

ON A NEW SPECIES OF SILVER-BELLY, *LEIOGNATHUS INDICUS* PISCES :  
LEIOGNATHIDAE [FROM THE BAY OF BENGAL]

(MISS) RANI SINGH AND P. K. TALWAR

*Zoological Survey of India, Calcutta*

ABSTRACT

A new species of silver-belly, *Leiognathus indicus*, is described from the Bay of Bengal and its affinities with related forms in the Indo-Pacific region discussed.

INTRODUCTION

The fishes of the family Leiognathidae, popularly called silver-bellies, have gained importance in recent years in India due to their steady rise in the commercial catches. It is now known that thirteen species of *Leiognathus* Lacépède inhabit the seas around India (Day, 1889 ; Weber and de Beaufort, 1931 ; James, 1969, 1971, 1978 ; Fischer and Whitehead, 1974). During the course of studies on the fishes of the family Leiognathidae from Indian waters, an undescribed species of *Leiognathus* was discovered in the recent collection from Puri (Orissa). In the present communication the new species of *Leiognathus* is described and its relationship with allied species discussed.

SYSTEMATIC ACCOUNT

*Leiognathus indicus* sp. nov.

[ Fig. 1 ]

*Material* : Holotype (Fig. 1) : 89 mm in standard length, Puri (Orissa), 21 January

1977 ; coll. Rani Singh ; ZSI Regd. No. F. 7363/2.

*Paratypes* : (i) 7 ex., 64—89 mm standard length, collected with the holotype ; ZSI Regd. No. F. 7364/2. (ii) 1 ex., 71 mm standard length, Rangat (North Andaman Is.), 3 February 1970, coll. A. G. K. Menon ; ZSI Regd. No. F. 7365/2.

*Description* : Based on the holotype and eight paratypes. Meristic counts and morphometric measurements are presented in the table.

Body compressed and rather deep ; dorsal profile slightly more convex than ventral profile. Mouth small, horizontal, when protracted forms a tube directed downward ; gape of mouth below lower edge of eye. Snout obtuse, shorter than eye diameter. Maxilla extending to vertical from anterior margin of the pupil. Mandibular profile slightly concave. Preopercle with an obtuse angle, its lower edge and ridge denticulated. Interorbital space flat, its width equal to eye

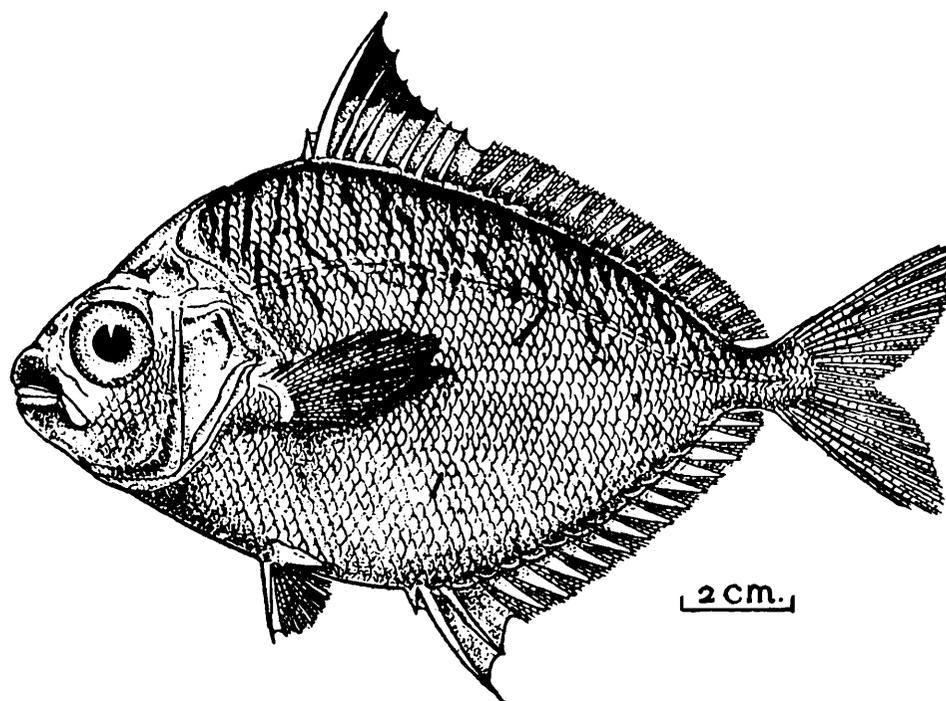


Fig. 1. Holotype of *Leiognathus indicus* Rani Singh & Talwar.

diameter, bounded by two ridges which continue posteriorly as outer edges of the nuchal spine; a small ridge encircles the anterior end of the nuchal spine and joins posteriorly with the outer ridge on either side. A pair of spines present opposite front border of eye, the outer more prominent than the inner; supraorbital edge serrated. Cleithrum, supracleithrum and extrascapular denticulated. Gill-rakers lanceolate, each with double row of serrae. Teeth villiform, in a single row in both jaws; no teeth on vomer, palatines and tongue.

Dorsal and anal fin spines weak; second dorsal fin spine 2.0–2.2 in height of body; third and fourth dorsal fin spines, and third anal fin spine denticulated anteriorly in their lower half. Pectoral fin shorter than length of head; pelvic fins not reaching to anal fin origin. Caudal fin forked, lobes rounded.

Head naked but cheeks with 5 rows of minute, thin scales (not clearly discernible with naked eye). Scales on body small,

cycloid; scales on breast very thin and deciduous. Scales in the lateral series 41 to 48; transverse rows 8-9 / 18-20. Lateral line extends to base of caudal fin.

*Colour*: in alcohol, light brown with close-set grey zig-zag marks over upper half of body; snout dusky. A black blotch on upper third of spinous dorsal fin between second and sixth spines.

#### AFFINITIES

The present new species is characterised by the presence of scales on the cheeks. Only two species of *Leiognathus* from the Indo-Pacific region are reported in the literature with scales on the cheeks: *L. elongatus* (Gunther 1874) and *L. rapsoni* Munro, 1964. The new species may be easily distinguished from the former species in having a much deeper body, its depth about two (vs. five) times in standard length and in the presence (vs. absence) of a conspicuous black blotch on spinous dorsal fin. From *Leiogna-*

TABLE 1.—Selected meristic counts and measurements (in mm) of holotype and paratypes of *Leiognathus indicus*.

	Holotype Regd. No. F 7363/2				Paratypes Regd. No. F 7364/2			Regd. No. F7365/2	
Dorsal f. r.	VIII 16	VIII 16	VIII 16	VIII 16	VIII 16	VIII 16	VIII 16	VIII 16	VIII 16
Anal f. r.	III 14	III 14	III 14	III 14	III 14	III 14	III 14	III 14	III 14
Gill-rakers on first arch	4+18	5+19	5+18	5+19	4+18	5+19	5+19	4+19	4+18
Standard length	89.0	64.0	77.0	83.0	67.0	73.0	72.0	72.5	71.0
Body depth	46.0	34.0	39.0	41.0	34.0	36.0	37.0	37.0	36.0
Head length	29.0	20.0	23.5	26.0	20.0	22.0	22.0	22.0	20.5
Eyediameter	10.0	8.5	9.5	10.0	8.0	9.0	8.0	8.5	8.5
Snout length	9.0	7.0	7.0	8.0	6.0	6.0	7.0	6.5	6.0
Pectoral fin length	22.0	16.5	20.0	21.0	17.0	18.0	—	18.0	17.0
Length of 2nd dorsal fin spine	21.0	15.0	18.0	20.0	17.0	17.0	17.0	17.0	17.0
Length of 2nd anal fin spine	18.0	13.5	16.0	17.0	15.0	15.0	15.0	14.0	14.0

*thus rapsoni* Munro it may be separated in having lesser number of gill-rakers (18 to 19 vs. 21 to 23) on lower arm of first arch and the second anal fin spine 2.1—2.5 (vs. 2.7—2.9) in body depth.

#### ACKNOWLEDGEMENTS

The authors are grateful to the Director, Zoological Survey of India and Dr. K. C. Jayaram, Deputy Director, Zoological Survey of India, for their sustained encouragement during the course of this work. The senior author is also thankful to Dr. N. C. Dutta, Dept. of Zoology, Calcutta University, for constant help and encouragement.

#### REFERENCES

DAY, F. 1889. *The Fauna of British India, including Ceylon and Burma*, Fishes, 2. Taylor and Francis, London. xiv+509 pp.

FISCHER, W. and WHITEHEAD, P. J. P. [Eds]. 1974. *FAO species identification sheets for fishery purposes. Eastern Indian Ocean (Fishing area 57) and Western Central Pacific (Fishing area 71)*, 2. FAO, Rome.

JAMES, P. S. B. R. 1969. *Leiognathus leuciscus* (Günther) and *Leiognathus smithurstii* (Ramsay & Ogilby) [Family Leiognathidae: Pisces] —Two new records from the Indian Seas. *J. mar. biol. Ass. India*, 9 (2) : 300-302.

JAMES, P. S. B. R. 1971. A new species of Silverbelly, *Leiognathus jonesi* sp. nov. (Family Leiognathidae: Pisces) from the Indian seas. *J. mar. biol. Ass. India*, 11 : 316-319.

JAMES, P. S. B. R. 1978. A systematic review of the fishes of the family Leiognathidae. *J. mar. biol. Ass. India*, 17 (1) : 138-172.

WEBER, M. and DE BEAUFORT, L. F. 1931. *The fishes of Indo-Australian Archipelago*, 6. E-J, Brill, Ltd., Leiden.

