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**FIELD GUIDE FOR
IDENTIFICATION OF MARINE FISHERY RESOURCES**

2004

Prepared by

Fishery Survey of India

(Department of AHD&F)

Ministry of Agriculture

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ELASMOBRANCHS

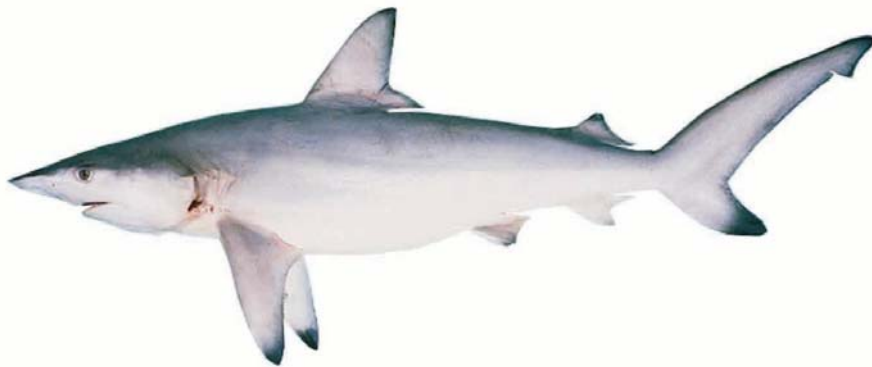


ELASMOBRANCHS (SHARKS, SKATES & RAYS)

SHARKS

Field identification characters:

- ❖ Body usually cylindrical, elongated, or moderately depressed.
- ❖ Gill slits are exposed; there are usually 5 to 7 gill openings on each side of the head, rarely 6 to 7.
- ❖ Mouth is usually ventral or subterminal, but terminal in some species.
- ❖ Small, minute toothlike placoid scales or dermal denticles cover body.
- ❖ Male sharks have cylindrical copulatory organs or claspers on their pelvic fins.
- ❖ Tail is irregular.



SKATES

Field identification characters:

- ❖ Body long guitar shaped.
- ❖ Rostrum long and pointed.
- ❖ Pectoral and Pelvic fins are triangular, sometimes bilobed.
- ❖ Thorns are present on the middorsal part of the body



STINGRAYS

Field identification characters:

- ❖ Body round disc like.
- ❖ Dorsal fins are absent.
- ❖ Long whip-like tail with 1 or more poisonous, sharp spine.
- ❖ In some species tailfold also present.



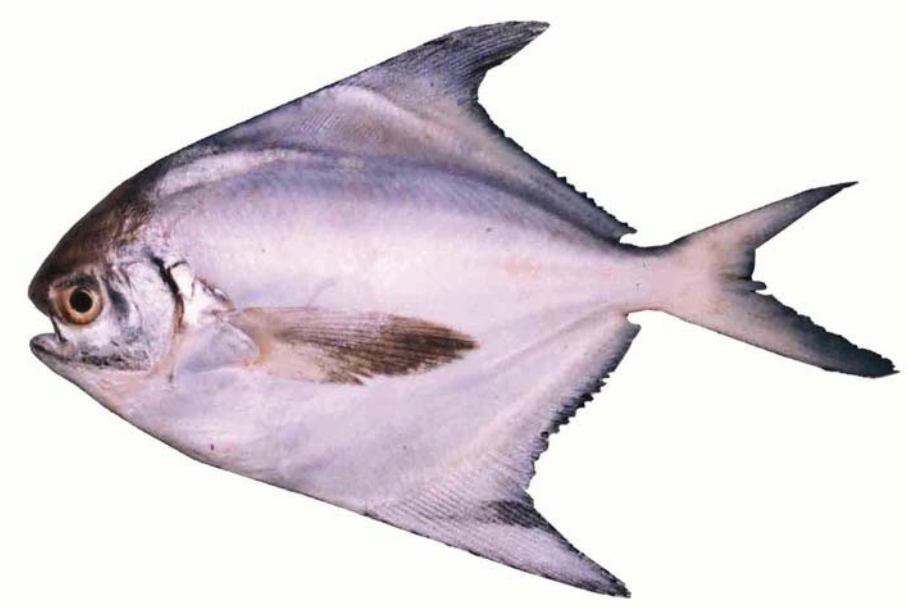
EAGLE RAYS

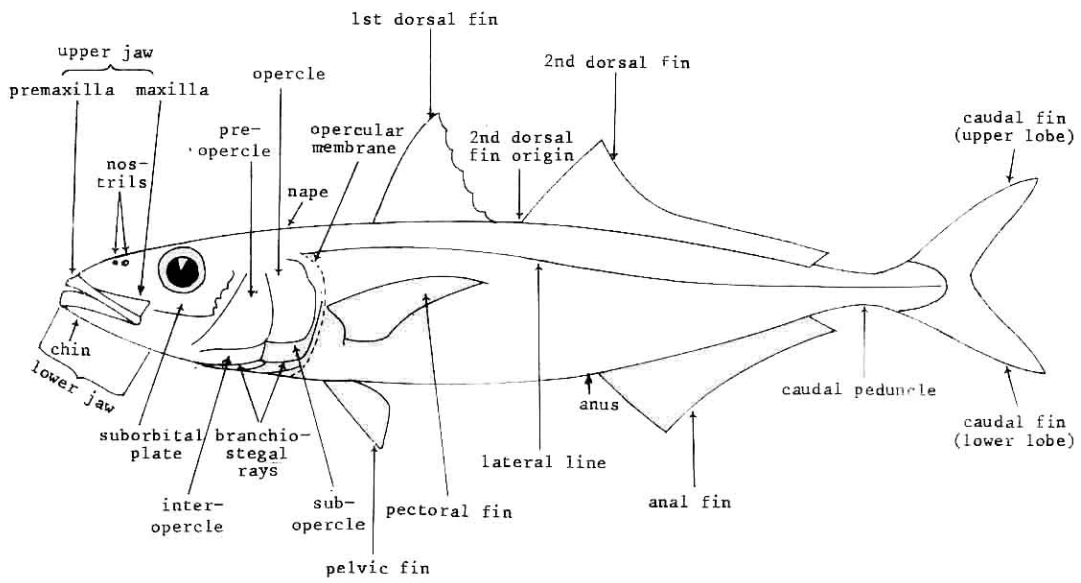
Field identification characters:

- ❖ Disc 1.5 to 2 times wider than long
- ❖ Sub-rostral lobe present with no. of series of teeth are present in each jaw.
- ❖ Spine present or absent on tail.



FINFISHES



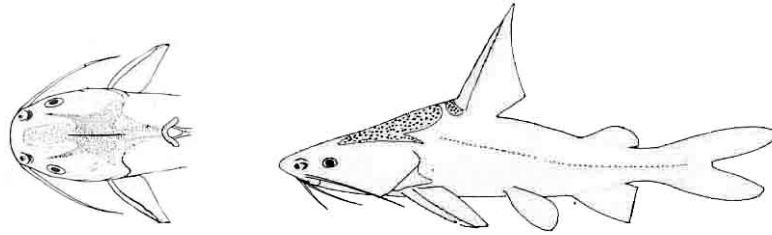


MORPHOMETRIC CHARACTERS OF FINFISH

Key characters of the families

Ariidae

(Catfishes)

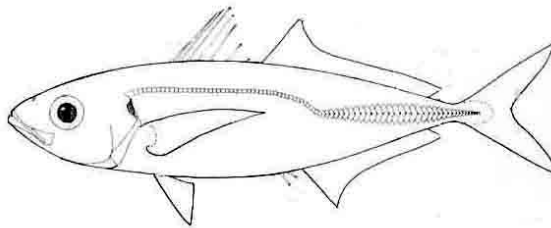


General characters:

- ❖ 3 pairs of barbels present, head shield rugose and granulated.

Carangidae

(Pompanos, scads, trevallies, yellowtails)

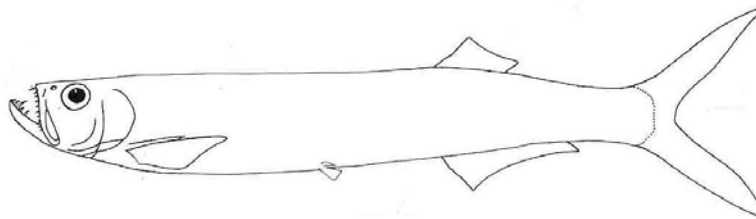


General characters:

- ❖ Scutes present on caudal peduncle.

Chirocentridae

(Wolf-herrings)

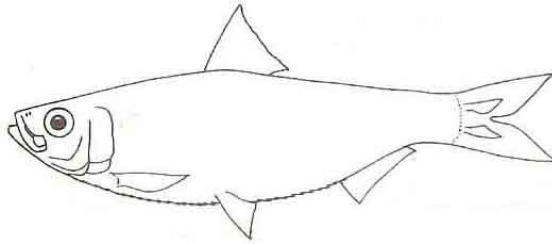


General characters:

- ❖ Body long slender, large canines in both jaws, dorsal fin set far back on the body, caudal fin deeply forked.

Clupeidae

(Herrings, shads, sardines, sardinellas, pelionas)

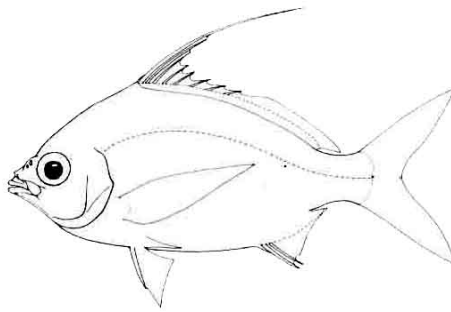


General characters:

- ❖ No lateral line, ventral keel of scutes, single dorsal fin.

Gerreidae

(Silver-biddies)

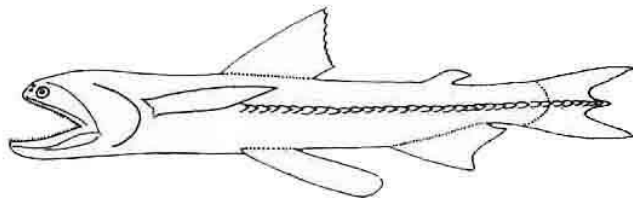


General characters:

- ❖ 2nd dorsal spine, longest, laterally compressed, produced into filament.

Harpadontidae

(Bombay ducks)

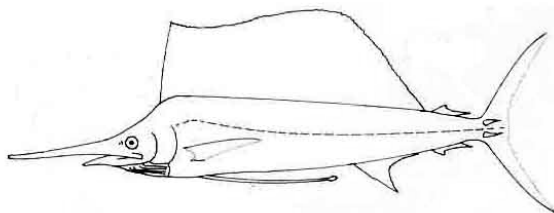


General characters:

- ❖ Lateral line extended onto tail, adipose fin present.

Istiophoridae

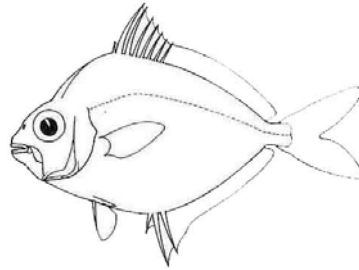
(Marlins, sailfishes)



General characters:

- ❖ 1st dorsal fin large and sail-like, upper jaw prolonged into slender spear.

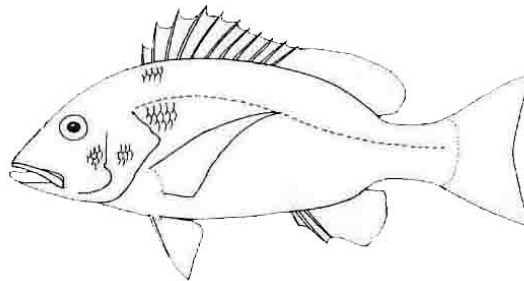
Leiognathidae
(Silverbellies)



General characters:

- ❖ Body silvery, with dark vermiculations on back., mouth protrucible in downward or upward directions.

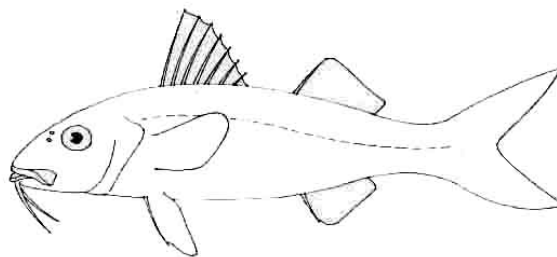
Lutjanidae
(Snappers)



General characters:

- ❖ No scales between eye and mouth, scales present on cheek.

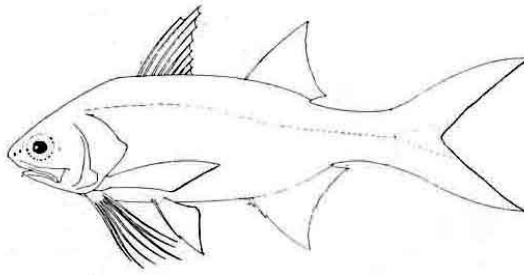
Mullidae
(Goatfishes)



General characters:

- ❖ One pair of barbels present at the tip of chin.

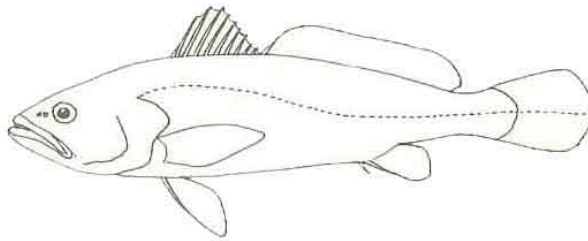
Polynemidae
(Threadfins)



General characters:

- ❖ Lower pectoral fin rays present, mouth inferior.

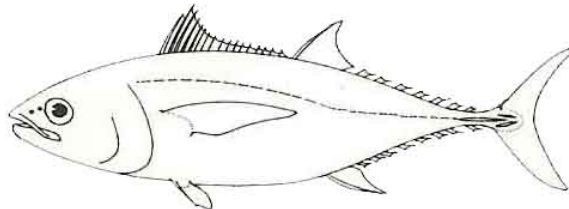
Sciaenidae
(Croakers)



General characters:

- ❖ Opercular spines present. Lateral line continues upto tip of caudal fin

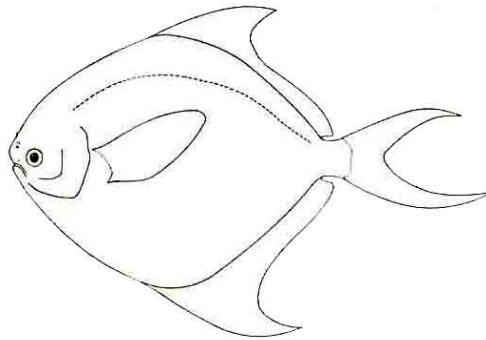
Scombridae
(Mackerels, tunas, albacores, seerfishes)



General characters:

- ❖ 2 to 3 keels present on caudal peduncle, finlets are present after 2nd dorsal and anal fin.

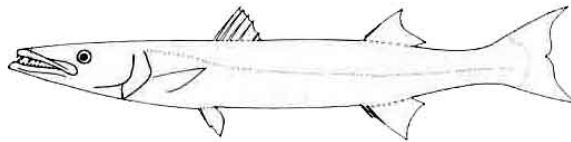
Stromateidae
(Silver pomfrets)



General characters:

- ❖ Pelvic fins absent, mouth small, maxilla immobile covered with skin and united to cheek.

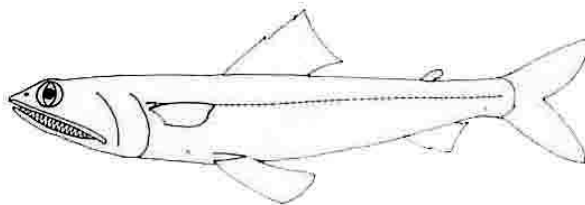
Sphyraenidae
(Barracudas)



General characters:

- ❖ Body elongated, mouth large with sharp teeth.

Synodontidae
(Lizard fishes)



General characters:

- ❖ Head lizard like, teeth needle like, adipose fin present.

SEA CATFISH

Family: Ariidae

Scientific name: *Arius caelatus*

Common name: Engraved catfish

Local name:



Palatine teeth



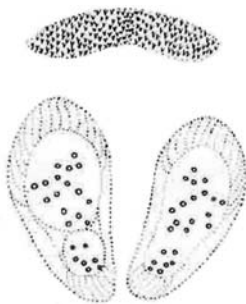
Field identification characters:

- ❖ Head shield rugose and granulated posterior to orbit, especially on the supraoccipital region, tapering to a wide V toward occipital region, and with a preorbital conical protuberance.
- ❖ Palate teeth villiform and densely packed in a small, roughly triangular patch on each side.
- ❖ Tip of the dorsal fin produced occasionally into a black filament.

Scientific name: *Arius tenuispinis*

Common name: Thinspine sea catfish

Local name:



Palatine teeth



Field identification characters:

- ❖ Median longitudinal groove long, narrow, deep, running onto supraoccipital process.
- ❖ Palatine teeth villiform along outer margin, globular along inner margin, in a single elliptical shoe-shaped large patch on each side, placed far back in the buccal cavity.

Scientific name: *Arius thalassinus*

Common name: Giant catfish

Local name:



Adult



Juvenile

Palatine teeth



Field identification characters:

- ❖ A prominent preorbital conical protuberance tapering as a wide V posteriorly.
- ❖ Palatine teeth villiform, in 3 patches on each side, forming a triangle, posterior patch longest, patches usually fused (slightly separated in juveniles).

Scientific name: *Osteogeneiosus militaris*

Common name: Soldier catfish

Local name:



Field identification characters:

- ❖ Only one pair of stiff, semiosseous maxillary barbels, mental barbels absent.
- ❖ Head shield smooth without granulation or rugose striations.
- ❖ Top of head and back intense dark blue.

ARIOMMA INDICA (DRIFTFISH)

Scientific name: *Ariomma indica*

Common name: Indian ariomma/ driftfish

Local name:



Field identification characters:

- ❖ Body moderately deep, compressed but thick; caudal peduncle, not compressed, almost square in cross-section and with two very low and ill-defined fleshy keels at base of caudal fin.
- ❖ Snout blunt and rounded; eyes large, surrounded by thick adipose tissue. Palate toothless; teeth of lower jaw simple anteriorly, with 3 cusps posteriorly. A branch of the lateral line arches forward over the eye in a bony tract.
- ❖ Colour quite silvery with a bluish tinge on back; may have few darker and variable blotches on sides; inside of opercle black.

CARANGIDS

SCADS, TREVALLIES, PAMPANOS, QUEENFISHES

Family: Carangidae

Scientific name: *Alepes djedaba*

Common name: Shrimp scad

Local name:



Field identification characters:

- ❖ Adipose eyelid well developed on posterior half of eye only.
- ❖ Colour greyish- green above, silvery to white below.
- ❖ A distinct black blotch on margin of opercle, bordered above by a smaller white spot.

Scientific name: *Atropus atropus*
Common name: Cleftbelly trevally
Local name:



Field identification characters:

- ❖ Belly with a deep median groove, accommodating pelvic fins, anus and anal fin spine.
- ❖ Pelvic fins conspicuously long, tip of appressed fin extending almost to anal fin origin.
- ❖ Membranes of pelvic fins black, with the rays white basally.

Scientific name: *Atule mate*
Common name: Yellowtail scad.
Local name:



Field identification characters:

- ❖ Last dorsal and anal rays finlet-like in adults, twice in length of adjacent rays and a little more separated but joined by interradyal membrane.
- ❖ Colour bright olive-green dorsally, yellowish-green laterally and whitish ventrally. Dorsal and caudal fins dusky greenish-yellow; anal fin pale yellow; pectoral and pelvic fins whitish.

Scientific name: *Carangoides chrysophrys*

Common name: Largenose trevally

Local name:



Field identification characters:

- ❖ Dorsal profile of snout gently sloped, then abruptly vertical just above mouth cleft.
- ❖ Dorsal fins separate, second dorsal fin falcate but usually shorter than head length.
- ❖ Breast naked ventrally to distinctly behind origin of pectoral fins upto pelvic fins laterally.

Scientific name: *Gnathanodon speciosus*

Common name: Golden trevally

Local name:



Field identification characters:

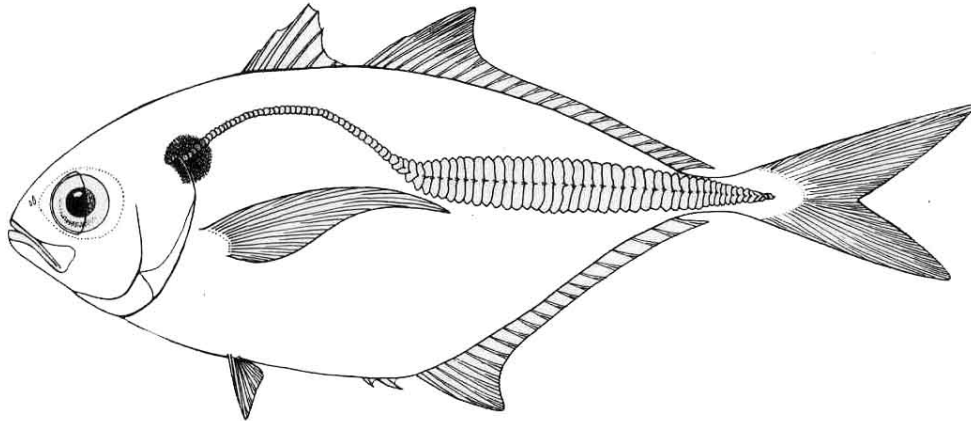
- ❖ Lips noticeably papillose and upper jaw strongly protractile.
- ❖ Upper jaw without teeth.
- ❖ Colour silvery to yellow with 7 to 11 black bands, usually alternating broad and narrow; the first oblique through eye, the second crossing back and opercle.

CARANX SPP. (KALA BANGADA)

Scientific name: *Caranx para*

Common name: Banded scad

Local name:



Field identification characters:

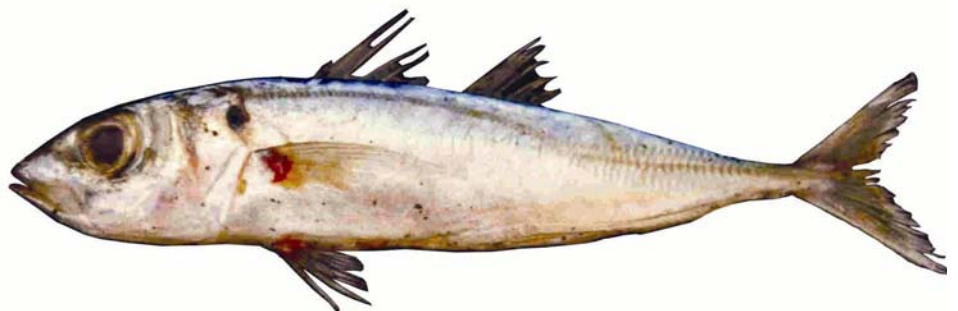
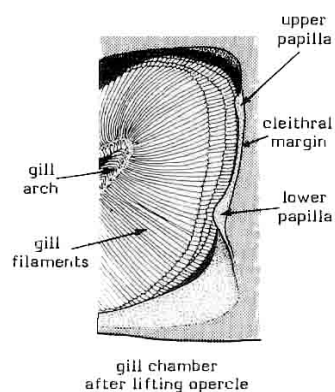
- ❖ Body oval, strongly compressed, with ventral profile distinctly more convex than dorsal; adipose eyelid well developed on posterior half of eye only.
- ❖ Upper jaw anteriorly with 2 irregular rows of short conical teeth posteriorly inner surface of jaw paved with blunt teeth; lower jaw with a single row of short, conical teeth except 2 rows anteriorly.
- ❖ Colour bluish-grey to green above, silvery below; large black spot on upper margin of opercle and adjacent area of shoulder.

DECAPTERUS (SCADS)

Scientific name: *Decapterus russelli*

Common name: Indian scad

Local name:



Field identification characters:

- ❖ Shoulder girdle (cleithrum) margin with 2 small papillae, the lower papilla is larger.
- ❖ Small black blotch on margin of opercle near upper edge.
- ❖ Caudal fin hyaline to dusky brown.

TORPEDO SCAD

Scientific name: *Megalaspis cordyla*

Common name: Torpedo scad

Local name:



Field identification characters:

- ❖ Caudal peduncle strongly compressed with a marked median keel.
- ❖ About 8 to 10 detached finlets are present after dorsal and anal fins.
- ❖ A large black opercular spot is present.

TRACHINOTUS SPP. (POMPANOS)

Scientific name: *Trachinotus mookalee*

Common name: Indian pompano

Local name:



Field identification characters:

- ❖ 2 separate dorsal fins, the first with 6 short spines (the anterior spines often becoming completely embedded in adults), followed by 1 spine and 16 to 18 soft rays.
- ❖ Head and body generally silvery, greenish to bluish-grey dorsally, paler below; anal fin bright to dirty yellow, lobe without a brownish anterior margin.

BARRAMUNDIS

Family: Centropomidae

Scientific name: *Lates calcarifer*

Common name: Barramundi.

Local name:



Field identification characters:

- ❖ Head pointed, with concave dorsal profile, nostrils close together.
- ❖ Upper jaw reaching to behind the eye, Lower edge of the opercle serrated.
- ❖ A very deep notch almost dividing spiny from soft part of dorsal fin.

GROUPERS

Family: Serranidae

Scientific name: *Epinephelus diacanthus*

Common name: Thornycheek grouper

Local name:



Field identification characters:

- ❖ Preopercle border forming nearly a right angle, with 1 to 3 enlarged serrae at the angle
- ❖ Anterior nostrils tubular, with a large flap posteriorly extending over rear nostril.
- ❖ Body generally buff, with 5 more or less distinct, vertical dark bars; 4 bars below dorsal fin and 5th on caudal peduncle. Ventral part of head and body reddish. Black streak across cheek at the upper edge of maxilla.

CHIROCENTRUS SPP.

WOLF-HERRINGS

Family: Chirocentridae

Scientific name: *Chirocentrus dorab*

Common name: Dorab wolf-herrings

Local name:



Field identification characters:

- ❖ 2 fanglike canines pointing forward in upper jaw, a series of canine teeth in lower jaw.
- ❖ Upper part of the dorsal fin black, inner face of pectoral fin black at base; some black on anterior part of anal fin.

Scientific name: *Chirocentrus nudus*

Common name: whitefin wolf-herrings

Local name:



Field identification characters:

- ❖ 2 fanglike canines pointing forward in upper jaw, a series of canine teeth in lower jaw.
- ❖ Dorsal fin clear, inner face of pectoral fin black at base; no black on anterior part of anal fin.

OTHER CLUPIEDS

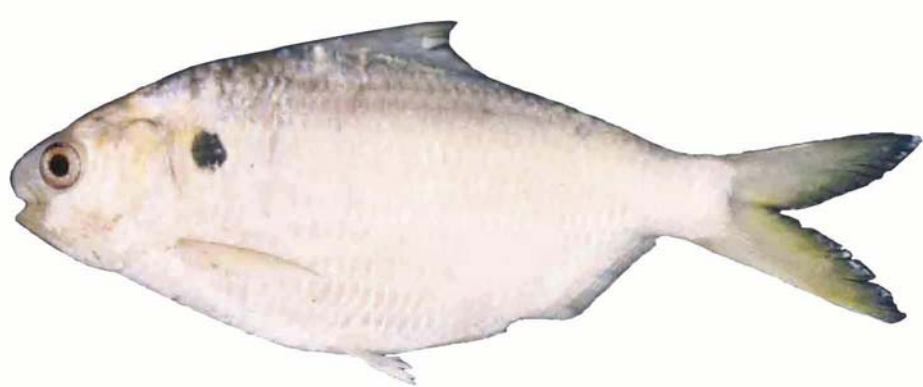
HERRINGS, SHADS, SARDINES

Family: Clupeidae

Scientific name: *Anodontostoma chacunda*

Common name: Chacunda gizzard-shad

Local name:



Field identification characters:

- ❖ Body very deep and compressed; belly with a keel of scutes.
- ❖ Mouth inferior, snout rounded and projecting.
- ❖ Back blue/green, flanks bright silver; a large jet black spot behind gill opening.

Scientific name: *Ophisthopterus tardoore*

Common name: Tardoore

Local name:



Field identification characters:

- ❖ Body elongate, strongly compressed; belly rounded anteriorly, with a sharp keel of scutes.
- ❖ Anal fin long.

HILSA (KALEE SHAD)

Scientific name: *Hilsa toil/ tenualosa toli*

Common name: Toli shad

Local name:



Field identification characters:

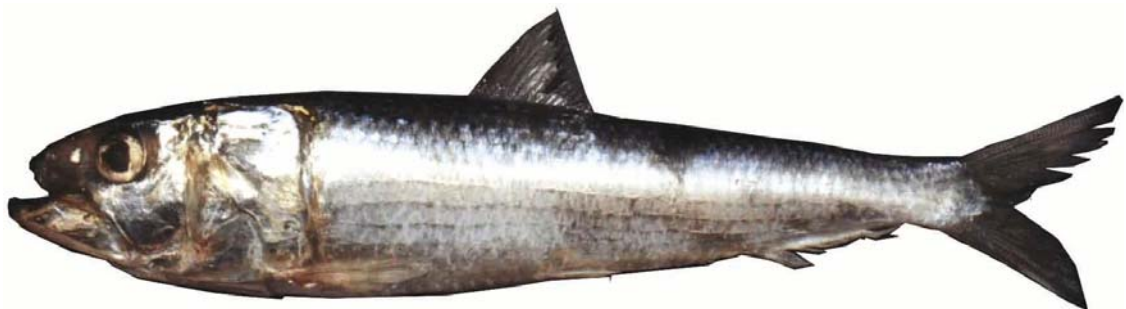
- ❖ Body fusiform, moderately deep and compressed; belly with a distinct sharp keel of scutes.
- ❖ Upper jaw with distinct median notch.
- ❖ Colour blue/green, flanks silvery, at most a diffuse dark blotch behind gill opening but other spots on flanks.

SARDINELLA (INDIAN OIL SARDINE)

Scientific name: *Sardinella longiceps*

Common name: Indian oil-sardinella

Local name:



Field identification characters:

- ❖ Belly rounded, with a low keel of scutes.
- ❖ Colour back blue/green, flanks silvery. A black spot on hind edge of gill cover and a golden patch on the body behind it.

FLATFISHES (TURBOT/FLOUNDERS/SOLES)

Family: Psettodidae

Scientific name: *Psettodes erumei*

Common name: Indian spiny turbot

Local name:



Field identification characters:

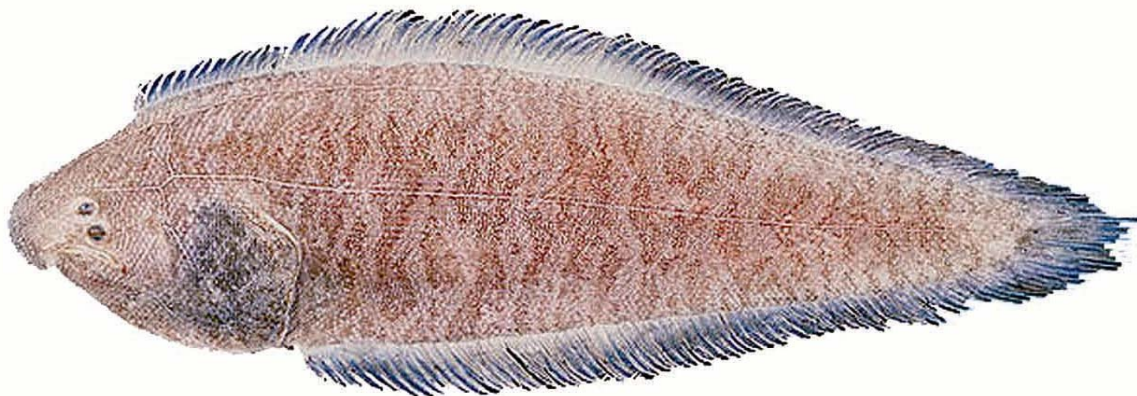
- ❖ Mouth large with strong teeth. Both the eyes on same side; upper eye lying immediately below dorsal edge.
- ❖ Dorsal fin origin well posterior to eyes.
- ❖ Body usually brown/ grey, sometimes with 4 broad, dark crossbars. Dorsal anal and caudal fin tips black.

Family: Cynoglossidae

Scientific name: *Cynoglossus macrostomus*

Common name: Malabar tonguesole

Local name:



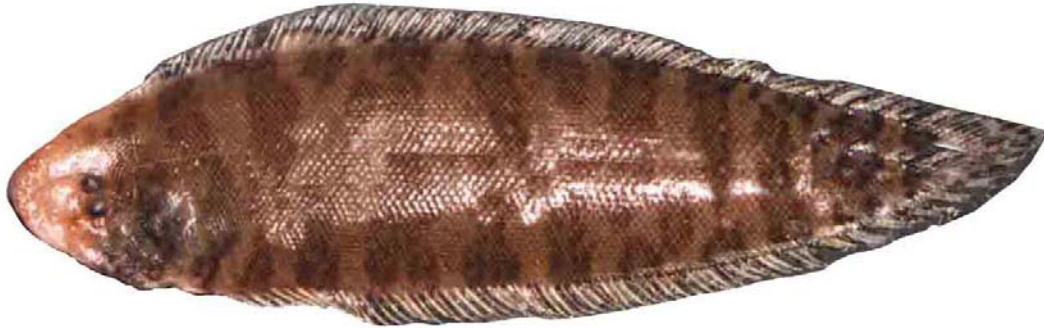
Field identification characters:

- ❖ Eyes on left side of body, with no space between them.
- ❖ Two lateral lines on eyed side but none on blind side.
- ❖ Colour light brown on eyed side with dark brown mottling forming diffuse, irregular crossbands.

Scientific name: *Cynoglossus puncticeps*

Common name: Speckled tonguesole

Local name:



Field identification characters:

- ❖ Eyes on left side of body, with a narrow space between them.
- ❖ Two lateral lines on eyed side.
- ❖ Colour yellow/ brown on eyed side with very distinct irregular dark brown patches forming irregular crossbands.

Family: Soleidae

Scientific name: *Euryglossa orientalis*

Common name: Oriental sole

Local name:



Field identification characters:

- ❖ Eyes on right side, separated by a scaly space
- ❖ Dorsal and anal fins joined to caudal fin; pectoral fins well developed, that on blind side somewhat shorter than that on eyed side
- ❖ Head scales of blind side modified into cutaneous sensory processes.
- ❖ Colour grey or brown with cloudy indistinct patches on eyed side, tinged yellow on blind side; pectoral fin on eyed side darker.

ANCHOVIES

Family: Engraulidae

Scientific name: *Coilia dussumieri*

Common name: Golden anchovy

Local name:



Field identification characters:

- ❖ Body elongate, tapering evenly to the very slender tail.
- ❖ Upper 6 pectoral fin rays filamentous; anal fin very long and joined to caudal fin.
- ❖ 3 series of orange/ gold spots on flanks.

Scientific name: *Stolephorus commersonii*

Common name: Commerson's anchovy

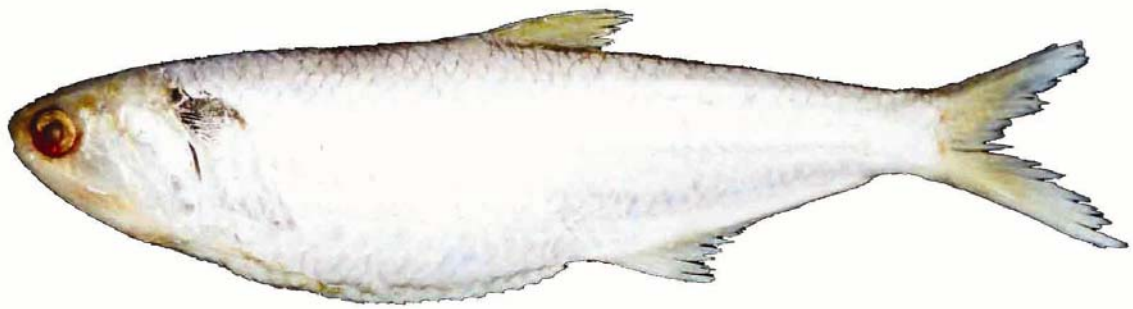
Local name:



Field identification characters:

- ❖ Pelvic fin tips reaching beyond dorsal fin origin; anal fin origin below last dorsal fin rays.
- ❖ Colour light transparent fleshy brown, with a silver stripe down flanks; back with 2 pigmented areas behind head and a double pigment line before dorsal fin origin.

Scientific name: *Thryssa mystax*
Common name: Moustached thryssa
Local name:



Field identification characters:

- ❖ Tip of the snout at level of eye centre; maxilla produced, reaching almost to, base of first pectoral fin rays.
- ❖ Colour back blue/ green, flanks silvery; a black venulose area behind gill opening, with a golden area before it.

Scientific name: *Thryssa vitrirostris*
Common name: Orangemouth thryssa
Local name:



Field identification characters:

- ❖ Tip of the snout at level of eye centre; maxilla produced, reaching beyond base of first pectoral fin rays.
- ❖ Colour back blue/ green, flanks silvery; a black venulose area behind gill opening, golden area absent.

GRUNTS

Family: Haemulidae

Scientific name: *Pomadasys maculatum*

Common name: Saddle grunt

Local name:



Field identification characters:

- ❖ Two pores and a median pit on chin.
- ❖ Colour silvery grey, head purplish, nape and back with a series of incomplete crossbars; spinous part of dorsal fin with a large black blotch.

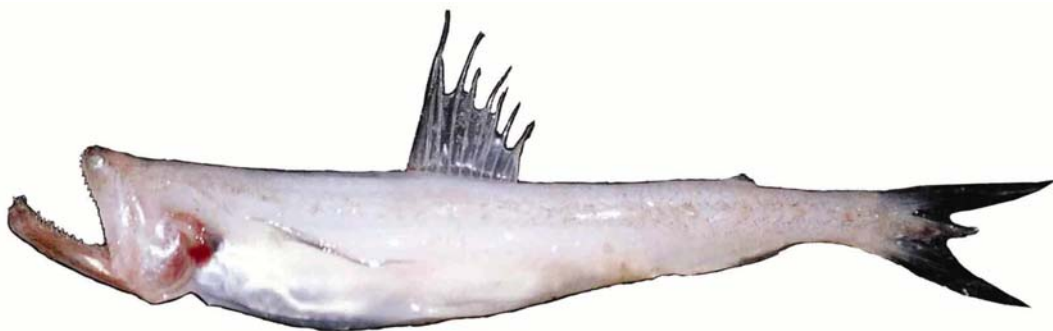
BOMBAY-DUCK (HARPADON NEHEREUS)

Family: Harpadontidae

Scientific name: *Harpadon nehereus*

Common name: Bombay duck

Local name:



Field identification characters:

- ❖ Mouth very wide, armed with slender, recurved and depressible teeth of unequal size.
- ❖ Dorsal fin followed by a conspicuous adipose fin; pelvic fins very long.
- ❖ Lateral line extending onto pointed median lobe of caudal fin.

LACTARIUS (PARAVA)

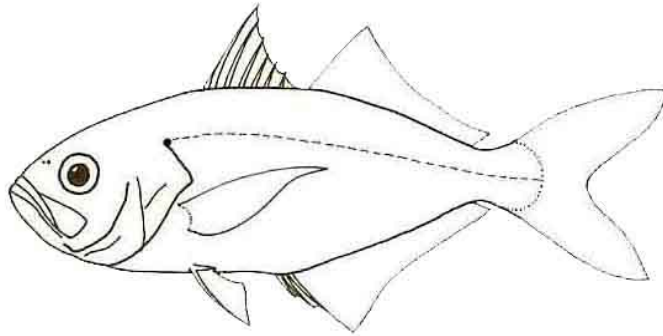
FALSE TREVALLIES

Family: Lactaridae

Scientific name: *Lactarius lactarius*

Common name: False trevally

Local name:



Field identification characters:

- ❖ Mouth large and oblique, with a prominent lower jaw; one pair of small, sharp canine teeth at front of each jaw.
- ❖ Two dorsal fins of about equal height.
- ❖ Colour silvery grey with a blue iridescence above; silvery white below.
- ❖ A dusky spot on upper part of gill cover.

Family:

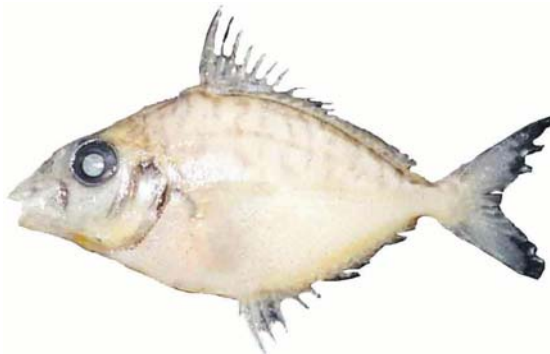
LEIOGNATHUS (SILVER BELLIES)

Leiognathidae

Scientific name: *Leiognathus bindus*

Common name: Orange fin ponyfish

Local name:



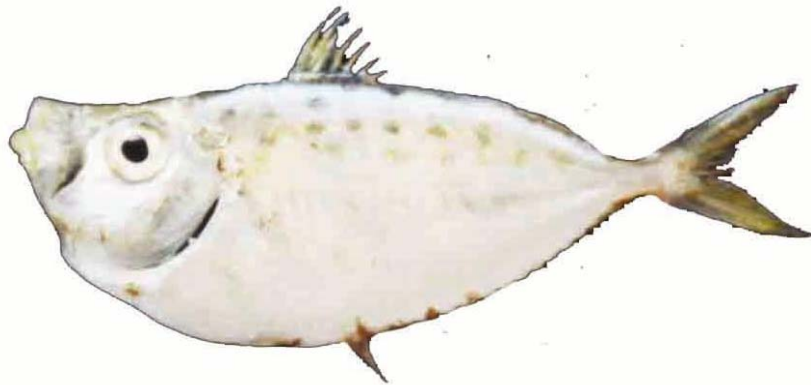
Field identification characters:

- ❖ Body silvery, with dark vermiculations on back.
- ❖ Spinous part of dorsal fin black at half height, above which the membrane between 2nd & 5th spines bears a bright orange blotch.
- ❖ Mouth protrucible in downward direction.

Scientific name: *Secutor insidator*

Common name: Pugnose ponyfish

Local name:



Field identification characters:

- ❖ Mouth pointing upward when protracted. Lateral line reaching backward nearly to below end of dorsal fin. Cheek scaleless.
- ❖ Belly silvery; back greenish to brownish, with about 10 broken, dark, vertical bars and spots extending to little below lateral line.

SILVER-BIDDIES

Family: Gerreidae

Scientific name: *Gerres filamentosus*

Common name: Whipfin silver-biddy

Local name:



Field identification characters:

- ❖ Second dorsal spine laterally compressed, produced into a filament, whose tip extends past level of first anal spine.
- ❖ Colour silvery, with 7 to 10 columns of ovoid spots on upper portion of sides, in the form bars in small specimens.

(PERCHES)

EMPEROR

Family: Lethrinidae

Scientific name: *Lethrinus nebulosus*

Common name: Spangled emperor

Local name:



Field identification characters:

- ❖ Body depth greater than head length, inner surface of pectoral fin base scaled.
- ❖ Colour olive green above, paler below; usually 2 or 3 blue streaks radiating from eye; each scale on the back with a white to blue centre; usually several yellow longitudinal stripes on sides.

LUTJANUS SPP. RED SNAPPER

Family: Lutjanidae

Scientific name: *Lutjanus argentimaculatus*

Common name: Mangrove red snapper

Local name:



Field identification characters:

- ❖ Longitudinal rows of scales above lateral line parallel to dorsal profile anteriorly, but appearing to rise obliquely under soft part of dorsal fin or under posterior part of spinous dorsal fin.
- ❖ Scale rows below lateral line horizontal.
- ❖ Colour red brown; somewhat paler on belly; often a silvery patch in the centre of each scale.

LUTJANUS (RED SNAPPER)

Scientific name: *Lutjanus malabaricus*

Common name: Malabar blood snapper

Local name:



Field identification characters:

- ❖ Head profile straight or concave; dorsal fin with 11 spines and 14 soft rays, anal fin with 3 spines and 8 or 9 soft rays.
- ❖ Longitudinal rows of scales above lateral line appear to rise obliquely to dorsal profile, those below lateral line horizontal.
- ❖ Colour deep red in adults; juveniles red/ brown above, silvery below, with dark longitudinal stripes on body.

Scientific name: *Lutjanus johni*

Common name: John's snapper

Local name:



Juvenile



Adult

Field identification characters:

- ❖ Longitudinal scale rows above lateral line parallel to it, and those below lateral line horizontal.
- ❖ Body silvery green or bronze/ red, with a distinct dark spot on each scale forming a length-wise series of dark streaks.
- ❖ A large black blotch present above lateral line at junction of spinous and soft part of dorsal fin and this often surrounded by a silvery ring in juveniles.

MUGILIDAE (MULLETS)

Family: Mugilidae

Scientific name: *Mugil cephalus*

Common name: Flathead mullet

Local name:



Field identification characters:

- ❖ Head much flattened dorsally.
- ❖ Colour olive- green on back, silvery on sides, shading to white below; 6 to 7 indistinct brown bands down flanks, a dark purple blotch at base of pectoral fin.

MURAENOSOX SPP. (EELS)

PIKE CONGERS

Family: Muraenesocidae

Scientific name: *Congresox talabonoides*

Common name: Indian pike conger

Local name:



Field identification characters:

- ❖ Outer tooth row on lower jaw leaning outward; teeth of middle row on vomer needle-like and prominent; tip of lower jaw with its large canines fits into notch in underside of snout when mouth is closed.
- ❖ Pectoral fins much smaller.
- ❖ Lateral line pores before level of anus 35 to 40.

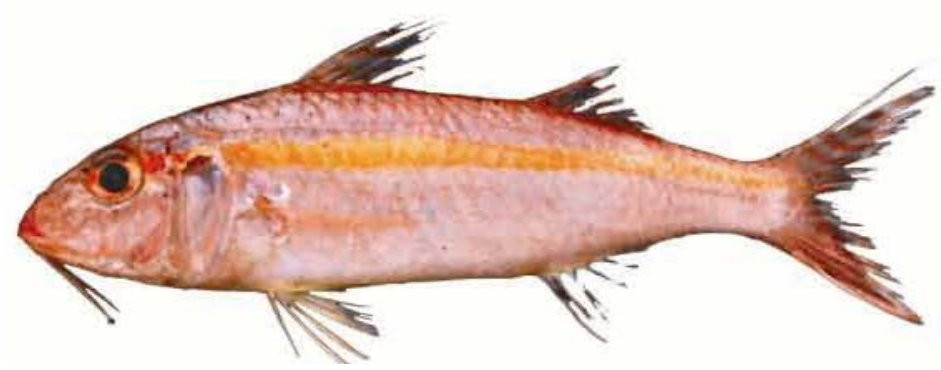
UPENEUS SPP. (GOAT FISH)

Family: Mullidae

Scientific name: *Upeneus moluccensis*

Common name: Goldband goatfish

Local name:



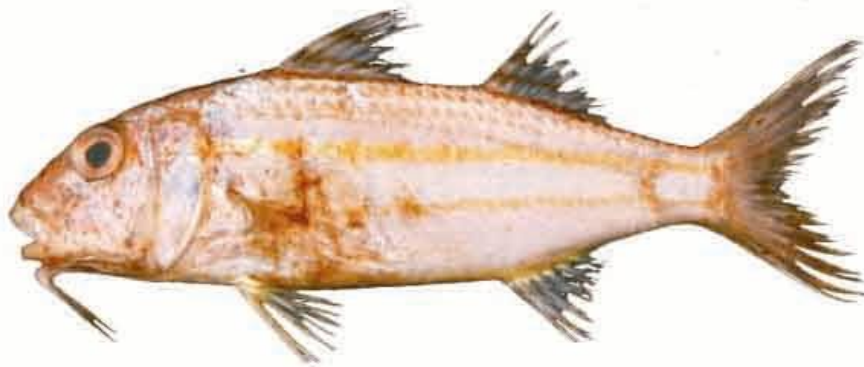
Field identification characters:

- ❖ Chin with 2 slender barbels, which do not reach rear margin of preopercle.
- ❖ A golden yellow stripe about as broad as pupil passing from eye along upper side of body to upper caudal base.
- ❖ Upper lobe of caudal fin with 6 to 7 transverse orangish bands; lower lobe longitudinally streaked with orangish and whitish.

Scientific name: *Upeneus vittatus*

Common name: Striped goatfish

Local name:



Field identification characters:

- ❖ Chin with 2 slender barbels, which do not reach rear margin of preopercle.
- ❖ Colour greenish on back, shading to silvery white on sides and pale yellow ventrally, with 4 orange- yellow stripes.
- ❖ Caudal fin crossed by broad dark bands, the upper lobe with 4 to 5 and the lower with 3 to 4, the most distal band broadest and darkest.

NEMIPTERIDS (THREAD FIN BREAMS)

Family: Nemipteridae

Scientific name: *Nemipterus japonicus*

Common name: Japanese threadfin bream

Local name:



Field identification characters:

- ❖ Dorsal fin continuous without a notch between spinous and soft portions; upper lobe of caudal fin prolonged into a filament.
- ❖ A brownish saddle on top of head, a yellow band along belly; a bright orange red blotch nears origin of lateral line.
- ❖ Caudal fin red, tip of upper lobe and filament bright yellow.

POLYNEMIDS (INDIAN SALMON)

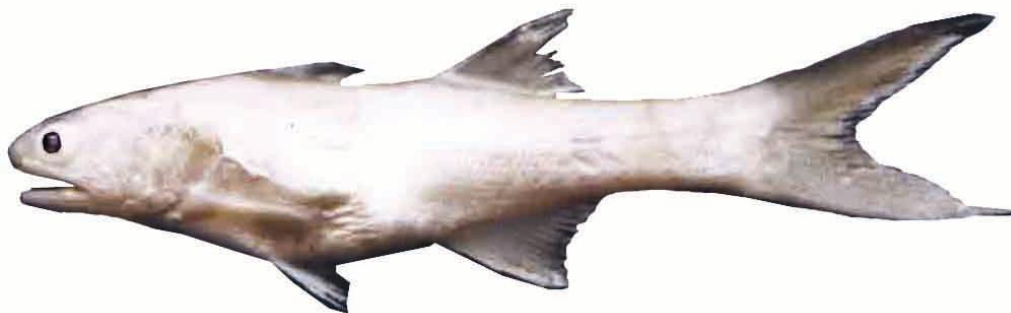
THREADFINS

Family: Polynemidae

Scientific name: *Eleutheronema tetradactylum*

Common name: Fourfinger threadfin

Local name:



Field identification characters:

- ❖ Lips absent, except for lower lip near corner of mouth; eyes large.
- ❖ Lower part of the pectoral fin with 4 filamentous rays of which the upper filament is the longest, reaching to pelvic fin base.
- ❖ Body silvery green above, cream below; dorsal and caudal fins grey, dusky at edges, pelvic and anal fins orange, pectoral filamentous rays white.

Scientific name: *Polynemus heptadactylus*

Common name: Sevenfinger threadfin

Local name:



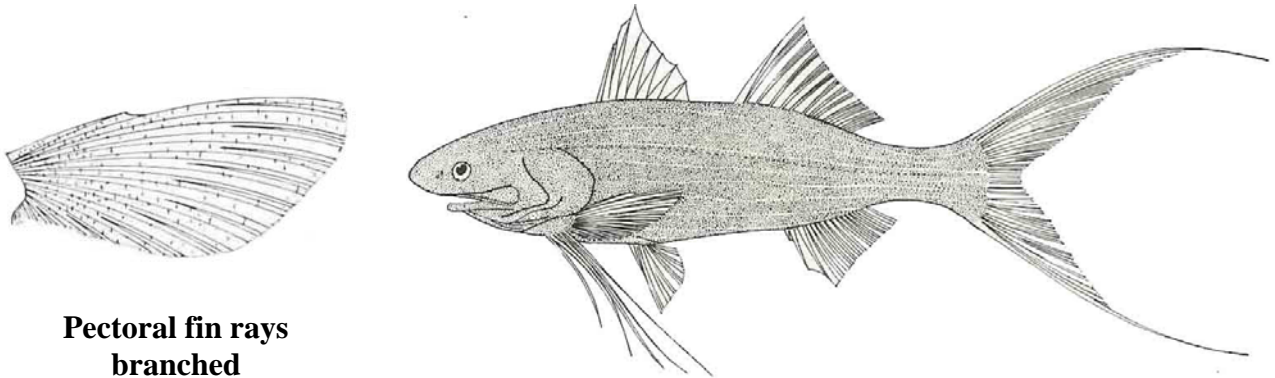
Field identification characters:

- ❖ Upper lip absent lower lip well developed; eyes large.
- ❖ Lower part of the pectoral fin with 7 filamentous rays of which the 3rd, 4th and 5th are the longest, reaching to anal fin origin.
- ❖ Colour back brown, flanks golden; pectoral fins black, as also margins of other fins.

Scientific name: *Polynemus indicus*

Common name: Indian threadfin

Local name:



**Pectoral fin rays
branched**

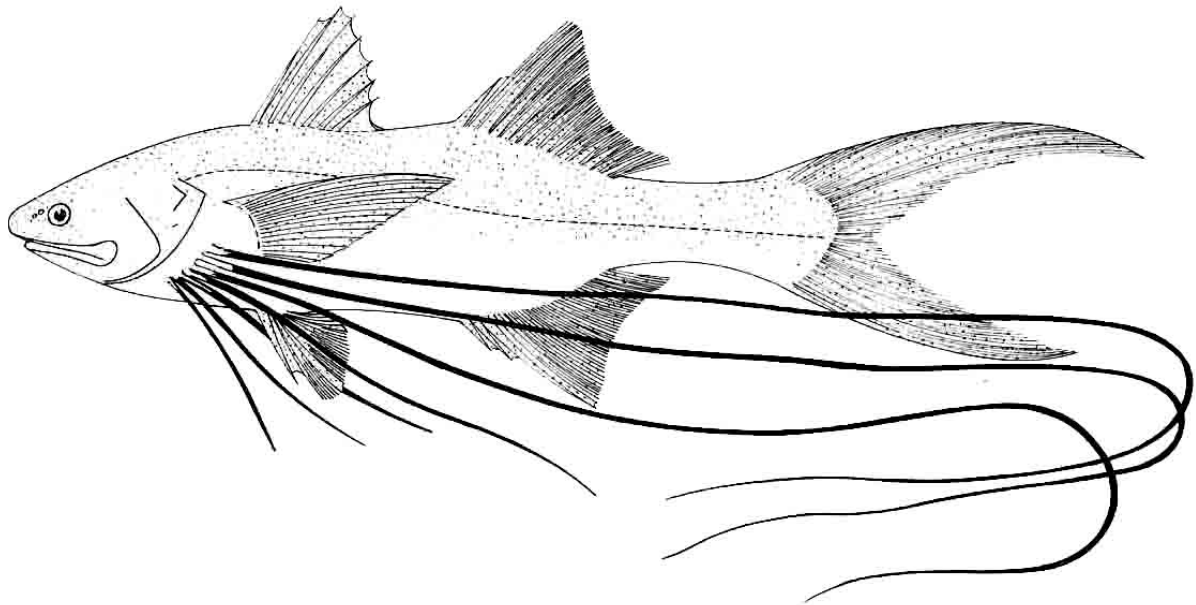
Field identification characters:

- ❖ Eyes very small, with adipose tissue.
- ❖ Pectoral fins in two parts, upper part with most rays branched, lower with 5 free filamentous rays of which the upper is the longest and reaching nearly to anal fin origin.
- ❖ Caudal fin deeply lunate, with lobes ending in filaments.

Scientific name: *Polynemus paradiseus*

Common name: Paradise threadfin

Local name:



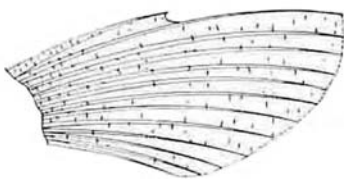
Field identification characters:

- ❖ Eyes small, with adipose tissue.
- ❖ Lower part of the pectoral fin with 7 free filamentous rays, of which 3 upper ones are the longest about twice the length of fish.
- ❖ Body golden with a shade of grey along back; all fins greyish.

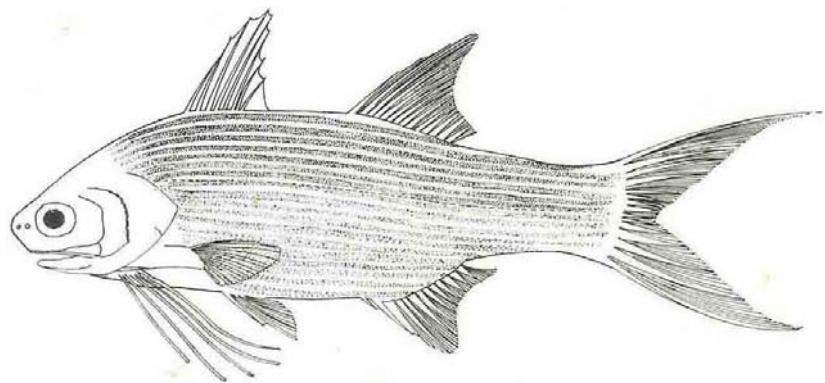
Scientific name: *Polynemus plebeius*

Common name: striped threadfin

Local name:



**Pectoral fin rays
unbranched**



Field identification characters:

- ❖ Upper part with all rays unbranched; lower part with 5 free filamentous rays, of which the upper 2 are the longest, reaching to end of pelvic fin.
- ❖ Body golden olive, with narrow dusky stripes; pectoral fins black.

Scientific name: *Polynemus sextarius*

Common name: Blackspot threadfin

Local name:



Field identification characters:

- ❖ Lower part of the pectoral fin with 7 free filamentous rays, of which upper 2 are the longest, reaching to tip of pelvic fin.
- ❖ Body golden olive above, silvery below; fins yellowish with black spots; inner side of gill cover pigmented with black; a large black blotch at beginning of lateral line.

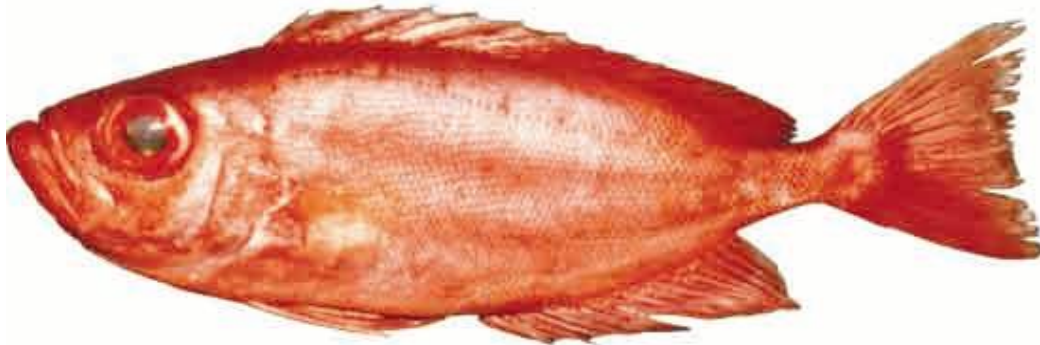
PRIACANTHIDS (BULLS EYE)

Family: Priacanthidae

Scientific name: *Priacanthus hamrur*

Common name: Moontail bullseye

Local name:



Field identification characters:

- ❖ Posterior portion of preopercle above and below spiny.
- ❖ pelvic fins shorter than head.
- ❖ Body crimson red; fins dusky to blackish, being darker near the margins; a black basal spot on the dorsal surface of pelvic fin bases.

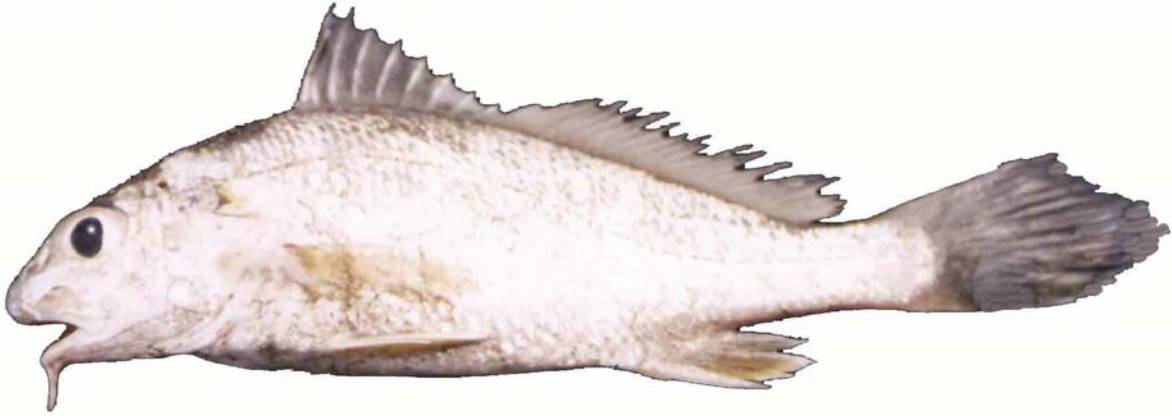
SCIAENIDAE (CROAKERS/ SMALL SCIAENIDS)

Family: Sciaenidae

Scientific name: *Dendrophysa russelli*

Common name: Goatee croaker

Local name:



Field identification characters:

- ❖ A single barbel on chin; median mental pore at the base of the solid, pointed mental barbel.
- ❖ Back grey, shading to white on belly; a dark brown band on nape; opercle with a deep blue blotch; upper edge of spiny part of dorsal fin dark.

Scientific name: *Johnius belangerii*

Common name: Belanger's croaker

Local name:



Field identification characters:

- ❖ Rostral pores 5, marginal pores 5; teeth differentiated into large and small in upper jaw only, lower jaw teeth villiform.
- ❖ Body darkly pigmented, but pigment sometimes irregular and concentrated into short dark bars along back or on dorsal fin; spinous part of dorsal fin black; a dark blotch shows through gill cover.

Scientific name: *Nibea maculata*

Common name: Blotched croaker

Local name:



Field identification characters:

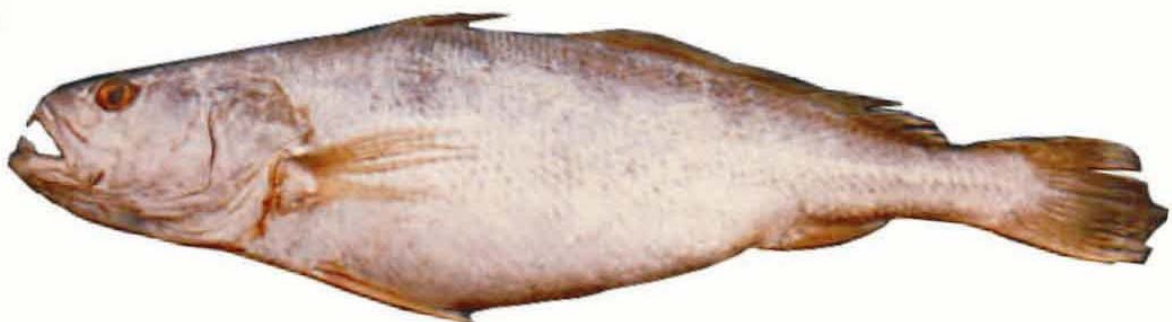
- ❖ Rostral pores 3, marginal pores 5, notching the edge to produce 3 lobes; mental pores 5.
- ❖ A distinctive colour pattern of 5 dark bars extending obliquely from the back to the lower part of flanks, and sixth dark blotch on top of caudal peduncle.
- ❖ First bar broadest, from nape obliquely backwards, lower part of bars narrower and often discontinuous.

PROTONIBEAE SPP.

Scientific name: *Protonibea diacanthus*

Common name: Spotted croaker

Local name:



Field identification characters:

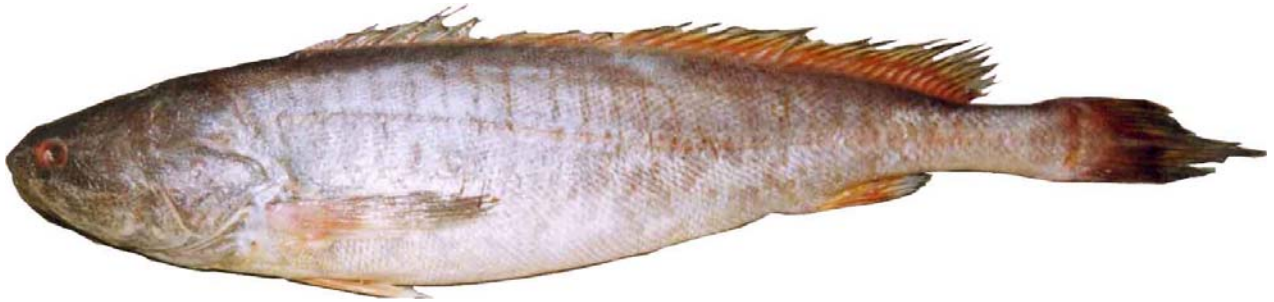
- ❖ A big, nearly horizontal and terminal mouth; teeth differentiated into large and small in both jaws.
- ❖ 5 dark bars along back and many small black spots on top of head, upper half of body and caudal fin; pectoral, pelvic, anal and lower part of caudal fins black. In large fishes the 5 bars and the small spots are absent.

OTOLITHOIDES (BRONZE CROAKERS)

Scientific name: *Otolithoides biauratus*

Common name: Bronze croaker

Local name:



Field identification characters:

- ❖ Upper jaw reaching back well beyond eye; teeth strong and spaced in both jaws, sometimes with one upper pair of large canines.
- ❖ Caudal fin acutely pointed.
- ❖ Head and back green/ grey, flanks gold/ orange, paler towards belly, minutely dotted with brown. Pectoral fins brown with a black spot at base.

AUXIS THAZARD (FRIGATE TUNA)

Family: Scombridae

Scientific name: *Auxis thazard*

Common name: Frigate tuna

Local name:



Field identification characters:

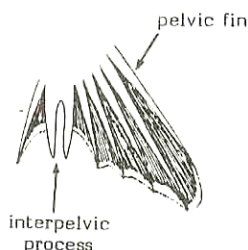
- ❖ Two dorsal fins, the 1st with 10 to 12 spines, separated 2nd fin followed by 8 finlets; pectoral fins short, but reaching past vertical line from anterior margin of scaleless area above corselets; a large single-pointed flap between pelvic fins; anal fin followed by 7 finlets.
- ❖ Back bluish, turning to deep purple or almost black on head; a pattern of 15 or more narrow, oblique to nearly horizontal, dark wavy lines in the scaleless area above the lateral line.

EUTHYNNUS AFFINIS (KAWAKAWA)

Scientific name: *Ethynnus affinis*

Common name: Kawakawa

Local name:



Field identification characters:

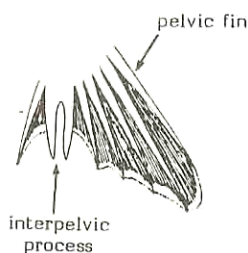
- ❖ 1st dorsal fin with 11 to 14 spines; both dorsal fins separated by only a narrow interspace.
- ❖ 2nd dorsal fin much lower than 1st and followed by 8 to 10 finlets; pectoral fins short.
- ❖ 2 flaps (interpelvic process) between pelvic fins; anal fin followed by 6 to 8 finlets.
- ❖ Back dark blue with a complicated striped from middle of 1st dorsal fin upto caudal peduncle; lower sides and belly silvery white
- ❖ Several characteristic dark spots between pelvic and pectoral fins.

KATSUWONUS PELAMIS (SKIPJACK TUNA)

Scientific name: *Katsuwonus pelamis*

Common name: skipjack tuna

Local name:



Field identification characters:

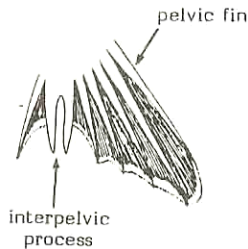
- ❖ 1st dorsal fin with 14 to 16 spines, the second followed by 7 to 9 finlets.
- ❖ A strong keel on each side of base of caudal fin between 2 smaller keels.
- ❖ Back dark purplish blue, lower sides and belly silvery, with 4 to 6 very conspicuous longitudinal dark bands.

THUNNUS ALBACARES (YELLOWFIN TUNA)

Scientific name: *Thunnus albacares*

Common name: Yellowfin tuna

Local name:



Field identification characters:

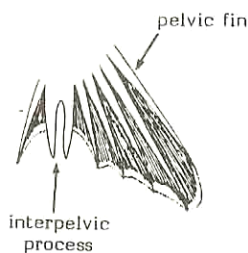
- ❖ Two dorsal fins separated only by a narrow interspace, the 2nd followed by 8 to 10 finlets; anal fin followed by 7 to 10 finlets.
- ❖ Large specimens have very long 2nd dorsal and anal fins.
- ❖ Pectoral fins moderately long, usually reaching beyond 2nd dorsal fin origin but not beyond its base.
- ❖ Back metallic dark blue changing through yellow to silver on belly; belly frequently crossed by about 20 broken, nearly vertical lines. All fins and finlets bright yellow, finlets with a narrow black border.

THUNNUS OBESUS (BIGEYE TUNA)

Scientific name: *Thunnus obesus*

Common name: Bigeye tuna

Local name:



Field identification characters:

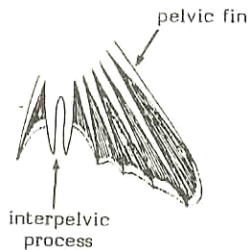
- ❖ Pectoral fins moderately long in large specimens, but very long in small specimens.
- ❖ Back metallic dark blue, lower sides and belly whitish; a lateral iridescent blue band runs along sides; 1st dorsal fin deep yellow, 2nd dorsal and anal fins light yellow, finlets bright yellow edged with black.

THUNNUS TONGGOL (LONGTAIL TUNA)

Scientific name: *Thunnus tonggol*

Common name: Longtail tuna

Local name:



Field identification characters:

- ❖ Two dorsal fins separated only by a narrow interspace, the 2nd higher than the 1st and followed by 9 finlets; pectoral fins short to moderately long.
- ❖ Back blue or black, lower sides and belly silvery white with colourless elongate oval spots arranged in horizontally oriented rows; dorsal, pectoral and pelvic fins blackish, tip of 2nd dorsal and anal fins yellow; anal fin silvery; dorsal and anal finlets yellow with greyish margins; caudal fin blackish, with streaks of yellowish green.

RASTRELLIGER KANAGURTA (INDIAN MACKERELS)

Scientific name: *Rastrelliger kanagurta*

Common name: Indian mackerel

Local name:



Field identification characters:

- ❖ Body moderately deep, gillrakers very long, visible when mouth is opened.
- ❖ Back blue/ green, flanks silver with golden tint; 2 rows of small, dark spots on sides of dorsal fin bases, narrow dark longitudinal bands on upper part of body and black spot on body near lower margin of pectoral fin. Rests of fins are yellowish to dusky.

ISTIOPHORIDAE (MARLIN/ SAILFISH)

Family: Istiophoridae

Scientific name: *Istiophorus platypterus*

Common name: Sailfish

Local name:



Field identification characters:

- ❖ Body elongate, much compressed. Upper jaw prolonged into a rather slender spear.
- ❖ Two dorsal fins, first dorsal fin large and sail-like; pelvic fins very long almost reaching to anus.
- ❖ Body dark blue dorsally, silvery white ventrally; first dorsal fin membrane blue-black with many small black spots; other fins brown-black; more or less 20 horizontal bars, each consisting of several pale blue spots on body.

Scientific name: *Makaira indica*

Common name: Black marlin

Local name:



Field identification characters:

- ❖ Body elongate, not strongly compressed. Upper jaw prolonged into a rather slender spear; nape very steep.
- ❖ Two dorsal fins, the first long and low posteriorly; the second small; height of anterior part of first dorsal fin smaller than body depth.
- ❖ Pectoral fins falcate, rigid, not foldable back against sides of body; pelvic fins shorter than pectorals, consisting of 1 spine and 2 soft rays. Lateral line single.
- ❖ Body dark blue dorsally, silvery white ventrally; first dorsal fin membrane blue-black, usually unspotted; other fins brown-black.

STREAKED SEERFISH

Scientific name: *Scomberomorus commerson*

Common name: Narrow-barred Spanish mackerel

Local name:



Field identification characters:

- ❖ Body elongate, rather compressed; lateral line abruptly bent downward below end of 2nd dorsal fin.
- ❖ Back iridescent blue/ grey, sides silver with bluish reflections, marked with numerous thin, wavy vertical bands; juveniles are frequently spotted.

KING MACKEREL (INDO PACIFIC)

Scientific name: *Scomberomorus guttatus*

Common name: Indo-pacific king mackerel

Local name:



Field identification characters:

- ❖ Lateral line, with many fine branches anteriorly almost straight to below middle of 2nd dorsal fin, and gently bent downward to middle of caudal peduncle.
- ❖ Colour blue on back, silvery on sides; about 3 irregular rows of dark round spots along sides of body; spinous dorsal fin dark up to the 8th spine, white posteriorly, with the distal margin black.

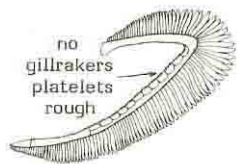
SPHYRAENA SPP. (BARACUDAS)

Family: Sphyraenidae

Scientific name: *Sphyraena jello*

Common name: Pickhandle barracuda

Local name:



Field identification characters:

- ❖ No gillrakers on 1st arch; upper and lower gill arch platelets rough, but without distinct spines; scales small.
- ❖ Colour blue/ black or brown above, sides silvery, with a dark pattern of serpentine bars reaching a little below lateral line, but no inky spots on hind part of body below lateral line.

Scientific name: *Sphyraena obtusata*

Common name: Obtuse barracuda

Local name:



Field identification characters:

- ❖ 2 gillrakers on 1st arch; upper and lower gill arch platelets rough, but without distinct spines.
- ❖ Colour grey/ brown with greenish tinge above, sides silvery white without dark bars or chevrons; 2nd dorsal, anal and caudal fins yellowish.

STROMATIDAE (BUTTER FISH/ POMFRETS)

Family: Carangidae

Scientific name: *Parastromateus niger*

Common name: Black pomfret

Local name:



Field identification characters:

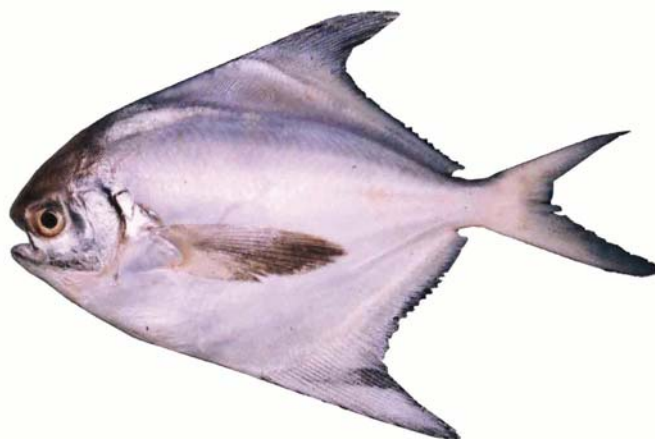
- ❖ Dorsal fin with 4 to 5 short spines (embedded and not apparent in adult).
- ❖ Pelvic fins absent.
- ❖ Straight part of lateral line with 8 to 10 weak scutes, forming a slight keel on caudal peduncle.

Family: Stromatidae

Scientific name: *Pampus argenteus*

Common name: Silver pomfret

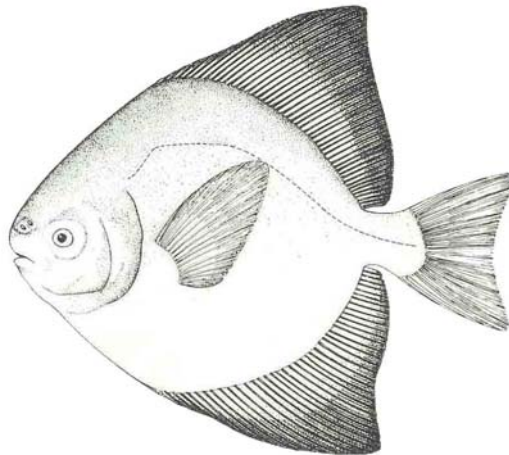
Local name:



Field identification characters:

- ❖ Mouth small, curved downward; maxilla immobile covered with skin and united to cheek.
- ❖ 5 to 10 flat blade-like spines preceding the median fins, dorsal and anal fin with posteriorly elevated lobes, no pelvic fins, caudal fin forked.
- ❖ Body silvery white on sides, head slightly brownish, edges of the fins are blackish.

Scientific name: *Pampus chinensis*
Common name: Chinese silver pomfret
Local name:



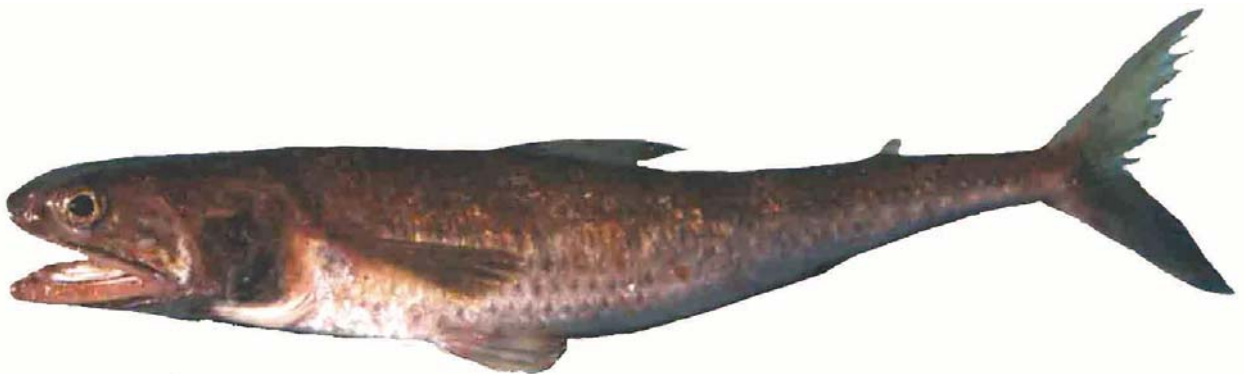
Field identification characters:

- ❖ Mouth small, curved downward; maxilla immobile covered with skin and united to cheek.
- ❖ Dorsal and anal fins subequal in length, originating at level of or behind pectoral fin bases, no spines ahead of fins; pelvic fins absent, caudal fin broad and only slightly forked.
- ❖ Colour grey to brown on the back, silvery white on sides; small black dots cover entire body; fins yellowish to dusky.

LIZARDFISHES

Family: Synodontidae

Scientific name: *Saurida tumbil*
Common name: Greater lizardfish
Local name:



Field identification characters:

- ❖ Several rows of teeth visible in both jaws even when mouth is closed.
- ❖ Back and sides brown, belly pale or silvery. 8 to 10 faint bars occasionally visible along lateral line. Distal parts of dorsal, pectoral and particularly caudal fins dusky; otherwise, no markings on fins.

Scientific name: *Saurida undosquamis*

Common name: Brushtooth lizardfish

Local name:



Field identification characters:

- ❖ Several rows of teeth visible in both jaws even when mouth is closed.
- ❖ Back and sides brown, belly silvery. 8 to 10 bars often visible along lateral line. Distal parts of dorsal, pectoral and particularly caudal fin dusky. 2nd dorsal fin ray and upper caudal fin ray with a series of about 8 dark spots; fins otherwise without markings.

TRICHIURIDAE (HAIRTAILS/ RIBBON FISH)

Family: Trichiuridae

Scientific name: *Lepturacanthus savala*

Common name: Savalai hairtail

Local name:



Field identification characters:

- ❖ Body extremely elongate and strongly compressed, ribbon-like, tapering to a point, mouth very large with a dermal flap at tip of each jaw; 2 to 3 fangs with barbs and 2 small forward directed canine teeth present in upper jaw, eyes small.
- ❖ Lower hind margin of gill cover concave, pelvic and caudal fins absent.
- ❖ Body steely blue, with metallic reflections; tapering part white. Margin of anus pale; usually, margin of dorsal fin membrane white; tip of both jaws black; pectoral girdle pale black.

Scientific name: *Trichiurus lepturus*

Common name: Largehead hairtail

Local name:



Field identification characters:

- ❖ Eyes large, lower hind margin of gill cover concave, pelvic and caudal fins absent.
- ❖ Lateral line beginning at the upper margin of gill cover, running oblique to behind tip of pectoral fin, then straight near to ventral profile.
- ❖ Body steel blue, with silvery reflections, pectoral fins semi-transparent, other fins sometimes tinged with pale yellow.

OTHER MARINE FISHES

Family: Teraponidae

Scientific name: *Terapon jarbua*

Common name: Jarbua terapon

Local name:



Field identification characters:

- ❖ Lower opercular spine very long and strong, extending distinctly beyond edge of opercular lobe, the spinous part of the fin strongly arched and deeply notched.
- ❖ Body silvery-greyish or tan dorsally and silvery white ventrally; 3 to 4 dark brown or black, downwardly curved longitudinal stripes on body. Spinous part of dorsal fin with a blackish band on upper portions of fin membranes between 3rd to 6th spines.
- ❖ Soft part of dorsal fin with membranes between first 3 rays tipped with black and membranes between 5th to 7th rays entirely black; caudal fin with median rays pigmented; both caudal lobes with dark tips and a transverse band.

Scientific name: *Terapon theraps*
Common name: Largescaled terapon
Local name:



Field identification characters:

- ❖ Body dusky dorsally, silvery-white ventrally; 4 dark brown horizontal stripes on body; juveniles also have 6 to 7 vertical bars. Spinous part of dorsal fin with a blackish band on upper portions of fin membranes between 3rd to 7th spines.
- ❖ Each caudal lobe with 1 transverse stripe, upper lobe with black tip.

EXOCOETUS (FLYINGFISH)

Scientific name: *Cheilopogon nigricans*
Common name: African flyingfish
Local name:



Field identification characters:

- ❖ Head shorter than distance between dorsal fin origin and origin of upper caudal fin lobe; lower jaw not including beneath the upper.
- ❖ Dorsal fin with 13 to 15 rays, anal fin origin 5 to 7 rays behind origin of dorsal fin.
- ❖ Colour dark above, pale below, the dark colour usually iridescent blue; dorsal fin with a prominent black spot; pectoral fins black with a pale margin, the central portion crossed by a yellow or greyish-yellow transverse stripe becoming narrower toward fin margin.

HEMIRAMPHUS SPP. (HALFBEAKS)

Scientific name: *Hemiramphus dispar*

Common name: Viviparus halfbeak

Local name:



Field identification characters:

- ❖ An elongate fish with a greatly prolonged, beak-like lower jaw; upper jaw short, triangular and scaleless.
- ❖ Pectoral fins short, not reaching past nasal pit when folded forward.
- ❖ Colour bluish above, silvery white below, beak dark.

KINGFISH (COBIA)

Family: Rachycentridae

Scientific name: *Rachycentron canadum*

Common name: Cobia

Local name:



Field identification characters:

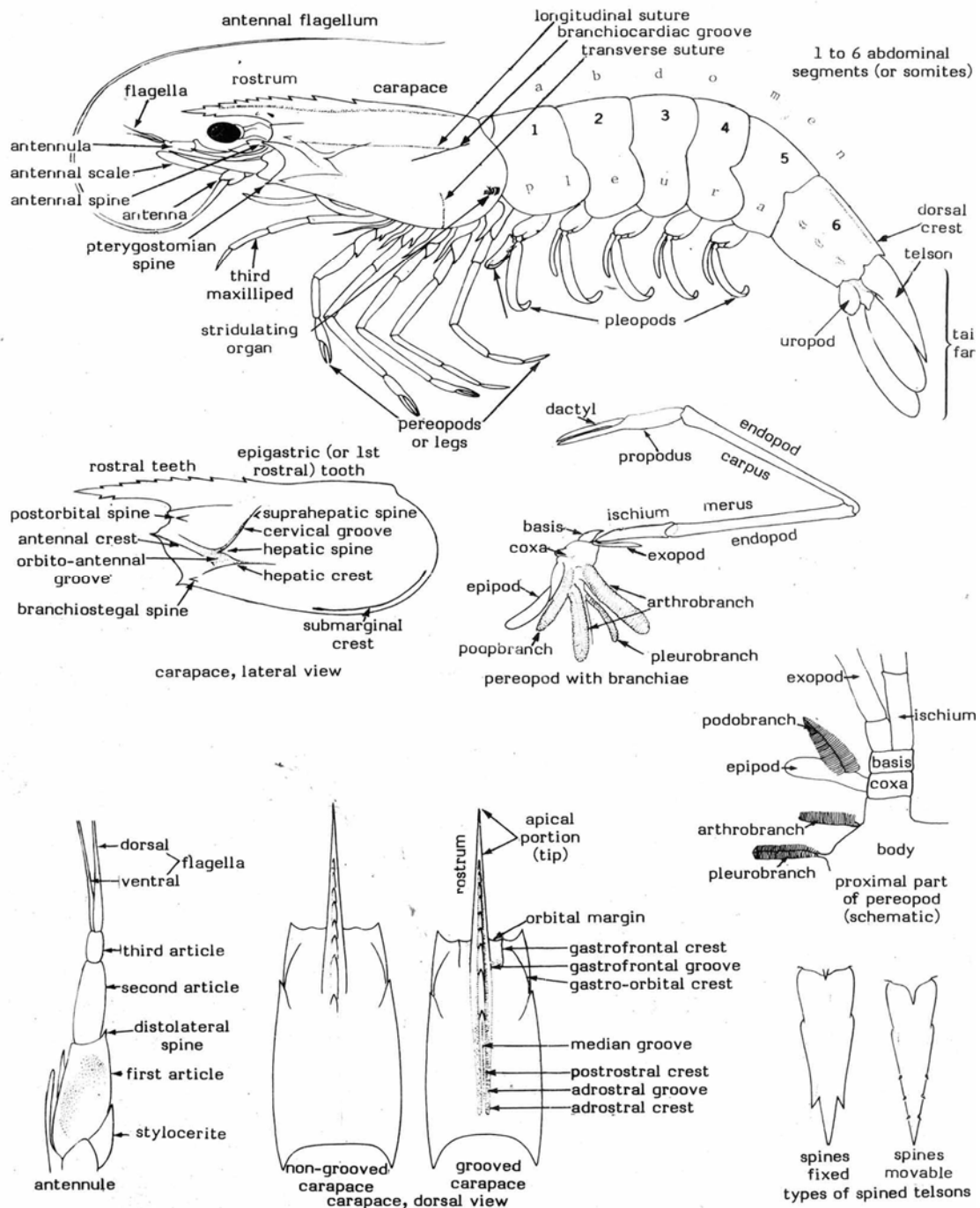
- ❖ Head broad and depressed; first dorsal fin with 7 to 9 short but strong isolated spines, not connected by membrane.
- ❖ Caudal fin lunate, upper lobe longer than lower lobe.
- ❖ Back and sides dark brown, with 2 sharply defined narrow-light bands; belly yellowish.

CRUSTACEANS



DECAPODS (SHRIMPS)

TECHNICAL TERMS



MORPHOMETRIC CHARACTERS OF SHRIMP

Penaeids	Non-penaeids
<ul style="list-style-type: none"> ▲ The pleura of 2nd abdominal segments does not overlap the pleura of 1st segment. ▲ First 3 pair of legs chelate. ▲ External genitalia (Reproductive organs) present. Fertilization external ▲ External maxillipedes 7 jointed. <p>e.g. <i>Penaeus monodon</i>., <i>Metapenaeus dobsoni</i></p>	<ul style="list-style-type: none"> ▲ The pleura of 2nd abdominal segment overlap the pleura of 1st segment. ▲ First 2 pair of legs chelate. ▲ External genitalia (Reproductive organs) absent. Fertilization external ▲ External maxillipedes 4-5 jointed. <p>e.g. <i>Acetes indicus</i>, <i>Macrobrachium rosenbergii</i>,</p>

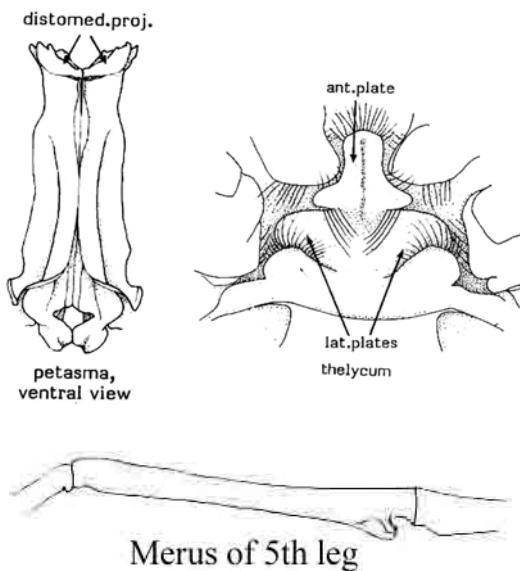
PENAEID SHRIMPS

Family: Penaeidae

Scientific name: *Metapenaeus affinis*

Common name: Jinga shrimp

Local name:



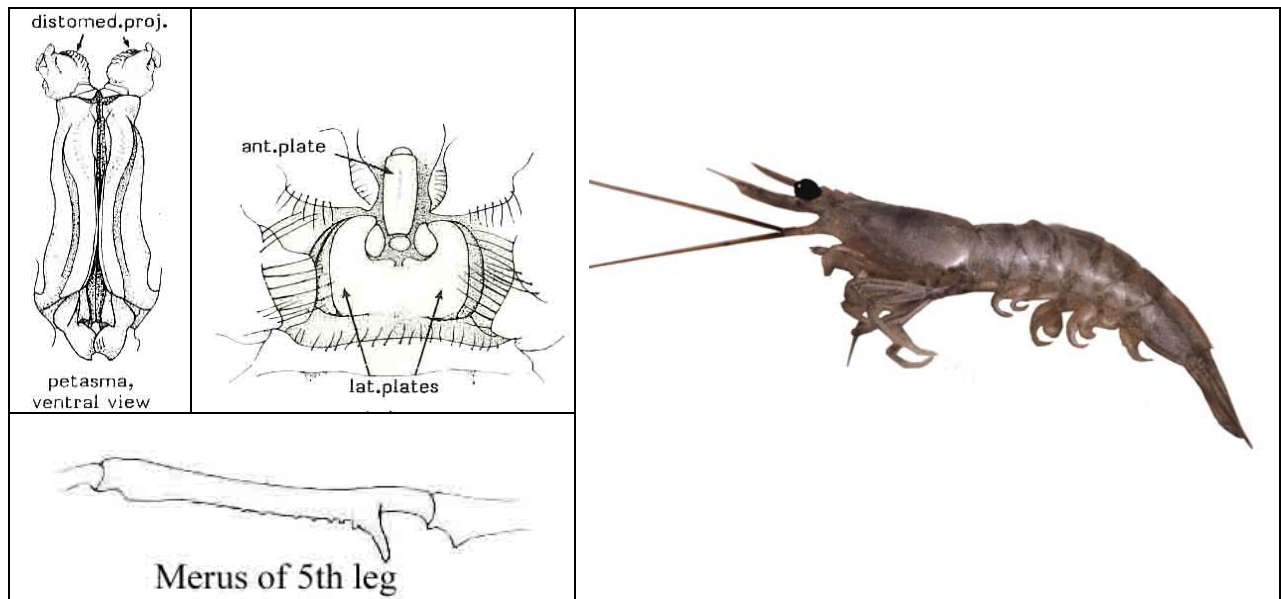
Field identification characters:

- ❖ In adult males, merus of 5th pereopod with a proximal notch, followed by a twisted, keeled tubercle; distomedian projections of petasma crescent-shaped, leaning on distolateral projections and concealing them partly or completely.
- ❖ In females, anterior plate of thelycum deeply grooved longitudinally and considerably wider posteriorly; posterior transeverse ridge with 2 anterolateral rounded projections partly covering lateral plates
- ❖ Body pale greenish to pale pinkish, sometimes green-bluish or pink-brownish, with green or red-brown specks, uropod's tip usually whitish to yellowish.

Scientific name: *Metapenaeus monoceros*

Common name: Speckled shrimp

Local name:



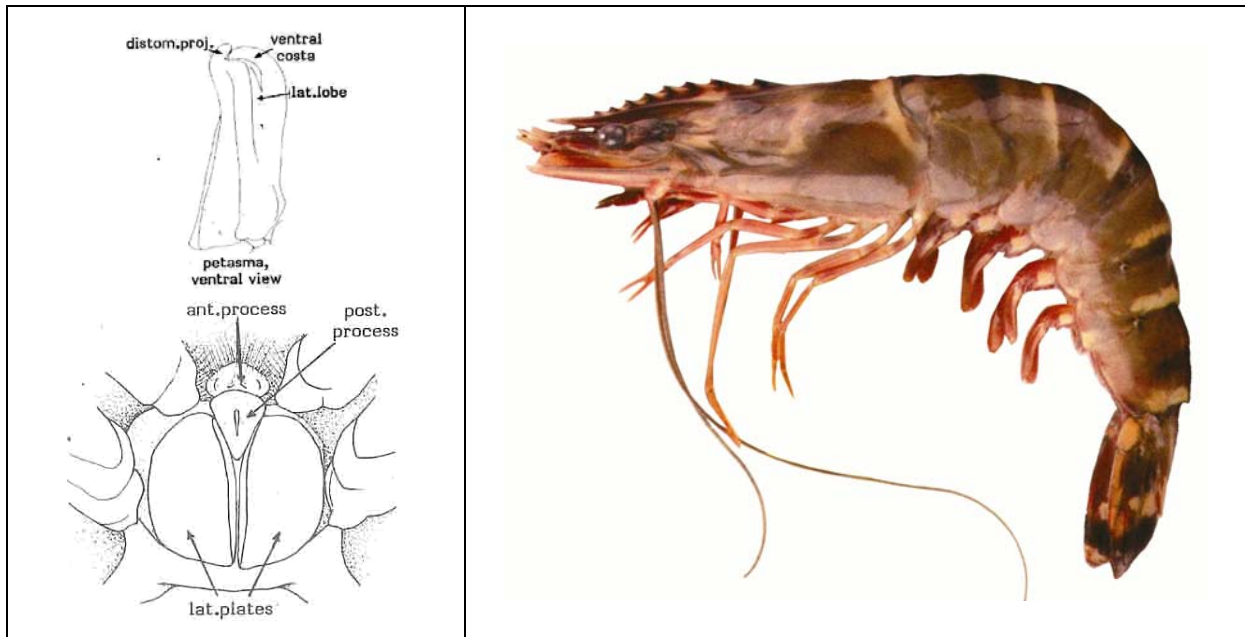
Field identification characters:

- ❖ In adult males, merus of 5th pereopod with a proximal notch, followed by a twisted, keeled tubercle; distomedian projections of petasma crescent-shaped, leaning on distolateral projections and concealing them partly or completely.
- ❖ In females, anterior plate of thelycum deeply grooved longitudinally and considerably wider posteriorly; posterior transverse ridge with 2 anterolateral rounded projections partly covering lateral plates.

Scientific name: *Penaeus monodon*

Common name: Giant tiger prawn

Local name:



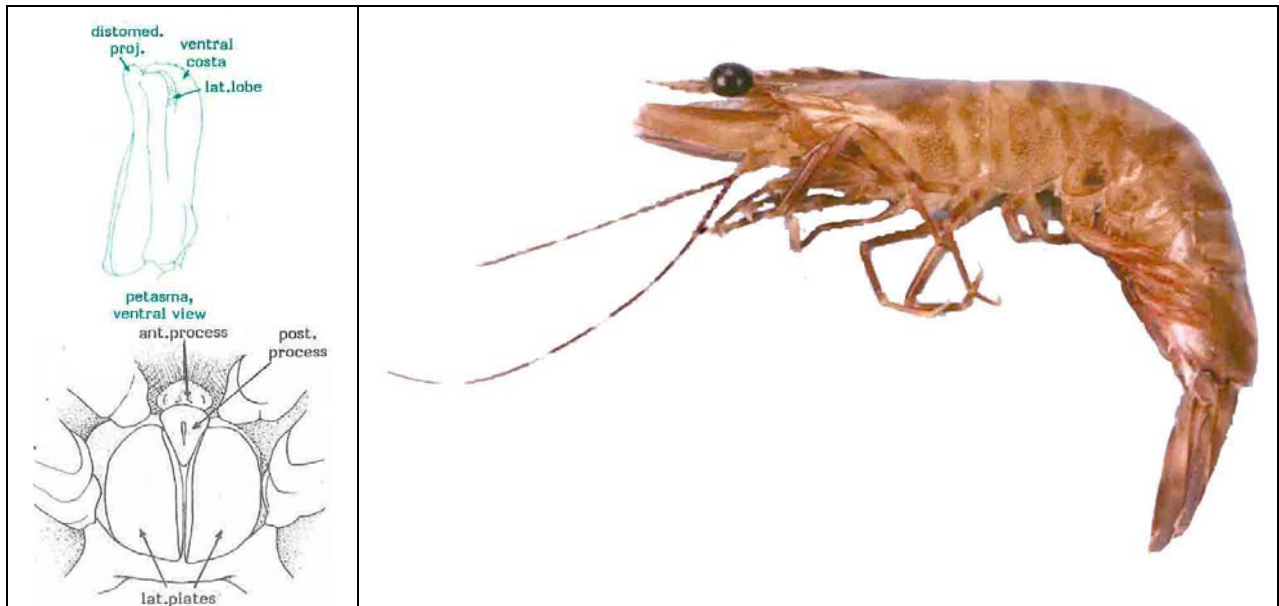
Field identification characters:

- ❖ Petasma with distomedian projections slightly overhanging distal margin of costae; ventral costae generally unarmed, sometimes minutely serrate at tip; outer surface of lateral lobes generally unarmed; inner surface of lateral lobes armed with spinules.
- ❖ Thelycum with lateral plates, their median margin sometimes forming tumid lips; anterior process concave, rounded distally; posterior process subtriangular, partly inserted between thelycal plates.
- ❖ Body green-grey to brown, sometimes reddish to bluish; abdomen with dark brown to dark grey and pale yellow dorsal transverse bands; antennae uniform pink-brown; uropods brown, green-grey or bluish, with a pale yellow to pink median transverse band.

Scientific name: *Penaeus semisulcatus*

Common name: Green tiger prawn

Local name:



Field identification characters:

- ❖ Body pale brown, sometimes greenish; carapace often with 2 yellow-cream dorsal transverse bands; abdomen with brown-grey and pale yellow dorsal transverse bands; antennae banded white and brown.

NON-PENAEID SHRIMPS

Family: Hippolytidae

Scientific name: *Exhippolysmata ensirostris*

Common name: Hunter shrimp

Local name:



Field identification characters:

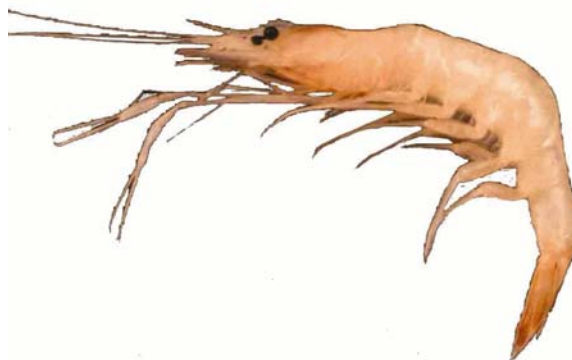
- ❖ Rostrum long, longer than carapace, its dorsal margin with an elevated basal crest of 7 to 12 teeth, which are placed close together, rest of the dorsal margin with 3 to 4 widely spaced teeth; ventral margin with 7 to 16 more or less equally spaced teeth.
- ❖ 2nd pair of pereopods with small pincers, carpus long and subdivided in to more than 7 articles.
- ❖ Colour whitish or pinkish with the appendages red often dark red; rostrum and flagella also red.

Family: Palaemonidae

Scientific name: *Nematopalemon tenuipes*

Common name: Spider prawn

Local name:



Field identification characters:

- ❖ Rostrum long and slender, with an elevated basal crest of 4 to 7 teeth over the eye; most of distal part of dorsal margin toothless save for a small subdistal tooth; ventral margin with 2 to 6 teeth.
- ❖ Colour whitish translucent with distal part of rostrum dark reddish brown; some reddish brown colour on antennae, antennules and distal margins of uropods and telson; also a reddish brown spot on bases of uropods.

NATANTIAN DECAPODS (LOBSTERS)

Family: Palinuridae

Scientific name: *Panulirus polyphagus*

Common name: Mud spiny lobster

Local name:



Field identification characters:

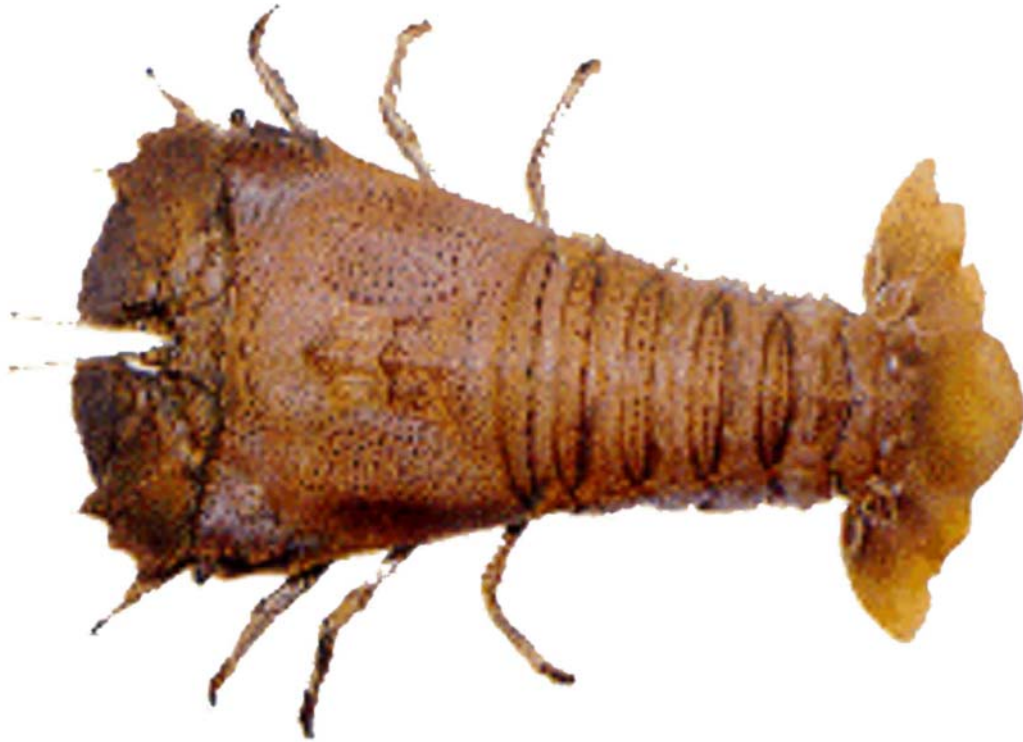
- ❖ Broad antennular plate bearing a single pair of principal spines; antennules very long, about 1 ½ times the total body length; abdominal segments without transverse grooves. Legs 1 to 4 without pincers.
- ❖ Colour dull greenish, abdominal segments each with a distinct transverse band of white across posterior margin. Antennules broad-banded; legs irregularly blotched creamy white.

Family: Scyllaridae

Scientific name: *Thenus orientalis*

Common name: Flathead locust lobster

Local name:



Field identification characters:

- ❖ Carapace flat, widest in front, distinctly narrowing posteriorly; lateral margins straight, with only 2 teeth, one at end, the other in the anterior fourth, posterior $\frac{3}{4}$ without teeth.
- ❖ Anterior tooth forming part of the orbit, which is situated at the anterolateral angle of carapace. Fifth segment with a sharp spiniform tooth in the middle of posterior margin.
- ❖ Colour pale yellowish brown with the granules of a darker brown. Tips of the teeth whitish. Tail fan with a yellow tinge.

MARINE CRUSTACEAN CRABS

Family: Portunidae

Scientific name: *Charybdis cruciata*

Common name: Christian crab

Local name:



Field identification characters:

- ❖ Carapace broad and flat; 5 to 9 teeth on anterolateral margin, no spine on dactyls.
- ❖ Distal 2 segments of last pair of legs more flattened than in anterior legs, dactyl of last pair of legs usually oval.
- ❖ Body purplish brown with a large yellow cross; chelipeds purple, spotted with yellow dots.

Scientific name: *Portunus Pelagicus*

Common name: blue swimming crab

Local name:



Field identification characters:

- ❖ 1 spine near posterior margin and 2 spines near anterior margin of chelate legs.
- ❖ Transverse ridge running between last lateral teeth, last carapace tooth greatly expanded.
- ❖ Body deep brown with numerous creamish spots all over the carapace, chelate and swimming legs; walking legs bluish to dusky.

Scientific name: *Portunus pelagicus*

Common name: Three spot swimming crab

Local name:



Field identification characters:

- ❖ Carapace bears 9 sharply acuminate teeth on antero-lateral borders equal in size.
- ❖ Anterior spines absent on chelate legs.
- ❖ Carapace reddish brown spots surrounded by a bluish white rim.

Scientific name: *Scylla serrata*

Common name: Mud crab

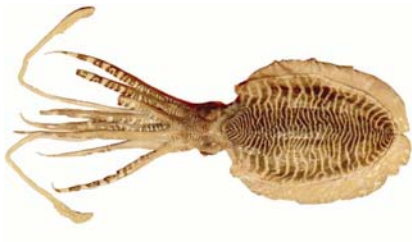
Local name:



Field identification characters:

- ❖ Carapace bears 9 sharply acuminate teeth on antero-lateral borders equal in size.
- ❖ Colour uniformly dark greenish grey.

MOLLUSCANS



CUTTLEFISH, SQUIDS, MOLLUSCAN SHELLS

Family: Loliginidae

Scientific name: *Loligo duvaucelli*

Common name: Indian squid

Local name:



Field identification characters:

- ❖ 10 Circumoral arms, the 4th pair, the tentacles, contractile but not retractile into pockets, median suckers 1 to 5 times larger than marginal suckers with 14 to 17 sharp teeth on ring.
- ❖ Fin length slightly more than 50% mantle length.
- ❖ Eyes without lids covered with transparent membrane.

Family: Octopodidae

Scientific name: *Octopus sp.*

Common name: Octopus

Local name:



Field identification characters:

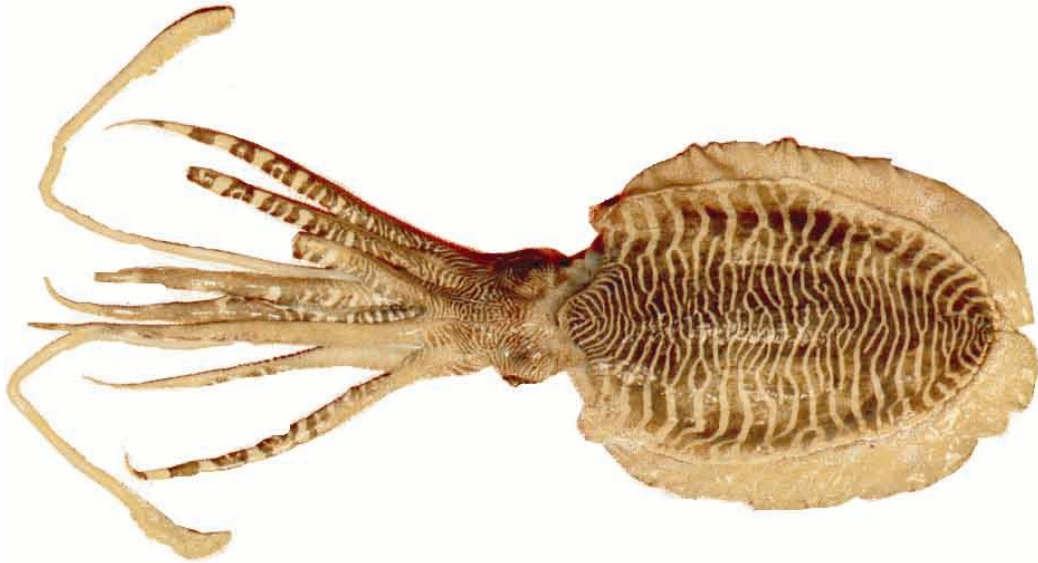
- ❖ 8 circumoral arms, no tentacles, fins subterminal (on sides of mantle) widely separated or absent.
- ❖ Shell reduced, vestigial, cartilaginous or absent, suckers without chitinous rings.
- ❖ Eyes with primary and secondary lids.

Family: Sepiidae

Scientific name: *Sepia pharonis*

Common name: Pharaoh cuttlefish

Local name:



Field identification characters:

- ❖ Mantle broad; fins wide nearly as long as broad, tentacular clubs moderately long.
- ❖ A vivid transverse tiger-stripe pattern (especially in males) on dorsal mantle and head, a narrow light, interrupted line along bases of fins.

Scientific name: *Sepiella inermis*

Common name: Spineless cuttlefish

Local name:



Field identification characters:

- ❖ Cuttlebone (shell or sepion) internal chalky (calcareous), porous, finely laminate, mantle broad robust, sac-like slightly flattened dorsoventrally, fins narrow.
- ❖ Body greyish brown, with a series of reddish patches along bases of fins.

MOLLUSCAN SHELLS

Family: veneridae

Scientific name: *Meretrix meretrix*

Common name: Venus shell

Local name:



Field identification characters:

- ❖ Large, triangularly ovate, thick with polished and glossy surface.
- ❖ Colour straw yellow with dark brown band on left edge of shell.

Scientific name: *Catylsia opima*

Common name: Venus shell

Local name:



Field identification characters:

- ❖ Small, tick, solid and flattened shell with glossy surface.
- ❖ Colour pale yellowish brown or straw coloured, mottled and rayed with purplish grey markings.

Scientific name: *Papiha textile*

Common name: Venus shell

Local name:



Field identification characters:

- ❖ Shell greatly elongated, thick and heavy with smooth and glossy surface.
- ❖ Colour pale yellowish white marked with purplish grey inverted “V” markings.

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