

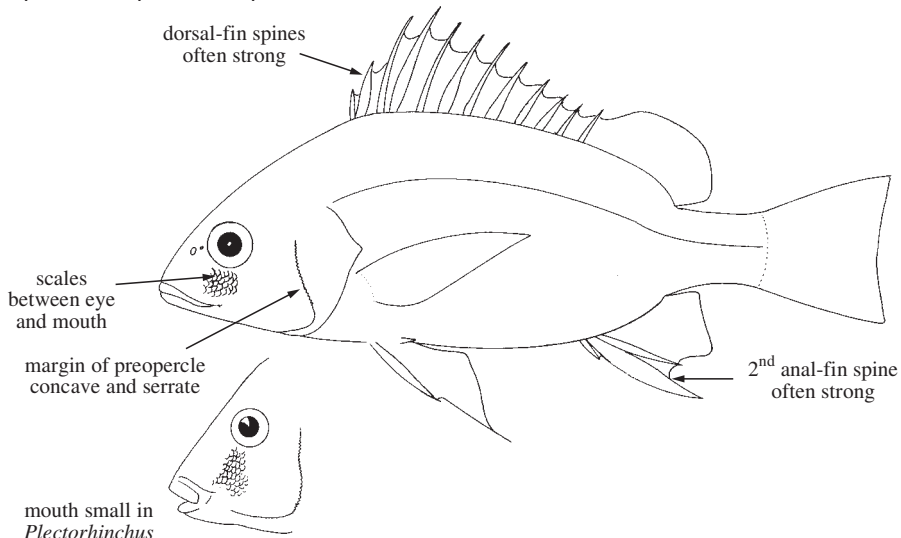
HAEMULIDAE

(= Pomadasysidae)

Grunts (also sweetlips, rubberlips, hotlips, and velvetchins)

by R.J. McKay

Diagnostic characters: Oblong, compressed, perch-like fishes (size to 120 cm). Head profile strongly convex; **scales present on entire head except tip of snout, lips, and chin.** Mouth small or moderate, lips thick in *Plectorhinchus*, **tip of upper jaw hidden when mouth closed; chin with 2 pores anteriorly and a median pit (*Pomadasys*), or 6 pores and no pit (*Plectorhinchus*).** Teeth conical, in a narrow band in each jaw, the outer series enlarged, but no canines; **palate toothless.** Preopercle with a slightly concave and serrated posterior margin; opercle with 1 distinct spine. Dorsal fin single, with IX to XV strong spines and 12 to 26 soft rays; anal fin with III spines (the second often very strong) and 7 to 9 soft rays; caudal fin truncate or emarginate (rounded in juveniles); pelvic fins below base of pectoral fins, with I spine and 5 soft rays; pectoral fins long. Scales ctenoid (rough to touch), small or moderate. **Colour:** highly variable, ranging from uniformly coloured to banded, blotched, and spotted; juveniles may differ markedly from adults in shape, development of lips, and coloration.



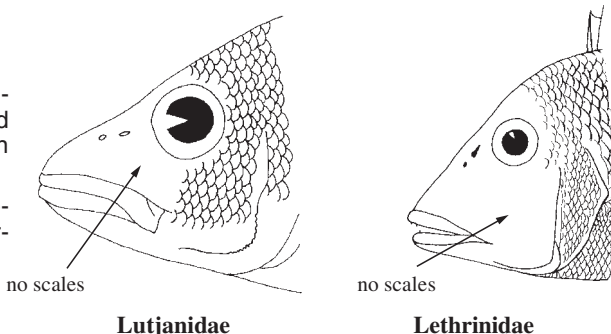
Habitat, biology, and fisheries: Generally frequenting coastal reefs (*Plectorhinchus*), inshore bays, and estuaries (*Pomadasys*). Feed mostly at dawn or dusk, moving out from the reef to feed on open sandy bottoms, but may be taken throughout the day by line, spear, or net. All are good table fishes with white flesh, the larger grunts are considered fine sport fishes. For 1995, the FAO Yearbook of Fishery Statistics reports a total catch of around 12 000 t of Haemulidae from the area (Indonesia, Malaysia, Singapore).

Remarks: The genus *Hapalogenys* has been removed from the family Haemulidae. It is very close to the 2 species of the family Dinopercidae, but lacks intrinsic muscles on the posterior part of the swimbladder. Two species of *Hapalogenys* occur in the area and are placed here for convenience until better accommodated.

Similar families occurring in the area

Lutjanidae: no pores on chin, canine teeth usually present, hind part of the upper jaw exposed when mouth is closed, teeth usually present on roof of mouth, second anal-fin spine weak.

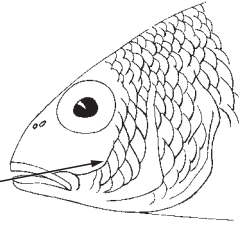
Lethrinidae: no pores on chin, no scales on preopercle in *Lethrinus*, and its hind edge not serrated.



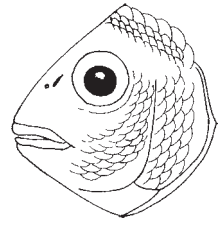
Nemipteridae: no pores on chin, hind margin of suborbital exposed.

Sparidae: no pores on chin, edge of preopercle smooth, suborbital space scaleless; molar teeth sometimes present.

hind margin of suborbital exposed



Nemipteridae



Sparidae

Key to the species of Haemulidae occurring in the area

- 1a. Chin with 2 pores followed by a pit containing a pore on each side (Fig. 1a) (*Pomadasys*) → 4
- 1b. Chin with 6 pores and no median pit containing a pore on each side (Fig. 1b) → 2
- 2a. Chin with a covering of short barbels or fur-like papillae; an antrorse spine before first dorsal-fin spine; caudal fin rounded, becoming almost truncate in adults (*Hapalogenys*) → 11
- 2b. Chin naked, frequently swollen with age; no antrorse spine; caudal rounded or lanceolate in juveniles, becoming truncate or emarginate in adults → 3

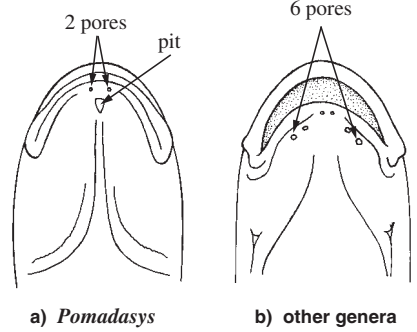


Fig. 1 ventral view of head

- 3a. Dorsal fin with IX or X spines and 21 to 26 soft rays; 16 to 20 scales between lateral line and dorsal-fin origin; juveniles with longitudinal black bands, lower part of head and body yellowish; swimbladder with 3 short anterior horn-like extensions directed forwards (*Diagramma*) → 12
- 3b. Dorsal fin with XI or more spines and 14 to 22 soft rays; 10 to 17 scales between lateral line and dorsal-fin origin; swimbladder without horn-like extensions anteriorly (*Plectorhinchus*) → 13
- 4a. A vertical black band about 8 scales wide over nape, terminating about 3 scales below lateral line; about 6 black blotches posterior to the vertical band; spinous part of dorsal fin with a large black blotch *Pomadasys maculatus*
- 4b. Colour not as above → 5
- 5a. Gill cover produced posteriorly as a rounded lobe reaching to middle of pectoral fins; preopercle produced into a posterior lobe; circumpeduncular scales 16 *Pomadasys auritus*
- 5b. Gill cover and preopercle normal; circumpeduncular scales more than 16 → 6
- 6a. Body with distinct black or brown horizontal stripes → 7
- 6b. Body without distinct stripes in adults, juveniles may have 3 indistinct stripes or numerous horizontal lines of contiguous spots → 8

- 7a. Body with 4 distinct black stripes, the lower one behind eye to middle of tail base (Fig. 2) *Pomadasys andamanensis* (known from Phuket Island, Andaman Sea; not yet recorded from the area)
- 7b. Body with 6 brown stripes that bifurcate anteriorly; the bands becoming more numerous with growth *Pomadasys furcatum*

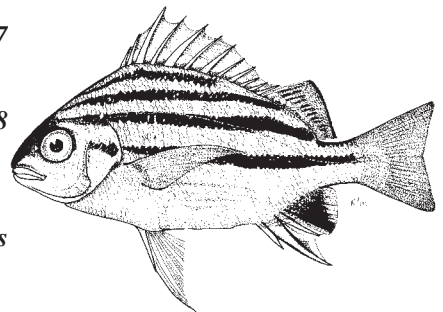


Fig. 2 *Pomadasys andamanensis*

- 8a.** Body with dark spots or blotches arranged as horizontal rows or vertical interrupted bars; dorsal fins with distinct spots or dark blotches; dorsal-fin rays usually 14 → **9**
- 8b.** Body without dark spots or blotches, juveniles of *P. trifasciatus* have 3 darker stripes of which the middle one is broadest; opercle with distinct dark spot; dorsal fins unspotted or with a few vague darker blotches on base only; dorsal-fin rays usually 13. → **10**
- 9a.** Body with pairs of spots or dull blotches arranged into vertically interrupted bars; old specimens may be uniformly coloured with dark blotches or spots on dorsal fins; circumpeduncular scales 20. *Pomadasys kaakan*
- 9b.** Body with conspicuous rounded spots, scattered on body or forming lines or rows of spots on back; circumpeduncular scales 21 or 22 *Pomadasys argenteus*
- 10a.** Second anal-fin spine usually longer than length of snout plus diameter of eye; eye diameter usually less than depth of caudal peduncle; first gill arch with middle gill rakers about 2/3 length of gill lamellae; circumpeduncular scales usually 18 or 19 (rarely 20); lining of abdominal cavity pale *Pomadasys argyreus*
- 10b.** Second anal-fin spine about equal to or shorter than length of snout plus diameter of eye; eye diameter about equal to depth of caudal peduncle; first gill arch with middle gill rakers about equal to length of gill lamellae; circumpeduncular scales usually 21 to 23 (rarely 19 or 20); lining of abdominal cavity black *Pomadasys trifasciatus*
- 11a.** Body with 5 broad black to dark brown vertical bands; vertical fins with black margin *Haplogenyis analis*
- 11b.** Body with 4 horizontal dark brown bands on upper part; vertical fins without black margin *Haplogenyis kishinouyei*
- 12a.** Adults have body and vertical fins blue-grey with yellow or orange spots becoming larger and coalescing on head to form irregular stripes; inside mouth bright orange to red *Diagramma pictum*
- 12b.** Adults have body bronze grey with mauve tints and numerous small dark brown spots on caudal and soft dorsal fins; some scattered darker blotches may be found on body and head; anal fins dark grey; no yellow spots at any stage; inside mouth flesh-pink *Diagramma labiosum*
- 13a.** Body uniform grey, brownish or olive, with or without a paler caudal fin, red opercular membrane or dark tips to fins → **14**
- 13b.** Body not uniformly coloured → **16**
- 14a.** Anterior half of soft dorsal fin black; caudal-fin lobes, particularly lower, tipped with black; pectoral, pelvic, and anal fins dusky to black; dorsal-fin spines usually XIII (rarely XII); dorsal-fin rays 16 to 20 *Plectorhinchus albovittatus* (adult)
- 14b.** Soft dorsal fin uniformly coloured → **15**
- 15a.** Dorsal fin with XIV (very rarely XIII) spines and 15 to 17 (mostly 16) soft rays; pored lateral-line scales 46 to 55; base of soft dorsal fin shorter than head; juveniles with caudal fin pink *Plectorhinchus gibbosus*
- 15b.** Dorsal fin with XII (rarely XIII) spines and 18 to 21 (mostly 19 or 20) soft rays; pored lateral-line scales 54 to 58; base of soft dorsal fin equal to or (usually) longer than head; juveniles with faint blue lines below eye and along body *Plectorhinchus schotaf*
- 16a.** Body with distinct spots → **17**
- 16b.** Body with large blotches, longitudinal stripes and/or small spots → **20**

- 17a.** Soft dorsal-fin rays 15 to 17 (mostly 16); colour greyish brown, with large round black spots on posterior two-thirds of body *Plectorhinchus pictus*
- 17b.** Soft dorsal-fin rays 18 to 22. → 18
- 18a.** Gill rakers on lower limb of first gill arch 16 to 19; body with orange, gold, or rust-coloured spots fading with age; head with narrow, undulating yellow to rust coloured lines *Plectorhinchus flavomaculatus* (adult)
- 18b.** Gill rakers on lower limb of first gill arch 22 or more → 19
- 19a.** Body with numerous dark brown to black spots about as large as pupil; pelvic fins dusky with a basal red brown blotch or streaks, not spotted; total gill rakers on first gill arch 33 to 37; longest dorsal-fin ray 12 to 14% of standard length, about 1/2 length of soft dorsal-fin base or less *Plectorhinchus picus* (adult)
- 19b.** Body with numerous dark brown spots, generally larger than pupil; pelvic fins spotted, darkening with age; total gill rakers on first gill arch 36 to 43; longest dorsal-fin ray 16 to 25% of standard length, almost equal to length of soft dorsal-fin base in small specimens, more than 1/2 length of soft dorsal-fin base in adults *Plectorhinchus chaetodonoides* (adult)
- 20a.** Body with large blotches → 21
- 20b.** Body without large blotches → 23
- 21a.** Gill rakers on lower limb of first gill arch 26 to 32 *Plectorhinchus chaetodonoides* (juvenile)
- 21b.** Gill rakers on lower limb of first gill arch 25 or less → 22
- 22a.** Twelve dorsal-fin spines; light areas with or without dark spots; black areas break up into dark spots; pectoral fins pale *Plectorhinchus picus* (juvenile)
- 22b.** Thirteen dorsal-fin spines; light areas with darker spots that elongate and change into dark horizontal stripes; pectoral fins black or with black blotches . *Plectorhinchus vittatus* (juvenile)
- 23a.** Regular dark or light horizontal stripes along body → 24
- 23b.** Yellow stripes along head and body or on head only → 28
- 24a.** Upper stripes horizontal on body across nape, interorbital, and snout . *Plectorhinchus vittatus* (adult)
- 24b.** Upper stripes horizontal on body but bending downward and converging on snout → 25
- 25a.** Total gill rakers on first gill arch 19 to 22, of which 11 to 15 on lower limb; juveniles with 3 or 4 white stripes on a dark brown or black body, changing to about 4 dark brown stripes above pectoral-fin base, none below except 2 below eye on head; pelvic fins with anterior half except margin black or dark brown *Plectorhinchus lessonii*
- 25b.** Total gill rakers on first gill arch 26 or more, of which 17 or more on lower limb → 26
- 26a.** Three narrow light stripes on body fading with age; upper anterior part of soft dorsal fin dark brown to black; tips of caudal-fin lobes blackish *Plectorhinchus albovittatus* (juvenile)
- 26b.** Usually more than 4 light stripes on body; pelvic fins without an area of black pigmentation; stripes splitting and increasing with growth → 27
- 27a.** Dorsal-fin spines XIII; stripes increase in number and become diagonal with growth; upper base of pectoral fins with a splash of carmine or scarlet; caudal fin yellow with black spots and posterior margin *Plectorhinchus lineatus*
- 27b.** Dorsal-fin spines XII (rarely XIII); stripes increase in number, but remain horizontal and develop a dark edge; stripes flow onto yellow caudal fin in a diagonal manner and fade with growth; fins yellow, unspotted *Plectorhinchus polytaenia*

- 28a.** Pale blue or white horizontal stripes edged with dark brown *Plectorhinchus polytaenia* (adult)
- 28b.** Stripes not dark edged → **29**
- 29a.** Pale blue and bright yellow horizontal stripes on head and body; all fins uniform yellow
 *Plectorhinchus chrysotaenia*
- 29b.** Pale blue and bright yellow horizontal stripes on head only; dorsal fin not uniform yellow → **30**
- 30a.** Body with yellow, golden, or rusty spots fading away with age; dorsal fin with XIII (rarely XII) spines *Plectorhinchus flavomaculatus*
- 30b.** Body with narrow yellow lines becoming diagonal posteriorly; dorsal-fin spines XII (rarely XI or XIII) *Plectorhinchus multivittatus*

List of species occurring in the area

The symbol  is given when species accounts are included.

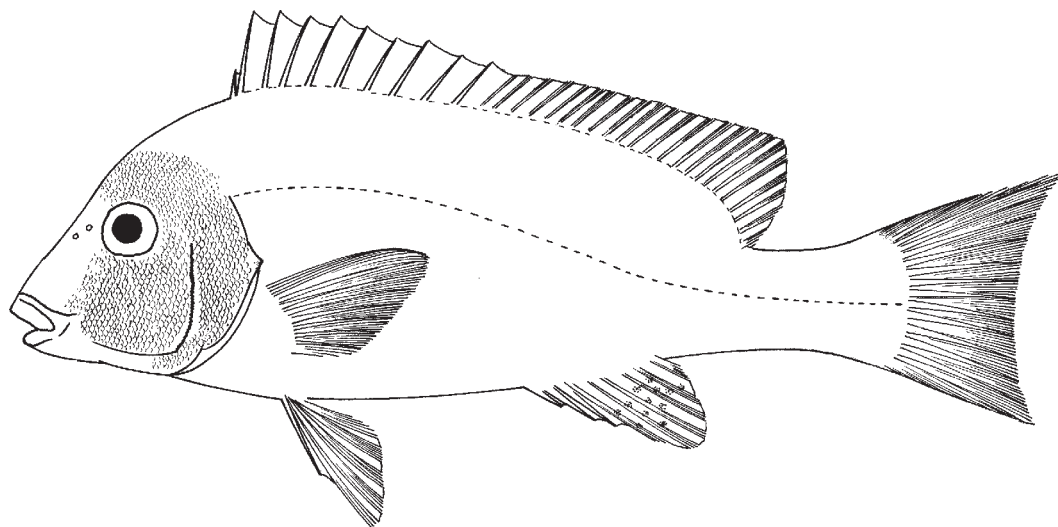
-  *Diagramma labiosum* Macleay, 1883
-  *Diagramma pictum* (Thunberg, 1792)
-  *Hapalogenys analis* Richardson, 1845
-  *Hapalogenys kishinouyei* Smith and Pope, 1906
-  *Plectorhinchus albovittatus* (Rüppell, 1838)
-  *Plectorhinchus chaetodonoides* Lacepède, 1801
-  *Plectorhinchus chrysotaenia* (Bleeker, 1855)
-  *Plectorhinchus flavomaculatus* (Cuvier in Cuvier and Valenciennes, 1830)
-  *Plectorhinchus gibbosus* Lacepède, 1802
-  *Plectorhinchus lessonii* (Cuvier in Cuvier and Valenciennes, 1830)
-  *Plectorhinchus lineatus* (Linnaeus, 1758)
-  *Plectorhinchus multivittatus* (Macleay, 1878)
-  *Plectorhinchus pictus* (Tortonese, 1936)
-  *Plectorhinchus picus* (Cuvier in Cuvier and Valenciennes, 1830)
-  *Plectorhinchus polytaenia* (Bleeker, 1852)
-  *Plectorhinchus schotaf* (Forsskål, 1775)
-  *Plectorhinchus vittatus* (Linnaeus, 1758)
- ? *Pomadasys andamanensis* McKay and Satapoomin, 1994^{1/}
-  *Pomadasys argenteus* (Forsskål, 1775)
-  *Pomadasys argyreus* (Valenciennes in Cuvier and Valenciennes, 1833)
-  *Pomadasys auritus* (Cuvier in Cuvier and Valenciennes, 1830)
-  *Pomadasys furcatum* (Bloch and Schneider, 1801)
-  *Pomadasys kaakan* (Cuvier in Cuvier and Valenciennes, 1830)
-  *Pomadasys maculatus* (Bloch, 1793)
-  *Pomadasys trifasciatus* Fowler, 1937

^{1/} Occurrence in the area uncertain. Recently described from Thailand (Phuket Island, Andaman Sea).

Diagramma labiosum Macleay, 1883

Frequent synonyms / misidentifications: None / *Diagramma pictum* (Thunberg, 1792).

FAO names: En - Grey sweetlips.



Diagnostic characters: Lips fleshy, moderately swollen with age. **Chin with 6 pores but no median pit. Total gill rakers on first gill arch 18 to 21 (6 to 8 on upper limb, 1 at corner, and 12 to 14 on lower limb). Dorsal fin with IX or X spines and 21 to 26 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 50 to 74 tubed scales. **Colour:** grey bronze to blue-grey with numerous small dark brown spots on caudal and soft dorsal fins; scattered darker blotches may be present on body and head; no yellow spots on head at any size; juveniles dark brown to black above, divided into 3 or more broad longitudinal stripes by narrower pearl blue interspaces; silvery yellow below; dorsal and caudal fins yellow with black patches and broken stripes; stripes increase with age and break up into small rounded spots before fading on body and sometimes on caudal fin.

Size: Maximum total length about 90 cm, commonly to 50 cm.

Habitat, biology, and fisheries: Coastal inshore waters near reefs and inside coral lagoons. Taken by handline and spear. A common species marketed fresh.

Distribution: Bali, Indonesia to southern New Guinea and northern Australia from Houtman Abrolhos Islands to northern New South Wales.

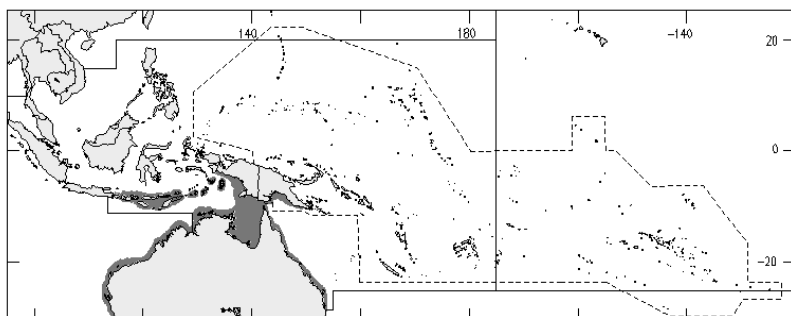
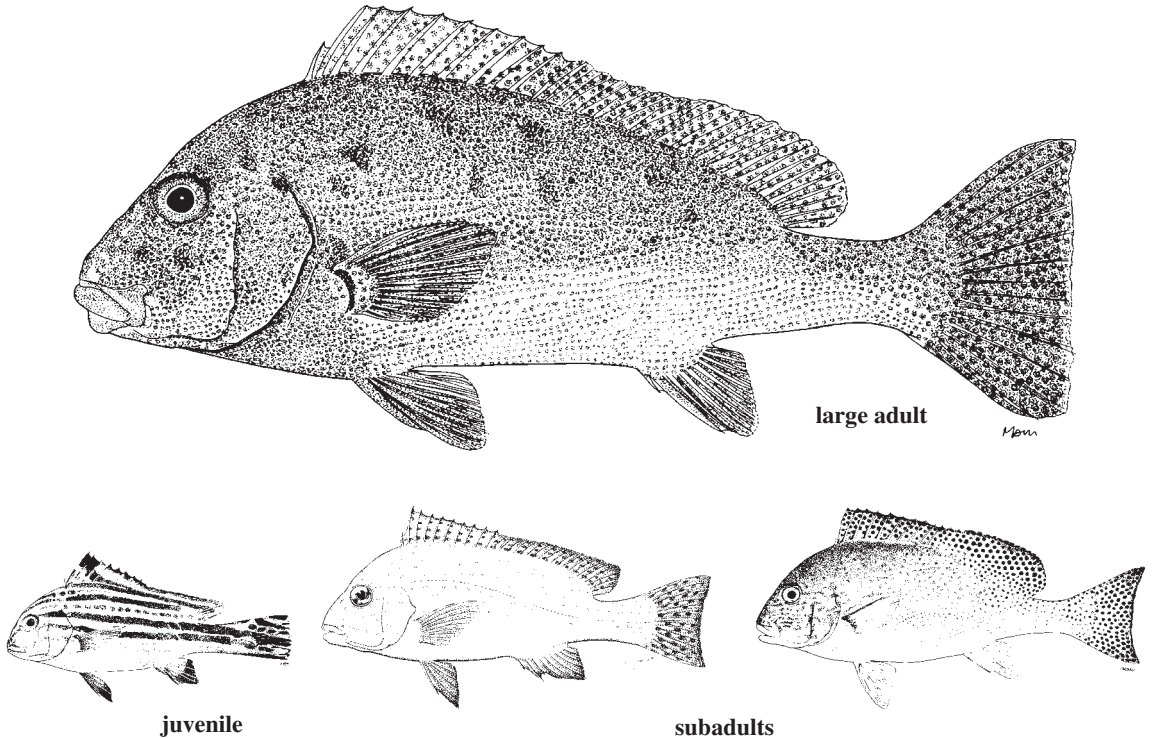


Diagramma pictum (Thunberg, 1792)

(Plate XIII, 91 and 92)

Frequent synonyms / misidentifications: *Diagramma punctatum* Rüppell, 1830; *Plectorhinchus pictus* (Thunberg, 1792) / None.

FAO names: En - Painted sweetlips; Fr - Diagramme voilier; Sp - Burro velero.

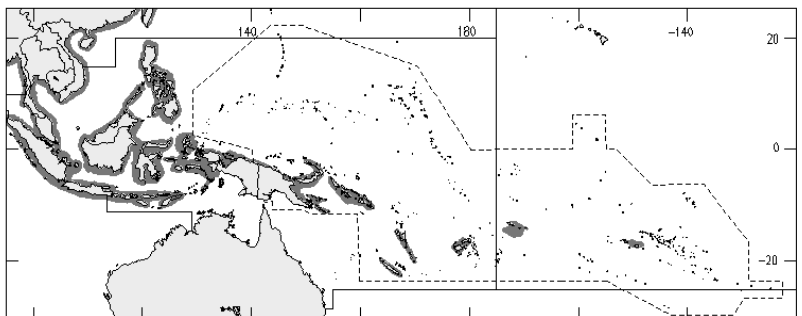


Diagnostic characters: Lips fleshy, moderately swollen with age. Chin with 6 pores but no median pit. Total gill rakers on first gill arch 19 to 23 (6 to 8 on upper limb, 1 at corner, and 13 to 16 on lower limb). Dorsal fin with IX or X spines and 20 to 24 soft rays. Scales ctenoid (rough to touch). Lateral line with about 54 to 73 tubed scales. **Colour:** adults blue-grey with bright yellow to golden orange spots sometimes forming lines on head; inside mouth bright orange to red; dorsal fins bordered with black; anal and pelvic fins tipped with black; juveniles dark brown to black above, divided into 3 or more broad longitudinal stripes by narrower pearl blue interspaces; silvery yellow below; dorsal and caudal fins yellow with black patches and broken stripes; stripes increase with age and break up into small rounded spots before fading on body and sometimes on caudal fin.

Size: Maximum total length about 100 cm, commonly to 45 cm.

Habitat, biology, and fisheries: Coastal inshore waters near reefs and open sandy areas to depth of 80 m. Feeds on bottom invertebrates and small fishes. Taken by handline and spear. A common species, marketed fresh; a small quantity is salted.

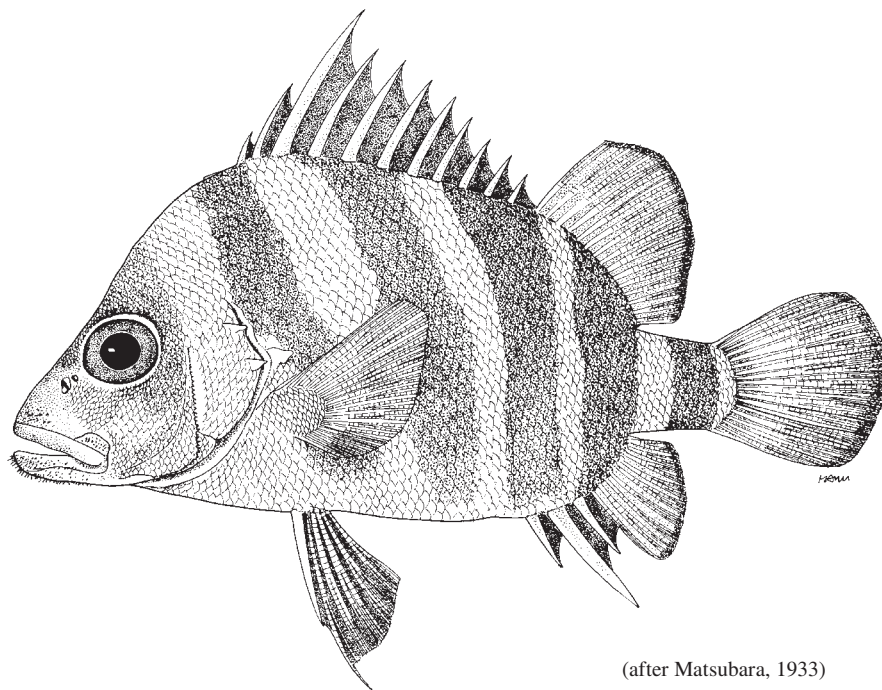
Distribution: Indo-West Pacific from south Natal to southern Japan and Fiji, excluding northern Australia and most of southern New Guinea.



Haplogenyis analis Richardson, 1845

Frequent synonyms / misidentifications: *Haplogenyis mucronatus* (Eydoux and Souleyet, 1850) / None.

FAO names: En - Broadbanded velvetchin.



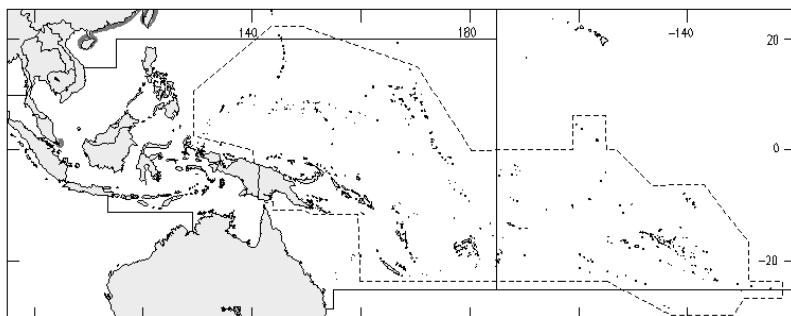
(after Matsubara, 1933)

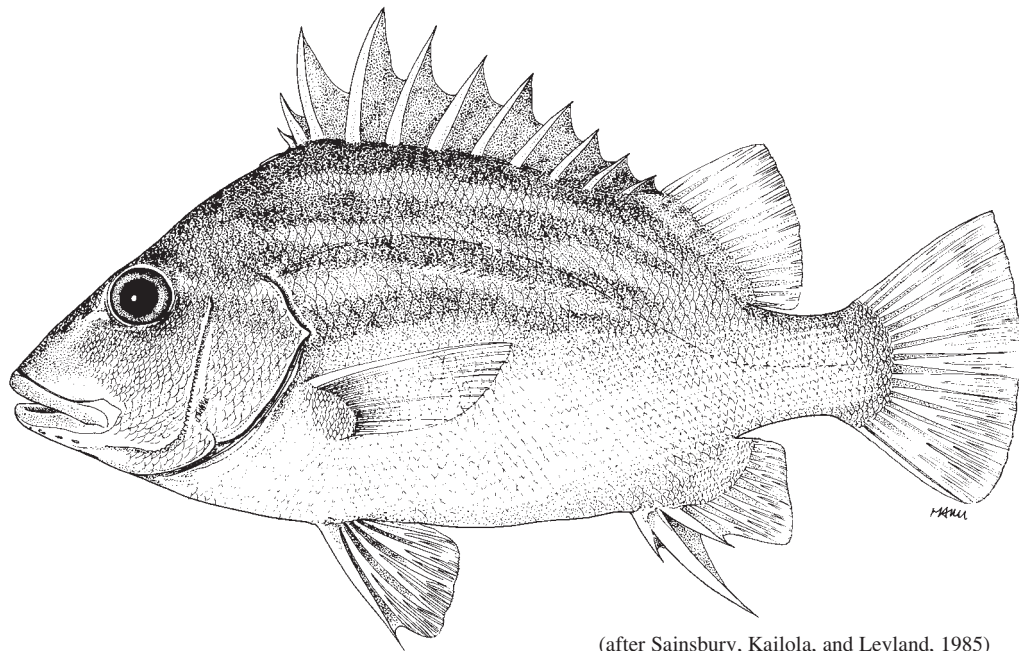
Diagnostic characters: Chin with 6 pores but no median pit, covered with fleshy villi that frequently obscure anterior pores. Dorsal fin with XI spines, preceded by an antrorse spine under skin, and 15 or 16 soft rays. Anal fin with III spines, second spine long and strong, and 9 soft rays. Scales ctenoid (rough to touch). Lateral line with about 54 to 58 tubed scales. **Colour:** pale brown with 6 vertical broad dark brown bands; pelvic fins black; spinous dorsal and anal fin interspinous membranes dark brown to black; soft dorsal, caudal, and soft anal fins yellowish with black margin.

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

Habitat, biology, and fisheries: Coastal inshore waters near reefs. Feeds on bottom invertebrates and small fishes. Taken by handline, spear, and occasionally bottom trawl. Uncommon.

Distribution: Western Pacific from Singapore to southern Japan.



Haplogeny kishinouyei* Smith and Pope, 1906*Frequent synonyms / misidentifications:** None / None.**FAO names:** En - Striped velvetchin.

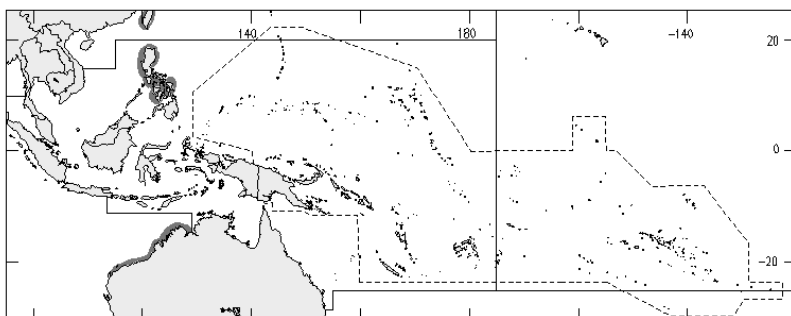
(after Sainsbury, Kailola, and Leyland, 1985)

Diagnostic characters: Chin with 6 pores but no median pit, covered with fleshy villi that frequently obscure anterior pores. Dorsal fin with XI spines, an antrorse spine under skin, and 14 soft rays. Anal fin with III spines, second spine long and strong, and 9 soft rays. Scales ctenoid (rough to touch). Lateral line with about 58 tubed scales. **Colour:** pale greyish brown with 4 brown stripes on upper half of body; a brown band across interorbital behind eye, a broader band across nape; pelvic fins brown in juveniles, fading with age; spinous dorsal and anal fin interspinous membranes brown; soft dorsal, caudal, and soft anal fins pale.

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

Habitat, biology, and fisheries: Coastal inshore waters near reefs. Feeds on bottom invertebrates and small fishes. Taken by handline, spear, and occasionally bottom trawl. Uncommon.

Distribution: Northern Western Australia, Philippines, Taiwan Province of China, South Korea, and southern Japan.

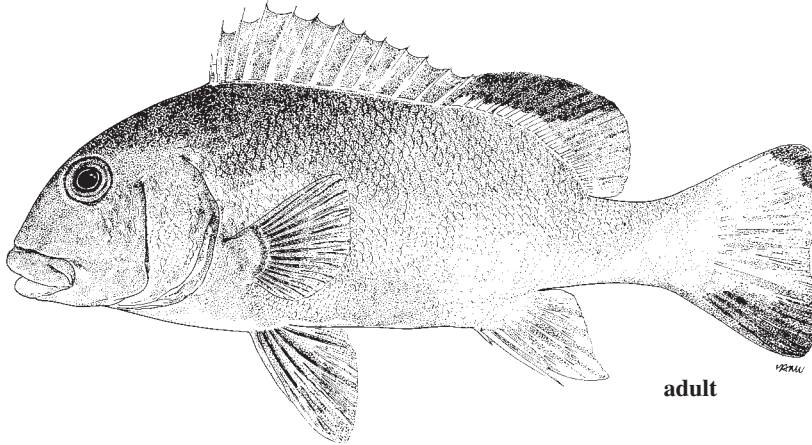


Plectorhinchus albovittatus (Rüppell, 1838)

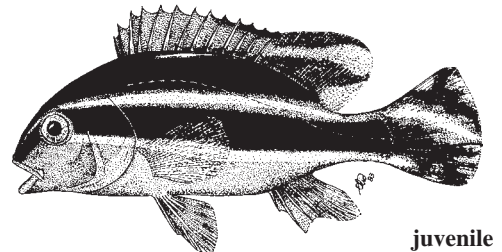
(Plate XIII, 93 to 95)

Frequent synonyms / misidentifications: *Plectorhinchus giganteus* (Günther, 1879); *P. obscurum* (Günther, 1872); *P. harrawayi* (Smith, 1952) / None.

FAO names: En - Giant sweetlips.



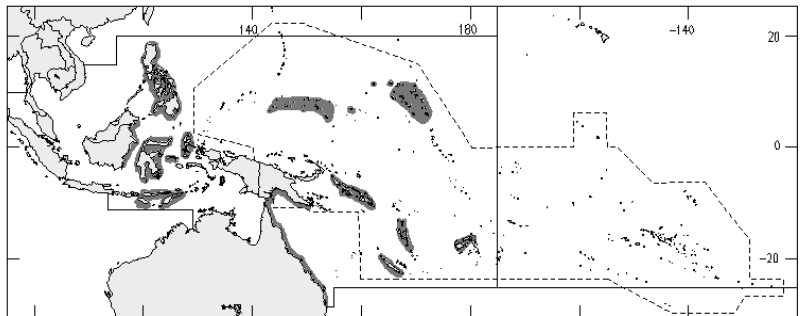
Diagnostic characters: Lips fleshy, greatly swollen with age. **Chin with 6 pores but no median pit.** **Total gill rakers on first gill arch 26 to 31 (6 to 9 on upper limb, 1 at corner, and 19 to 21 on lower limb).** **Dorsal fin with XII or XIII (mostly XIII) spines and 16 to 20 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 54 to 56 tubed scales. **Colour:** juveniles brown, paler below, with 3 narrow white bands on body descending down nape and snout; spinous dorsal pale brown or cream, with a narrow dark brown edge, rayed dorsal fin dark brown with a whitish horizontal stripe and a narrower one above, both reaching posterior margin of fin, last 2 or 3 short rays white, with the posterior half ray usually dark brown; caudal fin dark brown below, white above, with tips dark brown to black-brown and a dark brown bar diagonally across upper lobe; anal fin dark brown, posterior rays light brown; pectoral fins hyaline to very pale brown; pelvic fins tipped with dusky brown. Adults grey to grey-brown with pectoral, pelvic, and anal fins blackish, lower lobe and upper tip of caudal fin black, anterior half of soft dorsal fin black, spinous dorsal fin dusky to black; lower lip and chin white; belly silvery grey to white.



Size: Maximum total length about 120 cm, commonly to 80 cm.

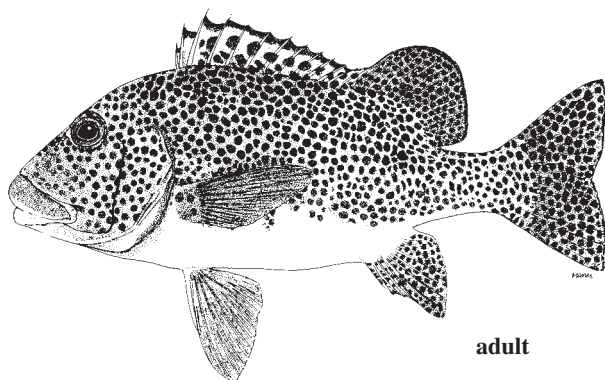
Habitat, biology, and fisheries: Coastal inshore waters near reefs, sheltering in the deeper part of surge channels during the day. Taken by handline and spear. Large fish are marketed fresh, a small quantity is salted.

Distribution: Indo-West Pacific from East Africa to Red Sea, India, Indonesia, Queensland, and northern New South Wales, Polynesia, Philippines, and southern Japan.

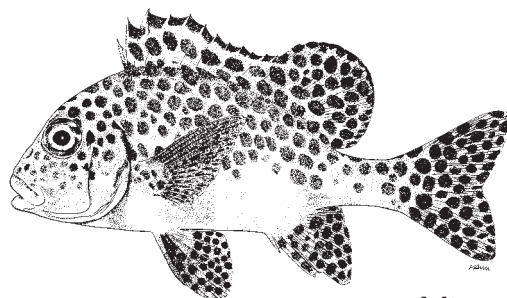


Plectorhinchus chaetodonoides Lacepède, 1801

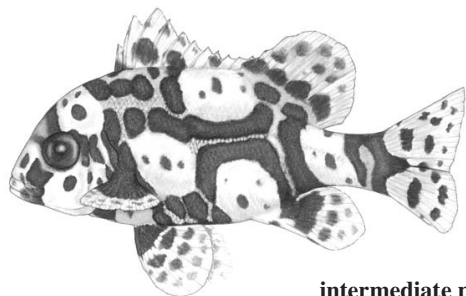
(Plate XIII, 96 to 98)

Frequent synonyms / misidentifications: None / None.**FAO names:** En - Harlequin sweetlips; Fr - Diagramme arlequin; Sp - Burro arlequin.

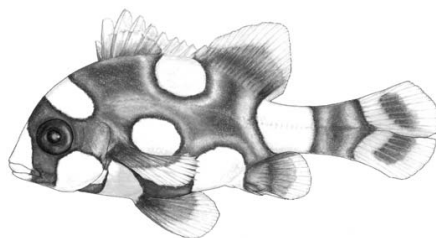
adult



preadult



intermediate phase



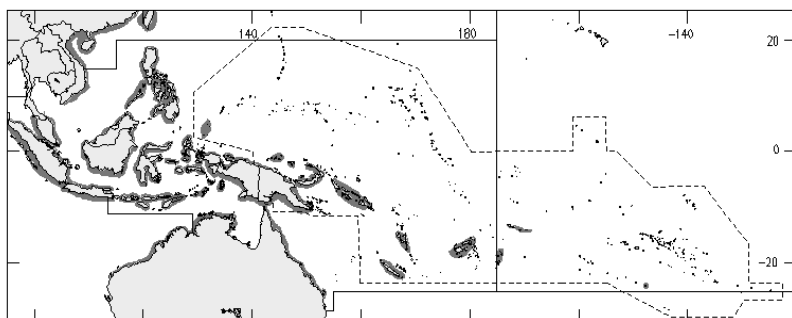
juvenile

Diagnostic characters: Lips fleshy, moderately swollen with age. **Chin with 6 pores but no median pit. Total gill rakers on first gill arch 36 to 43 (9 to 12 on upper limb, 1 at corner, and 27 to 32 on lower limb). Dorsal fin with XII (rarely XI) spines and 18 to 20 soft rays;** height of soft part of dorsal fin about equal to length of its base. Scales ctenoid (rough to touch). Lateral line with about 52 to 59 tubed scales. **Colour:** juveniles brownish with large, well-defined creamy white blotches on body that include brown spots with age; colour gradually changing into a greyish background with large, deep brown spots.

Size: Maximum total length about 65 cm; commonly to 40 cm.

Habitat, biology, and fisheries: Common in coastal inshore waters near reefs. Taken by handline and spear. Marketed fresh, a small quantity is salted. Large fish have coarse and dry flesh.

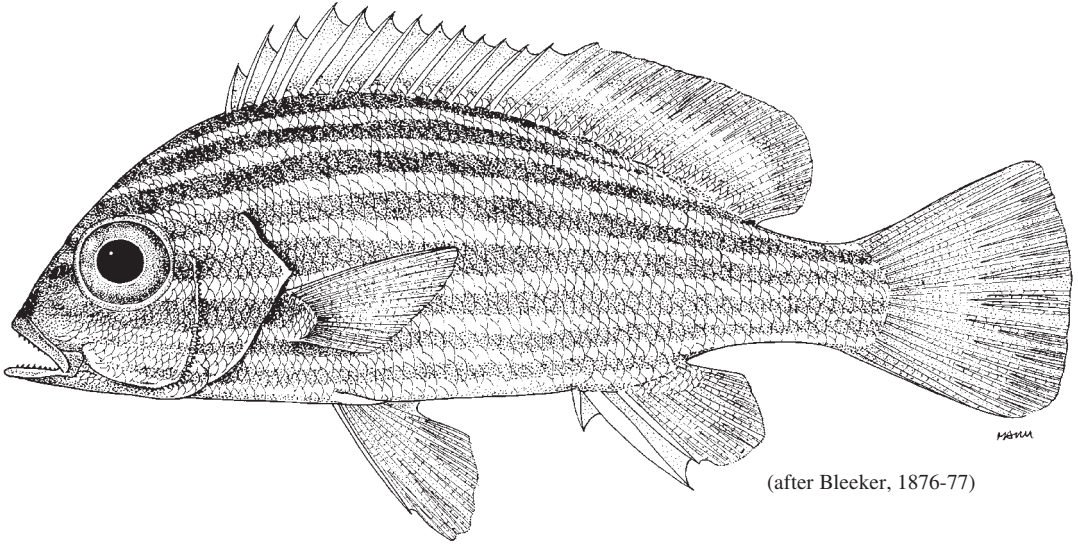
Distribution: Indo-West Pacific from East Africa to Ryukyu Islands and wide ranging throughout South Pacific eastwards to Rapa.



Plectorhinchus chrysotaenia (Bleeker, 1855)

Frequent synonyms / misidentifications: *Plectorhinchus celebicus* Bleeker, 1873 / None.

FAO names: En - Goldbanded sweetlips.



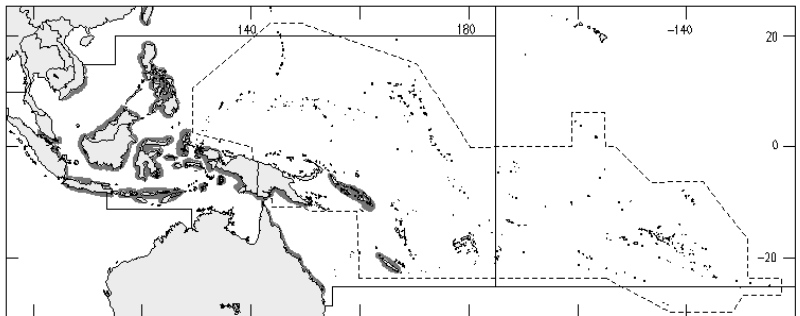
(after Bleeker, 1876-77)

Diagnostic characters: Lips fleshy, moderately swollen with age. **Chin with 6 pores but no median pit.** **Total gill rakers on first gill arch 28 to 33 (9 to 12 on upper limb, 1 at corner, and 18 to 21 on lower limb).** **Dorsal fin with XIII spines and 18 to 21 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 53 to 58 tubed scales. **Colour:** body and head bright blue-green to sky blue with 5 to 7 bright yellow longitudinal bands often separated by thinner yellow bands or lines of spots; fins bright yellow to orange; juveniles similar to adults, but with fewer bands.

Size: Maximum total length about 51 cm, commonly to 40 cm.

Habitat, biology, and fisheries: Coastal inshore waters near reefs. Taken by handline and spear. Marketed fresh, a small quantity is salted.

Distribution: Indo-West Pacific from Indonesia, New Guinea, Queensland to Philippines and southern Japan.

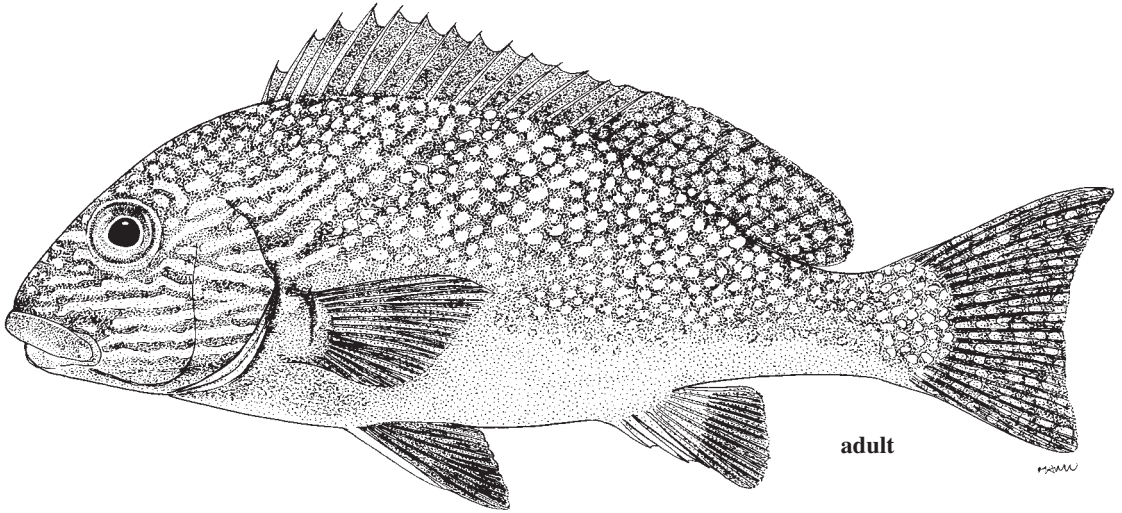


Plectorhinchus flavomaculatus (Cuvier in Cuvier and Valenciennes, 1830)

(Plate XIV, 99 and 100)

Frequent synonyms / misidentifications: *Plectorhinchus reticulatus* Günther, 1859 / None.

FAO names: **En** - Lemon sweetlips; **Fr** - Diagramme citron; **Sp** - Burro limón.

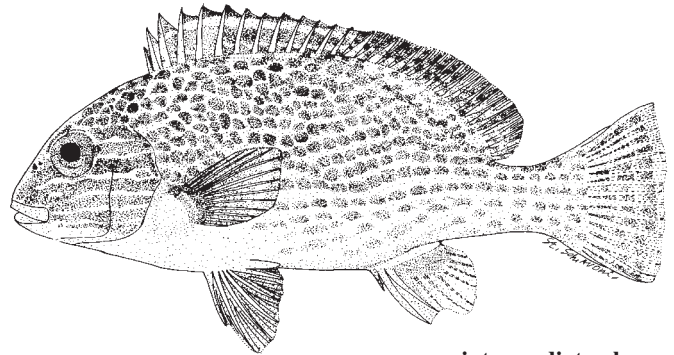


Diagnostic characters: Lips fleshy, moderately swollen with age. **Chin** with 6 pores but no median pit. **Total gill rakers on first gill arch 26 to 34** (11 to 14 on upper limb, 1 at corner, and 16 to 19 on lower limb). **Dorsal fin with XII or XIII (mostly XIII) spines and 19 to 22 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 53 to 60 tubed scales. **Colour:** bluish grey, juveniles with golden or rusty orange stripes along the body that break into a reticulate pattern and later form small spots that may be lost with age or remain as lines, or lines of spots on head.

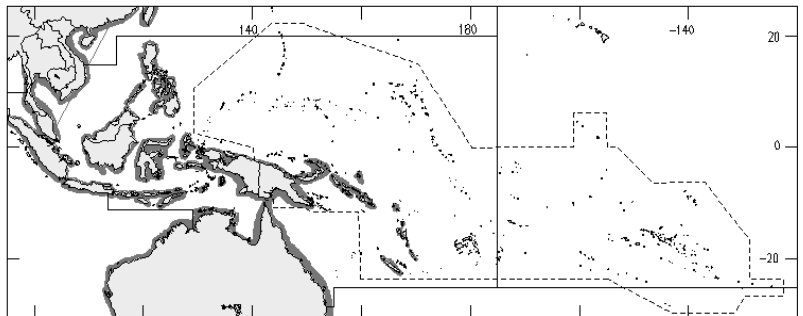
Size: Maximum total length about 72 cm, commonly to 40 cm.

Habitat, biology, and fisheries: Coastal inshore waters near reefs, seagrass beds, and sandbanks. Taken by handline and spear. A common species marketed fresh, a small quantity is salted.

Distribution: South Africa to Red Sea including Madagascar, Mauritius, and Comoro Islands to Indonesia, and western, northern, and eastern coast of Australia to Philippines and Kii Peninsula, Japan.



intermediate phase

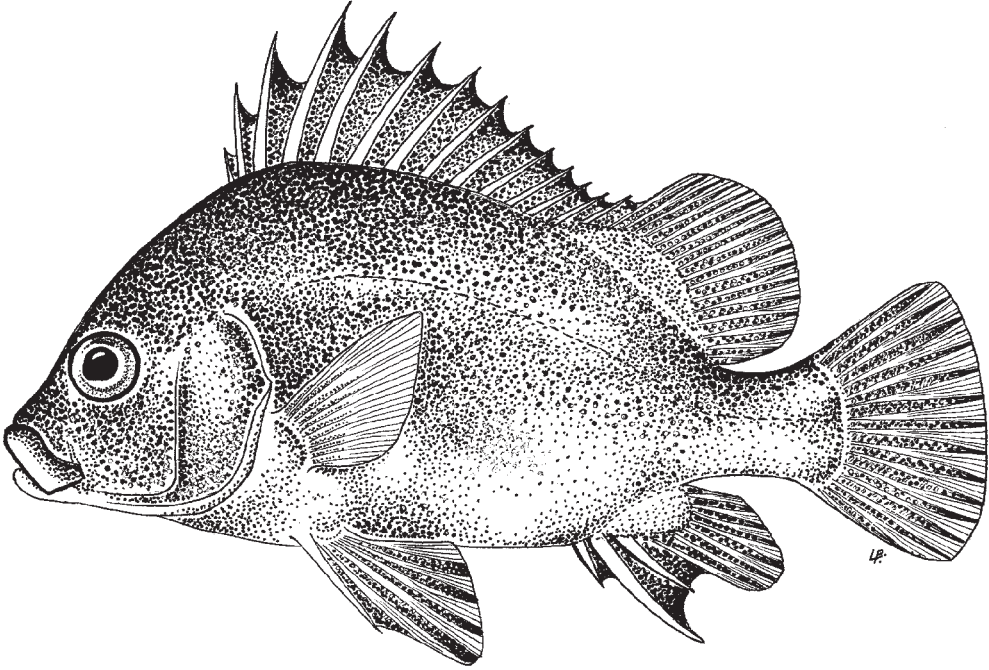


Plectorhinchus gibbosus Lacepède, 1802

(Plate XIV, 101)

Frequent synonyms / misidentifications: *Plectorhinchus nigrus* (Cuvier *in* Cuvier and Valenciennes, 1830) / None.

FAO names: En - Harry hotlips; Fr - Diagramme noire; Sp - Burro negro.

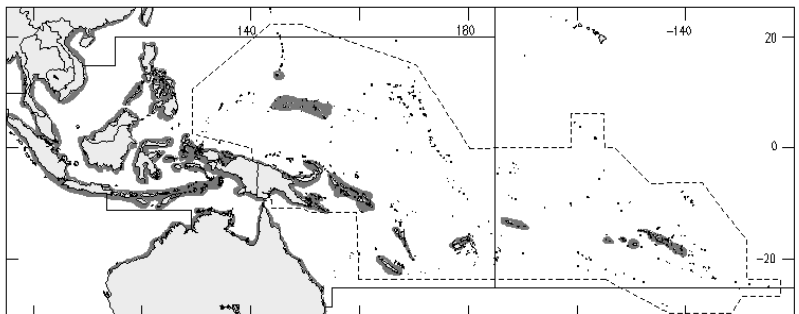


Diagnostic characters: Lips fleshy, greatly swollen with age. **Chin with 6 pores but no median pit. Total gill rakers on first gill arch 24 to 30 (8 to 10 on upper limb, 1 at corner, and 17 to 19 on lower limb). Dorsal fin with XIV spines (rarely XIII) and 15 to 17 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 46 to 55 tubed scales. **Colour:** juveniles brownish, caudal fin pink or transparent; adults uniform dark grey to brownish or blackish; large examples are sometimes mottled with light brown.

Size: Maximum total length about 75 cm, commonly to 45 cm.

Habitat, biology, and fisheries: Coastal inshore waters, common near reefs and estuaries. Taken by handline and spear. Marketed fresh, a small quantity is salted.

Distribution: Indo-West Pacific from Natal northwards to Indonesia, Australia, Philippines, China, and Polynesia.

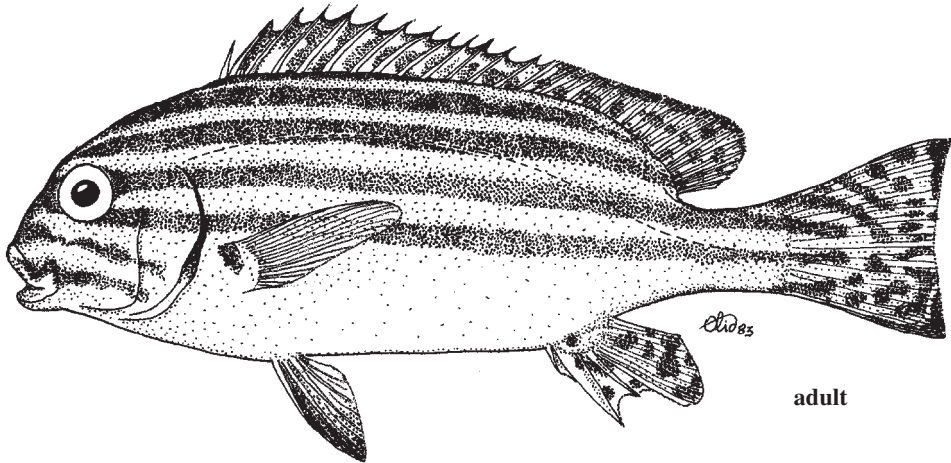


Plectorhinchus lessonii (Cuvier in Cuvier and Valenciennes, 1830)

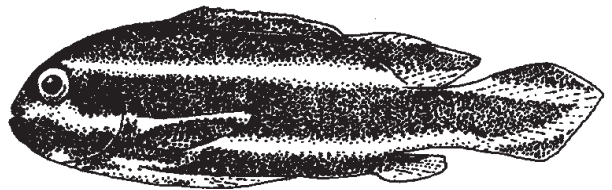
(Plate XIV, 102)

Frequent synonyms / misidentifications: None / *Plectorhinchus diagrammus* (Linnaeus, 1758).

FAO names: En - Lesson's sweetlips.



Diagnostic characters: Lips fleshy, moderately swollen with age. **Chin with 6 pores but no median pit. Total gill rakers on first gill arch 19 to 22 (5 to 7 on upper limb, 1 at corner, and 11 to 15 on lower limb). Dorsal fin with XII (rarely XIII) spines and 19 to 21 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 54 to 58 tubed scales. **Colour:** juveniles dark brown with 2 white stripes on body

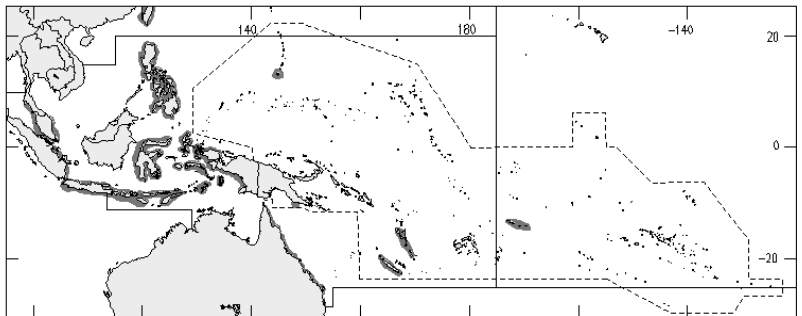


and through caudal fin, increasing to 4; adult with about 4 brown stripes on body above pectoral fins and 2 brown stripes below eye on head, belly white; middle of pectoral fins black in juveniles, becoming colourless with base red-brown; pelvic fins pale with the anterior basal half of membranes black, becoming brown; dorsal, caudal, and anal fins yellow, spotted and margined with black.

Size: Maximum total length about 60 cm, commonly to 40 cm.

Habitat, biology, and fisheries: Coastal and offshore waters near coral reefs. Taken by handline and spear. Marketed fresh.

Distribution: Zanzibar, Red Sea to Sri Lanka, Indonesia, Queensland, Polynesia to Philippines, Taiwan Province of China, and southern Japan.

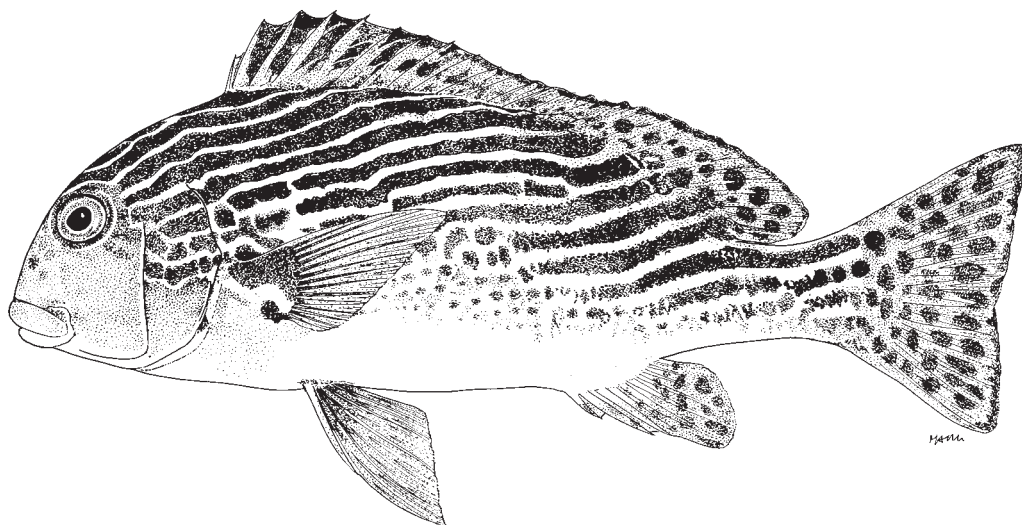


Plectorhinchus lineatus (Linnaeus, 1758)

(Plate XIV, 103)

Frequent synonyms / misidentifications: *Plectorhinchus goldmanni* (Bleeker, 1853) / None.

FAO names: En - Lined sweetlips.



Diagnostic characters: Lips fleshy, moderately swollen with age. **Chin with 6 pores but no median pit. Total gill rakers on first gill arch 26 to 30 (7 to 11 on upper limb, 1 at corner, and 17 to 19 on lower limb). Dorsal fin with XIII spines and 18 to 20 soft rays.** Scales ctenoid (rough to touch). Lateral line with about 54 to 58 tubed scales. **Colour:** juveniles with few horizontal to slightly oblique dark brown bands which subdivide with age until the body appears to be dark chocolate brown above, with a network of fine white lines running up and back, the broad brown bars breaking up into smaller and smaller spots on lower sides; belly white; lips and fins bright yellow, anal and caudal fins dotted with black; pectoral fins with a splash of bright crimson or scarlet red at the base.

Size: Maximum total length about 60 cm, commonly to 40 cm.

Habitat, biology, and fisheries: Coastal and offshore waters near coral reefs. Taken by handline and spear. Marketed fresh, a small quantity is salted.

Distribution: Indo-West Pacific from Andaman Sea to Indonesia, New Guinea, Queensland, New Caledonia, Philippines, China (including Taiwan Province) to Ryukyu Islands.

