

Interest to Fisheries: Taken by bottom trawl. No major fishery exists.

Literature: Fischer & Bianchi (1984); Bianchi (1985b).

Pentapodus Quoy & Gaimard, 1824

NEMIP Pent

Genus: *Pentapodus* Quoy & Gaimard, 1824, Voy. "Uranie": 294. Type species *Pentapodus vitta* Quoy & Gaimard, by monotypy.

Synonyms: Genus *Pentapus* Valenciennes in C. & V., 1830; Genus *Maenoides* Richardson, 1843b; Genus *Heterodon* Bleeker, 1845 (nomen nudum); Genus *Heterognathodon* Bleeker, 1848; Genus *Leptoscolopsis* Tanaka, 1915; Genus *Lunicauda* Whitley, 1947.

Diagnostic Features: Small fish with an elongate, compressed body. Teeth small and conical or villiform, in tapering bands in both jaws; 2 or 3 pair of larger, slightly recurved canines anteriorly in the upper jaw; lower jaw usually with a pair of enlarged, laterally flared canines anteriorly; lateral teeth of lower jaw moderately enlarged, conical; gill rakers short and stubby, 7 to 15 on first arch. Pectoral fins short, with 2 unbranched and 13 to 15 branched rays; pelvic fins short or moderately long; anal spines more or less equally robust; caudal fin forked; upper and/or lower lobes of caudal fin pointed, falcate or produced to form a long trailing filament. Scales on top of head reaching forward to level of anterior margin of eyes, or to in front of level of nostrils; suborbital naked or scaly; posterior edge of suborbital smooth; opercle scaly; preopercle scaly, with 4 or 5 transverse scale rows; lower limb of preopercle naked or scaly; posterior margin of preopercle smooth or finely serrate; upper margin of opercle with a small, flat, embedded spine. Lateral-line scales 42 to 56, 2½ to 6 transverse scale rows above lateral line, 11 to 20 rows below. **Colour:** extremely variable.

Biology, Habitat and Distribution: Benthic or free-swimming near the bottom; usually occurring on or close to reefs, in depths down to 100 m; either solitary or in aggregations. *Pentapodus* species feed primarily on small fishes, crustaceans and polychaete worms; free-swimming species feed also on larger zooplankton.

Geographical Distribution: Western Pacific, including southern Japan, Indo-Malay Archipelago, Australia, in tropical and subtropical waters.

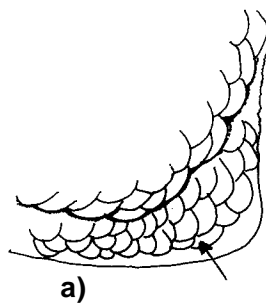
Interest to Fisheries: No major fishery exists for species of *Pentapodus*, although *P. setosus* is landed in small quantities along with other species taken by bottom trawl in the Strait of Malacca and in the South China Sea. Small numbers of other *Pentapodus* species are caught by local artisanal fishermen mainly by handline. They are usually marketed fresh.

Literature: Fowler (1933); Weber & de Beaufort (1936); Akazaki (1959, 1962).

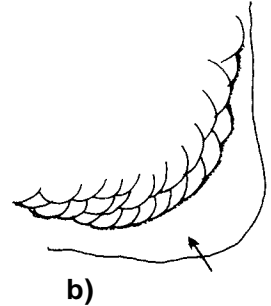
Key to the Species of *Pentapodus*

1a. Caudal fin with upper rays or upper and lower rays produced into long trailing filaments

2a. Upper and lower lobes of caudal fin produced into long trailing filaments; lower limb of preopercle scaly, at least posteriorly (Fig. 135a); lateral-line scales 50 to 56 (usually 52 to 54) (Philippines, Indonesia, N.W. Australia) ... *P. emeryii* (Fig. 136, Plate V, c)



a)



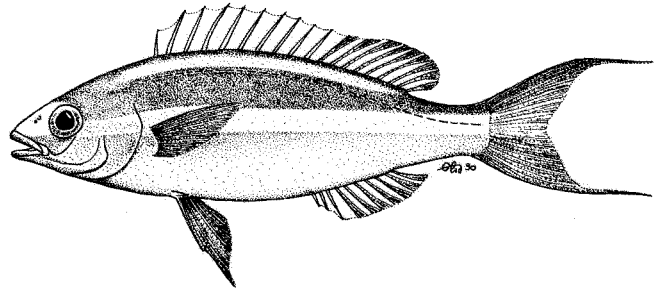
b)

squamation on preopercle

Fig. 135

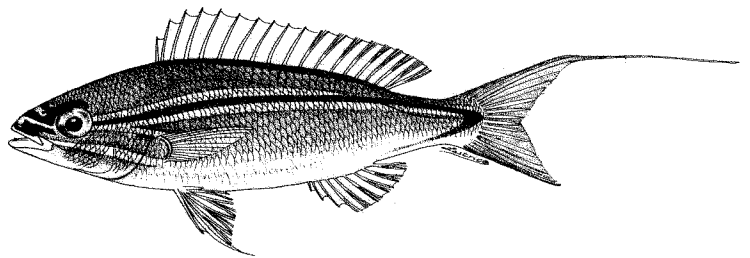
2b. Upper lobe of caudal fin only produced into long trailing filament; lower limb of preopercle naked (Fig. 135b); lateral-line scales 46 to 50

3a. Three dusky stripes (blue in life) on snout; first from eye to tip of snout, second from eye across snout in front of nostrils, third joining eyes behind nostrils (ME. Australia, Papua New Guinea, Solomon Is)
..... *P. paradiseus* (Fig. 137, Plate V, e)



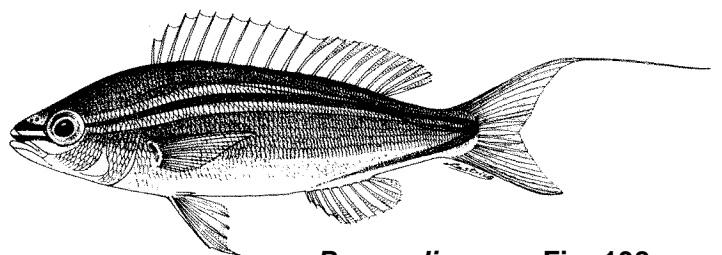
P. emeryii Fig. 136

3b. Two dusky stripes (blue in life) on snout; first from eye to middle of upper lip, second from eye to tip of snout; no stripe joining eyes (Philippines, Indo-Malay Archipelago)
..... *P. setosus* (Fig. 138, Plate V, g)



P. paradiseus Fig. 137

1 b. Caudal fin without long filamentous extensions, lobes pointed, sharply pointed, or falcate

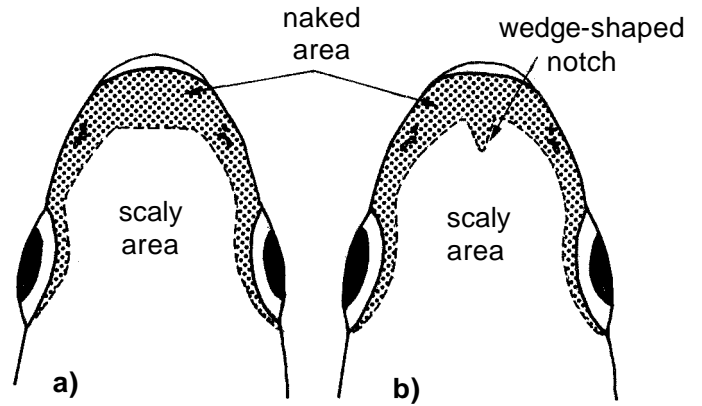


P. paradiseus Fig. 138

4a. Head scales reaching forward dorsally to or in front of posterior nostril

5a. Head scales reaching to between posterior and anterior nostrils; scaly area between nostrils rectilinear (Fig. 139a) (Philippines, Indo-Malay Archipelago) *P. bifasciatus* (Fig. 140, Plate V, a)

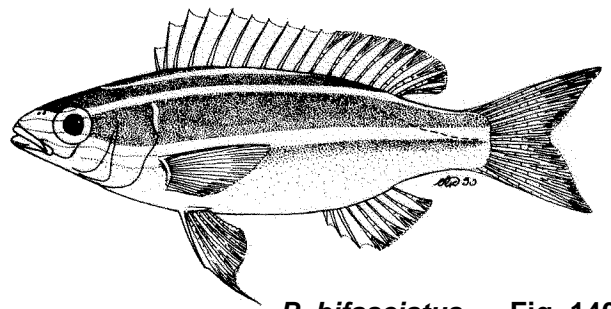
5b. Head scales extending to or in front of anterior nostril; scaly area between nostrils with a naked, medial, wedge-shaped notch anteriorly (Fig. 139b)



top of head showing forward extent of scales **Fig. 139**

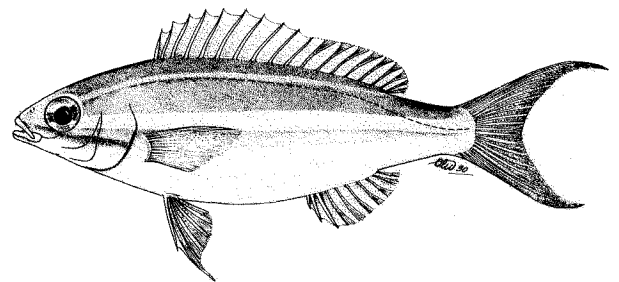
6a. Lower limb of preopercle scaly; caudal fin forked, lobes falcate, upper lobe usually longer than lower (Philippines, Indo-Malay Archipelago) *P. caninus* (Fig. 141, Plate V,b)

6b. Lower limb of preopercle naked; caudal fin forked, lobes pointed, more or less equal in length (south-western Australia) *P. vitta* (Fig. 142, Plate VI, b)

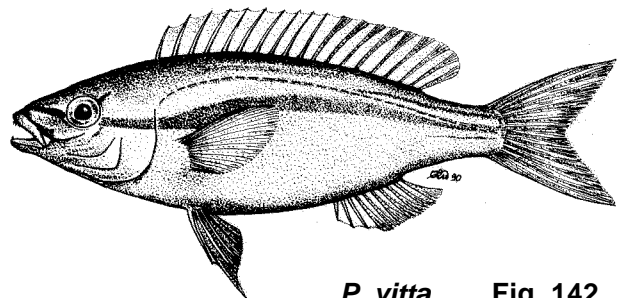


P. bifasciatus **Fig. 140**

4b. Head scales reaching forward dorsally to anterior margin of eye or almost to posterior nostril



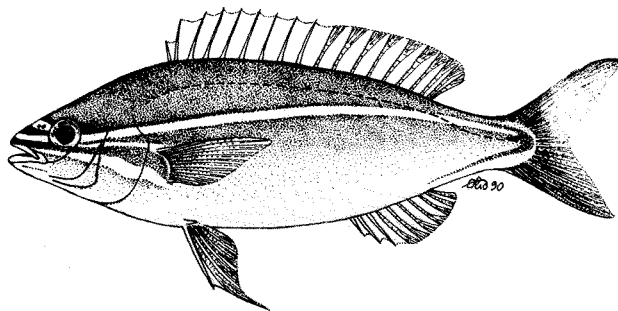
P. caninus **Fig. 141**



P. vitta **Fig. 142**

7a. Lower limb of preopercle naked

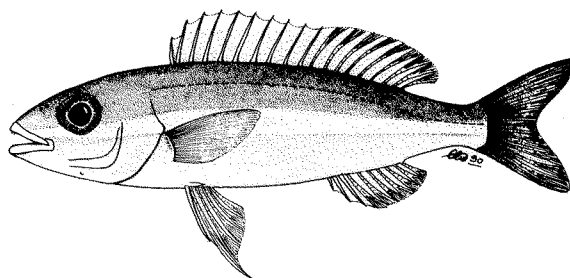
8a. Snout length greater than eye diameter; body moderately deep (depth 3.0 to 3.7 in SL); black spot on caudal peduncle (N.W. Australia) ... *P. porosus*
(Fig. 143, Plate V, f)

*P. porosus* Fig. 143

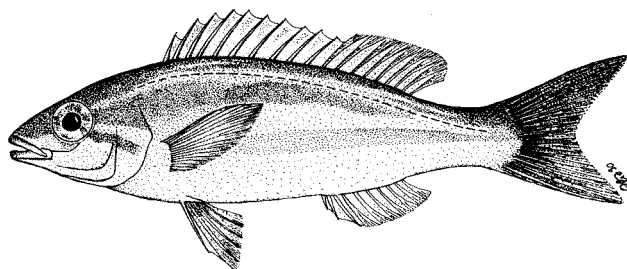
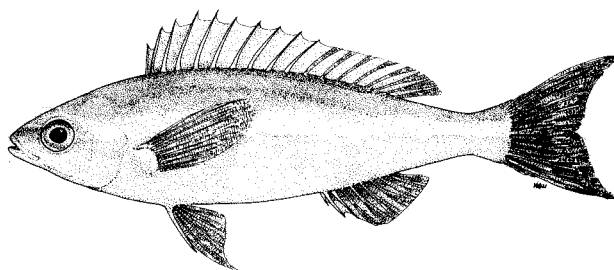
8b. Snout length equal to or less than eye diameter; body slender (depth 3.9 to 4.5 in SL); no spot on caudal peduncle (Japan, S. China Sea, N. Australia) *P. nagasakiensis*
(Fig. 144, Plate V, d)

7b. Lower limb of preopercle scaly

9a. Body pale with 3 dusky stripes (brown in life) along sides; dark bar at base of pectoral fin (Indo-Malay Archipelago, New Guinea, Solomon Is)
..... *P. trivittatus*
(Fig. 145, Plate VI, a)

*P. nagasakiensis* Fig. 144

9b. Body colour not as above; no dark bar at base of pectoral fin (W. Pacific, from Taiwan to Samoa) *P. sp.*
(Fig. 146, Plate V, h)

*P. trivittatus* Fig. 145*Pentapodus sp.* Fig. 146

Pentapodus bifasciatus (Bleeker, 1848)

Fig. 147, Plate V, a

NEMIP Pent 1

Heterognathodon bifasciatus Bleeker, 1848, *J. Ind. Arch.*, 2: 636 (Sumbawa, Indonesia).

Synonyms: *Pentapodus lineoscapularis* Fowler, 1943.

FAO Names: En - White-shouldered whiptail.

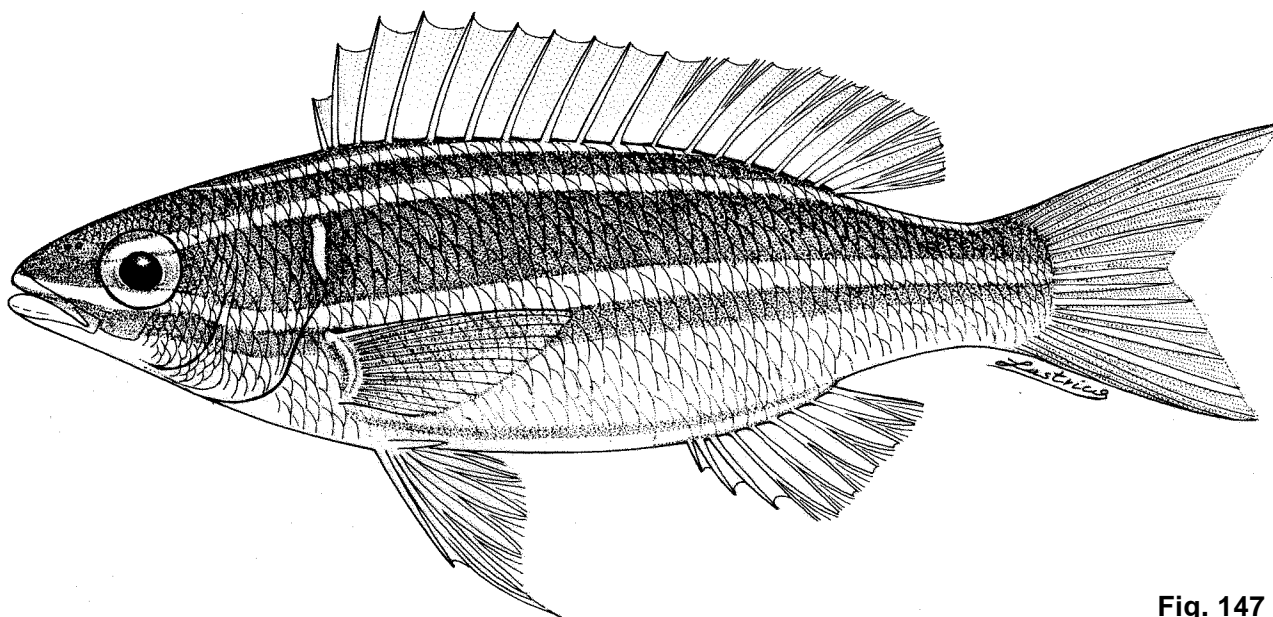


Fig. 147

Diagnostic Features: Snout length about equal to diameter of eye; head scales reaching forward to between level of posterior and anterior nostrils; suborbital naked; lower limb of preopercle with 2 or 3 scale rows; lateral-line scales 43 to 46 (usually 44 or 45); pectoral-fin rays ii, 13 to 15 (usually ii, 14); pelvic fins moderately long, reaching to or almost to level of anus; caudal fin forked, lobes more or less equal in length. **Colour:** upper part of body brown, white on ventral surface; a narrow whitish stripe beginning above eye along base of dorsal fin; a second whitish stripe on back above lateral line from behind eye to caudal peduncle; a third, broader whitish stripe from snout, running beneath eye across preopercle and opercle, to just above pectoral-fin base, then arching gradually along body to upper part of caudal peduncle; a brownish stripe on lower part of body from beneath pectoral-fin base to end of anal fin; a distinctive pearly-white vertical bar on upper edge of opercle.

Geographical Distribution: Philippines, Indonesia, Singapore (Fig. 148).

Habitat and Biology: A benthic species inhabiting shallow coral reef areas. Food consists of small fishes, crustaceans (shrimps, caprellid amphipods), and polychaete worms.

Size: Maximum size is 15 cm SL, commonly 10 cm SL.

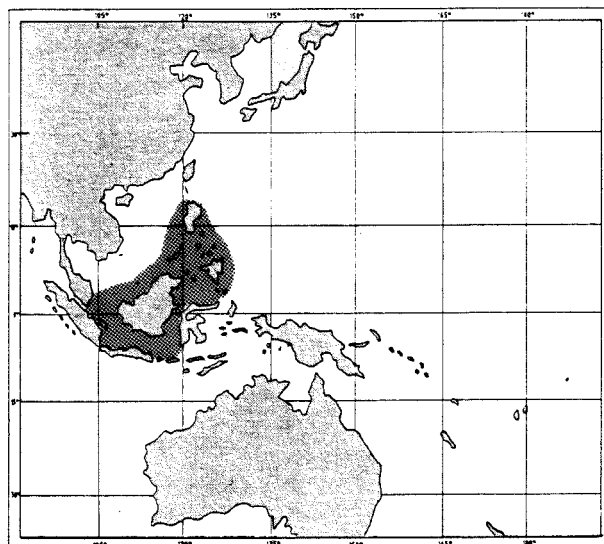


Fig. 148

Interest to Fisheries: Appears occasionally in small numbers in local markets. No major fishery exists.

Remarks: This species has previously been confused with *P. trivittatus*, but is easily distinguished by the head scales extending forward to the nostrils, the absence of scales on the suborbital, and presence of a white bar on the upper margin of the opercle.

Pentapodus caninus (Cuvier, 1830)

Fig. 149, Plate V, b

NEMIP Pent 2

Scolopsides caninus Cuvier in C. & V., 1830a, Hist. nat. poiss., 5: 354 (Doreh, New Guinea).

Synonyms: *Heterognathodon macrurus* Bleeker (1851 a); *Heterognathodon microdon* Bleeker (1853b); *Heterognathodon hellmuthii* Bleeker (1853c); *Pentapus formulosus* Snyder (1913).

FAO Names: En - Small-toothed whiptail.

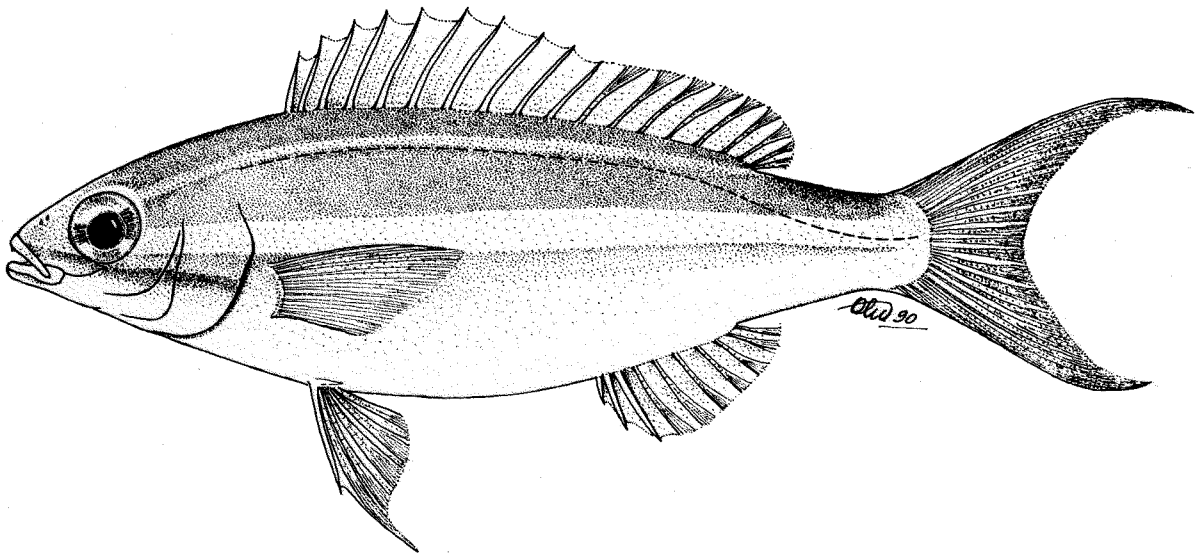


Fig. 149

Diagnostic Features: Snout length about equal to diameter of eye; head scales reaching forward to or just in front of level of anterior nostrils; scaled area between nostrils with a distinct naked medial wedge-shaped notch; suborbital scaly posteriorly; lower limb of preopercle with 2 or 3 scale rows; lateral-line scales 43 to 47 (usually 45 to 47); pectoral-fin rays ii, 13 to 15 (usually ii, 14); pelvic fins moderately long, reaching to or almost to level of anus; caudal fin forked, lobes strongly falcate, upper lobe slightly longer than lower. **Colour:** upper part of body pale blue, whitish on ventral surface; a narrow yellow stripe on back above lateral line from behind eye to caudal peduncle; a broader yellow midlateral stripe from behind eye to base of caudal fin; a narrow blue stripe from middle of upper lip passing beneath lower margin of eye and across preopercle and opercle; dorsal fin and caudal fin pink.

Geographical Distribution: West Pacific, including New Caledonia, Vanuatu, Solomon Islands, Papua New Guinea, Marshall Islands, Palau, southern Japan, Philippines, Indonesia (Fig. 150).

Habitat and Biology: A free-swimming species which occurs solitary or in small groups. Usually found close to the bottom over coral reef areas in depths of 15 m or more. Food consists of small fishes and larger zooplankton as well as bottom-living organisms.

Size: Maximum size is 18.5 cm SL, commonly 15 cm SL.

Interest to Fisheries: Taken by handline. Appears occasionally in small numbers in local markets. No major fishery exists.

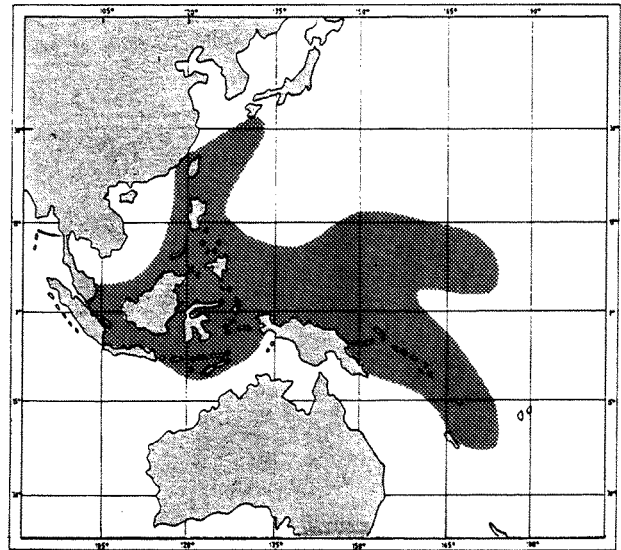


Fig. 150

Local Names: PHILIPPINES: Bilao-bilao (Visayan); Silay, Siling (Cuyonin); Lawaian (Tagalog). INDONESIA: Gurisi, Krisi (Java). JAPAN: Kitsun-un. GUAM: Redfin mid-water bream.

Literature: The following have reported this species as *P. macrurus*. Masuda *et al.* (1975, 1982); Rau and Rau (1980); Schroeder (1980); Amesbury & Myers (1982); Kyushin *et al.* (1982); Lee (1986); Myers (1989). Gloerfelt-Tarp & Kailola (1984) correctly use the name *P. caninus*.

Remarks: Most authors have previously referred to this species as *P. macrurus*, a junior synonym of *P. caninus*, and the name *P. caninus* has been mistakenly applied to *P. trivittatus*.

Pentapodus emeryii (Richardson, 1843)

Fig. 151, Plate V, c

NEMIP Pent 3

Mesoprion ? Emeryii Richardson, 1843b, *Icones Piscium*: 7, pl. iii, fig. 2 (Barrow Island, W. Australia).

Synonyms: *Heterognathodon nemurus* Bleeker (1852d).

FAO Names: En - Double whiptail.

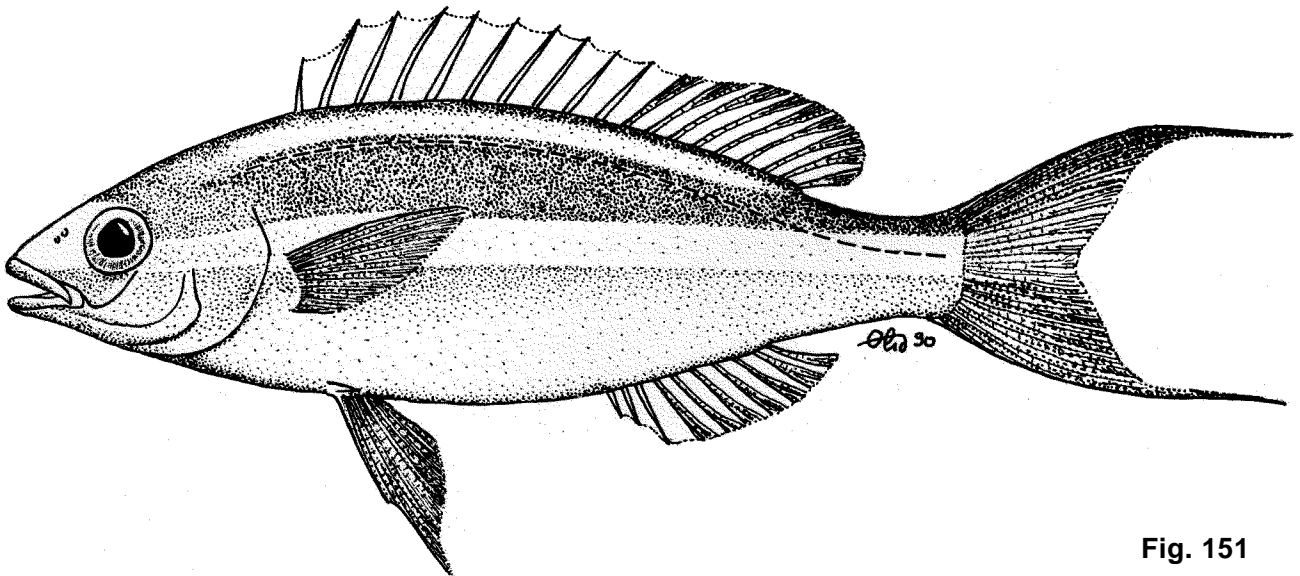


Fig. 151

Diagnostic Features: Snout length greater than diameter of eye; head scales reaching forward to level of posterior nostrils; suborbital naked; lower limb of preopercle with 2 or 3 scale rows; lateral-line scales 51 to 55 (usually 52 to 54); pectoral-fin rays ii, 14 or 15 (usually ii, 14); pelvic fins moderately long, reaching almost to level of anus; caudal fin forked, upper and lower rays produced into very long trailing filaments. **Colour:** upper part of body blue, white on ventral surface; a narrow yellow stripe on back above lateral line, from behind eye to caudal peduncle; a broader yellow midlateral stripe from behind eye to base of caudal fin; dorsal fin yellowish; caudal fin blue with a yellow central area.

Geographical Distribution: Northwestern Australia, Indonesia, Philippines (Fig. 152).

Habitat and Biology: A benthic species found close to reef areas. Food consists of small fishes, crustaceans, ophiuroids and sipunculid worms.

Size: Maximum size is 24.5 cm SL, commonly 18 cm SL.

Interest to Fisheries: Appears occasionally in small numbers in local markets. No major fishery exists.

Local names: AUSTRALIA: Purple threadfin-bream. PHILIPPINES: Silay (Visayan), Bisugong maylawi (Tagalog).

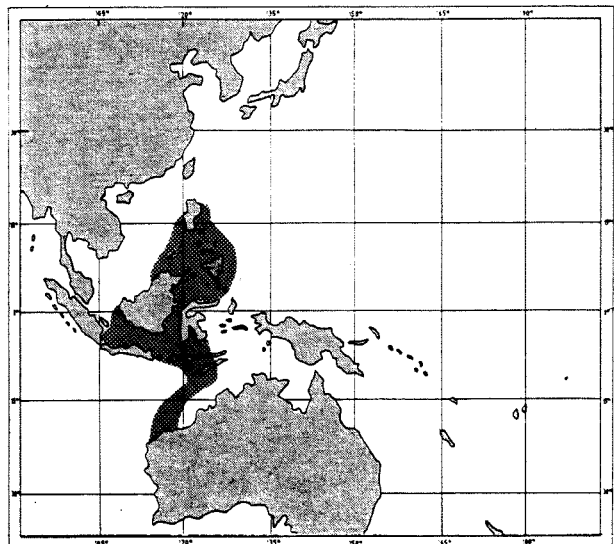


Fig. 152

Literature: Rau and Rau (1980, as *P. nemurus*); Gloerfelt-Tarp & Kailola (1984); Allen & Swainston (1988).

Pentapodus nagasakiensis (Tanaka, 1915)

Fig. 153, Plate V,d

NEMIP Pent 4

Leptoscolopsis nagasakiensis Tanaka, 1915, Fig. Descr. Fish Japan, 19-21: 365, pl. 98, fig. 308 (coast near Nagasaki, Japan).

Synonyms: None.

FAO Names: En - Japanese whiptail.

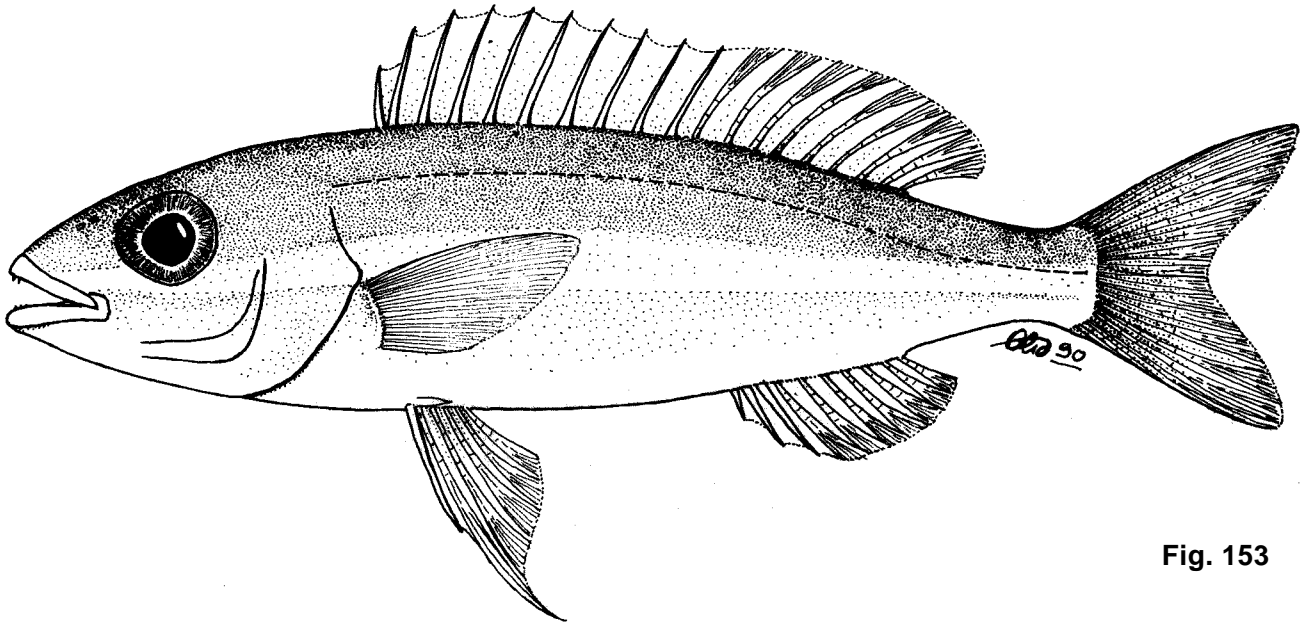


Fig. 153

Diagnostic Features: Snout length equal to or less than diameter of eye; head scales reaching forward to between level of anterior margin of eyes and posterior nostrils; suborbital naked; lower limb of preopercle naked; lateral-line scales 44 to 47 (usually 45 or 46); pectoral-fin rays ii, 13 to 15 (usually ii, 14); pelvic fins moderately long, reaching to or almost to level of anus; caudal fin forked, lobes pointed, more or less equal in length. **Colour:** upper half of body yellowish, lower half whitish; a pearly-white midlateral stripe from snout through lower part of eye, to base of caudal fin.

Geographical Distribution: Southern Japan, South China Sea, Indonesia (Lombok), north-western Australia (Fig. 154).

Habitat and Biology: Usually inhabits deeper offshore waters, in depths of 40 to 100 m. Food consists of small crustaceans (shrimps).

Size: Maximum size is 15 cm SL, commonly 10 cm SL.

Interest to Fisheries: Rarely caught. No major fishery exists.

Local Names: AUSTRALIA: Big-eyed whiptail, Japanese butterfish. JAPAN: Ito-tamagashira.

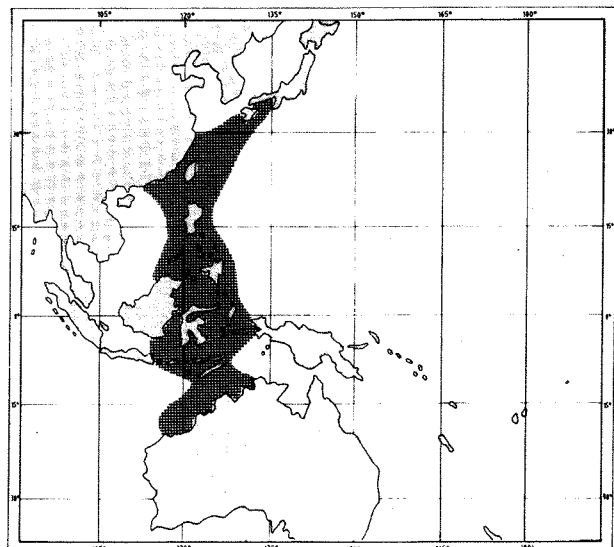


Fig. 154