



Short Communication

First record of Bengal Sand diver, *Trichonotus cyclograptus* (Alcock, 1890) (Family: Trichonotidae) from southern part of East Coast, India

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Abstract

This paper brings the first distributional record of a sand diver fish of the family Trichonotidae: *Trichonotus cyclograptus* (Alcock, 1890) from the southern part of East Coast, India. The specimen reported was collected from the fish landing site at Kasimedu, Chennai, Tamil Nadu. Until now, only one species of the family Trichonotidae i.e., *Trichonotus setiger* Bloch & Schneider, 1801 has been reported from southern part of east coast, and the present report adds the tally to two species under this family for this region. Though *Trichonotus cyclograptus* (Alcock, 1890) was originally described from Odisha coast, only recently this species has been reported from the coast of West Bengal. The present report confirms the distribution of this species along the Indian coast of Bay of Bengal, and the probable case of endemism to this region due to the absence of reports from elsewhere since its original description.

Keywords: New Record, Tamil Nadu, Trichonotidae

Introduction

Sand divers of the Indo-Pacific of region are characterized by the elongated cylindrical body with long-based dorsal and anal fins, pointed snout, eyes with a dorsal iris flap, and exhibit sexual dimorphism (Randall and Tarr, 1994; Nelson, 2001). Ten out of the twelve nominal species are considered to be valid (Eschmeyer & Fong, 2018): *T. setiger* Bloch and Schneider, 1801, *T. blochii* Castelnau, 1875, *T. filamentosus* (Steindachner, 1867), *T. cyclograptus* (Alcock, 1890), *T. nikii* Clark and von Schmidt, 1966, *T. marleyi* (Smith, 1936), *T. elegans* Shimada and Yoshino, 1984, *T. arabicus* Randall and Tarr (1994), *T. halstead* Clark and Pohle, 1996 and *T. somaliensis* Katayama *et al.*, (2012). *Trichonotus polyophthalmus* Bleeker (1854) and *T. multistriatus* (Kotthaus, 1977) have been regarded as junior synonyms of *T. setiger* and *T. nikii*, respectively (Bleeker, 1854; Randall and Tarr, 1994). Of these species only *T. cyclograptus* (Alcock, 1890) and *T. setiger* Bloch and Schneider, 1801 were reported from Indian waters.

Trichonotus cyclograptus (Alcock, 1890) was originally described from Bay of Bengal, Ganjam District, Odisha. Ray *et al.* (2018) recently reported this species from the West Bengal coast. The present specimen was identified from the unidentified collections of the Marine Biology Regional Centre, Chennai – collected from the Kashimedu fish landing centre along the Chennai coast- which brings the report of this species for the first time from Southern part of the East coast.

Material and Methods

The material studied was obtained from the unidentified collections at the Marine Biology Regional Centre, Zoological Survey of India, Chennai. The specimen (133.5 mm standard length) was collected from Kashimedu fish landing centre, Chennai on 11 June 2016 and was preserved in 10% formaldehyde. Meristic counts and morphometric measurements of the *Trichonotus* species were taken following Alcock (1890) and Ray *et al.*,

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(2018) and were presented in Table 1. The identification of the species was done following Ray *et al.*, (2018) and Katayama *et al.*, (2012). The identified specimen was deposited and registered in the National Zoological Collections of Estuarine Biological Station, Zoological Survey of India, Gopalpur-on-Sea, Odisha with the Reg. No. EBRC/ZSI/F10090.

Table 1. Morphometric measurements of the specimen studied

Characters	Measurements in mm	% SL	% HL
Total Length	169		
Standard Length	133.5		
Body depth at dorsal fin origin	10	7.49	
Body depth at anus	12	8.98	
Height of Dorsal fin	19	14.23	
Length of soft Dorsal fin base	97	72.65	
Length of Anal fin base	86	64.41	
Predorsal Length	29	21.72	
Preanal Length	45	33.70	
Head Length (HL)	26	19.47	
Pectoral fin Length	17	12.73	65.38
Pelvic fin Length	17	12.73	65.38
Snout Length	08	5.99	30.76
Inter-orbital Length	02	1.49	7.69
Eye Diameter	5.5	4.11	21.15
Maxilla (upper jaw) Length	10	7.49	38.46
Mandible (lower jaw) Length	09	6.74	34.61

Results and Discussion

The material studied was identified as *Trichonotus cyclograptus* (Alcock, 1890), and the diagnostic characters are as follows: Body - cylindrical and elongated, with a laterally compressed posterior portion; snout is long and pointed. Mouth is large with the lower jaw somewhat longer than upper jaw; fleshy extension is present in lower jaw with a bony part extending forward, past the upper jaw; small cirri are present at the apical region of the lower

jaw. Eyes are with a dorsal iris flap, consisting of numerous elongate strands extending over lens, and the interorbital space is very narrow. The upper jaw has four rows of irregular large teeth anteriorly and three irregular rows of small teeth posteriorly; lower jaw has a single regular row of teeth anteriorly, followed by two irregular rows of teeth posteriorly; palatine teeth are present. The anterior nostril is tubular while the posterior nostril is a small pore. Dorsal fin consists of four spines with 46 soft rays and the anal fin with 39 soft rays; the spines on the dorsal fin are non-filamentous and all the soft rays are branched; pectoral and pelvic fins possess 14 and 6 rays respectively. The lateral line which runs along mid-body contains 58 scales, where 28 rows of scales are present before anus. Head and body are yellowish-brown in colour with 12 dark bands. The fins and body are seen with small circular spots (Figure1). Total numbers of vertebrae present is 53.



Figure 1. *Trichonotus cyclograptus* (Alcock, 1890), EBRC/ZSI/F10090 (SL: 133.5mm).

Trichonotus cyclograptus is like *T. arabicus*, however differs from *T. arabicus* by having 12 body bands (14 bands in *T. arabicus*) and 28 rows of pre-anal scales (In *T. arabicus* there are only 20-22 rows of pre-anal scales). The type specimens were reported only from the sandy bottom of Ganjam district of Odisha at a depth of 18-23 m. Ray *et al.* (2018) also reported this species from the sandy bottom of Bay of Bengal of East Medinipur district, West Bengal. The report of this species from Tamil Nadu coast suggests the availability of this rare species along the coast of Bay of Bengal, India.

Acknowledgements

Authors are thankful to Dr. Kailash Chandra, Director, Zoological Survey of India, Officer-in-charge, MBRC,

ZSI, Chennai for providing necessary facilities for the work and Sri Anand Kumar A. MBRC, ZSI, Chennai for his help in accessing the specimen of MBRC, Chennai.

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