

ON THE OCCURRENCE OF DEALFISH *TRACHIPTERUS NIGRIFRONS*  
SMITH (TRACHIPTERIDAE : PISCES) OFF VIZHINJAM

ABSTRACT

The dealfish *Trachipterus nigrifrons* Smith is reported for the first time from the Indian Coast. The morphological characters of the present specimen caught along with *Trichiurus lepturus* in boat seine off Vizhinjam near Trivandrum are given together with brief remarks on the distinguishing features of the species and the distribution of the dealfishes in general.

ON JUNE 30, 1980 a specimen of dealfish *Trachipterus nigrifrons* Smith, was found in a boat seine catch off Vizhinjam (76°59' 15" E, 8°22' 30" N) comprising mainly *Trichiurus lepturus*. The net was operated about 8 km off the coast at a depth of about 60 m. This species was described by Smith (1956) from two specimens collected off East London, South Africa. The present report is the first record of the species from the Indian Coast and seems to be the second record from the Indian Ocean. The fish is deposited in the museum of the Vizhinjam

Research Centre of Central Marine Fisheries Research Institute.

The authors express their thanks to Shri K.V. Narayana Rao for critically reading the manuscript and to Dr. P. Parameswaran Pillai for the photographs presented in Plate I B and C.

*Description:* Body elongate, strongly compressed, scaleless and tapers more or less evenly from head to tip of caudal (Pl. I A). Profile of predorsal steeply declivous. Dorsal arises



PLATE I A. *Trachipterus nigrifrons* Smith from southwest coast of India. B. A portion of the body surface of *T. nigrifrons* to show the pattern of distribution of the polygonal osseous plates and C. Anterior portion of body of *T. nigrifrons* to show the commencement of the lateral line.

on top of head and in line with the eye and extends to the posterior end of caudal. First five dorsal fin rays short and separated by some space from the rest. Each ray has at its base a pair of outwardly pointed spinules, one on either side. Anal fin absent. Pelvic fins marked only by their stumpy bases on the ventral contour at the vertical just behind the base of pectoral. Distal portion of caudal broken in the present specimen, hence characteristics of caudal fin not known. (This species is known to have well developed rays on the upper lobe of caudal, placed perpendicular to the body axis). Polygonal osseous pads occur all over the body and these show some regular pattern with pronounced biserial vertical arrangement on the upper half above the lateral line (Pl. I B). Ventral profile conspicuously armed with several irregular rows of stiff pointed tubercles which diminish in size gradually caudad. Lateral line commences at the dorsal margin of orbit, gently makes an arch backwards to a point, a little behind base of pectoral and runs posteriorly in a straight line until it is just above, closer and parallel to the ventral contour of the distal part of caudal (Pl. I A, C). Lateral line armed with separate short bony plates. The length of these plates increases gradually towards the tail end and this is quite evident from a point slightly in advance of the anus. Each lateral line plate bears a spinule in the middle.

Pertinent morphometric measurements in millimetres and meristic counts are as follows: Standard length 1437 (caudal mutilated), snout to anus 765, head 202, greatest body depth (at hind margin of eye) 183, body depth at anus 139, snout 71, horizontal diameter of eye 61, post orbital length of head 85, maxillary length 60, mandibular length 105, snout to insertion of pectoral 175, pectoral fin length (longest ray) 107, dorsal fin rays upto vertical at anus 82, dorsal fin rays (upto end of broken caudal) 154, length of longest dorsal fin ray

(at middle of body) 91, lateral line plates upto end of broken caudal 113, pectoral fin rays 15, gill rakers 6 each on lower and upper arms plus 2 more on the fleshy flap that extends from the upper limb; length of gill raker 9, length of longest gill filament 27, length of lateral line plates (range) 4-28, teeth on each ramus of upper and lower jaws 5 each (curved).

The fish contained ripe running ovaries with a single well defined group of mature eggs (without an oil globule) ranging in diameter between 1.7 mm and 2.3 mm with an average at 2.0 mm (in preserved state), with no indication of a second batch of eggs getting ready for spawning in the same season. Hence this species is considered to be a total spawner.

*Colour:* When fresh, the body was covered with a silvery "guanin" which rubbed off at the slightest touch. Hence no trace of this substance remains on the preserved specimen. Body above lateral line with a pinkish hue. An ovate black blotch present on the dorsal profile over the hind border of head; the area in front of this and the interorbital dusky. Dorsal fin dull crimson.

*Remarks:* *T. nigrifrons* Smith bears close resemblance to *T. trachipterus* (Gmelin) (= *T. iris* C.V.) and *T. fukuzakii* Fitch. But the body axis is upcurved in the posterior caudal region in adults of *T. trachipterus* and the lateral line commences midway between eye and the first ray of the dorsal fin (crest) in *T. fukuzakii*. These characters are absent in *T. nigrifrons*.

The dealfishes are known to occur in the Arctic, Atlantic, Indo-Pacific and Mediterranean regions (Palmer, 1961; Fitch, 1964). They are deep water fishes (Midgalski and Fitcher, 1976), but instances of these fishes floating on their sides at or near the surface were reported by fishermen (Palmer, 1961). The trachipterid

fishes are very fragile and also undergo allometric growth, some changing rather radically in body shape and fin length, between their larval stages and adulthood (Hubbs, 1926).

*Central Marine Fisheries Research Institute,  
Cochin-682 018.*

G. LUTHER  
P. N. RADHAKRISHNAN NAIR  
A. K. VELAYUDHAN

## REFERENCES

- FITCH, J. E. 1964. *Calif. Fish and Game*, 50 (4): 228-240.
- HUBBS, C. L. 1926. *Mich. Acad. Sci., Art., Let., Pap.*, 5: 469-476.
- MIDGALSKI, E.C. AND G.S. FICHTER 1976. *The fresh and Salt Water Fish of the World*. Mandarin Publishers Ltd., p. 195.
- PALMER, G. 1961. *Bull. Brit. Mus. Nat. Hist.*, 7 (7) 337-351.
- SMITH, J. L. B. 1956. *Amer. Mag. Nat. Hist.* 9 (2): 449.