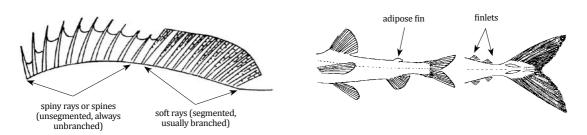
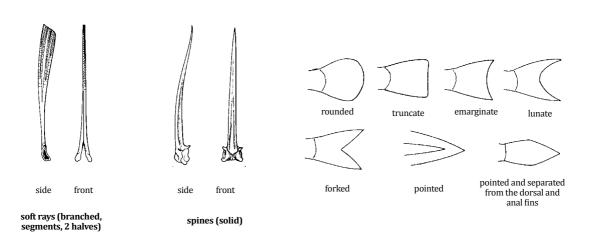


**Common scale counts** 



Example of a continuous dorsal fin of a spiny-rayed fish

Accessory dorsal and anal fins: adipose fin and finlets



Construction of fin rays

Most common types of caudal fins

### **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; lateral line present; 23–25 branchiostegal rays; upper jaw extending past eye; tip of snout not overhanging mouth; colour silvery.

**ELOPIDAE** 

### Ladyfishes

To 90 cm. Coastal marine waters and estuaries; pelagic. A single species included in the Guide to Species.

gular plate

underside of head

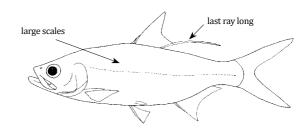
**Page 121** very small scales large mouth

MEGALOPIDAE

### **Tarpons**

To 55 cm. Coastal marine waters and estuaries; pelagic. A single species included in the Guide to Species.





**Page 121** 

**Page 121** 

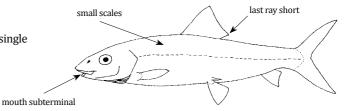
### Order ALBULIFORMES - Bonefishes

Fin spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; lateral line present; 6-16 branchiostegal rays; upper jaw not extending as far as front of eye; tip of snout overhanging mouth; colour silvery.

ALBULIDAE

### **Bonefishes**

To 100 cm. Coastal marine waters; pelagic. A single species included in the Guide to Species.



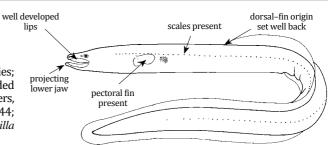
### Order ANGUILLIFORMES - Eels

Body very elongate; fin spines absent; usually scaleless.

**ANGUILLIDAE** 

### Freshwater eels

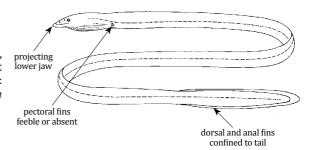
To 120 cm. Mainly freshwater, but enter estuaries; benthic. Of interest to fisheries. Four species recorded in Kenya waters: Anguilla bengalensis labiata (Peters, 1852); Anguilla bicolor bicolor McClelland, 1844; Anguilla marmorata Quoy & Gaimard, 1824; Anguilla mossambica (Peters, 1852).



### MORINGUIDAE

### Spaghetti eels

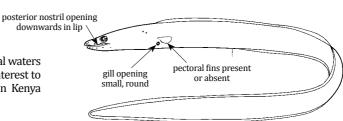
To 50 cm. Marine; mostly inshore waters; benthic, burrowing by day, but pelagic at night. Of no interest to fisheries. Three species recorded in Kenya waters: *Moringua ferruginea* Bliss, 1883; *Moringua javanica* (Kaup, 1856); *Moringua microchir* Bleeker, 1853.



### **CHLOPSIDAE**

### False morays

To about 50 cm. Marine; from shallow coastal waters to depths of at least 300 m; benthic. Of no interest to fisheries. One species has been recorded in Kenya waters: *Chlopsis dentatus* (Seale, 1917).

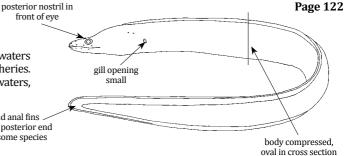


### **MURAENIDAE**

### **Morays**

To 400 cm. Marine; mostly in shallow coastal waters to depths of 165 m; benthic. Of interest to fisheries. Eighteen species have been recorded in Kenya waters, and are included in the Guide to Species.

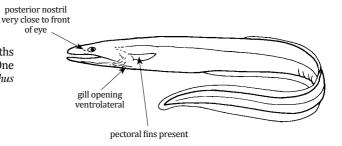
dorsal and anal fins / restricted to posterior end of body in some species



### **SYNAPHOBRANCHIDAE**

### **Cutthroat eels**

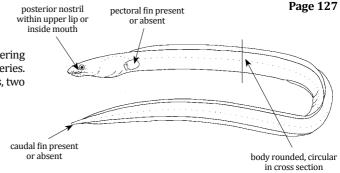
To about 100 cm. Marine; from costal waters to depths of 4000 m; benthic. Of no interest to fisheries. One species is present in Kenya waters: *Synaphobranchus kaupii* Johnson, 1862.



### **OPHICHTHIDAE**

### Snake eels

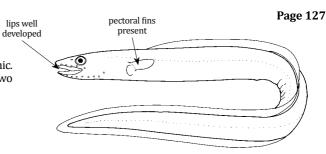
To 100 cm. Marine and estuarine, one species entering freshwater; benthic. Of limited interest to fisheries. Six species have been recorded in Kenya waters, two of which are included in the Guide to Species.



### **CONGRIDAE**

### Conger eels

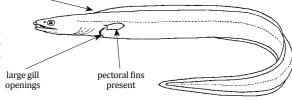
To 80 cm. Marine, coral reefs, and mud banks; benthic. Of interest to fisheries. Many species, of which two are included in the Guide to Species.



### **MURAENESOCIDAE**

Pike congers

To 250 cm. Marine, shallow coastal waters and estuaries to a depth of 100 m; benthic. Of interest to fisheries. Two species are included in the Guide to Species.





### Order CLUPEIFORMES - Herrings and allies

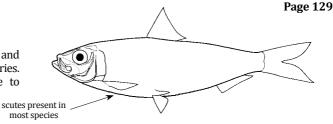
dorsal-fin origin over or before pectoral-fin origin

Fin spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; lateral line absent; a row of scutes along ventral profile (except Chirocentridae, some Clupeidae and some Engraulidae); colour silvery.

### **CLUPEIDAE**

### Sardines - Sardinellas

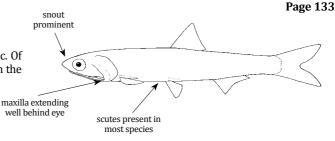
To 25 cm. Coastal marine waters, estuaries and freshwater; mainly pelagic. Of interest to fisheries. Seventeen species are included in the Guide to Species.



### **ENGRAULIDAE**

### **Anchovies**

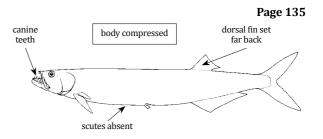
To 18 cm. Coastal marine waters, mainly pelagic. Of interest to fisheries. Nine species are included in the Guide to Species.



### **CHIROCENTRIDAE**

### Wolf-herrings

To 100 cm. Coastal marine waters, mainly pelagic. Of interest to fisheries. Two species are included in the Guide to Species.

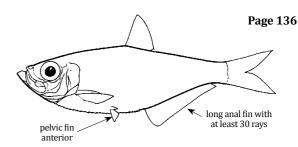


**Page 128** 

### PRISTIGASTERIDAE

### **Pristigasterids**

To 20 cm. Coastal marine waters, mainly pelagic. Of interest to fisheries. One species included in the Guide to Species.



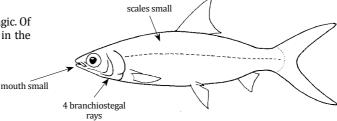
### Order GONORHYNCHIFORMES - Milkfish and allies

Fin spines absent; a single dorsal fin located above middle of body; pelvic fins in abdominal position; lateral line present; 4 branchiostegal rays; mouth small, jaws toothless or teeth reduced; colour silvery.

CHANIDAE Page 136

### Milkfish

To 180 cm. Marine and estuarine waters; pelagic. Of interest to fisheries. One species is included in the Guide to Species.



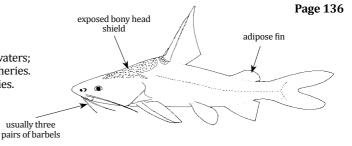
### **Order SILURIFORMES - Catfishes**

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.

ARIIDAE

### Sea catfishes

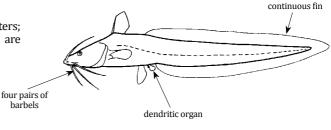
To 180 cm. Coastal marine and estuarine waters; also freshwaters; benthic. Of interest to fisheries. Five species are included in the Guide to Species.



PLOTOSIDAE Page 138

### **Eel catfishes**

To  $40\,\mathrm{cm}$ . Marine, entering brackish and freshwaters; benthic. Of interest to fisheries. Two species are included in the Guide to Species.



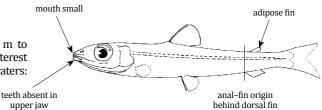
### Order OSMERIFORMES - Argentines and allies

A diverse assemblage of families characterized by the inclusion of the maxilla in the gape of mouth; fin spines absent; adipose fin often present.

### ARGENTINIDAE

### **Argentines**

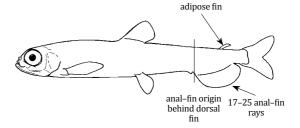
To about 40 cm. Marine, from depths of 80 m to 400 m; benthopelagic and pelagic. Of no interest to fisheries. One species recorded in Kenya waters: *Argentina euchus* Cohen, 1961.



### **BATHYLAGIDAE**

### Deepsea smelts

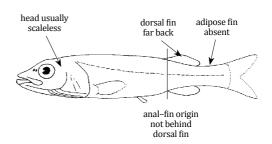
To about 20 cm. Marine, from the surface down to below 200 m; epipelagic to bathypelagic. Of no interest to fisheries. Probably two species occur in Kenya waters, even if never recorded: *Dolicholagus longirostris* (Maul, 1948); *Melanolagus bericoides* (Borodin, 1929).



### **ALEPOCEPHALIDAE**

### Slickheads

To about 70 cm. Marine, usually at depths of below 1000 m. Of no interest to fisheries. Perhaps several species, but no official records.

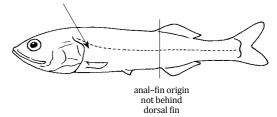


### **PLATYTROCTIDAE**

### Tube shoulders

To about 20 cm. Marine, between depths of 200 m and 4000 m; meso– and bathypelagic. Of no interest to fisheries. Perhaps several species, but no official records.

a tube behind shoulder girdle just below lateral line leading to a large sac containing luminous fluid under skin



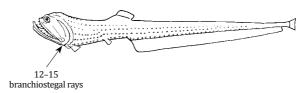
### Order STOMIIFORMES - Hatchetfishes - Viperfishes and allies

Deepsea 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

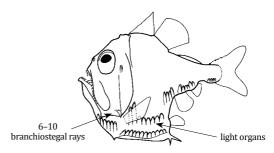
To about 25 cm. Marine, mostly deeper waters at depths below 200 m; meso– and bathypelagic. Of no interest to fisheries. Perhaps several species, but only three species recorded in Kenya waters: *Cyclothone alba* Brauer, 1906, *Cyclothone pallida* Brauer, 1902, *Cyclothone signata* Garman, 1899.



### **STERNOPTYCHIDAE**

### Marine hatchetfishes

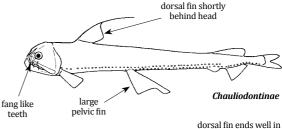
To 20 cm. Marine, from the surface to depths below 300 m; meso– and bathypelagic. Of no interest to fisheries. Three species recorded in Kenya waters: *Polyipnus bruuni* Harold, 1994, *Polyipnus matsubarai* Schultz, 1961, *Polyipnus meteori* Kotthaus, 1967.

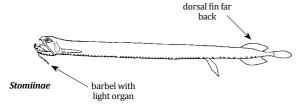


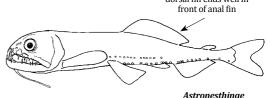
### **STOMIIDAE**

### **Barbeled dragonfishes**

To about 40 cm. Marine, deep water, often migrating to near–surface at night. Of no interest to fisheries. Several species recorded in Kenya waters.







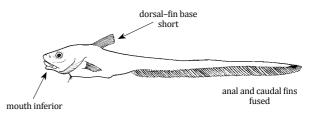
### Order ATELEOPODIFORMES - Jellynose fishes

Caudal fin reduced, united with the long anal fin; pelvic fin of adults with single ray on throat (young specimens and *Guentherus* have several rays, and the pelvics of the latter are behind the pectorals).

### **ATELEOPODIDAE**

### Jellynose fishes

To 180 cm. Marine, from depths of about 200 m to 660 m; benthopelagic. Of no interest to fisheries. One species occurs in the western Indian Ocean: *Ateleopus natalensis* Regan, 1921.



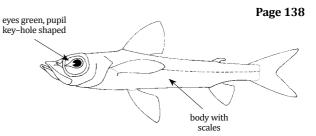
### Order AULOPIFORMES - Greeneyes - Lizardfishes and allies

Premaxilla forming the gape of the mouth (maxilla excluded); upper jaw not protrusible; adipose fin present; caudal fin forked.

### **CHLOROPHTHALMIDAE**

### Greeneyes

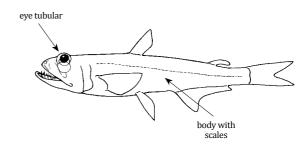
To 17 cm. Deep water, from depths of 150 m to 379 m; benthic. Often in great abundance and of potential interest to fisheries. One species recorded in Kenya waters and included in the Guide to Species.



### SCOPELARCHIDAE

### **Pearleyes**

To 13 cm. Marine, from the surface to depths below 2300 m; mostly below 300 m; meso– and bathypelagic. Of no interest to fisheries. Several species recorded in Kenya waters.

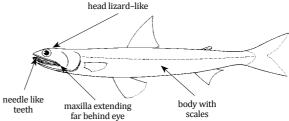


### **SYNODONTIDAE**

### Lizardfishes

To 50 cm. Marine, from shallow waters to depths of 200 m, benthic. Of interest to fisheries. Eight species included in the Guide to Species.

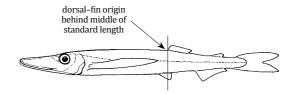




### **PARALEPIDIDAE**

### **Barracudinas**

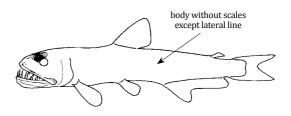
To 13 cm. Marine, deep water, often migrating to near–surface at night. Of no interest to fisheries. Several species recorded in Kenya waters.



### **EVERMANNELLIDAE**

### Sabertooth fishes

To 12 cm. Marine, often migrating to near–surface at night; mesopelagic. Of no interest to fisheries. Perhaps four species occur in Kenya waters but no official records.



### Order MYCTOPHIFORMES - Lanternfishes and allies

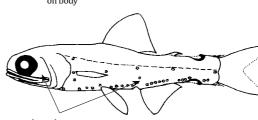
Fin spines absent; adipose fin present; light organs (photophores) sometimes present; deep sea fishes.

### NEOSCOPELIDAE

### Blackchins

To about 30 cm. Marine, from the surface to depths below 500 m; pelagic or benthopelagic. Of no interest to fisheries. One species occurs in Kenya waters: *Neoscopelus macrolepidotus* Johnson, 1863.

photophores only on body



photophores on head and body

### **MYCTOPHIDAE**

### Lanternfishes

To 30 cm. From the surface (at night) to depths below  $2000\,\mathrm{m}$ ; mesopelagic to bathypelagic. Of little interest to fisheries. Several species occur in Kenya waters.

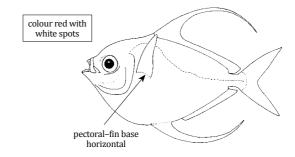
### Order LAMPRIFORMES - Opahs and allies

A diverse group of often strange looking fishes. No true spines in fins; pelvic fins under bases of pectorals.

### **LAMPRIDAE**

### **Opahs**

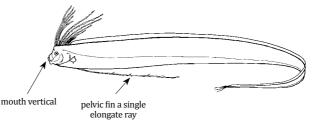
To 180 cm. Marine, well offshore; epipelagic. Of little interest to fisheries, but flesh excellent. One species in the Indian Ocean: *Lampris guttatus* (Brünnich, 1788).



### REGALECIDAE

### **Oarfishes**

To at least 700 cm. Marine, from the surface to a depth of 1000 m; epi– to mesopelagic. Of no interest to fisheries. Possibly one species: *Regalecus glesne* Ascanius, 1772.

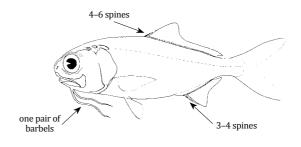


### Order POLYMIXIIFORMES - Beardfishes

### **POLYMIXIIDAE**

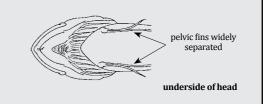
### **Beardfishes**

To about 35 cm. Marine, from depths of about 100 m to 650 m; benthic. Of no interest to fisheries. One species occurs in Kenya waters: *Polymixia berndti* Gilbert, 1905.



### Order GADIFORMES - Cods - Hakes

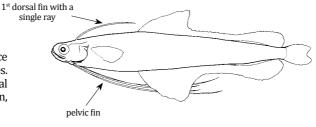
No sharp spines in fins (except in dorsal fin of some macrourids); pelvic fins below or anterior to pectoral fins and widely separated from each other, usually entire, but reduced to filaments in some species; barbels often present on chin.



### **BREGMACEROTIDAE**

### **Codlets**

To 10 cm, but usually smaller. Marine, from the surface to depths of 2000 m; pelagic. Of no interest to fisheries. Perhaps three species occur in Kenya waters. Official record only for *Bregmaceros mcclellandi* Thompson, 1840.

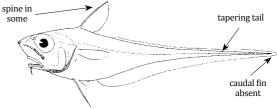


### **MACROURIDAE**

### Grenadiers

To 52 cm. Marine, from depths between 200 m and 1000 m; benthopelagic. Of no interest to fisheries. Numerous species in the Indian Ocean. Four species recorded in Kenya waters, three of which are included in the Guide to Species.

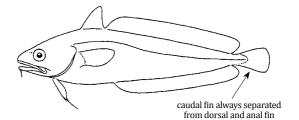




### **MORIDAE**

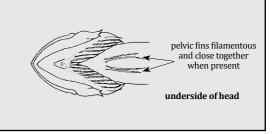
### Morid cods

To about 25 cm. Marine, in deeper waters; benthopelagic. Of no interest to fisheries. Numerous species in the Indian Ocean. Three species recorded in Kenya waters



### Order OPHIDIIFORMES - Cusk eels - Brotulas

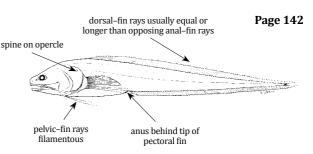
No sharp spines in fins; pelvic fins absent in some species; when present these fins are placed anterior to pectoral fins, sometimes far forward on underside of head; they are always close together and filamentous, each with not more than 2 rays; caudal fin separate or joined to dorsal and anal fins; snout without barbels.



### **OPHIDIIDAE**

### Cusk eels

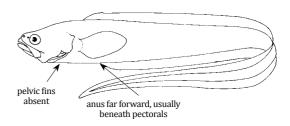
To 50 cm. Marine, at depths of 650 m; benthic. Of no interest to fisheries. Perhaps several species occur in Kenya waters. Official records only for *Neobythites kenyaensis* Nielsen, 1995 and *Brotula multibarbata* Temminck & Schlegel, 1846, the latter included in the Guide to Species.



### CARAPIDAE

### **Pearlfishes**

To about 20 cm. Marine, shallow coastal waters; benthic. Living as commensals in holothurians, molluscs and ascidians, which they enter tail first. Of no interest to fisheries. Numerous species in the Indian Ocean. Three species recorded in Kenya waters.



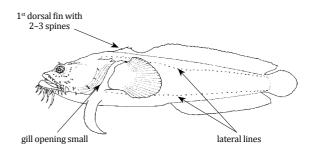
### **Order BATRACHOIDIFORMES - Toadfishes**

Head large and depressed, body compressed; two dorsal fins, the 1<sup>st</sup> with 2 or 3 spines; pelvic fins under throat; gill openings restricted to sides of head; one to several lateral lines on body.

### **BATRACHOIDIDAE**

### **Toadfishes**

To about 20 cm. Coastal waters; benthic. Of no interest to fisheries. Five species occur in the Indian Ocean. No information for Kenya waters.



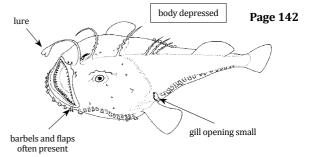
### Order LOPHIIFORMES - Anglerfishes and allies

Body globulose or depressed; 1<sup>st</sup> spine of dorsal fin modified to form a 'fishing pole'; gill openings small and circular, usually located below or behind pectoral fins.

### **LOPHIIDAE**

### Goosefishes

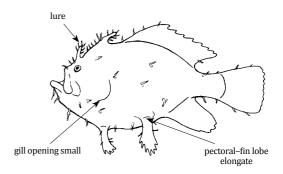
To 45 cm. Marine, mainly deep water, at depths between 50 m and 500 m. Of little interest to fisheries. Two species occur in Kenya waters, and are included in the Guide to Species.



### **ANTENNARIDAE**

### **Frogfishes**

To 25 cm. Marine, coastal and surface waters to a depth of 100 m; mostly benthic. Of little interest to fisheries. Several species occur in Kenya waters.



### CHAUNACIDAE

### Sea tods

To about 45 cm. Marine, offshore waters in depths between 300 m and 1000 m; benthic. Of no interest to fisheries. Two species occur in Kenya waters: *Chaunax penicillatus* McCulloch, 1915 and *Chaunax pictus* Lowe, 1846.

### **OGCOCEPHALIDAE**

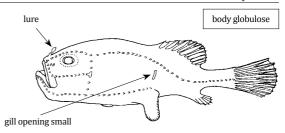
### **Batfishes**

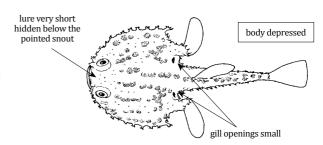
To 20 cm. Marine, coastal and deep waters to at least 2000 m; benthic. Of no interest to fisheries. Several species occur in the Indian Ocean. Only one species recorded in Kenya waters: *Malthopsis lutea* Alcock, 1891.

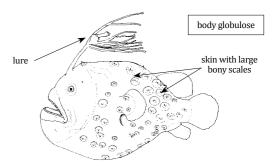
### **HIMANTOLOPHIDAE**

### **Footballfishes**

To about 60 cm. Marine, from near the surface to depths below 500 m, pelagic. Of no interest to fisheries. Two species occur in the Indian Ocean. No records in Kenya waters.







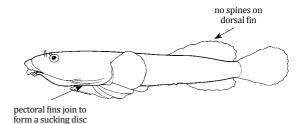
### **Order GOBIESOCIFORMES - Clingfishes**

Pectoral fins joined to form an adhesive disc on ventral surface of body at juncture of head and body; a single dorsal fin without spines.

### **GOBIESOCIDAE**

### Clingfishes

To 15 cm, but most species less than 8 cm. Marine, entering also estuaries and freshwater; benthic. Of no interest to fisheries. Two species recorded in Kenya waters.



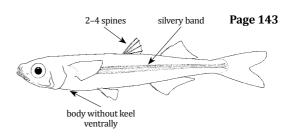
### Order ATHERINIFORMES - Silversides and allies

Small fishes; 2 well separated dorsal fins, the 1<sup>st</sup> spiny, but often inconspicuous; a silvery stripe on sides.

### **ATHERINIDAE**

### **Silversides**

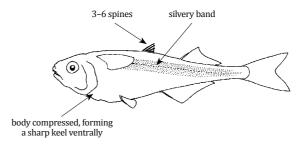
To 15 cm. Coastal marine waters, estuaries, coastal lagoons; pelagic. Of little interest to fisheries. Four species occur in Kenya waters, and are included in the Guide to Species.



### **NOTOCHEIRIDAE**

### **Surf sardines**

To about 9 cm. Marine, coastal surf waters. Of no interest to fisheries. One species occurs in the western Indian Ocean: *Iso natalensis* Regan, 1919.



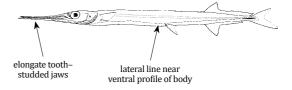
### Order BELONIFORMES - Flyingfishes and allies

Either snout beak-like with upper or lower jaws greatly prolonged, or with enlarged, wing-like pectoral, and sometimes also pelvic fins; lateral line near ventral profile of body; a single dorsal fin consisting of soft rays; pelvic fins abdominal.

BELONIDAE Page 144

### Needlefishes

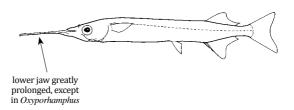
To about 150 cm. Marine, coastal and offshore waters, some entering estuaries and even freshwater; generally pelagic, swimming near the surface. Of interest to fisheries. Four species recorded in Kenya waters, 1 in neighboring countries, all included in the Guide to Species.



### **HEMIRAMPHIDAE**

### **Halfbeaks**

To 44 cm. Marine, coastal and offshore waters, some entering estuaries and even freshwater; generally pelagic, swimming near the surface. Of interest to fisheries. Four species recorded in Kenya waters, 1 in neighboring countries, all included in the Guide to Species.

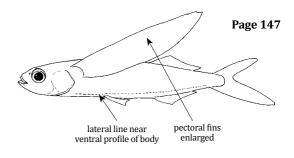


**Page 146** 

### **EXOCOETIDAE**

### **Flyingfishes**

To 30 cm. Marine, pelagic in surface waters; capable of jumping out of the water and gliding for long distances. Of little interest to fisheries. Twelve species occur in Kenya waters, all included in the Guide to Species.



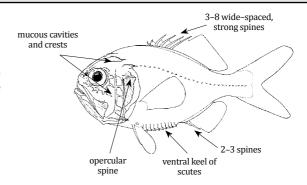
### Order BERYCIFORMES - Squirrelfishes and allies

Head with spines and crests well developed; fin spines well developed; scales heavy and strongly ctenoid (rough).

### **TRACHICHTHYIDAE**

### Slimeheads

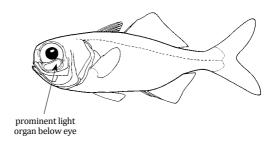
To about 60 cm. Marine, from depths of about 100 m to 1000 m, rarely below 600 m; benthic. Of little interest to fisheries. Probably several species.



### ANOMALOPIDAE

### Lanterneye fishes

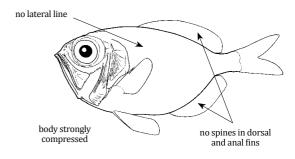
To 30 cm. Marine, from shallow waters at night to depths below 100 m; benthic. Of no interest to fisheries. One species in western Indian Ocean, never recorded in Kenya waters: *Photoblepharon steinitzi* Abe & Haneda, 1973.



### **DIRETMIDAE**

### **Spinyfins**

To 15 cm. Marine, from depths of 500 m to 700 m; benthic. Of no interest to fisheries. One species occurs in Kenya waters: *Diretmus argenteus* Johnson, 1864.

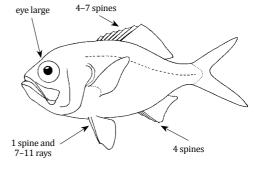


### **BERYCIDAE**

### **Alfonsinos**

To 70 cm. Marine, from depths of 200 m to 600 m; bathypelagic. Of little interest to fisheries. Two species occur in the western Indian Ocean, one of which has been recorded in Kenya waters and is included in the Guide to Species.

**Page 151** 

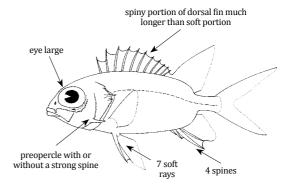


HOLOCENTRIDAE

**Page 151** 

### Squirrelfishes - Soldierfishes

To 45 cm. Marine, from shallow coastal waters to depths below 200 m; benthic. Of little interest to fisheries. Eleven species have been recorded in Kenya waters, six species in neighboring countries, all of which are included in the Guide to Species.



### Order ZEIFORMES - Dories and allies

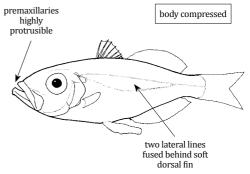
Body usually compressed and deep; jaws greatly distensible; prominent spines in anterior part of dorsal fin.

**PARAZENIDAE** 

### **Parazens**

To 30 cm. Marine, outer continental slope, from depths of  $150 \, \text{m}$  to  $730 \, \text{m}$ . Of no interest to fisheries. One species recorded in neighboring countries and included in the Guide to Species.

Page 157

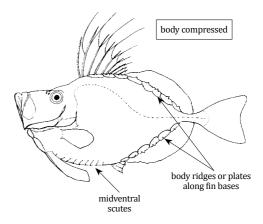


ZEIDAE

### **Dories**

To 70 cm. Marine, outer continental slope, from depths of 90 m to 300 m. Of little interest to fisheries, but flesh excellent. One species recorded in Kenya waters and included in the Guide to Species.





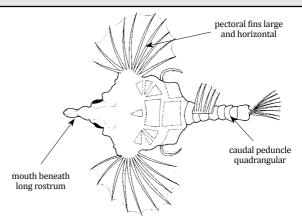
### Order GASTEROSTEIFORMES - Seamoths and Sticklebacks

Reduced number of branchiostegal rays (1–5); small mouth, often tubular; body covered with armor of dermal plates in most members.

### **PEGASIDAE**

### Seamoths

To about 16 cm. Marine, coastal waters; benthic. Of no interest to fisheries. One species recorded in neighboring countries: *Eurypegasus draconis* (Linnaeus, 1766).



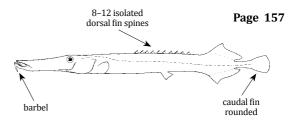
### Order SYGNATHIFORMES - Pipefishes and allies

Body elongate, snout tube-like, mouth small; scales sometimes modified to form series of body plates.

### **AULOSTOMIDAE**

### **Trumpetfishes**

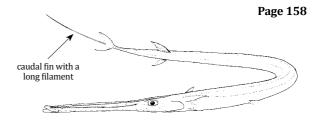
To about 75 cm. Marine, shallow coastal waters. Of little interest to fisheries. One species recorded in Kenya waters and included in the Guide to Species.



### **FISTULARIIDAE**

### **Cornetfishes - Flutemouths**

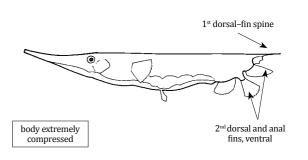
To about 200 cm. Marine, shallow coastal waters. Of little interest to fisheries, but flesh excellent. Two species recorded in Kenya waters both included in the Guide to Species.



### **CENTRISCIDAE**

### **Snipefishes and Shrimpfishes**

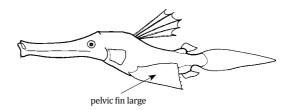
To about 20 cm. Costal marine waters to depths of 80 m. Of no interest to fisheries. Two species occur in Kenya waters: *Aeoliscus punctulatus* (Bianconi, 1854); *Aeoliscus strigatus* (Günther, 1861).



### SOLENOSTOMIDAE

### **Ghost pipefishes**

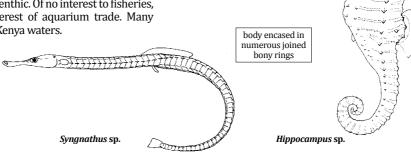
To about 15 cm. Marine, coastal waters. Of no interest to fisheries. One species recorded in Kenya waters: *Solenostomus cyanopterus* Bleeker, 1854.



### **SYNGNATHIDAE**

### **Pipefishes and Seahorses**

To about 30 cm. Coastal marine waters to depths of about 90 m, littoral pools, lagoons, estuaries, and freshwater; mostly benthic. Of no interest to fisheries, some species of interest of aquarium trade. Many species recorded in Kenya waters.



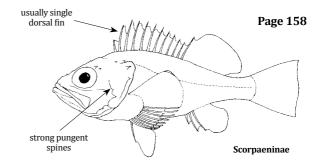
### Order SCORPAENIFORMES - Scorpionfishes and allies

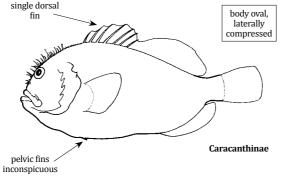
Cheeks with a bony strut (posterior extension of suborbital bone to preopercle), usually well developed spines on head and prominent spines in dorsal fin; pectoral fins usually rounded, sometimes greatly enlarged; membranes between lower rays often incised; caudal fin rarely forked.

## SCORPAENIDAE

### Scorpionfishes - Rockfishes - Velvetfishes

To 40 cm. Marine, from the coastline to depths of 400 m; benthic. Of interest to fisheries. Nineteen species occur in Kenya waters, eleven of which are included in the Guide to Species.



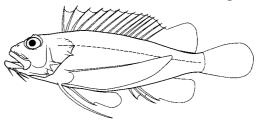


APISTIDAE

### **Page 162**

### Wasp scorpionfishes

To about 20 cm. Marine. Of no interest to fisheries. One species recorded in Kenya waters and included in the Guide to Species.

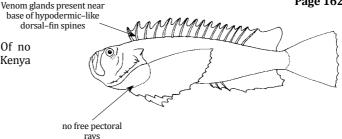


### SYNANCEIIDAE

**Page 162** 

### Stonefish

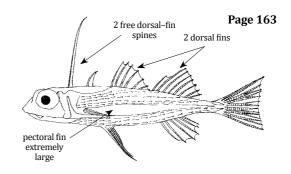
To about 40 cm. Marine, coastal waters. Of no interest to fisheries. One species recorded in Kenya waters and included in the Guide to Species.



### **DACTYLOPTERIDAE**

### Flying gurnards

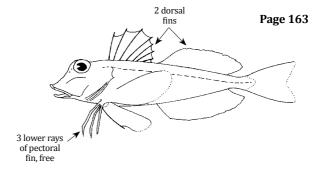
To 40 cm. Marine, shallow coastal waters; benthic. Of no interest to fisheries. One species recorded in Kenya waters and included in the Guide to Species.



### TRIGLIDAE

### Gurnards

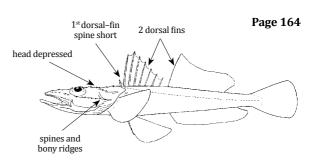
To about 16 cm. Marine coastal and deeper waters; benthic. Of little interest to fisheries. Four species occur in Kenya waters, three of which are included in the Guide to Species.



### PLATYCEPHALIDAE

### Spiny flatheads

To 100 cm. Marine, on sand and mud bottoms down to a depth of about 70 m. Of little interest to fisheries. Five species recorded in Kenya waters, one in neighboring countries, all included in the Guide to Species.



### Order PERCIFORMES: PERCOIDEI - Perch-like fishes

Shape extremely variable; either two dorsal fins, or one dorsal fin with anterior elements being sharp spines; pelvic fins usually 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**

### Asiatic glassfishes

To about 15 cm. Shallow coastal waters and estuaries, entering freshwater. Of no interest to fisheries. Three species occur in Kenya waters: *Ambassis gymnocephalus* (Lacepède, 1802); *Ambassis natalensis* Gilchrist & Thompson, 1908; *Ambassis productus* Guichenot, 1866.

### **ACROPOMATIDAE**

### Lanternbellies

To 30 cm. Marine, from depths of 100 m to 600 m; benthic. Of little interest to fisheries. Three species occur in Kenya waters and are included in the Guide to Species.

### **DINOPERCIDAE**

### Cavebasses

To 65 cm. Marine, on rocky reefs to depths beyond 50 m; benthic. Of no interest to fisheries. A single species occurs in Kenya waters: *Dinoperca petersi* (Day, 1875).

### **SERRANIDAE**

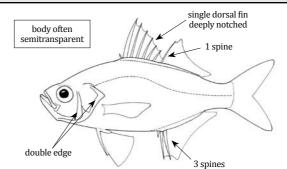
Groupers - Seabasses - Rockcods - Hinds - Combers - Coral trouts - Lyretails - Soapfishes

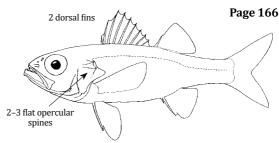
To 250 cm. Marine, from the coastline to depths beyond 380 m; also estuarine; mostly benthic; a large and diverse family. Of major interest to fisheries. Fifty-five species occur in Kenya waters, 47 of which are included in the Guide to Species.

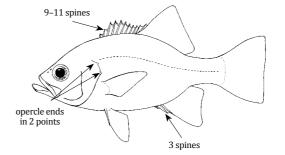
### **PSEUDOCHROMIDAE**

### **Dottybacks**

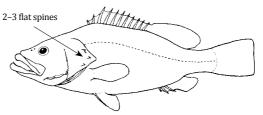
To about 10 cm, but most species less than 5 cm. Shallow coastal waters, especially coral reefs to depths of about 100 m; benthic. Of interest to the aquarium trade. Ten species have been recorded in Kenya waters.

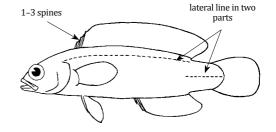






**Page 167** 



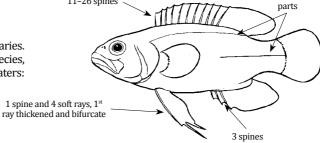


11-26 spines

### **PLESIOPIDAE**

### Roundheads

To about 25 cm. Marine coastal waters and estuaries. Of no interest to fisheries. Perhaps several species, but only one species recorded in Kenya waters: *Plesiops coeruleolineatus* Rüppell, 1835.

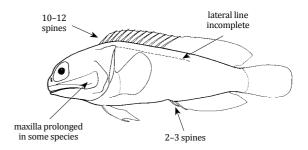


lateral line in two

### **OPISTOGNATHIDAE**

### **Iawfishes**

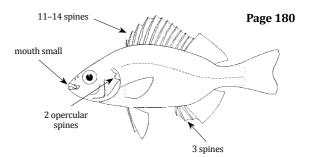
To about 35 cm, but most species smaller than 11 cm. Marine, in shallow waters to depths of 200 m; benthic on sandy bottoms. Of no interest to fisheries. Ten species occur in the western Indian Ocean; one recorded in Kenya waters: *Opistognathus margaretae* Smith–Vaniz, 1983.



### **TERAPONTIDAE**

### **Grunters**

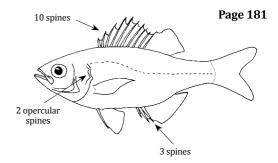
To about 30 cm. Marine, coastal waters and estuaries. Of little interest to fisheries. Four species recorded in Kenya waters and included in the Guide to Species.



### **KUHLIIDAE**

### **Aholeholes**

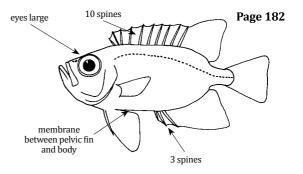
To 40 cm. Marine coastal waters, estuaries, and entering freshwater. Of little interest to fisheries. Two species recorded in Kenya waters and included in the Guide to Species.



### **PRIACANTHIDAE**

### **Bigeyes**

To 50 cm. Marine, from the coastline to a depth of about 200 m; benthic. Of little interest to fisheries. One species has been recorded in Kenya waters; five in neighboring countries.



### **APOGONIDAE**

### Cardinalfishes

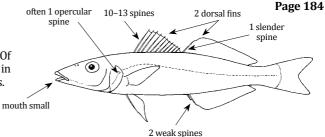
To about 20 cm, but most species less than 12 cm. Shallow coastal waters, and some in brackish and freshwater; benthic and benthopelagic at night. Of interest to the aquarium trade. Several species have been recorded in Kenya waters.

# eyes large 6-8 spines 2 dorsal fins 1 spine 2 spines

### **SILLAGINIDAE**

### **Smelt-whitings**

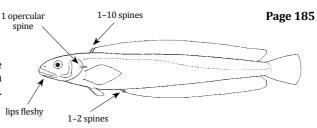
To 35 cm. Marine coastal waters and estuaries. Of little interest to fisheries. Three species recorded in Kenya waters and included in the Guide to Species.



### **MALACANTHIDAE**

### **Tilefishes**

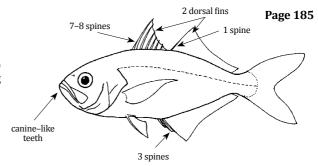
To 45 cm. Marine, coastal waters; benthic. Of little interest to fisheries. Four species recorded in Kenya waters, one of which included in the Guide to Species.



### **LACTARIIDAE**

### **False trevallies**

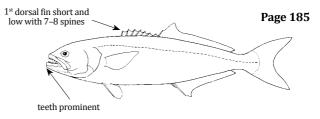
To 40 cm. Marine coastal waters. Of little interest to fisheries. One species occurs in Kenya neighboring countries and is included in the Guide to Species.



### **POMATOMIDAE**

### **Bluefishes**

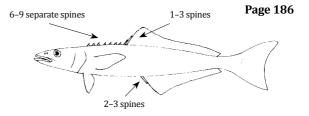
To 130 cm. Marine, brackish; pelagic-oceanic; oceanodromous. Of major interest to fisheries. One species circumglobal and included in the Guide to Species.



### RACHYCENTRIDAE

### Cobias

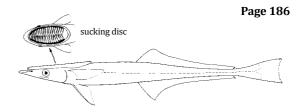
To 200 cm. Marine, pelagic in coastal waters, occasionally in estuaries. Of interest to fisheries. One species present in Kenya waters and included in the Guide to Species.



### **ECHENEIDAE**

### Remoras - Sharksuckers

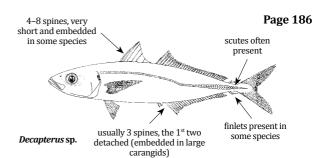
To about 90 cm. Marine, pelagic; attach to larger marine animals such as sharks, turtles, and marine mammals. Of no interest to fisheries. Eight species worldwide, one of which recorded in Kenya waters and included in the Guide to Species.

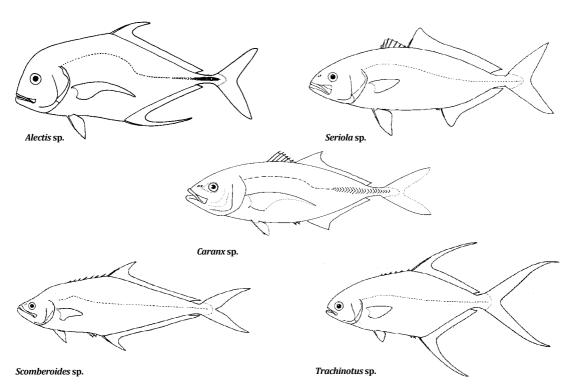


### **CARANGIDAE**

# Jacks - Trevallies - Scads - Queen-fishes - Runners - Pompanos

To about 165 cm. Marine, from coastal waters to a depth of 200 m; a few species entering brackish waters; coastal pelagic or oceanic pelagic; a large and diverse family. Of major interest to fisheries. Forty–five species recorded in Kenya waters and included in the Guide to Species.



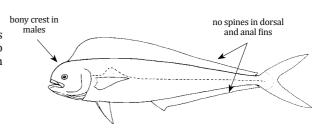


CORYPHAENIDAE

**Page 201** 

### **Dolphinfishes**

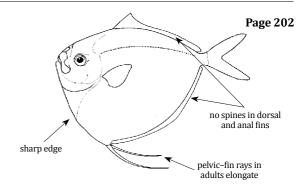
To 200 cm. Marine, oceanic pelagic, but sometimes close to the coast. Of major interest to fisheries. Two species recorded in Kenya waters and included in the Guide to Species.



### MENIDAE

### Moonfishes

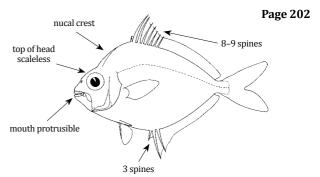
To 24 cm. Marine, coastal waters, entering estuaries. Of no interest to fisheries. A single species recorded in Kenya waters.



### **LEIOGNATHIDAE**

### Ponyfishes - Slipmouths - Tooth-ponies

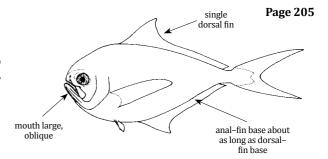
To 21 cm. Marine, coastal waters, to a depth of 25 m and estuaries; schooling; benthic. Of no interest to fisheries. Seven species recorded in Kenya waters, two in neighboring countries, all included in the Guide to Species.



### **BRAMIDAE**

### **Pomfrets**

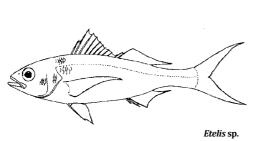
To about 60 cm. Marine, epipelagic. Of interest to fisheries. Two species recorded in Kenya waters, one of which included in the Guide to Species.

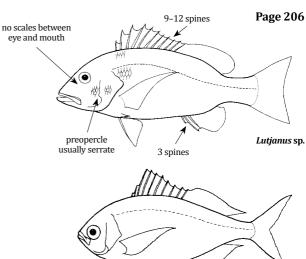


### **LUTJANIDAE**

### **Snappers**

To 120 cm. Mostly marine, from the coastline to a depth of 360 m; some species enters estuaries and even rivers; benthic. Of interest to fisheries. Twenty-six species recorded in Kenya waters and included in the Guide to Species.



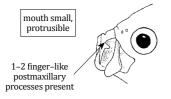


Paracaesio sp.

### **CAESIONIDAE**

### **Fusiliers**

To about 40 cm. Marine, coastal waters, associated with reefs, to a depth of about 60 m; pelagic. Of little interest to fisheries. Twelve species have been recorded in Kenya waters, one in neighboring countries, all included in the Guide to Species.

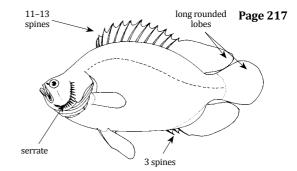


# teeth small, roof of mouth with or without teeth spines dorsal and anal fins evenly sloping

### LOBOTIDAE

### **Tripletails**

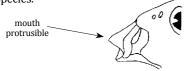
To 100 cm. Marine, oceanic–pelagic, drifting near the surface. Of no interest to fisheries. A single species recorded in Kenya waters, included in the Guide to Species.

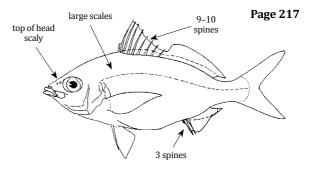


### **GERREIDAE**

### Silverbiddies - Mojarras

To 35 cm. Coastal marine waters to depths of about 60 m; also estuaries, coastal lagoons and freshwater; benthic. Of no interest to fisheries. Four species recorded in Kenya waters, included in the Guide to Species.

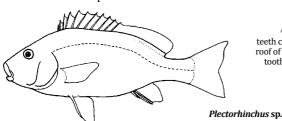


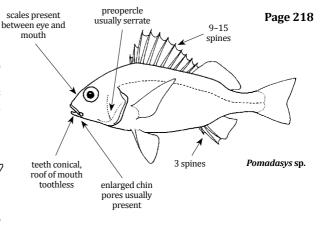


### HAEMULIDAE

### **Grunts - Sweetlips - Rubberlips**

To 90 cm. Mostly marine, from the coastline to a depth of about 200 m, and in brackish waters; benthic. Of interest to fisheries. Twenty–two species recorded in Kenya waters, 20 of which have been included in the Guide to Species.

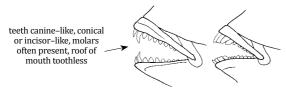


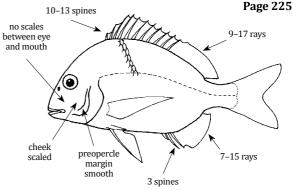


### SPARIDAE

### Porgies - Seabreams - Pinfishes

To 90 cm. Marine, coastal waters, to a depth of about 150 m; occasionally entering estuaries; benthic. Of major interest to fisheries. Fourteen species have been recorded in Kenya waters, 10 of which have been included in the Guide to Species.



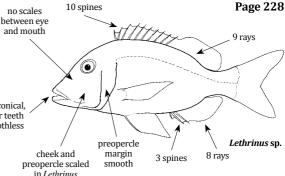


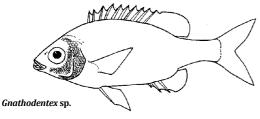
### **LETHRINIDAE**

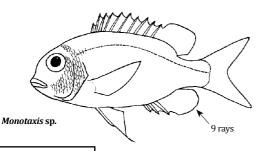
### **Emperors - Scavengers**

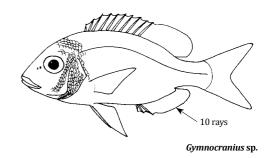
To 100 cm. Coastal marine waters to depths of about 185 m; benthic. Of interest to fisheries. Sixteen species recorded in Kenya waters, included in the Guide to Species.

outer teeth canine-like or conical, molars often present, inner teeth villiform, roof of mouth toothless





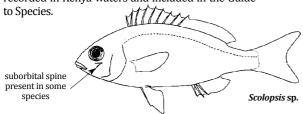


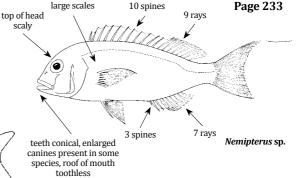


### NEMIPTERIDAE

# Threadfin breams - Monocle breams - Dwarf monocle breams

To 30 cm. Coastal marine waters to depths of about 400 m; benthic. Of interest to fisheries. Nine species recorded in Kenya waters and included in the Guide

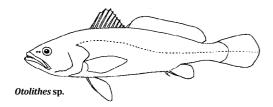


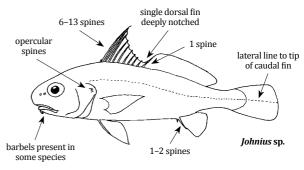


SCIAENIDAE Page 236

### Croakers - Drums - Meagres - Weakfishes

To 80 cm. Marine, from coastal waters to a depth of about 100 m; benthic. Of interest to fisheries. Five species recorded in Kenya waters, included in the Guide to Species.

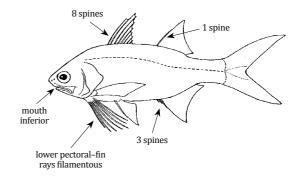




### **POLYNEMIDAE**

### **Threadfins**

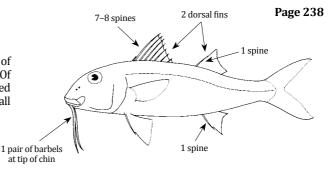
To 45 cm. Coastal marine waters, estuaries and coastal lagoons; fresh river mouths; benthic. Of little interest to fisheries. Two species recorded in Kenya waters.



### **MULLIDAE**

### Goatfishes - Red mullets

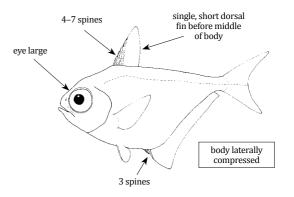
To 50 cm. Marine, from the coastline to a depth of about 100 m; occasionally in estuaries; benthic. Of interest to fisheries. Seventeen species recorded in Kenya waters, 1 in neighboring countries, all included in the Guide to Species.



### **PEMPHERIDAE**

### **Sweepers**

To about 17 cm. Coastal marine waters. Of no interest to fisheries. Perhaps several species in Kenya waters.



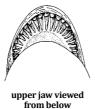
KYPHOSIDAE Page 243

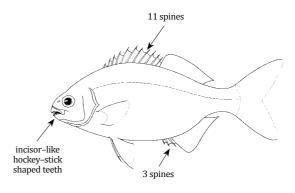
### Seachubs - Rudderfishes - Stonebreams

To 75 cm. Marine reef areas; benthic. Of interest to fisheries. Three species recorded in Kenya waters, included in the Guide to Species.





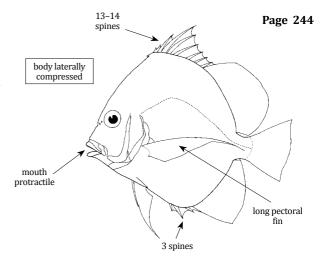




### **DREPANEIDAE**

### **Sicklefishes**

To 40 cm. Marine, mud banks, to a depth of 40 m; benthic. Of interest to fisheries. One species recorded in Kenya waters, included in the Guide to Species.

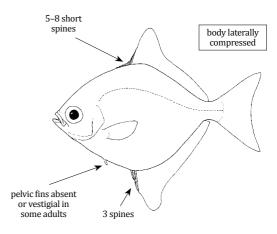


### **MONODACTYLIDAE**

### **Moonies**

To 25 cm. Marine, coastal waters, estuaries and entering freshwater. Of little interest to fisheries. Two species recorded in Kenya waters, included in the Guide to Species.





### **CHAETODONTIDAE**

### **Butterflyfishes**

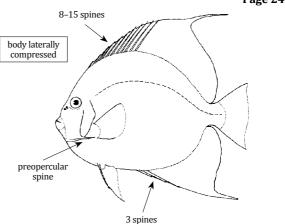
To about 20 cm. Marine, usually in shallow waters but occasionally to a depth of about 100 m; benthic. Of no interest to fisheries; some species of interest of the aquarium trade. Several species recorded in Kenya waters.

# eye band usually present mouth small, protrusible 3-5 spines Page 245

### **POMACANTHIDAE**

### **Angelfishes**

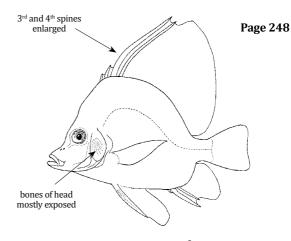
To 50 cm. Marine, from the coastline to a depth of about 70 m; benthic. Of no interest to fisheries; some species of interest of the aquarium trade. Six species recorded in Kenya waters, one in neighboring countries, all included in the Guide to Species.



### **PENTACEROTIDAE**

### **Armorheads**

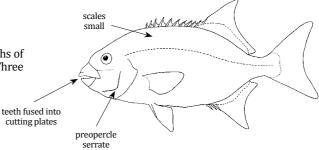
To 35 cm. Marine, on the continental shelf and slope at depths of about 400 m; benthic. Of no interest to fisheries. One species occurs in neighboring countries, and is included in the Guide to Species.



### **OPLEGNATHIDAE**

### **Knifejaws**

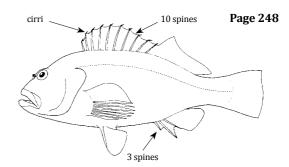
To 30 cm. Marine, from shallow waters to depths of 150 m; benthic. Of little interest to fisheries. Three species occur in the western Indian Ocean.



### **CIRRHITIDAE**

### Hawkfishes - Curleyfins

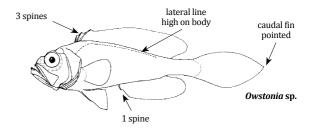
To 30 cm. Marine, from shallow waters to depths of 120 m; benthic. Smaller species of some interest to the aquarium trade. Of no interest to fisheries. Three species occur in Kenya waters and are included in the Guide to Species.



### CEPOLIDAE

### **Bandfishes**

To about 52 cm. Marine, from shallow waters to a depth of about 475 m; benthic. Of no interest to fisheries. One species recorded in Kenya waters: *Owstonia weberi* (Gilchrist, 1922).



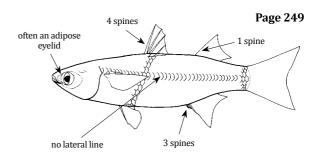
### Order PERCIFORMES: MUGILOIDEI - Mullets

Body elongate; head flattened; mouth small; pectoral fins high on body; 2 dorsal fins; sides silvery; no lateral line.

### MUGILIDAE

### 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. Nine species recorded in Kenya waters and included in the Guide to Species.



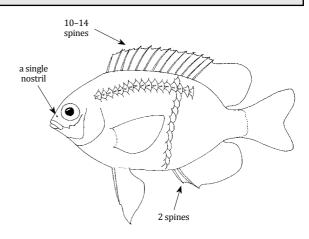
### Order PERCIFORMES: LABROIDEI - Wrasses and allies

Well developed teeth, coalesced into plates in the Scaridae; scales usually large and cycloid (smooth); body compressed; usually colourful species.

### **POMACENTRIDAE**

### **Damselfishes**

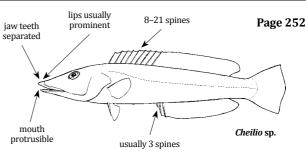
To about 25 cm, but most species smaller than 5 cm. Coastal marine waters and estuaries; mostly benthic. Of no interest to fisheries, some species of interest of the aquarium trade. Several species recorded in Kenya waters.

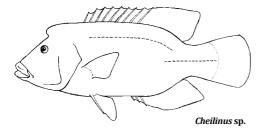


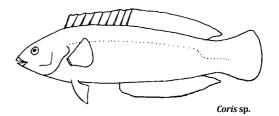
### LABRIDAE

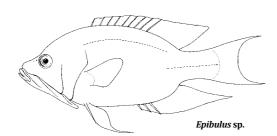
### Wrasses - Hogfishes - Coris - Tuskfishes

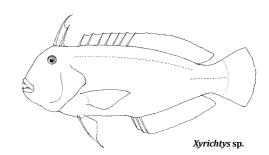
To about 200 cm, but most species smaller than 25 cm. Coastal marine waters to a depth of about 160 m; benthic. Of interest to fisheries. A large and diverse group; 58 species have been included in the Guide to Species.

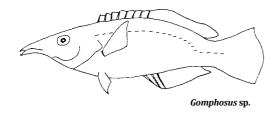


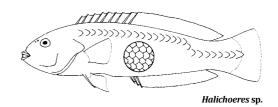








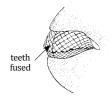


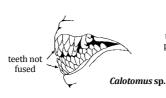


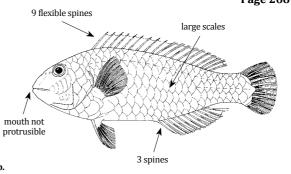
### SCARIDAE

### **Parrotfishes**

To 120 cm. Marine, in shallow waters rarely below 60 m; benthic. Of major interest to fisheries; 21 species have been included in the Guide to Species.







Page 268

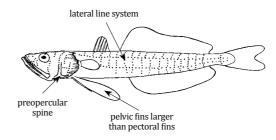
### Order PERCIFORMES: TRACHINOIDEI - Weeverfishes and allies

A diverse assemblage of families difficult to characterize as a group.

### **CHAMPSODONTIDAE**

### Crocodile toothfishes

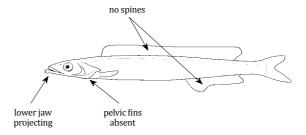
To about 20 cm. Marine, from surface at night to a depth of 500 m, mesopelagic. Of no interest to fisheries. One species recorded in Kenya waters: *Champsodon capensis* Regan, 1908.



### **AMMODYTIDAE**

### Sand lances

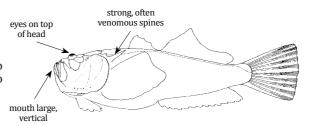
To about 30 cm. Marine, from coastline to a depth of about 50 m; benthic or pelagic. Of no interest to fisheries, used as bait. Possibly one species: *Ammodytoides xanthops* Randall & Heemstra, 2008.



### **URANOSCOPIDAE**

### **Stargazers**

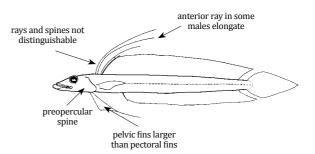
To about 60 cm. Marine and estuarine; benthic to a depth of 500 m, mesopelagic. Of no interest to fisheries. Several species occur in Kenya waters.



### **TRICHONOTIDAE**

### Sanddivers

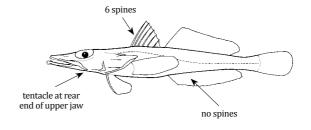
To about 18 cm. Marine, coastal waters; benthic. Of no interest to fisheries. No species recorded in Kenya waters.



### **PERCOPHIDAE**

### **Duckbills**

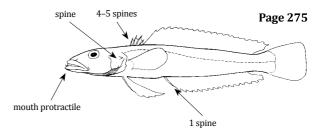
To about 25 cm. Marine, from depths of about 250 m; benthic. Of no interest to fisheries. Possibly one species in Kenya waters: *Pteropsaron natalensis* (Nelson, 1982).



### **PINGUIPEDIDAE**

### **Grubfishes**

To about 30 cm. Marine, coastal waters; benthic. Of little interest to fisheries. One species recorded in Kenya waters, one species in neighboring countries, both included in the Guide to Species.



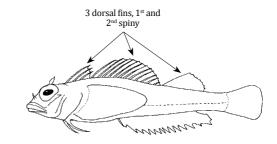
### Order PERCIFORMES: BLENNIOIDEI - Blennies and allies

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).

### TRIPTERYGIIDAE

### **Triplefins**

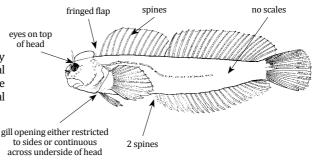
To about 6 cm. Marine, in shallow coastal waters; benthic. Of no interest to fisheries. Several species occur in the western Indian Ocean; three species recorded in Kenya waters: *Enneapterygius elegans* (Peters, 1876); *Enneapterygius fasciatus* (Weber, 1909); *Helcogramma fuscopinna* Holleman, 1982.



### **BLENNIIDAE**

### **Blennies**

To about 20 cm. Marine, in coastal waters, usually at depths less than 20 m; also estuaries and coastal lagoons; benthic. Of no interest to fisheries; some species of interest to the aquarium trade. Several species recorded in Kenya waters.



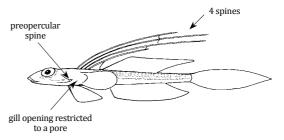
### Order PERCIFORMES: CALLIONYMOIDEI - Dragonets

A sharp preopercular spine; a small gill opening on upper part of head; size usually less than 25 cm.

### CALLIONYMIDAE

### **Dragonets**

To about 25 cm. Marine, mainly from coastal reefs; benthic. Of no interest to fisheries; some species of interest to the aquarium trade. Two species recorded in Kenya waters, one of which included in the Guide to Species.



**Page 276** 

### Order PERCIFORMES: GOBIOIDEI - Gobies and allies

Usually small fishes with pelvic fins either very close together or united into a single cup-like structure.

### **ELEOTRIDAE**

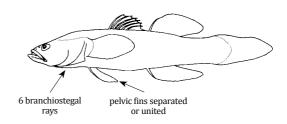
### Sleepers

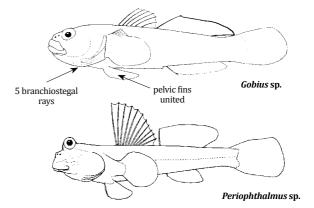
To about 30 cm. Adults generally in freshwater, but entering brackish and coastal marine waters; benthic. Of no interest to fisheries. Three species recorded in Kenya waters: *Butis butis* (Hamilton, 1822); *Eleotris fusca* (Forster, 1801); *Ophiocara porocephala* (Valenciennes, 1837).

### **GOBIIDAE**

### Gobies

To about 30 cm, but most species below 10 cm. Marine and brackish waters and some in freshwaters; usually in shallow waters, but a few species to a depth of below 150 m; benthic. The largest family of fishes. Of no interest to fisheries. Several species recorded in Kenya waters.

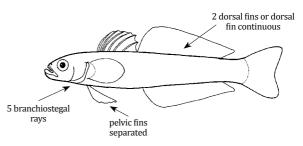




### **MICRODESMIDAE**

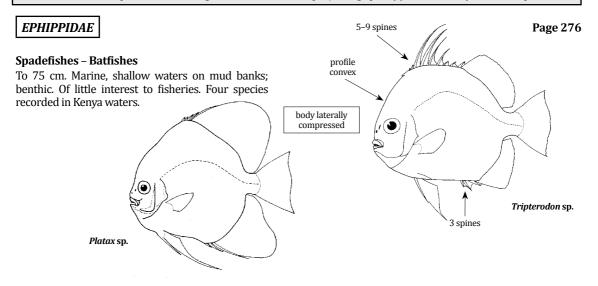
### Wormfishes - Dartfishes

To 28 cm. Marine, in shallow coastal waters; benthic. Of no interest to fisheries. One species recorded in Kenya waters: *Ptereleotris evides* (Jordan & Hubbs, 1925).



### Order PERCIFORMES: ACANTHUROIDEI - Surgeonfishes and allies

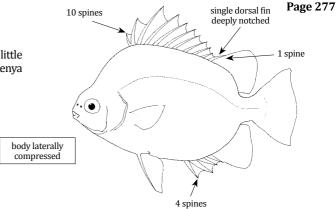
Small scales; some species have strong, moveable, forward-projecting spine(s) mid-laterally on caudal peduncle.



### **SCATOPHAGIDAE**

### **Scats**

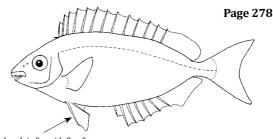
To about 30 cm. Marine and estuarine. Of little interest to fisheries. One species recorded in Kenya waters, and included in the Guide to Species.



### **SIGANIDAE**

### **Rabbitfishes**

To 45 cm. Marine, coastal waters around reefs. Of major interest to fisheries. Six species recorded in Kenya waters and included in the Guide to Species.

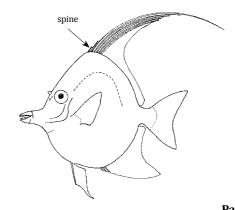


each pelvic fin with 3 soft rays between an inner and an outer spine

### ZANCLIDAE

### Moorish idol

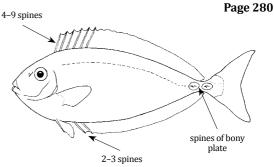
To about 20 cm. Marine, coral reefs waters; benthic. Of no interest to fisheries. One species recorded in Kenya waters: *Zanclus cornutus* (Linnaeus, 1758).



### **ACANTHURIDAE**

### Surgeonfishes - Tangs - Unicornfishes

To about 70 cm. Marine, in shallow waters associated with reefs, usually at a depth of less than 50 m; benthic. Of interest to fisheries. Twenty–one species recorded in Kenya waters, four in neighboring countries, all included in the Guide to Species.



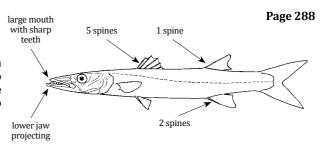
### Order PERCIFORMES: SPHYRAENOIDEI - Barracudas

Body elongate, generally silvery on sides; head and snout both very long; teeth strong; two dorsal fins.

### **SPHYRAENIDAE**

### **Barracudas**

To 180 cm. Marine, from coastal waters to a depth of about 100 m; pelagic neritic. Of interest to fisheries. Six species recorded in Kenya waters, one in neighboring countries, all included in the Guide to Species.



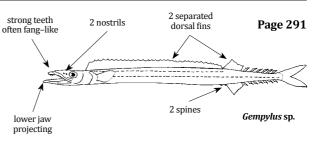
### Order PERCIFORMES: SCOMBROIDEI - Tunas and allies

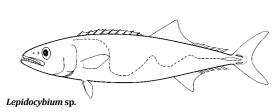
Finlets usually present at posterior ends of dorsal and anal fins; 1 to 3 keels on either side of caudal peduncle (except in most species of Gempylidae).

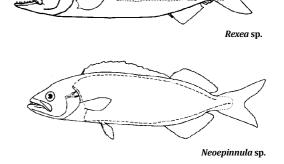
### **GEMPYLIDAE**

# Snake mackerels - Barracoutas - Escolars - Oilfishes

To about 200 cm. Marine, from the surface (at night) to depths below 600 m; pelagic. Of interest to fisheries. Six species recorded in Kenya waters, 1 in neighboring countries, all included in the Guide to Species.





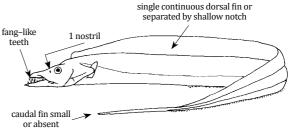


### TRICHIURIDAE

# Cutlassfishes - Hairtailfishes - Frostfishes - Scabbardfishes

To 120 cm. Marine, from the surface (mainly at night) to depths below 1000 m; benthic and pelagic. Of interest to fisheries. One species recorded in Kenya waters.

### Page 293



SCOMBRIDAE

### **Page 293**

### Albacores – Bonitos – Kawakawas – Mackerels – Seerfishes – Tunas – Wahoos

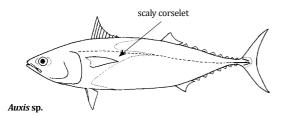
To 250 cm. Marine, from surface waters to depths below 200 m; pelagic. Of major interest to fisheries. Twelve species recorded in Kenya waters, two in neighboring countries, all included in the Guide to Species.

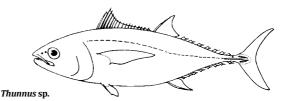


Acanthocybium sp.



Scomberomorus sp.





### Order PERCIFORMES: XIPHIOIDEI - Billfishes

Characterized by the prolongation of the upper jaw, much beyond the lower jaw into a long rostrum which is flat and swordlike (swordfish) or rounded and spearlike (sailfishes, spearfishes and marlins).

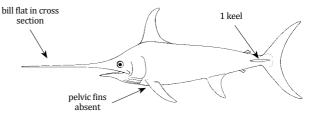
XIPHIIDAE

**Page 298** 

Tetrapturus

### **Swordfishes**

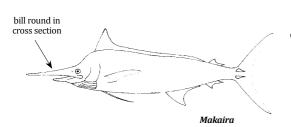
To 445 cm. Marine, from the surface to depths below 800 m; pelagic. Of major interest to fisheries. A single species worldwide, included in the Guide to Species.

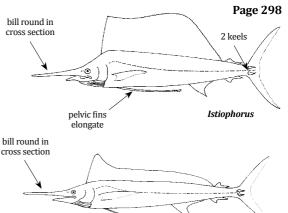


### **ISTIOPHORIDAE**

### Marlins - Sailfishes - Spearfishes

To 460 cm. Marine, pelagic oceanic, usually above the thermocline. Of major interest to fisheries. Five species recorded in Kenya waters, included in the Guide to Species.





Guide to Orders and Families 117

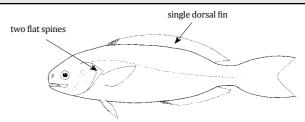
### Order PERCIFORMES: STROMATEOIDEI - Harvestfishes and allies

Shape variable; snout blunt and thick; toothed saccular outgrowths (pharyngeal sacs) present in the gullet immediately behind the last gill arch; teeth small, approximately uniserial.

### **CENTROLOPHIDAE**

### Ruffs

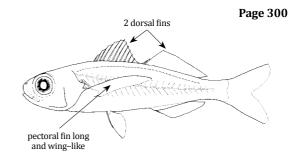
To 20 cm. Marine, between depths of 250 m and 300 m; mesopelagic to demersal. Of little interest to fisheries. One species recorded in Kenya waters.



### **NOMEIDAE**

### Man-of-war fishes

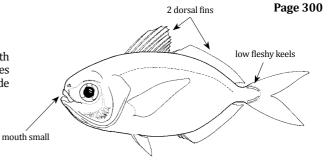
To 18 cm. Marine, deeper waters of the continental slope; epi– and mesopelagic. Of little interest to fisheries. One species recorded in Kenya waters, one in neighboring countries, both included in the Guide to Species.



### **ARIOMMATIDAE**

### Ariommas - Driftfishes

To 250 cm. Marine, continental waters, to a depth of 300 m. Of little interest to fisheries. One species recorded in Kenya waters, and included in the Guide to Species.

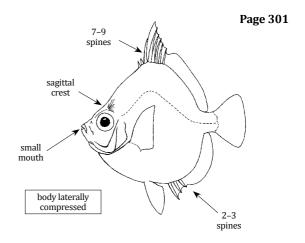


### Order PERCIFORMES: CAPROIDEI - Boarfishes

### **CAPROIDAE**

### **Boarfishes**

To 22 cm. Marine, from depths of  $65\ m$  to  $600\ m$ . Of no interest to fisheries. One species recorded in Kenya waters.



118 Bony Fishes

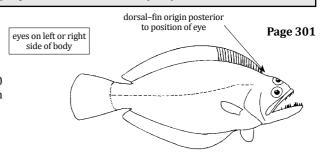
### **Order PLEURONECTIFORMES - Flatfishes**

Flattened body shape; eyes present on one side of body only.

### **PSETTODIDAE**

### Spiny turbot

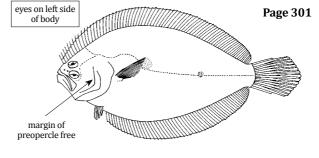
To 60 cm. Marine, coastal waters to depths of 100 m. Of interest to fisheries. One species recorded in Kenya waters and included in the Guide to Species.



### **PARALICHTHYIDAE**

### Short pelvic flounders

To about 35 cm. Marine, coastal waters to depths of 200 m. Of little interest to fisheries. Two species recorded in Kenya waters, and included in the Guide to Species.  $\triangle$ 



### BOTHIDAE

### Lefteye flounders

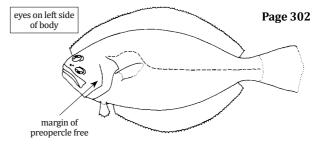
To about 40 cm. Marine, from the coastline to a depth of about 600 m; benthic. Of little interest to fisheries. Eight species recorded in Kenya waters, six of which are included in the Guide to Species.



pelvic-fin base on eyed side longer

pelvic-fin bases

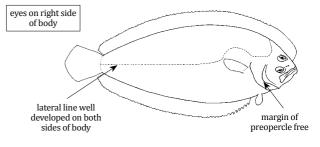
nearly symmetrical



### **PLEURONECTIDAE**

### Righteye flounders

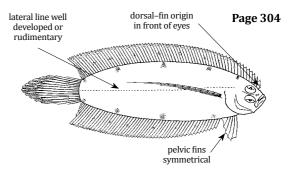
To 17 cm. Marine, continental waters, to a depth of 300 m. Of little interest to fisheries. One species recorded in Kenya waters.



### **SAMARIDAE**

### **Crested flounders**

To 22 cm. Marine, primarily in deep waters; benthic. Of no interest to fisheries. One species recorded in Kenya waters; one in neighboring countries.

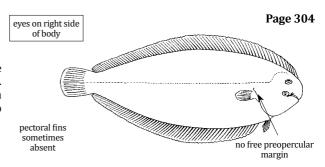


Guide to Orders and Families 119

### SOLEIDAE

### Soles

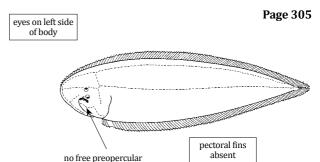
To 32 cm. Marine, shallow coastal waters; some species in estuaries; benthic. Of interest to fisheries. Two species recorded in Kenya waters, one in neighboring countries, all included in the Guide to Species.



### **CYNOGLOSSIDAE**

### **Tonguesoles**

To 46 cm. Marine, from shallow coastal waters to depths of about 200 m. Of little interest to fisheries. Six species recorded in Kenya waters, five of which are included in the Guide to Species.



margin

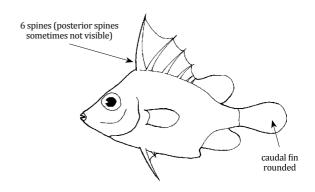
### Order TETRAODONTIFORMES - Pufferfishes and allies

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

### **Spikefishes**

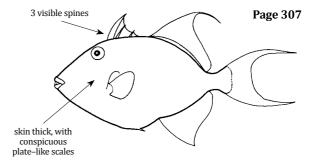
To 25 cm. Marine, between depths of 30 m and 300 m; benthic. Of no interest to fisheries. Two species recorded in Kenya waters: *Bathyphylax bombifrons* Myers, 1934; *Macrorhamphosodes uradoi* (Kamohara, 1933).



### **BALISTIDAE**

### **Triggerfishes and Durgons**

To about 70 cm. Marine, from the coastline to a depth of about 100 m; mostly benthic, a few benthopelagic. Of interest to fisheries. Fourteen species recorded in Kenya waters; three in neighboring countries, all included in the Guide to Species.



120 Bony Fishes

### **MONACANTHIDAE**

### Filefishes - Leatherjackets

To 100 cm, but most smaller than 10 cm. Marine, from the coastline to a depth of about 100 m; mostly benthic. Of no interest to fisheries. Seven species recorded in Kenya waters, four of which included in the Guide of Species; four species in neighboring countries.

### **OSTRACIIDAE**

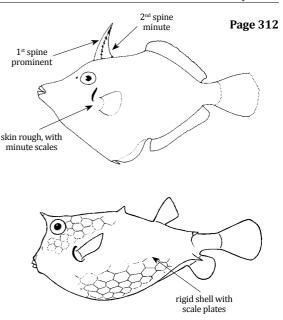
### **Boxfishes - Cowfishes**

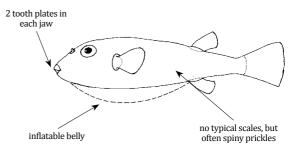
To 50 cm. Marine, from the coast to a depth of about 100 m; benthic. Of no interest to fisheries, but of interest of the aquarium trade. Five species recorded in Kenya waters.

### **TETRAODONTIDAE**

### **Puffers**

To about 100 cm. Coastal marine waters, estuaries, brackish lagoons, and occasionally freshwater; from the coastline to a depth of about 180 m; benthic. Poisonous and not eaten. Several species recorded in Kenya waters.





### **DIODONTIDAE**

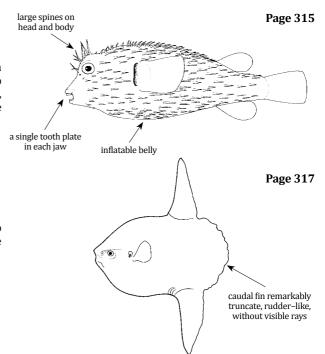
### **Porcupinefishes**

To 60 cm. Marine, from the coastline to a depth of about 100 m; mostly benthic. Of no interest to fisheries. Three species recorded in Kenya waters, three in neighboring countries, all included in the Guide to Species.

### MOLIDAE

### Molas - Ocean sunfishes - Headfishes

To 300 cm or more. Marine, from the surface to a depth of about 360 m; pelagic oceanic. Of little interest to fisheries. Three species worldwide.



### **ELOPIDAE**

### Ladyfishes - Tenpounders

### Elops machnata (Forsskål, 1775)

Local name(s): N: Ipawa; S: Makamekuzia (M), Kopani (K).

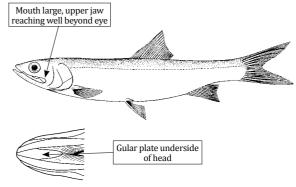
**Habitat:** Pelagic in coastal waters entering lagoons and estuaries.

**Fisheries:** Trolling lines, Gillnets, Handlines, Bottom trawls.

**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 fin little, in front of dorsal-fin origin.

**Colour:** Back blue–grey, sides silvery with a yellow tinge; fins faint yellow.

FAO names: Tenpounder (En)



Size: To 100 cm. common 50 cm

### **MEGALOPIDAE**

**Tarpons** 

### Megalops cyprinoides (Broussonet, 1782)

(Plate I, 1)

**FAO names:** Indo-Pacific tarpon (En)
Tarpon Indo-Pacifique (Fr)

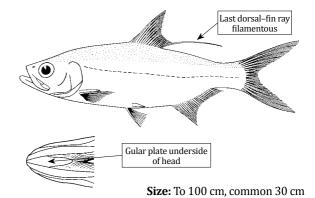
**Local name(s):** N: Ipawa; S: Makamekuzia (M), Kopani (K).

**Habitat:** Pelagic in coastal waters entering lagoons and estuaries.

**Fisheries:** Trolling lines, Seines, Gillnets, Handlines, Bottom trawls.

**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.



### **ALBULIDAE**

**Bonefishes** 

### Albula vulpes (Linnaeus, 1758)

**Local name(s):** N: Nyimbwi; S: Nyimbi (M), Mkizi mume (K).

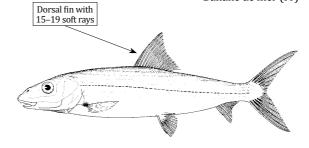
**Habitat:** Inshore, shallow waters on sandy and muddy bottoms.

Fisheries: Gillnets, Hooks and Line, Cast nets.

**Distinctive Characters:** Upper jaw short, 3.05–3.25 in head length; lower jaw angular, with a pointed symphysis; a single long scale on each side of membrane between each ray of dorsal and anal fins; 63–69 scales in lateral line.

**Colour:** Sides bright silvery; back blue–green to olive; belly pale whitish.

**FAO names:** Bonefish (En) Banane de mer (Fr)



Size: To 104 cm, common 35 cm

122 - Muraenidae Bony Fishes

### **MURAENIDAE**

Morays

### Echidna nebulosa (Ahl, 1789)

Local name(s): N: Mkunga; S: Mkunga (M), Mkunga samaki (K).

**Habitat:** Shallow reef areas from 2 m to 48 m. **Fisheries:** Lines, Traps, Gillnets, Seines.

**Distinctive Characters:** Pectoral and pelvic fins absent; teeth conical and granular in 2 rows on jaws, but all teeth more conical in young; no obvious lateral line, reduced to two pores above and before gill opening which is a difficult mid lateral hole or slit.

**Colour:** Variable, but typically yellowish with 2 or 3 longitudinal series of darker, star-shaped blotches along the body, each with a yellow centre; the spots variably combined to form vertical bands; smaller spots and mottling between the starry blotches.

## Pavement-like molars on yomer

Size: To 100 cm, common 50 cm

**FAO names:** Snowflake moray(En)

### Echidna polyzona (Richardson, 1845)

**Local name(s):** N: Mkunga wimbi; S: Mkunga wimbi (M), Mkunga nyono (K).

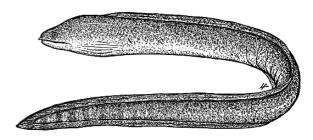
**Habitat:** Benthic in shallow waters among rocks and coral heads.

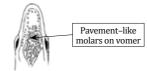
Fisheries: Lines, Traps, Gillnets, Seines.

**Distinctive Characters:** No canines; 5 irregular rows of conical teeth at front of upper jaw; lower jaw with 2–4 rows of teeth, anterior ones conical, posterior molariform; all teeth much smaller than vomerine teeth.

**Colour:** Body with 25–30 contrasting dark and pale bars, conspicuous in young, becoming mottled dark and indistinct with age, remaining most distinct near end of tail.

FAO names: Barred moray (En)





Size: To 70 cm

### Gymnomuraena zebra (Shaw, 1797)

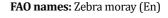
Local name(s): N: Mkunga ndovu; S: Mkunga ndovu (M), Mkunga nyoka (K).

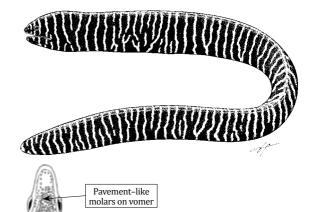
**Habitat:** Benthic in shallow creeks from 10 m to 50 m.

Fisheries: Lines, Traps, Gillnets, Seines.

**Distinctive Characters:** Anus well behind midpoint of body; pectoral and pelvic fins absent; no obvious lateral line, reduced to 2 pores above and before gill opening; teeth molariform in 2–3 rows on jaws, 5–6 on palate.

**Colour:** Body velvety, blackish-brown, with 25 (young individuals) to 100 (adults) narrow white to yellowish bars.





Size: To 150 cm, common 50 cm

Guide to Species Muraenidae - 123

### *Gymnothorax favagineus* Bloch & Schneider, 1801

Local name(s): N: Mkunga chui; S: Mkunga chui (M/K).

Habitat: Benthic in shallow waters on coral and

rocky reefs from 5 m to 40 m. **Fisheries:** Hooks and Line, Spears, Traps.

**Distinctive Characters:** Dorsal-fin origin on head; front of jaws usually with 4 large canines on each

side, the more posterior much smaller.

Colour: Basically white with black blotches and interspaces forming a honeycomb pattern; some individuals have a near black overall appearance; blotches variable between individuals and size, often in relation to habitat: those in clear coral reefs usually have proportionally less black than those found in turbid waters.



FAO names: Laced moray (En)



Intermaxillary teeth in 1 row Size: To 300 cm

### Gymnothorax flavimarginatus (Rüppell, 1830)

Local name(s): N: Mkungu; S: Mkunga (M/K). Habitat: Coral and rock reefs, from 3 m to 150 m.

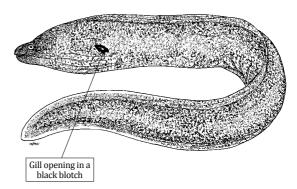
**Fisheries:** Hooks and Line, Spears, Traps.

**Distinctive Characters:** One row of 1–3 canines at the front center of upper jaw; sides of top jaw with 2 rows of teeth, the outer one larger at front of upper jaw.

Colour: Reddish eyes; body yellowish, densely mottled with dark brown; front of head purplishgrey; posterior margins of fins yellow-green.

(Plate I, 2)

FAO names: Yellow-edged moray (En)



Size: To at least 125 cm

### Gymnothorax griseus (Lacepède, 1803)

**Local name(s):** N: Mkunga; S: Mkunga (M/K). Habitat: Benthic in shallow waters, on coral and rocky reefs. Maximum depth 40 m.

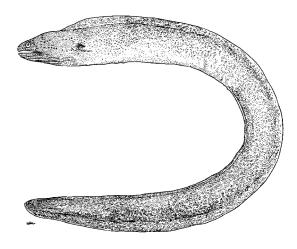
Fisheries: Gillnets, Traps, Spears.

**Distinctive Characters:** Teeth on roof of mouth

sharp, fang-like in 2 rows.

Colour: Body whitish, densely mottled with light brown spots; black pores on head forming lines.

### **FAO names:** Geometric moray (En)



Size: To 65 cm

124 - Muraenidae Bony Fishes

### Gymnothorax javanicus (Bleeker, 1859)

(Plate I, 3)

**Local name(s):** N: Mkunga chui-mweupe; S: Mkunga chui-mweupe (M/K).

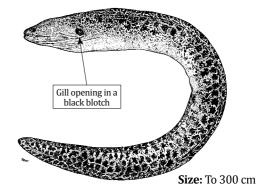
**Habitat:** Coral and rocky reefs from 10 m to 50 m.

Fisheries: Hooks and Line, Spears, Traps.

**Distinctive Characters:** Teeth uniserial, 18–19 on each side of jaws; premaxillary with 2 inner median fang–like teeth; vomerine band of teeth short and bifurcated anteriorly.

**Colour:** Juveniles are tan with numerous large black spots; adults have black specks that grade into leopard-like spots behind the head and a black area surrounding the gill opening.

### **FAO names:** Giant moray (En)



FAO names: Turkey moray (En)

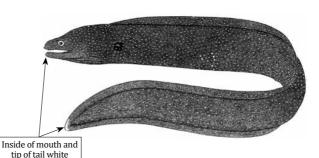
### Gymnothorax meleagris (Shaw, 1795)

**Local name(s):** N: Mkunga; S: Mkunga (M/K). **Habitat:** Benthic, on coral reefs and rocks. Maximum depth 36 m.

Fisheries: Gillnets, Traps, Spears

**Distinctive Characters:** Usually two rows of teeth, the ones on vomer sharp, fang-like, in one row; gill opening black.

**Colour:** Body orangish brown with small round yellow spots, less than eye diameter in size.



Size: To 120 cm, common 80 cm

### Gymnothorax monochrous (Bleeker, 1856)

Local name(s): N: Mukunga nyoka-maji;

S: Mkunga maji (M/K).

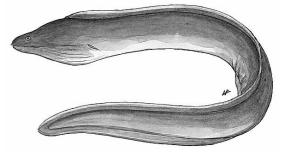
Habitat: Benthic, in shallow coastal reefs.

Fisheries: Gillnets, Traps, Spears.

**Distinctive Characters:** A single series of conical teeth in upper jaw and 2–3 fangs on each side; a row of 3 larger canines on intermaxillary; mandibles with a single series of teeth; vomerine teeth uniserial.

**Colour:** Body uniformly light brown, without darker markings.

### FAO names: Drab moray (En)



Size: To 80 cm

### **Gymnothorax nudivomer** (Günther, 1867)

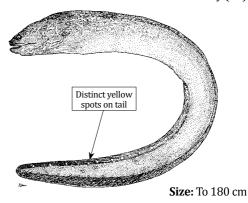
**Local name(s):** N: Mkunga nitakate; S: Mkunga (M/K).

**Habitat:** Coastal areas from 4 m to 270 m. **Fisheries:** Traps, Spears, Gillnets, Lines.

**Distinctive Characters:** One row of compressed and triangular teeth; no canines; no teeth on vomer in adults; one possible front middle tooth in upper jaw.

**Colour:** Body dark yellow-brown; numerous spots smaller than pupil, that become small and numerous anteriorly, but large and widely spaced posteriorly; inside of mouth yellow.

**FAO names:** Yellowmouth moray (En)



Guide to Species Muraenidae - 125

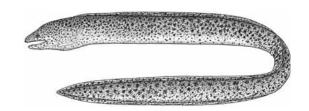
### Gymnothorax pictus (Ahl, 1789)

**Local name(s):** N: Mkunga; S: Mkunga (M/K). **Habitat:** Benthic, in shallow coastal waters on rock and corals.

Fisheries: Gillnets, Traps, Spears.

**Distinctive Characters:** Teeth on roof of mouth sharp, fang-like in 2 rows; no obvious lateral line, reduced to two pores above and before gill opening. **Colour:** Adults greyish or whitish, with irregular dark spots; juveniles yellow with dark blotches.

**FAO names:** Peppered moray (En)



Size: To 140 cm

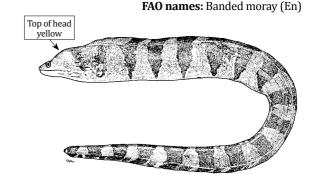
### Gymnothorax rueppellii (McClelland, 1844)

**Local name(s):** N: Mkunga; S: Mkunga (M/K). **Habitat:** Benthic in shallow coastal reefs down to 40 m.

Fisheries: Gillnets, Traps, Spears.

**Distinctive Characters:** Teeth anteriorly in jaws in one row, with long canines alternating to 2–3 small teeth; median row of 3 canines at front of upper jaw considerably long; side of upper jaw with 1–3 slender canines.

**Colour:** Body light greyish-brown with 15–20 darker bars; dark spot at corner of mouth.



Size: To 80 cm

### Gymnothorax undulatus (Lacepède, 1803)

**Local name(s):** N: Mkunga chui; S: Mkunga chui (M/K).

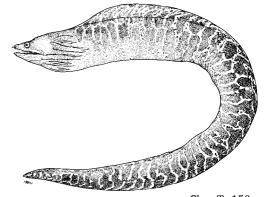
Habitat: Corals reefs and rocks down to 110 m.

Fisheries: Gillnets, Traps, Spears.

**Distinctive Characters:** Long canine teeth anteriorly in jaws, some alternating with very small teeth, the longest in 1 row of 3 teeth at front of upper jaw.

**Colour:** Body yellow or orange, with irregular red-brown blotches in rows separated by pale yellowish ground colour; top of head may be greenish-yellow.

FAO names: Undulated moray (En)



Size: To 150 cm

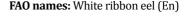
### *Pseudechidna brummeri* (Bleeker, 1858)

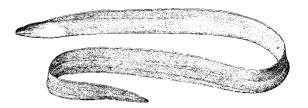
**Local name(s):** N: Mkunga; S: Mkunga (M/K). **Habitat:** Benthic, in shallow coastal waters.

Fisheries: Gillnets, Traps, Spears.

**Distinctive Characters:** Body ribbon-like, extremely slender, its depth 3 times in head length; fins wide.

**Colour:** Body pale dirty white, with hyaline fins.





Size: To 103 cm

126 - Muraenidae Bony Fishes

### Scuticaria tigrina (Lesson, 1828)

**Local name(s):** N: Mkunga; S: Mkunga (M/K).

Habitat: Reefs in shallow waters.

**Fisheries:** Traps, Spears, Gillnets, Hooks and Line. **Distinctive Characters:** Dorsal and anal fins barely visible reduced to rudiments on tip of tail; teeth conical, sharp, in 2 rows along jaws; 1 row of 4–5 teeth on roof of mouth.

**Colour:** Yellowish to russet brown, with yellowedged black spots and jaw speckled with black.



Size: To 105 cm

### Strophidon sathete (Hamilton, 1822)

**Local name(s):** N: Mkunga; S: Mkunga (M/K). **Habitat:** Benthic, in shallow coastal waters, muddy areas, estuaries and river mouths.

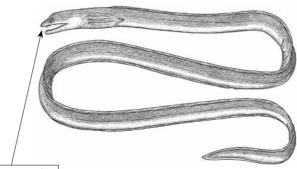
Fisheries: Traps, Hooks and Line.

**Distinctive Characters:** Dorsal fin originating on head before gill opening; scales absent; two rows of compressed canines at sides of upper jaw and front of lower jaw; four longest depressible canines medially on intermaxilla.

**Colour:** Body brownish-grey above, lighter below.

FAO names: Slender giant moray (En)

**FAO names:** Tiger reef-eel (En)



Mouth large, extending to well beyond eye

Size: To 400 cm, common 70 cm

### Uropterygius concolor Rüppell, 1838

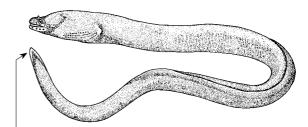
Local name(s): N: Mkunga; S: Mkunga (M/K).

Habitat: Reefs and shallow waters.

**Fisheries:** Traps, Spears, Gillnets, Hooks and Line. **Distinctive Characters:** Inner row of teeth on the lower jaw extending only about 2/3 of the way back along the outer row; vomerine teeth present. **Colour:** Drab brown in colour; tip of tail yellow.

Dorsal and anal fins reduced to rudiments on tip of the tail

### **FAO names:** Unicolor snake moray (En)



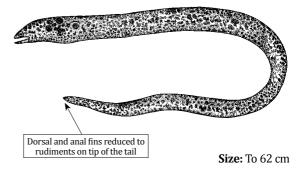
Size: To 50 cm

### *Uropterygius marmoratus* (Lacepède, 1803)

**Local name(s):** N: Mkunga; S: Mkunga (M/K). **Habitat:** Occurs on reefs in shallow waters.

**Fisheries:** Traps, Spears, Gillnets, Hooks and Line. **Distinctive Characters:** Teeth in jaws in 3 rows, the marginal series of numerous small close set teeth, the two inner series with fewer, longer and depressible teeth; the maxillary encloses numerous longer and depressible teeth; vomerine teeth long, biserial anteriorly, uniserial posteriorly. **Colour:** Body yellowish or brownish, lighter below and finely or coarsely marbled with darker brown spots.

**FAO names:** Marbled reef-eel (En)



### **OPHICHTHIDAE**

Snake eels - Worm eels

### Lamnostoma orientalis (McClelland, 1844)

Local name(s): N: Mkunga; S: Mkunga (M/K).

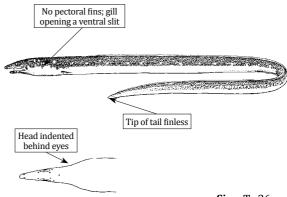
**Habitat:** Benthic in estuaries and inshore areas with turbid waters.

**Fisheries:** Caught mainly with nets and by hand; used as fresh bait.

**Distinctive Characters:** Dorsal-fin origin just behind gill opening; both dorsal and anal fins poorly developed.

**Colour:** Dark grey to blue–black above to below lateral line, lighter below; a series of prominent light spots on head and along lateral line; pores lighter than surrounding skin.

**FAO names:** Oriental worm–eel (En) Serpenton oriental (Fr)



Size: To 36 cm

### Pisodonophis boro (Hamilton, 1822)

**Local name(s):** N: Mkunga; S: Mkunga (M/K).

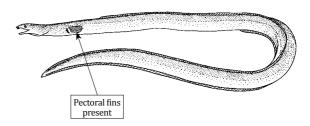
**Habitat:** Lagoons and estuaries, enters freshwater and paddy fields.

**Fisheries:** Caught incidentally in bag nets; used as bait.

**Distinctive Characters:** Teeth on roof of mouth granular to molariform; tip of tail finless; eye relatively small; dorsal fin originating behind pectoral fins.

**Colour:** Uniformly brownish-olive above, lighter below; dorsal fin with a narrow black edge.

**FAO names:** Rice-paddy eel (En) Serpenton des rizières (Fr)



Size: To 100 cm

### **CONGRIDAE**

Conger eels

### Conger cinereus Rüppell, 1830

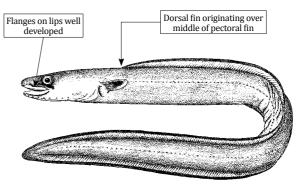
Local name(s): N: Mkunga; S: Mkunga (M), Mkunga samaki (K).

**Habitat:** Benthic on reefs and active at night. **Fisheries:** Bottom trawls. Hooks and Line.

**Distinctive Characters:** Teeth on outer row longer, close–set and compressed to form a cutting edge; 6<sup>th</sup> infraorbital pore located close and slightly above posterior angle of jaw.

**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.





Size: To 130 cm, common 50 cm

### Uroconger lepturus (Richardson, 1845)

Local name(s): N: Mkunga; S: Mkunga (M), Mkunga samaki (K).

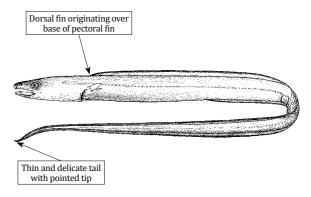
Habitat: Offshore on soft sand-mud bottoms.

**Fisheries:** Fine meshed shrimp trawls.

**Distinctive Characters:** Poorly developed lips; teeth multiserial, forming a band, but no cutting edge; vomerine teeth in a single row extending far back on roof of mouth; pectoral fins small and delicate.

**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.

**FAO names:** Slender conger (En)



Size: To 52 cm, common 30 cm

### **MURAENESOCIDAE**

Pike congers

### Muraenesox bagio (Hamilton, 1822)

Local name(s): N: Mkunga; S: Mkunga (M), Mkunga samaki (K).

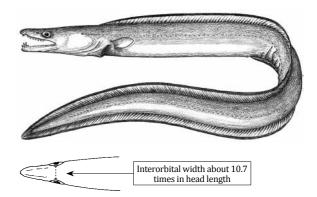
**Habitat:** Benthic on soft bottoms in deeper waters down to 100 m.

**Fisheries:** Longlines, Bottom trawls, Driftnets, Bag nets.

**Distinctive Characters:** Body robust and eelshaped; snout long; eye diameter 3 times in snout length; posterior nostrils only slightly nearer to eye than to anterior nostrils; teeth on vomer triangular, blade–like; 33 to 39 lateral–line pores before level of anus.

**Colour:** Light greyish-brown with olive-bronze above, lighter below; dorsal and anal fins with narrow black edges.

**FAO names:** Common pike conger (En) Morénésoce commun (Fr)



Size: To 200 cm, common 150 cm

### Muraenesox cinereus (Forsskål, 1775)

**Local name(s):** N: Mkunga; S: Mkunga (M), Mkunga samaki (K).

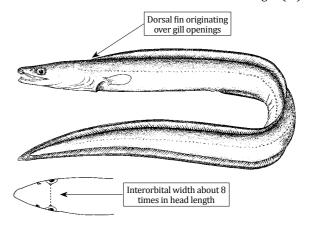
**Habitat:** Benthic, on soft bottoms, in estuaries, lagoons and shallow coastal inlets down to 100 m. **Fisheries:** Longlines, Bottom trawls, Driftnets, Bag

**Fisheries:** Longlines, Bottom trawls, Driftnets, Bag nets.

**Distinctive Characters:** Teeth in upper and lower jaws in three series; principal teeth in lower jaw triangular; large median vomerine teeth triangular in lateral view; 40–47 lateral–line pores before level of anus.

**Colour:** Light to dark greyish-brown above, lighter below; dorsal and anal fins with narrow black edges.

### FAO names: Daggertooth pike conger (En) Murénésoce-dague (Fr)



Size: To 80 cm, common 50 cm

Guide to Species Clupeidae - 129

### CLUPEIDAE

### Herrings - Shads - Gizzard shads - Sardines - Sardinellas

striae

### Amblygaster leiogaster (Valenciennes, 1847)

Local name(s): N: Simu/Kerenge; S: Simu koko (M/K).

**Habitat:** Pelagic coastal schooling species. Fisheries: Seines, Gillnets, Bottom trawls.

Distinctive Characters: Belly rounded with weak scutes; dorsal-fin origin at midpoint of body; 8 pelvic fin rays; anal-fin origin well behind dorsalfin base; 31–33 gill rakers on lower limb of 1st arch.

Colour: Back blue-green: flanks silvery without spots; dorsal fin black or dusky when fully extended.

### FAO names: Smoothbelly sardinella (En) Sardinelle daniva (Fr) 7-14 fronto-parietal striae Single median row of predorsal scales

Size: To 23 cm, common 18 cm

### Amblygaster sirm (Walbaum, 1792)

Local name(s): N: Simu/Kerenge; S: Simu koko

Habitat: Pelagic coastal schooling species. Fisheries: Seines, Gillnets, Bottom trawls.

**Distinctive Characters:** Belly rounded, with weak scutes; anal-fin origin well behind dorsal-fin base; 33 to 43 gill rakers on lower limb of 1st arch.

Colour: Back blue-green, flanks silvery with a series of 10 to 12 golden-green spots.

### **FAO names:** Spotted sardinella (En) Sardinelle tachetée (Fr) 7-14 fronto-parietal Single median row of predorsal scales

Size: To 27 cm, common 20 cm

### Dussumieria acuta Valenciennes, 1847

Local name(s): N: Simu/Kerenge; S: Simu koko (M/K).

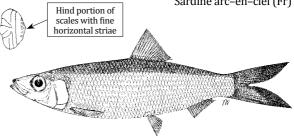
Habitat: Pelagic in inshore waters.

Fisheries: Seines, Gillnets, Bottom trawls.

Distinctive Characters: 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 goldenbrass line below; flanks silvery; caudal fin with a dark hind margin.

### **FAO names:** Rainbow sardine (En) Sardine arc-en-ciel (Fr)



Size: To 20 cm, common 15 cm

### Dussumieria elopsoides Bleeker, 1849

Local name(s): N: Simu/Kerenge; S: Simu koko (M/K).

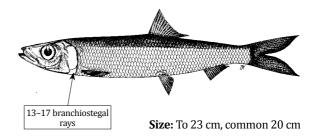
**Habitat:** A Pelagic inshore species.

Fisheries: Seines, Gillnets.

Distinctive Characters: Body slender; belly rounded without scutes: no striae on posterior part of scales; pelvic fins more advanced; 21 to 32 gill rakers on lower limb of 1st arch.

Colour: Back blue, flanks silvery; all fins dark.

**FAO names:** Slender rainbow sardine (En) Sardine arc-en-ciel gracile (Fr)



130 - Clupeidae Bony Fishes

### Etrumeus teres (DeKay, 1842)

**Local name(s):** N: Simu/Kerenge; S: Simu uzio (M/K).

Habitat: Pelagic inshore species.

Fisheries: Purse seines.

**Distinctive Characters:** Body fairly elongate subcylindrical in cross–section; gill rakers 30 to 35 on lower limb of  $1^{st}$  arch; pelvic–fin origin below last dorsal–fin ray; anal fin with 10-13 soft rays.

Colour: Back blue-green, flanks silvery.

### Shadine ronde (Fr)

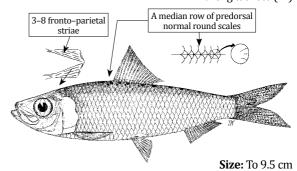
Belly rounded

with no scutes

**FAO names:** Red-eye round herring (En)

### FAO names: Spotted herring (En) Hareng tacheté (Fr)

Size: To 33 cm



### Herklotsichthys punctatus (Rüppell, 1837)

**Local name(s):** N: Simu/Kerenge; S: Simu uzio (M/K).

Habitat: Pelagic in coastal waters.

**Fisheries:** Seines, Bottom trawls, Cast nets.

**Distinctive Characters:** Belly with a distinct keel

of scutes.

**Colour:** Back blue–green with small scattered dark spots, flanks silvery; no dark blotch on dorsal fin.

### Herklotsichthys quadrimaculatus (Rüppell, 1837)

**Local name(s):** N: Simu/Kerenge; S: Simu uzio (M/K).

Habitat: Pelagic in coastal waters.

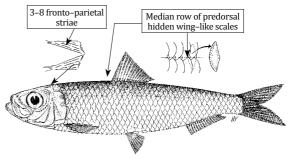
Fisheries: Seines, Cast nets, Shallow trawls.

Distinctive Characters: Belly with a distinct keel

of scutes.

**Colour:** Back blue–green; flanks silvery with 2 orange spots behind gill opening in life and a blue midlateral band.

**FAO names:** Bluestripe herring (En) Hareng à bande bleue (Fr)



Size: To 9.5 cm

### Herklotsichthys spilurus (Guichenot, 1863)

Local name(s): N & S: Simu/Kerenge (M/K).

Habitat: Pelagic in coastal waters.

Fisheries: Seines, Cast nets, Shallow trawls.

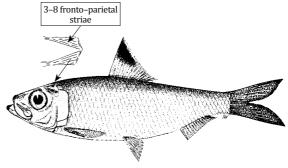
Distinctive Characters: Body moderately deep;

belly sharp with a keel of scutes.

**Colour:** Flame-silvery without dark spots on flanks; a bright yellow or orange patch behind gill opening; dark blotch on tip of dorsal fin.

**Remarks:** Overlaps range of *H. quadrimaculatus*, which has elongate wing-like scales underneath the normal paired pre-dorsal scales.

### **FAO names:** Reunion herring (En)



Size: To 9 cm (SL)

Guide to Species Clupeidae - 131

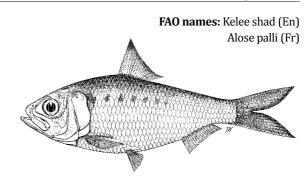
### Hilsa kelee (Cuvier, 1829)

Local name(s): N & S: Simu/Kerenge (M/K).

**Habitat:** Pelagic in coastal waters, enters estuaries. **Fisheries:** Seines, Gillnets, Cast nets, Bottom

trawls.

**Distinctive Characters:** Belly with a distinct keel of scutes; top of head with numerous frontoparietal striae; upper jaw with a distinct median notch; a series of small triangular scales above axil of pectoral fins; hind part of body scales perforated. **Colour:** Back blue–green, flanks silvery with 4–10 dark spots.



Size: To 35 cm, common 16.5 cm

### Sardinella albella (Valenciennes, 1847)

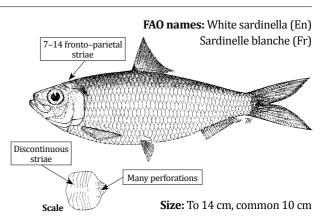
Local name(s): N & S: Simu/Kerenge (M/K).

Habitat: Pelagic in coastal waters.

Fisheries: Seines, Gillnets, Bottom trawls.

**Distinctive Characters:** Body fusiform, moderately compressed, belly with a sharp keel of 30–32 scutes; predorsal scales paired and overlapping.

**Colour:** Back blue/green, flanks silvery; a dark spot at dorsal-fin origin.



### Sardinella gibbosa (Bleeker, 1849)

**Local name(s):** N & S: Simu/Kerenge (M/K).

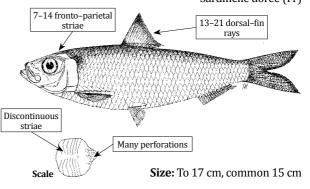
Habitat: Pelagic in coastal waters.

Fisheries: Seines, Gillnets, Bottom trawls.

**Distinctive Characters:** Body moderately compressed, belly with a sharp keel of 32–34 scutes; predorsal scales paired and overlapping.

**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.

### **FAO names:** Goldstripe sardinella (En) Sardinelle dorée (Fr)



### Sardinella longiceps Valenciennes, 1847

Local name(s): N & S: Simu/Kerenge (M/K).

Habitat: Pelagic in coastal waters.

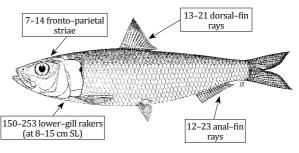
Fisheries: Boat seines, Gillnets, Shore seines.

**Distinctive Characters:** Belly rounded with a low keel of scutes; pelvic fin with 1 branched and 8 unbranched rays; predorsal scales paired and overlapping.

**Colour:** Back blue–green, flanks silvery; a black spot on hind edge of gill cover.

**Remarks:** Often misidentified as *Sardinella neglecta* Wongratana, 1983.

### **FAO names:** Indian oil sardine (En) Sardinelle indienne (Fr)



Size: To 23 cm, common 20 cm

132 - Clupeidae Bony Fishes

### Sardinella melanura (Cuvier, 1829)

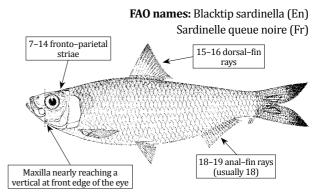
Local name(s): N & S: Simu/Kerenge (M/K).

Habitat: Pelagic in coastal waters.

Fisheries: Seines, Gillnets, Bottom trawls.

**Distinctive Characters:** Belly with a sharp keel, with 27–31 scutes; predorsal scales paired and overlapping; no perforations on posterior part of scales; lower-limb gill rakers 38–74.

**Colour:** Back blue–green, flanks silvery; tips of caudal fin black (character retained in preserved specimens) distinguish this species from all other *Sardinella* species in the area.



Size: To 15 cm (SL), common 10 cm

### Sardinella neglecta Wongratana, 1983

**Local name(s):** N & S: Simu/Kerenge (M/K).

**Habitat:** Coastal pelagic, schooling in bays and over shallow banks from 1 m to 60 m.

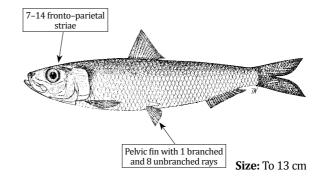
Fisheries: Seines, Cast nets, Bottom trawls.

**Distinctive Characters:** Predorsal scales paired and overlapping; 144–188 lower gill rakers (at 9–13 cm SL).

**Colour:** A faint golden spot behind gill opening, followed by a faint golden mid-lateral line.

**Remarks:** Often misidentified as *Sardinella longiceps* Valenciennes, 1847.

### FAO names: East African sardinella (En)



### Spratelloides delicatulus (Bennett, 1832)

Local name(s): N & S: Simu/Kerenge (M/K).

**Habitat:** Pelagic in shallow waters. **Fisheries:** Beach seines, Cast nets.

**Distinctive Characters:** No pre-pelvic or post-pelvic scutes, except for a W-shaped pelvic scute; usually 7 branchiostegal rays below mouth; 26–32 lower-limb gill rakers.

**Colour:** No bright silver band along flanks; two prominent dark streaks on caudal-fin base.

### FAO names: Delicate round herring (En) Hareng ronde (Fr) Vertical striae across scales continuous Size: To 8.5 cm, common 6 cm

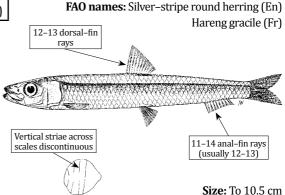
### Spratelloides gracilis (Temminck & Schlegel, 1846)

**Local name(s):** N & S: Simu/Kerenge (M/K).

**Habitat:** Pelagic in shallow waters. **Fisheries:** Beach seines, Cast nets.

**Distinctive Characters:** No pre-pelvic or post-pelvic scutes, except for a W-shaped pelvic scute; usually 7 branchiostegal rays below mouth; 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.



### Spratellomorpha bianalis (Bertin, 1940)

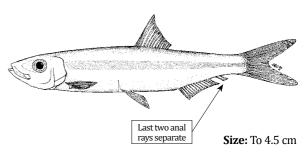
**Local name(s):** N & S: Simu/Kerenge (M/K). **Habitat:** Coastal pelagic in marine and brackish waters.

Fisheries: Seines, Cast nets, Bottom trawls.

**Distinctive Characters:** Body a little compressed, belly rounded, without pre–pelvic scutes, but a pelvic present with slender vertical arms; snout pointed, lower jaw projecting slightly.

Colour: No information.

### **FAO names:** Two-finned round herring (En)



### **ENGRAULIDAE**

### **Anchovies**

### Encrasicholina devisi (Whitley, 1940)

Local name(s): N: Dangaa/Dagaa; S: Mwatiko (K). Habitat: Pelagic in coastal waters down to 200 m. Fisheries: Seines, Stake traps.

**Distinctive Characters:** Maxilla tip pointed reaching into preopercle; anal-fin origin behind base of last dorsal-fin ray.

**Colour:** Light transparent fleshy brown, with a pink tinge, and a broad silver stripe with a thin blue line above.

### FAO names: Devis' anchovy (En) Dorsal and anal fins with 1st three rays unbranched 3-6 small needle-like scutes between pectoral and pelvicfin bases (usually 5) No post-pelvic scutes Size: To 8 cm, common 7 cm

### Encrasicholina heteroloba (Rüppell, 1837)

Local name(s): N: Dangaa/Dagaa; S: Mwatiko (K).

**Habitat:** Pelagic in coastal waters. **Fisheries:** Seines, Stake traps.

**Distinctive Characters:** Maxilla tip pointed, reaching onto preopercle; anal-fin origin behind base of last dorsal-fin ray.

**Colour:** Light transparent fleshy brown, with a silvery stripe down flanks.

Anchois douanier (Fr)

Dorsal and anal fins with 1st two rays unbranched

4-6 small needle-like scutes between pectoral and pelvic-fin bases (usually 5)

No post-pelvic scutes

Size: To 12 cm

**FAO names:** Shorthead anchovy (En)

### *Encrasicholina punctifer* Fowler, 1938

Local name(s): N: Dangaa/Dagaa; S: Mwatiko (K). Habitat: Pelagic in coastal waters.

**Fisheries:** Seines, Stake traps.

**Distinctive Characters:** Maxilla short and bluntly rounded at the tip; dorsal fin with 12–15 rays; anal fin with 14–17 rays; anal-fin origin clearly posterior to rear base of dorsal fin.

**Colour:** Light transparent fleshy brown, with a silvery stripe down flanks.

### Anchois boucanier (Fr) Dorsal and anal fins with 1st two rays unbranched 3-6 small needle-like scutes between pectoral and pelvic-fin bases (usually 4 or 5)

Size: To 9 cm

134 - Engraulidae Bony Fishes

### Stolephorus commersonnii Lacepède, 1803

Local name(s): N: Dangaa/Dagaa;S: Mwatiko (K).

Habitat: Pelagic in coastal waters.

Fisheries: Seines.

**Distinctive Characters:** Maxilla long reaching to gill opening; pelvic–fin tips reaching beyond dorsal–fin origin.

**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.

### FAO names: Commerson's anchovy (En) Anchois bombra (Fr) 1-4 small needle-like scutes between pectoral and pelvic-fin bases

Size: To 10 cm, common 8 cm

### Stolephorus indicus (van Hasselt, 1823)

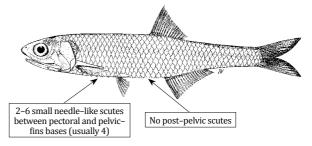
Local name(s): N: Dangaa/Dagaa; S: Mwatiko (K). Habitat: Pelagic in coastal waters.

Fisheries: Seines, Bottom trawls, Stake traps.

**Distinctive Characters:** Maxilla tip short, not reaching gill opening; pelvic–fin tips not reaching to dorsal–fin origin; anal–fin origin below dorsal–fin base.

**Colour:** Light transparent fleshy brown, with a silver band down flanks; no dark pigment lines on back between head and dorsal-fin origin.

### **FAO names:** Indian anchovy (En) Anchois indien (Fr)



Size: To 15.5 cm (SL), common 12 cm (SL)

### Stolephorus insularis Hardenberg, 1933

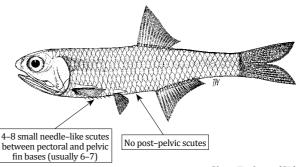
**Local name(s):** N: Dangaa/Dagaa; S: Mwatiko (K). **Habitat:** Pelagic schooling in coastal waters.

**Fisheries:** Seines, Bottom trawls, Stake traps.

**Distinctive Characters:** Maxilla tip pointed, reaching to or beyond hind boarder of preopercle; anal fin short, usually with 14–17 rays, its origin below about middle of dorsal–fin base.

**Colour:** A double pigmented line on back behind dorsal fin; tail deep yellow.

### FAO names: Hardenberg's anchovy (En)



Size: To 8 cm (SL)

### Thryssa baelama (Forsskål, 1775)

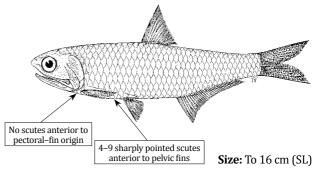
**Local name(s):** N: Dangaa/Dagaa; S: Mwatiko (K). **Habitat:** Pelagic mostly in inshore waters, bays, lagoon, harbours, mangroves pools and estuaries.

Fisheries: Seines, Shallow trawls.

**Distinctive Characters:** Maxilla short, not reaching to edge of gill cover; anal fin moderately long, usually with 26–30 branched rays.

**Colour:** Back blue–green or brown, flanks silvery; a dark venulose area behind gill opening.

**FAO names:** Baelama anchovy (En) Anchois–moustache sardin (Fr)



### Thryssa setirostris (Broussonet, 1782)

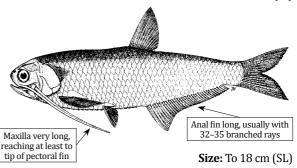
**Local name(s):** N: Dangaa/Dagaa; S: Mwatiko (K). **Habitat:** Pelagic, mostly inshore, enters bays and estuaries.

**Fisheries:** Boat seines, Gillnets, Bottom trawls.

**Distinctive Characters:** Belly with a sharp keel of scutes; tip of snout at level of eye centre; scutes present before and behind pelvic–fin base.

**Colour:** Back blue–green or brown, flanks silvery; a dark venulose area behind gill opening; dorsal and caudal fins faint yellow.

**FAO names:** Longjaw thryssa (En) Anchois–moustache cornu (Fr)



### Thryssa vitrirostris (Gilchrist & Thompson, 1908)

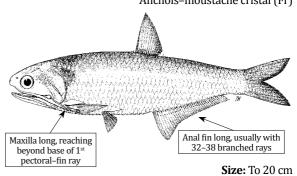
**Local name(s):** N: Dangaa/Dagaa; S: Mwatiko (K). **Habitat:** Pelagic in inshore areas, enters estuaries and lagoons.

 $\textbf{Fisheries:} \ \textbf{Boat seines, Gillnets, Shallow trawls.}$ 

**Distinctive Characters:** Body fusiform; belly with a sharp keel of scutes before and behind pelvic–fin base; tip of snout at level of eye centre.

**Colour:** Back blue–green, flanks silvery; a dark blotch behind upper part of gill opening; inside of gill cavity bright orange.

**FAO names:** Orangemouth anchovy (En) Anchois-moustache cristal (Fr)



### **CHIROCENTRIDAE**

Wolf-herrings

### Chirocentrus dorab (Forsskål, 1775)

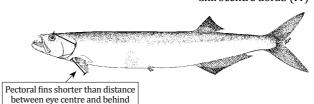
**Local name(s):** N: Panga; S: Panga (M), Mkonje (K).

**Habitat:** Pelagic in coastal waters down to 120 m. **Fisheries:** Gillnets, Seines, Traps, Bottom trawls; used as bait for large scombroids in trolling.

**Distinctive Characters:** Dorsal fin with 16–19 rays; anal fin with 29–36 rays.

**Colour:** Back with bands of green and blue; tip of dorsal fin and front of anal fin black.

**FAO names:** Dorab wolf-herring (En) Chirocentre dorab (Fr)



Size: To 100 cm (SL), common 60 cm

### Chirocentrus nudus Swainson, 1839

(Plate I, 4)

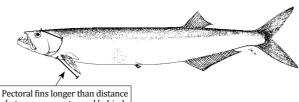
**Local name(s):** N: Panga; S: Panga (M), Mkonje (K).

**Habitat:** Pelagic in coastal waters down to 150 m. **Fisheries:** Gillnets, Seines, Shallow water trawls; used as bait for large scombroids in trolling.

**Distinctive Characters:** Dorsal fin with 16–19 rays; anal fin with 29–36 rays.

**Colour:** Dorsal and anal fins colourless; back with bands of green and blue.

**FAO names:** Whitefin wolf–herring (En) Chirocentre sabre (Fr)



Pectoral fins longer than distance between eye centre and behind border of gill cover

border of gill cover

Size: To 100 cm (SL), common 60 cm

### **PRISTIGASTERIDAE**

### Pristigasterids

### Pellona ditchela Valenciennes, 1847

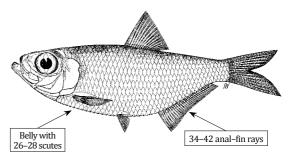
**Local name(s):** N & S: Simu/Kerenge (M/K). **Habitat:** Pelagic in coastal waters, in estuaries,

lagoons and rivers.

Fisheries: Seines, Cast nets.

**Distinctive Characters:** Body moderately deep, compressed; eye very large, lower jaw projecting; upper jaw toothed; dorsal-fin origin near midpoint of body; scales with upper and lower vertical striae slightly overlapping each other at center of scales. **Colour:** Back blue–green or grey, flanks silvery.

**FAO names:** Indian pellona (En) Alose–écaille indienne (Fr)



Size: To 16 cm (SL), common 13 cm

### **CHANIDAE**

Milkfish

### *Chanos chanos* (Forsskål, 1775)

(Plate I, 5)

**Local name(s):** N: Borodi/Fupefupe; S: Mwatiko (M/K).

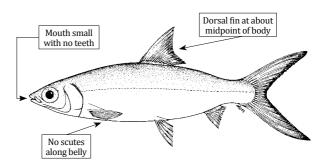
Habitat: Coastal pelagic, entering rivers.

**Fisheries:** Scoop nets, Seines, Gillnets, Traps, Hooks and Line; important to fisheries for culture in fresh and brackish waters.

**Distinctive Characters:** Lower jaw with a small tubercle at tip; dorsal fin with 2 spines and 13–17 rays; anal fin with 2 spines and 8–10 rays; scales small; lateral line present.

**Colour:** Back olive green, flanks silvery; dorsal, anal and caudal fins with dark margins.

**FAO names:** Milkfish (En) Chano (Fr)



Size: To 180 cm, common 100 cm

### **ARIIDAE**

Sea catfishes

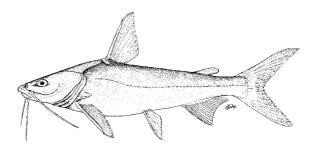
### Arius africanus Günther, 1867

19 to 21 total anal-fin rays.

Local name(s): N: Fumi/Yahudhi; S: Fumi (M/K). Habitat: Estuaries but mainly freshwater. Fisheries: Gillnets, Stake traps, Hooks and Line. Distinctive Characters: Three pairs of barbels around mouth, the maxillary pair extending to slightly beyond pectoral-fin base; median longitudinal groove on head shallow, extending to just behind posterior margin of orbit anteriorly, not reaching supraoccipital process posteriorly; 1st dorsal and pectoral fins each with a strong spine;

Colour: Back brownish, sides silvery, belly white.

**FAO names:** African sea catfish (En) Mâchoiron africain (Fr)



Guide to Species Ariidae - 137

### *Arius madagascariensis* Vaillant, 1894

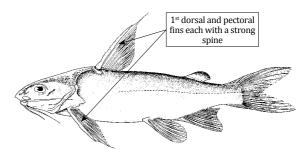
**Local name(s):** N: Fumi/Yahudhi; S: Fumi (M/K). **Habitat:** Estuaries but mainly freshwater.

**Fisheries:** Stake traps, Hooks and Line, Gillnets.

**Distinctive Characters:** Three pairs of barbels around mouth, the maxillary pair extending to pectoral-fin base; head shield granulated behind orbit with a blunt conical protuberance above eye; median longitudinal groove shallow; dorsal and pectoral fins outermost ray prolonged.

**Colour:** Steel blue above, silvery on sides, pinkishyellow on belly; dorsal and caudal fins greyish.

### **FAO names:** Madagascar sea catfish (En) Mâchoiron malgache (Fr)



Size: To 70 cm (SL), common 20 cm

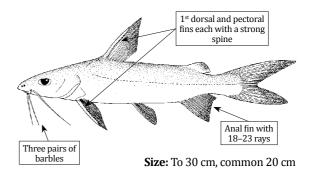
### *Arius venosus* Valenciennes, 1840

**Local name(s):** N: Fumi/Yahudhi; S: Fumi (M/K). **Habitat:** Coastal waters. Maximum depth 100 m. **Fisheries:** Bottom trawls, Gillnets, Stake traps, Beach seines, Hooks and Line.

**Distinctive Characters:** Head shield nearly smooth with few rugosities bordering the median longitudinal groove.

**Colour:** Dark reddish-brown, or dark grey-blue above, white below; all fins generally hyaline, unpaired fins darker terminally; paired fins grey or black above; upper half of adipose fin spotted with black.

### **FAO names:** Veined catfish (En)

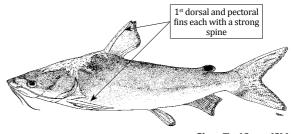


**FAO names:** Blacktip sea catfish (En)

### Plicofollis dussumieri (Valenciennes, 1840)

**Local name(s):** N: Fumi/Yahudhi; S: Fumi (M/K). **Habitat:** Purely marine waters down to 100 m. **Fisheries:** Bottom trawls, Gillnets, Stake traps, Beach seines, Hooks and Line.

**Distinctive Characters:** Three pairs of barbels around mouth; head shield not very granulated or rugose, except at occiput and occipital process; predorsal plate V-shaped; anal fin with 14–16 rays. **Colour:** Bluish-black on dorsal surface and sides, dull white below; fin tips edged with black.



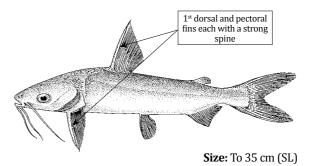
Size: To 62 cm (SL)

### Plicofollis polystaphylodon (Bleeker, 1846)

**Local name(s):** N: Fumi/Yahudhi; S: Fumi (M/K). **Habitat:** Coastal marine waters and estuaries. **Fisheries:** Stake traps, Beach seines, Gillnets, Hooks and Line, Bottom trawls.

**Distinctive Characters:** Three pairs of barbels around mouth, maxillary pair extending slightly to beyond orbit, relatively longer in small specimens; head shield rugose and granulated in the hind part near the occipital region; anal fin with 15–17 rays. **Colour:** Greyish–brown above, silvery below; fins dusky.

**FAO names:** Mozambique sea catfish (En) Mâchoiron barbarin (Fr)



### **PLOTOSIDAE**

### Eel catfishes

### Plotosus limbatus Valenciennes, 1840

Local name(s): N: Tondi; S: Ngogo/Mtozi (M), Msilimu (K).

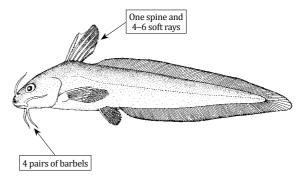
**Habitat:** Open coastal waters and estuaries.

**Fisheries:** Bottom trawls, Seines, Hooks and Line. **Distinctive Characters:** Head moderately large, arched from snout tip to dorsal-fin origin; pectoral fins with 13–16 soft rays; pelvic fins with 12–16 rays; dorsal procurrent; caudal fin (2<sup>nd</sup> dorsal fin) with 106–133 rays; anal fin with 87–126 soft rays.

**Colour:** Body reddish brown to dark brown, sometimes fading to a lighter brown ventrally; fins often blackish brown, usually with a black border.

**Remarks:** Dorsal and pelvic spines are venomous and may be fatal.

FAO names: Darkfin eel catfish (En)



Size: To 41 cm (SL)

### Plotosus lineatus (Thunberg, 1787)

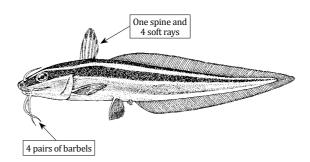
**Local name(s):** N: Tondi; S: Ngogo/Mtozi (M), Ngogo (K).

**Habitat:** Reefs, estuaries and tidal pools in schools. **Fisheries:** Bottom trawls, Seines, Hooks and Line. **Distinctive Characters:** Head moderately large, profile slightly arched from tip of snout to dorsal-fin origin; dorsal procurrent caudal fin (or second dorsal fin) with 69 to 115 rays; pectoral fins with

9–13 soft rays; pelvic fins with 10–13 rays. **Colour:** Brown or black above, whitish below, with 2–3 stripes (white or yellow in life); 2 of the stripes from snout to near caudal peduncle.

**Remarks:** Dorsal and pelvic spines are venomous and may be fatal.

**FAO names:** Striped eel catfish (En)



Size: To 32 cm, common 25 cm

### CHLOROPHTHALMIDAE

### Greeneyes

### Chlorophthalmus agassizi Bonaparte, 1840

**Local name(s):** N & S: No information.

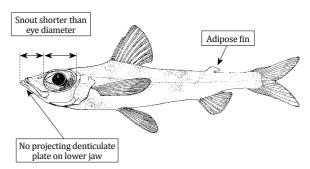
**Habitat:** Benthic, inhabits shelf and offshore waters from 150 m to 980 m.

**Fisheries:** Bottom trawls.

**Distinctive Characters:** Origin of dorsal fin much closer to tip of snout than to adipose fin.

**Colour:** Brownish or yellowish, covered with large dark blotches, especially the dorsal half; eyes green; ventral surface of body around anus, pharyngeal and peritonical lining black; gill cover black with metallic luster; inner pelvic–fin rays blackish.

**FAO names:** Shortnose greeneye (En) Eperlan du large (Fr)



Size: To 40 cm

Guide to Species Synodontidae - 139

### **SYNODONTIDAE**

### Lizardfishes

### Saurida gracilis (Quoy & Gaimard, 1824)

(Plate I. 6)

**FAO names:** Gracile lizardfish (En) Anoli grêle (Fr)

Local name(s): N: Goromwe; S: Spika (K).

Habitat: Shallow waters, sandy areas near coral

reefs.

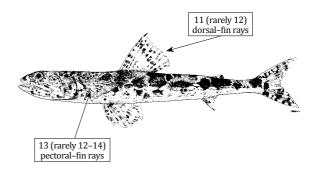
Fisheries: Bottom trawls.

**Distinctive Characters:** A vertical from tip of pectoral fins passes through  $2^{nd}$  or  $3^{rd}$  predorsal

scale; anal fin with 9-10 soft rays.

**Colour:** White or pale yellow, with dark brown and black spots on back and sides; darker crossbars on

back; all fins with dark bars and spots.



Size: To 30 cm

### Saurida tumbil (Bloch, 1795)

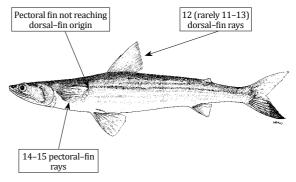
**Local name(s):** N: Goromwe; S: Spika (K). **Habitat:** Muddy bottoms from 20 m to 60 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Head and caudal peduncle somewhat depressed; several rows of teeth visible in both jaws even when mouth is closed.

**Colour:** Back and sides brown, belly pale or silvery; distal parts of dorsal, pectoral and particularly caudal fins, dusky; otherwise, no markings.

### **FAO names:** Greater lizardfish (En) Anoli tumbil (Fr)



Size: To 60 cm

### Saurida undosquamis (Richardson, 1848)

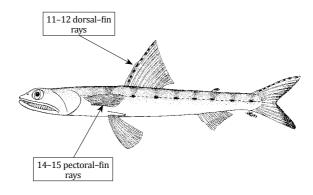
**Local name(s):** N: Goromwe; S: Spika (K). **Habitat:** Muddy bottoms from 20 m to 350 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Cigar-shaped, rounded or slightly compressed; the head pointed and depressed; the snout rounded; longest pectoral ray extending to about dorsal-fin origin; 9 pelvic-fin rays, inner barely longer than outer.

**Colour:** Back and sides brown, belly pale or silvery; 8-10 bars often visible along lateral line;  $2^{nd}$  dorsal–fin ray and upper caudal ray with dark spots.

FAO names: Brushtooth lizardfish (En) Anoli à grandes écailles (Fr)



Size: To 50 cm

140 - Synodontidae Bony Fishes

(Plate I, 8)

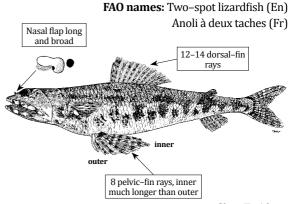
### *Synodus binotatus* Schultz, 1953 \* (Plate I, 7)

**Local name(s):** N: Goromwe; S: Spika (K). **Habitat:** Shallow waters down to 10 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Cheek behind mouth scaled; palatine teeth in a single band on each side (characteristic of the genus); pectoral fins reaching well beyond a line connecting origin of dorsal and pelvic fins; 8–10 anal–fin rays.

**Colour:** Two black spots on snout; a series of 4 dark brown dorsal saddle-like bands on tan background; all fins barred.



Size: To 18 cm

### *Synodus dermatogenys* Fowler, 1912

**Local name(s):** N: Goromwe; S: Spika (K). **Habitat:** Shallow waters down to 20 m.

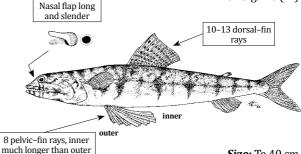
Fisheries: Bottom trawls.

**Distinctive Characters:** Cheek behind mouth scaled; palatine teeth in a single band on each side (characteristic of the genus); pectoral fins short not reaching the line between origins of dorsal and pelvic fins; 8–10 anal–fin rays.

**Colour:** Background tan; a series of 8–9 dark brown squared blotches with pale centers along lateral line; peritoneum pale.

### FAO names: Banded lizardfish (En)

Anoli bigarré (Fr)



Size: To 40 cm

### Synodus indicus (Day, 1873)

**Local name(s):** N: Goromwe; S: Spika (K). **Habitat:** Coastal waters from 20 m to 100 m.

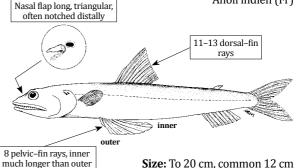
Fisheries: Bottom trawls.

**Distinctive Characters:** Anterior palatine teeth short, not forming a discrete group; 8–11 anal–fin rays; posterior pelvic process wide.

**Colour:** Body dusky pink above, with pale bluegrey blotches and stripes; two small pigmented spots at upper distal corner of operculum; 9–11 peritoneal spots.

### FAO names: Indian lizardfish (En)

Anoli indien (Fr)



### Synodus variegatus (Lacepède, 1803)

(Plate I, 9)

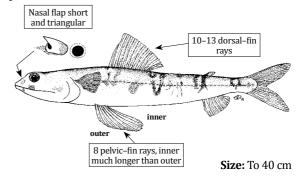
**Local name(s):** N: Goromwe; S: Spika (K). **Habitat:** Shallow waters down to 10 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Anterior palatine teeth long and forming a discrete group; 8–10 anal–fin rays; posterior pelvic process wide.

**Colour:** Adults variable from grey to red; on some individuals, the saddle-shaped markings along the sides may be obliterated by an almost solid dark red band.

**FAO names:** Variegated lizardfish (En)



### Trachinocephalus myops (Forster, 1801)

Local name(s): N: Goromwe; S: Spika (K).

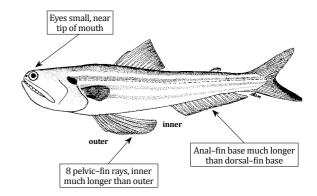
Habitat: Sand, shell, rock or mud bottoms from the

shoreline down to 400 m. **Fisheries:** Bottom trawls.

**Distinctive Characters:** Mouth oblique with a single row of teeth on upper jaw visible even when mouth is closed; 14–15 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 spot at upper corner of gill cover.

FAO names: Snakefish (En)



Size: To 40 cm, common 25 cm

### **MACROURIDAE**

### Grenadiers

### Coelorinchus denticulatus Regan, 1921

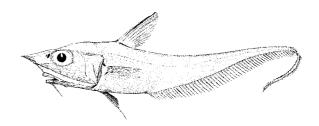
**Local name(s):** N: Tondi; S: No information. **Habitat:** Benthopelagic, occurs in waters between 64 m and 335 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Light organ a dark streak extending forward from anus to chest, streak broadened at either end but anterior fossa not broadly naked; spinules on scales slender, conical, recurved, in irregular subparallel rows to somewhat quincunx pattern.

**Colour:** Body light brownish to grey-brown with faint diagonal bands in some individuals; 1<sup>st</sup> dorsal fin with a dark band across the middle; pelvic fins black-tipped, their base blackish.

FAO names: Filesnout grenadier (En)



Size: To 28 cm

### Malacocephalus laevis (Lowe, 1843)

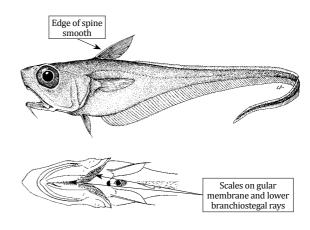
**Local name(s):** N: Tondi; S: No information. **Habitat:** Benthopelagic on the continental slope

between 200 m and 1000 m. **Fisheries:** Bottom trawls.

**Distinctive Characters:** Upper jaw teeth in 1 row, outer series enlarged and widely spaced; dorsal fin with 2 spines and 9–13 rays, plus more than 220 soft rays; anal fin with more than 210 soft rays; pectoral fins with 16–22 soft rays.

**Colour:** Body brown; 1<sup>st</sup> dorsal fin, pectoral fins, ventral fins and belly, blackish.

FAO names: Softhead grenadier (En)



Size: To 60 cm, common 40 cm

### Ventrifossa petersonii (Alcock, 1891)

Local name(s): N: Tondi; S: No information.

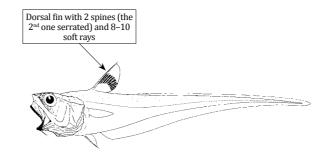
Habitat: Benthopelagic, occurs in deep waters

between 300 m and 1000 m. **Fisheries:** Bottom trawls.

**Distinctive Characters:** Teeth small; mandibular teeth in 2 or 3 rows; no scales on branchiostegal rays; scales rather large, with short, slender, conical spinules, many with broadened bases, arranged in widely divergent V rows or quincunx pattern.

**Colour:** Snout with a black margin along leading edge; 1<sup>st</sup> dorsal fin with a prominent black blotch across middle to lower portions.

FAO names: Peterson's grenadier (En)



Size: To 42 cm

### **OPHIDIIDAE**

Cusk eels - Brotulas

### *Brotula multibarbata* Temminck & Schlegel, 1846

Local name(s): N: Tondi; S: No information.

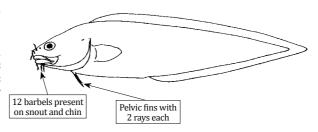
**Habitat:** Benthic on continental shelf and slope in deeper waters. Maximum depth 650 m.

Fisheries: Hooks and Line, Traps, Bottom trawls.

**Distinctive Characters:** Body elongate with a tapering caudal fin; fine teeth present on jaws and on palate; fins spineless; dorsal and anal fins long, continuous with caudal fin; body completely covered with small, cycloid (smooth) scales.

Colour: Uniform silvery, dusky to brown.

**FAO names:** Goatsbeard brotula (En) Brotula barbe-de-boue (Fr)



Size: To 100 cm

### **LOPHIIDAE**

Goosefishes

### Lophiodes mutilus (Alcock, 1894)

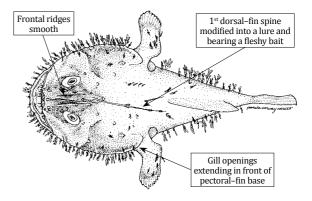
**Local name(s):** N: Shinda dovu/Guguye; S: Bocho (M).

**Habitat:** Inshore benthic on muddy to rocky bottoms, coral and rocky reefs; meso— and bathypelagic between 300 m and 500 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Head with numerous sharp spines on dorsal and lateral surfaces;  $2^{nd}$  cephalic dorsal–fin spine scarcely longer than  $1^{st}$ ,  $2^{nd}$  (soft) dorsal fin with 8 rays; anal fin with 6 rays. **Colour:** Uniformly light to dark brown above, lighter below; pectoral fins darker distally; all fin rays with pale tips.

**FAO names:** Smooth angler (En) Baudroie marache (Fr)



### **Lophiomus setigerus** (Vahl, 1797)

**Local name(s):** N: Shinda dovu/Guguye; S: Bocho (M).

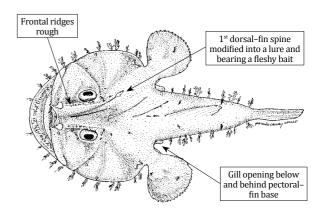
**Habitat:** Inshore benthic on muddy to rocky bottoms, coral and rocky reefs to meso– and bathypelagic at depths from 30 m to 800 m.

Fisheries: Bottom trawls.

**Distinctive Characters:** Floor of mouth with a distinct reticulate pattern; 2<sup>nd</sup> cephalic dorsal-fin spine stout and darkly pigmented; 2<sup>nd</sup> (soft) dorsal fin with 8 rays; anal fin with 6 rays.

**Colour:** Light to dark brown above, lighter below; dorsal surface frequently mottled; all fin rays with pale tips;  $2^{nd}$  cephalic dorsal-fin spine darkly pigmented.

FAO names: Blackmouth angler (En)



Size: To 40 cm, common 30 cm

### **ATHERINIDAE**

Silversides

### Atherinomorus duodecimalis (Valenciennes, 1835)

**Local name(s):** N: Makame kuoza; S: Hanithi/Mambangumu (M), Mambangumu (K).

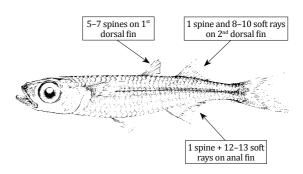
Habitat: Restricted to coastal waters and harbours.

Fisheries: Seines. Cast nets.

**Distinctive Characters:** The distal end of upper jaw extending slightly backward beyond vertical through anterior border of orbit; the anus is 2 to 4 scales in front of the pelvic-fin tips, rarely more than 3 scales.

**Colour:** Scales above the midlateral stripe heavily pigmented with edges outlined by chromatophores; midlateral stripe narrow.

**FAO names:** Tropical silverside (En) Athérine tropicale (Fr)



Size: To 11 cm (SL)

### Atherinomorus lacunosus (Forster, 1801)

**Local name(s):** N: Makame kuoza; S: Hanithi/ Mambangumu (M), Mambangumu (K).

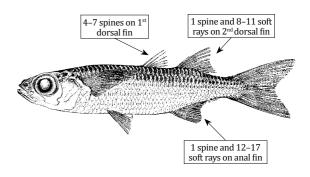
**Habitat:** Schooling along shores sometimes with sardines.

Fisheries: Seines, Cast nets.

**Distinctive Characters:** Head and eyes moderately large; posterior edge of preopercle straight, anterior edge with a distinct notch; 18–25 gill rakers on lower limb of 1<sup>st</sup> gill arch; body scales large.

**Colour:** Greenish–grey with a broad silvery stripe on side of body, its upper edge with an iridescent blue line; a dark blotch on pectoral fins.

### **FAO names:** Hardyhead silverside (En) Athérine têtue (Fr)



144 - Atherinidae - Belonidae Bony Fishes

### Hypoatherina barnesi Schultz, 1953

Local name(s): N: Makame kuoza; S: Hanithi/

Mambangumu (M), Mambangumu (K). **Habitat:** Coastal waters and lagoons.

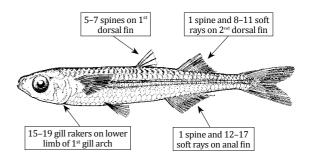
Fisheries: Seines, Cast nets.

Distinctive Characters: Body slender; body scales

large; pectoral fins with 12–15 rays.

**Colour:** A black mid-dorsal line running from head to end of caudal peduncle; midlateral stripe wide, broadest between anus and anal fin extending onto caudal fin forming a triangular blotch on upper half of fin base; rows of spots on lower sides occasionally present.

FAO names: Barnes' silverside (En)



Size: To 10 cm, common 4 cm

### Hypoatherina temminckii (Bleeker, 1854)

**Local name(s):** N: Makame kuoza; S: Hanithi/ Mambangumu (M), Mambangumu (K).

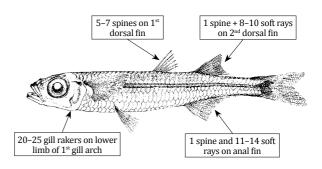
 $\textbf{Habitat:} \ Restricted \ to \ coastal \ waters \ and \ harbours.$ 

Fisheries: Seines, Cast nets.

**Distinctive Characters:** Body slender; anus always behind pelvic-fin tips.

**Colour:** Transparent and blue–green in colour; silvery narrow midlateral stripe; scales above it heavily pigmented with edges outlined by chromatophores.

FAO names: Samoan silverside (En)



Size: To 11 cm, common 5 cm

### **BELONIDAE**

Needlefishes

### Ablennes hians (Valenciennes, 1846)

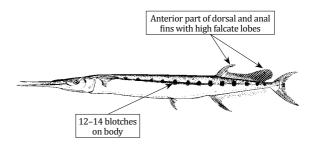
**Local name(s):** N: Mtumbuudau/Mgendi/Mgezi; S: Mtumbuudau (M), Tsatsarika/Ngarengare (K). **Habitat:** Pelagic, inhabiting offshore surface waters. abundant around islands.

**Fisheries:** Seines, Cast nets, Trolling gears, Gillnets, Handlines.

**Distinctive Character:** Dorsal fin with 23–26, usually 24–25 rays; anal fin with 24–28, usually 26–27 rays; pectoral fins falcate with 13–15 rays; caudal peduncle without lateral keels.

Colour: Bluish green above, silvery white below.

**FAO names:** Flat needlefish (En) Orphie plate (Fr)



Size: To 140 cm, common 70 cm

Guide to Species Belonidae - 145

### *Platybelone platyura* (Bennett, 1832)

Local name(s): N: Mtumbuudau/Mgendi/Mgezi; S: Mtumbuudau (M), Tsatsarika/Ngarengare (K).

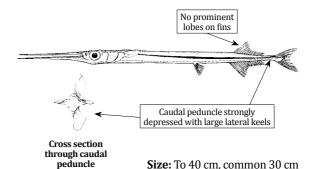
**Habitat:** Pelagic in off–shore waters.

**Fisheries:** Castnets, Trolling gears, Lured hooks, Seines, Handlines.

**Distinctive Character:** Dorsal fin with 12–15 rays; anal fin with 15–20 rays; pectoral fins not falcate.

**Colour:** Bluish–green above, silvery below; a dark blue stripe along sides; scales and bones green.

### **FAO names:** Keeltail needlefish (En) Orphie carénée (Fr)



### FAO names: Banded needlefish (En)

### Strongylura leiura (Bleeker, 1850)

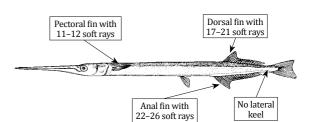
Local name(s): N: Mtumbuudau/Mgendi/Mgezi; S: Mtumbuudau (M), Tsatsarika/Ngarengare (K).

**Habitat:** In coastal areas, also enters estuaries.

Fisheries: Drift nets, Seines, Lines.

**Distinctive Character:** Body almost rectangular in cross section; origin of dorsal fin over  $7^{th}$  to  $10^{th}$  ray of anal fin.

**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 75 cm

### Tylosurus acus melanotus (Bleeker, 1850)

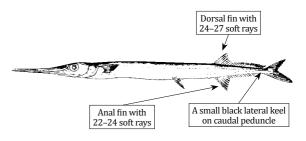
**Local name(s):** N: Mtumbuudau/Mgendi/Mgezi; S: Mtumbuudau (M), Tsatsarika/Ngarengare (K). **Habitat:** Pelagic in off-shore waters, also found in coastal waters.

**Fisheries:** Cast nets, Trolling gears, Lured hooks, Gillnets, Seines.

**Distinctive Characters:** Caudal fin deeply forked, lower lobe much longer than upper; longer jaws with more numerous teeth and narrower caudal lobe than *T. crocodilus*.

**Colour:** Dark bluish above, silvery white below.

### **FAO names:** Agujon needlefish (En) Aiguille voyeuse (Fr)



Size: To 90 cm

### Tylosurus crocodilus crocodilus (Péron & Lesueur, 1821)

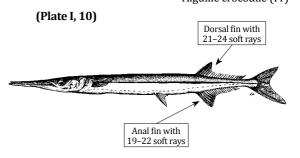
Local name(s): N: Mtumbuudau/Mgendi/Mgezi; S: Mtumbuudau (M), Tsatsarika/Ngarengare (K). Habitat: Pelagic in coastal waters, but also offshore.

**Fisheries:** Castnets, Trolling gears, Purse seines, Drift nets, Gillnets, Lines.

**Distinctive Character:** Caudal fin deeply forked, lower lobe much longer than upper; a small black lateral keel on caudal peduncle.

**Colour:** Dark bluish green above, silvery below; a dark blue stripe along sides; a distinct black lateral keel on caudal peduncle.

**FAO names:** Hound needlefish (En) Aiguille crocodile (Fr)



Size: To 150 cm

146 - Hemiramphidae Bony Fishes

### HEMIRAMPHIDAE

### Halfheaks

### **Euleptorhamphus viridis** (van Hasselt, 1823)

Local name(s): N: Chuchungi/Mkeke/Mgezi

S: Chuchungi (M), Kidau (K). Habitat: Off-shore waters.

Fisheries: Gillnets, Shore seines; common in

catches particularly in the south coast.

Distinctive **Characters:** Lower jaw prolonged; upper jaw short, triangular, and scaly;

pectoral fins long.

**Colour:** Fins unpigmented; fold of skin at edges of lower jaw, grey with transverse black bands.

### FAO names: Ribbon halfbeak (En) Demi-bec allongé (Fr) Dorsal fin with 21-25 rays Anal fin with 20-24 rays

Size: To 50 cm

Anal fin with 11-12

rays, usually 11

**FAO names:** Black-barred halfbeak (En)

### Hemiramphus far (Forsskål, 1775)

(Plate II, 11)

Local name(s): N: Chuchungi/Mkeke/Kule

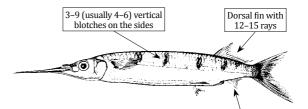
S: Chuchungi (M), Kidau (K).

Habitat: Common in off-shore waters rich in

submerged vegetation. Fisheries: Gillnets. Seines.

**Distinctive Characters:** Lower jaw very prolonged; upper jaw short triangular and scaleless; pectoral fins short; total number of gillrakers on first gill arch 25 to 36, usually 29 to 33.

**Colour:** Dark bluish above, silvery white below.



Size: To about 45 cm, common to 27 cm

### Hemiramphus lutkei Valenciennes, 1847

Local name(s): N: Chuchungi /Mkeke/Kiroho

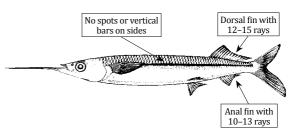
S: Chuchungi (M), Kidau (K). Habitat: Off-shore waters.

Fisheries: Shore seines, Gillnets, Lines.

Distinctive Characters: Prolonged lower jaw: upper jaw short, triangular and scaleless; total number of gillrakers on first gill arch 33 to 46; pectoral fins long, reaching beyond anterior margin of nasal pit when folded forward.

Colour: Dark bluish above, silvery white below.

### **FAO names:** Lutke's halfbeak (En) Demi-bec de Lutke (Fr)



Size: To 40 cm, common 25 cm

### Hyporhamphus affinis (Günther, 1866)

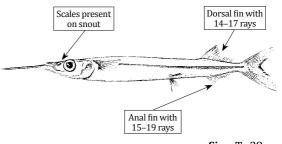
**Local name(s):** N: Chuchungi/Mkeke/Mgezi S: Chuchungi (M), Kidau (K).

**Habitat:** Clear waters particularly around reefs. Fisheries: Shore seines. Purse seines. Gillnets.

Distinctive Characters: Lower iaw prolonged; upper jaw short; front part of dorsal fin and entire anal fin covered with scales.

**Colour:** Body deep blue above, silvery white below: silvery stripe on side; caudal fin bluish, other fins unpigmented; tip and distal half of underside of lower jaw bright carmine red.

### **FAO names:** Tropical halfbeak (En)



Size: To 38 cm

### Hyporhamphus dussumieri (Valenciennes, 1847)

Local name(s): N: Chuchungi/Mkeke;

S: Chuchungi (M), Kidau (K).

Habitat: Occurs around islands and coral reefs.

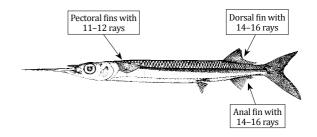
**Fisheries:** Shore seines, Gillnets, Lines.

**Distinctive Characters:** Greatly prolonged beak-like lower jaw; upper jaw short, triangular and scaly; caudal fin forked with lower lobe longer than upper.

**Colour:** Greenish above, silvery white below;

fleshy tip of beak red.

**FAO names:** Dussumier's halfbeak (En) Demi-bec de Dussumier (Fr)



Size: To 38 cm, common 20 cm

### **EXOCOETIDAE**

Flyingfishes

### *Cheilopogon atrisignis* (Jenkins, 1903)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

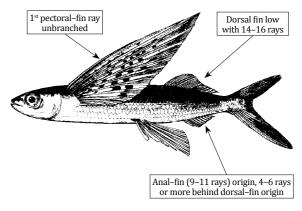
**Habitat:** Pelagic in surface waters of both oceanic and neritic areas.

Fisheries: Gillnets, Seines, Hand nets.

**Distinctive Characters:** Head shorter than distance between dorsal-fin origin and origin of upper caudal-fin lobe; dorsal-fin rays at anterior end, the longest; pelvic fins abdominal, large, reaching well beyond anal-fin origin.

**Colour:** Dark above, pale below; pectoral fins brownish with numerously scattered spots.

**FAO names:** Glider flyingfish (En) Exocet planeur (Fr)



Size: To 35 cm

### Cheilopogon cyanopterus (Valenciennes, 1847)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

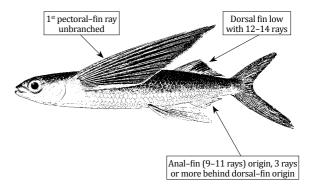
**Habitat:** Pelagic in surface waters in both oceanic an neritic areas.

Fisheries: Gillnets, Seines, Hand nets.

**Distinctive Characters:** Head approximately equal to distance between dorsal-fin origin and origin of upper caudal-fin lobe; dorsal-fin rays at anterior end the longest; pelvic fins abdominal, large, reaching well beyond anal-fin origin.

**Colour:** Dark above, pale below; dorsal with a prominent black spot; pectoral fins blue in life; without stripes or spots.

### **FAO names:** Margined flyingfish (En) Exocet cadène (Fr)



148 - Exocoetidae Bony Fishes

### *Cheilopogon furcatus* (Mitchill, 1815)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

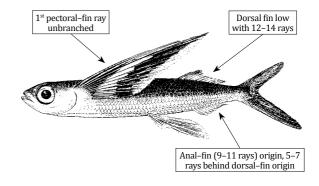
**Habitat:** Pelagic in oceanic surface waters.

Fisheries: Gillnets, Seines, Hand nets.

**Distinctive Characters:** Head considerably shorter than distance between dorsal–fin origin and origin of upper caudal–fin lobe; dorsal rays at anterior end the longest; caudal fin forked with lower lobe much longer than upper.

**Colour:** Body dark iridescent blue above, silverywhite below; pectoral fins dark grey, with a broad pale margin crossed by a pale stripe becoming narrower toward anterior fin margin; pelvic fins pale.

### **FAO names:** Spotfin flyingfish (En)



Size: To 35 cm

### Cheilopogon nigricans (Bennett, 1840)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

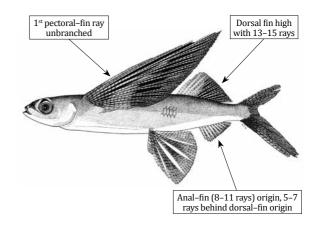
Habitat: Pelagic in oceanic surface waters.

**Fisheries:** Gillnets, Seines, Hand nets. By-catch in various types of gears.

**Distinctive Characters:** Head shorter than distance between dorsal-fin origin and origin of upper caudal-fin lobe; pelvic fins abdominal, large, reaching well beyond anal-fin origin.

**Colour:** Dorsal fin with a prominent black spot; pectoral fins black with a central portion crossed by a yellow or greenish-yellow transverse stripe becoming narrow towards fin margin; pelvic fins with prominent black spot.

### FAO names: Blacksail flyingfish (En)



Size: To 28 cm

### *Cypselurus naresii* (Günther, 1889)

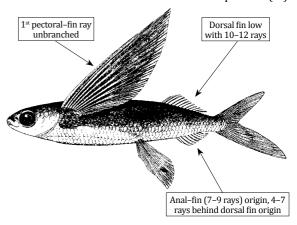
**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

**Habitat:** Pelagic in oceanic surface waters. **Fisheries:** Gillnets, Seines, Hand nets.

**Distinctive Characters:** Head approximately equal to the distance between dorsal-fin origin and origin of upper caudal-fin lobe; insertion of pelvic fins closer to anal-fin origin than to pectoral-fin insertion.

**Colour:** Dorsal fin greyish; pectoral fins brownish, unpigmented below the 9<sup>th</sup> ray.

### **FAO names:** Pharao flyingfish (En) Exocet pharaon (Fr)



Size: To 21 cm

Guide to Species Exocoetidae - 149

### *Cypselurus oligolepis* (Bleeker, 1865)

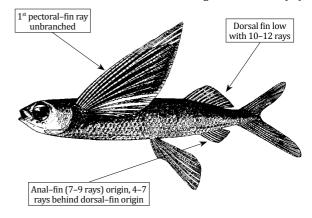
**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

**Habitat:** Pelagic in surface waters of inshore areas. **Fisheries:** Gillnets, Seines, Handnets.

**Distinctive Characters:** Head much shorter than distance between dorsal-fin origin and origin of upper caudal-fin lobe; pelvic-fin insertion closer to anal-fin origin than to pectoral-fin insertion and much nearer to hind margin of head than to origin of lower caudal-fin lobe.

**Colour:** Pectoral fins greyish–brown, lower portion and posterior tip colourless.

### **FAO names:** Largescale flyingfish (En) Exocet à grandes écailles (Fr)



Size: To 27 cm

### *Cypselurus poecilopterus* (Valenciennes, 1847)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

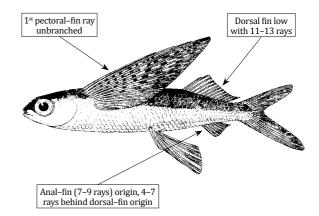
**Habitat:** Pelagic in neritic surface waters; rare in the open ocean.

Fisheries: Gillnets, Seines, Hand nets.

**Distinctive Characters:** Head shorter than distance between dorsal-fin origin and origin of upper caudal-fin lobe; insertion closer to analfin origin than to pectoral-fin insertion and much nearer to hind margin of head than to origin of lower caudal-fin lobe.

**Colour:** Pectoral fins brownish–grey (yellowish–brown in life) with numerous dark spots.

### **FAO names:** Yellowing flyingfish (En)



Size: To 27 cm

### Exocoetus monocirrhus Richardson, 1846

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

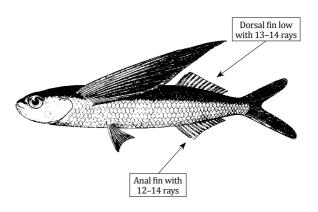
Habitat: Pelagic in oceanic surface waters.

**Fisheries:** Gillnets, Seines, Hand nets.

**Distinctive Characters:** Upper jaw not protrusible; gillrakers on first arch 21 to 29; pelvic fins short, far from reaching anal fin; usually 7 transverse rows of scales between dorsal–fin origin and lateral line.

**Colour:** Body dark iridescent blue above, silverywhite below; pectoral fins and caudal fin greyish or brownish, other fins unpigmented.

### **FAO names:** Barbel flyingfish (En) Exocet boue (Fr)



Size: To 20 cm

150 - Exocoetidae Bony Fishes

### Parexocoetus brachypterus (Richardson, 1846)

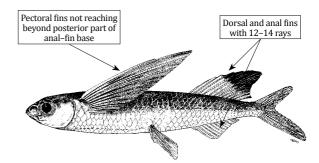
**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

**Habitat:** Pelagic in neritic surface waters, rare in the open ocean.

Fisheries: Gillnets, Seines, Hand nets.

**Distinctive Characters:** Upper jaw protrusible; dorsal fin high, reaching well beyond origin of upper caudal–fin lobe when depressed.

**Colour:** Body iridescent greenish-blue dorsally, silvery-white ventrally; dorsal fin black except for base and posterior rays which are pale; pelvic fins grevish, other fins transparent.



Size: To 14 cm

### Parexocoetus mento (Valenciennes, 1847)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

**Habitat:** Pelagic in neritic surface waters, absent in the open ocean.

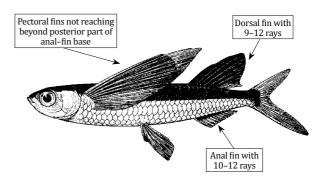
Fisheries: Gillnets. Seines. Hand nets.

**Distinctive Characters:** Upper jaw protrusible; dorsal fin high almost reaching the origin of upper caudal-fin lobe when depressed; pelvic fins abdominal, medium-sized, reaching beyond analfin origin, their insertion closer to anal-fin origin than to pectoral-fin insertion.

**Colour:** Dorsal fin mostly blackish; pectoral fins and caudal greyish, other fins transparent.

**FAO names:** African sailfin flyingfish (En) Exocet voilier africain (Fr)

**FAO names:** Sailfin flyingfish (En)



Size: To 11 cm

### **Prognichthys brevipinnis** (Valenciennes, 1847)

**Local name(s):** N: Pandi mai (maji); S: Panzi (M/K).

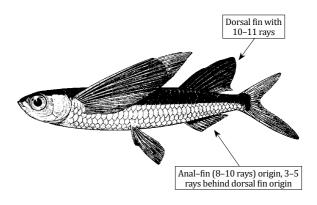
**Habitat:** Pelagic in neritic surface waters, rare in the open ocean.

Fisheries: Gillnets, Seines, Hand nets.

**Distinctive Characters:** Head shorter than distance between dorsal-fin origin and origin of upper caudal-fin lobe; lower jaw a little shorter than the upper; first 3 rays of pectoral fins unbranched; pelvic-fin insertions closer to analfin origin than to pectoral-fin insertion and much nearer to hind margin of head than to origin of lower caudal-fin lobe.

**Colour:** Dorsal fin greyish; pectoral fins grey above, lower part and tip transparent; pelvic fins unpigmented.

### **FAO names:** Shortfin flyingfish (En)



Size: To 19 cm

### **BERYCIDAE**

### Alfonsinos

### Beryx splendens Lowe, 1834

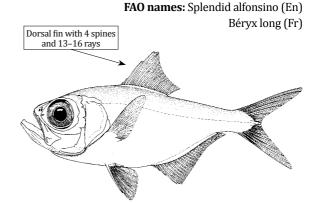
**Local name(s):** N & S: No information.

**Habitat:** Bathypelagic, over the continental slope, in depths from about 200 m to 600 m.

Fisheries: Longlines, Bottom trawls.

**Distinctive Characters:** Body depth 2.5 to 2.8 times in standard length; first infraorbital bone with a spine projecting laterally on anterior end; lateral line extends to caudal fin; a fleshy disk on inner face of exposed area of scale; in young fishes the 2<sup>nd</sup> dorsal ray is elongate.

**Colour:** Body orange-red with silvery reflections ventrally.



Size: To about 70 cm, common 40 cm

### **HOLOCENTRIDAE**

Squirrelfishes - Soldierfishes

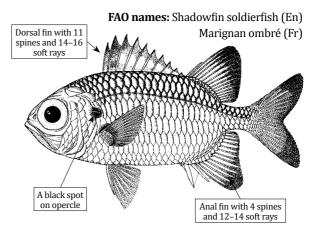
### Myripristis adusta Bleeker, 1853

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Common in shallow waters around coral reefs; hides in caves during day.

**Fisheries:** Hooks and Line, Gillnets, Spears, Seines. **Distinctive Characters:** One or two (usually one) pairs of tooth patches at front of lower jaw outside mouth.

**Colour:** Pale salmon pink; edges of scales dorsally on body deep blue to black; median fins with broad black outer border.



Size: To 35 cm, common 20 cm

### *Myripristis berndti* Jordan & Evermann, 1903

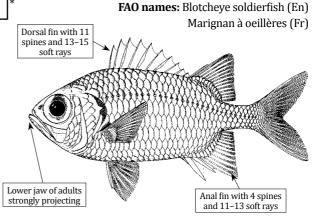
**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

Habitat: Shallow waters around coral reefs.

**Fisheries:** Hooks and Line, Gillnets; caught at night.

**Distinctive Characters:** One pair of tooth patches at front of lower jaw outside mouth;  $11^{th}$  dorsal spine more than twice length of  $10^{th}$  and closely applied to soft portion of fin.

**Colour:** Spiny dorsal fin orange–yellow; opercular membrane black; leading edge of soft dorsal, anal caudal and pelvic fins white.



Size: To 30 cm, common 22 cm

152 - Holocentridae Bony Fishes

### Myripristis kuntee Valenciennes, 1831

Local name(s): N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Shallow waters around coral reefs; caught at night.

Fisheries: Hooks and Line, Gillnets.

**Distinctive Characters:** One pair of tooth patches at front of lower jaw outside mouth; corner of preopercle with a sharp spine;  $11^{\text{th}}$  dorsal spine about twice the length of  $10^{\text{th}}$  spine and closely applied to soft portion of fin.

**Colour:** Silvery orange–red; red pigment in soft dorsal and anal fins concentrated in a large spot at tips of fins.

**Remarks:** Has smaller scales than most other similar species and the higher number along the body is quite obvious.

# FAO names: Shoulderbar soldierfish (En) Marignan ardoisé (Fr) soft rays Continuous reddish-brown bar from upper end of gill opening to axil of pectoral fin Size: To 26 cm, common 16 cm

### Myripristis murdjan (Forsskål, 1775)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

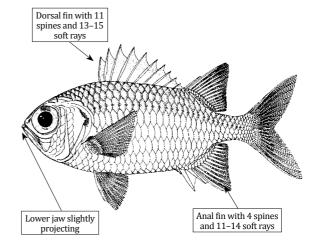
**Habitat:** Coral reefs, hiding in caves and crevices by day.

**Fisheries:** Hooks and Line, Gillnets; caught at night.

**Distinctive Characters:** Snout short; lower jaw slightly projecting when mouth is closed; a single pair of tooth patches at front of lower jaw outside mouth; caudal fin deeply forked.

**Colour:** Body colour silvery-pink; edge of scales red; opercular margin black; all fins red; submarginal band in each caudal-fin lobe; leading edges of median fins white.

### **FAO names:** Pinecone soldierfish (En)



Size: To 30 cm, common 20 cm

### Neoniphon opercularis (Valenciennes, 1831)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

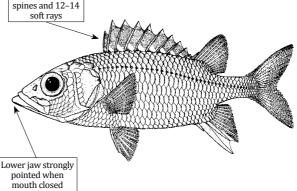
**Habitat:** A reef species found in shallow to moderate depths.

Fisheries: Hooks and Line, Traps.

**Distinctive Characters:** Body moderately elongated; corner of preopercle with a sharp spine; anal fin with 4 spines and 8–9 soft rays.

**Colour:** Body iridescent silvery with dark red or black markings on each scale; spinous portion of dorsal fin black; soft dorsal, anal and caudal fins reddish-yellow; pectoral fins pink; pelvic fins white.

### **FAO names:** Blackfin squirrelfish (En) Marignan aile noire (Fr)



Dorsal fin with 11

Size: To 35 cm, common 23 cm

Guide to Species Holocentridae - 153

### Neoniphon sammara (Forsskål, 1775)

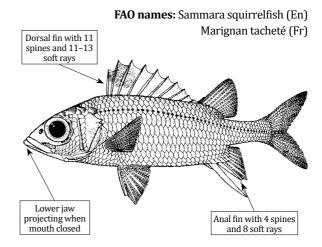
**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha (K).

**Habitat:** Coral reefs, most often in shallow waters of bays and lagoons.

Fisheries: Hooks and Line, Traps, Seines.

**Distinctive Characters:** Body moderately elongated; corner of preorpercle with a sharp spine.

**Colour:** Silvery with blue–green iridescence; a reddish stripe following lateral line; snout and top of head red; spiny portion of dorsal fin with a large black spot tinged with red on first 3 membranes.



Size: To 30 cm, common 23 cm

### *Ostichthys archiepiscopus* (Valenciennes, 1862)

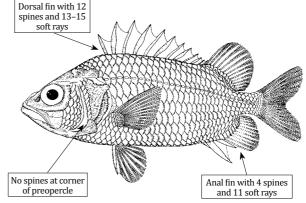
**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha (K).

**Habitat:** Associated with reefs down to 200 m. **Fisheries:** Bottom trawls. Hooks and Line.

**Distinctive Characters:** Dorsal profile of head straight; dorsal fin continuous though deeply notched between spiny and soft portions.

**Colour:** Light red, the centers of the scales paler, thus forming faint longitudinal bands.

**FAO names:** Longsnout soldier (En) Marignan cuirassé (Fr)



Size: To 32 cm, common 24 cm

### Sargocentron caudimaculatum (Rüppell, 1838)

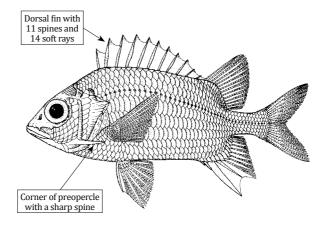
**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Associated with reefs. **Fisheries:** Hooks and Line, Traps.

**Distinctive Characters:** Dorsal profile of head of adults nearly straight; very large scales on posterior part of opercle; anal fin with 4 spines and 9 soft rays.

**Colour:** Head and body red, edges of scales silver; silvery white spot antero-dorsally on caudal peduncle (often disappears after death); spinous part of dorsal fin mottled light red, the outer part of the membranes bright red.

### (Plate II, 12) FAO names: Silverspot squirrelfish (En)



Size: To 25 cm, common 18 cm

154 - Holocentridae Bony Fishes

### Sargocentron diadema (Lacepède, 1802)

Local name(s): N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K). Habitat: Coral reefs from 2 m to 30 m.

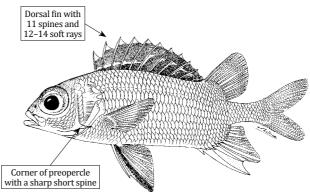
Fisheries: Hooks and Line.

Distinctive Characters: Anal fin with 4 spines and

8-9 soft rays.

**Colour:** Body with alternating stripes of red and silvery–white; head red with 2 vertical white streaks on the opercle, one on its edge and an oblique one below the eye; distinctive reddishblack to black dorsal fin with two white streaks.

### (Plate II, 13) FAO names: Crown squirrelfish (En)



Size: To 17 cm

### Sargocentron ittodai (Jordan & Fowler, 1902)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

Habitat: Associated with coral reefs.

Fisheries: Hooks and Line.

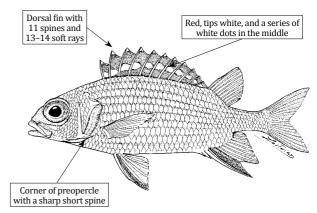
Distinctive Characters: Anal fin with 4 spines and

8-10 soft rays.

caudal fin lobes.

**Colour:** Body with red and white stripes following the scale rows, the red stripes slightly narrower than the white ones; inner base of pectoral fins with a black spot.

### FAO names: Samurai squirrelfish (En)



Size: To 20 cm

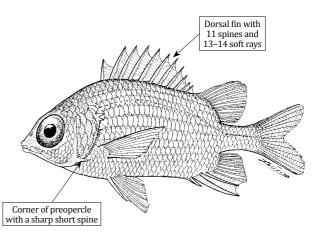
### Sargocentron macrosquamis Golani, 1984

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Shallow inshore waters from 4 m to 10 m. **Fisheries:** Traps, Seines, Hooks and Line, Gillnets. **Distinctive Characters:** Very large scales on posterior part of preopercle; anal fin with 4 spines and 9–10 soft rays; pectoral fins with 14–16 soft rays; mouth terminal to slightly inferior; maxilla extending to a vertical at front edge of pupil or slightly before or beyond to it; broadly rounded

**Colour:** Body red with silvery reflections on many scales, shading to silvery—white on lower part of the head, thorax, and anterior abdomen.

### **FAO names:** Bigscale squirrelfish (En)



Size: To 9 cm

Guide to Species Holocentridae - 155

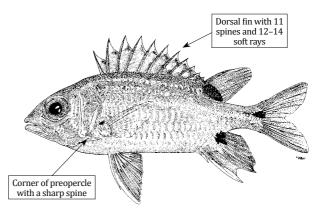
### *Sargocentron melanospilos* (Bleeker, 1858)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha (K).

**Habitat:** Shallow coastal waters down to 90 m. **Fisheries:** Traps, Seines, Hooks and Line, Gillnets. **Distinctive Characters:** Anal fin with 4 spines and 12 soft rays (3<sup>rd</sup> spine stoutest, but the 4<sup>th</sup> slightly longer).

**Colour:** Body with red-orange and silvery stripes; dark spots at origin of pectoral fins, end of caudal peduncle and bases of soft rayed portions of dorsal and anal fins.

### **FAO names:** Blackblotch squirrelfish (En)



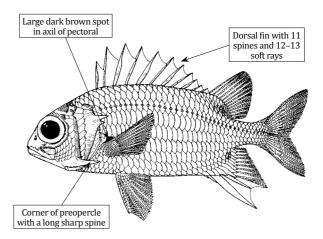
Size: To 25 cm

### Sargocentron praslin (Lacepède, 1802)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/Kifufu (M), Mwanaasha, Kijame, Kifudu (K). **Habitat:** Shallow waters, often around coral reefs. **Fisheries:** Traps, Hooks and Line, Seines, Gillnets. **Distinctive Characters:** Body deep; anal fin with 4 spines and 9 soft rays; 13–15 pectoral–fin rays (rarely 13).

**Colour:** Body with brownish-red stripes alternating with silvery white ones; the upper 2 dark stripes often ending in an elongate dark brown spot at the base of the dorsal-fin soft portion; the  $3^{\rm rd}$  curving downward to end at mid-base of caudal fin; the  $4^{\rm th}$  ending just before the caudal peduncle; the  $5^{\rm th}$  and  $6^{\rm th}$  converging posteriorly on lower edge of caudal peduncle;  $7^{\rm th}$  and  $8^{\rm th}$  ending in a dark blotch at the rear soft anal-fin base; soft portions of dorsal and anal fins with a dark spot each.

### **FAO names:** Dark-striped squirrelfish (En)



Size: To 32 cm

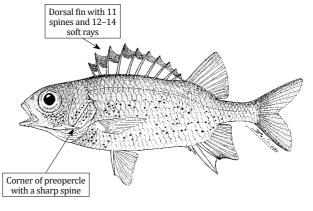
### Sargocentron punctatissimum (Cuvier, 1829)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Rocky shores and reefs exposed to wave action, often in shallow waters.

**Fisheries:** Traps, Hooks and Line, Seines, Gillnets. **Distinctive Characters:** Small mouth, terminal to slightly inferior, maxilla reaching from below front of iris to below center of eye; anal fin with 4 spines and 9 soft rays; pectoral fins with 14–16 soft rays. **Colour:** Body reddish–silvery, iridescent bluish dorsally; scales finely dotted with black; spiny dorsal–fin silvery white, with broad red margin.

### **FAO names:** Peppered squirrelfish (En)



Size: To 16 cm

156 - Holocentridae Bony Fishes

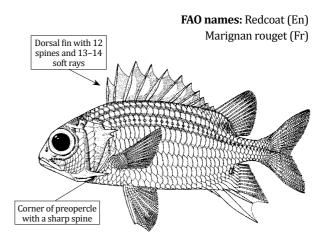
### Sargocentron rubrum (Forsskål, 1775)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Shallow water species found in protected habitats such as bays and lagoons.

**Fisheries:** Traps, Hooks and Line, Seines, Gillnets. **Distinctive Characters:** Mouth terminal to slightly inferior, maxilla usually extending nearly to or a short distance beyond a vertical through center of eye; anal fin with 4 spines and 8–9 soft rays.

**Colour:** Body with alternate stripes of red and silvery–white; spiny dorsal–fin red with white tips and a median band of white spots; no dark spots at pectoral–fin base, but with dark spots at bases of soft dorsal and anal fins.



Size: To 32 cm, common 27 cm

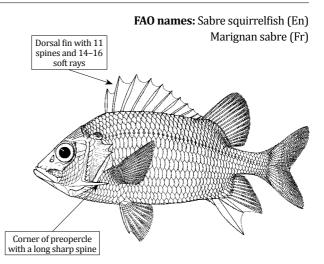
### Sargocentron spiniferum (Forsskål, 1775)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

**Habitat:** Associated with coral reefs; hides by day and emerges with the onset of darkness.

**Fisheries:** Hooks and Line, Traps, Gillnets, Spears. **Distinctive Characters:** Lower jaw projecting when mouth closed; maxilla extending posteriorly to a vertical at front edge of the orbit; anterior end of nasal bone often with 2 close-set, short spines; anal fin with 4 spines and 9–10 soft rays; 15 pectoral–fin rays.

**Colour:** Head and body red, darker dorsally; a large vertically elongate deep red spot behind eye; pectoral axil and region above pectoral–fin base deep red.



Size: To 45 cm, common 35 cm

**FAO names:** Violet soldierfish (En)

### Sargocentron violaceum (Bleeker, 1853)

(Plate II, 14)

**Local name(s):** N: Sheemiito/Idazi; S: Bwanaheri/ Kifufu (M), Mwanaasha, Kijame, Kifudu (K).

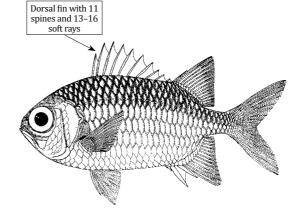
**Habitat:** Coral reefs of shallow waters.

Fisheries: Traps, Hooks and Line, Gillnets.

**Distinctive Characters:** A single pair of tooth patches at front of lower jaw outside gape; anal fin with 4 spines and 12–14 soft rays.

**Colour:** Body colour brownish to purplish red; head primarily red; upper part of opercular membrane blackish; dorsal margin of scales dark brown to nearly black; median fins light-red, red distally, with white edges anteriorly on soft dorsal, anal, caudal and pelvic fins.

**Remarks:** Has a high body similar to *S. spiniferum*, but differs in coloration and does not get as large.



Size: To 45 cm, common 20 cm

### **PARAZENIDAE**

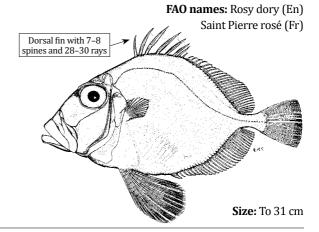
### **Parazens**

### Cyttopsis rosea (Lowe, 1843)

**Local name(s):** N: Sese/Ngamia; S: No information. **Habitat:** Bathypelagic from 65 m to 600 m. **Fisheries:** Gillnets, Seines, Bottom trawls.

**Distinctive Characters:** Upper edge of orbit with small spines anteriorly; two large keeled scutes, each ending in a spine between pelvic-fin rays; anal fin with 2 spines, the 1<sup>st</sup> immovable and the 2<sup>nd</sup> movable, the 1<sup>st</sup> much larger than the 2<sup>nd</sup>, and 28–30 soft rays; pelvic fins with 9–10 segmented and branched soft rays.

**Colour:** Rosy pink and silvery in life; pelvic fins reddish, the membrane black.



### ZEIDAE

Dories

### Zenopsis conchifer (Lowe, 1852)

**Local name(s):** N: Sese/Ngamia; S: No information. **Habitat:** Mesopelagic from 90 m to 600 m. **Fisheries:** Gillnets, Seines, Bottom trawls.

**Distinctive Characters:** Seven pairs of keeled bony scutes between pelvic fins and 1<sup>st</sup> anal spine; 1–3 bony plates at base of 1<sup>st</sup> dorsal fin, 4–5 along base of soft dorsal and 5–7 along base of anal fin; anal fin with 3 spines and 24–26 soft rays; pelvic fins with 6–7 rays.

**Colour:** Body silvery, with a dusky mid lateral spot just posterior to and slightly above end of pectoral fins; fin membranes of spinous dorsal, pectoral, pelvic and caudal fins blackish.

## FAO names: Silvery John dory (En) Saint Pierre argenté (Fr) Dorsal fin with 9–10 spines and 24–27 rays

### **AULOSTOMIDAE**

Trumpetfishes

### Aulostomus chinensis (Linnaeus, 1766)

Local name(s): N: Misusa; S: Misonjo/Mziwa (M), Mrara, Unjasi (K).

**Habitat:** Clear, shallow waters, in rocky and coral areas of protected and seaward reefs.

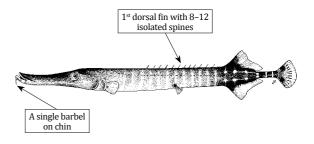
Fisheries: Lines, Gillnets, Bottom trawls.

**Distinctive Characters:** Second dorsal fin with 24–27 soft rays; anal fin with 26–29 segmented soft rays; pelvic fins small, abdominal, with 6 rays.

**Colour:** Background colour brownish with irregular light vertical bars; dorsal and anal fins light, with a dark basal bar; caudal fin usually with two round black spots; a black spot at base of pelvic fin.

**FAO names:** Chinese trumpetfish (En)
Trompette chinoise (Fr)

Size: To 80 cm



Size: To 80 cm, common 50 cm

### **FISTULARIIDAE**

Cornetfishes - Flutemouths

### Fistularia commersonii Rüppell, 1838

Local name(s): N: Misusa; S: Misonjo/Mziwa (M), Mrara, Unjasi (K).

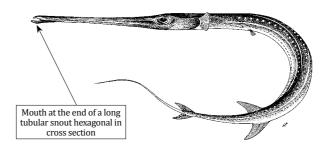
**Habitat:** Seagrass beds and coral reefs in shallow waters.

Fisheries: Lines, Gillnets, Bottom trawls.

**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.

**FAO names:** Bluespotted cornetfish (En) Cornette à taches bleues (Fr)



Size: To 160 cm, common 100 cm

**FAO names:** Red cornetfish (En)

Cornette rouge (Fr)

### Fistularia petimba Lacepède, 1803

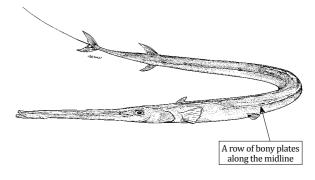
Local name(s): N: Misusa; S: Misonjo/Mziwa (M) Mrara, Unjasi (K).

**Habitat:** In coastal areas over soft beds down to more than  $10\ \text{m}.$ 

Fisheries: Lines, Gillnets, Bottom trawls.

**Distinctive Characters:** Body elongate and depressed; mouth at end of a long tubular snout, hexagonal in cross section; dorsal and anal fins short-based and opposite, with 14–16 segmented soft rays; pectoral fins with 15–16 rays; pelvic fins small and abdominal, with 6 rays.

**Colour:** Background colour red to orange-brown above, silvery below; vertical fins also have an orange cast.



Size: To 200 cm, common 100 cm

### **SCORPAENIDAE**

Scorpionfishes - Rockfishes

(Plate II, 15)

### *Dendrochirus brachypterus* (Cuvier, 1829)

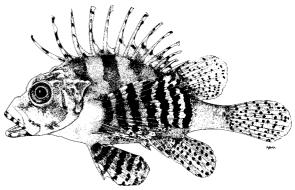
**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Benthic on sandy and muddy bottoms down to 70 m.

 $\textbf{Fisheries:} \ \textbf{Bottom trawls (incidentally), Spears.}$ 

**Distinctive Characters:** Dorsal fin with 13 spines and 9–10 soft rays; anal fin with 3 spines and 5–6 soft rays; mid-dorsal spines shorter than body depth.

**Colour:** Body reddish with vague broad bars; paired fins with bars; median fins with small dark spots.

**FAO names:** Shortfin turkeyfish (En)



Size: To 17 cm

Guide to Species Scorpaenidae - 159

### Dendrochirus zebra (Cuvier, 1829)

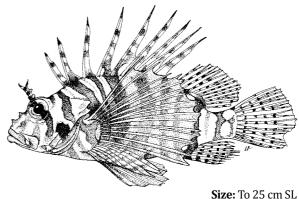
**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Benthic on sandy and muddy bottoms down to 80 m.

Fisheries: Spears.

**Distinctive Characters:** Dorsal fin with 13 spines and 10–11 soft rays; anal fin with 3 spines and 6–7 soft rays; mid–dorsal spines longer than body depth.

**Colour:** Body reddish with 5 dark bars, alternating with thin dark bars in large specimens; median fins with small dark spots; dark spot on cheek.

### FAO names: Zebra turkeyfish (En)



**FAO names:** Broadbarred firefish (En)

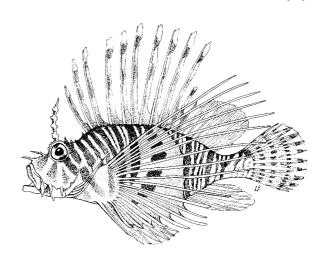
### Pterois antennata (Bloch, 1787)

**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Lagoon and seaward reefs; hides in crevices under rocks and coral formations during the day and hunts at night. Maximum depth 50 m.

**Fisheries:** Bottom trawls (incidentally), Spears.

**Distinctive Characters:** Dorsal fin with 13 spines and 11–12 soft rays; anal fin with 3 spines and 6 soft rays; tentacle above eye long and with dark bands.

**Colour:** Reddish to tan with many dark bars on body; median fins with scattered dark spots; adults with bluish-black blotches near the base of the pectoral fins.



Size: To 20 cm

### Pterois miles (Bennett, 1828)

**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Benthic in coastal waters in muddy habitats down to 60 m.

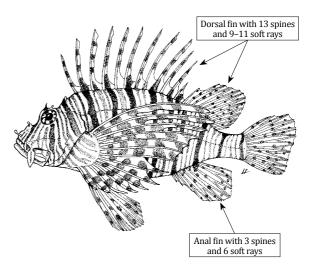
**Fisheries:** Bottom trawls (incidentally).

**Distinctive Characters:** Body covered by small cycloid scales; many spinules on bones below eye in adults; dorsal spines and pectoral rays greatly extended; numerous spines and tentacle projections on head; caudal fin truncate.

**Colour:** Background colour reddish or grey, with numerous thin dark bars on body and head; white spots may occur along lateral line and on fins; dark spots on caudal and tentacles above eye occasionally banded; dark spots on median fins.

**Remarks:** Fin spines highly venomous, sting can cause death in humans.

### **FAO names:** Devil firefish (En)



Size: To 35 cm SL

160 - Scorpaenidae Bony Fishes

### Pterois mombasae (Smith, 1957)

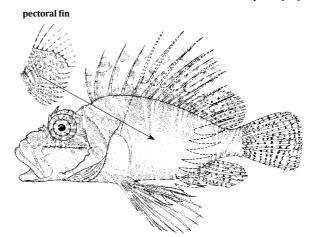
**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Benthic, normally found on soft-bottoms or muddy substrates with rich rubble ridges amongst rich invertebrate growth, especially sponges down to 60 m.

**Fisheries:** Bottom trawls (incidentally).

**Distinctive Characters:** Dorsal fin with 13 spines and 10 soft rays; anal fin with 3 spines and 6–7 soft rays.

**Colour:** Reddish brown with alternating broad and thin dark bars separated by white; dark spot on cheek; small tentacle above eye which may be banded; upper half of pectorals with large dark spots on inner surface.

**FAO names:** Frillfin turkeyfish (En)



Size: To 31 cm

### Pterois radiata Cuvier, 1829

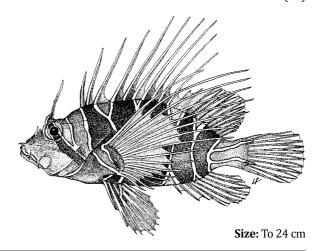
**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Benthic, coastal, sometimes in surge zones or in narrow crevices, or along rock–walls in small caves down to 30 m.

Fisheries: Spears.

**Distinctive Characters:** Dorsal spines longer than body depth; dorsal fin with 12–13 spines and 11 rays; anal fin with 3 spines and 5–6 rays; pectoral fins with 16 soft rays.

**Colour:** Reddish to brownish, with about 5–6 broad dark bars on body, separated by pale lines; broad horizontal stripe on caudal peduncle; tentacles above eye occasionally faintly banded; no spots on caudal fin.

### FAO names: Radial firefish (En)



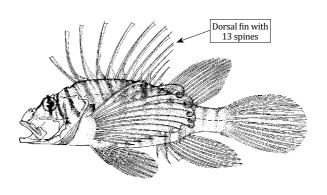
**FAO names:** Plaintail turkeyfish (En)

### Pterois russelii Bennett, 1831

**Local name(s):** N: Mchafe; S: Bocho (M), Chale (K). **Habitat:** Benthic on soft bottoms down to 60 m. **Fisheries:** Bottom trawls, Seines.

**Distinctive Characters:** Head with feeble spines in young, better developed in adults; dorsal-fin membrane strongly incised, almost the entire height of fin; 3 anal spines; pectoral fins with 13 unbranched segmented rays, the longest reaching to or beyond end of segmented part of dorsal fin; upper 3–4 pectoral-fin rays free from the fin membrane for about half their length; caudal fin rounded; scales small and cycloid.

**Colour:** Reddish-brown with 4 dark crossbars on head; segmented soft rays of dorsal, anal and caudal fins without spots; pectoral-fin membrane usually covered with dark spots; pelvic fins mostly dusky, with light round spots on proximal half.



Size: To 30 cm SL