

**LEIOGNATHUS LEUCISCUS (GÜNTHER) AND LEIOGNATHUS SMITHURSTI (RAMSAY & OGILBY) (FAMILY LEIOGNATHIDAE : PISCES)—TWO NEW RECORDS FROM THE INDIAN SEAS**

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INTRODUCTION

Of the fishes of the family Leiognathidae, Day (1876) reported 14 species from the Indian seas. Weber and de Beaufort (1931) listed 16 species from the Indo-Australian Archipelago. From Ceylon, Munro (1955) reported the occurrence of 12 species. Tiews *et al.* (1965) recorded the occurrence of 17 species from the Philippines.

Fishes of this family which are popularly called silver-bellies ('Karasal' in Tamil language) constitute an important and almost round the year fishery along the Palk Bay and Gulf of Mannar coasts in the vicinity of Mandapam. In recent years, great quantities of these fishes are being landed by otter trawl nets operated by mechanised boats at depths varying between 10 to 30 metres in the area. During the course of the study on the systematics, biology and fishery of these fishes in this region, the present author collected in addition to the species reported by Day (*op. cit.*) two species, *Leiognathus leuciscus* (Günther) and *L. smithursti* (Ramsay & Ogilby) hitherto not reported from the Indian seas. The occurrence of these two species is reported in this paper together with brief descriptions of the same. With the inclusion of these two new records, 16 species of this family (genera *Leio-gnathus*, *Secutor* and *Gazza*) are now known from the Indian seas. A detailed review of the family will be published elsewhere.

***Leiognathus leuciscus* (Günther)**

(Pl. I, fig. 1)

*Material* : 36 specimens ranging in size from 65.5 to 95.5 mm. standard length (82-117 mm. total length) collected from shore seines at Rameswaram (Palk Bay) and Rameswaram Road, Mandapam and Vedalai (Gulf of Mannar) during the period May 1966-February 1967. Three of the specimens were deposited in the Reference Collection Museum of the Central Marine Fisheries Research Institute (No. CMFRI-F 98/569).

*Description* : D. VIII, 16 ; A. III, 14.

Oblong, head 3.44-3.85 ; height 2.31-2.68 in standard length (3.81-4.78 and 2.91-3.33 in total length respectively) ; eye 2.68-3.35 in head, equal to snout which is equal to interorbital space. Scales fairly prominent, deciduous and diaphanous, covering the entire body. Lateral line gently convex, extends beyond soft dorsal and anal fins, becoming indistinct at the end of its course. Second dorsal spine filiform, upper half of which is flexible, extending beyond middle of soft portion and

also exceeding height of body below its origin in larger specimens (above 79 mm. S.L.). In smaller specimens (below 79 mm. S.L.), it does not reach middle of soft portion and is only more than half height of body below its origin. Third dorsal spine also long but only half the length or more of the preceding. Second anal spine also filiform; its posterior one-third flexible and is less than one half length of second dorsal spine, extending up to origin of 7th anal ray in large specimens (above 79 mm. S.L.). Pectoral 6.26-7.38 and ventral 9.78-12.25 in total length. Gill rakers (on left outermost arch) in 10 specimens (71.5 to 90 mm. S.L.) (9-11)+1+(4-5), total range 14-17. They are well-developed, each with a row of small, sharp spines on either side. Back greyish, with a combination of irregular, semi-circular and angulated lines, all the marks brownish or grey in colour. Abdomen silvery. Margin of snout grey. Membrane between dorsal spines yellow at mid-height which is continued along edge of soft dorsal and superimposed with light grey. Anal with similar colour as the dorsal. Posterior portions of caudal lobes yellowish with light grey edges.

*Distribution* : Formosa and Philippines. Now reported from India.

*Remarks* : The species resembles closely *L. berbis* and *L. lineolatus*, all of which have an almost similar shape of body and colour pattern but can be distinguished from both by the elongate and flexible nature of the 2nd dorsal and 2nd anal spines. These spines, however, are frequently seen in broken condition.

*Leiognathus smithursti* (Ramsay & Ogilby)

*Material* : Two specimens, 92 and 110 mm. standard length (118 and 141 mm. total length respectively), the first from trawl net operated off Mandapam (Gulf of Mannar) on 26th November 1965 and the second from drift net off Vedalai (Gulf of Mannar) on 1st August 1966.\*

Both the specimens were deposited in the Central Marine Fisheries Research Institute Reference Collection Museum (No. CMFRI-F 98/570).

*Description* : D. VIII, 16 ; A. III, 14.

Length of head 3.17-3.23 ; height 1.86-1.89 in standard length (4.06-4.14 and 2.38-2.43 in total length respectively). Eye 2.83-3.05 in head, equal to snout, which is equal to interorbital space. Snout blunt and mandible slightly concave. Dorsal profile much more convex than the ventral profile. The upper profile of head to back smooth with a gentle concavity. Two small spines above the upper anterior angle of eye ; lower limb of preopercle finely serrated. Scales small, diaphanous, covering the body except chest. Lateral line strongly convex, extends beyond end of soft dorsal and anal fins but stops short of origin of caudal fin. Dorsal spines weak, first minute, second greatly elongate, more than half the total length of the body and much higher than height of body. Second anal spine elongate, as long as the head. Pectoral 5.52-5.61 in total length. Gill rakers (on left outermost arch) in both specimens 12+1+7, total 20. They are well-developed, each with a row of small, sharp spines on either side. Abdomen more silvery than back which shows a few faint broad bands, unevenly spaced. Tip of snout grey, fins colourless except margins of

\* After the paper was sent to Press, another specimen, 130 mm. S.L. and 167 mm. T.L. was collected from a trawl net operated in Gulf of Mannar off Pamban on 9-10-68.

caudal lobes which are light grey. Pectoral base with minute black dots, which on the axil side continue forwards and descend for a short distance along margin of opercle as a narrow band. A grey band from angle of operculum terminating at origin of lateral line which is not clear in the smaller specimen.

*Distribution*.: New Guinea (Hood Lagune), Fiji and Philippines. Now reported from India.

Important body proportions of the two species are given in Table I.

TABLE I  
Important body proportions of *L. leuciscus* and *L. smithursti* as per cent of standard length and head length

S. No.	Character	<i>L. leuciscus</i> (36 : 65.5-95.5 mm. S.L.)*		<i>L. smithursti</i> (2 : 92, 110 mm. S.L.)*	
		Range	Mean	Range	Mean
IN STANDARD LENGTH					
1.	Head length	26.03-29.05	27.04	30.91-31.52	31.21
2.	Depth of body (at origin of dorsal)	37.28-43.27	40.14	52.72-53.64	53.18
3.	Predorsal distance	40.40-43.86	41.56	48.91-49.09	49.00
4.	Length of pectoral	15.75-20.27	18.00	22.83-23.18	23.00
5.	Length—second dorsal spine	24.85-41.01	35.15 +	62.27-65.22	63.74
6.	Length—third dorsal spine	14.86-23.75	20.19	16.30-21.36	18.83
IN HEAD LENGTH					
1.	Eye diameter (horizontal)	29.79-37.21	32.65	32.76-35.29	34.02
2.	Snout	29.79-37.21	32.65	34.48-35.29	34.88
3.	Interorbital space	30.00-37.21	32.59	32.35-32.76	32.55
4.	Length of pectoral	57.50-72.34	66.52	72.41-75.00	73.70
5.	Length of ventral	36.36-47.50	40.35 +	46.55-48.53	47.54

\* For each species, number of specimens examined is followed by their size range.

+ Mean of 35 specimens only.

#### SUMMARY

Two species, *Leiognathus leuciscus* (Günther) and *L. smithursti* (Ramsay & Ogilby) of the family Leiognathidae are reported for the first time from Indian seas with brief descriptions. With the inclusion of these two new records, 16 species of this family (genera *Leiognathus*, *Secutor* and *Gazza*) are now known from the Indian seas.

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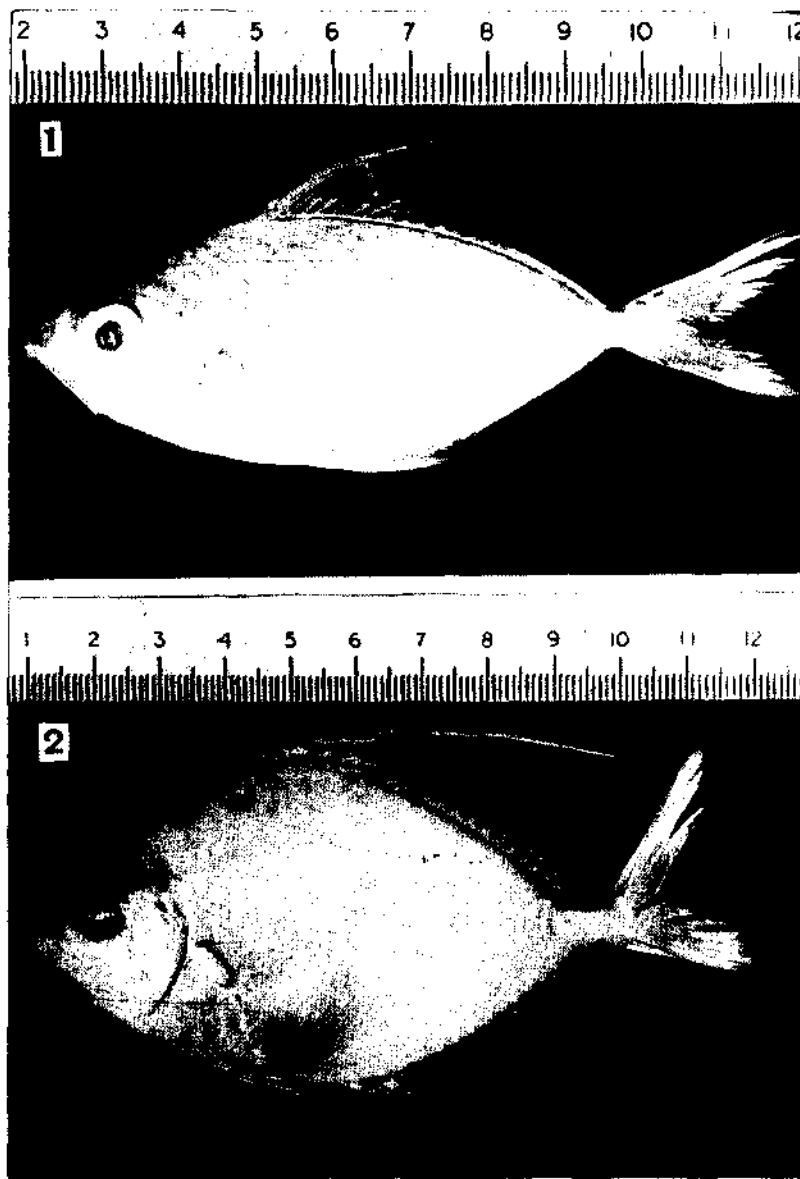


FIG. 1. *Leiognathus leuciscus* (Günther). 2. *Leiognathus smithursti* (Ramsay & Ogilby).