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THE DEEP-WATER ATLANTIC FISH *LIOSACCUS CUTANEUS* (GUNTHER)
[TETRAODONTIDAE] IN INDIAN WATERS

During a cruise on the fishing trawler 'Valameen' of the Integrated Fisheries Project, Cochin (Kerala), two specimens of *Liosaccus cutaneus* (Gunther), belonging to the family Tetraodontidae, were collected by the otter trawl operated at 250 m. This is an Atlantic species which has also been found in the Western Indian Ocean from the Cape of Good Hope to Natal, down to 160 m. This fish is of special interest as it appears to be the only known representative of the family Tetraodontidae in the Indian Ocean recorded from deep-water (over 160 m.). The objectives of this note are to redescribe the species and document an extension of its range.

Liosaccus cutaneus (Gunther)
[Fig. 1]

Tetrodon cutaneus Gunther, 1870, *Cat. Fishes Br. Mus.*, 8 : 287 (type locality : St. Helena, Azores).

Sphaeroides dubius Von Bonde, 1923, *Fish. Mar. Biol. Surv. Spec. Rep.* 1 : 40, pl. 2, fig. 3 (type locality : off Natal, South Africa, 27 fms).

Sphaeroides cutaneus : Smith, 1953, *Sea Fishes of Southern Africa* : 417, pl. 95, fig. 1190.

Material

2 ex., 135-145 mm in Standard length, off Quilon (Kerala State), 250 m., 4-6 February 1977 ; Zoological Survey of India Regd. No. F 7558/2 (as *Sphaeroides cutaneus*).

Description

D 8 ; A 8 ; P i 13-14 ; C 9.

Body oblong, profile of back gently curved. Length of head 45.1-47.7% SL. Eye-diameter 24.5-26.1% head length, 75.4-87.8% in the flat interorbital space ; inferior border of eye free, upper half attached. Nasal papilla on each side raised above surface of snout, with two openings near the top. Gill-openings well developed, extending above upper edge of base of pectoral fin. Four teeth forming typical tetradont jaws.

Body smooth and naked (without any prickles), its skin finely striated. Upper lateral line rather indistinct, running from eye along upper part of caudal peduncle ; lower lateral line absent. No raised fold of skin on inferior part of tail.

Dorsal and anal fins short, anal fin entirely behind dorsal fin. Caudal fin truncate.

Colour : Olive grey above, becoming lighter along sides, belly whitish. Dorsal, anal and pectoral fins hyaline ; tips of caudal fin rays dusky.

Remarks : This species belongs to the group of tetradonts that Gunther (1860) called *Liosaccus*, characterised by having the body smooth and naked (without keels or spines). Surprisingly, De Beaufort and

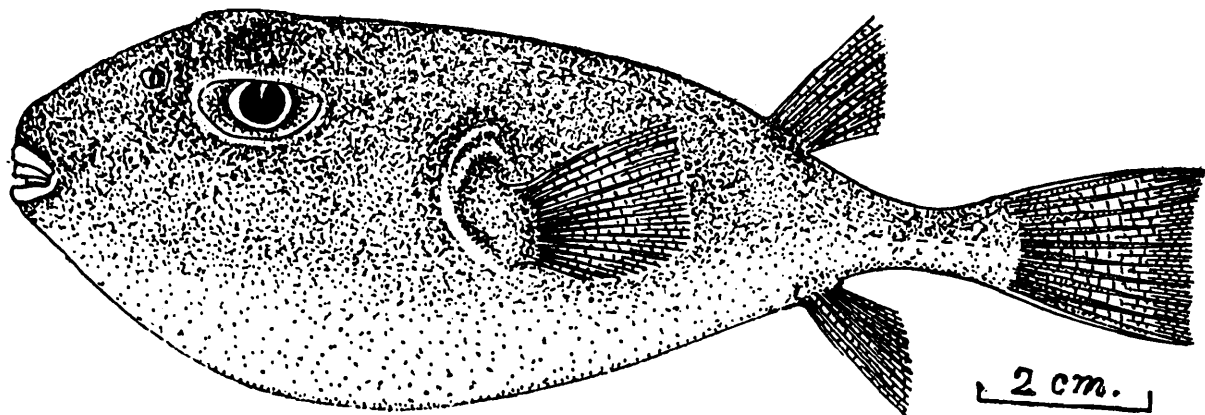


Fig. 1. *Liosaccus cutaneus* (Gunther) from India.

Briggs (1962) made no mention of this genus in their treatise, *The Fishes of the Indo-Australian Archipelago* though *Liosaccus aerobicus* Whitley, 1928, has been described from the Indo-Australian region. Norman (1966) relegated the genus *Liosaccus* to the synonymy of *Spherooides* Lacepede but Whitley (1968) continues to use the former generic name which appears to be an appropriate generic allocation for these tetradonts which are fishes of the deep-waters.

The two specimens agree very well with Gunther's (*op. cit.*) original account of the species except for the fact that the inferior border of the eye is only free, the upper half being attached. The two types of *Tetrodon cutaneus* Gunther in the British Museum (Natural History) (regd. no. BMNH. 1867. 10. 8. 22-3) have also the lower half of the orbital rim free. Gunther's (*op. cit.*) description is evidently defective in this essential particular. The type of *Spherooides dubius* von Bonde now in the repository of the J. L. B. Smith Institute of Ichthyology, Grahamstown, and Smith's (1953) study material of *S. cutaneus*, have also the lower rim of the orbit

free, and are clearly conspecific with *Liosaccus cutaneus* (Gunther) as demonstrated by Barnard (1927) for *dubius*.

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Zoological Survey of India.
Calcutta-700016.
Integrated Fisheries Project,
Cochin (Kerala State)

P. K. TALWAR
AND
A. A. CHAKRAVARTHY

