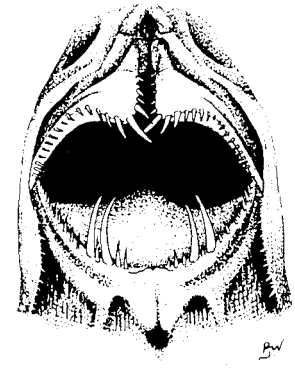
Chirocentrodon Günther, 1868

PRIST Chiro

Formerly CLUP Chiro

Chirocentrodon Gunther, 1868, Cat.Fish.Brit.Mus., 7:463 (type: Chirocentrodon taeniatus Günther = Pellona bleekeriana Poey). Medipellona Jordan & Seale, 1926, Bull.Mus.comp.Zool.Harv., 67(11):417 (type: Pellona bleekeriana Poey).

Diagnostic Features : Small marine clupeoid fishes (to about 9 cm standard length), body elongate and somehwat compressed, with a sharp keel of scutes along belly. Mouth terminal; no hypo-maxilla; hind tip of pre-maxilla meets blade of maxilla; strong conical teeth in jaws, those at front canine-like. Pelvic fins present; anal fin long, with around 40 finrays. Distinguished from all other pristigasterids and clupeids by the presence of canine teeth (but otherwise very closely resembles Neoopisthopterus).



frontal view of mouth

Biology, Habitat and Distribution : See species.

Interest to Fisheries : See species.

Species : A single species recognized, the scute count given by Tommazi (1964) for his C. cladileokae probably being an error:

C. bleekerianus (Poey, l867), Atlantic coasts of Central and South America.

Remarks : Closely resembles Neoopisthopterus (see under that genus).

Chirocentrodon bleekerianus (Poey, 1867)

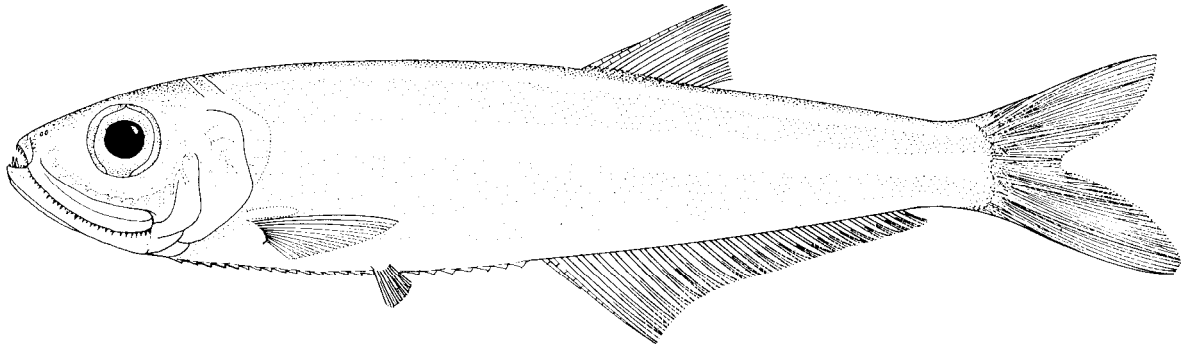
PRIST Chiro 1

Formerly CLUP Chiro 1

Pellona bleekeriana Poey, 1867, Repert.Fisico-nat.Cuba, 2:242 (Matanzas, Cuba).

Synonyms : Chirocentrodon taeniatus Gunther, 1868:463 (Jamaica); Ilisha caribbea Meek & Hildebrand, 1923:191, pl. 10, fig. 1 (Panama); Chirocentrodon cladileokae Tommazi, 1964:30 (Santos, Brazil; key, synon., descr.); Cervigón, 1966:127 (Nueva Esparta and outside Orinoco delta, Venezuela); Whitehead, 1973a:80, figs 26-29 (jaws) (Trinidad, Orinoco mouth, Guyana, Surinam); Figueiredo & Menezes, 1978:26, fig. 32 (Brazil); Uyeno, Matsuura & Fujii, 1983:90, fig. (colour photo) (Surinam).

FAO Names : En - Dogtooth herring.



Diagnostic Features : Body elongate, moderately compressed, its depth about 20 to 27% of standard length, belly with 16 or 17 (rarely 19) + 9 to 11, total 26 to 28 (rarely 30) scutes. Mouth terminal, lower jaw not strongly projecting; strong conical teeth in both jaws, continued as large and small teeth along maxilla blade, large and canine-like at front of both jaws; lower gillrakers 14 to 17. Dorsal fin origin behind midpoint of body; pelvic fins present; anal fin moderately long, with 38 to 44 finrays, its origin below or in front of dorsal fin origin. Closely resembles Neoopisthopterus cubanus in general appearance and general shape of head and jaws, but that species lacks canine-like teeth and has no pelvic fins. No other similar species has canine-like teeth. See CLUP Chiro 1, Fishing Area 31.

Geographical Distribution : Atlantic coasts of Central and South America (Cuba, Haiti, Jamaica, Puerto Rico, Trinidad; also from Panama and coasts of Venezuela, including off Orinoco mouth, Guyana, Surinam south to Ubatuba, near Santos, Brazil).

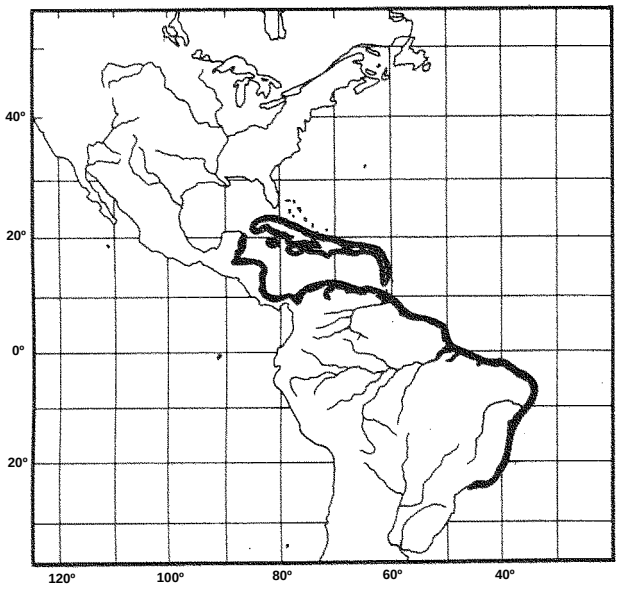
Habitat and Biology : Marine and coastal, apparently down to about 60 m, but also occurring in lagoons and off river mouths (e.g. the Orinoco), perhaps entering water of lowered salinity. Probably spawns in the sea.

Size : To 9 cm standard length.

Interest to Fisheries : None.

Local Names : -

Literature : Hildebrand (i.e. FWNA, 1964 - note on spawning); Cervigdn (1966 - habitat, fisheries), Matsuura (1973 - juveniles described and illustrated).

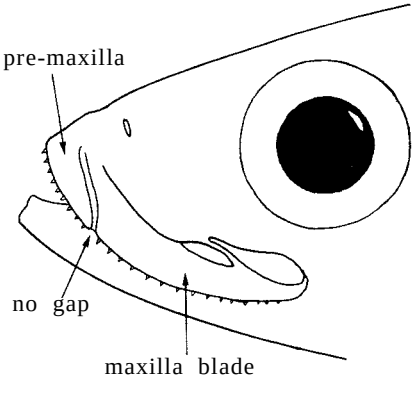


Neoopisthopterus Hildebrand, 1948

PRIST Neop

Neoopisthopterus Hildebrand, 1948, Smithson.misc.Collns, 110(9):6 (type: Odontognathus tropicus Hildebrand).

Diagnostic Features : Small marine clupeoid fishes (to about 9 cm standard length), body elongate and somewhat compressed, with a sharp keel of scutes along belly. Mouth terminal; no hypo-maxilla; hind tip of pre-maxilla meets blade of maxilla; fine or minute teeth in jaws. Pelvic fins absent; anal fin long, with about 40 to 50 finrays. Most closely resembles Chirocentrodon in all respects, but that has canine-like teeth and pelvic fins present. All other similar pristigasterids either have pelvic fins or possess a toothed hypo-maxillary bone between hind tip of pre-maxilla and lower bulge of maxilla blade (Pliosteostoma).



Biology, Habitat and Distribution : Marine and coastal, approaching river mouths, thus perhaps tolerating lowered salinities. Atlantic and Pacific sides of Central and South America.

Interest to Fisheries : Little or none.

Species : Authors have recognized an Atlantic and a Pacific species, distinguished almost solely on gillraker and anal finrays counts:

N. cubanus Hildebrand, 1948, western central Atlantic
N. tropicus (Hildebrand, 1946), eastern central Pacific.

Remarks : Neoopisthopterus hardly differs from Chirocentrodon in all but the absence of canine-like teeth and pelvic fins, but these characters occur consistently in all adults of the Pacific N. tropicus and presumably do so also in the Atlantic N. cubanus (overlaping the northern range of Chirocentrodon), which seems to be known only from small specimens.

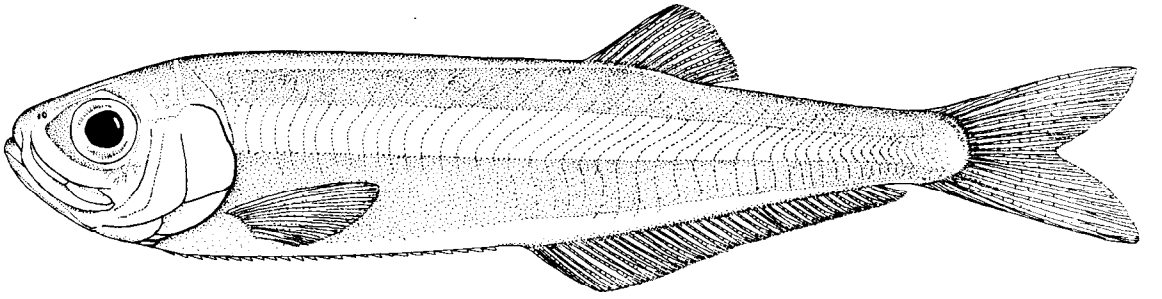
Neoopisthopterus cubanus Hildebrand, 1948

PRIST Neop 1

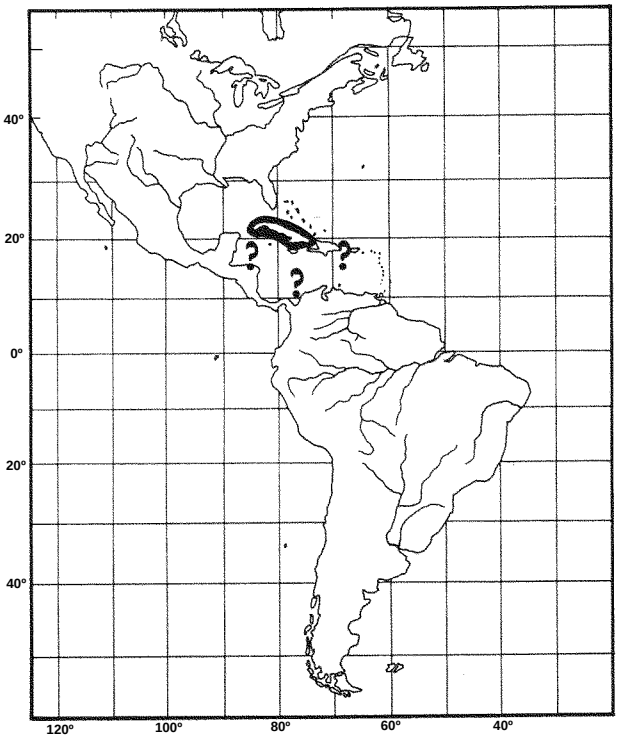
Neoopisthopterus cubanus Hildebrand, 1948, Smithson.misc.Collns, 110(9):7, figs 3-4 (Havana, Cuba).

Synonyms: Neoopisthopterus cubanus - FWNA, 1964:436, fig. 112 (Havana, Cuba).

FAO Names: En - Cuban longfin herring.



Diagnostic Features: Body elongate, moderately compressed, its depth about 17 to 22% of standard length, belly with 23 to 28 scutes. Mouth terminal, lower jaw not strongly projecting; hind tip of maxilla meets lower bulge of maxilla blade and is overlapped by it; teeth very small or minute; lower gillrakers 17 or 18. Dorsal fin well behind midpoint of body; pelvic fins absent; anal fin long, with 39 to 43 finrays, its origin before dorsal fin origin. The Pacific N. tropicus has more gillrakers (18 to 21) and more anal finrays (43 to 48). Closely resembles Chirocentrodon bleekerianus in general form and shape of head and jaws, but that species has canine-like teeth and pelvic fins. Similar pristigasterids have the lower jaw strongly projecting; similar clupeids have less than 30 anal finrays.



Geographical Distribution: Western central Atlantic (Cuba; probably more widespread).

Habitat and Biology: Marine, coastal. More data needed.

Size: Unknown, but probably to about the same size as N. tropicus, i.e. 9 cm standard length.

Interest to Fisheries: Probably none.

Local Names: -

Literature: -

Remarks: Appears to be uncommon; more specimens may blur its distinction from N. tropicus.

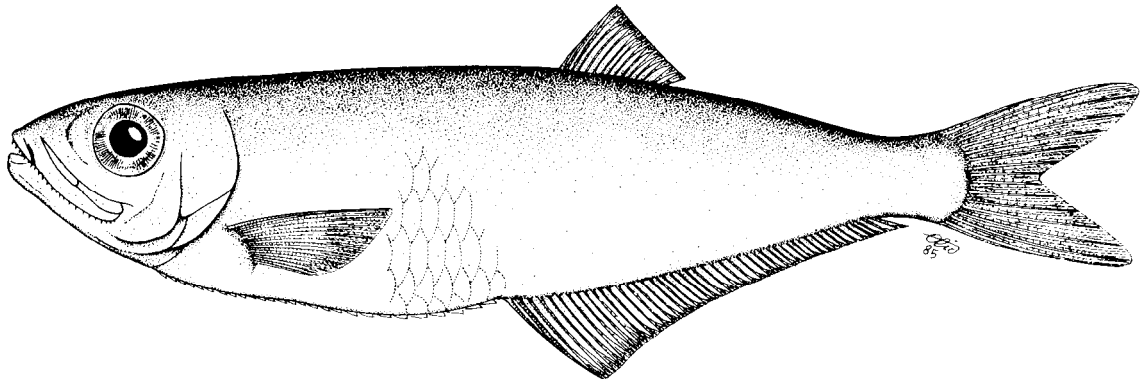
Neoopisthopterus tropicus (Hildebrand, 1946)

PRIST Neop 2

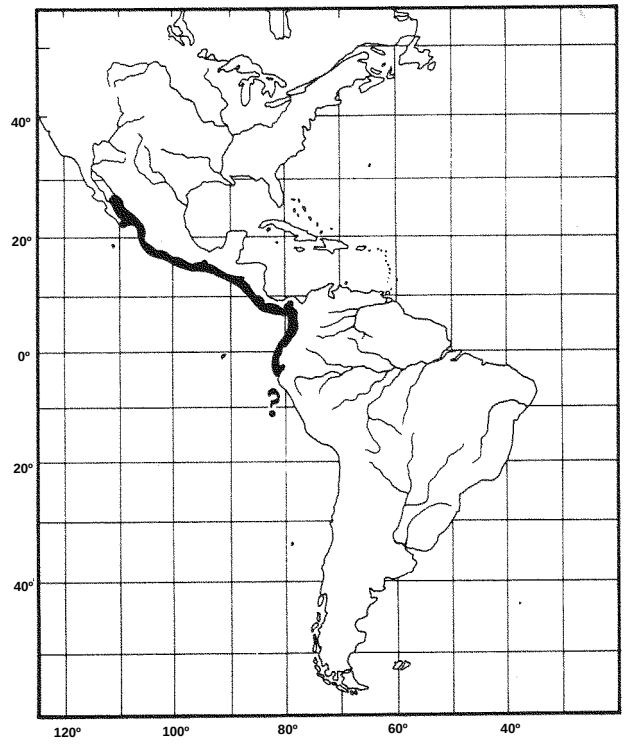
Odontognathus tropicus Hildebrand, 1946, Bull.U.S.natn.Mus., (189):94, fig. 19 (Puerto Pizarro, Peru, also Panama Bay).

Synonyms: Neoopisthopterus tropicus - FWNA, 1964:436 (compared with N. cubana); Peterson, 1956:184 (Chira Island flats and Barranca Bay, Gulf of Nicoya, Costa Rica).

FAO Names: En - Tropical longfin herring.



Diagnostic Features : Body elongate, moderately compressed, its depth about 25 to 27% of standard length, belly with around 26 scutes. Mouth terminal, lower jaw not strongly projecting; hind tip of maxilla meets lower bulge of maxilla blade and is overlapped by it; teeth very small or minute; lower gillrakers 18 to 21. Dorsal fin well behind midpoint of body; pelvic fins absent; anal fin long, with 43 to 48 finrays, its origin before dorsal fin origin. A silver band along flank. The Atlantic N. cubanus has fewer gillrakers (17 or 18) and fewer anal finrays (39 to 43). Similar pristigasterids have a toothed hypo-maxillary bone between hind tip of pre-maxilla and lower bulge of maxilla (Pliosteostoma lutipinnis) or lower jaw prominent and mouth directed obliquely upward (Odontognathus, Opisthopterus). Similar clupeids have less than 30 anal finrays.



Geographical Distribution : Eastern central Pacific (Rio Mayo, Gulf of California, Costa Rica, Panama Bay and south to Gulf of Guayaquil, Peru).

Habitat and Biology : Marine, coastal, occurring off river mouths (e.g. Rio Mayo) thus perhaps tolerating lowered salinities. Feeds on planktonic crustaceans. An extended spawning period off Costa Rica (Peterson, 1956).

Size : To 9 cm standard length.

Interest to Fisheries : Probably little or none.

Local Names :

Literature : Peterson (1956 - brief notes on food and maturity).

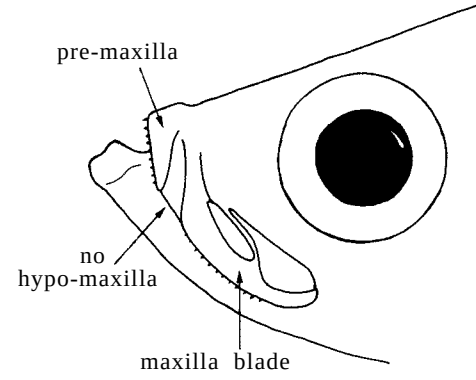
Opisthopterus Gill, 1861

PRIST Opis

Formerly CLUP Opis

Opisthopterus Gill, 1861, Proc.Acad.nat.Sci.Philad.:38 (type: Pristigaster tartoor Valenciennes = Pristigaster tardoore Cuvier).

Diagnostic Features : Moderate-sized marine or estuarine clupeoid fishes (to about 20 cm standard length), body rather elongate and strongly compressed, belly with a sharp keel of scutes. Eye large; lower jaw projecting, mouth directed obliquely upward; upper jaw short, not reaching back beyond about eye centre; no toothed hypo-maxilla between hind tip of pre-maxilla and blade of maxilla; jaw teeth small, usually with a distinct gap at centre of upper jaw; lower gillrakers 17 to 28. Dorsal fin small, its origin much behind midpoint of body; pelvic fins absent; anal fin long, more than 50 finrays, its origin well before that of dorsal fin. Scales easily lost, about 45 to 60 in lateral series. The long anal fin and elongate body easily distinguishes this genus from other pristigasterids except the Indo-Pacific Raconda (which lacks a dorsal fin) and the New World Odontognathus (maxilla long, to or beyond gill opening), Pliosteostoma (toothed hypo-maxilla present) and Neoopisthopterus (less than 50 anal finrays, tip of pre-maxilla reaches to blade of maxilla without a ligamentous gap).



Biology, Habitat and Distribution : Coastal, marine and estuarine fishes, probably schooling, able to tolerate at least brackish conditions. Found in tropical waters of the Indo-West Pacific and in the eastern central Pacific (but not along the Atlantic coasts of the Americas).

Interest to Fisheries : A small contribution to clupeoid catches, but no special fisheries.

Species : The 2 Indo-Pacific species were revised by Wongratana (1980), but there has been no comparable study of the 4 New World species:

Eastern Central Pacific

O. dovii (Günther, 1868), California to Peru
O. effulgens (Regan, 1903), Ecuador
O. equitorialis Hildebrand, 1946, Honduras to Peru
O. macrops (Günther, 1866), Panama.

Indo-Pacific

O. tardoore (Cuvier, 1829), northern Indian Ocean to Indonesia
O. valenciennesi Bleeker, 1872, China to Indonesia.

Remarks : The separation of Indo-Pacific from eastern Pacific species without any intermediate Atlantic species is a unique distributional pattern amongst clupeoids. The two Indo-Pacific species have been well studied, but the four Pacific species have not been revised since Norman (1923); they have been separated on gillraker counts and positions of dorsal and anal fin origins, but much more material should be studied before O. effulgens and O. macrops can be considered distinct from the apparently wide-ranging O. dovii and O. equitorialis.

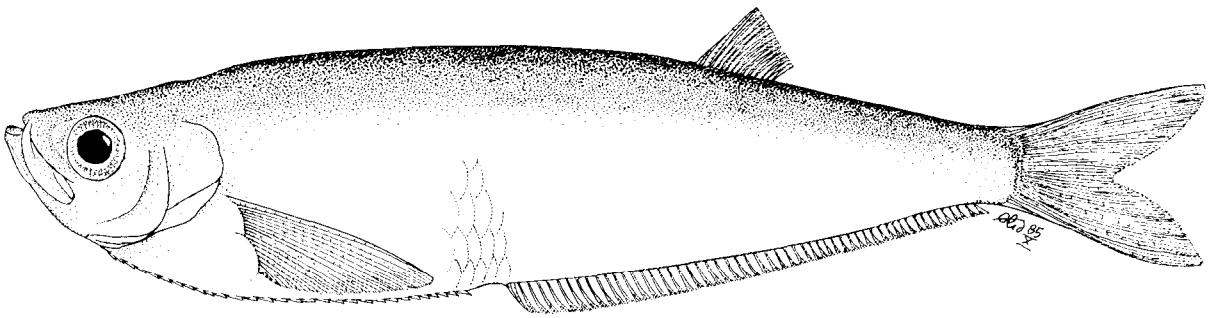
Opisthopterus dovii (Gunther, 1868)

PRIST Opis 3

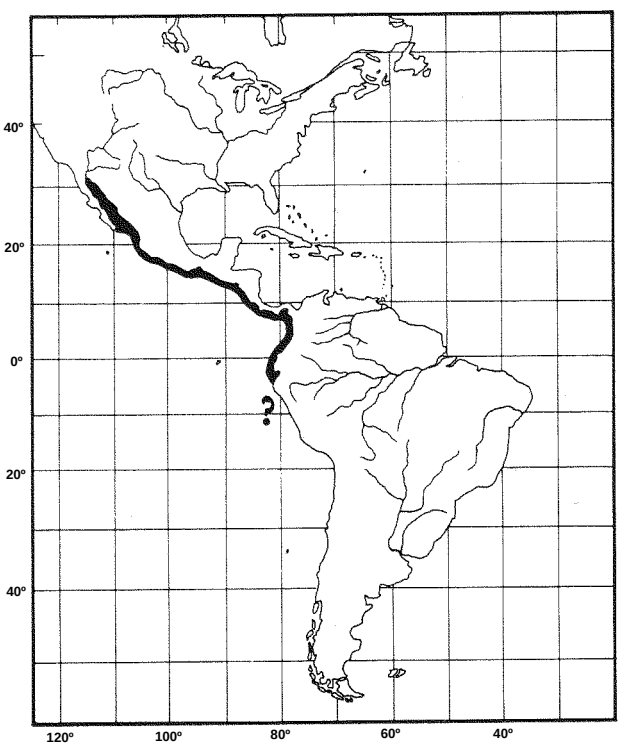
Pristigaster dovii Günther, 1868, Cat.Fish.Brit.Mus.,7:4611 (Panama; replacement name for Pristigaster argenteus Günther, 1866).

Synonyms : Pristigaster argenteus Günther, 1866:603 (Panama; preoccupied by Pristigaster argenteus Schinz, 1822 = Pristigaster cayana); Meek & Hildebrand 1923:192, pl. 15, fig. 1 (labelled Odontognathus panamensis) (Chame Point, Balboa tidepools and Panama Market); Peterson, 1956:181 (Gulf of Nicoya, Costa Rica) ; Chirichigno, 1962:4, fig. 2 (photo) (Puerto Pizarro,Pta Ma1 Pelo, Peru); Cobo & Massay, 1969:7 (Ecuador, listed).

FAO Names : En - Dove's longfin herring.



Diagnostic Features : Body elongate and strongly compressed, its depth about 30% of standard length, belly with about 29 scutes. Lower jaw projecting, mouth pointing obliquely upward; no hypo-maxilla; lower gillrakers 15 to 19. Pectoral fin a little longer than head; dorsal fin origin nearer to caudal fin base than to vertical from pectoral fin base by l½ eye diameters (or behind midpoint of body by 2 and l/4 eye diameters); anal fin long, with 55 to 62 finrays, its origin much nearer to snout tip than to caudal fin base. Closely resembles Opisthopterus equitorialis, which has more gillrakers (21 to 25) and a silver band on flank, and O. effulgens, which has the anal fin origin equidistant between front margin of eye and caudal fin base (also, only 15 gillrakers); O. macrops has the dorsal fin origin equidistant between caudal fin base and pectoral fin base. Species of Odontognathus have a long upper jaw (to gill cover; cf. to below eye). Pliosteostoma lutipinnis has a distinct toothed hypo-maxilla between the hind tip of the pre-maxilla and the lower bulge of the maxilla blade. Neoopisthopterus tropicus has 50 or fewer anal finrays. Other clupeoids are more deep-bodied or the mouth is terminal or inferior.



Geographical Distribution : Pacific coasts of central and South America (Rio Muerto in Gulf of California southward to Panama Bay; also Gulf of Guayaquil, Peru).

Habitat and Biology : Marine, coastal, perhaps entering water of lowered salinity. More data needed.

Size : To 19.6 cm standard length.

Interest to Fisheries : Probably enters artisanal fisheries.

Local Names : ECUADOR: Chaparra.

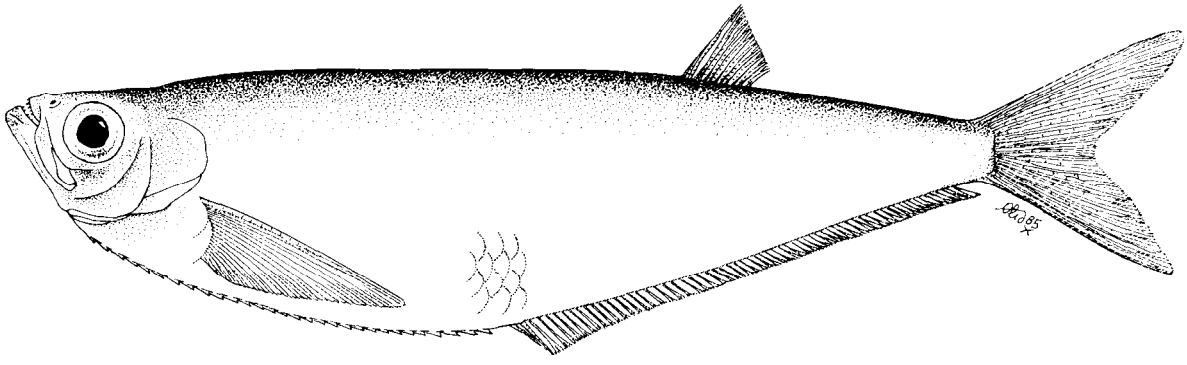
Opisthopterus effulgens (Regan, 1903)

PRIST Opis 4

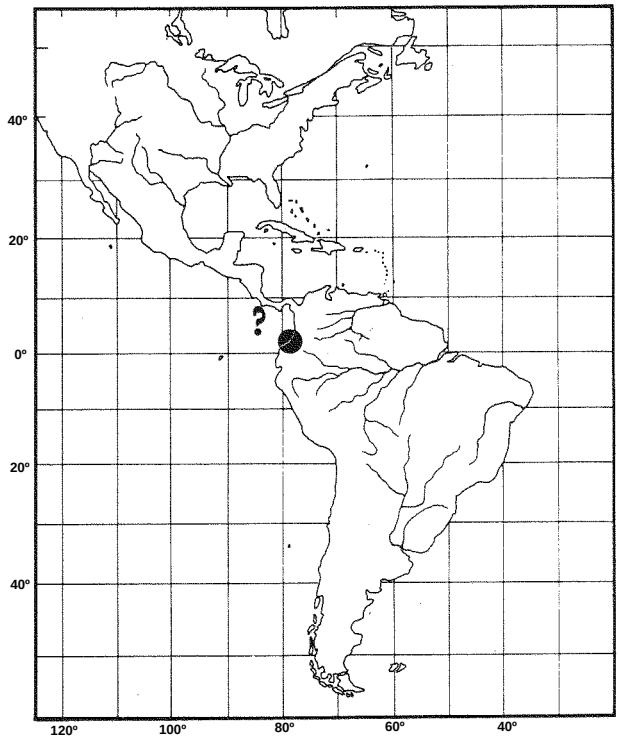
Pristigaster (Opisthopterus) effulgens Regan, 1903, Ann.Mag.nat.Hist., (7)12:621 (Rio Vaqueira, northwest Ecuador).

Synonyms : Opisthopterus effulgens - Norman, 1923:13 (the type only).

FAO Names: En - Vaqueira longfin herring.



Diagnostic Features : Body elongate and strongly compressed, its depth about 26 to 30% of standard length, belly with about 29 scutes. Lower jaw projecting, mouth pointing obliquely upward; no hypo-maxilla; lower gillrakers about 15. Pectoral fin a little longer than head; dorsal fin origin nearer to caudal fin base than to vertical from pectoral fin base by 1 eye diamter (or behind midpoint of body by 2 and 3/4 eye diameters); anal fin long, with 65 finrays, its origin about equidistant between caudal fin base and front margin of eye. Other Pacific species of Opisthopterus have the anal fin origin nearer to the snout than to the caudal fin base, also more lower gillrakers (17 to 25). Species of Odontognathus have a long upper jaw (to gill cover; cf. to below eye). Pliosteostoma lutipinnis has a distinct toothed hypo-maxillary bone between the hind tip of the pre-maxilla and the lower bulge of the maxilla. Neoopisthopterus tropicus has 50 or fewer anal finrays. Other clupeoids are more deep-bodied or the mouth is terminal or inferior.



Geographical Distribution : Pacific coasts (or rivers) of Central America (known only from the Rio Vaqueira, northwest Ecuador).

Habitat and Biology : Perhaps riverine, or merely entering rivers or estuaries from the sea. More specimens and data needed.

Size : To 20.5 cm standard length.

Interest to Fisheries : Probably enters artisanal fisheries.

Local Names : -

Literature : -

Remarks : The low gillraker count and rather posterior anal fin origin seem to be distinctive, but more specimens needed.

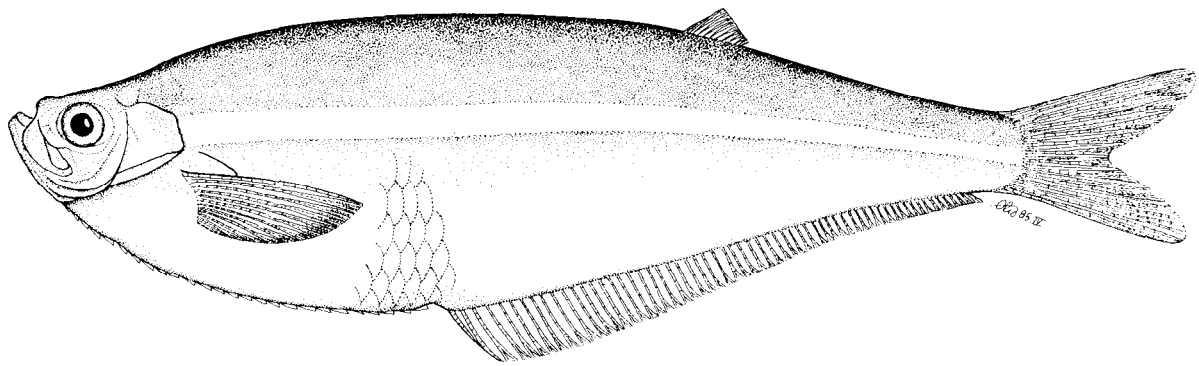
Opisthopterus equitorialis Hildebrand, 1946

PRIST Opis 5

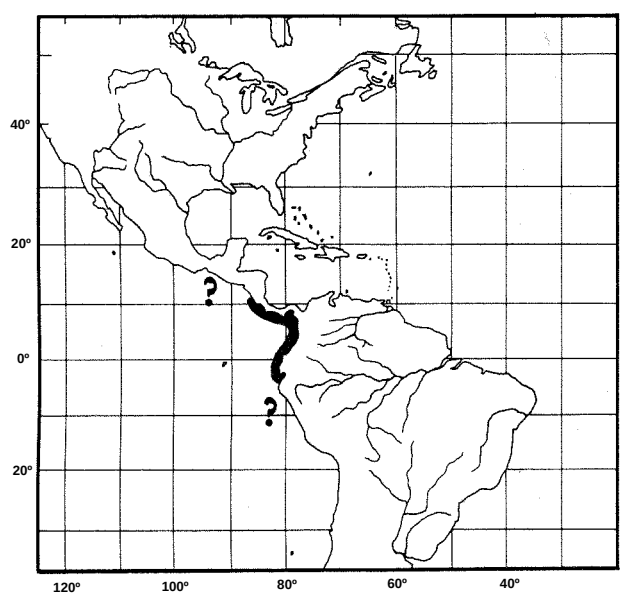
Opisthopterus equitorialis Hildebrand, 1946, Bull.U.S.natn.Mus., (189):93, fig. 18 (Puerto Pizarro, Gulf of Guayaquil, Peru).

Synonyms : Opisthopterus equitorialis - Peterson, 1956:182 (Gulf of Nicoya, Costa Rica); Cobo & Massay, 1969:7 (Ecuador, listed).

FAO Names : En- Equitorial longfin herring.



Diagnostic Features : Body elongate and strongly compressed, its depth about 28 to 30% of standard length, belly with 26 to 28 scutes. Lower jaw projecting, mouth pointing obliquely upward; no hypo-maxilla; lower gillrakers 21 to 25; dorsal fin origin nearer to caudal fin base than to vertical from pectoral fin base by about 2 eye diameters (or behind midpoint of body by about 3 eye diameters); anal fin long, with 56 to 62 finrays, its origin much nearer to snout tip than to caudal fin base. Other Pacific species of Opisthopterus have 20 or fewer lower gillrakers. Odontognathus panamensis has a long upper jaw (to gill cover; cf. to below eye). Pliosteostoma lutipinnis has a distinct toothed hypo-maxillary bone between the hind tip of the pre-maxilla and the lower bulge of the maxilla blade. Neoopisthopterus tropicus has 50 or fewer anal finrays. Other clupeoids are more deep-bodied or the mouth is terminal or inferior.



Geographical Distribution : Pacific coasts of Central and South America (Gulf of Fonseca, Honduras to Gulf of Guayaquil, Peru).

Habitat and Biology : Marine, coastal, perhaps entering water of lowered salinity. More data needed.

Size : To 14.6 cm standard length.

Interest to Fisheries : Probably enters artisanal fisheries.

Local Names : -

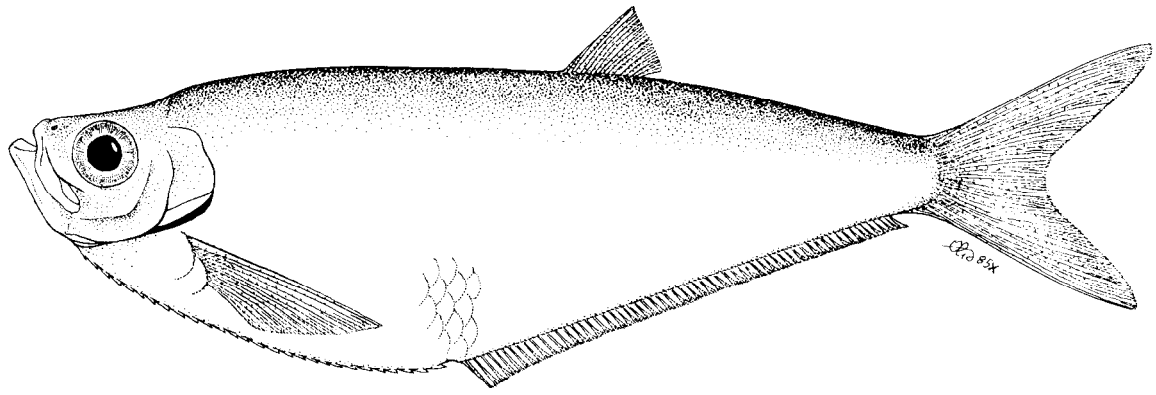
Opisthopterus macrops (Günther, 1866)

PRIST Opis 6

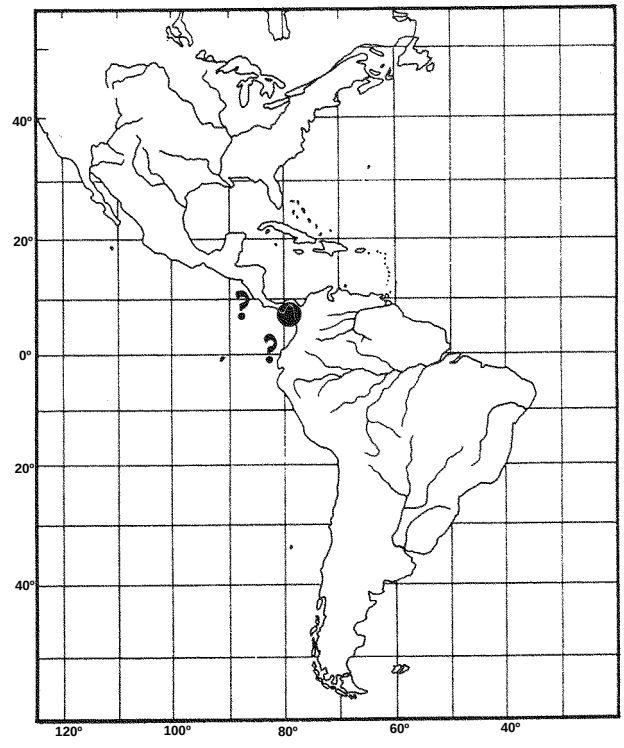
Pristigaster microps Günther, 1866, Proc.zool.Soc.Lond.:603 (Panama).

Synonyms : Opisthopterus macrops - Norman, 1923:ll (Panama); Meek & Hildebrand, 1923:14 (Panama, compiled); Hilbebrand, 1946:94 (compared with O. equitorialis, meristics, etc.).

FAO Names : En - Bigeyed longfin herring.



Diagnostic Features : Body moderately deep and strongly compressed, its depth about 35% of standard length, belly with about 28 scutes. Lower jaw projecting, mouth pointing obliquely upward; no hypo-maxilla; lower gillrakers 19 or 20. Pectoral fin a little longer than head; dorsal fin origin about equidistant between caudal fin base and vertical from pectoral fin base (or 1 and l/4 eye diameters behind midpoint of body); anal fin long, with about 60 finrays, its origin nearer to snout tip than to caudal fin base. Other Pacific species of Opisthopterus have the dorsal fin. base nearer to the caudal fin base than to the pectoral fin base, also more gillrakers in O. equitorialis (21 to 25). Pliosteostoma lutipinnis has a distinct toothed hypo-maxilla between the hind tip of the pre-maxilla and the lower bulge of the maxilla blade. Neoopisthopterus tropicus has 50 or fewer anal finrays. Other clupeoids are more deep-bodied or the mouth is terminal or inferior.



Geographical Distribution : Pacific coasts of Central America (Panama Bay).

Habitat and Biology : Marine, coastal. More data needed.

Size : To 17 cm standard length.

Interest to Fisheries : Probably enters artisanal fisheries.

Local Names : -

Literature : See under Synonyms.

Remarks : Apparently distinct from the other three Pacific species because of the rather advanced dorsal fin, but more specimens needed.

Opisthopterus tardoore (Cuvier, 1829)

PRIST Opis 1

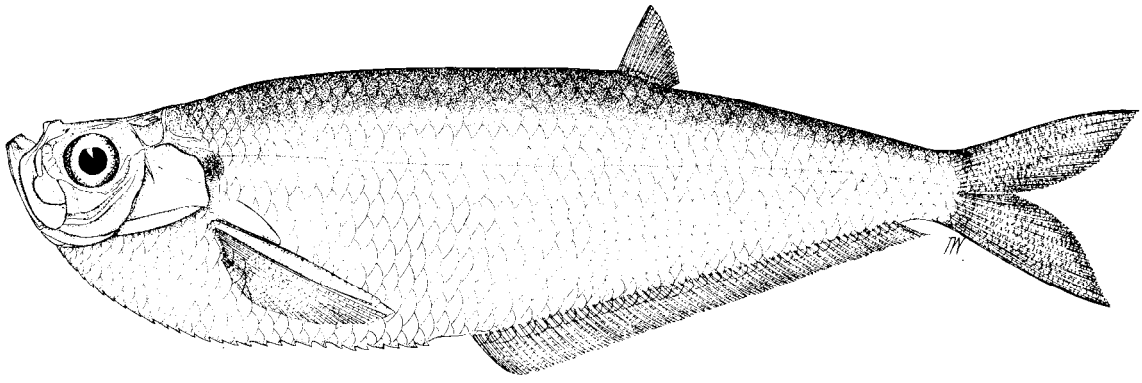
Formerly CLUP Opis 1

Pristigaster tardoore Cuvier, 1829, Régne animal, 2nd ed.,2:381 (on Tartoore of Russell, 1803, Vzagapatnam, India).

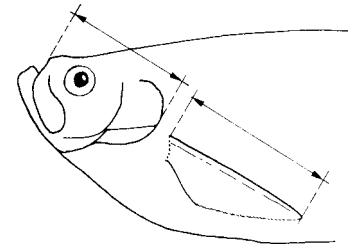
Synonyms : Pristigaster elongata, Swainson, 1838:278 (on Tartoore); Pristigaster indicus Swainson, 1839:294 (on Tartoore); Pristigaster tartoor Valenciennes, 1847:328 (Pondicherry, Malabar); Opisthopterus macrognathus Bleeker, 1866:25 (Jakarta); Opisthopterus tartus Zugmayer, 1913:9 (Oman); Opisthopterus tardoore

- Fowler, 1941:663 (Calicut, India and Padang, Sumatra; Java, but Hong Kong specimens were perhaps O. valenciennesi); Whitehead et al., 1966:104 pl. 13, fig. 3 (Bleeker's fig.) (key, types of macrognathus); Whitehead, 1973b:215, fig. 39 (key, synon., refs); Wongratana, 1980:216, pls 179, 180 (revision).

FAO Names : En - Tardoore.

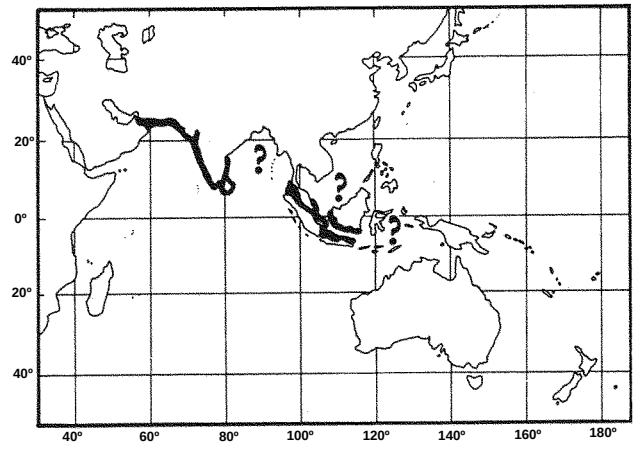


Diagnostic Features : Body elongate and strongly compressed, its depth 27 to 33% of standard length, belly concave in front, with 29 to 35 scutes. Mouth pointing obliquely upward; lower gillrakers 22 to 28, increasing with size of fish. Pectoral fin with 12 to 14 finrays, its length 21 to 26% of standard length (usually about equal to head length or greater); dorsal fin small, well behind midpoint of body; pelvic fins absent; anal fin long, with 51 to 63 finrays, its origin well before dorsal fin origin. Scales in lateral series 46 to 51. Closely resembles O. valenciennesi, which is more slender (depth 24 to 29% of standard length), and has a shorter pectoral fin with more finrays (length 14 to 17% of standard length, thus shorter than head; 15 to 17 finrays). Raconda russeliana is superficially similar, but lacks a dorsal fin and has more anal finrays (81 to 93 finrays). Other pristigasterids have pelvic fins and a shorter anal fin. See CLUP Opis 1, Fishing Area 51, also Fishing Areas 57, 71.



pectoral fin equal or longer than head

Geographical Distribution : Indian Ocean (from the Gulf of Oman to at least Madras, perhaps to the north and along the coasts of Burma, certainly at Penang), Singapore and Java Sea (Sumatra), Java, Kalimantan).



Habitat and Biology : Marine, close to shore, also entering estuaries (e.g. Aluhaluh on Barito River, Kalimantan). Feeds on mysids, Pseudodiaptomus and copepod eggs, also prawns and other small crustaceans, bivalve eggs and larvae, amphipods and small fishes. Spawns in late February or early March to July or August (around Karwar, India).

Size : To 18 cm standard length.

Interest to Fisheries : No special fishery, but is caught with other clupeoids in shore seines (e.g. at Karwar from May to September); also caught with lift nets and trawls in shallow waters.

Local Names : INDIA: Tardoor, Tartoor; INDONESIA: Kentut (Jakarta).

Literature : John (1951 - juveniles); Radhakishnan (1961, 1967, 1968a, b - general biology, maturation and spawning, racial variation); Basheerudin & Nayar (1962 - juveniles); Bensam (1968 - embryos and larvae).

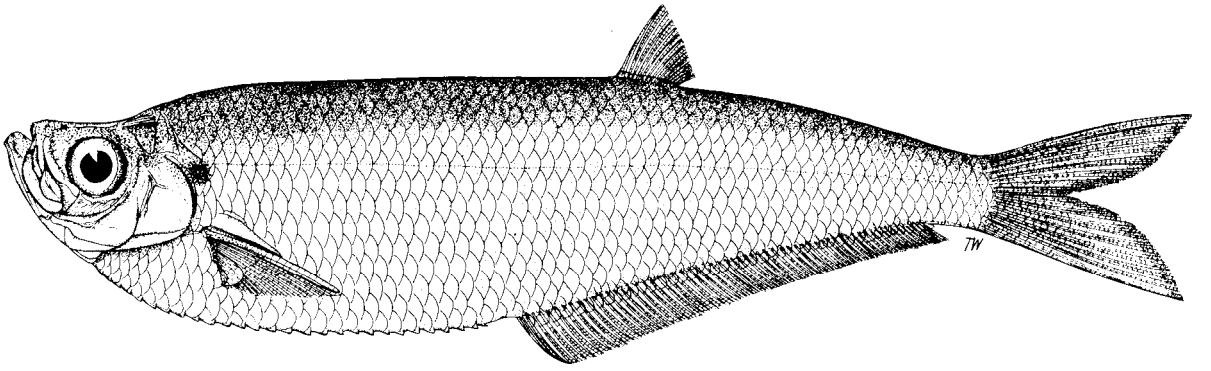
Opisthopterus valenciennesi Bleeker, 1872

PRIST Opis 2

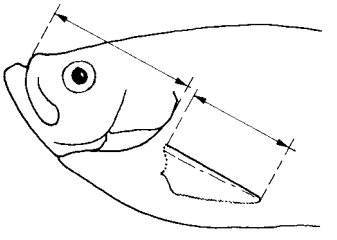
Opisthopterus valenciennesi Bleeker, 1872, Atlas ichthyol.Ind.Néerland., 6:124 (replacement name for Opisthopterus tartoor of previous page, preoccupied by Pristigaster tartoor Valenciennes = Opisthopterus tardoore, the other species in the genus; Jakarta, Singapore).

Synonyms : Opisthopterus tartoor Bleeker, 1872:124 (seeabove); Opisthop terus tardoore:Chu, Tchang & Chen, 1963:106, fig 80 (China); Opisthpterus valenciennesi - Fowler, 1941:664 (compiled; key, synon.); Whitehead et al., 1966:106, pl. 14, fig. 1(Bleeker's fig.) (key, types of O. valenciennesi); Wongratana, 1980:215, pls 177, 178 (revision).

FAO Names : En - Slender tardoor.

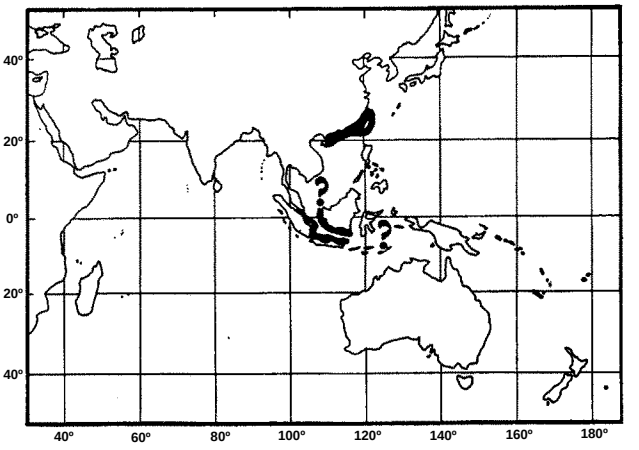


Diagnostic Features : Body very elongate and strongly compressed, its depth 24 to 29% of standard length, belly concave in front, with 30 to 33 scutes. Mouth pointing obliquely upward; lower gillrakers 23 to 25. Pectoral fin with 15 to 17 finrays, its length 14 to 17% of standard length (thus distinctly shorter than head); dorsal fin small, well behind midpoint of body; pelvic fins absent; anal fin long, with 54 to 65 finrays, its origin well before dorsal fin origin. Scales in lateral series 51 to 56. Closely resembles O. tardoore, which has a deeper bod y (27 to 33% of standard length) and a longer pectoral fin with fewer finrays (length 21 to 26% of standard length, thus about equal to head length or longer; 12 to 14 finrays). Raconda russeliana is superficially similar, but lacks a dorsal fin and has more anal finrays (81 to 93 finrays). Other pristigasterids have pelvic fins and a shorter anal fin.



head longer than pectoral fin

Geographical Distribution : Indo-West Pacific (Java Sea, Singapore north to East China Sea at Foochow).



Habitat and Biology : Along shores and in estuaries; probably similar to O. tardoore, but more specimens and data needed.

Size : To 20 cm standard length.

Interest to Fisheries : Probably contributes to artisanal fisheries for clupeoids.

Local Names : INDONESIA: Lipiram (if O. macrognathus of Weber & de Beaufort, 1913:96 is this species).