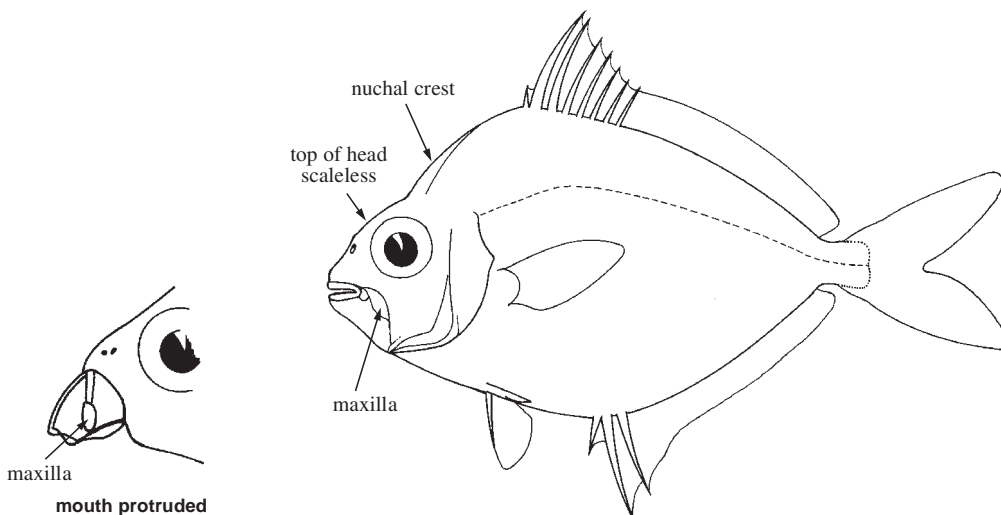


LEIOGNATHIDAE

Slipmouths (ponyfishes)

by D.J. Woodland, S. Premcharoen, and A.S. Cabanban

Diagnostic characters: Small to medium-sized fishes (rarely exceeding 16 cm); body oblong or rounded, **moderately to markedly compressed laterally**. Eyes moderate to large, preceded by a short, snubnosed snout. **Maxilla concealed under the preorbital, except for the widened posterior end which curves downward and is tucked into a groove beneath the eye** (giving these fishes the appearance of being “down in the mouth”). **Mouth highly protrusible**, when extended forming a tube directed either upwards (*Secutor* spp.), forward (*Gazza* spp.), or forward or downward (*Leiognathus* spp.). Teeth small, punctate, arranged in 1 or several rows (*Gazza* spp. additionally with a pair of curved canines at front of upper jaw and several in lower jaw). A pair of lateral elevated bony ridges on top of head between eyes, each preceded by a single spine or a pair of small spines, and, medially, another ridge terminating posteriorly in a bony crest, often referred to as the “nuchal spine”. All fin spines and soft rays fragile; **a single dorsal fin with VIII (rarely VII or IX) spines**, the first one very small, and 16 or 17 soft rays; anal fin with III spines and 14 soft rays; caudal fin deeply emarginate to forked; pectoral fins short; pelvic fins very short. **Trunk covered with small cycloid scales, except for breast and, less frequently, an area just behind head in some species; head without scales in all but a few species which have a patch of small scales below eye.** **Colour:** silvery, with characteristic markings on the upper half of sides which are useful for identification.



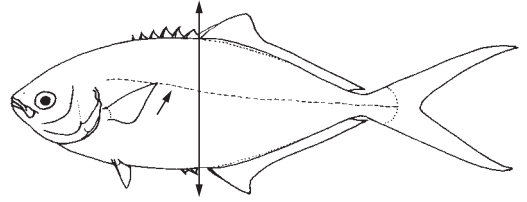
Habitat, biology, and fisheries: Bottom-living fishes in shallow coastal waters, with several species entering brackish waters, especially river estuaries, a few ranging up into fresh water. They occur at depths as shallow as 0.5 m and down to around 160 m; deeper dwelling species have been reported to move away from the bottom to midwater at night. All species so far examined possess a light producing organ containing symbiotic luminescent bacteria; the transparent patch of skin associated with the organ is usually more elaborately developed in males, indicating perhaps a reproductive as well as schooling role for the signal - for these fishes live, by and large, in immense schools, often in poorly lit waters. They feed on copepods and phytoplankton, with large fish feeding predominantly on benthic invertebrates. Members of the genus *Gazza*, with their canine teeth, feed on small fishes and shrimps, while *Secutor* spp., with their upwardly projecting mouths, feed only on organisms living in the water column. They appear to be short lived, 1 to 2 years, with a protracted breeding season. Leiognathids constituted an important part of the commercial trawl catches of several Asian countries in the past, but in several areas catches have declined - declining from 20 to 30% of the total demersal catch to as little as 4 or 5% in the last 20 years. Fishing restrictions have been imposed in some countries. For 1995, the FAO Yearbook of Fishery Statistics reports a total catch of 120 268 t of Leiognathidae from the Western Central Pacific. Commonly marketed fresh or dried-salted, but surplus catches, especially of small fish, are often converted to fishmeal pellets, used fresh to feed ducks or farmed fish, or used as manure. Often they are dumped as “nuisance” catch, e.g. by prawn trawlers.

Remarks: The genus *Leiognathus* is currently being revised by D.J. Woodland. Until the family is completely revised some of the scientific names of the species used here must be regarded as provisional. The problem is not so much one of species identification but of establishing to which species some of the very early names should be applied.

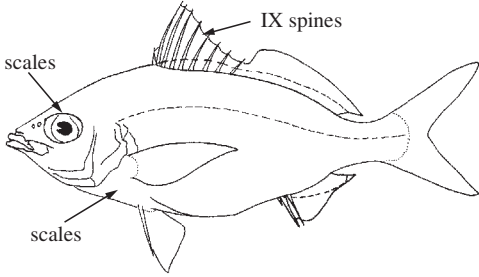
Similar families occurring in the area

Gerreidae: body shape similar and mouth also strongly protrusible, but nuchal crest absent; scales much larger, and clearly visible, scales also covering top of head and breast; dorsal-fin spines IX or X (VIII, rarely VII or IX, in Leiognathidae).

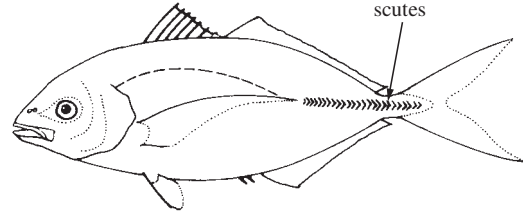
Carangidae: mouth not strongly protrusible; 2 dorsal fins, or dorsal fin notched; first 2 anal-fin spines somewhat detached from third spine, sometimes deeply embedded in skin; many scutes along lateral line (but reduced in some species and absent in some genera).



Trachinotus sp.



Gerreidae



Pseudocaranx sp.

examples of Carangidae

Key to the species of Leiognathidae occurring in the area

Remarks on key characters: the species of this family are characterized by their life colours (see colour plates at the end of this volume). While the colours, and even the colour pattern in the case of the fins, are lost on preservation, the pattern of darker patches of colour once present on the upper sides is retained. It is sometimes necessary to hold the fish at just the right angle to the light to see this pattern. Most species show sexual dimorphism; this does not appear to influence the type of colour pattern on the upper sides, but darker patches on the skin covering the abdominal cavity area are often much more extensive in males than females. There is, of course, intraspecific variation in coloration; for this reason, a number of specimens from a population should be examined if possible. The presence or absence of scales on cheeks and breast (Fig. 1) is a valuable diagnostic character, but these scales are lost easily and magnification and moistening of the relevant area is almost mandatory if residual scale pockets are to be detected.

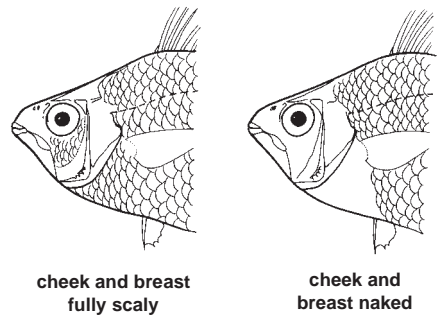
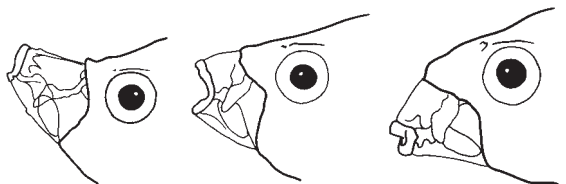


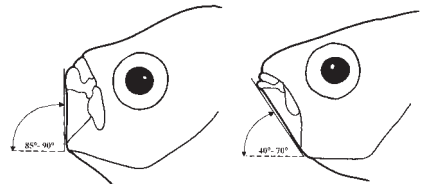
Fig. 1

- 1a. Mouthparts protract upwards (Fig. 2a); lower jaw ascends at angle of 85° to 90° when mouth closed (Fig. 3a); ventral profile of body more convex than dorsal profile; upper half of body with blue markings when fresh (*Secutor*) → 4
- 1b. Mouthparts protract forwards to downwards (Fig. 2b, c); lower jaw ascends at an angle of 40° to 70° when mouth closed (Fig. 3b); dorsal profile of body either equal to or more convex than ventral profile; upper half of body with dusky markings when fresh → 2



a) *Secutor* b) *Gazza* and *Leiognathus* c) *Leiognathus*

Fig. 2



a) *Secutor* b) *Gazza* and *Leiognathus*

Fig. 3

- 2a. Canine teeth present anteriorly in jaws (Fig. 4) (*Gazza*) → 3
- 2b. No canines present, teeth small and weak (*Leiognathus*) → 8

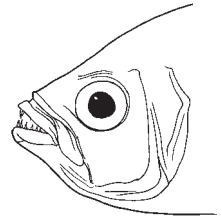


Fig. 4 *Gazza*

- 3a. Body scales absent anterior to a line running from base of pectoral fins to first soft ray of dorsal fin *Gazza achlamys*
- 3b. Body scales present on upper sides, fully scaly above lateral line through to margin of nuchal crest *Gazza minuta*
- 4a. Cheeks scaly; breast fully scaly, including isthmus; lateral-line scale rows counted to end of caudal peduncle 43 to 60 → 5
- 4b. Cheeks without scales; ventral part of breast not scaly from origin of pelvic fins through to, and including isthmus; lateral-line scale rows counted to end of caudal peduncle 60 to 115. → 6
- 5a. Lateral-line scale rows counted to end of caudal peduncle 43 to 49; counting diagonally from first dorsal-fin spine, 6 or 7 scale rows above lateral line, 13 to 15 below it . *Secutor megalolepis*
- 5b. Lateral-line scale rows counted to end of caudal peduncle 54 to 60; counting diagonally from first dorsal-fin spine, 9 to 14 scale rows above lateral line, 18 to 26 below it . . *Secutor ruconius*
- 6a. Lateral-line scale rows counted to end of caudal peduncle 60 to 70 *Secutor hanedai*
- 6b. Lateral-line scale rows counted to end of caudal peduncle in excess of 80. → 7
- 7a. Body depth 2 to 2.5 times in standard length; on upper half of sides 17 to 22 vertical markings, interrupted with a dot where they cross the lateral line *Secutor indicus*
- 7b. Body becoming relatively deeper with growth, body depth 2.5 times in standard length at 4 cm standard length, only 1.6 at 10 cm standard length; on upper half of sides 11 to 15 vertical markings, interrupted with a dot where they cross the lateral line *Secutor insidiator*
- 8a. Slender bodied, depth usually 2.9 to 4.4 times in standard length, though the body may be slightly deeper (2.8) in some specimens longer than 10 cm standard length → 9
- 8b. Deep bodied, depth usually much less than 3 times in standard length though values around 2.9 common in specimens under 3 cm standard length → 10
- 9a. Body very slender, its depth 3.5 to 4.4 times in standard length; 55 to 59 tubed lateral-line scales; upper half of trunk marked with irregularly shaped, solid, dark patches, the largest of them greater in area than pupil of eye *Leiognathus elongatus*
- 9b. Body less slender, its depth 2.8 to 3.6 times in standard length; around 42 or 43 tubed lateral-line scales; upper half of trunk marked with fine scribbly lines *Leiognathus stercorarius*
- 10a. Cheeks fully scaly (but may be dislodged, in which case scale pockets visible under magnification) → 11
- 10b. Cheeks not fully scaly (a few thin scales sometimes present in *Leiognathus blochii*) → 12
- 11a. Lateral line continuing to base of caudal fin, with 51 to 55 tubed scales; body depth 1.9 to 2.1 times in standard length; outer half of spinous part of dorsal fin black . . *Leiognathus rapsoni*
- 11b. Lateral line terminating below last soft rays of dorsal fin, with around 38 tubed scales; body depth 2 to 3 times in standard length; no black tip to spinous part of dorsal fin. *Leiognathus moretoniensis*
- 12a. No scales visible on breast, its appearance distinctly different from rest of sides, which are scaly → 13
- 12b. Breast distinctly and usually totally covered in scales, its appearance same as rest of sides, which are scaly → 19

- 13a. Second dorsal-fin spine greatly elongate, its length at least 0.7 times in body depth and as long as twice body depth. → 14
- 13b. Second dorsal-fin spine not greatly elongate, its length, at most, approximately 1/2 body depth. → 16

- 14a. Second anal-fin spine elongate, its length at least 0.6 times in body depth and often equal to body depth *Leiognathus longispinis*
- 14b. Second anal-fin spine not markedly elongate, its length 0.3 to 0.5 times in body depth → 15

- 15a. Body deep, its depth equal to greater than 1/2 standard length, relatively deeper in larger fish; pelvic fins long, clearly reaching more than half-way to origin of anal fin; dark vertical bars on upper sides; in fresh specimens, a row of yellow blotches along midline of sides *Leiognathus fasciatus*
- 15b. Body slender, its depth 0.3 to 0.45 times in standard length; pelvic fins short, not reaching half-way to origin of anal fin; tightly packed, dark vermiculating lines on upper sides, down almost to midline; no row of yellow spots along midline of sides *Leiognathus* sp. 2

- 16a. Dark blotch astride nape → 17
- 16b. No dark blotch astride nape. → 18

- 17a. Second dorsal-fin spine elongate slightly, its length 1/2 depth of body or even longer, and about 1/2 as long again as length of pectoral fins; upper half of body with mainly vertical, dark brown, wavy lines, some broken into shorter segments and dots; a yellow brown line across spinous parts of both dorsal and anal fins at a height corresponding to margins of soft parts of these fins; yellow blotch about size of eye half-way between base of pectoral fins and first anal-fin spine (said to be absent in some Australian populations) *Leiognathus decorus*
- 17b. Second dorsal-fin spine not elongate, its length much less than 1/2 depth of body and less than or only fractionally longer than length of pectoral fins; upper half of body without lines or other markings; tip of spinous part of dorsal fin black surrounded by yellow. *Leiognathus nuchalis*
(Japan and Taiwan Province of China; not yet recorded from the area)

- 18a. Body depth 2 to 2.2 times in standard length; dorsal and ventral profiles equally convex; mandible nearly straight; above lateral line, sides with very faint vertical stripes, but these disappearing with age; distal part or peak of spinous part of dorsal fin black . . . *Leiognathus daura*
- 18b. Body depth 1.6 to 1.8 times in standard length; dorsal profile much more convex than ventral profile; mandible strongly concave; many fine vertical stripes extending from dorsal margin to below lateral line; spinous part of dorsal fin hyaline, no black tip *Leiognathus equulus*

- 19a. Mouthparts project forward rather than downward when protracted; teeth arranged in a single row in each jaw (Fig. 5a) → 20
- 19b. Mouthparts project downward when protracted; teeth arranged in villiform bands, though these may contract to a single row laterally in young specimens (Fig. 5b) → 21

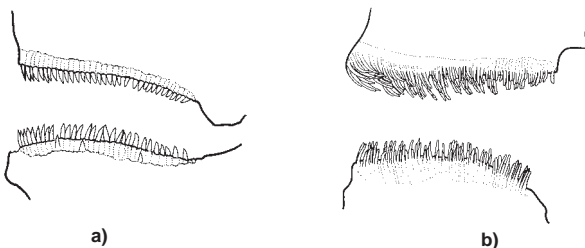
















Fig. 5 lateral view of jaws

- 20a.** Body circular to ovate, its depth 1.7 to 2.1 times in standard length; many irregularly shaped, thin, scribbly lines on upper sides; distal half (i.e. peak) of spinous part of dorsal fin bright orange with a black line along its lower edge in life, the whole becoming dusky in preserved specimens *Leiognathus bindus*
- 20b.** Body elongate, its depth 2.3 to 2.9 times in standard length; upper half of sides with a number of irregularly shaped blotches anteriorly, some enclosing pale centres, and with broad bars and smaller patches posteriorly; spinous part of dorsal fin, clear yellow in life, plain hyaline in preserved specimens *Leiognathus aureus*
- 21a.** Body very deep, its depth 1.7 to 2 times in standard length; body thick, not strongly compressed laterally; lower margin of eye situated above upper edge of retracted upper jaw *Leiognathus splendens*
- 21b.** Body not very deep, its depth 2 to 3 times in standard length; body not thick, strongly compressed laterally; lower margin of eye lower than upper edge of retracted upper jaw → 22
- 22a.** No dark blotch on nape; distal part of spinous dorsal fin without any dark markings → 23
- 22b.** Dark blotch astride nape; distal part of spinous dorsal fin tipped with black → 26
- 23a.** Second dorsal-fin spine greatly elongate, its length almost equal to greatest body depth, often longer *Leiognathus leuciscus*
- 23b.** Second dorsal-fin spine about 1/2 greatest body depth → 24
- 24a.** Depth of body 2 to 2.3 times in standard length; upper sides with vertical wavy lines *Leiognathus dussumieri*
- 24b.** Depth of body 2.3 to 3 times in standard length; upper sides with short grey contorted lines, some more or less hook- or U-shaped → 25
- 25a.** Upper half of sides with many densely packed, short grey contorted lines, serially arranged and angling forward below lateral line *Leiognathus berbis*
- 25b.** Sides above lateral line with several, sparsely distributed, short grey contorted lines; below lateral line, a row of blotches *Leiognathus sp. 1*
- 26a.** Upper half of sides with 4 longitudinal rows of dark broken lines, the lowermost below lateral line *Leiognathus pan*
- 26b.** Upper sides with a row of dark, wavy, vertical lines extending downward from base of dorsal fin past lateral line; spinous dorsal and anal fin with yellow streak at midheight; lateral line not covered with yellow scales *Leiognathus blochii*

List of species occurring in the area

The symbol  is given when species accounts are included. A question mark indicates that presence in the area is uncertain.

-  *Gazza achlamys* Jordan and Starks, 1917
-  *Gazza minuta* (Bloch, 1797)
-  *Leiognathus aureus* Abe and Haneda, 1972
-  *Leiognathus berbis* (Valenciennes, 1835)
-  *Leiognathus bindus* (Valenciennes, 1835)
-  *Leiognathus blochii* (Valenciennes, 1835)
-  *Leiognathus daura* (Cuvier, 1829)
-  *Leiognathus decorus* (de Vis, 1884)
-  *Leiognathus dussumieri* (Valenciennes, 1835)
-  *Leiognathus edwardsi* Evermann and Seale 1907
-  *Leiognathus elongatus* (Günther, 1860)
-  *Leiognathus equulus* (Forsskål, 1775)
-  *Leiognathus fasciatus* (Lacepède, 1803)

- Leiognathus hataii* Abe and Haneda, 1972
- ✦ *Leiognathus leuciscus* (Günther, 1874)
- ✦ *Leiognathus longispinis* (Valenciennes, 1835)
- ✦ *Leiognathus moretoniensis* Ogilby, 1912
- ? *Leiognathus nuchalis* (Temminck and Schlegel, 1845)
- ✦ *Leiognathus pan* Wongratana, 1988
- ✦ *Leiognathus rapsoni* Munro, 1964
- ✦ *Leiognathus splendens* (Cuvier, 1829)
- ✦ *Leiognathus stercorarius* Evermann and Seale, 1907
- ✦ *Leiognathus* sp. 1
- ✦ *Leiognathus* sp. 2
- ✦ *Secutor hanedai* Mochizuki and Hayashi, 1989
- ✦ *Secutor indicus* Monkolprasit, 1973
- ✦ *Secutor insidiator* (Bloch, 1787)
- ✦ *Secutor megalolepis* Mochizuki and Hayashi, 1989
- ✦ *Secutor ruconius* (Hamilton-Buchanan, 1822)

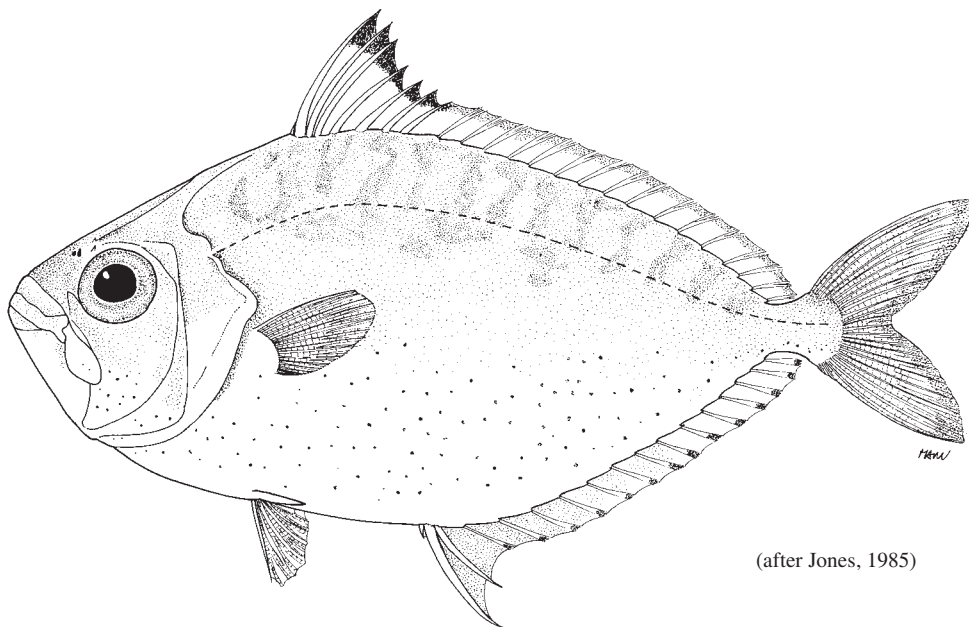
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- Jones, G. 1985. Revision of the Australian species of the fish family Leiognathidae. *Aust. J. Mar. Freshwater Res.*, 36:559-613.

Gazza achlamys Jordan and Starks, 1917 (Plate I, 1)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Naked toothpony; Fr - Sapsap nu; Sp - Motambo liso.



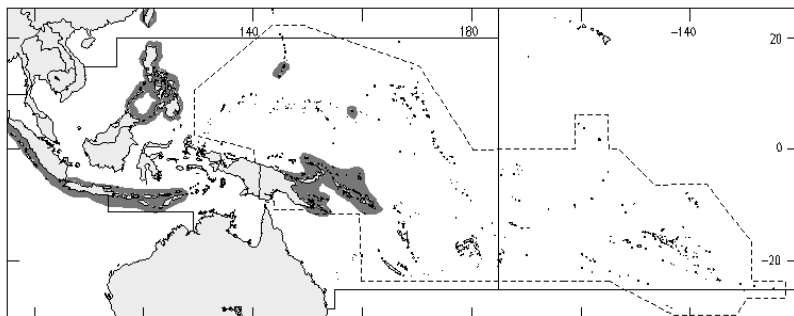
(after Jones, 1985)

Diagnostic characters: Body oval, moderately deep and somewhat compressed, **its depth 1.9 to 2.2 times in standard length**. Mouth pointing forward when protracted, with distinct caniniform teeth in both jaws. Head scaleless; **scales on body absent anterior to a line from origin of soft dorsal fin to behind pectoral-fin base and thence on towards tip of depressed pelvic fins**. **Colour:** silvery, back greyish to bluish, with dark yellow, irregular marks extending to a little below lateral line; black dots all over ventral half of body and head; snout tip grey; **membrane of spinous dorsal fin black at its distal portion**; edge of soft part of dorsal fin grey; anal fin yellow anteriorly from second spine to third soft ray, tips of anal-fin rays dark dusky; caudal fin dusky at posterior margin; pectoral and pelvic fins colourless.

Size: Maximum total length 17 cm, commonly to 12 cm.

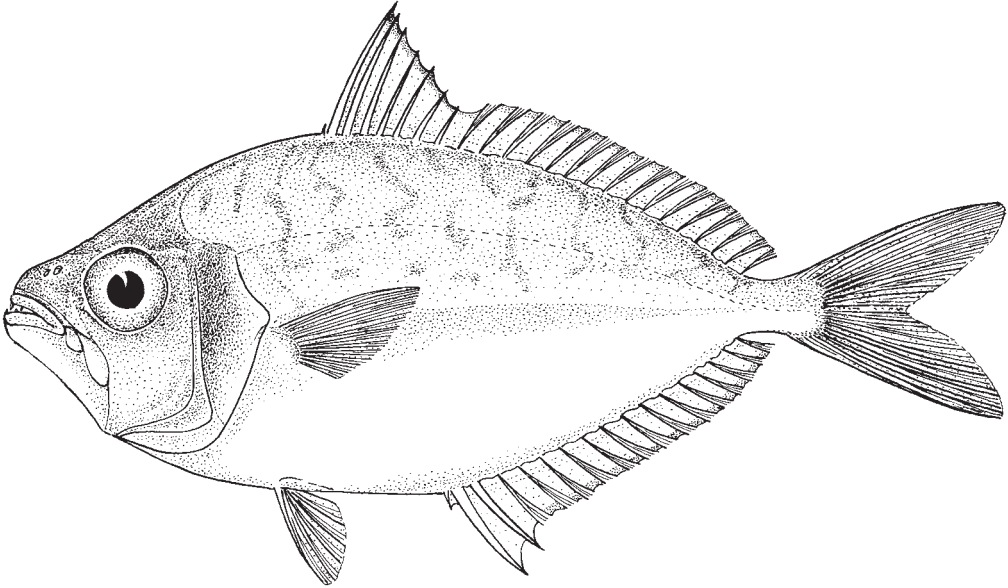
Habitat, biology, and fisheries: Inhabits coastal inshore waters over silty bottoms to depths of at least 20 m. Feeds mainly on small fishes, crustaceans, and polychaetes. Schooling. Caught mainly with bottom trawls. Larger specimens may be marketed fresh or dried-salted but catches mostly converted to fishmeal or dumped at sea.

Distribution: In the Indo-Malayan region reported only from peripheral localities such as Sumatra, Jawa, Flores, Sabah, Philippines, and eastern half of New Guinea to the Solomon Islands. In the North Pacific reported from the southern Marianas and Pohnpei. Records from the east coast of Australia to as far south as Moreton Bay need confirmation. Outside the area, reported from Taiwan Province of China, Sri Lanka, and southern India.



Gazza minuta (Bloch, 1797)

(Plate I, 2)

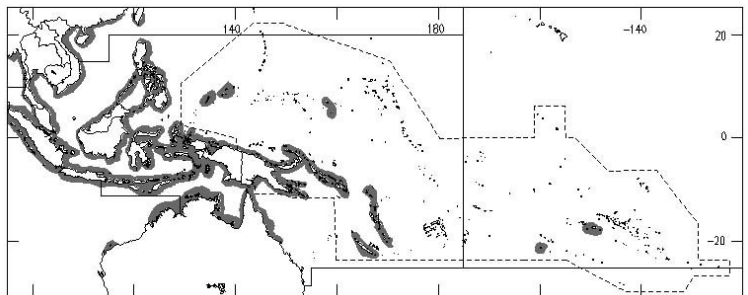
Frequent synonyms / misidentifications: None / None.**FAO names:** En - Toothpony; Fr - Sapsap dentu; Sp - Motambo dentudo.

Diagnostic characters: Body oval and somewhat compressed, its depth 1.9 to 2.7 times in standard length; dorsal and ventral profiles equally convex, moderately deep. **Mouth pointing forward when protracted, with distinct caniniform teeth in both jaws.** Gill rakers approximately equal in length to corresponding gill lamellae, 17 to 20 on first gill arch. Head scaleless, but **scales covering all of body except for breast ahead of a line from base of pectoral fins to origin of anal fin.** Tubed scales on lateral line 45 to 51. **Colour:** silvery; back greyish, with dark yellow irregular marks extending to below lateral line. **Spinous dorsal-fin membrane black-edged;** soft part of dorsal fin and anal fin edged with grey; anterior part of anal fin yellow; caudal fin yellowish, its hind margin dusky; pectoral and pelvic fins colourless; **underside of pectoral-fin base with black dots.**

Size: Maximum total length 14 cm, commonly to 10 cm.

Habitat, biology, and fisheries: Inhabits coastal inshore waters over silty bottoms to depths of 75 m, juveniles in shallower water around mangroves to 10 m; enters estuaries. Feeds on small fishes, prawns, polychaetes, and crustacean larvae; juveniles feed on plankton and insects as well. Schooling. Caught mainly with bottom trawls, but also in shore seines. Larger fish may be marketed fresh or dried-salted; but mostly sold for consumption by domestic animals (e.g. ducks) or dumped at sea.

Distribution: Reported from the east coast of Africa and the Red Sea throughout the tropical coasts of the Indian Ocean to the Indo-Malayan Archipelago and beyond; in the Pacific found in parts of Micronesia, northward to Taiwan Province of China and Okinawa, southward to northern Australia, eastward, at least as far as Vanuatu, with unconfirmed records for Cook Islands and Tahiti. (This distribution may include a closely related, undescribed species.)

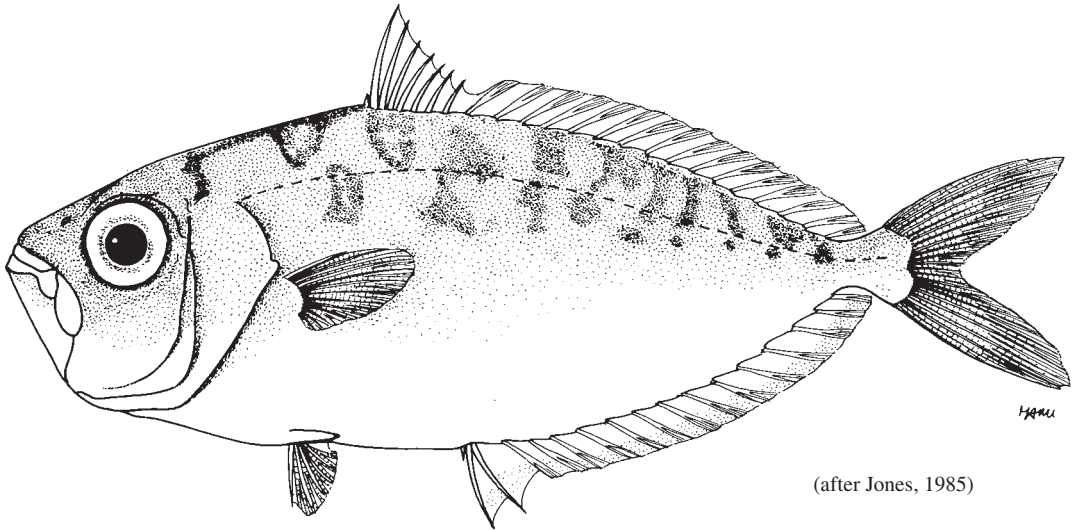


Leiognathus aureus Abe and Haneda, 1972

(Plate I, 3)

Frequent synonyms / misidentifications: None / None.

FAO names: En - Golden ponyfish.



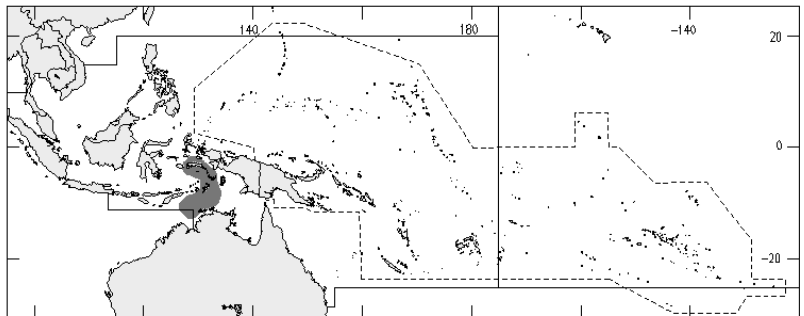
(after Jones, 1985)

Diagnostic characters: Body only moderately deep and compressed, **its depth 2.3 to 2.9 times in standard length; ventral profile much more convex than dorsal profile**, especially due to deep head relative to body depth (**resembling *Gazza* spp.**). **Mouth pointing forward when protracted; single row of small uniform teeth in each jaw, no canines.** Gill rakers slightly more than 1/2 length of corresponding gill lamellae, 19 to 22 in total on first gill arch. Spines in dorsal fin very slender, second and subsequent ones all comparatively short, **length of second dorsal-fin spine about 1.5 times diameter of eye, 0.75 times in length of pectoral fins;** anal-fin spines slender and short, length of second equal to eye diameter. Head scaleless; **breast fully scaly. Colour: silvery upper half with irregular grey-brown blotches and marbling;** in fresh specimens large gold luminous organ around esophagus; outer half or peak of spinous part of dorsal fin pale yellow, margin of spinous part edged in black; other fins colourless.

Size: Maximum total length at least 10 cm, commonly to 6 cm.

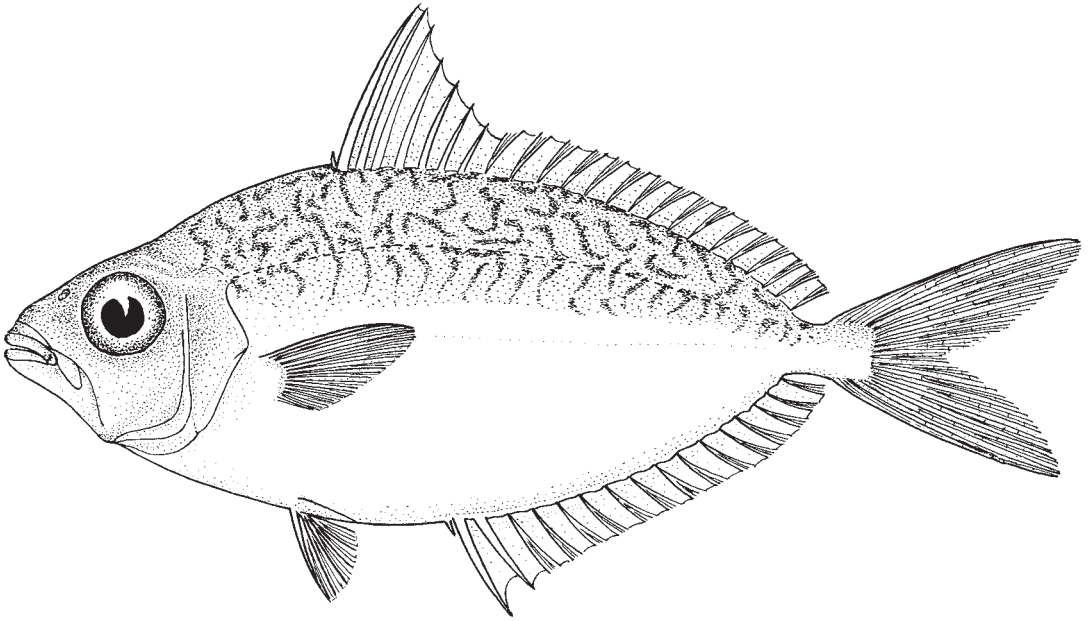
Habitat, biology, and fisheries: Lives in deeper offshore coastal waters where taken by trawling at depths greater than 70 m and down to 140 m. Probably treated as bycatch by trawlers.

Distribution: Indonesian and Australian waters in Arafura Sea area.



Leiognathus berbis (Valenciennes, 1835)

(Plate I, 4)

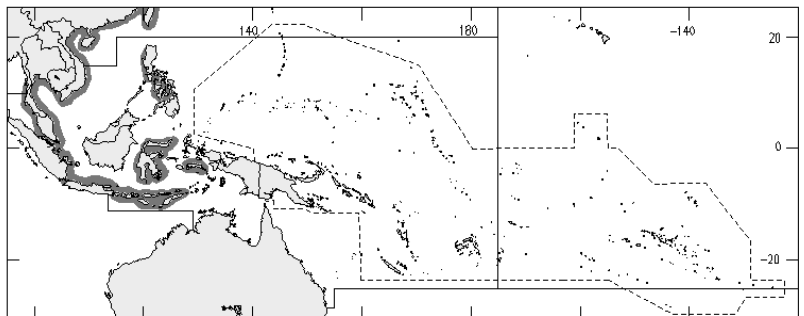
Frequent synonyms / misidentifications: None / *Leiognathus oblongus* (Valenciennes, 1835).**FAO names:** En - Berber ponyfish; Fr - Sapsap berbère; Sp - Motambo bérbero.

Diagnostic characters: Body moderately elongate and compressed, its depth 2.3 to 2.8 times in standard length; dorsal and ventral profiles about equally convex, but a more or less distinct notch present at nape. Mouth pointing downward when protracted. Dorsal-fin spines slender, the second equal to or, in adults, slightly longer than 1/2 height of body; second anal-fin spine slightly less than 1/2 length of second dorsal-fin spine. Head scaleless, but **scales present on breast**. **Colour:** belly silvery; **back greenish to brownish with light grey, crowded, irregular vermiculations extending on sides to slightly below lateral line, where lines become serially arranged and angle forward**; snout and underside of pectoral-fin base dotted black; dorsal, anal, pectoral, and pelvic fins colourless, except for margins of dorsal and anal fins, which are yellow; caudal fin dusky yellow.

Size: Maximum total length 11 cm, commonly to 9 cm.

Habitat, biology, and fisheries: Inhabits coastal inshore waters, where taken by bottom trawlers. Apparently not a dominant species in catches in any area.

Distribution: In the Indian Ocean from Madagascar to the Red Sea and the Gulf of Aden, along the Indian coasts and off Sri Lanka, eastward to Malaysia, Indonesia, and the Philippines; north to Taiwan and Fukien provinces of China.

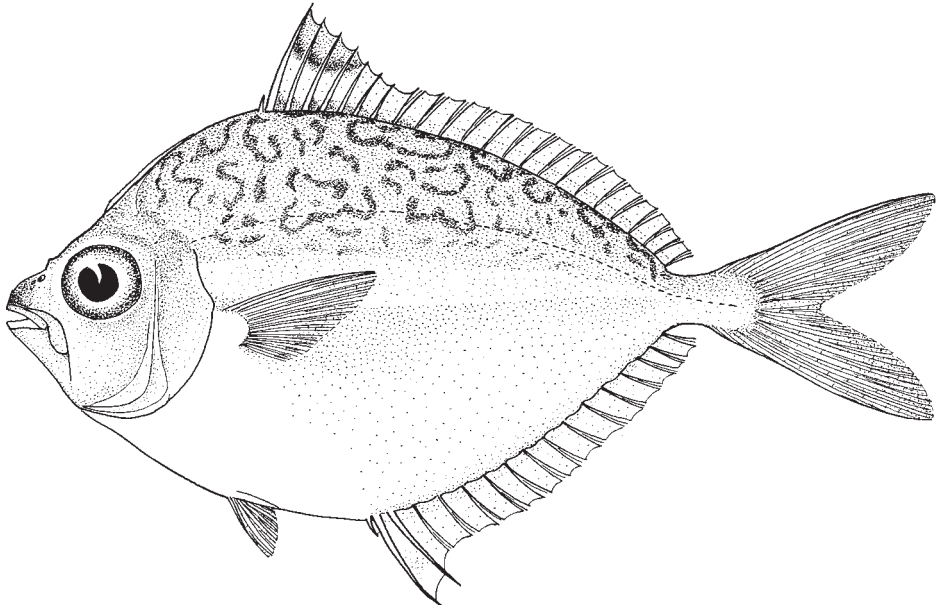


Leiognathus bindus (Valenciennes, 1835)

(Plate I, 5)

Frequent synonyms / misidentifications: *Leiognathus virgatus* Fowler, 1904 / None.

FAO names: En - Orangefin ponyfish; Fr - Sapsap voile orange; Sp - Motambo naranjón.

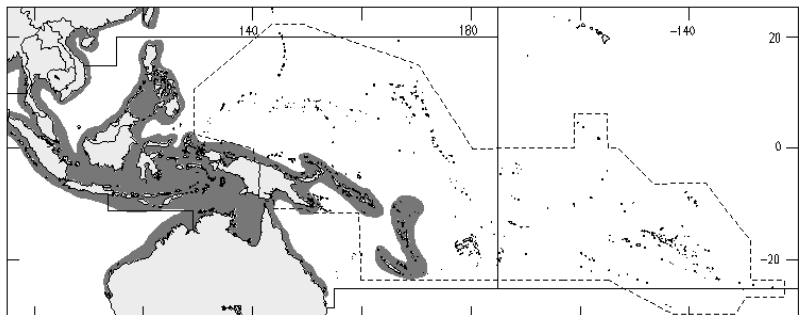


Diagnostic characters: Body deep and strongly compressed, its depth 1.8 to 1.9 times in standard length; ventral profile at least as equally convex as dorsal profile, in larger specimens even more strongly convex. Mouth pointing forward to slightly downward when protracted; single row of uniform conical teeth in each jaw. Gill rakers long and slender, approximately equal in length to corresponding gill lamellae, 19 to 23 on first gill arch. Head scaleless, but **conspicuous scales present on breast**. Tubed scales on lateral line 45 to 49. **Colour:** body silvery, with short dark vermiculations on back; tip of snout, head, and ventral half of body with grey dots which tend to be arranged in rows midlaterally; **spinous part of dorsal fin black at 1/2 height, above which the membrane between second and fifth spines bears a bright orange blotch which turns yellow on preservation in formalin;** soft dorsal-fin margin grey; faint yellow on distal part of membrane of spinous anal fin; pectoral, pelvic, and caudal fins colourless; underside of pectoral-fin base black.

Size: Maximum total length 11 cm, commonly to 8 cm.

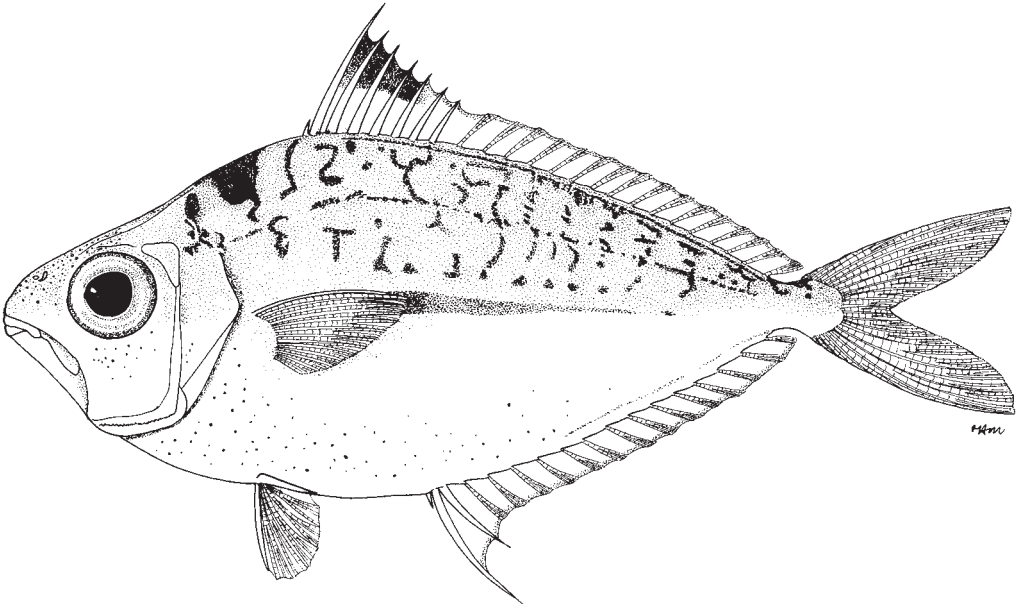
Habitat, biology, and fisheries: Inhabits coastal inshore waters on bottoms of muddy sand at depths of 10 to 160 m. Feeds on calanoid copepods, ostracods, chaetognaths, and the larvae of annelids and fishes. Schooling; abundant during spawning and recruitment seasons which are, respectively, September to December and March to April in northern Australia. Caught mainly in bottom trawls along with *Leiognathus splendens* and *L. decorus*. May be marketed fresh or dried-salted but in Southeast Asia more often used as food for ducks or converted to fishmeal; dumped as bycatch in Australia.

Distribution: Reported to occur in the Red Sea (Port Sudan), Gulf of Arabia, coasts of India and Sri Lanka, and elsewhere in the eastern Indian Ocean; eastward to the western Central Pacific.



Leiognathus blochii (Valenciennes, 1835)

(Plate I, 6)

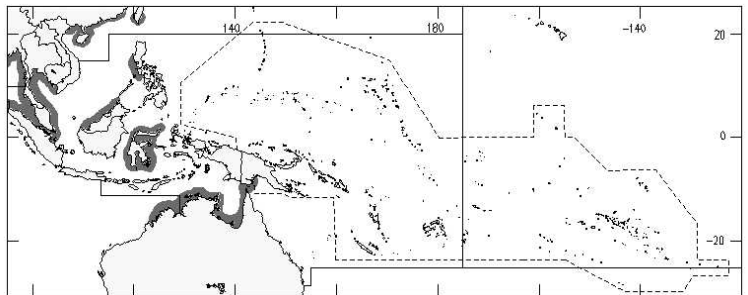
Frequent synonyms / misidentifications: None / None.**FAO names:** En - Twoblotch ponyfish; Fr - Sapsap à deux taches; Sp - Motambo de dos manchas.

Diagnostic characters: Body oval, moderately elongate and compressed, **its depth 2.3 to 3.2 times in standard length**; dorsal and ventral profiles almost equally convex. Snout pointed; mouth pointing downward when protracted. Gill rakers slender, more than 1/2 length of corresponding gill lamellae, total gill rakers on first gill arch 18 to 21. Second dorsal-fin spine less than 1/2 greatest body depth, fairly stout, long as head without snout; second anal-fin spine also fairly stout and long, 0.8 to 0.9 times in second dorsal-fin spine. A few weak scales on cheek below eye but these easily dislodged; **conspicuous scales present on breast**. Lateral line runs through to base of caudal fin, tubed scales on lateral line 54 to 58. **Colour:** belly silvery; **back light brown with dark, irregular vertical lines extending down to midline; a brown blotch on nape which becomes diffuse on preservation in formalin**; tip of snout, head, and ventral half of body with fine black dots; dorsal-fin membrane from about 1/2 its height to tips of second to fifth spines black; soft part of dorsal and anal fins, as well as caudal fin, yellow with grey edges; pelvic and pectoral fins colourless, underside of pectoral-fin base dotted black. In Australian populations the spinous part of the dorsal fin is reputed to be traversed by a yellow streak at midheight, with the apex of the fin hyaline instead of black.

Size: Maximum total length 10 cm, commonly to 8 cm.

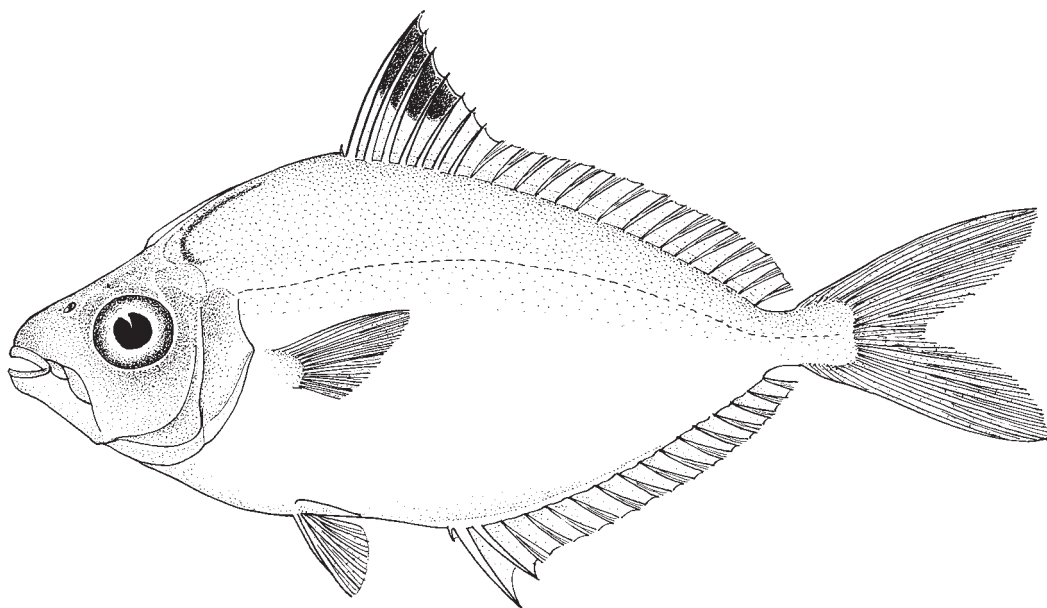
Habitat, biology, and fisheries: Inhabits coastal inshore waters on bottoms of muddy sand at depths of 10 to 90 m; enters estuaries. Feeds on plant detritus, algal tissue, polychaetes, and insects. Schooling. May be marketed dried-salted, but in Southeast Asia more often used as food for ducks or converted to fishmeal.

Distribution: Pakistan and down the west coast of India (to about 12°S), and also in the eastern Indian Ocean; in the area recorded from Indonesia, Philippines, Thailand, and erratically distributed across northern Australia from Broome to Cape York. (Austrian populations may represent a distinct species.)



Leiognathus daura (Cuvier, 1829)

(Plate I, 7)

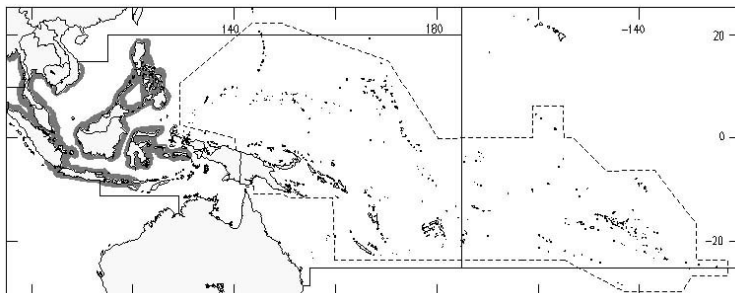
Frequent synonyms / misidentifications: *Leiognathus gerroides* (Bleeker, 1851) / None.**FAO names:** En - Goldstripe ponyfish; Fr - Sapsap doré; Sp - Motambo dorado.

Diagnostic characters: Body rhomboid and compressed, its depth 2 to 2.5 times in standard length; **dorsal and ventral profiles about equally convex.** Snout somewhat blunt; mouth pointing downward when protracted. Gill rakers a little more than 1/2 length of corresponding gill lamellae, total gill rakers 18 to 22 on first gill arch. **Head and breast scaleless.** Lateral line much less convex than dorsal profile, and terminating below end of dorsal fin; tubed scales on lateral 59 to 65. **Colour:** back grey greenish, belly silvery; **very faint vertical lines above lateral line which disappear completely with increasing age;** black dots all over ventral half of body; a golden hue on dorsal half of body and on head; tip of snout black; **distal half of fin membrane between second and sixth dorsal-fin spines jet-black, lined above by creamy white;** a **broad yellow band over the lateral line, which disappears gradually on preservation;** outer half of anal fin golden yellow; outer margin of lower caudal-fin lobe also yellow.

Size: Maximum total length 14 cm, commonly to 9 cm.

Habitat, biology, and fisheries: Inhabits very shallow coastal inshore waters on bottoms of muddy sand, mostly around depths of 10 to 15 m. Schooling. Caught mainly in bottom trawls. May be marketed dried-salted, but mostly treated as trash fish and either dumped or used as food for ducks or converted to fishmeal.

Distribution: From the Gulf of Aden along the coasts of India and Sri Lanka to the western Central Pacific.

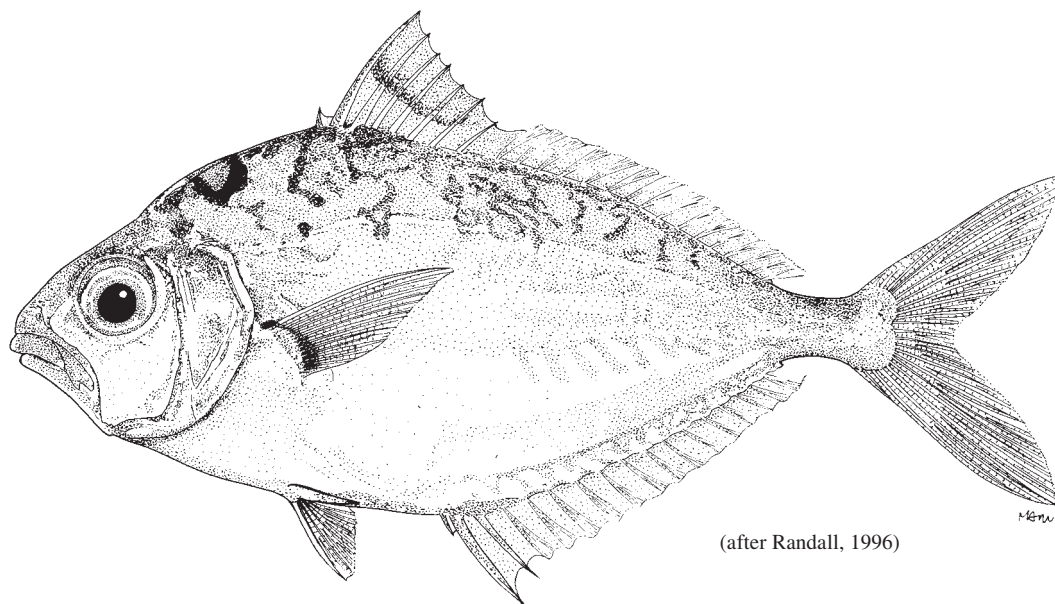


Leiognathus decorus (de Vis, 1884)

(Plate I, 8)

Frequent synonyms / misidentifications: None / *Leiognathus brevirostris* (Valenciennes, 1835); *Equula nuchalis* Temminck and Schlegel, 1845.

FAO names: En - Yellowfinned ponyfish.



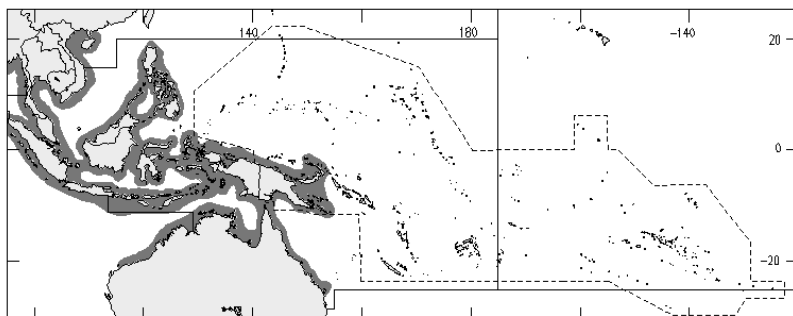
(after Randall, 1996)

Diagnostic characters: Body moderately deep and compressed, its depth 1.8 to 2.3 times in standard length; dorsal profile more convex than ventral profile. Mouth pointing downward when protracted. Gill rakers slightly less than 1/2 length of corresponding gill lamellae, total gill rakers on first gill arch 21 to 24. Dorsal- and anal-fin spines strong, only slightly elongate, second dorsal-fin spine between 1/3 and 1/2 body depth. Head and breast scaleless. **Colour:** silvery, upper half with irregular dark brown wavy to zig-zag vertical lines; brown blotch astride nape (fading in preserved specimens); axil of pectoral fins with a yellow spot and another yellow spot about size of eye on abdomen half-way between bases of pectoral fins and spinous anal fin (both spots absent in Australian specimens); outer half of spinous dorsal and anal fins yellow, yellow margins to soft parts of both fins, caudal fin with dusky yellow margin, other fins colourless.

Size: Maximum total length 15 cm, commonly to 10 cm.

Habitat, biology, and fisheries: Inhabits very shallow (to about 30 m), coastal inshore waters on silty-sand bottoms near mangroves; enters large estuaries; juveniles in mangrove-lined creeks. Feeds on polychaetes, small crustaceans (mysids, copepods, amphipods, ostracods, and cladocerans), large crustaceans (macruran larvae), euphausiids, molluscs, and detritus. Schooling; very abundant during spawning season (September to December in northern Australia). Caught mainly in bottom trawls, but also by beach seines, push nets, bamboo stake traps, and dip nets. In Southeast Asia this species may be marketed fresh or dried-salted, but it is more often used as food for ducks or converted to fishmeal, while discarded in Australia.

Distribution: So far recorded only from Oman, Thailand, Indonesia, New Guinea, and northern Australia down to 25°S.

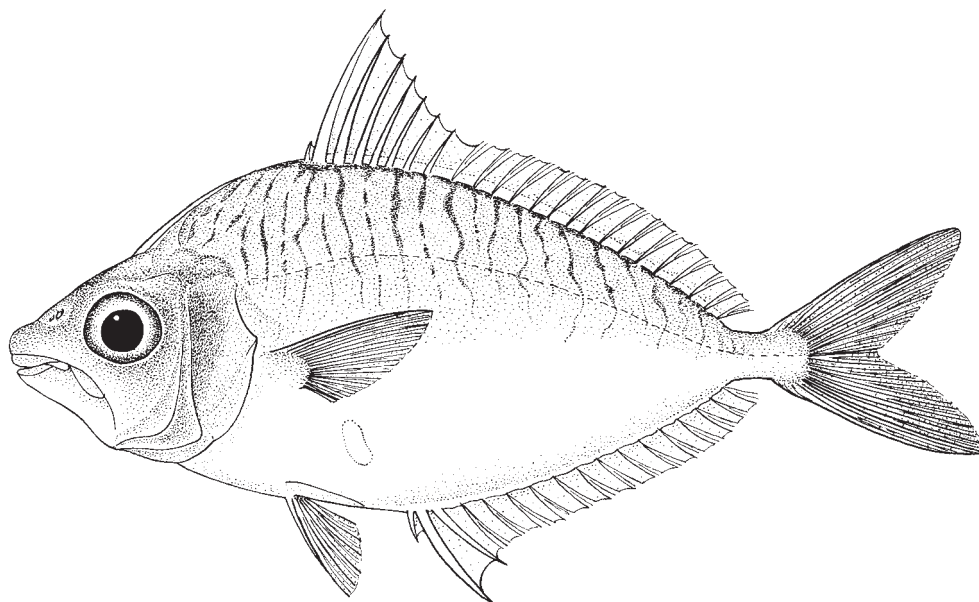


Leiognathus dussumieri (Valenciennes, 1835)

(Plate II, 9)

Frequent synonyms / misidentifications: None / *Leiognathus equulus* (Forsskål, 1775).

FAO names: En - Dussumier's ponyfish; Fr - Sapsap vaguelette; Sp - Motambo de onda.



Diagnostic characters: Body moderately slender and compressed, its depth 2 to 2.3 times in standard length; anterior part of dorsal profile more strongly arched than anterior part of ventral profile. Snout pointed, slightly longer than eye diameter; mouth pointing downward when protracted. Pelvic fins comparatively long, reaching first anal-fin spine. Head scaleless, but conspicuous scales present on breast. About 60 tubed scales on lateral line. **Colour:** back greenish to brownish, belly silvery, fins yellowish (often blue-green due to settlement of algae, and this colour becomes more prominent on preservation in formalin); sides of body with grey, wavy, vertical lines descending from back to a little below lateral line; an elongate yellow spot on abdomen half-way between bases of pectoral fins and spinous anal fin.

Size: Maximum total length 14 cm, commonly to 11 cm.

Habitat, biology, and fisheries: Inhabits coastal waters demersally between depths of around 10 to 40 m. Reported to favour bottoms of coral sand, but also to enter estuaries. Feeds on small crustaceans, polychaetes, foraminiferans, bivalves, gastropods, and nematodes. Schooling. It is the dominant species in catches from certain parts of southern India, but separate statistics not available for it. Caught mainly with bottom trawls. As one of the larger species, large individuals probably marketed fresh, with surplus fish being converted to fishmeal, used to feed ducks, or discarded.

Distribution: Recorded from Madagascar, Réunion, the coasts of India and Sri Lanka, through Indonesia and the Philippines. Possibly more widely distributed but has been confused with *Leiognathus equulus* by some authors.

