*
415. PARALICHTHYIDAE: *Pseudorhombus elevatus*
416. BOTHIDAE: *Arnoglossus japonicus*
417. BOTHIDAE: *Chascanopsetta lugubris*
418. BOTHIDAE: *Engyprosopon maldivense*

**PLATE LV**

419. BOTHIDAE: *Grammatobothus polyophthalmus*
420. BOTHIDAE: *Laeops macrophthalmus*
421. BOTHIDAE: *Psettina variegata*
422. BOTHIDAE: *Tosarhombus nielseni*
423. POECILOPSETTIDAE: *Marleyella bicolorata*
424. POECILOPSETTIDAE: *Poecilopsetta colorata*
425. SAMARIDAE: *Samariscus huysmani*
426. SAMARIDAE: *Samariscus maculatus*

**PLATE LVI**

427. SOLEIDAE: *Aesopia cornuta*
428. SOLEIDAE: *Aseraggodes cyaneus*
429. SOLEIDAE: *Heteromycteris oculus*
430. SOLEIDAE: *Pardachirus pavoninus*
431. SOLEIDAE: *Dagetichthys* cf. *albomaculatus*
432. SOLEIDAE: *Zebrias altipinnis*
433. SOLEIDAE: *Zebrias quagga*
434. SOLEIDAE: *Zebrias synapturoides*

**PLATE LVII**

435. CYNOGLOSSIDAE: *Cynoglossus arel*
436. CYNOGLOSSIDAE: *Cynoglossus carpenteri*
437. CYNOGLOSSIDAE: *Cynoglossus* cf. *cynoglossus*
438. CYNOGLOSSIDAE: *Cynoglossus* cf. *lingua*
439. CYNOGLOSSIDAE: *Cynoglossus* cf. *macrolepidotus*
440. CYNOGLOSSIDAE: *Cynoglossus* cf. *monopus*
441. CYNOGLOSSIDAE: *Cynoglossus* cf. *praecisus*
442. CYNOGLOSSIDAE: *Cynoglossus* cf. *puncticeps*
443. CYNOGLOSSIDAE: *Paraplagusia* cf. *bleekeri*
444. CYNOGLOSSIDAE: *Paraplagusia* cf. *bleekeri* (juvenile)

**PLATE LVIII**

445. TRIACANTHODIDAE: *Halimochirurgus centriscoides*
446. TRIACANTHODIDAE: *Mephisto fraserbrunneri*
447. TRIACANTHODIDAE: *Mephisto albomaculosus*
448. TRIACANTHODIDAE: *Tydemania navigatoris*
449. TRIACANTHIDAE: *Pseudotriacanthus strigilifer*
450. BALISTIDAE: *Abalistes stellatus*
451. BALISTIDAE: *Balistoides viridescens*
452. BALISTIDAE: *Pseudobalistes fuscus*

**PLATE LIX**

453. MONACANTHIDAE: *Aluterus monoceros*
454. MONACANTHIDAE: *Thamnaconus multilineatus*
455. OSTRACIIDAE: *Lactoria cornuta*
456. OSTRACIIDAE: *Lactoria diaphana*
457. OSTRACIIDAE: *Ostracion cubicus*
458. OSTRACIIDAE: *Ostracion nasus*
459. OSTRACIIDAE: *Tetrosomus concatenatus*
460. OSTRACIIDAE: *Tetrosomus gibbosus*

**PLATE LX**

461. TETRAODONTIDAE: *Arothron hispidus*
462. TETRAODONTIDAE: *Arothron immaculatus*
463. TETRAODONTIDAE: *Arothron stellatus*
464. TETRAODONTIDAE: *Arothron stellatus* (juvenile)
465. TETRAODONTIDAE: *Canthigaster punctata*
466. TETRAODONTIDAE: *Canthigaster petersii*

**PLATE LXI**

467. TETRAODONTIDAE: *Chelonodontops alvheimi*
468. TETRAODONTIDAE: *Chelonodontops patoca*
469. TETRAODONTIDAE: *Chonerhinos naritus*
470. TETRAODONTIDAE: *Chonerhinos naritus*
471. TETRAODONTIDAE: *Lagocephalus cheesemanii*
472. TETRAODONTIDAE: *Lagocephalus guentheri*
473. TETRAODONTIDAE: *Lagocephalus lunaris*
474. TETRAODONTIDAE: *Lagocephalus suezensis*

**PLATE LXII**

475. TETRAODONTIDAE: *Sphoeroides pachygaster*
476. TETRAODONTIDAE: *Takifugu oblongus*
477. TETRAODONTIDAE: *Torquigener brevipinnis*
478. TETRAODONTIDAE: *Torquigener florealis*
479. TETRAODONTIDAE: *Tylerius spinosissimus*
480. DIODONTIDAE: *Cyclichthys orbicularis*
481. DIODONTIDAE: *Cyclichthys spilostylus*
482. DIODONTIDAE: *Diodon holocanthus*

**PLATE LXIII**

483. DIODONTIDAE: *Diodon* cf. *hystrix*
484. DIODONTIDAE: *Diodon liturosus*

# COLOUR PLATES

# PLATE I



1. ODONTODACTYLIDAE ***Odontodactylus cultrifer***
(photo: O. Alvheim)



2. ODONTODACTYLIDAE ***Odontodactylus japonicus***
(photo: O. Alvheim)



3. SQUILLIDAE ***Dictyosquilla foveolata***
(photo: O. Alvheim)



4. SQUILLIDAE ***Erugosquilla woodmasoni***
(photo: O. Alvheim)



5. SQUILLIDAE ***Kempella stridulans***
(photo: O. Alvheim)



6. SQUILLIDAE ***Harpiosquilla annandalei***
(photo: O. Alvheim)



7. SQUILLIDAE ***Harpiosquilla harpax***
(photo: O. Alvheim)



8. SQUILLIDAE ***Squilloides leptoquilla***
(photo: O. Alvheim)

# PLATE II



9. ARISTEIDAE ***Aristaeomorpha foliacea***
(photo: O. Alvheim)



10. ARISTEIDAE ***Aristeus alcocki***
(photo: O. Alvheim)



11. ARISTEIDAE ***Aristeus mabahisse***
(photo: O. Alvheim)



12. ARISTEIDAE ***Aristeus virilis***
(photo: O. Alvheim)



13. PENAEIDAE ***Parapenaeopsis sculptilis***
(photo: O. Alvheim)



14. PENAEIDAE ***Parapenaeopsis uncta***
(photo: O. Alvheim)



15. PENAEIDAE ***Penaeus pulchricaudatus***
(photo: O. Alvheim)



16. SICYONIIDAE ***Sicyonia parajaponica***
(photo: O. Alvheim)

# PLATE III



17. SOLENOCERIDAE ***Haliporus taprobanensis***
(photo: O. Alvheim)



18. SOLENOCERIDAE ***Solenocera choprai***
(photo: O. Alvheim)



19. PASIPHAEIDAE ***Pasiphaea unispinosa***
(photo: O. Alvheim)



20. PANDALIDAE ***Heterocarpus chani***
(photo: O. Alvheim)



21. PANDALIDAE ***Heterocarpus woodmasoni***
(photo: O. Alvheim)



22. PANDALIDAE ***Plesionika*** cf. ***semilaevis***
(photo: O. Alvheim)



23. PANDALIDAE ***Plesionika quasigrandis***
(photo: O. Alvheim)



24. PSALIDOPODIDAE ***Psalidopus huxleyi***
(photo: O. Alvheim)

# PLATE IV



25. NEPHROPIDAE ***Metanephrops andamanicus***
(photo: O. Alvheim)



26. NEPHROPIDAE ***Nephropsis carpenteri***
(photo: O. Alvheim)



27. PALINURIDAE ***Panulirus polyphagus***
(photo: O. Alvheim)



28. PALINURIDAE ***Puerulus sewelli***
(photo: O. Alvheim)



29. PALINURIDAE ***Linuparus somniosus***
(photo: O. Alvheim)



30. POLYCHELIDAE ***Polycheles typhlops***
(photo: O. Alvheim)



31. SCYLLARIDAE ***Ibacus novemdentatus***
(photo: O. Alvheim)



32. SCYLLARIDAE ***Thenus*** cf. ***parindicus***
(photo: O. Alvheim)

# PLATE V



33. CALAPPIDAE ***Calappa clypeata***
(photo: O. Alvheim)



34. CALAPPIDAE ***Calappa lophos***
(photo: O. Alvheim)



35. MAJIDAE ***Paramaja gibba***
(photo: O. Alvheim)



36. OREGONIIDAE ***Pleistacantha pungens***
(photo: O. Alvheim)



37. INACHIDAE ***Encephaloides armstrongi***
(photo: O. Alvheim)



38. PILUMNIDAE ***Galene bispinosa***
(photo: O. Alvheim)

# PLATE VI



39. PORTUNIDAE ***Charybdis feriatus***
(photo: O. Alvheim)



40. PORTUNIDAE ***Charybdis riversandersoni***
(photo: O. Alvheim)



41. PORTUNIDAE ***Charybdis natator***
(photo: O. Alvheim)



42. PORTUNIDAE ***Portunus hastatoides***
(photo: O. Alvheim)



43. PORTUNIDAE ***Portunus pelagicus***
(photo: O. Alvheim)



44. PORTUNIDAE ***Portunus sanguinolentus***
(photo: O. Alvheim)

# PLATE VII



45. ARCIDAE ***Tegillarca granosa***
(photo: J.-M. Poutiers)





46. MYTILIDAE ***Perna viridis***
(photo: J.-M. Poutiers)





47. PTERIIDAE ***Pinctada margaritifera***
(photo: J.-M. Poutiers)



48. CARDIIDAE ***Tridacna gigas***
(photo: J.-M. Poutiers)



49. ROCHIDAE s.l. ***Rochia nilotica***
(photo: J.-M. Poutiers)



50. TURBINIDAE ***Turbo marmoratus***
(photo: J.-M. Poutiers)



51. STROMBIDAE ***Lambis lambis***
(photo: J.-M. Poutiers)



52. MURICIDAE ***Chicoreus ramosus***
(photo: J.-M. Poutiers)

# PLATE VIII



53. NAUTILIDAE ***Nautilus pompilius***
(photo: M. Norman)



54. SEPIIDAE ***Sepia aculeata***
(photo: J. Forsythe)



55. SEPIIDAE ***Sepia latimanus***
(photo: M. Norman)



56. SEPIIDAE ***Sepia pharaonis***
(photo: J. Forsythe)



57. OCTOPODIDAE ***Callistoctopus ornatus***
(photo: M. Norman)



58. OCTOPODIDAE '***Octopus' cyanea***
(photo: M. Norman)

# PLATE IX



59. HOLOTHURIIDAE ***Actinopyga echinites***
(photo: P. Bourjon)



60. HOLOTHURIIDAE ***Actinopyga_lecanora***
(photo: S.W. Purcell)



61. HOLOTHURIIDAE ***Bohadschia vitiensis***
(photo: S.W. Purcell)



62. HOLOTHURIIDAE ***Holothuria lessoni***
(photo: S.W. Purcell)



63. HOLOTHURIIDAE ***Holothuria scabra***
(photo: S.W. Purcell)



64. HOLOTHURIIDAE ***Holothuria spinifera***
(photo: P.S.A Sha)



65. HOLOTHURIIDAE ***Stichopus chloronotus***
(photo: S.W. Purcell)



66. HOLOTHURIIDAE ***Stichopus hermanni***
(photo: P.S.A Sha)

# PLATE X



67. HEXANCHIDAE ***Heptranchias perlo***
(photo: Mya Than Tun)



68. SQUALIDAE ***Squalus hemipinnis***
(photo: P.N. Psomadakis)



69. SQUALIDAE ***Squalus*** sp.
(photo: P.N. Psomadakis)



70. CENTROPHORIDAE ***Centrophorus uyato***
(photo: P.N. Psomadakis)



71. HEMISCYLLIIDAE ***Chiloscyllium hasseltii***
(photo: Su Su Hlaing)



72. HEMISCYLLIIDAE ***Chiloscyllium punctatum***
(photo: Su Su Hlaing)



73. PROSCYLLIIDAE ***Cephaloscyllium*** cf. ***silasi***
(photo: O. Alvheim)



74. PROSCYLLIIDAE ***Ctenacis*** cf. ***fehlmanni***
(photo: O. Alvheim)

# PLATE XI



75. PROSCYLLIIDAE ***Proscyllium magnificum***
(photo: Khin May Chit Maung)



76. TRIAKIDAE ***Iago omanensis***
(photo: .P.N. Psomadakis)



77. TRIAKIDAE ***Iago*** sp. A
(photo: P.N. Psomadakis)



78. TRIAKIDAE ***Mustelus*** cf. ***mosis***
(photo: Su Su Hlaing)



79. TRIAKIDAE ***Mustelus stevensi***
(photo: P.N. Psomadakis)



80. CARCHARHINIDAE ***Carcharhinus leucas***
(photo: Su Su Hlaing)



81. CARCHARHINIDAE ***Carcharhinus melanopterus***
(photo: Su Su Hlaing)



82. CARCHARHINIDAE ***Scoliodon*** cf. ***laticaudus***
(photo: P.N. Psomadakis)

# PLATE XII



83. RHINIDAE ***Rhynchobatus australiae***
(photo: Khin May Chit Maung)



84. RHINOBATIDAE ***Rhinobatos annandalei***
(photo: P.N. Psomadakis)



85. RHINOBATIDAE ***Rhinobatos lionotus***
(photo: P.N. Psomadakis)



86. RHINOBATIDAE ***Rhinobatos ranongensis***
(photo: P.N. Psomadakis)



87. PLATYRHINIDAE ***Platyrhina psomadakisi***
(photo: P.N. Psomadakis)



88. NARCINIDAE ***Benthobatis*** cf. ***yangi***
(photo: P.N. Psomadakis)

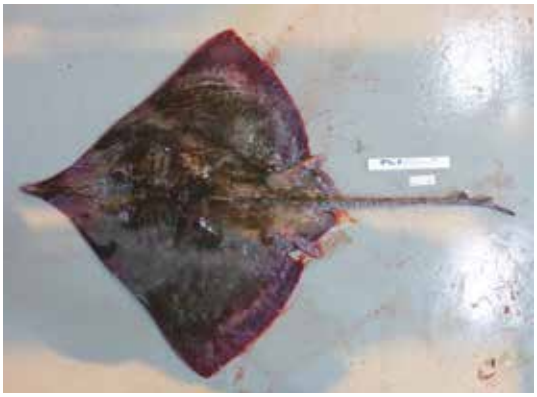


89. NARCINIDAE ***Narcine*** sp.
(photo: O. Alvheim)



90. TORPEDINIDAE ***Tetronarce*** aff. ***formosa***
(photo: O. Alvheim)

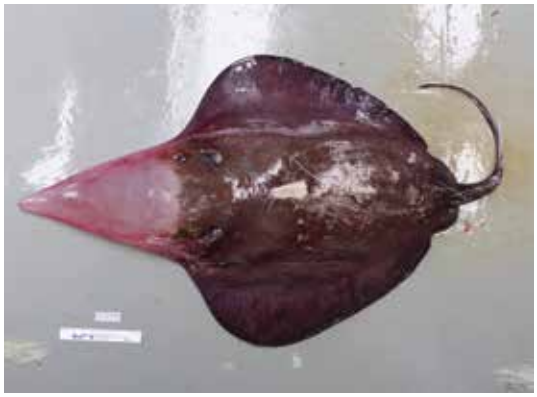
# PLATE XIII



91. RAJIDAE ***Dipturus*** sp.
(photo: P.N. Psomadakis)



92. RAJIDAE ***Rajella*** sp.
(photo: P.N. Psomadakis)



93. HEXATRYGONIDAE ***Hexatrygon bickelli***
(photo: P.N. Psomadakis)



94. DASYATIDAE ***Maculabatis gerrardi***
(photo: O. Alvheim)



95. DASYATIDAE ***Brevitrygon*** cf. ***imbricata***
(photo: Khin May Chit Maung)



96. DASYATIDAE ***Maculabatis pastinacoides***
(photo: Khin May Chit Maung)

# PLATE XIV



97. DASYATIDAE ***Neotrygon*** cf. ***caeruleopunctata***
(photo: Khin May Chit Maung)



98. DASYATIDAE ***Pateobatis jenkinsii***
(photo: Khin May Chit Maung)



99. DASYATIDAE ***Telatrygon crozieri***
(photo: Khin May Chit Maung)



100. DASYATIDAE ***Urogymnus granulatus***
(photo: Khin May Chit Maung)



101. RHINOPTERIDAE ***Rhinoptera javanica***
(photo: Su Su Hlaing)



102. MOBULIDAE ***Mobula thurstoni***
(photo: Su Su Hlaing)

# PLATE XV



103. MEGALOPIDAE ***Megalops cyprinoides***
(photo: Su Su Hlaing)



104. MURAENIDAE ***Gymnothorax javanicus***
(photo: G.R. Allen)



105. MURAENIDAE ***Gymnothorax fimbriatus***
(photo: G.R. Allen)



106. MURAENIDAE ***Gymnothorax thyrsoideus***
(photo: G.R. Allen)



107 MURAENIDAE ***Gymnothorax minor***
(photo: P.N. Psomadakis)



108. MURAENIDAE ***Gymnothorax*** cf. ***sokotrensis***
(photo: P.N. Psomadakis)



109. COLOCONGRIDAE ***Coloconger raniceps***
(photo: O. Alvheim)



110. MURAENESOCIDAE ***Congresox talabon***
(photo: O. Alvheim)

# PLATE XVI




111. NETTASTOMATIDAE ***Saurenchelys*** sp.
(photo: P.N. Psomadakis)




112. CONGRIDAE ***Ariosoma*** cf. ***gnanadossi***
(photo: P.N. Psomadakis)




113. CONGRIDAE ***Bathycongrus nasicus***
(photo: P.N. Psomadakis)



114. CONGRIDAE ***Bathyuroconger*** cf. ***vicinus***
(photo: O. Alvheim)



115. CONGRIDAE ***'Congromuraena' musteliceps***
(photo: P.N. Psomadakis)



116. CONGRIDAE ***Uroconger*** cf. ***lepturus***
(photo: P.N. Psomadakis)

# PLATE XVII



117. CLUPEIDAE ***Sardinella gibbosa***
(photo: O. Alvheim)



118. CLUPEIDAE ***Tenualosa toli***
(photo: Su Su Hlaing)



119. DUSSUMIERIIDAE ***Dussumieria acuta***
(photo: O. Alvheim)



120. ENGRAULIDAE ***Coilia dussumieri***
(photo: Su Su Hlaing)



121. ENGRAULIDAE ***Coilia ramcarati***
(photo: Mya Than Tun)



122. ENGRAULIDAE ***Setipinna taty***
(photo: O. Alvheim)



123. ENGRAULIDAE ***Stolephorus indicus***
(photo: O. Alvheim)



124. CHIROCENTRIDAE ***Chirocentrus nudus***
(photo: Su Su Hlaing)

# PLATE XVIII



125. PRISTIGASTERIDAE ***Ilisha melastoma***
(photo: O. Alvheim)



126. PRISTIGASTERIDAE ***Raconda russeliana***
(photo: Su Su Hlaing)



127. PLOTOSIDAE ***Plotosus canius***
(photo: O. Alvheim)



128. PANGASIDAE ***Pangasius myanmar***
(photo: P.N. Psomadakis)



129. ARGENTINIDAE ***Glossanodon*** sp.
(photo: O. Alvheim)



130. ATELEOPODIDAE ***Ateleopus indicus***
(photo: O. Alvheim)

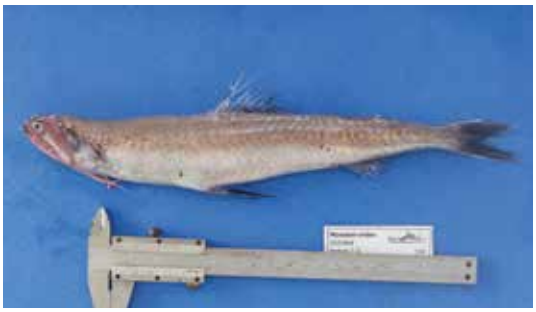


131. CHLOROPHTHALMIDAE ***Chlorophthalmus corniger***
(photo: O. Alvheim)



132. SYNODONTIDAE ***Harpadon nehereus***
(photo: O. Alvheim)

# PLATE XIX



133 SYNODONTIDAE ***Harpadon*** sp.
(photo: P.N. Psomadakis)



134. SYNODONTIDAE ***Saurida micropectoralis***
(photo: O. Alvheim)



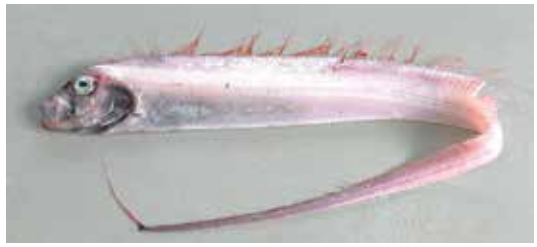
135. SYNODONTIDAE ***Saurida*** cf. ***randalli***
(photo: O. Alvheim)



136. SYNODONTIDAE ***Trachinocephalus trachinus***
(photo: O. Alvheim)



137. NEOSCOPELIDAE ***Neoscopelus 'microchir'***
(photo: O. Alvheim)



138. TRACHIPTERIDAE ***Trachipterus*** cf. ***trachypterus***
(photo: O. Alvheim)



139. POLYMIXIIDAE ***Polymixia fusca***
(photo: O. Alvheim)




140. BREGMACEROTIDAE ***Bregmaceros mcclellandi***
(photo: P.N. Psomadakis)

# PLATE XX



141. MACROURIDAE ***Coelorinchus*** cf. ***mycterismus***
(photo: P.N. Psomadakis)



142. MORIDAE ***Physiculus*** cf. ***roseus***
(photo: P.N. Psomadakis)



143. OPHIDIIDAE ***Dicrolene*** aff. ***nigricaudis***
(photo: O. Alvheim)



144. OPHIDIIDAE ***Monomitopus*** sp.
(photo: O. Alvheim)



145. OPHIDIIDAE ***Neobythites andamanensis***
(photo: O. Alvheim)



146. OPHIDIIDAE ***Neobythites*** aff. ***pallidus***
(photo: O. Alvheim)



147. OPHIDIIDAE ***Neobythites steatiticus***
(photo: O. Alvheim)



148. OPHIDIIDAE ***Ophidion*** sp.
(photo: O. Alvheim)



149. OPHIDIIDAE ***Sirembo jerdoni***
(photo: O. Alvheim)



150 OPHIDIIDAE ***Spottobrotula mahodadi***
(photo: O. Alvheim)

# PLATE XXI



151. CARAPIDAE ***Pyramodon ventralis***
(photo: P.N. Psomadakis)



152. CARAPIDAE ***Pyramodon*** sp. (vexillifer stage larva)
(photo: O. Alvheim)




153. BATRACHOIDIDAE ***Perulibatrachus*** cf. ***aquilonarius***
(photo: P.N. Psomadakis)



154. ANTENNARIIDAE ***Antennarius hispidus***
(photo: O. Alvheim)



155. ANTENNARIIDAE ***Antennatus nummifer***
(photo: G.R. Allen)



156. CHAUNACIDAE ***Chaunax*** aff. ***nebulosus***
(photo: O. Alvheim)



157. OGCOCEPHALIDAE ***Halieutaea coccinea***
(photo: O. Alvheim)



158. OGCOCEPHALIDAE ***Halieutaea fumosa***
(photo: O. Alvheim)

# PLATE XXII



159. TRACHICHTHYIDAE ***Aulotrachichthys sp.***
(photo: O. Alvheim)



160. TRACHICHTHYIDAE ***Gephyroberyx*** sp.
(photo: O. Alvheim)



161. TRACHICHTHYIDAE ***Hoplostethus shubnikovi***
(photo: O. Alvheim)



162. TRACHICHTHYIDAE ***Hoplostethus druzhinini***
(photo: O. Alvheim)



163. DIRETMIDAE ***Diretmichthys parini***
(photo: O. Alvheim)



164. HOLOCENTRIDAE ***Ostichthys acanthorhinus***
(photo: O. Alvheim)



165. HOLOCENTRIDAE ***Sargocentron*** cf. ***melanospilos***
(photo: O. Alvheim)



166. ZEIDAE ***Cyttopsis rosea***
(photo: O. Alvheim)

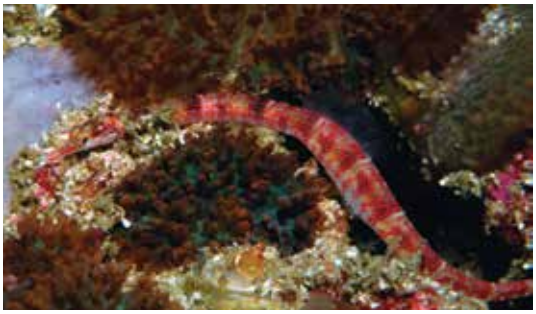
# PLATE XXIII



167. ZEIDAE ***Zenopsis nebulosa***
(photo: O. Alvheim)



168. CENTRISCIDAE ***Centriscus scutatus***
(photo: O. Alvheim)



169. SYNGNATHIDAE ***Corythoichthys benedetto***
(photo: G.R. Allen)



170. SETARCHIDAE ***Setarches longimanus***
(photo: O. Alvheim)




171. SCORPAENIDAE ***Ebosia falcata*** (female)
(photo: O. Alvheim)




172. SCORPAENIDAE ***Ebosia falcata*** (male)
(photo: O. Alvheim)



173. TETRAROGIDAE ***Ablabys macracanthus***
(photo: O. Alvheim)



174. TETRAROGIDAE ***Ablabys taenianotus***
(photo: O. Alvheim)

# PLATE XXIV



175. TETRAROGIDAE ***Neocentropogon affinis***
(photo: O. Alvheim)



176. TETRAROGIDAE ***Snyderina guentheri***
(photo: O. Alvheim)



177. APLOACTINIDAE ***Erisphex*** cf. ***aniarus***
(photo: O. Alvheim)



178. PLECTROGENIIDAE ***Plectrogenium nanum***
(photo: O. Alvheim)



179. BEMBRIDAE ***Bembradium*** cf. ***magnoculum***
(photo: O. Alvheim)



180. BEMBRIDAE ***Bembras andamanensis***
(photo: O. Alvheim)



181. BEMBRIDAE ***Bembras leslieknappi***
(photo: P.N. Psomadakis)



182. TRIGLIDAE ***Pterygotrigla*** cf. ***arabica***
(inset: inner part of pectoral fin) (photo: O. Alvheim)

# PLATE XXV



183. TRIGLIDAE ***Lepidotrigla omanensis***
(photo: O. Alvheim)



184. TRIGLIDAE ***Lepidotrigla longipinnis***
(photo: O. Alvheim)



185. PERISTEDIIDAE ***Scalicus serrulatus***
(photo: O. Alvheim)



186. PERISTEDIIDAE ***Satyrichthys milleri***
(photo: O. Alvheim)



187. PLATYCEPHALIDAE ***Cociella punctata***
(photo: O. Alvheim)



188. PLATYCEPHALIDAE ***Cociella*** sp.
(photo: P.N. Psomadakis)



189. HOWELLIDAE ***Howella*** cf. ***brodiei***
(photo: O. Alvheim)



190. LATIDAE ***Lates calcarifer***
(photo: Su Su Hlaing)



191. ACROPOMATIDAE ***Acropoma argentistigma***
(photo: O. Alvheim)



192. ACROPOMATIDAE ***Parascombrops glossodon***
(photo: O. Alvheim)

# PLATE XXVI



193. ACROPOMATIDAE ***Parascombrops*** sp.
(photo: O. Alvheim)



194. ACROPOMATIDAE ***Synagrops*** aff. ***japonicus***
(photo: O. Alvheim)



195. SERRANIDAE ***Cephalopholis formosa***
(photo: Mya Than Tun)



196. SERRANIDAE ***Cephalopholis sonnerati***
(photo: Mya Than Tun)



197. SERRANIDAE ***Chelidoperca investigatoris***
(photo: O. Alvheim)



198. SERRANIDAE ***Chelidoperca*** cf. ***occipitalis***
(photo: Mya Than Tun)



199. SERRANIDAE ***Chelidoperca*** sp. A
(photo: O. Alvheim)



200. SERRANIDAE ***Chelidoperca*** sp. B
(photo: O. Alvheim)

# PLATE XXVII



201. SERRANIDAE ***Epinephelus amblycephalus***
(photo: O. Alvheim)



202. SERRANIDAE ***Epinephelus areolatus***
(photo: O. Alvheim)



203. SERRANIDAE ***Epinephelus bleekeri***
(photo: O. Alvheim)



204. SERRANIDAE ***Epinephelus coioides***
(photo: O. Alvheim)



205. SERRANIDAE ***Epinephelus heniochus***
(photo: O. Alvheim)



206. SERRANIDAE ***Epinephelus latifasciatus***
(photo: O. Alvheim)



207. SERRANIDAE ***Epinephelus radiatus***
(photo: O. Alvheim)



208. SERRANIDAE ***Epinephelus sexfasciatus***
(photo: O. Alvheim)

# PLATE XXVIII



209. SERRANIDAE ***Plectranthias*** sp. 1
(photo: O. Alvheim)



210. SERRANIDAE ***Plectranthias*** sp. 2
(photo: O. Alvheim)



211. SERRANIDAE ***Plectropomus pessuliferus***
(photo: Mya Than Tun)



212. SERRANIDAE ***Pseudanthias emma***
(photo: O. Alvheim)



213. SERRANIDAE ***Pseudanthias gibbosus***
(photo: O. Alvheim)



214. SERRANIDAE ***Pseudanthias rubrizonatus***
(photo: G.R. Allen)



215. SERRANIDAE ***Pseudanthias pillai***
(photo: Mya Than Tun)



216. SERRANIDAE ***Sacura sanguinea***
(photo: Mya Than Tun)

# PLATE XXIX



217. SYMPHYSANODONTIDAE
***Symphysanodon*** cf. ***maunaloae*** (photo: O. Alvheim)



218. SYMPHYSANODONTIDAE
***Symphysanodon*** cf. ***xanthopterygion*** (photo: O. Alvheim)



219. CALLANTHIIDAE ***Grammatonotus*** sp.
(photo: O. Alvheim)



220. OPISTOGNATHIDAE ***Opistognathus rosenbergii***
(photo: O. Alvheim)



221. PRIACANTHIDAE ***Priacanthus hamrur***
(photo: O. Alvheim)



222. PRIACANTHIDAE ***Priacanthus tayenus***
(photo: O. Alvheim)



223. PRIACANTHIDAE ***Priacanthus sagittarius***
(photo: O. Alvheim)



224. PRIACANTHIDAE ***Pristigenys refulgens***
(photo: O. Alvheim)

# PLATE XXX



225. APOGONIDAE ***Apogon sp.***
(photo: O. Alvheim)



226. APOGONIDAE ***Jaydia poeciloptera***
(photo: O. Alvheim)



227. APOGONIDAE ***Jaydia smithi***
(photo: O. Alvheim)



228. APOGONIDAE ***Jaydia striata***
(photo: O. Alvheim)



229. APOGONIDAE ***Jaydia truncata***
(photo: O. Alvheim)



230. APOGONIDAE ***Ostorhinchus apogonoides***
(photo: O. Alvheim)



231. APOGONIDAE ***Ostorhinchus quadrifasciatus***
(photo: O. Alvheim)



232. APOGONIDAE ***Ostorhinchus pleuron***
(photo: O. Alvheim)

# PLATE XXXI



233. SILLAGINIDAE ***Sillaginopsis domina***
(photo: Su Su Hlaing)



234. SILLAGINIDAE ***Sillago ingenuua***
(photo: O. Alvheim)




235. MALACANTHIDAE ***Branchiostegus sawakinensis***
(photo: Mya Than Tun)



236. RACHYCENTRIDAE ***Rachycentron canadum***
(photo: O. Alvheim)



237. CARANGIDAE ***Alectis indica*** (juvenile)
(photo: O. Alvheim)



238. CARANGIDAE ***Alectis ciliaris*** (juvenile)
(photo: O. Alvheim)



239. CARANGIDAE ***Alepes kleini***
(photo: O. Alvheim)



240. CARANGIDAE ***Carangoides armatus***
(photo: O. Alvheim)

# PLATE XXXII



241. CARANGIDAE ***Carangoides chrysophrys***
(photo: O. Alvheim)



242. CARANGIDAE ***Decapterus akaadsi***
(photo: O. Alvheim)



243. CARANGIDAE ***Decapterus russelli***
(photo: O. Alvheim)



244. CARANGIDAE ***Decapterus smithvanizi***
(photo: O. Alvheim)



245. CARANGIDAE ***Scomberoides commersonnianus***
(photo: O. Alvheim)



246. CARANGIDAE ***Scomberoides tol***
(photo: O. Alvheim)



247. CARANGIDAE ***Selaroides leptolepis***
(photo: O. Alvheim)

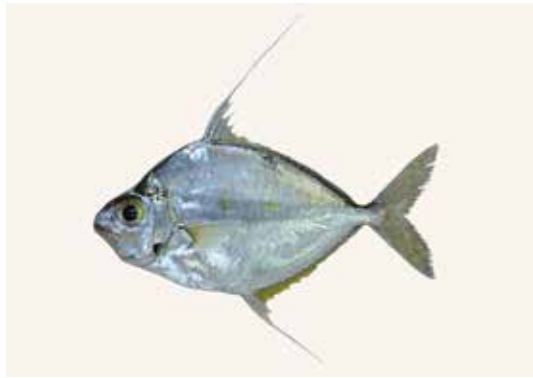


248. CARANGIDAE ***Seriolina nigrofasciata***
(photo: O. Alvheim)

# PLATE XXXIII



249. LEIOGNATHIDAE ***Aurigequula fasciata***
(photo: O. Alvheim)



250. LEIOGNATHIDAE ***Leiognathus longispina***
(photo: O. Alvheim)



251. LEIOGNATHIDAE ***Deveximentum insidiator***
(photo: O. Alvheim)



252. LEIOGNATHIDAE ***Deveximentum megalolepis***
(photo: O. Alvheim)




253. LEIOGNATHIDAE ***Nuchequula longicornis***
(photo: P.N. Psomadakis)



254. LEIOGNATHIDAE ***Photopectoralis bindus***
(photo: O. Alvheim)

# PLATE XXXIV



255. BRAMIDAE ***Brama dussumieri***
(photo: O. Alvheim)



256. BRAMIDAE ***Brama*** sp.
(photo: O. Alvheim)



257. EMMELICHTHYIDAE ***Erythrocles schlegelii***
(photo: O. Alvheim)



258. LUTJANIDAE ***Lipocheilus carnolabrum***
(photo: O. Alvheim)



259. LUTJANIDAE ***Lutjanus erythropterus***
(photo: O. Alvheim)



260. LUTJANIDAE ***Lutjanus malabaricus*** (juvenile)
(photo: O. Alvheim)



261. LUTJANIDAE ***Lutjanus quinquelineatus***
(photo: O. Alvheim)



262. LUTJANIDAE ***Pristipomoides typus***
(inset: dorsal view of head) (photo: O. Alvheim)

# PLATE XXXV



263. LUTJANIDAE ***Lutjanus sebae*** (juvenile)
(photo: O. Alvheim)



264. CAESIONIDAE ***Caesio xanthonota***
(photo: O. Alvheim)



265. GERREIDAE ***Gerres macracanthus***
(photo: O. Alvheim)



266. HAEMULIDAE ***Diagramma picta*** (juvenile)
(photo: O. Alvheim)



267. HAEMULIDAE ***Hapalogenys bengalensis***
(photo: O. Alvheim)



268. HAEMULIDAE ***Pomadasys andamanensis***
(photo: Su Su Hlaing)



269. HAEMULIDAE ***Pomadasys argyreus***
(photo: O. Alvheim)



270. HAEMULIDAE ***Pomadasys guoraca***
(photo: Mya Than Tun)

# PLATE XXXVI



271. LETHRINIDAE ***Gymnocranius elongatus***
(photo: O. Alvheim)



272. LETHRINIDAE ***Lethrinus nebulosus***
(photo: O. Alvheim)



273. LETHRINIDAE ***Lethrinus rubrioperculatus***
(photo: O. Alvheim)



274. LETHRINIDAE ***Wattsia mossambica***
(photo: O. Alvheim)



275. NEMIPTERIDAE ***Nemipterus hexodon***
(photo: O. Alvheim)



276. NEMIPTERIDAE ***Nemipterus japonicus***
(photo: O. Alvheim)



277. NEMIPTERIDAE ***Nemipterus marginatus***
(photo: O. Alvheim)



278. NEMIPTERIDAE ***Nemipterus nematophorus***
(photo: O. Alvheim)

# PLATE XXXVII



279. NEMIPTERIDAE ***Nemipterus peronii***
(photo: O. Alvheim)



280. NEMIPTERIDAE ***Nemipterus zysron***
(photo: O. Alvheim)



281. NEMIPTERIDAE ***Parascolopsis aspinosa***
(photo: O. Alvheim)



282. NEMIPTERIDAE ***Parascolopsis*** sp.
(photo: O. Alvheim)



283. SCIAENIDAE ***Atrobucca antonbruun***
(photo: Mya Than Tun)



284. SCIAENIDAE ***Chrysochir aureus***
(photo: Mya Than Tun)



285. SCIAENIDAE ***Johnius amblycephalus***
(photo: O. Alvheim)



286. SCIAENIDAE ***Johnius macrorhynus***
(photo: O. Alvheim)

# PLATE XXXVIII



287. SCIAENIDAE ***Otolithoides biauritus***
(photo: O. Alvheim)



288. SCIAENIDAE ***Otolithoides pama***
(photo: O. Alvheim)



289. SCIAENIDAE ***Paranibea*** cf. ***semiluctuosa***
(photo: Su Su Hlaing)



290. SCIAENIDAE ***Protonibea diacantha***
(photo: Mya Than Tun)



291. SCIAENIDAE ***Pennahia anea***
(photo: O. Alvheim)



292. SCIAENIDAE ***Pterotolithus maculatus***
(photo: Mya Than Tun)



293. POLYNEMIDAE ***Leptomelanosoma indicum***
(photo: O. Alvheim)



294. POLYNEMIDAE ***Polynemus melanochir***
(photo: O. Alvheim)

# PLATE XXXIX



295. MULLIDAE ***Parupeneus heptacanthus***
(photo: O. Alvheim)



296. MULLIDAE ***Parupeneus jansenii***
(photo: O. Alvheim)



297. MULLIDAE ***Upeneus guttatus***
(photo: O. Alvheim)



298. MULLIDAE ***Upeneus moluccensis***
(photo: O. Alvheim)



299. MULLIDAE ***Upeneus sundaicus***
(photo: P.N. Psomadakis)



300. MULLIDAE ***Upeneus sulphureus***
(photo: O. Alvheim)



301. MULLIDAE ***Upeneus margarethae***
(photo: O. Alvheim)



302. MULLIDAE ***Upeneus vittatus***
(photo: Mya Than Tun)

# PLATE XL



303. PEMPHERIDAE ***Parapriacanthus*** sp.
(photo: P.N. Psomadakis)



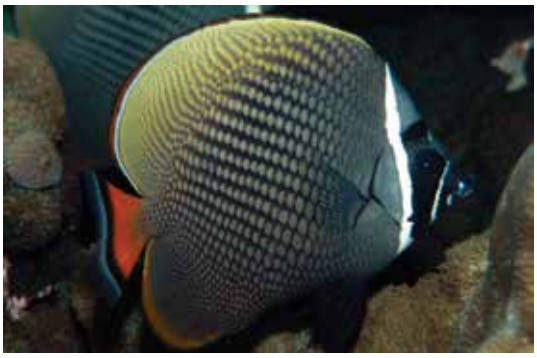
304. BATHYCLUPEIDAE ***Bathyclupea hoskynii***
(photo: O. Alvheim)



305. CHAETODONTIDAE ***Chaetodon andamanensis***
(photo: G.R. Allen)



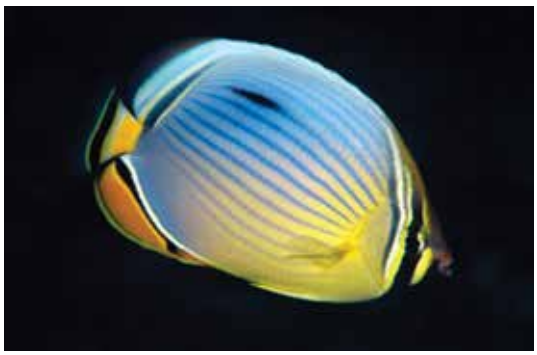
306. CHAETODONTIDAE ***Chaetodon decussatus***
(photo: G.R. Allen)



307. CHAETODONTIDAE ***Chaetodon collare***
(photo: G.R. Allen)



308. CHAETODONTIDAE ***Chaetodon falcula***
(photo: G.R. Allen)



309. CHAETODONTIDAE ***Chaetodon trifasciatus***
(photo: G.R. Allen)



310. POMACANTHIDAE ***Centropyge eibli***
(photo: G.R. Allen)

# PLATE XLI



311. CEPOLIDAE ***Acanthocepola abbreviata***
(photo: O. Alvheim)



312. CEPOLIDAE ***Acanthocepola indica***
(photo: P.N. Psomadakis)



313. CEPOLIDAE ***Owstonia nudibucca***
(photo: O. Alvheim)




314. MUGILIDAE ***Moolgarda seheli***
(photo: O. Alvheim)



315. POMACENTRIDAE ***Amphiprion akallopisos***
(photo: G.R. Allen)



316. POMACENTRIDAE ***Amphiprion ephippium***
(photo: G.R. Allen)



317. POMACENTRIDAE ***Chromis flavipectoralis***
(photo: G.R. Allen)



318. POMACENTRIDAE ***Chrysiptera rollandi***
(photo: G.R. Allen)

# PLATE XLII



319. POMACENTRIDAE ***Chromis*** cf. ***gunting***
(photo: O. Alvheim)



320. POMACENTRIDAE ***Pristotis obtusirostris***
(photo: O. Alvheim)



321. LABRIDAE ***Bodianus neilli***
(photo: G.R. Allen)



322. LABRIDAE ***Bodianus leucostictus***
(photo: O. Alvheim)



323. LABRIDAE ***Choerodon robustus*** (male)
(photo: O. Alvheim)



324. LABRIDAE ***Cirrhilabrus cyanopleura***
(photo: G.R. Allen)

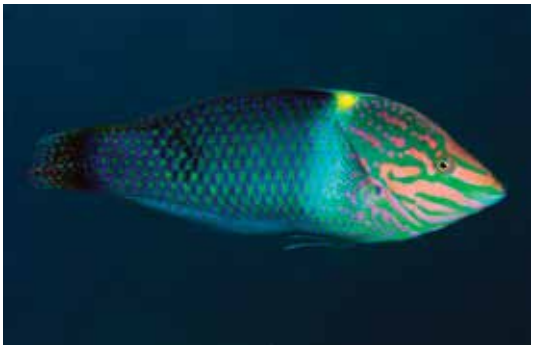


325. LABRIDAE ***Decodon pacificus***
(photo: O. Alvheim)



326. LABRIDAE ***Xiphocheilus typus***
(photo: O. Alvheim)

# PLATE XLIII



327. LABRIDAE ***Halichoeres hortulanus*** (male)
(photo: G.R. Allen)



328. LABRIDAE ***Halichoeres leucoxanthus*** (female)
(photo: G.R. Allen)



329. LABRIDAE ***Halichoeres timorensis*** (female)
(photo: G.R. Allen)



330. LABRIDAE ***Halichoeres chrysotaenia***
(photo: G.R. Allen)



331. LABRIDAE ***Iniistius pavo***
(photo: O. Alvheim)



332. LABRIDAE ***Iniistius bimaculatus***
(photo: O. Alvheim)



333. SCARIDAE ***Chlorurus capistratoides*** (male)
(photo: G.R. Allen)



334. SCARIDAE ***Chlorurus capistratoides*** (female)
(photo: G.R. Allen)

# PLATE XLIV



335. SCARIDAE ***Chlorurus troschelii*** (male)
(photo: G.R. Allen)



336. SCARIDAE ***Chlorurus troschelii*** (female)
(photo: G.R. Allen)



337. SCARIDAE ***Scarus viridifucatus*** (male)
(photo: G.R. Allen)



338. SCARIDAE ***Scarus quoyi*** (male)
(photo: G.R. Allen)



339. SCARIDAE ***Scarus tricolor*** (male)
(photo: G.R. Allen)



340. SCARIDAE ***Scarus janthinopterus*** (female)
(photo: G.R. Allen)



341. AMMODYTIDAE ***Ammodytoides*** cf. ***xanthops***
(photo: O. Alvheim)



342. AMMODYTIDAE ***Bleekeria mitsukurii***
(photo: O. Alvheim)

# PLATE XLV



343. AMMODYTIDAE ***Bleekeria*** sp. A
(photo: O. Alvheim)



344. AMMODYTIDAE ***Bleekeria*** sp. B
(photo: P.N. Psomadakis)



345. URANOSCOPIDAE ***Ichthyscopus lebeck***
(photo: O. Alvheim)



346. URANOSCOPIDAE ***Uranoscopus cognatus***
(photo: O. Alvheim)



347. URANOSCOPIDAE ***Uranoscopus affinis***
(photo: O. Alvheim)



348. URANOSCOPIDAE ***Uranoscopus oligolepis***
(photo: O. Alvheim)



349. URANOSCOPIDAE ***Xenocephalus australiensis***
(photo: P.N. Psomadakis)



350. TRICHONOTIDAE ***Trichonotus*** cf. ***setiger***
(photo: O. Alvheim)

# PLATE XLVI



351. TRICHONOTIDAE ***Acanthaphritis barbata***
(inset: juvenile) (photo: O. Alvheim)



352. TRICHONOTIDAE ***Pteropsaron indicum***
(P.N. Psomadakis)



353. PERCOPHIDAE ***Bembrops caudimacula***
(photo: P.N. Psomadakis)



354. PERCOPHIDAE ***Bembrops platyrhynchus***
(P.N. Psomadakis)



355. PERCOPHIDAE ***Bembrops*** sp.
(photo: P.N. Psomadakis)



356. PERCOPHIDAE ***Chrionema chryseres***
(O. Alvheim)



357. PINGUIPEDIDAE ***Parapercis alboguttata***
(photo: O. Alvheim)



358. PERCOPHIDAE ***Parapercis caudopellucida***
(O. Alvheim)

# PLATE XLVII



359. PINGUIPEDIDAE ***Parapercis*** sp. 1
(photo: O. Alvheim)



360. BLENNIIDAE ***Xiphasia setifer***
(O. Alvheim)



361. CALLIONYMIDAE ***Callionymus carebares***
(photo: O. Alvheim)



362. CALLIONYMIDAE ***Callionymus filamentosus*** (female)
(photo: O. Alvheim)



363. CALLIONYMIDAE ***Callionymus meridionalis*** (male)
(photo: O. Alvheim)



364. CALLIONYMIDAE ***Callionymus octostigmatus*** (male)
(photo: O. Alvheim)



365. CALLIONYMIDAE ***Synchiropus*** cf. ***altivelis*** (male)
(photo: O. Alvheim)



366. DRACONETTIDAE ***Centrodraco ornatus***
(photo: O. Alvheim)

# PLATE XLVIII



367. ELEOTRIDAE ***Butis koilomatodon***
(photo: Mya Than Tun)



368. GOBIIDAE ***Acentrogobius cyanomos***
(photo: Mya Than Tun)




369. GOBIIDAE ***Acentrogobius*** sp.
(photo: P.N. Psomadakis)



370. GOBIIDAE ***Amblyotrypauchen arctocephalus***
(photo: O. Alvheim)



371. GOBIIDAE ***Boleophthalmus boddarti***
(photo: Mya Than Tun)



372. GOBIIDAE ***Egglestonichthys melanoptera***
(photo: O. Alvheim)



373. GOBIIDAE ***Glossogobius giuris***
(photo: Mya Than Tun)




374. GOBIIDAE **Gobiinae sp.**
(photo: P.N. Psomadakis)

# PLATE XLIX



375. GOBIIDAE ***Parachaeturichthys polynema***
(photo: O. Alvheim)



376. GOBIIDAE ***Yongeichthys nebulosus***
(photo: Mya Than Tun)



377. KURTIDAE ***Kurtus indicus***
(photo: O. Alvheim)



378. EPHIPPIDAE ***Ephippus orbis***
(photo: O. Alvheim)



379. EPHIPPIDAE ***Platax teira*** (juvenile)
(photo: O. Alvheim)



380. SCATOPHAGIDAE ***Scatophagus argus***
(photo: Mya Than Tun)

# PLATE L



381. SIGANIDAE ***Siganus canaliculatus***
(photo: O. Alvheim)



382. SIGANIDAE ***Siganus corallinus***
(photo: G.R. Allen)



383. SIGANIDAE ***Siganus guttatus***
(photo: G.R. Allen)



384. SIGANIDAE ***Siganus javus***
(photo: G.R. Allen)



385. SIGANIDAE ***Siganus magnificus***
(photo: G.R. Allen)



386. SIGANIDAE ***Siganus sutor***
(photo: G.R. Allen)



387. ACANTHURIDAE ***Acanthurus leucosternon***
(photo: G.R. Allen)



388. ACANTHURIDAE ***Acanthurus mata***
(photo: O. Alvheim)

# PLATE LI



389. ACANTHURIDAE ***Ctenochaetus truncatus***
(photo: G.R. Allen)



390. ACANTHURIDAE ***Naso annulatus*** (juvenile)
(photo: O. Alvheim)



391. SCOMBROLABRACIDAE ***Scombrolabrax heterolepis***
(photo: O. Alvheim)



392. SPHYRAENIDAE ***Sphyraena pinguis***
(photo: O. Alvheim)



393. GEMPYLIDAE ***Neoepinnula orientalis***
(photo: O. Alvheim)



394. GEMPYLIDAE ***Rexea bengalensis***
(photo: O. Alvheim)



395. GEMPYLIDAE ***Ruvettus pretiosus***
(photo: O. Alvheim)



396. TRICHIURIDAE ***Lepturacanthus savala***
(photo: O. Alvheim)

# PLATE LII



397. TRICHIURIDAE ***Tentoriceps cristatus***
(photo: O. Alvheim)



398. SCOMBRIDAE ***Rastrellinger brachysoma***
(photo: O. Alvheim)



399. SCOMBRIDAE ***Rastrellinger faughni***
(photo: O. Alvheim)



400. SCOMBRIDAE ***Rastrellinger kanagurta***
(photo: O. Alvheim)



401. SCOMBRIDAE ***Scomberomorus commerson*** (juvenile)
(photo: O. Alvheim)



402. SCOMBRIDAE ***Scomberomorus guttatus***
photo: (O. Alvheim)



403. CENTROLOPHIDAE ***Psenopsis obscura***
(photo: O. Alvheim)



404. NOMEIDAE ***Cubiceps kotlyari***
(photo: O. Alvheim)

# PLATE LIII



405. NOMEIDAE ***Cubiceps pauciradiatus***
(photo: O. Alvheim)



406. NOMEIDAE ***Cubiceps whiteleggii***
(photo: O. Alvheim)



407. STROMATEIDAE ***Pampus argenteus***
(photo: O. Alvheim)



408. STROMATEIDAE ***Pampus chinensis***
(photo: P.N. Psomadakis)



409. CAPROIDAE ***Antigonia ovalis***
(photo: O. Alvheim)



410. CAPROIDAE ***Antigonia rubescens***
(photo: O. Alvheim)

# PLATE LIV



411. CAPROIDAE ***Antigonia*** sp.
(photo: O. Alvheim)



412. CITHARIDAE ***Brachypleura novaezeelandiae***
(photo: O. Alvheim)



413. PARALICHTHYIDAE ***Cephalopsetta ventrocellata***
(photo: O. Alvheim)



414. PARALICHTHYIDAE ***Pseudorhombus dupliocellatus***
(photo: O. Alvheim)



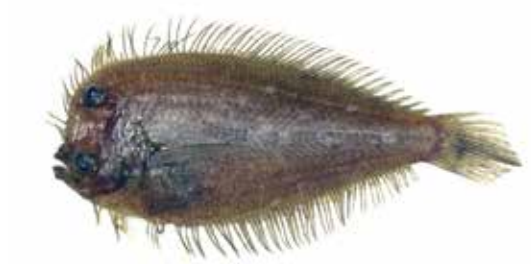
415. PARALICHTHYIDAE ***Pseudorhombus elevatus***
(photo: O. Alvheim)



416. BOTHIDAE ***Arnoglossus japonicus***
(photo: O. Alvheim)



417. BOTHIDAE ***Chascanopsetta lugubris***
(photo: O. Alvheim)



418. BOTHIDAE ***Engyprosopon maldivense***
(photo: O. Alvheim)

# PLATE LV



419. BOTHIDAE ***Grammatobothus polyophthalmus***
(photo: O. Alvheim)



420. BOTHIDAE ***Laeops macrophthalmus***
(photo: O. Alvheim)



421. BOTHIDAE ***Psettina variegata***
(photo: O. Alvheim)



422. BOTHIDAE ***Tosarhombus nielseni***
(photo: O. Alvheim)



423. POECILOPSETTIDAE ***Marleyella bicolorata***
(photo: O. Alvheim)



424. POECILOPSETTIDAE ***Poecilopsetta colorata***
(photo: O. Alvheim)



425. SAMARIDAE ***Samariscus huysmani***
(photo: O. Alvheim)



426. SAMARIDAE ***Samariscus maculatus***
(photo: O. Alvheim)

# PLATE LVI



427. SOLEIDAE ***Aesopia cornuta***
(photo: O. Alvheim)



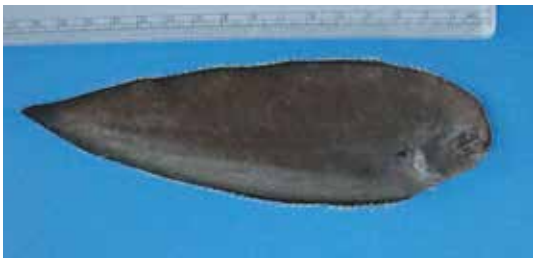
428. SOLEIDAE ***Aseraggodes cyaneus***
(photo: O. Alvheim)



429. SOLEIDAE ***Heteromycteris oculus***
(photo: O. Alvheim)



430. SOLEIDAE ***Pardachirus pavoninus***
(photo: Mya Than Tun)



431. SOLEIDAE ***Dagetichthys*** cf. ***albomaculatus***
(photo: Thet Htwe Aung)



432. SOLEIDAE ***Zebrias altipinnis***
(photo: O. Alvheim)



433. SOLEIDAE ***Zebrias quagga***
(photo: O. Alvheim)



434. SOLEIDAE ***Zebrias synapturoides***
(photo: O. Alvheim)

# PLATE LVII



435. CYNOGLOSSIDAE ***Cynoglossus arel***
(photo: O. Alvheim)



436. CYNOGLOSSIDAE ***Cynoglossus carpenteri***
(photo: O. Alvheim)



437. CYNOGLOSSIDAE ***Cynoglossus*** cf. ***cynoglossus***
(photo: O. Alvheim)



438. CYNOGLOSSIDAE ***Cynoglossus*** cf. ***lingua***
(photo: Mya Than Tun)



439. CYNOGLOSSIDAE ***Cynoglossus*** cf. ***macrolepidotus***
(photo: O. Alvheim)



440. CYNOGLOSSIDAE ***Cynoglossus monopus***
(photo: Mya Than Tun)



441. CYNOGLOSSIDAE ***Cynoglossus*** cf. ***praecisus***
(photo: O. Alvheim)



442. CYNOGLOSSIDAE ***Cynoglossus*** cf. ***puncticeps***
(photo: Mya Than Tun)



443. CYNOGLOSSIDAE ***Paraplagusia*** cf. ***bleekeri***
(photo: Mya Than Tun)



444. CYNOGLOSSIDAE ***Paraplagusia*** cf. ***bleekeri*** (juvenile)
(photo: Mya Than Tun)

# PLATE LVIII



445. TRIACANTHODIDAE ***Halimochirurgus centriscoides***
(photo: O. Alvheim)



446. TRIACANTHODIDAE ***Mephisto fraserbrunneri***
(photo: O. Alvheim)



447. TRIACANTHODIDAE ***Mephisto albomaculosus***
(photo: O. Alvheim)



448. TRIACANTHODIDAE ***Tydemania navigatoris***
(photo: O. Alvheim)



449. TRIACANTHIDAE ***Pseudotriacanthus strigilifer***
(photo: O. Alvheim)



450. BALISTIDAE ***Abalistes stellatus***
(photo: O. Alvheim)



451. BALISTIDAE ***Balistoides viridescens***
(photo: O. Alvheim)



452. BALISTIDAE ***Pseudobalistes fuscus***
(photo: O. Alvheim)

# PLATE LIX



453. MONACANTHIDAE ***Aluterus monoceros***
(photo: O. Alvheim)



454. MONACANTHIDAE ***Thamnaconus multilineatus***
(photo: O. Alvheim)



455. OSTRACIIDAE ***Lactoria cornuta***
(photo: O. Alvheim)



456. OSTRACIIDAE ***Lactoria diaphana***
(photo: O. Alvheim)



457. OSTRACIIDAE ***Ostracion cubicus***
(photo: O. Alvheim)



458. OSTRACIIDAE ***Ostracion nasus***
(photo: O. Alvheim)



459. OSTRACIIDAE ***Tetrosomus concatenatus***
(photo: O. Alvheim)



460. OSTRACIIDAE ***Tetrosomus gibbosus***
(photo: O. Alvheim)

# PLATE LX



461. TETRAODONTIDAE ***Arothron hispidus***
(photo: O. Alvheim)



462. TETRAODONTIDAE ***Arothron immaculatus***
(photo: O. Alvheim)



463. TETRAODONTIDAE ***Arothron stellatus***
(photo: O. Alvheim)



464. TETRAODONTIDAE ***Arothron stellatus*** (juvenile)
(photo: O. Alvheim)



465. TETRAODONTIDAE ***Canthigaster punctata***
(photo: O. Alvheim)



466. TETRAODONTIDAE ***Canthigaster petersii***
(photo: G.R. Allen)

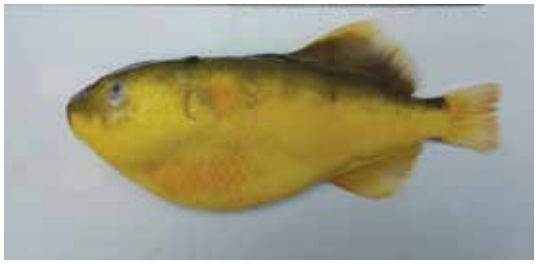
# PLATE LXI



467. TETRAODONTIDAE ***Chelonodontops alvheimi***
(photo: O. Alvheim)



468. TETRAODONTIDAE ***Chelonodontops patoca***
(photo: Mya Than Tun)



469. TETRAODONTIDAE ***Chonerhinos naritus***
yellow colour morph (photo: Mya Than Tun)



470. TETRAODONTIDAE ***Chonerhinos naritus***
(photo: Mya Than Tun)



471. TETRAODONTIDAE ***Lagocephalus cheesemanii***
(photo: O. Alvheim)



472. TETRAODONTIDAE ***Lagocephalus guentheri***
(photo: O. Alvheim)



473. TETRAODONTIDAE ***Lagocephalus lunaris***
(photo: O. Alvheim)



474. TETRAODONTIDAE ***Lagocephalus suezensis***
(photo: O. Alvheim)

# PLATE LXII



475. TETRAODONTIDAE ***Sphoeroides pachygaster***
(photo: O. Alvheim)



476. TETRAODONTIDAE ***Takifugu oblongus***
(photo: O. Alvheim)



477. TETRAODONTIDAE ***Torquigener brevipinnis***
(photo: O. Alvheim)



478. TETRAODONTIDAE ***Torquigener florealis***
(photo: O. Alvheim)



479. TETRAODONTIDAE ***Tylerius spinosissimus***
(photo: O. Alvheim)



480. DIODONTIDAE ***Cyclichthys orbicularis***
(photo: O. Alvheim)



481. DIODONTIDAE ***Cyclichthys spilostylus***
(photo: O. Alvheim)

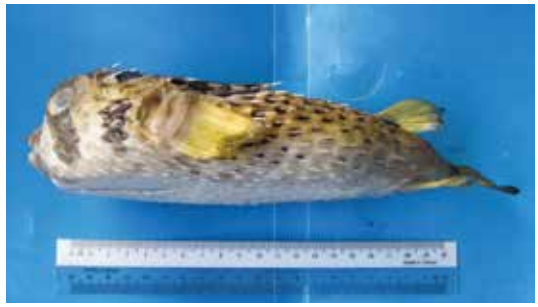


482. DIODONTIDAE ***Diodon holocanthus***
(photo: O. Alvheim)

# PLATE LXIII



483. DIODONTIDAE ***Diodon*** cf. ***hystrix***
(photo: Mya Than Tun)



484. DIODONTIDAE ***Diodon liturosus***
(photo: Su Su Hlaing)

**This field guide covers the major resource groups likely to be encountered in the fisheries of Myanmar. This includes stomatopods, shrimps, lobsters, crabs, bivalves, gastropods, brachiopods, sea cucumbers, cephalopods, sharks, batoids and bony fishes. Each resource group is introduced by a general section on technical terms and measurements pertinent to that group and an illustrated guide to orders and families of the group. The more important species are treated in detail with accounts providing scientific nomenclature, FAO names in English and French (where available), local names used in Myanmar, diagnostic features, one or more illustrations, maximum size, and notes on fisheries and habitat. Colour plates for a large number of the species are included. The guide is fully indexed and a list of further literature is appended.**

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