

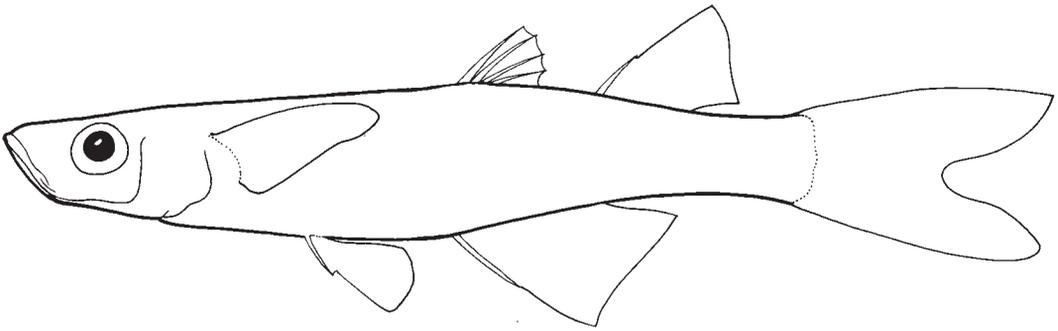
Order ATHERINIFORMES

PSEUDOMUGILIDAE

Blue eyes

by W. Ivantsoff

Diagnostic characters: Body small, elongate, moderately compressed. Mouth terminal, oblique. Maxilla extending posteriorly to about vertical through anterior border of orbit or slightly beyond. Upper jaw strongly curved and slightly protrusible. Villiform teeth in upper jaw; teeth on lower jaw small, curved, and either restricted to first third or half, or present on all of dentary toothed surface. Gill rakers small to very small and widely spaced. Two separate dorsal fins; spines usually absent in second dorsal fin and pectoral fin. **Pectoral fins always set high on body above midlateral line.** Body scales cycloid, dorsoventrally elongated, with 22 to 34 (usually less than 31) scales in midlateral line. Scales on head and cheeks varying from few large to many small scales. Species of this family **often exhibiting sexual dimorphism** with males characterized by **extremely elongated fin rays and different coloration.**



Habitat, biology, and fisheries: A mostly fresh-water family, predominantly restricted to coastal regions of Australia and Papua New Guinea. Three species are considered to be marine or estuarine and are found in coastal regions.

Similar families occurring the area

Pseudomugilids are distinct from other atheriniform families in the area by the absence of the mesethmoid and by having the single infraorbital (lacrimal) articular as high as the dentary (always lower than dentary in other atheriniform fishes).

Juveniles of the family Mugilidae (mulletts) could be mistaken for pseudomugilids.

Key to the estuarine species of Pseudomugilidae

- 1a. Gill rakers on lower limb of first gill arch 14 *Pseudomugil majusculus*
- 1b. Gill rakers on lower limb of first gill arch 12 or less → 2

- 2a. Premaxilla without postmaxillary process, metapterygoid fused to symplectic
. *Pseudomugil cyanodorsalis*
- 2b. Premaxilla with pungent postmaxillary process; metapterygoid not fused to symplectic
. *Pseudomugil inconspicuus*

List of species occurring in the area

The symbol  is given when species accounts are included.

-  *Pseudomugil cyanodorsalis* Allen and Sarti, 1983
-  *Pseudomugil inconspicuus* Roberts, 1978
-  *Pseudomugil majusculus* Ivantsoff and Allen, 1984

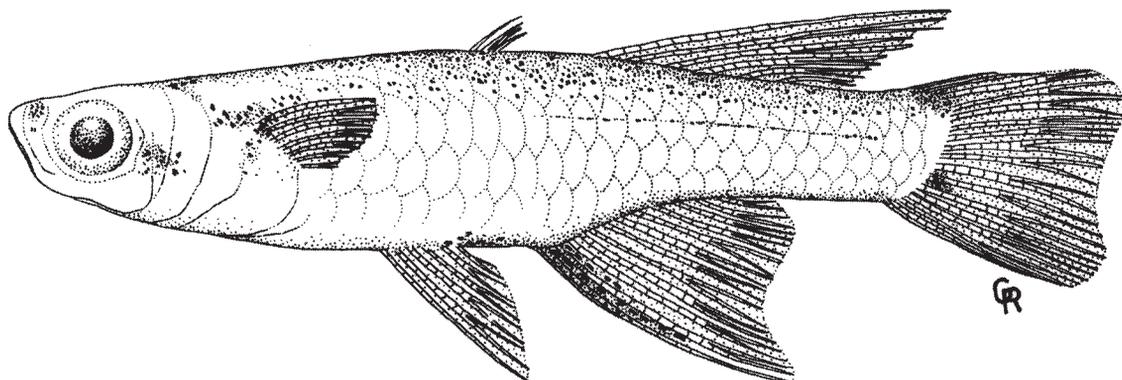
Reference

Saeed, B. and W. Ivantsoff. 1989. Systematic revision of the blue-eyes (family Pseudomugilidae). *Aust. J. Mar. Freshwater Res.*, 40:719-87.

Pseudomugil cyanodorsalis Allen and Sarti, 1983

Frequent synonyms / misidentifications: None / *Pseudomugil inconspicuus* Roberts, 1978.

FAO names: En - Blueback blue-eye.

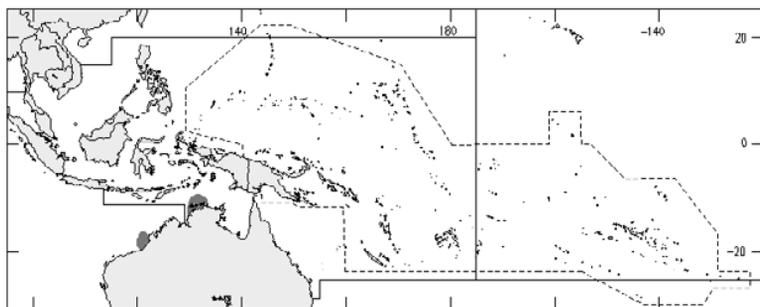


Diagnostic characters: Body very small, elongate, moderately compressed. Mouth small, subvertical. Teeth in jaws small anteriorly, enlarged, pungent on posterior part of premaxilla and exposed when mouth closed. **Premaxilla wide, its ascending process short, lateral process absent. Vomer wide and slightly curved. Mesethmoid absent.** Gill rakers on lower limb of first gill arch 7 to 10. First dorsal fin with III to V weak spines, its origin at or near vertical through tips of pelvic fins. **Second dorsal fin without spines and 4 to 7 soft rays.** Anal fin with I spine and 9 to 13 soft rays. **Pectoral fins without spines** and 9 to 11 soft rays. Body scales large; **22 to 26 midlateral scales**; 5 scales in transverse rows along side of body. Predorsal scales 10 to 14; interdorsal scales 3 or 4. Ventromedian scales between cleithrum and origin of pelvic fins 7 to 10 (usually about 8). **Colour:** semitransparent dorsal half of males metallic blue, lower half yellowish; first dorsal fin translucent, its posterior border blackish with small yellowish patch in basal part near last spine; **elongated rays and base of second dorsal fin black**, remainder of fin creamy; pectorals translucent or yellowish; body of females semitransparent, with translucent fins and white abdomen.

Size: Maximum length 3.5 cm.

Habitat, biology, and fisheries: Inhabits mangrove swamps and highly saline creeks flowing into estuaries, usually swimming over muddy bottom. Often congregate in large numbers. May be found in hypersaline waters (range 28 to 40‰) and in relatively high temperatures (22 to 31°C). This species is small but attractive and may have appeal to aquarium trade.

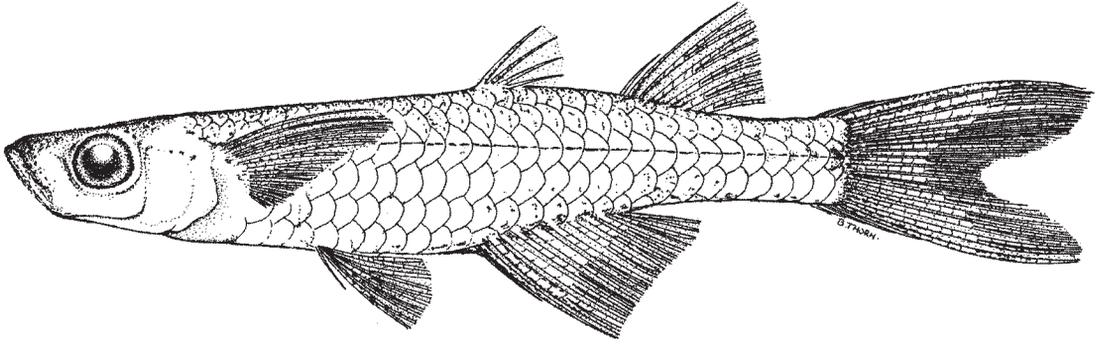
Distribution: Northwestern Australia near Broome and between Darwin and Wyndham in the Northern Territory, Australia.



Pseudomugil inconspicuus Roberts, 1978

Frequent synonyms / misidentifications: None / *Pseudomugil cyanodorsalis* Allen and Sarti, 1983.

FAO names: En - Inconspicuous blue-eye.

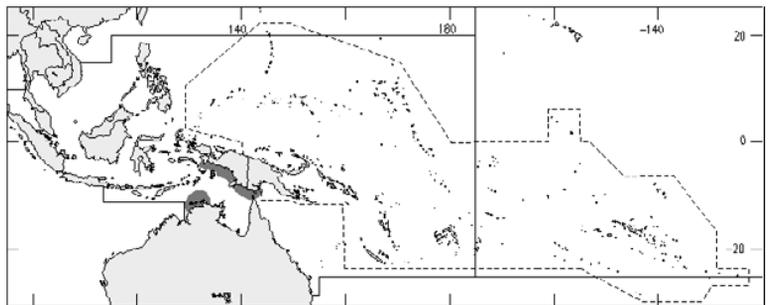


Diagnostic characters: Body elongate, moderately compressed. Mouth fairly narrow with partially restricted gape. Posterior premaxillary teeth enlarged and exposed when mouth closed; posterior two-thirds of dentary toothless. Premaxilla with pungent narrow ascending process; **postmaxillary process also long, 1/2 length of ascending process, and pungent.** Vomer narrow and slightly curved. Mesethmoid absent. Gill rakers on lower limb of first gill arch 10 to 12. First dorsal fin with III or IV spines, its origin behind vertical through tips of pelvic fins. Second dorsal fin without spine and with 5 soft rays. Anal fin with I spine and 10 to 12 soft rays. Pectoral fins with 11 or 12 soft rays. Midlateral scales 26 to 28; 5 scales in transverse rows along side of body. **Predorsal scales 14 to 17;** interdorsal scales 4 to 7. Ventromedian scales between cleithrum and origin of pelvic fins 6 to 8. **Colour:** semitransparent in life; both males and females yellowish with some scattered melanophores on body; dark midlateral line along side of body; fins clear their bases dark; **sexual dimorphism not apparent in this species.**

Size: Maximum length not exceeding 3.5 cm.

Habitat, biology, and fisheries: Found in mangrove swamps and saline creeks. A planktivorous species which adapts well to fresh-water environment. May occur in large schools, frequently in muddy waters. Sympatric with *Pseudomugil cyanodorsalis* over part of its range. Of no commercial value.

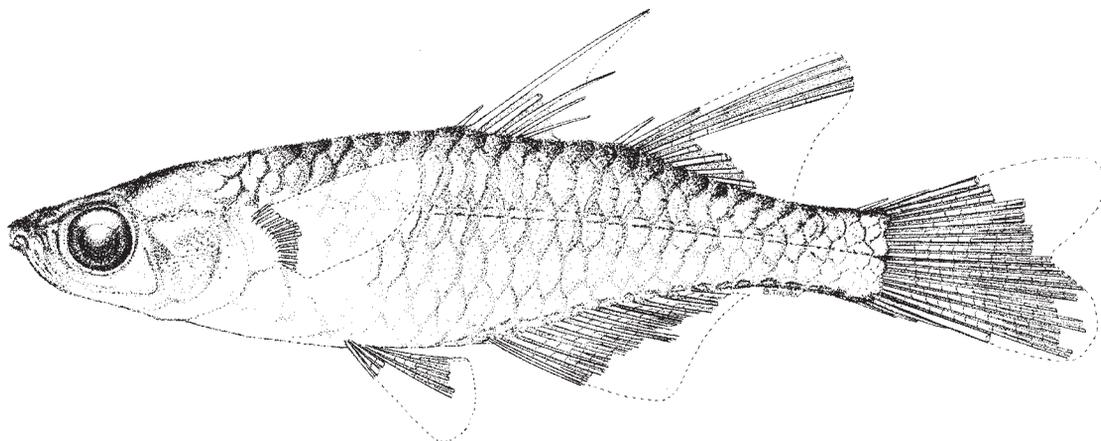
Distribution: Known from several sites but probably extends from Toro Pass near the mouth of the Fly River (Papua New Guinea) to Vogelkop Peninsula (Irian Jaya) and from Woods Inlet in Darwin Harbour (Australia).



Pseudomugil majusculus Ivantsoff and Allen, 1984

Frequent synonyms / misidentifications: None / *Pseudomugil signifer* (Kner, 1866).

FAO names: En - Cape blue-eye.



Diagnostic characters: Body elongate, moderately compressed. Mouth subvertical and small, gape unrestricted by labial ligament. Posterior premaxillary teeth enlarged and exposed when mouth closed; teeth on lower jaw strong, though small, villiform, pointing backwards and extending at least half-way along dentary. Premaxilla broad, with short ascending process and no postmaxillary process. **Gill rakers on lower limb of first gill arch 14 or 15, less than 1/2 diameter of pupil but longer than in other species of this genus.** First dorsal fin with IV or V spines, its origin about 2 scales in front of vertical through tips of pelvic fins. Second dorsal fin without spine and 7 to 9 soft rays. Anal fin without spine and 12 or 13 soft rays. Pectoral fins without spine and about 10 to 12 soft rays. Body scales dorsoventrally elongated; 26 to 28 midlateral scales; 5 or 6 scales in transverse rows along side of body. Predorsal scales 12; interdorsal scales 4 or 5. Ventromedian scales between cleithrum and origin of pelvic fins 9 or 10. **Colour:** preserved specimen yellow-green with upper part of head and eyes dark; sides of snout and opercular bones with scattered melanophores; edges of caudal-fin rays pigmented with scattered melanophores; no reticulate pattern apparent on upper body scales above thin midlateral band.

Size: Maximum length about 5 cm.

Habitat, biology, and fisheries: Found in mangrove swamps and may provide food for young of commercially important species. Nothing is known of the biology of this species of which only 2 specimens are presently known.

Distribution: Known from Cape Ward Hunt (north-eastern Papua New Guinea) and from Fergusson Island in the D'Entrecasteaux Group.

