

7

Field Identification of Threadfin breams, Silverbellies, Croakers and Bullseye

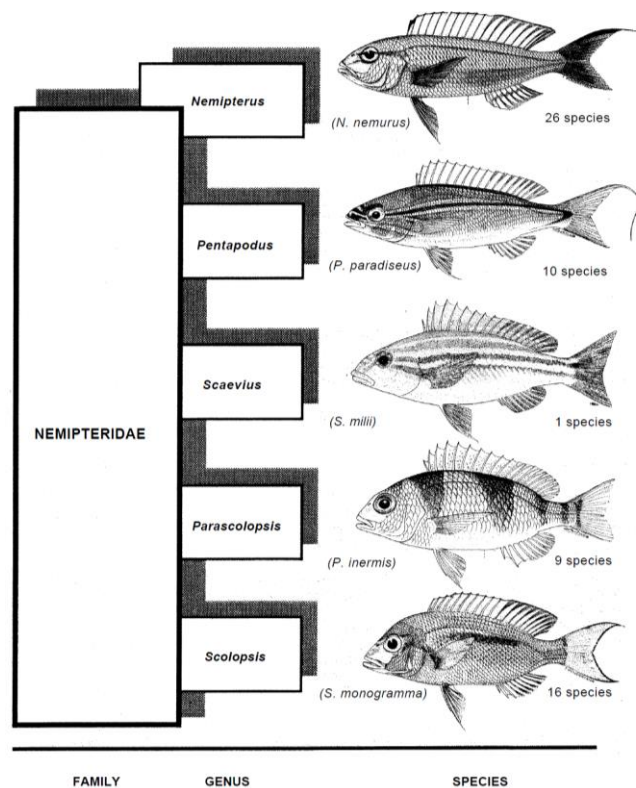
Livi Wilson and P.U. Zacharia

Demersal Fisheries Division

Introduction

Nemipterids are one among the most commercially important groups of marine fishes in the tropical Indo-West Pacific region. Family Nemipteridae comprises of five genera: Nemipterus, Parasclopsis, Pentapodus, Scaevius, and Scolopsis. Nemipterus is popularly known as “**pink perch**”, contributed to 4.78% (1,62,764 t) of the total fish landings in the country during 2015.

Classification of the genera of the family Nemipteridae

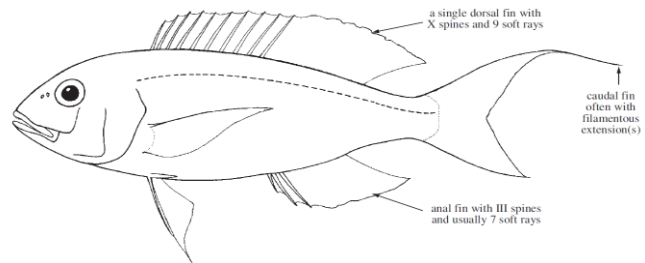


Distribution, Habitat and Biology

The family Nemipteridae is confined mainly to the tropical and subtropical Indo-West Pacific region. Species of the genus *Nemipterus* live on muddy and sandy bottoms at a depth of about 300 m, though most species occupy shallower water. Nemipterids are carnivorous fishes that feed primarily on other small fishes, cephalopods, crustaceans, and polychaetes. They are fractional spawners with protracted spawning season. Nemipterids are caught mainly by bottom trawl.

Diagnostic characters

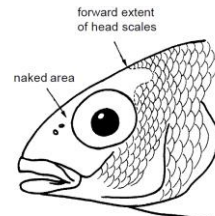
Dorsal fin single and continuous, with X spines and 9 soft rays; anal fin with III spines and 7 soft rays.



Illustrated key to Genera

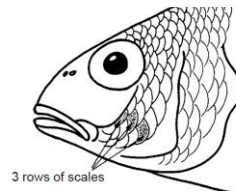
Scaevius

Scales present on top of head but not reaching to the level of eyes; temporal parts of head scaleless.



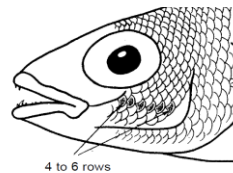
Nemipterus

Presence of 3 transverse rows of scales on preopercle.



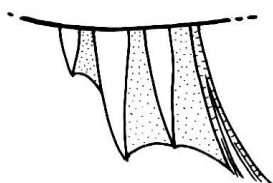
Pentapodus

Suborbital spine frail or absent; presence of 4-6 transverse scale rows on preopercle. Second anal spine shorter in length and less stout than third.



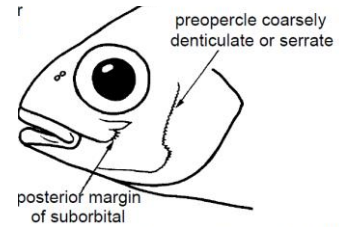
Parascolopsis

Absence of canine teeth in jaws; second anal spine generally longer and more robust than third spine.



Scolopsis

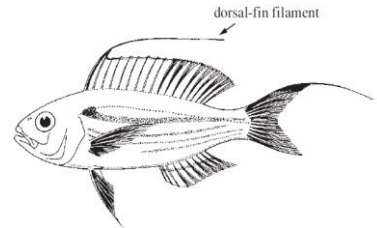
Suborbital scaleless, with a large backwardly facing spine and a series of minor serrations on its posterior margin; posterior margin of preopercle serrated; absence of canine teeth.



Key to the major species occurring in the Western Indian Ocean

Nemipterus nematophorus (Doublewhip threadfin bream)

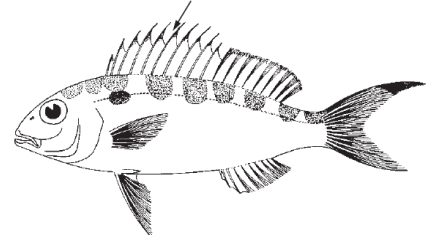
First 2 dorsal-fin spines close together, nearly attached, shaped to form a very lengthy filament.



Nemipterus peronii (Notchedfin threadfin bream)

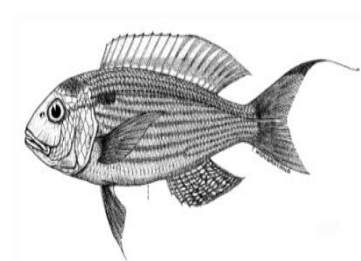
Membrane amongst dorsal-fin spines totally incised.

dorsal-fin membrane deeply incised



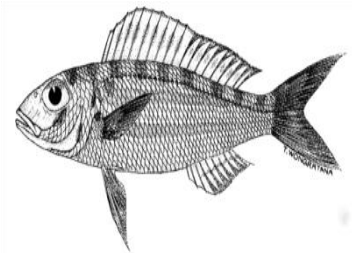
Nemipterus japonicus (Japanese threadfin bream)

Pectoral fins reaching to or just past the level of origin of anal fin; upper part of caudal fin with moderately long filament, almost equal to head length. Pelvic fins moderately long, reaching to or just beyond anus; caudal filament yellowish; gill rakers count 14 to 17.



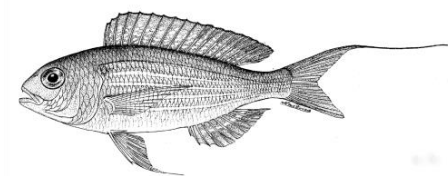
Nemipterus furcosus (Fork-tailed threadfin bream)

Pelvic fins short; body pink, with dusky saddle mark on back; lower margin of caudal fin with white-edge; no stripes on dorsal and anal fins.



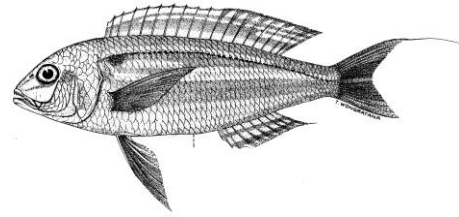
Nemipterus randalli (Randall's threadfin bream)

Pectoral and pelvic fins very long, reaching to or just past the origin of anal fin; caudal fin forked and having the upper lobe into moderately long reddish filament; gill rakers 12 to 15. This was

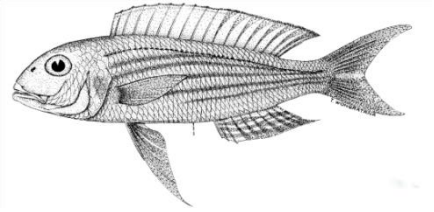


earlier misidentified as *N. mesoprion*.

Nemipterus marginatus (Red filament threadfin bream) : Snout length around equal to or slightly longer than the diameter of eye; upper lobe of caudal fin with short filament.



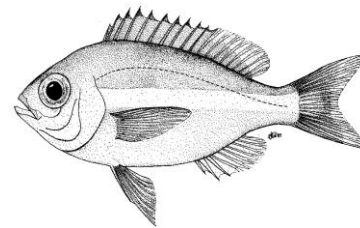
Nemipterus bipunctatus (Delagoa threadfin bream)



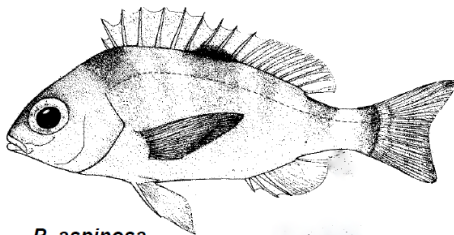
Pelvic fins extended, 0.9 to 1.3 in head length, reaching to or fairly beyond level of origin of anal fin; scale rows on body beneath lateral line upward-curved anteriorly; 3 or 4 pairs of minor recurved canines anteriorly in upper jaw; gill rakers 10 to 14.

Parascalopsis eriomma (Rosy dwarf monocle bream)

Gill rakers on first arch 17 to 19; a greyish, elongate blotch at the beginning of lateral line.



Parascalopsis aspinosa (Smooth dwarf monocle bream)



P. aspinosa

Posterior margin of suborbital even or with just a few minute spines; black blotch at base of mid of dorsal fin.

Field Identification Key for the family Leiognathidae

Introduction

Leiognathids consists of silverbellies, pony fishes and slip mouths which are locally called as 'Mullan' in Malayalam, 'Kara' in Tamil, 'Karlu' in Telugu. The fishes of the family Leiognathidae belong to an important group of finfishes in the marine fisheries of India. They contributed 2.87% (97,663 t) of the total marine fish landings in the country during 2015.

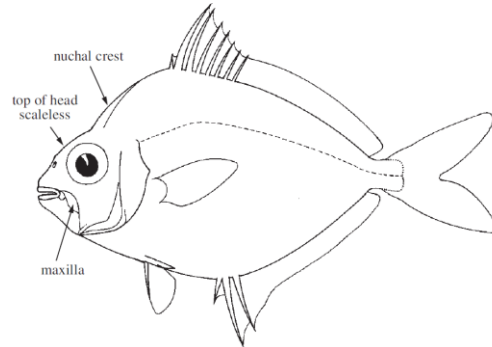
Habitat, biology, and fisheries

The fishes of the family Leiognathidae occur at depth range of 0.5 m to 160 m. They constitute a predominant catch, along the coasts of India and Sri Lanka. They feed on

copepods, phytoplankton and benthic invertebrates. They have a protracted breeding season. The silver bellies are exploited by trawl and a variety of traditional gears like shore seine, boat seine, gillnet, etc.

Diagnostic characters

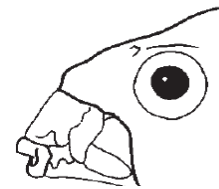
Body moderately to distinctly compressed laterally, maxilla covered under the preorbital. A well-built nuchal crest or spine; mouth highly protrusible; a single dorsal fin with VIII (rarely VII or IX) spines; body covered with small, cycloid (smooth) scales but top of head scaleless.



Key to the major species occurring in the Western Indian Ocean

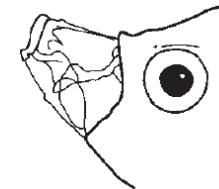
Leiognathus

Absence of caniniform teeth; mouth straight, pointing forward or downward when protracted.



Secutor

Oblique mouth, pointing upward once protracted.



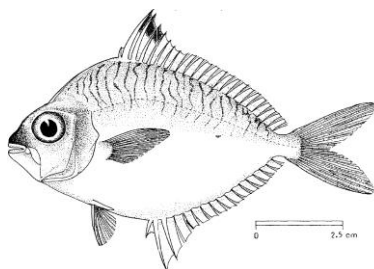
Gazza

Presence of caniniform teeth; mouth pointing forward once protracted.

Genus *Leiognathus* is subdivided into seven different genera: *Aurigequula*, *Equulites*, *Eubleekeria*, *Leiognathus*, *Karalla*, *Nuquequula*, and *Photopectoralis*.



***Eubleekeria splendens* (*Leiognathus splendens*)**



Splendid ponyfish

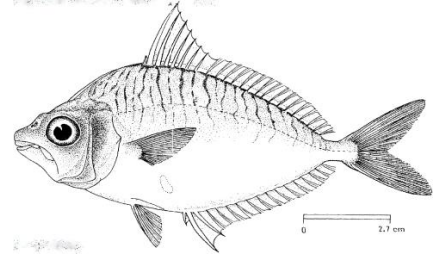
Short snout (shorter than eye diameter) besides blunt; mouth pointing slightly downward once protracted; head scaleless, but presence of prominent scales on breast; grey

wavy vertical lines above lateral line in adults, spinous part of dorsal fin usually has a black spot.

Karalla dussumieri (*Leiognathus dussumieri*)

Dussumier's ponyfish

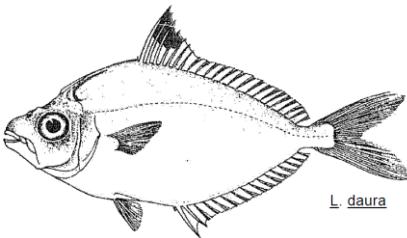
Pointed snout, slightly extended than eye diameter; mouth pointing downward once protracted. Head scaleless, but presence of conspicuous scales on breast. Body extra slender and certainly not a black blotch on dorsal fin.



Karalla daura (*Leiognathus daura*)

Goldstripe ponyfish

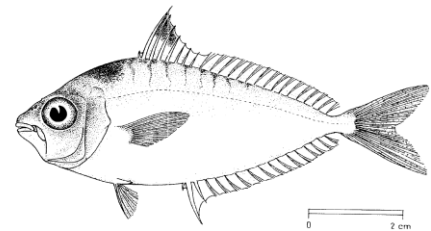
Body more often oval, dorsal and ventral profiles more or less consistently curved; a broad yellow band along lateral line; not any wavy vertical lines above lateral line; dark black blotch on spinous portion of dorsal fin.



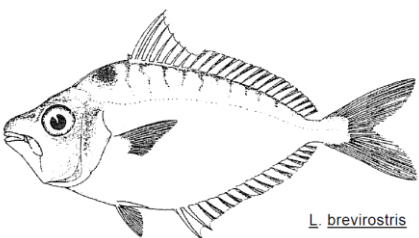
Nuchequula blochii (*Leiognathus blochii*)

Two blotch ponyfish

Pointed snout; unequal vertical lines extending down to about lateral line; a brown blotch on nape; tip of snout, head and ventral half of body with fine black dots; underside of pectoral fin base have black dots. The dorsal fin membrane from about half its height to tips of second to fifth spines black.



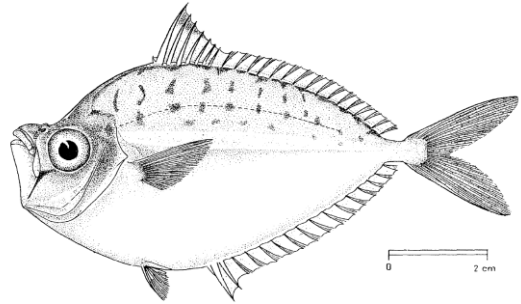
Leiognathus brevirostris (Shortnose ponyfish)



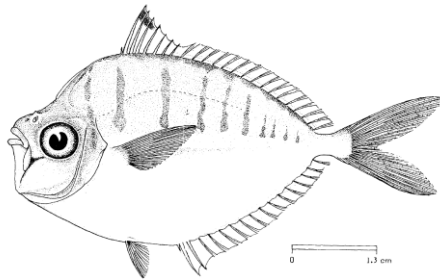
Nape with a dark blotch; grey dots on spinous dorsal fin membrane; a noticeable diffuse golden yellow patch on abdomen about middle between origin of ventrals and anal. Breast scaleless.

Secutor insidiator (Pugnose ponyfish)

Head intensely curved in above eye; pointed snout; mouth pointing upward once protracted. Lateral line reaching backward nearly to below end of dorsal fin. Cheek scaleless.



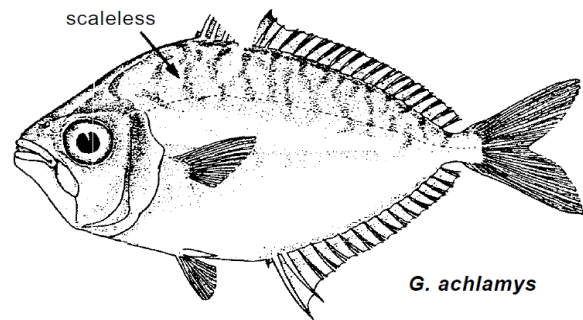
Secutor ruconius (Deep pugnose ponyfish)



Deeper body; lateral line extending to below about middle of soft portion of dorsal fin; presence of scales on cheek.

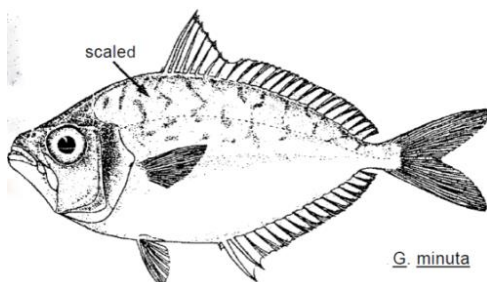
Gazza minuta (Toothpony)

Mouth pointing forward once protracted, presence of distinct caniniform teeth in both jaws. Head scaleless, nonetheless scales casing all of body except for breast ahead of a line from base of pectoral fin to origin of anal fin.



Gazza achlamys (Naked toothpony)

Deeper body; absence of scales anterior to a line from origin of soft dorsal to behind pectoral fin bases and then to origin of anal fin.



Field Identification Key for the family Sciaenidae

Introduction

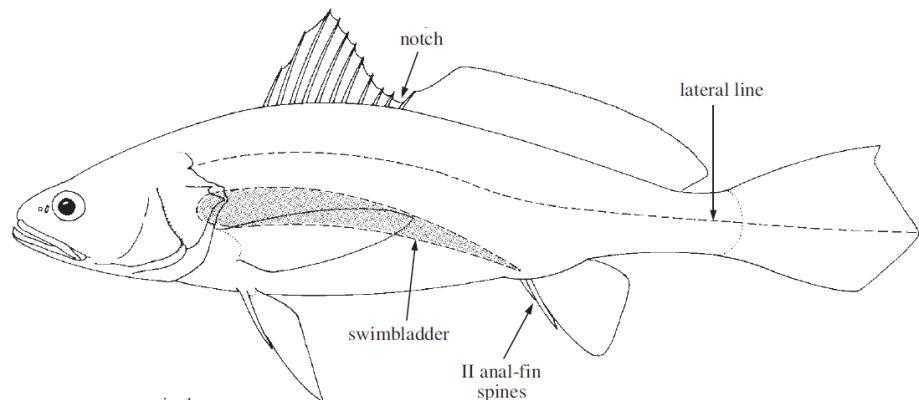
Sciaenid fishes are one of the most important constituents of marine fishes in India. It forms about 4.56% (1,55,383 t) of the total marine fish landings during the year 2015. They are commonly called as drums or croakers in reference to the repetitive throbbing or drumming sounds they make.

Habitat, biology, and fisheries

Predominantly inhabit coastal waters on continental shelves, but also occur in estuaries and rivers, during breeding seasons and when juvenile are young. Croakers are mostly demersal fishes, forming larger aggregations during spawning season. Croakers feed on small crustaceans, fishes and benthic organisms. They are exploited by bottom trawlers and bottom set gill netters.

Diagnostic characters

Moderately elongate to moderately compressed; presence of well developed canines (more than twice as large as other teeth) at front of one or both jaws; absence of teeth in vomer and palatine; dorsal fin



continuous, with deep notch between anterior (spinous) and posterior (soft) portions; anterior portion with VIII to X slender spines (usually X), and posterior portion with I spine and 21 to 44 soft rays; anal fin with II spines and 6 to 12 soft rays. Lateral-line scales covering to hind boundary of caudal fin.

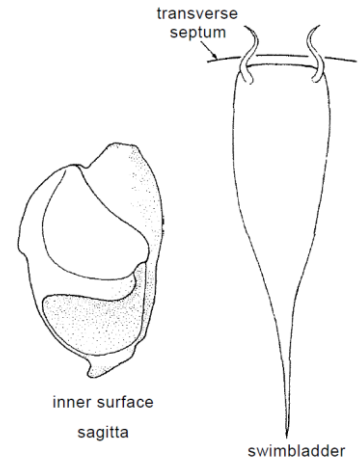
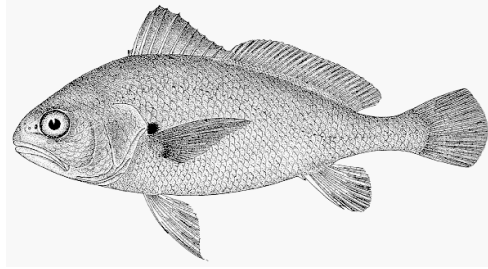
Identification note

Correct identification of genera of this family is possible only by the examination of swimbladder and the otoliths.

Key to the major species of Sciaenidae occurring in the Western Indian Ocean

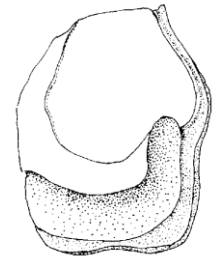
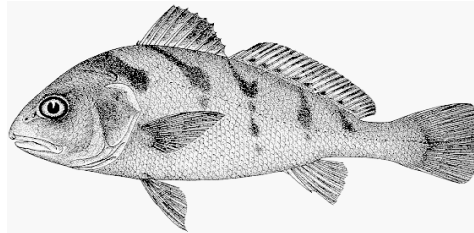
Kathala axillaris (Kathala croaker)

Carrot-shaped swimbladder; black blotch on pectoral fin axil; caudal fin rhomboid; gillraker count 20 to 23 and a dissimilar form of swimbladder.



Nibea maculata (Blotched croaker)

Tadpole shaped impression on sagitta (large earstone); a typical colour pattern of 5 dark bars extending obliquely from the back to the lower part of flanks and a sixth dark blotch on top of caudal peduncle.



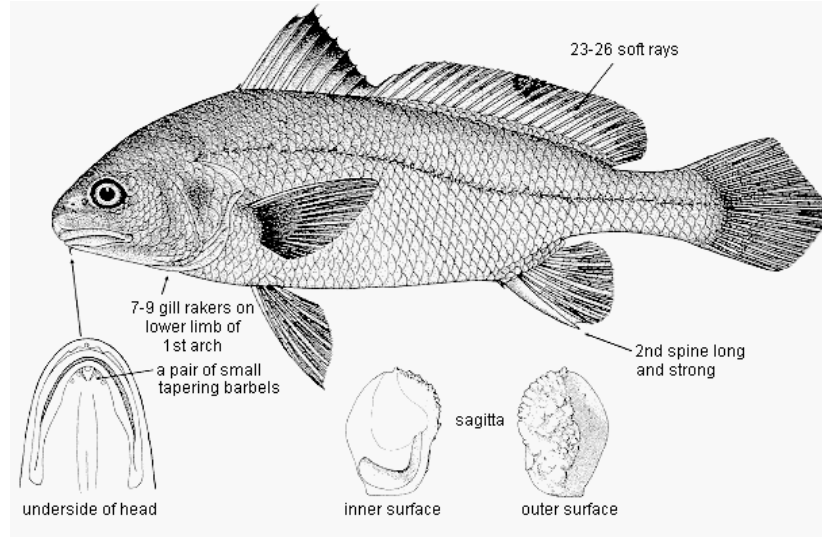
Nibea soldado (Soldier croaker)

Carrot-shaped swim bladder, sharply constricted posteriorly to its tube-shaped end, with about 18 to 22 pairs of appendages; soft dorsal fin rays 28 to 31; no barbels on chin.



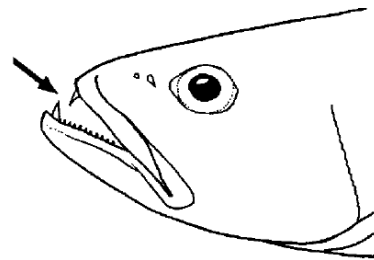
Nibea albida (Two-bearded croaker)

A pair of small tapering barbels on chin; 23 to 26 dorsal soft rays; spinous portion of dorsal fin black.



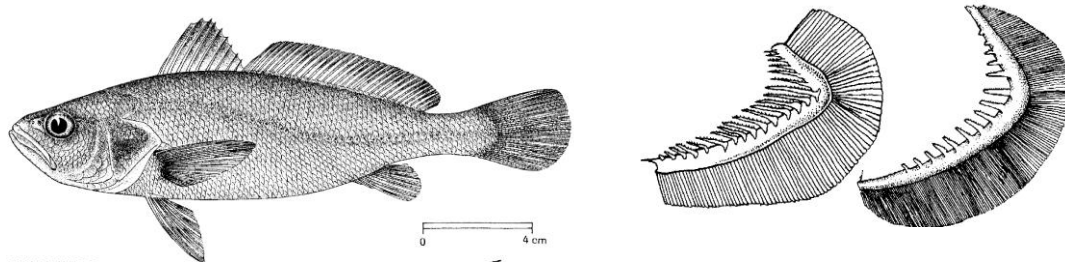
Otolithes cuvieri (Lesser tigertooth croaker)

The body depth $3\frac{1}{4}$ to $4\frac{1}{2}$ times in standard length. 1 or 2 pairs of robust canines in upper jaw and 1 pair at tip of lower jaw; gillrakers on lower limb of first arch 12 to 17; Carrot-shaped swimbladder, with about 28 pairs of arborescent appendages.

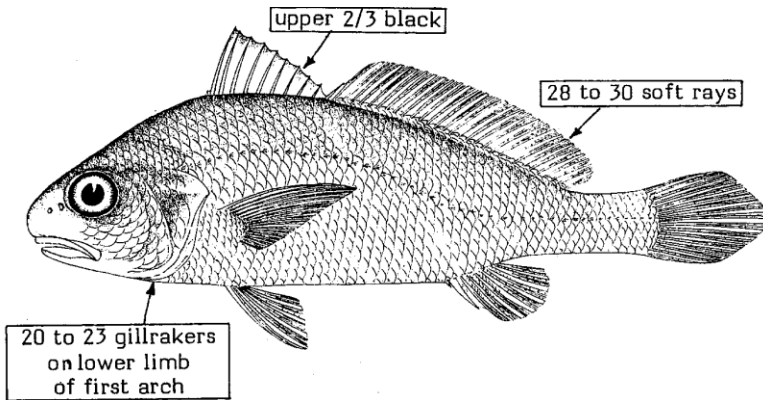


Otolithes ruber (Tigertooth croaker)

The body depth 4 or 5 times in standard length; gillraker count 8 to 11.

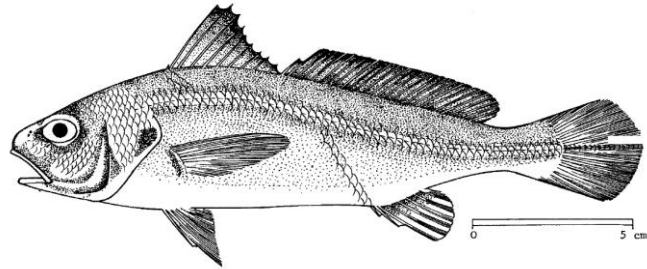


Johnius glaucus (Pale spotfin croaker)

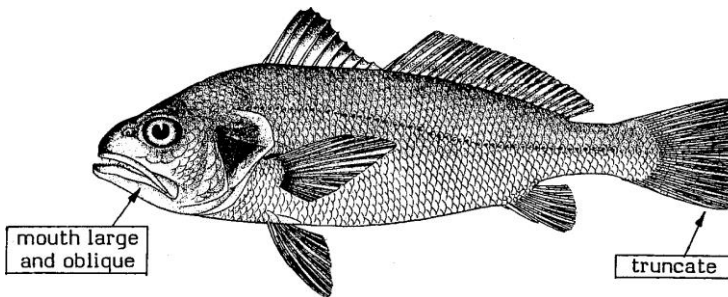


Johnius carutta (Karut croaker)

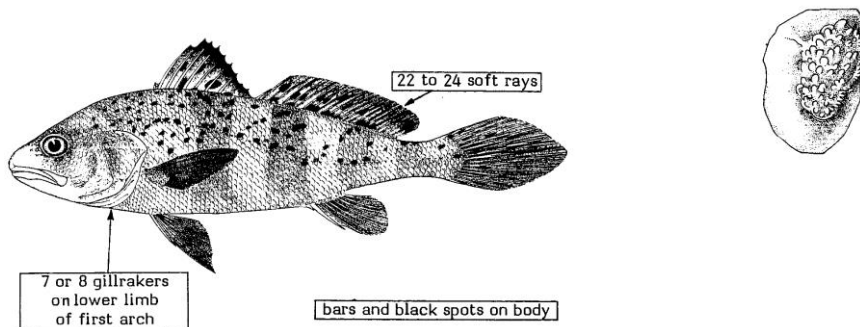
A small species with a rounded snout; Dorsal fin with 9 to 10 spines, trailed by a deep notch, second part of the fin with 1 spine and 25 to 28 soft rays; Teeth distinguished into large and small in upper jaw only.



Pennahia macrophthalmus (Bigeye croaker)



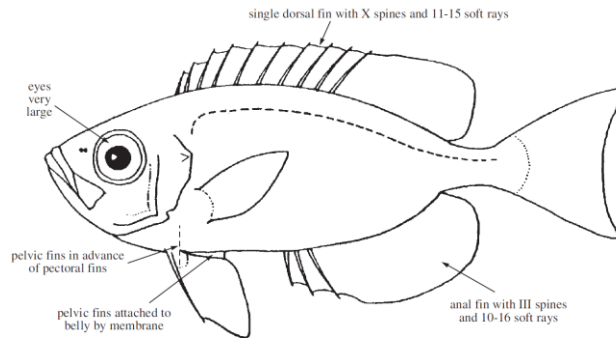
Protonibea diacanthus (Spotted croaker)



Field Identification Key for the family Priacanthidae (Big Eyes)

Diagnostic characters

Body deep with extremely large eyes and upturned mouth. Pelvic fins with I spine and 5 soft rays, broadly attached to belly by membrane and positioned in advance of pectoral fins.

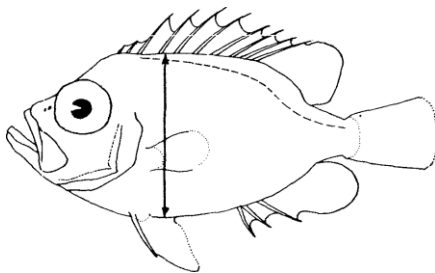


Habitat, biology and fisheries

Epibenthic fishes occurring near coral reefs but at times a depth range of 5 to 400 m; most active nocturnally; feed primarily on crustaceans, small cephalopods, polychaetes, and small fishes.

Key to genera

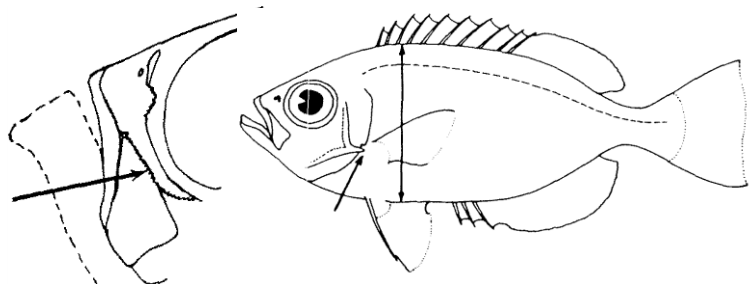
Pristigenys



Rounded spinous part of dorsal fin, with posterior spines shorter than the middle ones; lateral line scales 32 to 50; anal soft rays 9 to 11; body very deep in young (less than 10 cm TL), the depth about 1.7 to 1.9 times in standard length (2.2 times in large adults).

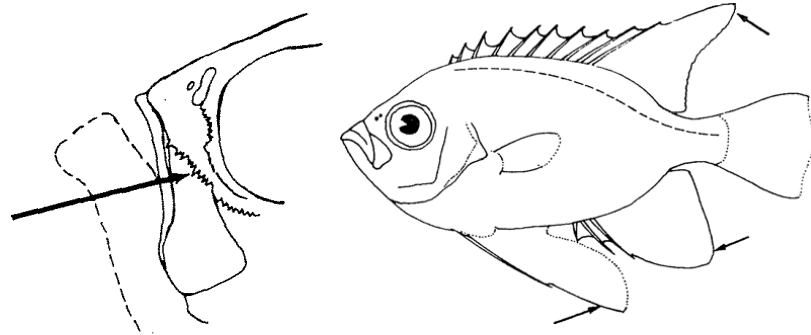
Priacanthus

Denticles on prominent edge of lachrymal (bone before eye); pelvic fins less than, or about equal to head length.



Cookeolus

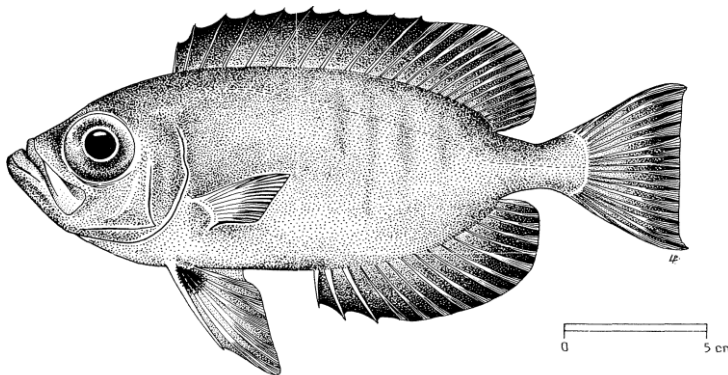
Upper 10 or so denticles of the lachrymal bone distended to spinous parts, protruding over maxilla; pelvic fins very long, 1.4 (young) to 1.1 (adults) times longer than head.



Key to the major species occurring in the Western Indian Ocean

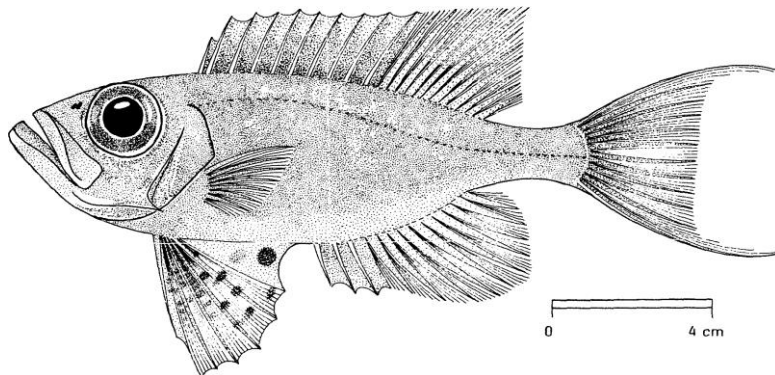
Priacanthus hamrur (Moontail bullseye)

Presence of scales on the posterior portion of preopercle; soft portions of dorsal and anal fins rounded, each with 13 to 15 rays; pelvic fins shorter than head contained about 1.2 to 1.3 times therein, and fused to body by a membrane; caudal fin emarginate, fetching crescentic with age. Scales small, ctenoid (rough to touch), 73 to 93 in lateral line; a black basal spot on the pelvic fin bases.

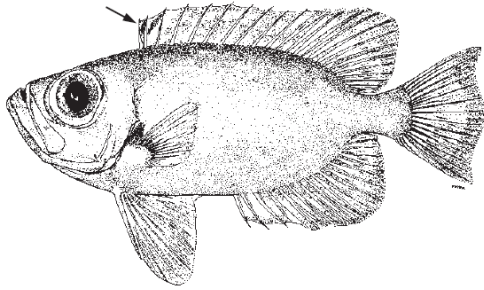


Priacanthus tayenus (Purple-spotted bigeye)

Well-built preopercular spine in adults; soft dorsal and anal fins angulate, having 11 or 12 and 12 or 13 rays, respectively; lunate caudal fin in large adults; pelvic fins with numerous dusky spots.



Priacanthus sagittarius (Arrow bulleye)



First 2 spinous dorsal-fin membranes having a black blotch; length of second dorsal-fin spine about twofold in length of tenth spine; scales in lateral series 67 to 74.

Cookeolus japonicas (Longfinned bullseye)

Dorsal spines: 10; dorsal soft rays: 12-14; anal spines: 3; anal soft rays: 12-14; last (10th) dorsal spine double the length of the second.

