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Short Communication

First report of stargazer *Uranoscopus crassiceps* (Alcock, 1890) (Perciformes: Uranoscopidae) from Digha coast, India

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Abstract

The stargazer, *Uranoscopus crassiceps* (Alcock, 1890) is recorded for the first time from the coastal waters of Digha, India, Bay of Bengal and providing the first report of the species from West Bengal based on a single specimen 147.31 mm standard length collected off Digha coast, at a depth of 90 m.

Keywords: New Record, Stargazer, *Uranoscopus crassiceps*, West Bengal

Introduction

The members of the family Uranoscopidae, commonly known as stargazers are benthic and nocturnal fishes, known to have distributed worldwide in tropical and temperate oceans, with a few species occasionally entering the brackish water or even fresh water zones (Fricke *et al.*, 2013). The family comprises 8 genera and 53 valid species world over (Froese and Pauly, 2017). Two genera and 4 species are definitely known from Indian waters, viz., *Ichthyscopus lebeck* (Bloch and Schneider, 1801), *Uranoscopus cognatus* Cantor, 1849, *U. crassiceps* (Alcock, 1890) and *U. guttatus* Cuvier, 1829. However, four other species are listed (name only) as trawl bycatch component without any taxonomic details, i.e., *Uranoscopus archionema* Regan, 1921, *U. bicinctus* Temminck and Schlegel, 1843, *U. oligolepis* Bleeker, 1878 and *Xenocephalus australiensis* (Kishimoto, 1989). Apart from that, *Uranoscopus marmoratus* Cuvier 1829, if valid, was described from 'Indian Seas', but confused with *U. guttatus* and at present no taxonomic distinction is possible between these two species. Members of this family are usually bury themselves in variety of marine habitats such as sandy and muddy at depths ranging usually from 5 to 400 m. The genus *Uranoscopus* Linnaeus, 1758 is distributed in the Indo-West Pacific, eastern Atlantic, Mediterranean and Black Sea. About 68% of the valid species of the genus (15 species of *Uranoscopus*) inhabit in the Indian Ocean with the adjacent Red Sea with the highest diversity (Fricke *et al., 2013*). Several studies have been carried out to study the fish faunal diversity of West Bengal coast (Manna and Goswami, 1985; Goswami, 1992; Talwar *et al.*, 1992; Chatterjee *et al.*, 2000; Yennawar *et al.*, 2017), and resulted in documentation of only two species of the family Uranoscopidae, viz., *Ichthyscopus lebeck* and *Uranoscopus cognatus,* so far from the area. During institutional survey single specimen of stargazer has been collected from Digha Mohona fish landing centre, West Bengal and after close observation it was identified as *Uranoscopus crassiceps* Alcock, 1890 (Fig. 1 & 2).

Systematic Position

Order PERCIFORMES Bleeker, 1859
Family URANOSCOPIDAE Richardson, 1816
Genus *Uranoscopus* Linnaeus, 1758

Uranoscopus crassiceps Alcock, 1890

1890. *Uranoscopus crassiceps* Alcock, *Ann. Mag. Nat. Hist.* (Ser. 6) 6 (33): 205 (Type locality: Off Madras coast, India, 18°30'N, 84°46'E).

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Material and Methods

Fishes are collected mainly from commercial trawlers. After collection of specimens, photograph was taken and then preserved in 5% formaldehyde. Taxonomic identification of the specimen was based on the original description (Alcock 1890), and the redescription of the species from Oman (Fricke *et al.*, 2013) and other standard literatures. Measurements and counts of the examined specimens follow Fricke *et al.* (2013). All the measurements were done by Mitutoyo digital calliper to the nearest 0.01 mm (Table 1) and photographs taken by Sony DSC-W800 camera. Fishes are deposited in the Zoological Survey of India, Kolkata. In this paper, specimens collected from off the northeast coast of India are presented as a new record from Dighacostal waters.

Table 1. Comparison of present specimen measurement with Holotype of Alcock, (1890)

Characters	Holotype	Present study
Standerd length SL (mm)	133.75	147.31
% of standard length		
Head length (HL)	42.63	40.83
Head width(HW)	30.12	32.78
Body depth (BD)	23.26	21.95
Eye length (EL)	5.84	6.06
Snout length (SnL)	11.33	10.59
Distance between occipital lobes (DOCL)	5.49	5.13
Distance between upper gill opening (DUG)	17.61	17.70
Length of interorbital fossa (IORF)	7.13	6.82
Interorbital width (IORB)	7.63	7.53
Preorbital depth (PRD)	6.26	5.79
Humeral spine (HS)	7.75	9.40
Distance b/w basipterygial process	6.98	7.30
Pectoral Fin Length (PFL)	27.27	26.55
Pelvic Fin Length (VL)	21.71	21.25
Caudal Fin Length (CFL)	23.54	25.16
Caudal Peduncle Length (CPL)	8.81	9.88

Material: ZSI/F11925/2, 1 ex., 147.31 mm SL, Locality: Mohona, Digha (21° 37′ 48″N and 87° 32′ 45″E), 12-09-2016, Dr.B. K. Mahapatra.

Comparative material: ZSI F 12788, 1 ex. (Holotype), 133.75 mm SL, off Chennai coast, India, 04-03-1890, F.W. Alcock.

Diagnostic Characters: D V + iii, 11; A i,13; P i,17; V I,5. Head large and flattened; dorsal and lateral surfaces almost entirely encased in minutely sculptured bones; anterior part of body broad, depressed, but tapering and compressed posteriorly. Head length 2.44 times in SL; body depth 4.56 times in SL. Eyes large, directed dorsally; its diameter 7.62 times in HL. Interorbital fossa semicircular, longer than broad, including posterior half of interorbital space and its length 14.66 in SL. Mouth large, protactile, strongly oblique, with fringed lips; teeth in jaws small, conical, in two series; one series of widely separated caniniform teeth on premaxillary and dentary; nostrils with short tubiform valve. Humeral spine obliquely directed upwards; lower edge of operculum with 5 spines; 2 pairs of short, forwardly directed spines under head. Scales arranged in 52 oblique rows, breast and belly naked. Tubiform scales embedded along lateral line. Lateral line positioned dorsally, bending down on caudal peduncle to continue in an extension of the central two caudal-fin rays, extending along the basal one-third of those rays. First dorsal fin with 5 spines, 1-4th is well developed, connected by membranes and 5th one is rudimentary, covered by skin; second dorsal fin segmented and unbranched; anal fins fleshy and thickened. Pectoral fin broad, dorsoposterior margin truncate with 1 unbranched and 17 soft rays, anal fin with 13 soft rays and caudal fin distally convex. Pelvic fins situated on isthmus with 1 feeble spine and 5 soft rays. Single pair of basipterygial processes widely separated. Joints of head bone elements marked by deep channels. Post-interorbital knobs absent. Two occipital lobes developed.

Dorsal parts of head and body brown, belly, thorax and pectoral-fin base white, eyes dorsally blackish brown, laterally yellowish green. Two pale brownish bands are at the first dorsal fin base and other one is at the second dorsal fin ray base near to caudal peduncle. First dorsal fin black, base of first and second spines reddish brown, fourth membrane white. Rays of second dorsal and anal fins yellowish brown, membranes translucent. Caudal fin rays dark brown, membranes in dorsal half dusky. Upper half

of pectoral fin slightly transparent, lower half greyish brown. Pelvic fin whitish brown. In preserve condition head and body dorsally dark brown, laterally brown, ventrally white with light brown shades. Yellowish-brown, and greyish-brown shades band on dorsal half no longer visible.

Distribution: Indian Ocean: off northern Somalia, and southern Yemen (Gulf of Aden) (Norman, 1939); Oman (Arabian Sea) (Fricke *et al.,* 2013); India: east coast and southwest coast. In India, it has been reported from Tamil Nadu (Alcock, 1890; Barman *et al.,* 2011), Odisha (Barman *et al.,* 2007) and off Southwest coast of India in the Indian EEZ (Sidharthan *et al.,* 2017).

Remarks

The counts and measurements agree with the Holotype, range of larger adult specimens described by Fricke *et al.* (2013) and that of Sidharthan *et al.* (2017). The head is slightly bigger (2.44 in SL) compared to the proportion observed by Fricke (2.7-2.9 in SL) and slightly smaller than that of Alcock (2.34 in SL). According to Fricke *et al.* (2013), *U. crassiceps* and *U. guttatus* from the southern Red Sea and eastern India have a similar body colouration, but *U. crassiceps* is distinguished from *U. guttatus* by narrower head width (1.07-1.10 vs. 1.4 % head length), absence of post-interorbital knobs (present in *U. guttatus*), and 41-54 lateral scale rows (55 in *U. guttatus*). The only other

Figure 1. Dorsal and Lateral view of *Uranoscopuscrassiceps* from Digha, India.

Figure 2. Dorsal and Ventral view of head of *U.crassiceps*from Digha, India.

species of this genus occur along the coastal region of West Bengal and Odisha is *Uranoscopus cognatus* Cantor which can be distinguished from *U. crassiceps* in having three pair of short forwardly directed spine under head (vs two pairs) and yellow coloured caudal fin (pale in preservation) against dark brown caudal fin in *U. crassiceps.*

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