

**A NEW SOLENOSTOMID FISH *SOLENOSTOMUS TUTICORIENSIS* SP. NOV.  
FROM TUTICORIN BAY, SOUTH INDIA**

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**ABSTRACT**

A new solenostomid fish *Solenostomus tuticoriensis* sp. nov. collected from the Tuticorin Bay in the Gulf of Mannar is described and a comparison made with the other three closely related species of the same genus.

**INTRODUCTION**

THE ONLY GENUS *Solenostomus* (Lacépède, 1803) of the Family Solenostomidae has three valid species, namely *Solenostomus paradoxus* (Pallas, 1770), *S. armatus* (Weber, 1913) and *S. cyanopterus* (Bleeker, 1854) in the Indo-Australian Archipelago (Weber and De Beaufort, 1922). The females of these species are characterised by a ventral fin pouch (Dean, 1923). Munro (1955) described *S. paradoxus* from the pearl banks of Sri Lanka, while Munro (1958) described *S. armatus* and *S. cyanopterus* from New Guinea region. Treating *Solenostomus armatus* of Weber and De Beaufort (1922) as *Solenichthys armatus* and *Solenostoma paradoxus* and *Solenostoma cyanopterus* as synonyms, Munro (1958) considered the latter two as *Solenichthys cyanopterus*. However, the genus *Solenichthys* of Bleeker (1865) is a synonym of the genus *Solenostomus* Lacépède 1803 (Smith, 1986). Pratap (1985) recorded *Solenostoma cyanopterus* from the Mabudya Island, Dar-es-Salaam. Smith (1986) who reported *S. cyanopterus* and *S. paradoxus* from the South African waters, considered *S. paradoxus* (Pallas, 1770) as a valid species.

The members of this family are uncommon in inshore waters, but occur in large numbers in 20 to 30 m depths. All the known three species are found distributed along the Indian waters. While studying the ichthyofauna of Tuticorin and its environs in the Gulf of Mannar, a new species of genus *Solenostomus* was encountered and described here together with a comparison of the other three known species of this genus.

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**COLLECTION SITE**

Tuticorin, located on the southeast coast of India, is an important fish landing centre. This region is renowned for its pearl oyster and chank beds. The shallow coastal belt

of this region affords vast opportunities for the exploitation of a variety of finfishes, shellfishes, corals, gorgonians, etc. Since the fish described here as a new species was collected for the first time from the Tuticorin Bay, it is named after this place.

#### DESCRIPTION

*Solenostomus tuticoriensis* sp. nov. (Fig. 1)

**Holotype**: TL 214 (SL 129 mm, male) deposited at Fisheries College Reference Museum (FCRM), Tuticorin, Tamil Nadu, India, 109 mm SL. 12th December 1987, Coll. K. Venkataramanujam.

**Paratypes**: (1) 7 specimens SL-51-109 mm with same details as above (2) 2 specimens SL 97-117 mm deposited in Marine Biological Station Reference Museum at Porto Novo, Annamalai University, India.

18.35-23.53; interorbital length 6.42-8.82; snout to first dorsal fin 54.13-55.15; snout to pectoral fin 55.88-57.73; snout to pelvic fin 54.90-58.25; snout to anal 79.82-81.96; length of caudal peduncle (origin of dorsal fin ray to the beginning of caudal rays) 13.40-15.69; maximum width of caudal peduncle 10.09-10.78; minimum width of caudal peduncle 5.88-8.25; dorsal fin base 9.80-10.55; anal fin base 9.80-10.31; pectoral fin length 11.76-13.40.

D III+11; A 11, p. 10-11; V III; lateral gill rakers of first arch 18-19+7-8 (Table 1). Mouth oval shape and ventrally covered upto 1/3rd of skin fold; snout more tube-like and upturned; transparent jaws with minute villiform teeth more prominent in lower jaw; eye situated on top of head; adipose eyelid cover,

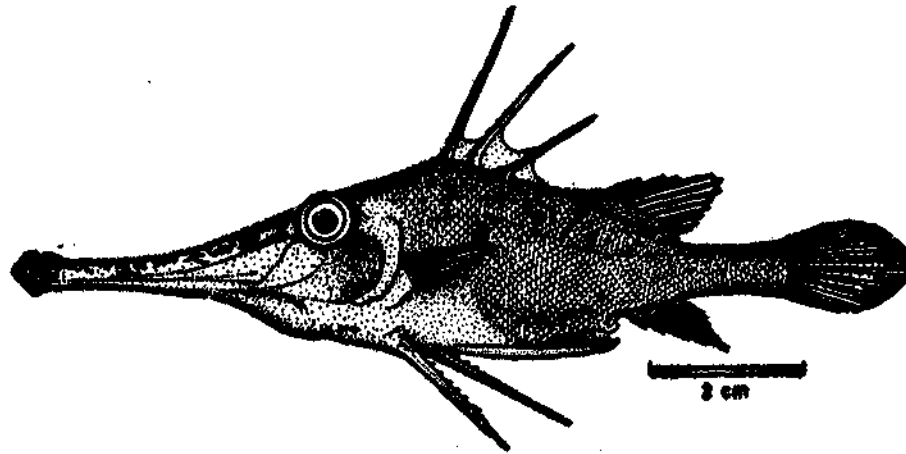


FIG. 1. A new solenostomid fish *Solenostomus tuticoriensis* sp. nov. from Tuticorin Bay.

Descriptions based on 10 specimens.—4 females and 6 males 51-129 mm SL.

Body measurements expressed as percentage of standard length: head length 53.67-54.90; snout length 37.26-44.33; eye diameter 10.31-11.93; length of first spine of dorsal fin 13.76-21.65; length of third spine of dorsal fin 10.78-13.40; pelvic fin length 19.27-29.41; postorbital length 8.26-14.71; body depth

entire eye; scales present on entire head region; operculum partially opened; origin of first dorsal spine almost parallel to origin of pectoral and pelvic; dorsal with three spines, web covering 1/3 of the spine; first dorsal spine serrated upto half of its length; second spine serrated from origin to half its length while third dorsal spine with feeble serrations along its entire length; pelvic with 3 spines, two lateral in position and one in middle,

embedded in ventral side of body with its posterior most tip separated; 7-8 serrations auxiliary scales present connecting spine to body.

TABLE 1. Frequency distribution in *Solenostomus tuticoriensis* sp. nov.

Dorsal fin rays					
No.	10	Mean	Range	S.D.	
10	11	11	11		
Anal fin rays					
No.	11	Mean	Range	S.D.	
10	11	11	11		
Pectoral fin rays					
No.	10	11	mean	Range	S.D.
10	7	3	10.3	10-11	0.483
Gill rakers					
Lower arm					
No.	18	19	Mean	Range	S.D.
10	6	4	18.4	18-19	0.516
Upper arm					
No.	7	8	Mean	Range	S.D.
10	7	3	10.3	7-8	0.483

Second dorsal rays and anal rays connected by web; pectoral falcate; body covered with

ctenoid scales; caudal peduncle twice longer than high; caudal fin rounded; membrane of caudal beginning from second dorsal and anal which equals to base of fins; caudal fin less expanded.

Feebly visible lateral line; skin with large stellate ossifications and large naked interspace, arranged in longitudinal and transverse series.

In fresh condition colour uniformly brownish, dotted with small black and white spots; eyes red; skin with stellate ossifications; stellate chromatophores present before pelvic and a small blotch at origin of pelvic; minute blotches arranged in transverse rows more prominent at its posterior; minute pigments concentrated at tip of mouth; anterior half of body more transparent than posterior.

*Distribution:* Tuticorin waters.

*Position of collection:* 78°10' E - 08°50' N; depth 20-30 m.

*Relationship with other species:* *S. tuticoriensis* sp. nov. differs from the other three species of *Solenostomus* in the following respects.

TABLE 2. Comparative features of *Solenostomus tuticoriensis* and that of other species

	<i>S. cyanopterus</i>	<i>S. paradoxus</i>	<i>S. armatus</i>	<i>S. tuticoriensis</i> sp. nov.
Caudal Peduncle	Stout, somewhat deeper than long	Slender, equal to length	Slender, very short. depth about thrice the length	Length thrice the depth.
Membrane of caudal	Begins very near or almost close to second dorsal and anal, closest in male	Begins at a distance of more than half length of base of second dorsal and anal	Begins at a distance longer than base of second dorsal and anal	Begins at a distance equal to base of dorsal and anal
Caudal	Fully expanded	Fully expanded	Fully expanded and as long as head	Less expanded
Dorsal	V + 18 to 20	V + 18 to 22	V + 23	III + 11
Anal	16 to 20	18 to 23	22	11
Pectoral	24 to 27	26	24	10 to 11
Pelvic	7	7	7	III

Caudal peduncle twice longer than high ; in middle embedded along ventral side of membrane of caudal beginning at a distance from second dorsal and anal which equals the base of fins ; caudal fin less expanded ; dorsal with 3 spines and 11 rays ; anal with 11 rays ; pectoral with 10-11 rays and pelvic with 3 spines, of which two lateral in position and one

body ; gill rakers 18-19+7-8.  
The distinguishing features of this species are compared with those of the three known species in Table 2.

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