Hydrobiologia vol. 47, 3-4, pag. 463-468, 1975

# A New Species of Clupeid Fish, Ilisha sirishai from Visakhapatnam, India

by

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#### Abstract

A new species of clupeid fish, *Ilisha sirishai* is described from Visakhapatnam, the Bay of Bengal, and compared with its close relatives *I. sladeni* and *I.melastoma*.

### INTRODUCTION

NORMAN (1923) revised the tropical clupeid genus Ilisha RICHARDson and sebsequently Fowler (1941) listed and described the Indo-Pacific species. DUTT (1967) described the species of Ilisha occuring at Visakhapatnam on the basis of these earlier studies. WHITEHEAD (1966, 1967, 1969, 1970), TALWAR & WHITEHEAD (1971) and WHITEHEAD et alii (1966) have contributed much to our knowledge of Indo-Pacific clupeoids by redescribing many of the types, including those of more than a dozen nominal species of Ilisha. WHITEHEAD (1970) proposed a tentative key to the species. A synopsis of Indian Ilisha has been provided by WHITEHEAD (1972). The author (in press) has recently described a new species, Ilisha whiteheadi from Kakinada, Bay of Bengal. During investigations on Indian clupeoids, I have discovered a second species from Visakhapatnam, which is described herein as new to science.

# MATERIAL AND METHODS

Eighteen specimens of an undescribed species of *Ilisha* measuring 98-176 mm SL, were collected from Visakhapatnam, the Bay of Received January 23, 1974. Bengal during 1967—1973. Standard length (SL) was measured from the tip of the snout to the mid-base of the caudal fin, and body depth at the origin of the dorsal. Proportional measurements and counts follow TALWAR & WHITEHEAD (1971).

Ilisha sirishai n. sp. (Fig. 1)



Fig. 1. Ilisha sirishai n. sp., Holotype, 167 mm SL, Visakhapatnam, India.

# Holotype

A fish 167 mm SL, (213 mm total length) collected from Visakhapatnam 25 October 1970.

### **Paratypes**

13 fishes, 98—147 mm SL, Visakhapatnam, 14 June 1967, 3 fishes 120—158 mm SL, collected along with the holotype; 1 fish 176 mm SL, Visakhapatnam, 24 September 1973, Holotype and 13 paratypes are deposited in the British Museum (Natural History) London. Two paratypes are in the Museum, Department of Zoology, D.N.R. College, Bhimavaram.

# Description of holotype and paratypes

Branchiostegals 6, D 17 (17–18), P 16 (15–17), V 7 (7), A 40 (38–44), gill rakers 12 + 25 (10 – 14 + 24 – 27), scutes 19 + 9

(18 - 20 + 9 - 10) (total, 27-29). First number for holotype, those in parentheses are for paratypes.

In percentages of standard length: body depth 33.5 (30.0 - 35.2), head length 26.8 (25.0 - 27.3), snout length 7.0 (6.1 - 8.5), eye diameter 8.3 (6.1 - 8.7), length of upper jaw 11.9 (11.9 - 13.5), length of lower jaw 13.1 (12.2 - 13.7); pectoral fin length, tip broken (12.2 - 16.8), pelvic fin length 5.9 (5.1 - 7.5), length of anal fin base 31.1 (31.1 - 37.3); pre-dorsal distance 44.9 (44.9 - 48.2) pre-pelvic distance 40.7 (38.3 - 43.7), per-anal distance 61.0 (54.2 - 65.0) pectoral-pelvic interspace 20.3 (15.8 - 20.9)pelvic-anal interspace 21.5 (18.1 - 22.3).

Body compressed, its width about 3 times in its depth, deepest under dorsal origin. Belly keeled, scutes beginning at isthmus. Head length less than body depth. Snout equal to or slightly smaller than eye. Lower jaw projecting beyond upper jaw. Maxilla reaching just beyond anterior pupil border, lower edge with fine serrae. No hypomaxilla. Two supramaxillae, the first (anterior) slender, the second (posterior) expanded posteriorly and tapering to a slender shaft anteriorly. Teeth present as single series in both jaws, median portion of upper jaw without teeth.

Frontals with two prominent ridges of indica pattern (SESHAGIRI RAO, 1972, 1973).

Pseudobranch present, exposed, greater than  $\frac{1}{2}$  eye diameter, with about 16—19 filaments. Gill rakers slender, shorter than longest gill filaments, less than  $\frac{1}{2}$  eye diameter.

Swimbladder terminates at the posterior end of the body cavity. No post-coelomic extension.

Dorsal origin nearer to snout tip than to caudal base. Pectorals not reaching to pelvic base. Axillary scale present, about 3/4 length of fin. Pelvic fins small, position variable but, about equidistant between anal origin and pectoral base. No pelvic axillary scale. Distance between pelvic tip and anal origin greater than eye diameter. Anal origin under posterior part of dorsal.

Scales with one horizontal striation on exposed portion; about 6-8 vertical striae on unexposed portion.

# Color

Upper 2/5 greyish, lower flanks silvery white, tip of dorsal fin and margin of caudal fin dark.

# Etymology

This species is named after Miss. A. V. S. SIRISHA, daughter of my cousin who is keen in learning about fishes.

# DISCUSSION

Ilisha sirishai differs from its related species, *I. melastoma* and *I. sladeni*. It differs from *I. melastoma* (SCHNEIDER, 1801) in swimbladder form, body depth (32-35.0 cf. 34-37.0) and general body shape, and from *I. sladeni* (DAY, 1869) in body depth (32-35.0 cf. 21.9-25.4), number of abdominal scutes (18-19 + 9-10, cf. 23 + 10), number of gill rakers (24-27, cf. 21) and position of dorsal fin. In *I. sirishai* the swimbladder terminates at the posterior



Fig. 2. Swimbladder form in Ilisha sirishai (left), I. megaloptera (middle), and I. melastoma (right). Swimbladder in I. sladeni resembles I. sirishai; I. elongata resembles I. megaloptera; I. whiteheadi resembles I. melastoma.

end of the coelomic cavity whereas in I. melastoma the swimbladder has long paired post-coelomic extension (Fig. 2). The only other species having a swimbladder with paired postcoelomic extension is I. whiteheadi (SESHAGIRI RAO, in press). The ventral profile of the body in *I. melastoma* is deeply convex being deepest under the dorsal origin, whereas in I. sirishai it is less convex and almost parallel to the dorsal profile from behind pectorals to anal; this difference in abdominal profile accounts for the difference in body depth between the two species. The characteristic swimbladder form of *I. sirishai* is shared by the only other Indo-Pacific species *I*. sladeni and the South American I. furthii (STEINDACHNER 1875) (TALWAR & WHITEHEAD, 1971). However, the swimbladder has an asymmetrical post-coelomic extension on the right side of the body only in the Indo-Pacific I. elongata (BENNETT, 1830), I. megaloptera (SWAINSON, 1839) and in the West African I. africana (BLOCH, 1795) (TALWAR & WHITEHEAD, 1971), SESHAGIRI RAO, in press).

### SUMMARY

A new species of clupeid fish, *Ilisha sirishai* is described from, Visakhapatnam, the Bay of Bengal and compared with its related species *I. melastoma* and *I. sladeni*. The form of the swimbladder is described as a stable character of taxonomic importance; and an easily determined character in the separation of species of *Ilisha*.

### ZUSAMMENFASSUNG

Eine neue Fischart, der Clupeide Ilisha sirishai, aus Visakhapatnam and der Bai von Bengalen, wurde beschrieben und verglichen mit den verwandten Arten I. melastoma und I. sladeni. Die Form der Schwimmblase wurde als Wichtiges taxonomisches Merkmal anerkannt und verwendet zur einfachen Trennung der Arten vom Genus Ilisha.

#### Acknowledgements

I am indebted to PROFESSOR DR. S. DUTT, INDIA, for valuable guidance, to Mr. P. J. P. WHITEHEAD, British Museum (Natural History), London for helpful suggestions. I am thankful to Mr. S. RAMA RAO for facilities, to Mr. K. VARAHALA RAJU for technical help and to the University Grants Commission, New Delhi for financial assistance.

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