

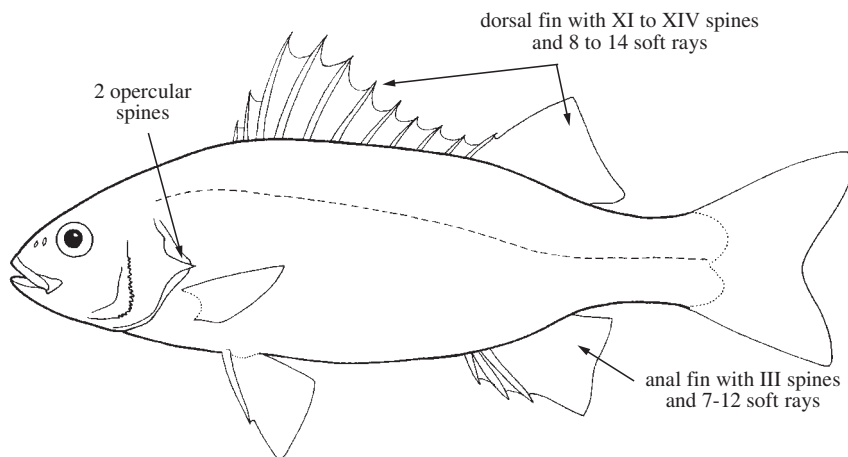
TERAPONTIDAE

(= Therapontidae, Theraponidae, Teraponidae)

Terapon-perches (terapon-grunters)

by R.P. Vari

Diagnostic characters: Small to medium-sized (to 35 cm) perch-like fishes; body oblong to oblong-ovate, slightly to moderately compressed laterally. Mouth moderate, protractile, with gape often oblique, sometimes horizontal; jaws typically equal, sometimes upper jaw longer, the **upper jaw not extending beyond centre of orbit**; jaw teeth usually in villiform bands (reduced to 2 or 3 distinct rows in some species), with teeth of outer row distinctly larger than those in remainder of band; shape of jaw teeth conical, flattened, or tricuspidate; teeth also present on roof of mouth (vomer and palatines) in juveniles of many species, lacking in adults of most species. Posterior and ventral margins of preopercle variably serrate, serrations more prominent in juveniles, usually more developed on vertical margin; first infraorbital (lacrimal) with serrations along ventral margin, serrations less developed with age in some species; **opercle with 2 spines posteriorly, the lower one larger and stronger**, extending beyond margin of opercular lobe in some species. Posttemporal bone exposed and expanded posteriorly in some species with posterior margin serrate. **Dorsal fin single, arched, with XI to XIV spines and 8 to 14 soft rays**, fourth to seventh dorsal-fin spines longest, those following decreasing in length to penultimate spine which is much shorter than ultimate spine in some species, this resulting in a notched spinous dorsal fin; anal fin with III variably strong spines and 7 to 12 soft rays; pelvic-fin base located behind vertical line through base of pectoral fins; **caudal fin usually emarginate (truncate or rounded in some entirely fresh-water species)**. Lateral line single and complete. Scales adherent, finely ctenoid (rough to touch). **Colour:** body tan or light grey, often silvery in life with various dark markings; most marine species with 3 or more dark, straight or downwardly curved longitudinal stripes on body; many marine species with dark transverse bands on lobes of caudal fin.

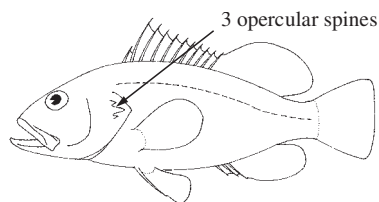


Habitat, biology, and fisheries: Marine terapontids inhabit inshore marine and brackish waters, with some species also entering hypersaline and fresh waters. Many terapontid species limited to fresh waters of Australia and New Guinea. Marine members of family are good food fishes entering catches largely by artisanal and other inshore fisheries. None of the species is important enough to support a special fishery.

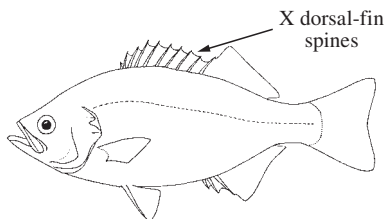
Similar families occurring in the area

Serranidae: mouth large, with upper jaw typically reaching to below vertical through posterior margin of eye (not extending beyond vertical through centre of eye in Terapontidae); caudal fin typically rounded (usually emarginate in marine Terapontidae); 3 strong spines on opercle (2 spines in Terapontidae).

Kuhliidae: dorsal fin with X spines (XI to XIV in Terapontidae).



Serranidae



Kuhliidae

Key to the species of Terapontidae occurring in the area

- 1a.** Posttemporal bone covered with skin and scales, not expanded posteriorly, its posterior margin not serrate (Fig. 1a) (*Amniataba*, *Pelates*) → 2
- 1b.** Posttemporal bone expanded posteriorly with skin and scale covering reduced, posterior margin serrate (Fig. 1b) (*Terapon*, *Rhyncopelates*, *Mesopristes*) → 4
- 2a** Lateral-line scales 46 to 54; spinous portion of dorsal fin without distinct patch of black pigmentation anteriorly; body lacking distinct, dark, longitudinal stripes; lobes of caudal fin with prominent oblique transverse black pigmentation *Amniataba caudavittatus*
- 2b** Lateral-line scales 66 to 87; distinct patch of black pigmentation on anterior portion of spinous dorsal fin; body with distinct, dark, longitudinal stripes; lobes of caudal fin without prominent oblique transverse black pigmentation (*Pelates*) → 3
- 3a.** Teeth tricuspidate; gill rakers (including rudiments) on first gill arch 6 or 7 on upper limb, 14 or 15 on lower limb; lateral-line scales 76 to 87 *Pelates sexlineatus*
- 3b.** Teeth lacking side cusps; gill rakers (including rudiments) on first gill arch 16 to 18 on upper limb, 22 to 27 on lower limb; lateral-line scales 66 to 75 *Pelates quadrilineatus*
- 4a.** Lower opercular spine greatly developed, extending beyond margin of opercular lobe (Fig. 2a); lobes of caudal fin with distinct oblique stripes; spinous dorsal fin with large black blotch on middle rays (*Terapon*) → 5
- 4b.** Lower opercular spine not extending beyond margin of opercular lobe (Fig. 2b); lobes of caudal fin lacking distinct oblique stripes; spinous dorsal fin lacking large black blotch on middle rays. (*Rhyncopelates*, *Mesopristes*) → 7

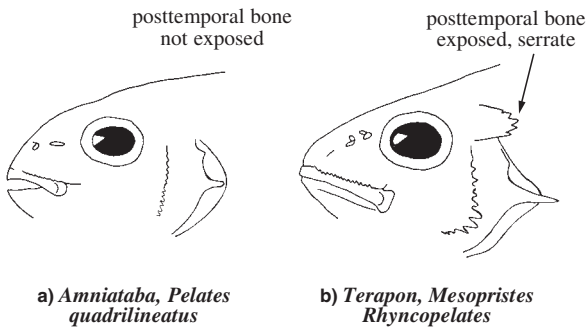


Fig. 1

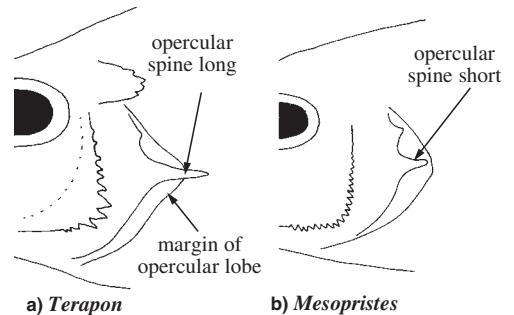












Fig. 2

- 5a.** Lateral-line scales 46 to 56; scale rows above lateral line 6 to 8 *Terapon theraps*
- 5b.** Lateral-line scales 70 or more; scale rows above lateral line 10 to 17 → 6
- 6a.** Two to 4 straight, dark, longitudinal stripes along side of body; 18 to 24 gill rakers (including rudiments) on lower limb of first gill arch *Terapon puta*
- 6b.** Three downward curved, dark, longitudinal stripes along side of body; 12 to 15 gill rakers (including rudiments) on lower limb of first gill arch. *Terapon jarbua*
- 7a.** Lateral-line scales 60 to 75 *Rhyncopelates oxyrhynchus*
- 7b.** Lateral-line scales 48 to 58 (*Mesopristes*) → 8
- 8a.** Cheek scale rows 4 to 6; body with dark, vertical bars dorsally and horizontal stripes ventrally in all but largest adults *Mesopristes cancellatus*
- 8b.** Cheek scale rows 8 or 9; body without dark vertical bars dorsally at any age; juveniles with horizontal stripes on lateral and dorsolateral surfaces of body, stripes absent in adults *Mesopristes argenteus*

List of species occurring in the area

Note: entirely fresh-water species from Australia and New Guinea are not included here.

The symbol  is given when species accounts are included.

-  *Amniataba caudavittatus* (Richardson, 1844)
-  *Mesopristes argenteus* (Cuvier, 1829)
-  *Mesopristes cancellatus* (Cuvier, 1829)
-  *Pelates quadrilineatus* (Bloch, 1790)
-  *Pelates sexlineatus* (Quoy and Gaimard, 1824)
-  *Rhyncopelates oxyrhynchus* (Temminck and Schlegel, 1842)
-  *Terapon jarbua* (Forsskål, 1775)
-  *Terapon puta* (Cuvier, 1829)
-  *Terapon theraps* (Cuvier, 1829)

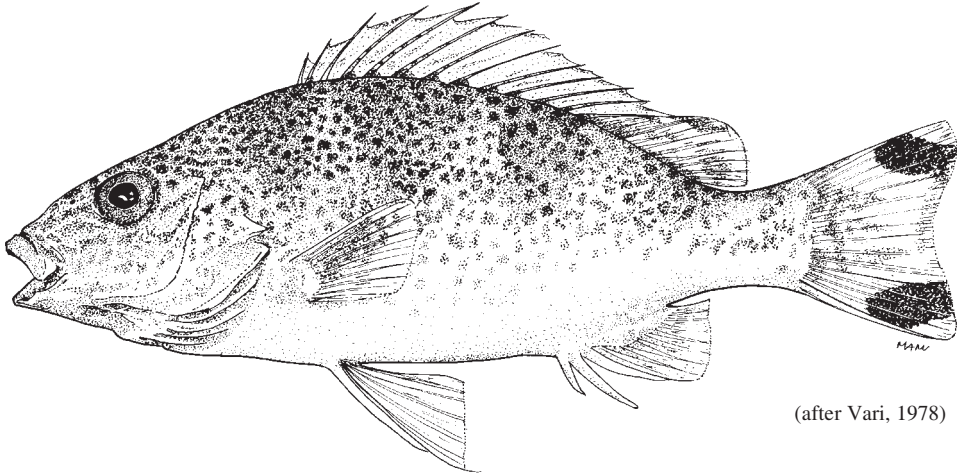
Reference

Vari. R.P. 1978. The Terapon perches (Percoidei, Teraponidae), a cladistic analysis and taxonomic revision. *Bull. Am. Mus. Natl. Hist.*, 159(5):175-340.

Amniataba caudavittatus (Richardson, 1844)

Frequent synonyms / misidentifications: *Terapon caudavittatus* (Richardson, 1844); *Amphitherapon caudavittatus* (Richardson, 1844) / None.

FAO names: En - Flagtailed terapon.



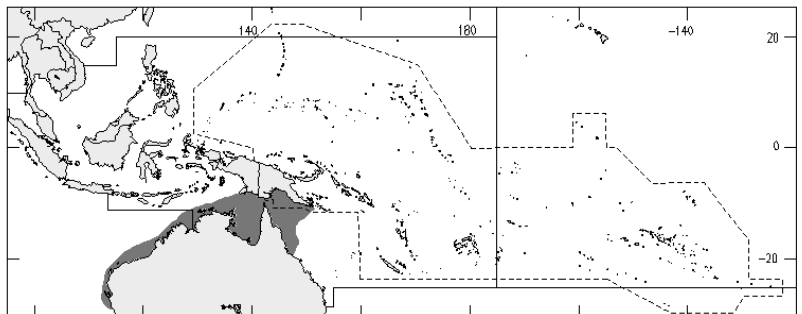
(after Vari, 1978)

Diagnostic characters: A moderate-sized species; body moderately deep and compressed laterally. Upper jaw slightly longer than lower jaw, gape oblique; posterior margin of upper jaw extending approximately to a vertical line through anterior margin of eye in juveniles, only to a vertical line in the region between posterior nostril and eye in adults. Teeth conical, outer row enlarged and followed by a villiform band in each jaw, vomer and palatines (on roof of mouth) toothless. Preopercle slightly serrate, serrations largest along angle; **lower opercular spine stronger and longer, not extending beyond margin of opercular lobe. Posttemporal bone not exposed, covered with skin and scales.** First gill arch with 6 to 8 gill rakers on upper limb, 12 or 13 on lower limb. Dorsal fin with XII or XIII spines and 8 to 10 soft rays, the spinous part of dorsal fin arched, the fifth spine longest, and **ultimate spine shortest**; anal fin with III spines and 8 or 9 soft rays, **second anal-fin spine longer than third**, shorter than longest anal-fin rays. **Pored scales in lateral line 46 to 54**; 7 to 9 rows of scales above lateral line and 17 to 19 below it. **Colour:** dorsal portions of body grey, ventral part of body lightly pigmented; dorsal half of body with randomly dispersed spots somewhat smaller than pupil; some individuals with 5 or 6 incomplete vertical bars extending from dorsal surface of body down to level of pectoral fins; spinous dorsal fin with irregular spotting and faint duskiness distally, **but without a distinct patch of dark pigmentation anteriorly**; soft dorsal fin somewhat dusky basally and distally; spinous portion of anal fin slightly dusky; soft portion of anal fin slightly dusky anteriorly; caudal fin spotted basally, **with distinct, black blotch extending obliquely across each lobe.**

Size: Maximum total length about 28 cm, commonly to 15 cm.

Habitat, biology, and fisheries: Occurs in a variety of habitats ranging from fresh to hypersaline waters. Within its range it occurs in a variety of near shore and fresh-water habitats. Caught with handlines, seines, and other inshore fishing gear.

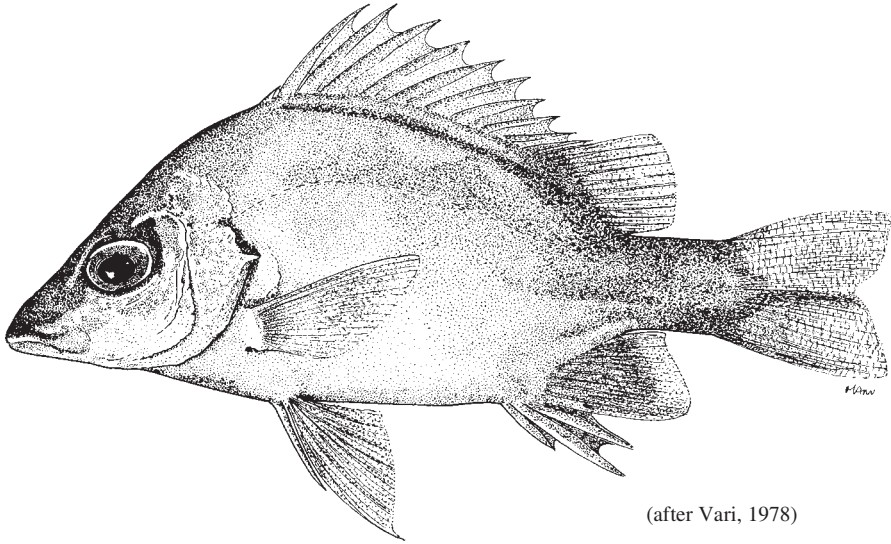
Distribution: Western and northern Australia to southern Papua New Guinea.



Mesopristes argenteus (Cuvier, 1829)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Silver terapon.



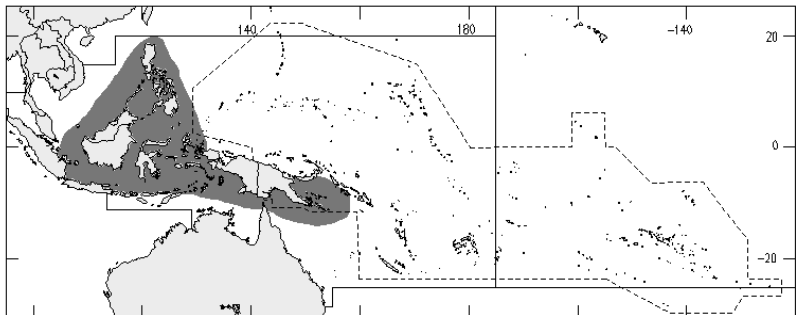
(after Vari, 1978)

Diagnostic characters: A moderate-sized species; body moderately deep, distinctly compressed laterally, ventral profile of head and body nearly straight to anus, more so in adults. **Upper jaw longer than lower**, gape nearly horizontal; posterior margin of upper jaw extending to vertical line through anterior margin of eye in juveniles, only to vertical through posterior nostril in adults. Teeth villiform, in bands in each jaw, outer row of teeth distinctly enlarged; vomer and palatines (on roof of mouth) toothless. Preopercle serrate, serrations larger along angle and vertical border; **lower opercular spine stronger and longer, not extending beyond margin of opercular lobe. Posttemporal bone expanded and exposed posteriorly, with serrate posterior margin.** First gill arch with 7 to 9 gill rakers on upper limb, 15 to 17 on lower limb. Dorsal fin with XII spines and 9 to 11 soft rays, the spinous part of fin arched, the fourth or fifth spines longest, and **penultimate and ultimate spines subequal**; anal fin with III spines and 8 or 9 soft rays, **second and third anal-fin spines very long and strong**, second longest and as long as or slightly longer than longest anal-fin rays. **Pored scales in lateral line 52 to 58**; 6 to 8 rows of scales above lateral line and 18 to 21 below it; **cheek-scale rows 8 or 9. Colour:** dorsal portions of body grey, ventral part of body silvery to silvery white; **juveniles with 5 longitudinal body stripes**; coloration in adults uniform; spinous and soft portions of dorsal fin slightly dusky with blackish pigmentation sometimes present distally, **but lacking large black blotch on middle rays**; caudal fin dusky, **without distinct, dark, oblique stripes.**

Size: Maximum total length about 30 cm, commonly to 23 cm.

Habitat, biology, and fisheries: Found in marine, brackish, and fresh waters. Caught with handlines, seines, and other inshore fishing gear.

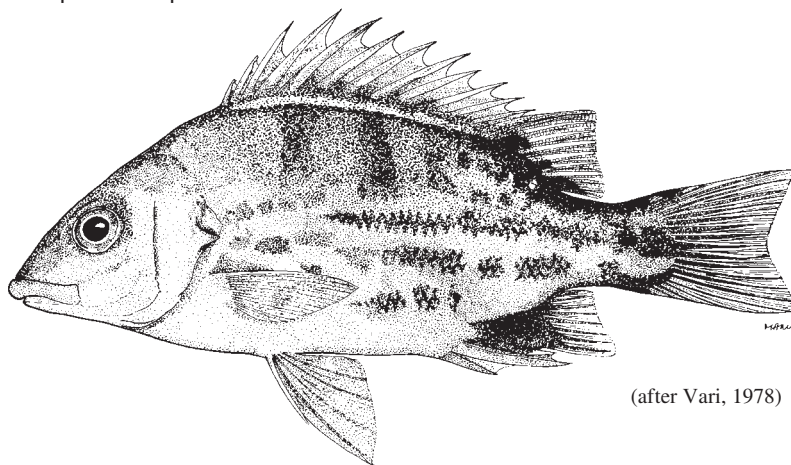
Distribution: From Sumatra through rest of Indonesia, to northern Australia, New Guinea, Vanuatu, and the Philippines.



Mesopristes cancellatus (Cuvier, 1829)

Frequent synonyms / misidentifications: *Terapon cancellatus* (Cuvier, 1829) / None.

FAO names: En -Tapiroid terapon.



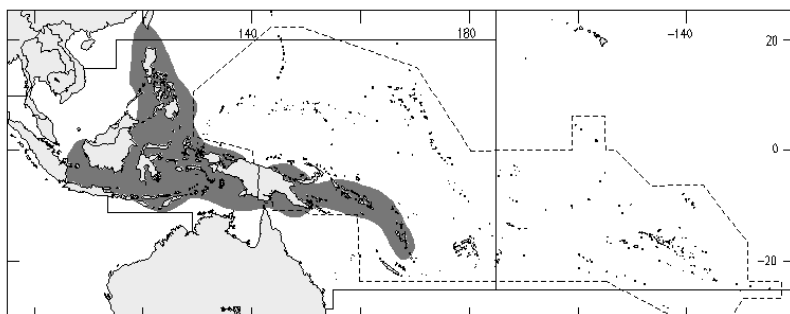
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Diagnostic characters: A moderate-sized species; body moderately deep, distinctly compressed laterally, ventral profile of head and body nearly straight to anus, more so in adults. Upper jaw longer than lower jaw, increasingly so in larger specimens; upper jaw fleshy and forming a prominent fleshy pad with age, gape horizontal; posterior margin of upper jaw extending approximately to vertical line through anterior margin, typically somewhat more posteriorly in adults. Teeth conical, outer row enlarged and followed by bands of villiform teeth in each jaw; vomer and palatines (on roof of mouth) toothless. Preopercle serrate, serrations very large in juveniles, less developed in adults in which serrations are larger along vertical border; lower opercular spine stronger and longer, **not extending beyond margin of opercular lobe. Posttemporal bone expanded and exposed posteriorly, with serrate posterior margin.** First gill arch with 9 to 11 gill rakers on upper limb, 15 to 18 on lower limb. Dorsal fin with XI or XII spines and 10 or 11 soft rays, the spinous part of dorsal fin markedly arched, the fifth or sixth spines longest, and **penultimate and ultimate spines subequal, but penultimate spine distinctly stronger**; anal fin with III spines and 8 or 9 soft rays, **second and third anal-fin spines strong**, second spine nearly as long as longest anal-fin rays. **Pored scales in lateral line 48 to 58**; 6 to 8 rows of scales above lateral line and 15 to 21 below it; **cheek-scale rows 4 to 6.** **Colour:** dorsal portions of body grey, ventral part of body silvery to silvery white; **body with 3 dark longitudinal stripes and with 5 dark oblique cross bars dorsal to uppermost stripe**; stripes and bars much less obvious in larger specimens and fading into general background coloration in largest individuals; spinous dorsal fin clear, **lacking large black blotch on middle rays**; soft dorsal fin with some dusky basal markings; spinous portion of anal fin slightly pigmented between second and third spines and between third spine and first anal-fin ray; soft portion of anal fin with basal blotch on first 3 rays; caudal fin with some of the body stripes continued onto its base, **but without dark oblique stripes across lobes.**

Size: Maximum total length about 29 cm, commonly to 22 cm.

Habitat, biology, and fisheries: Found in marine, brackish, and fresh waters. Caught with handlines, seines, and other inshore fishing gear.

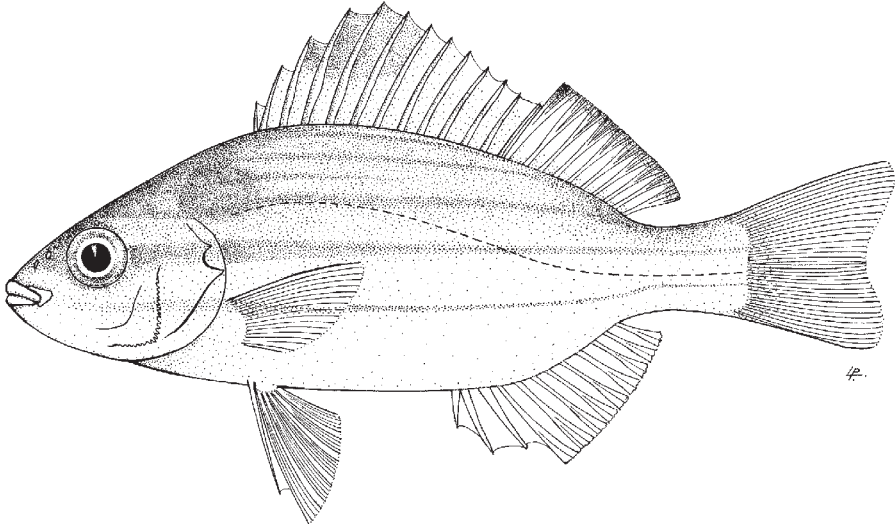
Distribution: From Sumatra eastward through rest of Indonesia, New Guinea, and Vanuatu to the Solomon Islands; in the north to the Philippines and Taiwan Province of China.



Pelates quadrilineatus (Bloch, 1790)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Fourlined terapon; Fr - Violon crépuscule; Sp - Baraonga aurora.

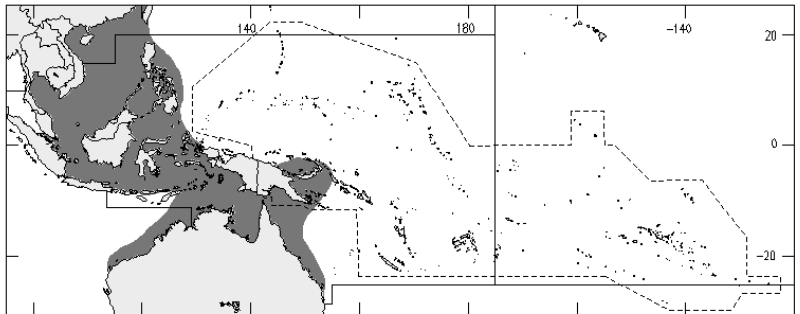


Diagnostic characters: A moderately small species; body oblong, compressed laterally. Jaws equal, gape oblique; posterior margin of upper jaw extending to vertical line through posterior nostril; teeth brown-tipped, 2 rows in lower jaw and 3 rows or a villiform band with outer row of upper jaw enlarged in upper jaw; vomer and palatines (on roof of mouth) toothless. Preopercle serrate, serrations larger along vertical border, particularly in adults; **lower opercular spine stronger and longer, but not extending beyond margin of opercular lobe. Posttemporal bone not expanded or exposed posteriorly**, covered with skin and scales. **First gill arch with 16 to 18 gill rakers on upper limb, 22 to 27 on lower limb.** Dorsal fin with XII or XIII spines and 9 to 11 soft rays, spinous part of fin arched, fifth to seventh spines longest, and **last 2 spines of approximately same length**; anal fin with III spines and 9 or 10 soft rays, **second anal-fin spine subequal to third spine** and shorter than longest anal-fin rays. **Pored scales in lateral line 66 to 75**; 9 to 11 rows of scales above lateral line and 19 to 23 below it. **Colour:** dorsal portions of body silvery grey, ventral part of body silvery white; **4 to 6 narrow, dark brown or black horizontal stripes on body**, the middle stripe extending onto caudal-fin base; juveniles in addition have 6 or 7 greyish vertical bars; **spinous portion of dorsal fin with a black blotch dorsally on membranes between third to seventh dorsal-fin spines**; a blotch of variable intensity on side of body posterior to nape; **lobes of caudal fin without prominent transverse black stripes**; mouth and gill cavity red in life.

Size: Maximum total length about 30 cm, commonly to 20 cm.

Habitat, biology, and fisheries: Found in inshore waters, sometimes in brackish waters. Feeds on small fishes and invertebrates. Caught with all types of inshore fishing gear, including gill nets, traps, handlines, and bottom trawls. Marketed fresh and dried-salted.

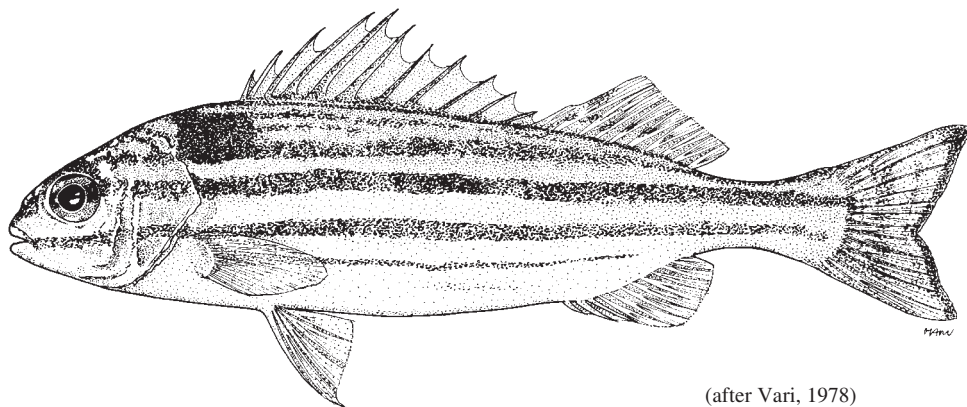
Distribution: Widespread in the Indo-Pacific from East Africa, including the Red Sea and Persian Gulf, eastwards to the Philippines, Japan, and China to New South Wales and the Solomon Islands.



Pelates sexlineatus (Quoy and Gaimard, 1824)

Frequent synonyms / misidentifications: *Helotes sexlineatus* (Quoy and Gaimard, 1824) / None.

FAO names: En - Sixlined terapon.



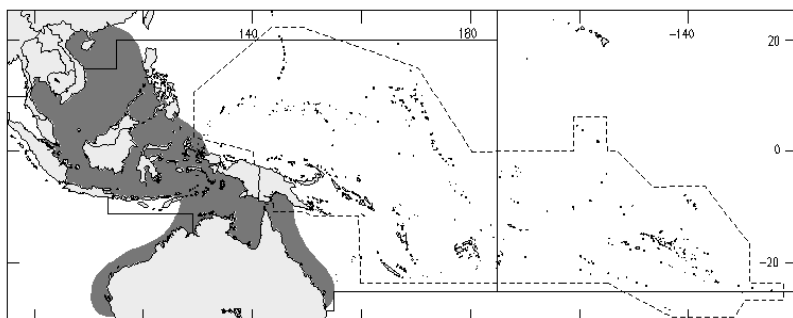
(after Vari, 1978)

Diagnostic characters: A small species; body oblong, slightly compressed laterally. Jaws equal, gape short and oblique; posterior margin of upper jaw extending to vertical line midway between vertical through posterior nostril and anterior margin of eye; teeth tricuspidate, cusps of nearly equal size, teeth in bands in each jaw, outer row of teeth enlarged; vomer and palatines (on roof of mouth) toothless. Preopercle serrate, serrations larger along vertical border; **lower opercular spine stronger and longer, extending nearly to, but not surpassing, margin of opercular lobe in adults. Posttemporal bone not expanded or exposed posteriorly**, covered with skin and scales. **First gill arch with 6 or 7 rakers on upper limb, 14 or 15 on lower limb.** Dorsal fin with XI or XII spines and 9 to 11 soft rays, spinous part of fin arched, fifth or sixth spines longest, and **penultimate spine shorter than ultimate spine**; anal fin with III spines and 9 to 11 soft rays, **second anal-fin spine subequal to third spine** and much shorter than longest anal-fin rays. **Pored scales in lateral line 76 to 87**; 11 to 13 rows of scales above lateral line and 22 or 24 below it. **Colour:** dorsal portion of body greyish or bluish, ventral part of body silvery to silvery white; **5 to 8 narrow, dark brown or black horizontal stripes on body**, the midlateral stripe extending onto caudal-fin base; spinous part of dorsal fin with black margin dorsally on membranes; a blotch of variable intensity on side of body posterior to nape; caudal fin with dark border and several bands of faint spots basally, **but without prominent transverse black stripes.**

Size: Maximum total length about 32 cm, commonly between 18 and 24 cm

Habitat, biology, and fisheries: Marine inshore waters. Feeds on invertebrates and small fishes. Caught with handlines, seines, and other inshore fishing gear. Marketed mostly fresh.

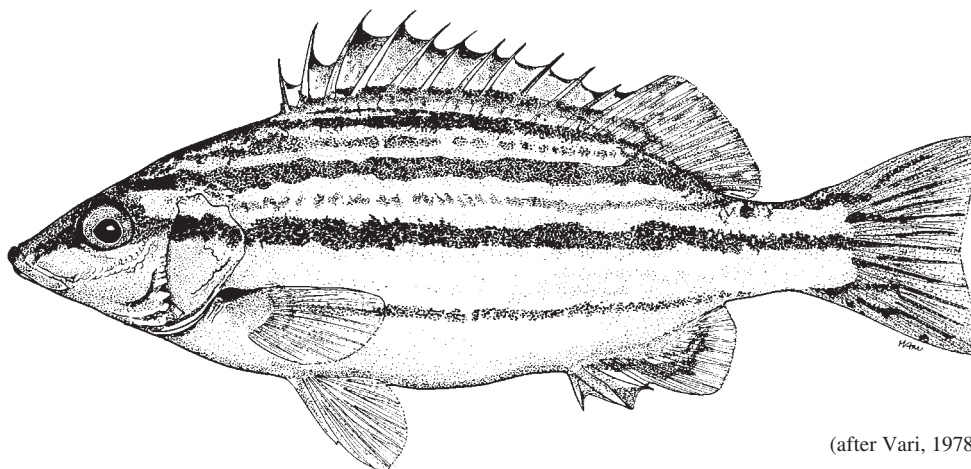
Distribution: Singapore to Australia in the east and south; northwards to China and Okinawa (Japan).



Rhyncopelates oxyrhynchus (Temminck and Schlegel, 1842)

Frequent synonyms / misidentifications: *Pelates oxyrhynchus* (Temminck and Schlegel, 1842); *Terapon oxyrhynchus* (Temminck and Schlegel, 1842) / None.

FAO names: En - Blotched terapon.



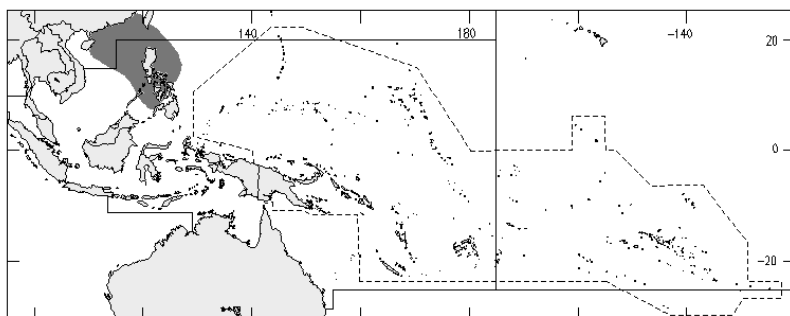
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Diagnostic characters: A moderate-sized species; body oblong, moderately deep, compressed laterally, more so in juveniles. Jaws equal, gape slightly oblique; posterior margin of upper jaw extending to vertical line through posterior nostril. Teeth villiform, in bands in each jaw, outer row of teeth much enlarged; vomer and palatines (on roof of mouth) toothless. Preopercle serrate, serrations larger along vertical border; **lower opercular spine stronger and longer, not extending beyond margin of opercular lobe. Posttemporal bone expanded and exposed posteriorly, with serrate posterior margin.** First gill arch with 7 or 8 gill rakers on upper limb, 14 to 16 on lower limb. Dorsal fin with XII spines and 9 to 11 soft rays, spinous part of fin arched, third to sixth spines longest, and **penultimate and ultimate spines subequal**; anal fin with III spines and 7 to 9 soft rays, **second anal-fin spine longest** and shorter than longest anal-fin rays. **Pored scales in lateral line 60 to 75**; 10 or 11 rows of scales above lateral line and 20 to 24 below it. **Colour:** dorsal portions of body grey, ventral part of body silvery to silvery white; 4 somewhat blotchy dark brown or black horizontal stripes on body; some individuals with irregular stripes between 2 dorsal and 2 ventral primary stripes; spinous part of dorsal fin dusky basally and distally; soft portion of dorsal fin with a basal band anteriorly and pigmentation across posterior rays. Spinous portion of anal fin unpigmented; caudal fin clear in juveniles, **with several narrow, irregular, parallel stripes on each lobe in adults.**

Size: Maximum total length about 33 cm, commonly between 18 and 23 cm.

Habitat, biology, and fisheries: Juveniles entering into fresh waters. Adults found in inshore marine and brackish waters. Feeds on small fishes and invertebrates. Caught with traps, handlines, and other inshore fishing gear.

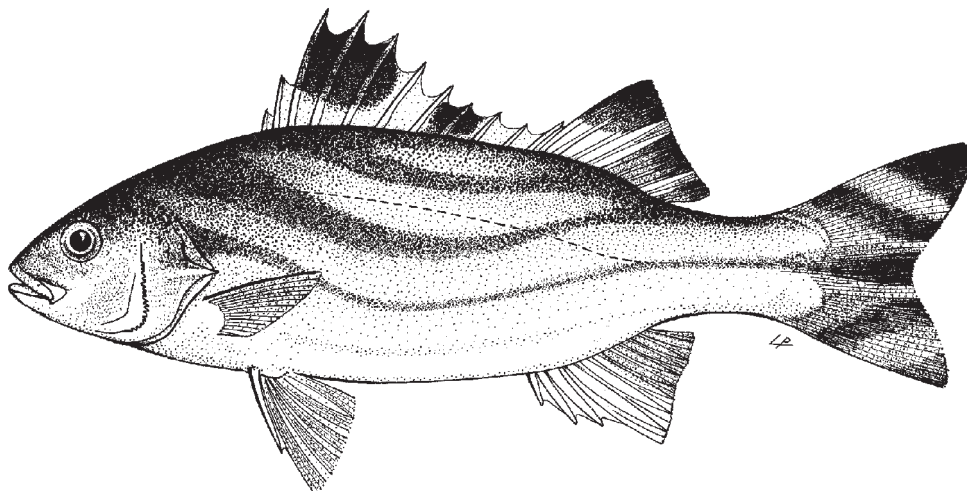
Distribution: Philippines, southern China, Taiwan Province of China, and southern Japan.



Terapon jarbua (Forsskål, 1775)

Frequent synonyms / misidentifications: *Therapon servus* Bloch, 1790 / None.

FAO names: En - Jarbus terapon; Fr - Violon jarbua; Sp - Baraonga jarbua.

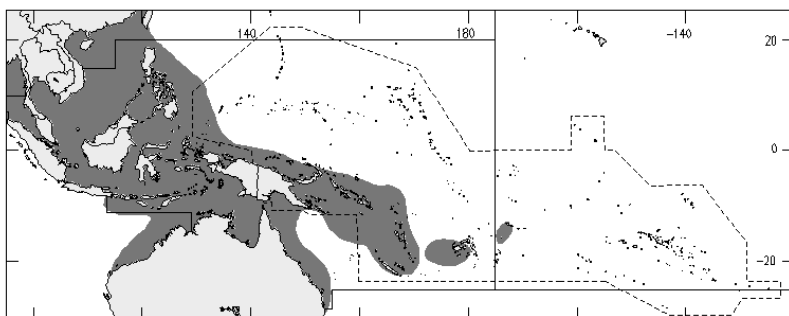


Diagnostic characters: A moderate-sized species. Body oblong moderately compressed laterally. Jaws equal, gape oblique; rear end of upper jaw reaching to vertical through anterior margin of eye in juveniles, reaching to vertical through centre of orbit in adults; teeth conical, slightly recurved, in villiform bands, the outer row much enlarged; vomer and palatines (on roof of mouth) with teeth in juveniles, often toothless in adults. Preopercle strongly serrate, particularly at angle; **lower opercular spine very long and strong, extending distinctly beyond margin of opercular lobe. Posttemporal bone expanded, exposed and serrate posteriorly;** cleithrum serrate posteriorly. **First gill arch with 6 to 8 rakers on upper limb, 12 to 15 on lower limb.** Dorsal fin with XI or XII spines and 9 to 11 rays, spinous part of fin strongly arched and deeply notched, fourth to sixth spines longest, and **penultimate spine about 1/2 length of ultimate spine;** margin of soft part of dorsal fin straight or emarginate; anal fin with III spines and 7 to 10 soft rays, **second anal-fin spine subequal to third spine and shorter than longest anal-fin rays,** margin of soft part of anal fin concave; caudal fin emarginate. **Pored scales in lateral line 75 to 100;** 13 to 17 rows of scales above lateral line and 19 to 34 rows below it. **Colour:** body silvery greyish or dorsally and silvery white ventrally; **3 or 4 dark brown or black downwardly curved longitudinal stripes on body; spinous portion of dorsal fin with a blackish blotch dorsally on membranes between third and sixth spines;** soft portion of dorsal fin with membranes of first 3 rays tipped with black and membranes between fifth and seventh rays entirely black; caudal fin with medial rays pigmented; **both caudal-fin lobes with dark tips and a transverse band.**

Size: Maximum total length about 35 cm, commonly between 20 and 27 cm.

Habitat, biology, and fisheries: Inhabits coastal, brackish, and fresh waters, but apparently reproduces solely in marine waters. Feeds on smaller fishes, invertebrates, and also selectively on scales of various groups of fishes. Caught on all types of inshore fishing gear including gill nets, traps, handlines, and bottom trawls. Marketed fresh and dried-salted.

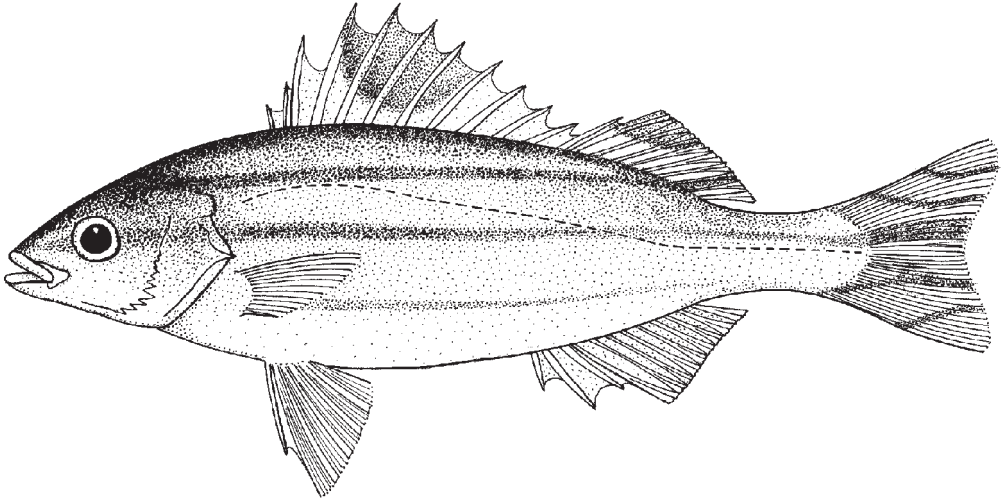
Distribution: Widespread in the Indo-Pacific from East Africa, Red Sea, and Persian Gulf to Fiji and Samoa in the east, and New South Wales (Australia) in the south; northwards to Japan.



Terapon puta (Cuvier, 1829)

Frequent synonyms / misidentifications: *Authistes puta* Whitley, 1943 / None.

FAO names: En - Smallscaled terapon; Fr - Violon grogneur; Sp - Baraonga ronco.

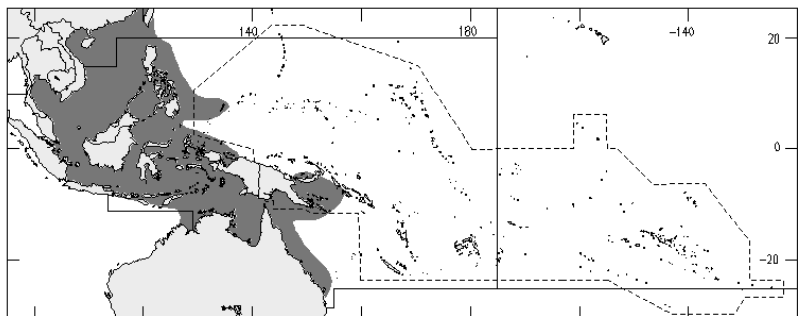


Diagnostic characters: A small-sized species. Body somewhat elongate and laterally compressed. Jaws equal, gape horizontal; rear of upper jaw reaching to vertical through posterior nostril; teeth conical, strong, in villiform bands, outer row enlarged; vomer and palatines (on roof of mouth) toothless. Preopercle strongly serrate, with large spines at angle; **lower opercular spine very long and strong, extending distinctly beyond margin of opercular lobe. Posttemporal bone expanded, exposed and serrate posteriorly;** cleithrum serrate posteriorly. **First gill arch with 7 to 9 gill rakers on upper limb, 18 to 24 on lower limb.** Dorsal fin with XI or XII spines and 9 to 11 soft rays, spinous part of fin strongly arched and deeply notched, fifth or sixth spines longest and **penultimate spine about 1/2 length of ultimate spine;** margin of soft part of dorsal fin straight or emarginate; anal fin with III spines and 8 or 9 soft rays, **second anal-fin spine shorter than third spine and longest anal-fin rays,** margin of soft part of anal fin emarginate; caudal fin emarginate. **Pored scales in lateral line 70 to 85;** 10 to 13 rows of scales above lateral line and 22 to 34 rows below it. **Colour:** body light grey or brown dorsally, tan or silvery white ventrally; **4 straight, narrow, dark brown longitudinal stripes on body;** juveniles also have 6 or 7 light grey vertical bars; **spinous portion of dorsal fin with a blackish blotch dorsally on membranes between third or fourth and seventh or eighth spines;** soft portion of dorsal fin with a black blotch along top of anterior rays; caudal fin with medial rays pigmented; **both lobes of caudal fin with dark tips and a transverse band.**

Size: Maximum total length about 15 cm, commonly between 11 and 13 cm.

Habitat, biology, and fisheries: Found in inshore waters, sometimes entering brackish and fresh waters. Feeds on smaller fishes and invertebrates. Caught with all types of inshore fishing gear including gill nets, traps, handlines, and bottom trawls. Marketed fresh and dried-salted.

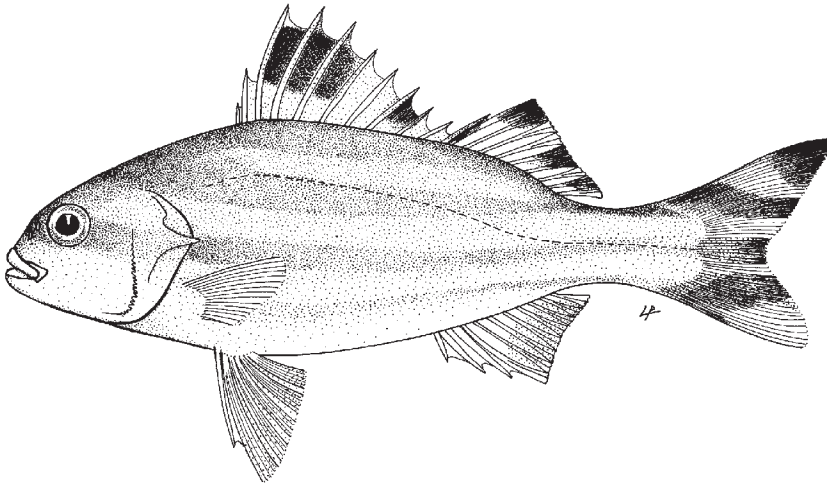
Distribution: Widespread in the Indo-Pacific from East Africa north of Zanzibar, Red Sea and Persian Gulf to New Guinea and Vanuatu, and north to the Philippines.



Terapon theraps (Cuvier, 1829)

Frequent synonyms / misidentifications: *Eutherapon theraps* Whitley, 1943 / None.

FAO names: **En** - Largescaled terapon; **Fr** - Violon tigre; **Sp** - Baraonga tigre.

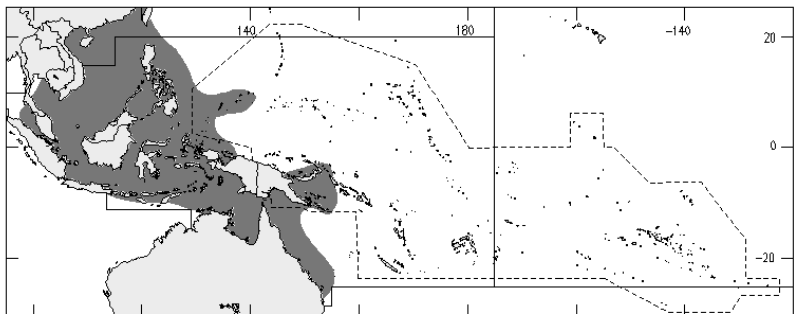


Diagnostic characters: A moderate-sized species; body oblong to moderately compressed laterally. Jaws equal, gape slightly oblique; rear end of upper jaw reaching to vertical through anterior margin of orbit in juveniles, falling short of that line in adults and only reaching a vertical through margin of posterior nostril; teeth conical, in villiform bands, outer row much enlarged; vomer and palatines (on roof of mouth) toothless. Preopercle serrate, serrations particularly developed at angle, more so in adults; **lower opercular spine very long and strong, extending distinctly beyond margin of opercular lobe; posttemporal bone expanded, exposed and serrate posteriorly**; cleithrum serrate posteriorly. **First gill arch with 6 to 8 gill rakers on upper limb, 14 to 17 on lower limb.** Dorsal fin with XI or XII spines and 9 to 11 soft rays; the spinous part of the fin strongly arched and deeply notched; the third to sixth dorsal-fin spines longest and the **penultimate spine about 1/2 length of ultimate spine**; margin of soft part of dorsal fin emarginate; anal fin with III spines and 7 to 9 soft rays, **third anal-fin spine longest but shorter than longest anal-fin ray**; margin of soft part of anal fin angular, with a straight to slightly emarginate border; caudal fin shallowly forked with rounded lobes. **Pored scales in lateral line 46 to 56**; 6 to 8 rows of scales above lateral line and 14 to 16 rows below it. **Colour:** body dusky dorsally, silvery white ventrally; **4 dark brown horizontal stripes on body**; juveniles also have 6 or 7 light grey vertical bars; **spinous part of dorsal fin with a black blotch dorsally on fin membranes between third and seventh spine**; soft portion of dorsal fin with a dark band along upper portions of anterior rays and a horizontal band on posterior rays; soft portion of anal fin with distal portions black; caudal fin with medial rays pigmented; upper lobe of caudal fin with dark tip; **both lobes of caudal fin with a dark, transverse band.**

Size: Maximum total length about 32 cm, commonly to 22 cm.

Habitat, biology, and fisheries: Found in inshore waters, sometimes entering brackish waters. Feeds on smaller fishes and invertebrates. Caught with all types of inshore fishing gear, including traps, handlines, and bottom trawls. Marketed mostly fresh, sometimes dried salted.

Distribution: Widespread in the Indo-Pacific from East Africa, Red Sea, and Persian Gulf to the Solomon Islands.

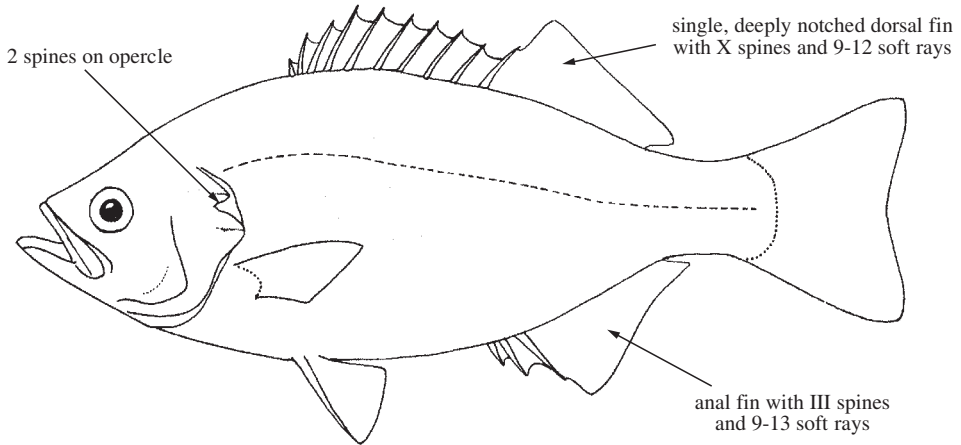


KUHLIIDAE

Flagtails

K.E. Carpenter

Diagnostic characters (for species found in the area): Oblong, compressed, moderate-sized (to about 50 cm) perch-like fishes. Head length less than body depth; preorbital and preopercle margins serrate; **2 flat spines on opercle**. Eye moderately large, nearly bisected by a horizontal from tip of snout to middle of caudal-fin base. Mouth small, slightly protrusible; maxilla not covered by preorbital; bands of fine teeth in jaws, vomer, and palatines. **A single dorsal fin, deeply notched between spinous and soft-rayed portions, with X spines and 9 to 12 soft rays. Anal fin with III spines and 9 to 13 soft rays.** Caudal fin emarginate to moderately forked. Scales ctenoid, moderately large; lateral line complete, with 40 to 56 scales; **a well-developed scaly sheath at base of dorsal and anal fins.** **Colour:** mostly silvery, some with black spots on body; dorsal and anal fins sometimes with dark spots or blotches; caudal fins with or without species-specific characteristic dark blotches and bands.



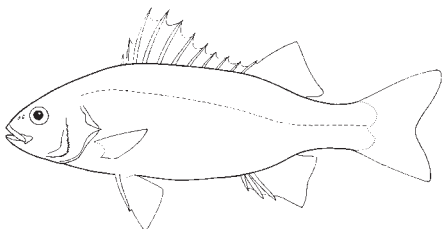
Habitat, biology, and fisheries: Shallow water coastal fishes, on coral reefs, in rocky surge areas, bays, harbors, estuaries, and some entering fresh water; juveniles often very close to shore and in tide pools. Feed mostly on planktonic crustaceans at night. Excellent food fishes of minor importance to fisheries because of their generally small size.

Remarks: The species of *Kuhlia* are in need of revision and the limits and relationships of the family Kuhliidae needs to be better determined. The family is presently recognized as restricted to a single genus, *Kuhlia*. The fresh-water genera *Edelia*, *Nannatherina*, and *Nannoperca* were formerly included in the Kuhliidae but more recently determined to belong to the Percichthyidae. The West African genus *Parakuhlia* is placed in the Kuhliidae by some authors but otherwise recognized as belonging to the Haemulidae.

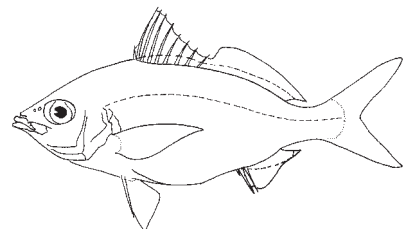
Similar families occurring in the area

Terapontidae: eye mostly above horizontal from tip of snout to middle of caudal-fin base (nearly bisected in Kuhliidae); dorsal fin with XI to XIV spines (X spines in Kuhliidae); vomer and palatines usually without teeth (with fine teeth in Kuhliidae).

Gerreidae: mouth highly protrusible and pointing downward when extended (slightly protrusible in Kuhliidae); dorsal fin not usually deeply notched (deeply notched in Kuhliidae); caudal fin deeply forked, without dark bands or markings (emarginate to forked often with dark bands in Kuhliidae).

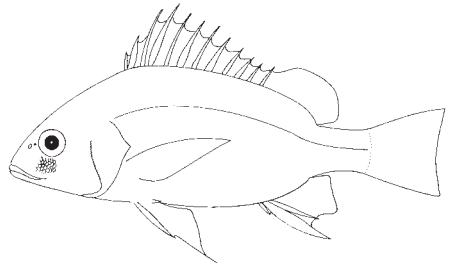


Terapontidae



Gerreidae

Haemulidae (superficially similar to some *Pomadasys*): eye mostly above horizontal from tip of snout to middle of caudal-fin base (nearly bisected in Kuhlidae); anal fin with III spines, the second enlarged, and 7 to 9 soft rays (second dorsal-fin spine not enlarged and 9 to 13 soft rays in Kuhlidae); caudal fin truncate to slightly emarginate (strongly emarginate to forked in Kuhlidae).







Haemulidae

Key to the species of Kuhlidae occurring in the area

- 1a. Gill rakers on lower limb of first gill arch 15 to 19 (rarely 20); small black spots typically scattered on caudal peduncle and sometimes on sides → 2
- 1b. Gill rakers on lower limb of first gill arch 21 to 26; typically no small black spots on caudal peduncle or body → 3
- 2a. Caudal fin weakly emarginate, tips of lobes rounded; anal fin with 9 or 10 soft rays; 5 or 6 gill rakers on upper limb of first gill arch *Kuhlia rupestris*
- 2b. Caudal fin deeply emarginate to forked, tips of lobes pointed; anal fin with 11 to 13 soft rays; 7 to 9 gill rakers on upper limb of first gill arch *Kuhlia marginata*
- 3a. Caudal fin with 5 broad black stripes, 1 central horizontal stripe along shortest rays and 2 oblique stripes on each lobe; base of caudal fin without a dark band *Kuhlia mugil*
- 3b. Caudal fin with a broad black marginal band or with tips of lobes with a black blotch; base of caudal fin with a dark band → 4
- 4a. Caudal fin with a broad black marginal band *Kuhlia munda*
- 4b. Tips of caudal-fin lobes with a black blotch. *Kuhlia boninensis*

List of species occurring in the area

The symbol  is given when species accounts are included.

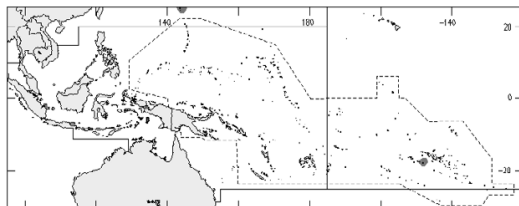
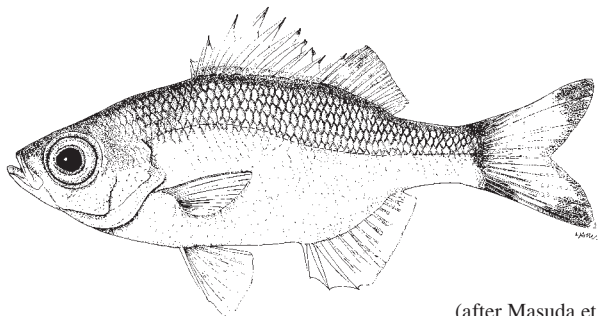
-  *Kuhlia boninensis* (Fowler, 1907)
-  *Kuhlia marginata* (Cuvier, 1829)
-  *Kuhlia mugil* (Forster in Bloch and Schneider, 1801)
-  *Kuhlia munda* (De Vis, 1884)
-  *Kuhlia rupestris* (Lacepède, 1802)

References

- Masuda, U., C. Araga, and T. Yoshino. 1975. *Coastal fishes of southern Japan*. Tokyo, Tokai University Press, 379 p.
- Munro, I.S.R. 1967. *The fishes of New Guinea*. Port Moresby, New Guinea, Department of Agriculture, Stock and Fisheries, 650 p.
- Weber, M. and L.F. de Beaufort (eds). 1929. *The fishes of the Indo-Australian Archipelago. V. Anacanthini, Allotriognathi, Heterosomata, Berycomorphi, Percomorphi (Families: Kuhlidae, Apogonidae, Plesiopidae, Pseudoplesiopidae, Priacanthidae, Centropomidae)*. Leiden, E. J. Brill, 458 p.

Kuhlia boninensis (Fowler, 1907)**En** - Bonin Island flagtail.

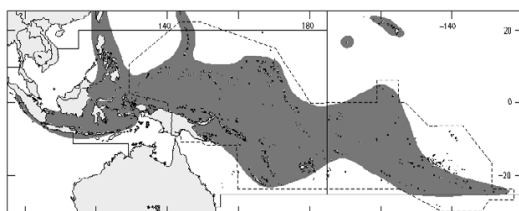
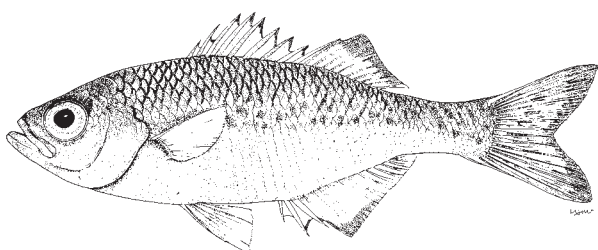
Maximum total length 25 cm. In estuaries and fresh water. Found in the Ryukyu Islands, Bonin Islands, Ogasawara Islands, Micronesia, and Tahiti. Specific reports of this species from Micronesia need to be confirmed and are therefore not included on the map.



(after Masuda et al., 1984)

Kuhlia marginata (Cuvier, 1829)**En** - Spotted flagtail.

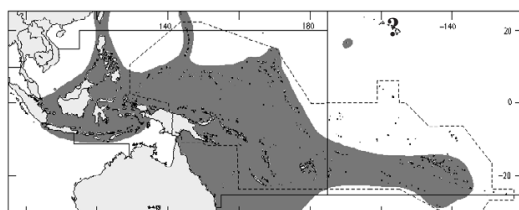
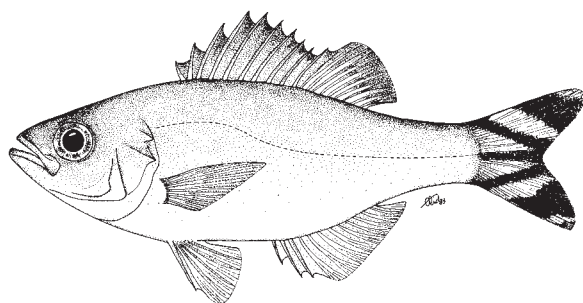
Maximum total length about 20 cm. Mostly in fresh water and estuaries, but also reported from rocky and reef coastal areas. Mostly western Pacific but also reported from Sri Lanka.



(after Masuda et al., 1984)

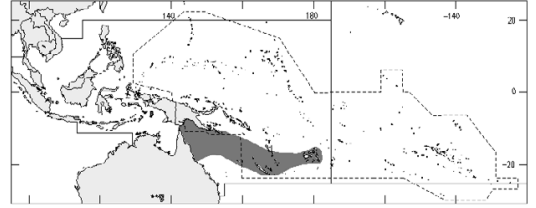
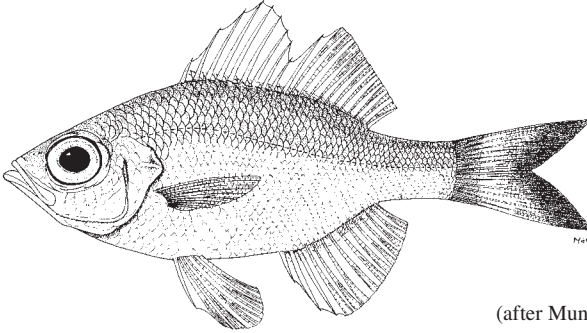
Kuhlia mugil (Forster in Bloch and Schneider, 1801)**En** - Barred flagtail; **Fr** - Crocro drapeau; **Sp** - Dara bandera.

Maximum total length 25 cm. Typically on or near coralline or rocky reefs but also enters estuaries and fresh water; juveniles use tidepools and nearshore surge areas as nurseries. Feeds mostly on zooplankton and small fish at night, shoaling in rocky or coral reef areas during daytime. Used as food, bait, and as an aquarium fish; caught by seines, gill nets, and hook-and-line. Widespread in the Indo-Pacific from South Africa to Central America. Often incorrectly identified as *Kuhlia taeniura*, which is a junior synonym of *K. mugil*.



Kuhlia munda (De Vis, 1884)**En** - Silver flagtail.

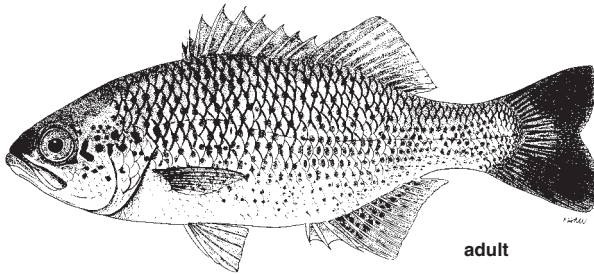
Maximum total length 24 cm. Coastal bays, estuaries, and entering fresh water. Western Pacific from Queensland, New Caledonia, Vanuatu, Papua New Guinea, and Fiji.



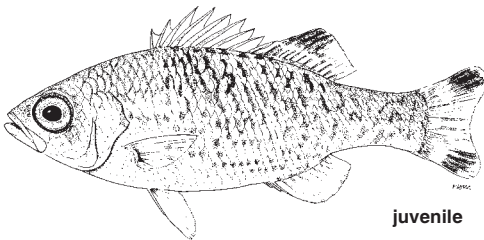
(after Munro, 1967)

Kuhlia rupestris (Lacepède, 1802)**En** - Rock flagtail; **Fr** - Crocro sauvage; **Sp** - Dara campestre.

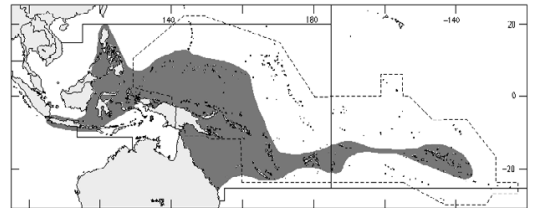
Maximum total length 56 cm. Mostly in fresh water and estuaries. A good food fish, caught primarily by small scale beach seines, gill nets, throw nets, and by anglers with hook-and-line. Widespread in the Indo-Pacific from the Red Sea to South Africa, from Ryukyu Islands to Queensland and eastward to the Society Islands.



adult



juvenile



(after Masuda et al., 1984)