

Short Communication

First report of a rare snake eel, *Allips concolor* McCosker, 1972 (Anguilliformes: Ophichthidae) from Indian waters

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Abstract: The monospecific genus *Allips* is reported here for the first time from Indian waters, from a specimen collected from the sea grass bed outside the Nalban Bird Sanctuary, Chilika lagoon, India, with its morphometric characters, vertebrae and teeth pattern. The rare small eye snake eel, *A. concolor* was earlier described by McCosker (1972) on the basis of a single specimen. After that, there are very rare reports on this particular species especially on its morphometry after McCosker (1972). This paper extends the distributional range of *A. concolor* McCosker, 1972 from eastern Andaman Sea and Northern Territory, Australia to Indian waters. A detailed discussion on the distribution and habitat is also provided in this paper.

Keywords: Ophichthidae, *Allips*, New record, Chilika lagoon.

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Introduction

The family Ophichthidae is represented by a total of 337 valid species worldwide containing 2 subfamilies Myrophinae (69 species) and Ophichthinae (268 species) (Eschmeyer & Fong 2018). The subfamily Ophichthinae represents 47 genera (Froese & Pauly 2018). The genus *Allips* is a monospecific genus described by McCosker (1972) containing only one species, *A. concolor* McCosker, 1972, based on a single specimen collected from shallow water at the mouth of Parknam Ranong, Thailand. The genus is characterized in having tail shorter than head and trunk together; dorsal and anal fins low and lying within a shallow groove; dorsal fin origin well behind gill opening; pectoral fin minute, a tiny flap behind upper corner of gill opening, much smaller than gill opening; gill openings lateral and low on sides; underside of snout grooved; minute eyes; uniform brown in colour. To date, this species is only known from Andaman Sea, southwestern

Thailand (McCosker 1972) and Northern Territory, Australia (Larson et al. 2013). Recently during the Chilika expedition, we collected a specimen from the sea grass bed outside the Nalban Bird Sanctuary, which was identified later as *A. concolor*. This paper reports occurrence of *A. concolor* from Chilika lagoon, Odisha (India) along the western bank of the Bay of Bengal and extends its distributional range westward to the east coast of India.

Materials and Methods

A single specimen was collected using box trap net (locally known as Khanda) operated by the local fishermen in Chilika lagoon at the eastern outer side of the Nalaban Bird Sanctuary (19.69°N 85.29°E). The specimen was collected from the scattered sea grasses in the box trap net. The specimen was subsequently preserved in 10% formaldehyde and deposited in the museum of the Estuarine Biology Regional Centre (EBRC) of Zoological Survey of



Fig.1. *Allips concolor* from Chilika lagoon.

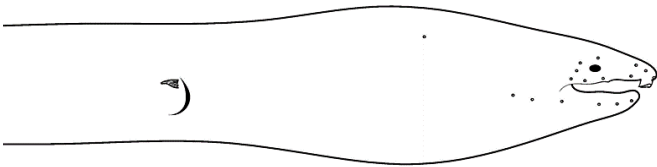


Fig.2. Head pores of *Allips concolor*.

India, Gopalpur-on-Sea with Reg No. EBRC/ZSIF/9881. The specimen was identified as per the description by McCosker (1972) and generic allocation follows Smith & McCosker (1999). Vertebrae were counted from radiographs following Böhlke (1982).

Results

Systematics:

Order Anguilliformes

Family Ophichthidae

Genus *Allips* McCosker, 1972

Species *Allips concolor* McCosker, 1972

Description: Body elongated and cylindrical almost throughout the length (Fig. 1), except tail tip, where it is laterally compressed. Pre-anal 1.8 in total length (TL), distinctly shorter than tail; dorsal fin origin about more than one head length behind gill opening and the pre-dorsal length 7.7 in TL; head length (HL) 16.9 in TL. Pectoral fin rudimentary, a small flap behind upper margin of gill opening. Both dorsal and anal fins low ending before bluntly pointed tail tip, lying within a shallow groove. Body depth behind gill opening about 67 times and depth at anus 75 times in TL. Gill openings laterally placed and low on sides. Upper jaw distinctly longer than lower jaw, 5.0 times in HL. Lower jaw very short, its tip behind anterior nostril, 4.4 times in HL. Snout short, 6.6

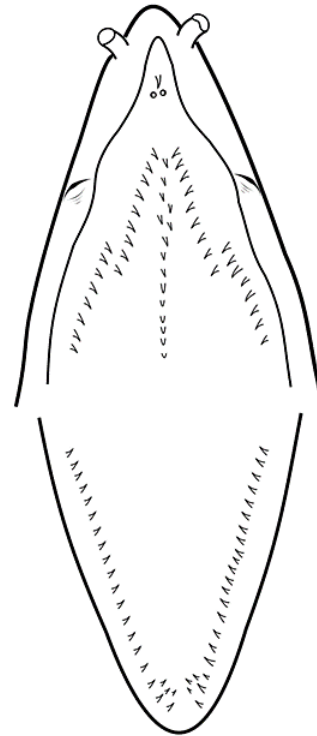


Fig.3. Teeth pattern of *Allips concolor*.

times in HL. Eyes minute, closer to rictus than snout tip; its diameter 10 times in upper jaw length. Inter-orbital width 10 times in HL. Anterior nostril a small tubular structure. Posterior nostril opens into mouth in a flap beneath eye. Head pores reduced and as shown in Figure 2. Teeth small and pointed. Jaw teeth uniserial posteriorly. Maxillary teeth uniserial anteriorly and posteriorly, but in between there is small overlapping biserial teeth (Fig. 3). Vomerine teeth almost uniserial except a small biserial portion in the middle as shown in Figure 3. Pre-vomerine teeth one and probably two more broken teeth with sockets (Fig. 3). Pre-dorsal vertebrae 22, preanal vertebrae 97 and total vertebrae 178.

Color: In fresh condition the specimen was typically rosy brownish although we were not able to take a picture in fresh condition. Upon preservation in formalin the specimen looks almost uniform light brown comparatively darker in the upper half.

Discussion

Allips is a monospecific genus of the family Ophichthidae with *Allips concolor* McCosker, 1972, the only species belonging to this genus. The species has been rarely reported after its description. Although the type locality was mentioned as Goh Phi, Ranong Province, Thailand (10°57'42"N, 98°35'18"E), north of Ban Parknam Ranong at the mouth of Pakenam river (McCosker 1972), Kottelat (2013) has the opinion that this 1960 collection during Naga expedition was probably erroneous and it should probably be Ko Phi Island (9°57'42"N 98°35'18"E), north of Ban Pak Nam Ranong, at mouth of Pakchan River. However, Satapoomin (2011) listed this species as from southwestern Thailand, Andaman Sea. Smith & McCosker (1999) also listed this species from western Pacific but without mention of any specific locality. Later, Larson et al. (2013) reported *Allips concolor* from Northern Territory, Australia. So, the known range of distribution of the species is limited between eastern Andaman Sea and Northern Territory, Australia.

The present report is based on the collection of a single specimen from the seagrass bed (dominated by *Halophila* sp.) outside of Nalban Bird Sanctuary at a depth less than one meter. The specimen was collected from the scattered sea grasses in the box trap net operated in Chilika lagoon at the eastern outer region of the Nalban Bird Sanctuary located in the central sector along with some collections of around 10 specimens of *Bascanichthys deraniyagalai* Menon, 1961. Chilika lagoon is connected to the sea by the outer channel at the new mouth area which is farther from the area of the collection site. The salinity in the area was around 15 ppt and the collection of the species from the central sector of the lagoon suggests that this species might be residential

in the lagoon rather than migratory. Probably the luxurious sea grass in the central sector provides a suitable habitat for the species. The report of this species from Chilika lagoon forms the first record of the species from Chilika lagoon and India as well, resulting in extension of its distributional range westward to the east coast of India.

Conflict of Interest Statement

The authors have no conflict of interest.

Acknowledgments

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یافته علمی کوتاه

اولین گزارش یک مارماهی کمیاب *Allips concolor* McCosker, 1972 (مارماهی شکلان): مارماهیان اوفیکتیده) از آب‌های هند

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چکیده: در این مقاله برای اولین بار حضور جنس تک گونه‌ای *Allips* از آب‌های هند بر اساس یک نمونه جمع‌آوری شده از بستر علف‌های دریایی در خارج از پناهگاه پرند نالپانا در تالاب چلیکا گزارش شده و ویژگی‌های ریخت‌سنجی، مهره و الگوی رنگی آن ارائه می‌گردد. گونه کمیاب مارماهی چشم کوچک *Allips concolor* قبلاً بوسیله McCosker در سال ۱۹۷۲ و بر اساس یک نمونه توصیف شده بود. پس از آن گزارش‌های معدودی در باره این گونه به‌ویژه ریخت‌سنجی آن ارائه شده است. این مقاله دامنه پراکنش مارماهی چشم کوچک را از دریای آندامان و قلمرو شمالی استرالیا به آب‌های هند گسترش داده و همچنین پراکنش و زیستگاه آن را نیز مورد بحث قرار می‌گیرد.

کلمات کلیدی: مارماهیان اوفیکتیده، *Allips*، رکورد جدید، تالاب چلیکا.