

ENOPLOSIDAE

Old wife

by J.B. Hutchins

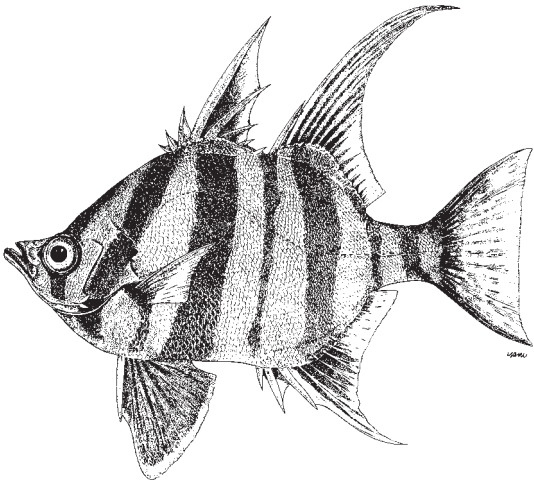
A single species in this family.

Enoplosus armatus (Shaw in White, 1790)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Old wife.

Diagnostic characters: Body small to medium sized (size to 31 cm), deep, and prominently compressed. Head with obvious concavity over eye, profile rising steeply to origin of dorsal fin. Eye moderate in size. **Preopercle serrated, with a pair of enlarged spines at lower angle.** Mouth small, opening obliquely upwards, with small, fine teeth in both jaws. **Two completely separated and highly elevated dorsal fins, first consisting of VIII stout spines, second of I spine and 14 or 15 soft rays;** anal fin similar in shape to second dorsal fin, but not as elevated, consisting of III spines and 14 or 15 soft rays; caudal fin large, truncate to slightly lunate; pectoral fins moderately long; **pelvic fins large.** Scales cycloid, very small; lateral line prominently elevated anteriorly, decreasing in height posteriorly to midside of caudal peduncle. **Colour:** head and body silvery white to cream, with 7 or 8 black to dark brown cross-bands, bands 4 and 6 noticeably narrower, bands continued onto dorsal, anal, and caudal fins; pelvic fins mostly dark brown with whitish leading edge.

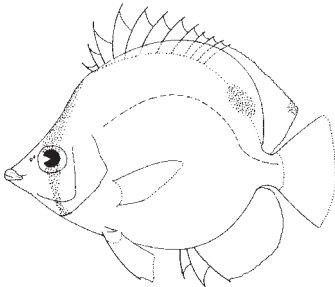


Similar families occurring in the area

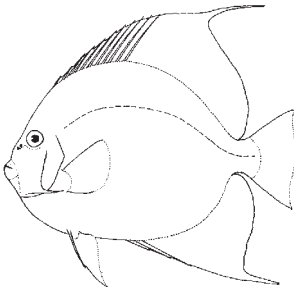
Chaetodontidae: a single dorsal fin only (some members of *Heniochus* with a prominent notch between spiny and rayed portions of fin); no strong spines at angle of preopercle.

Pomacanthidae: a single dorsal fin only; 1 strong spine at angle of operculum.

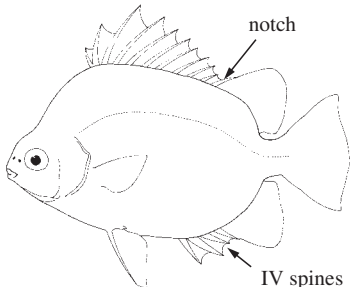
Scatophagidae: no strong spines at angle of preopercle; anal-fin spines IV.



Chaetodontidae



Pomacanthidae



Scatophagidae

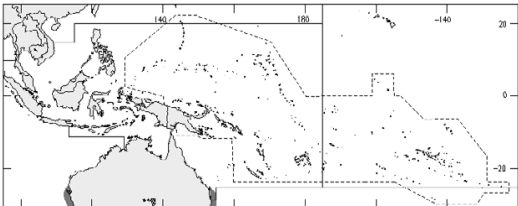
Size: Maximum total length 31 cm.

Habitat, biology, and fisheries: Shallow coastal rocky reefs and seagrass beds; also found to depths of 100 m. Swims in small to large schools, but also occurs as solitary individuals. Feeds on crustaceans and worms. Generally good to eat, but not marketed.

Distribution: Found only in the southern half of Australia, from Wide Bay in southern Queensland to Shark Bay in Western Australia.

Reference

Gomon, M.F., J.C.M. Glover, and R.H. Kuitert. 1994. *The fishes of Australia's south coast*. Adelaide, State Print, 992 p.



PENTACEROTIDAE

Armourheads

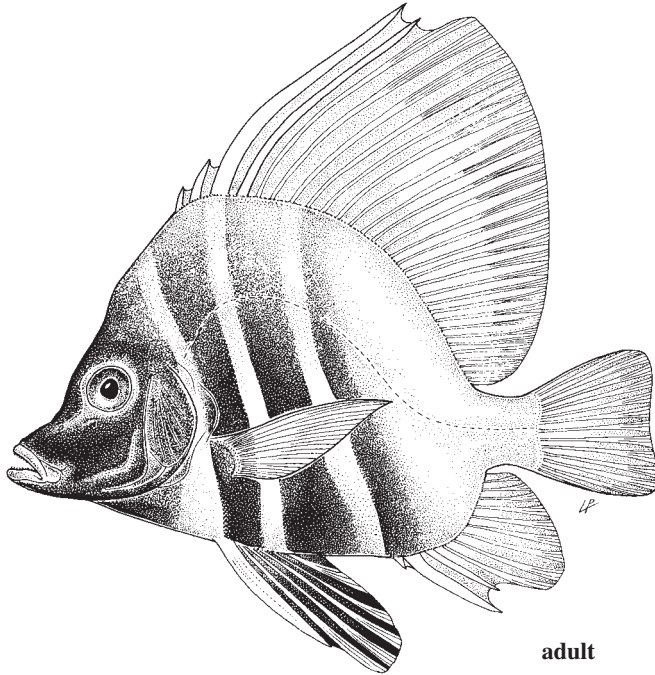
by P.C. Heemstra

A single species occurring in the area.

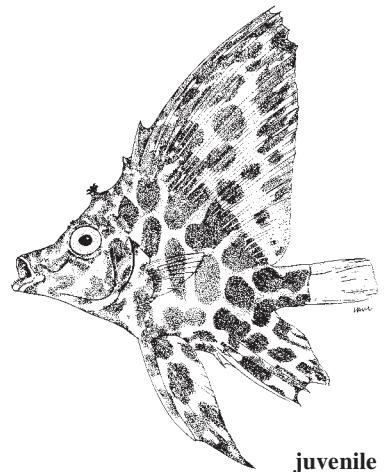
Histiopaterus typus Temminck and Schlegel, 1844

Frequent synonyms / misidentifications: *Histiopaterus spinifer* Gilchrist, 1904 / None.

FAO names: En - Sailfin armourhead; Fr - Matode voile; Sp - Botellón velero.



adult



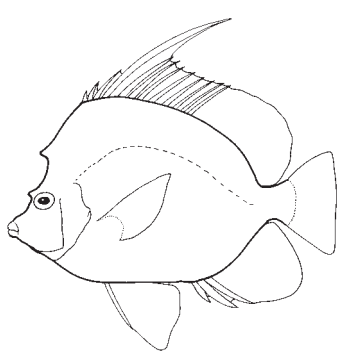
juvenile

(after Heemstra in Smith and Heemstra, 1986)

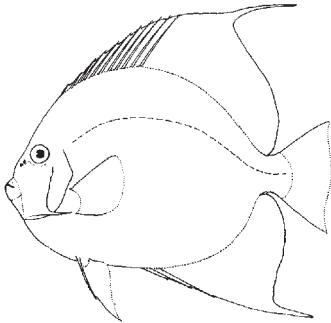
Diagnostic characters: Body oblong-oval and moderately compressed, its depth greater than head length. **Head mostly naked, the bones exposed and rugose;** a patch of small embedded scales below eye; head of small juveniles with several small spines and knobs; preopercle edge very spiny in young, entire or with small spines in adults; opercle without spines in adults. Snout profile concave; eye well above horizontal line through upper jaw symphysis. Mouth small, terminal upper jaw slightly protrusible; maxilla naked, mostly covered by preorbital; jaws with bands of small conical teeth; no supramaxilla; vomer with or without teeth, no teeth on palatines. Branchiostegal membranes separate, free from isthmus; branchiostegal rays 7. Gill slits 4, a slit behind the last; gill rakers short, first gill arch with 3 to 6 rakers on upper limb, 14 to 16 on lower limb. **Dorsal fin high, sail-like; dorsal-fin spines IV**, the first 2 short, the third and fourth much enlarged, longer than head, subequal to first soft ray; dorsal-fin rays 23 to 29; anal fin with III spines (second longer than third) and 8 to 10 soft rays; caudal fin slightly emarginate; pectoral-fin rays 16 to 18; pelvic fins with I strong spine and 5 soft rays, but no scaly axillary process. Scales small to moderate, ctenoid; lateral line complete, strongly curved over pectoral fins; lateral-line pores 58 to 70. Vertebrae 13+12. Swimbladder large. Pyloric caeca numerous. **Colour:** adult body pale, with dark brown bars: first from dorsal-fin origin through pectoral-fin base to pelvic-fin base, second bar from anterior dorsal-fin rays to belly, and third from base of fifth to seventh dorsal-fin rays to base of anal-fin spines. Juveniles pale; large dark brown blotches over head, body, and dorsal, anal, and pelvic fins; pectoral and caudal fins pale, without spots.

Similar families occurring in the area

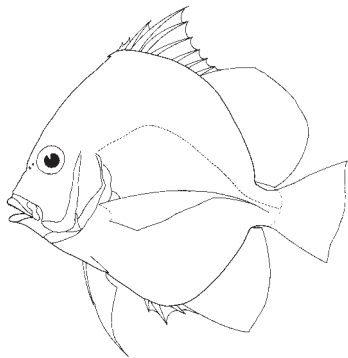
Chaetodontidae, Pomacanthidae, Drepanidae, Ehippidae, and Scatophagidae: head covered with scales; anal-fin rays 14 or more (most pentacerotids with fewer than 14 anal-fin rays).



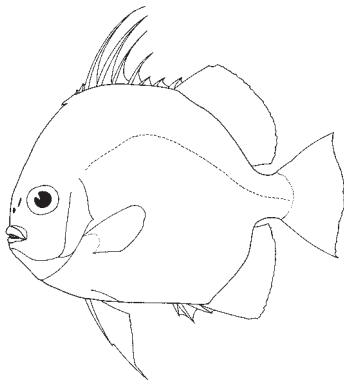
Chaetodontidae



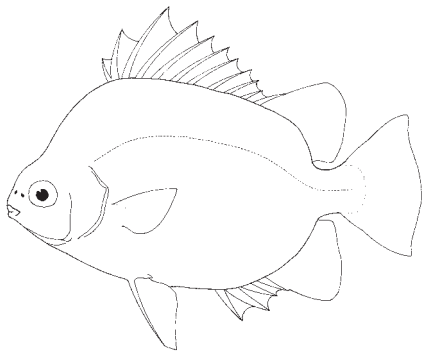
Pomacanthidae



Drepanidae



Ehippidae

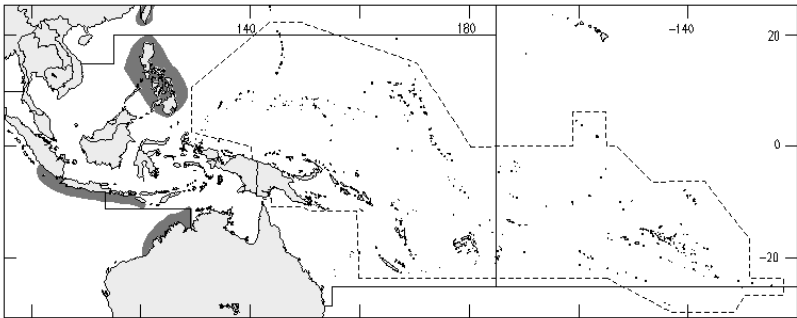


Scatophagidae

Size: Maximum standard length 35 cm; commonly to 20 cm.

Habitat, biology and fisheries: Usually found inshore on reefs or on rough bottom of the outer continental shelf and upper slope at depths of 40 to 400 m. Biology little known. Mostly caught with trawls, occasionally with hook-and-line.

Distribution: Temperate and tropical waters of the Indo-West Pacific region from South Africa to Red Sea, Oman, Arabian Sea, north-western Australia, Philippines, Taiwan Province of China, and Japan.



Reference

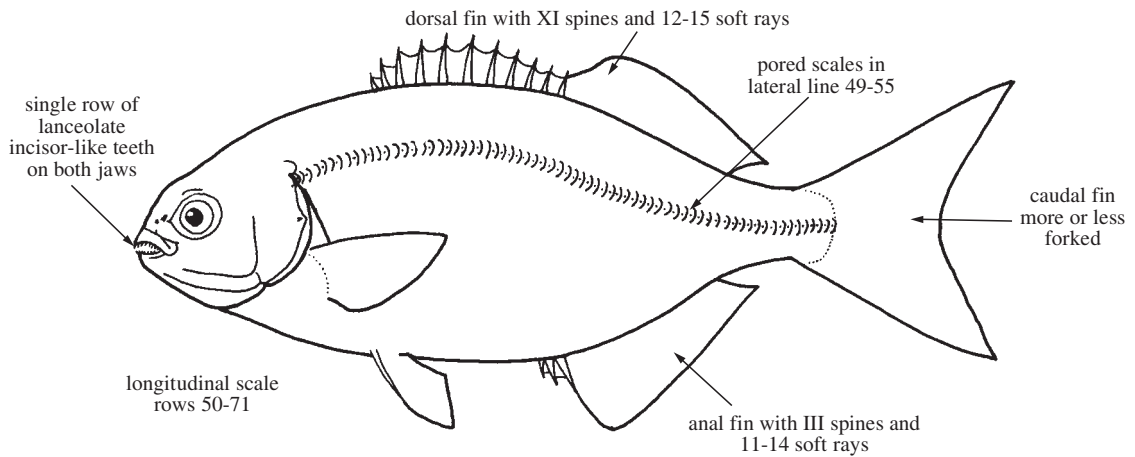
Hardy, G.S. 1983. A revision of the fishes of the family Pentacerotidae. *New Zeal. J. Zool.*, 10:177-220.

KYPHOSIDAE

Sea chubs

by K. Sakai

Diagnostic characters: Medium-sized fishes (to 75 cm); body oblong or elliptical, moderately compressed. Head small. Snout short. Posteroventral corner of preopercle serrate. Opercle with 2 small, weak retrorse spines. Eye moderately small, its diameter shorter than snout length. Mouth small and terminal, **single row of lanceolate incisor-like teeth on both jaws**; minute canine-like teeth in 2 or 3 rows medial to incisor-like teeth; palatines, vomer, and tongue with a band of villiform teeth. Preorbital narrow, covering little of maxilla; maxilla barely reaching eye. **First gill arch with 5 to 10 gill rakers on upper limb, 14 to 24 on lower limb (total 20 to 34)**. Dorsal fin continuous, beginning above origin of pelvic fins, with XI spines and 12 to 15 soft rays; anal fin beginning slightly behind middle of body, with III spines and 11 to 14 soft rays; pectoral fins bluntly pointed posteriorly, with 16 to 20 rays, slightly longer than pelvic fins; pelvic fins beginning a little behind pectoral-fin base; caudal fin more or less forked, with pointed lobes. **Scales ctenoid and not deciduous, extending onto most of soft portions of dorsal and anal fins and proximal part of caudal fin. Pored scales in lateral line 49 to 55; longitudinal scale rows 50 to 71.** Scales above lateral line to origin of dorsal fin 11 to 15, scales below lateral line to origin of anal fin 18 to 24. **Colour:** body bluish, bluish brown, or silvery grey dorsally and dusky grey or silvery ventrally; distinct longitudinal lines on sides.

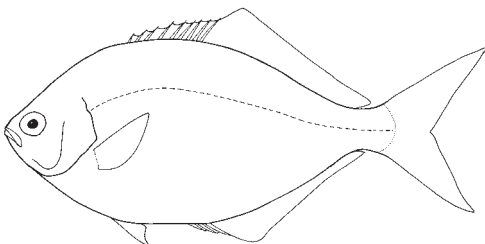


Habitat, biology, and fisheries: Occur on rocky and coral reefs in tropical and temperate waters. Herbivorous, feeding primarily on benthic algae. Schooling, sometimes in groups composed of several species of kypnosids. Juveniles often occur far out at sea beneath floating debris and seaweeds. Highly valued as food. Taken by handline, gill net, and spear.

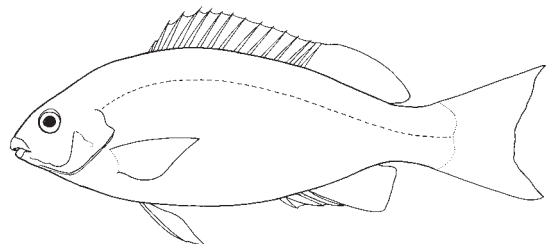
Similar families occurring in the area

Scorpididae: small lanceolate conical teeth in both jaws; usually smaller and weaker ctenoid scales; more soft rays in dorsal and anal fins (dorsal- and anal-fin rays more than 24 versus less than 16 in kypnosids); body laterally compressed, caudal peduncle low and narrow; caudal fin well forked.

Girellidae: outer teeth tricuspid in both jaws; more dorsal-fin spines (XIII to XVI dorsal-fin spines versus XI in kypnosids); caudal peduncle deeper; caudal fin slightly emarginate.



Scorpididae



Girellidae

Key to the species of Kyphosidae occurring in the area

- 1a. Dorsal fin with 15 and anal fin with 14 soft rays; body depth 30 to 35% of standard length; caudal fin distinctly forked (Fig. 1) *Sectator ocyurus*
- 1b. Dorsal fin with less than 15 and anal fin with less than 14 soft rays; body depth 35 to 50% of standard length; caudal fin moderately forked (*Kyphosus*) → 2
- 2a. Dorsal fin with 14 and anal fin with 13 soft rays (Fig. 2) *Kyphosus vaigiensis*
- 2b. Dorsal fin with 12 and anal fin with 11 soft rays → 3

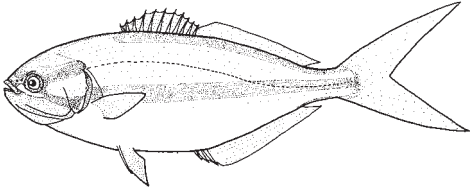


Fig. 1 *Sectator ocyurus*

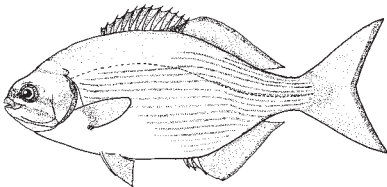


Fig. 2 *Kyphosus vaigiensis*

- 3a. Anterior soft portion of dorsal and anal fin elevated (Fig. 3a); total gill rakers on first gill arch 26 to 31 (Fig. 4) *Kyphosus cinerascens*
- 3b. Anterior soft portion of dorsal and anal fin not elevated (Fig. 3b); total gill rakers on first gill arch less than 25 → 4

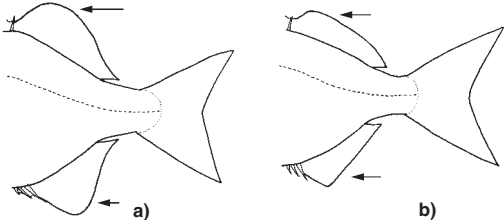


Fig. 3

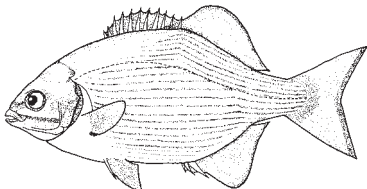


Fig. 4 *Kyphosus cinerascens*

- 4a. Longitudinal scale rows 52 to 58; total gill rakers on first gill arch 20 or 21; pectoral-fin rays usually 18 (rarely 16 or 17) (Fig. 5) *Kyphosus sydneyanus*
- 4b. Longitudinal scale rows 58 to 69; total gill rakers on first gill arch 21 to 24; pectoral-fin rays usually 19 (rarely 18 or 20) (Fig. 6) *Kyphosus bigibbus*

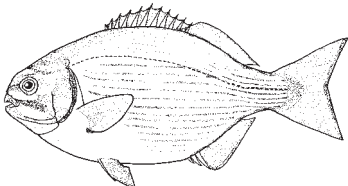


Fig. 5 *Kyphosus sydneyanus*

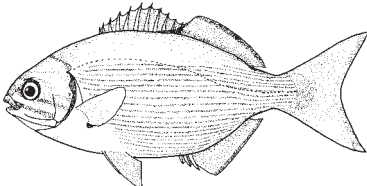


Fig. 6 *Kyphosus bigibbus*

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Kyphosus bigibbus* Lacepède, 1801
-  *Kyphosus cinerascens* (Forsskål, 1775)
-  *Kyphosus sydneyanus* (Günther, 1886)
-  *Kyphosus vaigiensis* (Quoy and Gaimard, 1825)
-  *Sectator ocyurus* (Jordan and Gilbert, 1882)

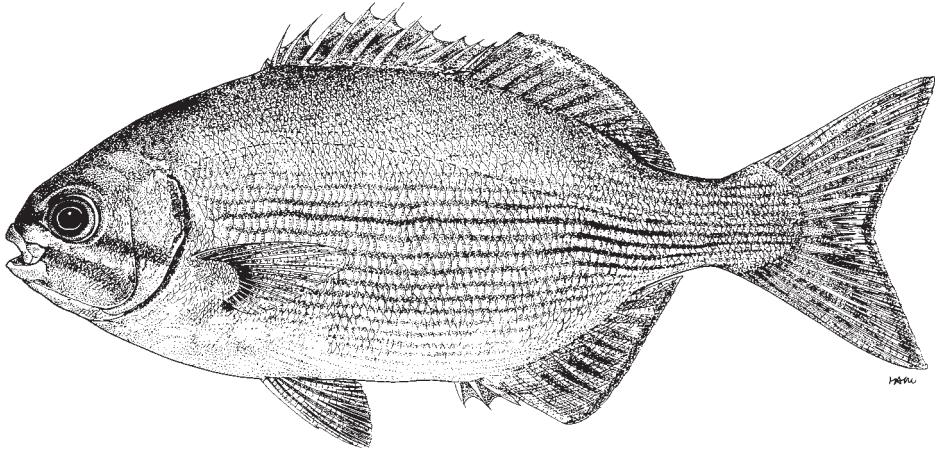
Reference

Sakai, K. and T. Nakabo. 1995. Taxonomic review of the Indo-Pacific kyphosid fishes, *Kyphosus vaigiensis* (Quoy and Gaimard). *Japan. J. Ichthyol.*, 42(1):61-70.

***Kyphosus bigibbus* Lacepède, 1801**

Frequent synonyms / misidentifications: *Kyphosus fuscus* Lacepède, 1801 / None.

FAO names: En - Brown chub.

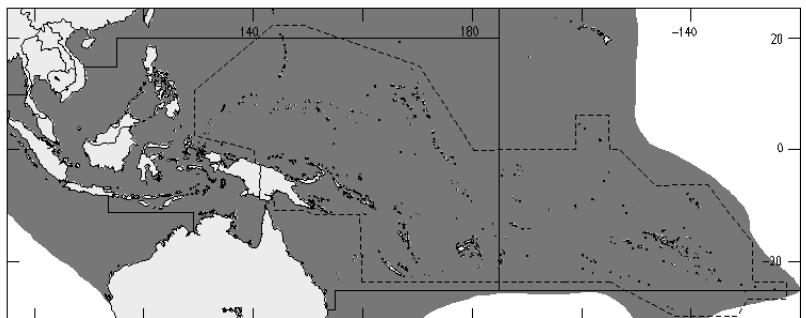


Diagnostic characters: Body depth 39 to 49%, its width 17 to 21% of standard length; caudal peduncle slightly deep. Head length 25 to 31% of standard length, dorsal contour of snout slightly steep. Snout short, its length longer than eye diameter. Mouth terminal, number of lanceolate incisor-like teeth about 34 to 38 in adults (over 20 cm standard length). **First gill arch with 5 to 7 (usually 6) gill rakers on upper limb, 15 to 17 (usually 16 or 17) on lower limb (total 21 to 24, usually 22 or 23).** **Dorsal fin with XI spines, the sixth or seventh spine longest, and 12 (rarely 11 or 13) soft rays;** base of spinous portion longer than base of soft portion; soft portion of dorsal fin low, the margin straight; anterior soft rays of dorsal fin a little shorter than longest dorsal-fin spine. **Anal fin with III spines, the third spine longest, with 11 (rarely 10 or 12) soft rays, anterior soft portion not elevated;** longest anal-fin ray less than 2 times length of third anal-fin spine. Pectoral fins with 19 (rarely 18 or 20) rays. Pelvic fins as long as pectoral fins. Caudal fin shallowly forked with pointed lobes. **Pored scales in lateral line 51 to 55 (usually 53); longitudinal scale rows 58 to 69 (usually 63 to 65); scales above lateral line 12 to 15 (usually 13 or 14), scales below lateral line 20 to 25 (usually 21 or 22).** **Colour:** body bluish brown dorsally, dusky grey ventrally, with several brown or bluish brown longitudinal lines on flank, large specimens (about 50 cm standard length) uniformly dusky blue or dark brown dorsally; head with 2 oblique brown or bluish brown bands, one through eye, the other one below eye; dorsal and anal fins dark blue, the margin of soft portion with a darker band; pectoral fins silver brown near base, the distal half slightly darker.

Size: Maximum total length 75 cm; commonly to 60 cm.

Habitat, biology, and fisheries: Inhabits coastal areas, primarily in coral and rocky reefs, often occurring in the inner reefs. Herbivorous. Occasionally schools in groups with other kyphosid fishes. Juveniles often occur far out at sea beneath floating debris and seaweed. Caught by gill nets, handlines, and spears.

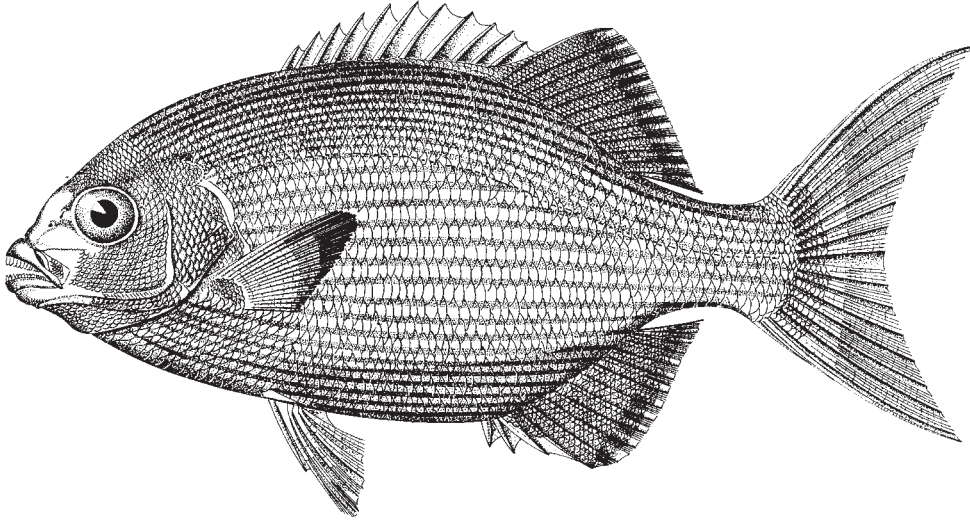
Distribution: Widespread in the tropical Indo-West Pacific from South Africa, including the Red Sea, to Australia; north to southern Japan.



***Kyphosus cinerascens* (Forsskal, 1775)**

Frequent synonyms / misidentifications: None / None.

FAO names: En - Blue sea chub; Fr - Calicagère bleue; Sp - Chopax axul.

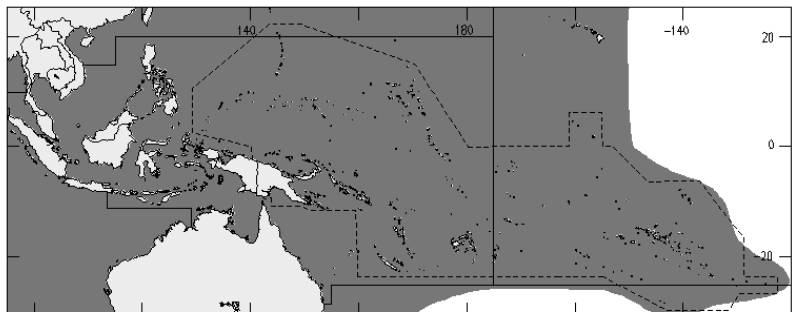


Diagnostic characters: Body depth 40 to 50%, its width 14 to 21% of standard length; caudal peduncle deep. Head length 26 to 34% of standard length, dorsal contour of snout slightly steep. Snout increasing with growth, its length as long as or shorter than eye diameter to about 15 cm standard length, thereafter, longer; number of lanceolate incisor-like teeth about 40 to 45 in adults (over 20 cm standard length). **First gill arch with 7 to 9 (usually 8 or 9) gill rakers on upper limb, 19 to 22 (usually 20 or 21) on lower limb (total 26 to 31, usually 28 to 30). Dorsal fin with XI spines, the sixth or seventh spine longest, and 12 (rarely 11 or 13) soft rays;** base of spinous portion of dorsal fin longer than base of soft portion; **soft portion of dorsal fin well elevated, anterior soft rays clearly longer than longest dorsal-fin spine;** anal fin with III spines, the third spine longest, with 11 (rarely 10 or 12) soft rays, anterior soft portion well elevated, similar to soft portion of dorsal fin; longest anal-fin ray 2.5 times longer than third anal-fin spine. Pectoral fins with 18 (rarely 19) soft rays. Pelvic fins as long as pectoral fins. Caudal fin shallowly forked with pointed lobes. **Pored scales in lateral line 49 to 52 (usually 50 or 51); longitudinal scale rows 50 to 57 (usually 53 to 56); scales above lateral line 9 to 12 (usually 10 or 11) scales below lateral line 17 to 21 (usually 18 to 20).** **Colour:** body bluish dorsally, dusky greyish ventrally, with several bluish brown longitudinal lines on flank, large specimens (about 40 cm standard length) uniformly dusky or dark blue dorsally; head with 2 oblique brown or bluish brown bands; one through eye, the other one below eye; dorsal and anal fins dark blue, margin of soft portion with darker band; pectoral fins silver blue near base, distal half slightly darker.

Size: Maximum total length 50 cm; commonly to 40 cm.

Habitat, biology, and fisheries: Inhabits coastal areas, primarily coral and rocky reefs, often occurring on inner reefs. Herbivorous. Occasionally schools in groups with other kyphosid fishes. Juveniles often occur far out at sea beneath floating debris and seaweed. Caught by gill nets, handlines, and spears.

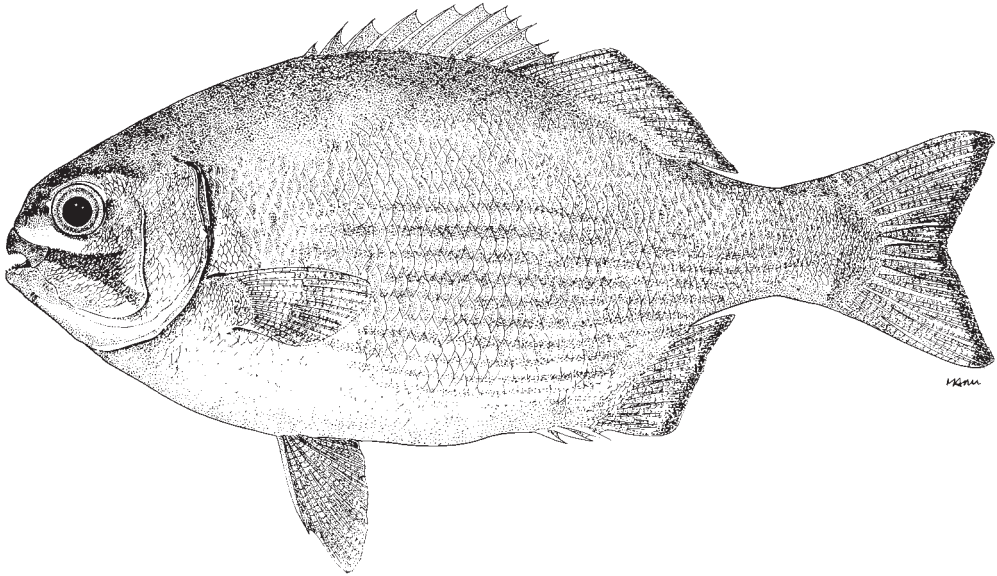
Distribution: Widespread in the Indo-West Pacific from South Africa, including the Red Sea, to Australia; north to southern Japan.



Kyphosus sydneyanus (Günther, 1886)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Silver drummer.

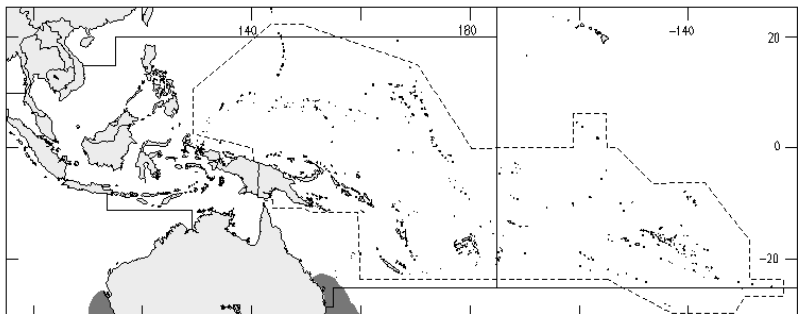


Diagnostic characters: Body depth 36 to 51%, its width 13 to 21% of standard length; caudal peduncle slightly deep. Head length 24 to 30% of standard length, dorsal contour of snout before eye steep. Snout short, its length longer than eye diameter. Mouth terminal, number of lanceolate incisor-like teeth about 40 to 50 in adults (over 20 cm standard length). **Gill rakers on first gill arch 5 or 6 on upper limb, 14 or 15 on lower limb (total 20 or 21). Dorsal fin with XI (rarely X) spines, the sixth or seventh spine longest, and 12 soft rays;** base of spinous portion of dorsal fin longer than base of soft portion; soft portion of dorsal fin low, the margin straight, anterior soft rays as long as or a little shorter than longest dorsal-fin spine; **anal fin with III spines, third spine longest, with 11 soft rays, anterior soft portion not elevated;** longest anal-fin ray less than 2 times length of third anal-fin spine. Pectoral fins with 17 or 18 soft rays. Pelvic fins as long as pectoral fins. Caudal fin shallowly forked with bluntly pointed lobes. **Pored scales in lateral line 49 to 53 (usually 50 or 51); longitudinal scale rows 52 to 58; scales above lateral line 10 to 12; scales below lateral line 17 to 19. Colour:** body dark silvery grey or dusky grey dorsally, silver ventrally, with several olive brown or brown longitudinal lines on flank; head with 2 oblique olive brown or brown bands; one before or behind eye, and the other one below eye; dorsal and anal fins dark grey, the margin of soft portion with a darker band; pectoral fins silver near base, distal half slightly darker.

Size: Maximum total length 75 cm; commonly to 50 cm.

Habitat, biology, and fisheries: Inhabits coastal areas, primarily in shallow rocky reefs, often occurring in bays and harbours. Herbivorous. May school with other kyphosid fishes in the northern part of its range. Juveniles often occur far out at sea beneath floating debris and seaweeds. Caught by gill nets, handlines, and spears.

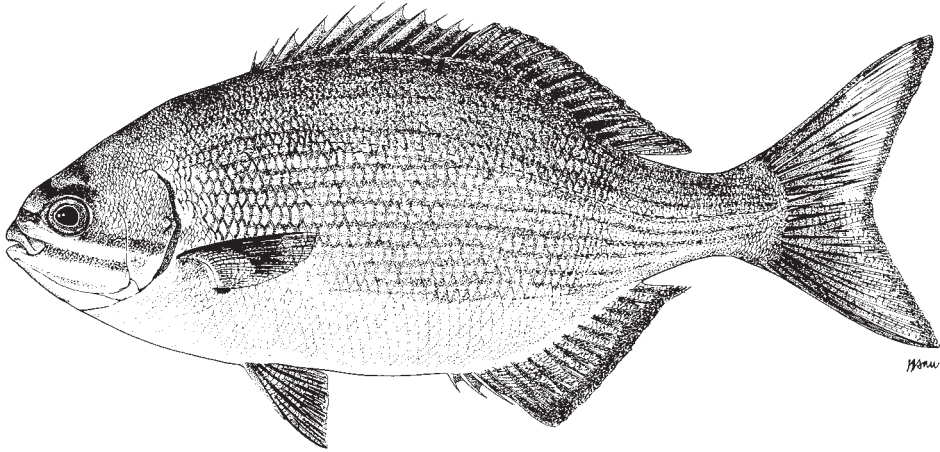
Distribution: Southern part of Australia; reasonably common in New South Wales, South Australia, and Western Australia, also found in Queensland, Victoria, Tasmania, northern New Zealand, Lord Howe Island, and Norfolk Islands.



Kyphosus vaigiensis (Quoy and Gaimard, 1825)

Frequent synonyms / misidentifications: *Kyphosus lembus* (Cuvier, 1831); *K. gibsoni* Ogilby, 1912 / None.

FAO names: En - Brassy chub.

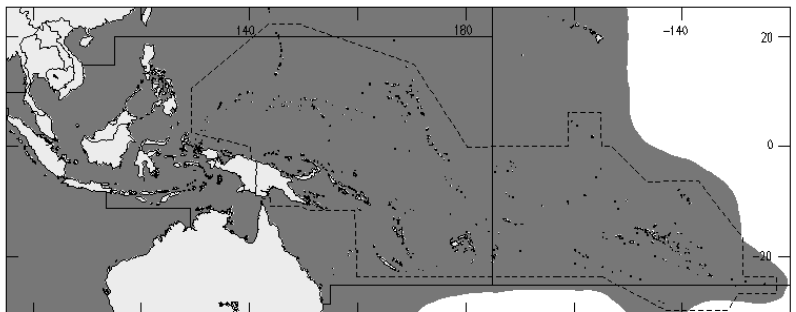


Diagnostic characters: Body depth 37 to 49%, its width 8 to 21% of standard length; caudal peduncle low. Head length 24 to 35% of standard length, dorsal contour of snout steep. Snout short, its length as long as or slightly longer than eye diameter. Mouth terminal, number of lanceolate incisor-like teeth about 30 to 34 in adults (over 20 cm standard length). **Gill rakers on first gill arch 8 to 10 (usually 9) on upper limb, 21 to 24 (usually 22 or 23) on lower limb (total 29 to 34, usually 31 or 32).** Dorsal fin with **XI (rarely X) spines, the sixth or seventh spine longest, and with 14 (rarely 13 or 15) soft rays**; base of spinous portion of dorsal fin longer than base of soft portion; anterior soft rays of dorsal fin a little shorter or as long as longest dorsal-fin spine. **Anal fin with III spines, third spine longest, with 13 (rarely 12) soft rays, anterior soft portion not elevated**, the longest soft ray 2 times longer than third anal-fin spine. Pectoral fins with 19 (rarely 18 or 20) soft rays. Pelvic fins slightly shorter than pectoral fins. Caudal fin shallowly forked with pointed lobes. **Pored scales in lateral line 51 to 55 (usually 52 or 53); longitudinal scale rows 56 to 64; scales above lateral line 11 to 14 (usually 12 or 13); scales below lateral line 18 to 21 (usually 18 or 19).** **Colour:** body bluish brown dorsally, silver ventrally, with several olive brown or yellow longitudinal lines on flank, large specimens (about 50 cm standard length) uniformly dark brown dorsally; head with 2 oblique olive brown or yellow bands; one before or behind eye, and the other one below eye; dorsal and anal fins dark blue, margin of soft portion with darker band; pectoral fins silver near base, distal half slightly darker.

Size: Maximum total length 60 cm; commonly to 40 cm.

Habitat, biology, and fisheries: Inhabits coastal areas, primarily in coral and rocky reefs, often occurring in inner reefs. Herbivorous. Occasionally schools with other kyphosid fishes. Juveniles often occur far out at sea beneath floating debris and seaweed. Caught by gill nets, handlines, and spears.

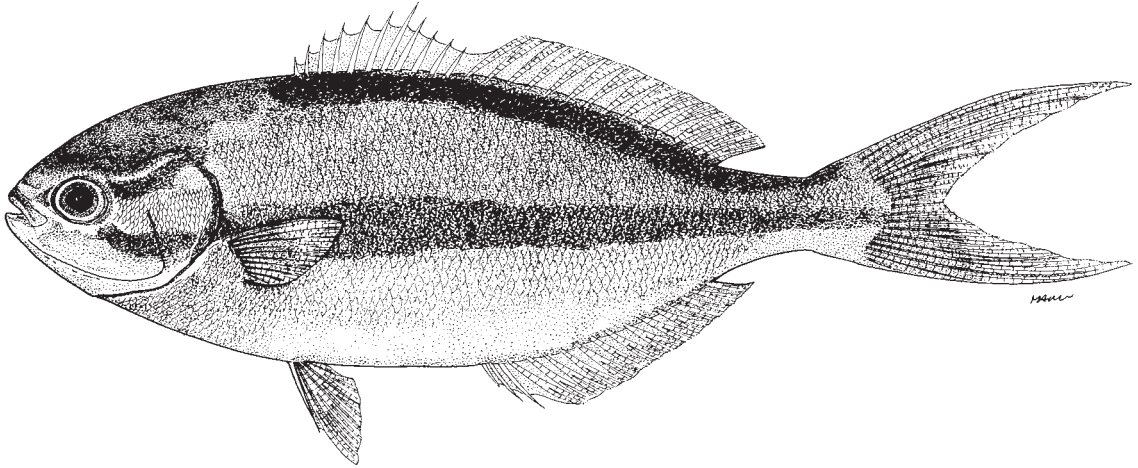
Distribution: Widespread in the Indo-West Pacific from South Africa, including the Red Sea, to Australia; north to southern Japan.



Sectator ocyurus (Jordan and Gilbert, 1882)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Bluestriped chub.



Diagnostic characters: Body oblong and moderately compressed, its depth 33 to 35%, its width 12 to 15% of standard length; caudal peduncle low, its depth 8 to 9% of standard length. Head small, 25 to 27% of standard length, dorsal contour of head prominently convex, interorbital space broad. Eye small. Snout short, its length slightly longer than eye diameter. **Mouth small and terminal; posterior end of maxilla not reaching eye; single row of small lanceolate incisor-like teeth.** Preorbital narrow, covering little of maxilla. Gill rakers on first gill arch usually 9 on upper limb, 20 or 21 on lower limb (total 29 or 30). Dorsal fin with XI (rarely X) spines, the sixth or seventh spine longest, with 15 (rarely 16) soft rays, base of spinous portion shorter than base of soft portion; soft portion of dorsal fin low and straight; anterior soft rays clearly shorter than longest dorsal-fin spine. **Anal fin with III spines, third spine longest and with 14 soft rays, anterior part of soft portion not elevated,** its height about equal to soft portion of dorsal fin. Pectoral fins small, bluntly pointed posteriorly, with 19 or 20 soft rays. Pelvic fins shorter than pectoral fins. Caudal fin well forked with pointed lobes. **Pored scales in lateral line 57 to 61; longitudinal scale rows 64 to 73; scales above lateral line 14 to 16; scales below lateral line 22 to 24.** **Colour:** a longitudinal cobalt blue stripe from slightly before dorsal-fin origin to upper part of caudal-fin base, a distinct broad cobalt blue stripe from area above base of pectoral fins straight to base of caudal fin, area between these 2 blue stripes dark grey; a golden yellow stripe below broad cobalt blue stripe; head with 2 oblique cobalt blue bands; 1 from snout through upper margin of eye to upper part of gill opening; the other one from angle of mouth through lower margin of eye to posterior end of opercle; interspace and space below blue bands of head golden; anal and pelvic fins golden yellow; dorsal, pectoral, and caudal fins blackish golden yellow.

Size: Maximum total length 60 cm.

Habitat, biology, and fisheries: A rare species in the area. Juveniles often occur far out at sea beneath floating debris and seaweed. Caught by gill nets or handlines.

Distribution: Scattered in the Pacific: Hawaii and Society Islands; common in the eastern Pacific from southern California to Ecuador; north to the Izu Islands in Japan. Known in the Central and West Pacific only from Hawaii, Izu Islands, Japan, and a single specimen from Moorea, Society Islands.

