



Short Communication

FIRST RECORD OF PIPEFISH *MICROPHIS DEOCATA* (HAMILTON, 1822) FROM MEGHALAYA, INDIA

INTRODUCTION

Microphis is a genus of pipefish within the family Syngnathidae and usually found in estuarine or freshwater habitats. The genus is characterized by having the lateral trunk ridge confluence with the inferior tail ridge, 9 caudal fin rays and presence of brood pouch located under the trunk. Dawson, 1984 reviewed the genus *Microphis* and recognized 5 sub-genera, 18 species and 4 subspecies of the species *brachyurus*. As per the Catalog of Fishes (Eschmeyer *et al.*, 2016) 11 species of the genus *Microphis* are currently valid. Two species, *Microphis deocata* (Hamilton, 1822) and *Microphis cuncalus* (Hamilton, 1822) were recorded from the Indian region (Talwar and Jhingran, 1991).

Microphis deocata was originally described by Hamilton (1822) from the rivers of northern Bengal and Bihar. Subsequently, the species has been reported from the foothills of eastern Himalaya, below Darjeeling (Hora, 1921; Menon, 1974), Brahmaputra drainage in Assam (Sehgal, 1956; Sen and Choudhury, 1977; Sen, 1980) and Arunachal Pradesh (Sen, 2000).

Material examined: Three preserved specimens collected by Mr. A. Rana and Party on 07.09.2011 from Boirang River (also known as Tyllap or Mobang), Dharam Basti area (N: 25°09'42.2"; E: 91°42'30.2"; Altitude: 14 m), East Khasi Hills district, Meghalaya were examined following Sen (1980) and Dawson (1984). Measurements were made using digital calipers.

The specimens were identified as belonging to a single species *Microphis deocata* (Hamilton, 1822) and given ZSI Registration No. V/F/

ERS/3225. This is a first record of the species from Meghalaya.

Diagnostic character: Body elongate and sub-cylindrical with small and terminal mouth. Head 6.4-7.0 times in standard length and snout relatively slender. Longitudinal opercular ridge complete without supplemental opercular ridges. Superior trunk and tail ridges discontinuous near vertical through rear of dorsal fin base. Inferior trunk and tail ridges discontinuous at anal ring. Lateral trunk ridge confluent with the inferior tail ridge. Lateral tail ridge ends on trunk near vertical through dorsal fin origin. Trunk rings 17 and tail rings 29-30. Dorsal fin rays 35, pectoral fin rays 19-21 and caudal fin rays 9. Anal fin located in a distinct depression and separated from anus by a transverse fleshy septum. Males brownish in colour with indication of a dark lateral stripe on snout and above opercle. The male carries the eggs in a brood pouch which is found under the tail. Females are generally orange with distinctive Y-shaped markings on lower half of side.

The morphometrics of the newly recorded specimens of *Microphis deocata* from the state of Meghalaya are shown in Table-1. All the three specimens collected are males, two are matured with brood pouch containing eggs (Fig. 1) and



Fig. 1. Lateral view of *Microphis deocata* (Hamilton, 1822).
B. Ventral view showing egg pouch of brooding male

Table 1. Morphometrics of *Microphis deocata* newly recorded from Meghalaya.

Measurements (mm)	Range (n = 3 ♂ ♂)
Total length (TL)	81.8 - 90.2
Standard length (SL)	78.2 - 87.2
Head length (HL)	11.2 - 13.7
Snout length (SnL)	5.6 - 7.2
Snout depth (SnD)	0.88 - 0.99
Length of Dorsal fin base	7.8 - 9.3
Length of Pectoral fin	1.4 - 1.7
Anal ring depth	2.0 - 2.6
Counts	
Trunk rings	17
Tail rings	29-30
Dorsal fin rays	35
Pectoral fin rays	19 - 21
Caudal fin rays	9

another one is immature. The proportional data of these specimens shows close similarity with *Microphis dunckeri* (Prashad and Mukherji, 1929) but differ in having more dorsal fin rays (35 versus 29-32) and tail rings (29-30 versus 25-27).

Distribution: India: North Bengal, Bihar, Assam and Arunachal Pradesh. *Elsewhere:* Bangladesh.

Current status: The IUCN status of *Microphis deocata* is Near threatened (NT).

Remarks: Meghalaya is in the north-eastern part of the country and situated between the lower Assam plain in the north and Surma valley in the south. It is bounded on the north by Goalpara and Kamrup districts and on the east by North Cachar and Karbi Anglong districts, all of Assam. Along the west and south is the International Border between India and Bangladesh. Boirang River, also known as Tyllap or Mobang (Fig. 2) lies



Fig. 2. River Boirang (also known as Tyllap or Mobang), near the International border with Bangladesh, Dharam basti area, East Khasi Hills District, Meghalaya, India

in the southern foothills of Meghalaya near the international border and drains directly into the plains of Bangladesh. *Microphis deocata* have been reported to inhabit the hilly rivers in the north and north east region of Bangladesh including Rangapani Khal of Sylhet (Rahman, 2005). Its conservation status as per IUCN Bangladesh, 2000 is Endangered (EN) due to habitat loss as a result of continuous lifting of sand, stones and boulders. In India, *Microphis deocata* is known from the Ganges and Brahmaputra river drainages. Its population in the Brahmaputra is declining due to siltation and habitat degradation. Its conservation status is Near Threatened (NT) as per IUCN Red List of Threatened Species (Version 2016-2). The species is not commonly occurring in the streams

and rivers of Meghalaya, its record is an addition to the Ichthyofauna of the state and an extension of its known geographic range.

ACKNOWLEDGEMENTS

The author is grateful to the Director, Zoological Survey of India and Ms. Jennifer Lyngdoh, Scientist-D & Officer-in-Charge, North Eastern Regional Centre, Zoological Survey of India, Shillong for facilities and to the survey team of NERC/ZSI, Shillong, Mr. A. Rana, Mr. S. Swell, Mr. K.K. Deb and Mr. K.M. Surendran for collecting the specimens. The assistant rendered by Dr. U. Saikia and Mr. G. Japang in the field and Mr. J.R. Lyngdoh in photographic work are thankfully acknowledged.

REFERENCES

- Dawson, C.E. 1984. Revision of the genus *Microphis* Kaup (Pisces: Syngnathidae). *Bull. Mar. Sci.*, **35**(2): 117-181.
- Eschmeyer, W.N., Fricke, R. and van der Laan, R. (eds). 2016. Catalog of Fishes. (<http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>). Electronic version accessed 05 September, 2016.
- Hamilton, F. 1822. *An account of the fishes found in the River Ganges and its branches*. Edinburgh and London. 405 pp.
- Hora, S.L. 1921. On some new or rare species of fish from the eastern Himalayas. *Rec. Indian Mus.*, **22**(5): 731-744.
- IUCN Bangladesh, 2000. Red book of threatened fishes of Bangladesh, IUCN-The world conservation union. Xii + 116 pp.
- IUCN Red List of Threatened Species. Ver. 2016-2. Available at: <http://www.IUCNredlist.org>. (Accessed: 21 September, 2016).
- Menon, A.G.K. 1974. A check-list of fishes of the Himalayan and Indo-Gangetic plains. *Spec. Pub. Indian Fish Soc.*, **1**: 1-136.
- Rahman, A.K.A. 2005. *Freshwater fishes of Bangladesh*, 2nd edition, Zoological Society of Bangladesh, Department of Zoology, University of Dhaka, Dhaka-1000, pp. 51-52.
- Sehgal, K.L. 1956. On a collection of fish from Assam. *J. Bombay Nat. Hist. Soc.*, **53**(4): 717-724.
- Sen, N. and Choudhury, S. 1977. On a collection of fish from Manas wild life sanctuary (Kamrup-Assam) and adjacent area. *Newsl. Zool. Surv. India*, **3**(4): 199-204.
- Sen, N. 1980. A redescription of *Doryichthys deocata* (Ham. Buch.) (Pisces: Syngnathidae). *Rec. zool. Surv. India.*, **76**: 79-82.

Sen, N. 2000. Occurrence, distribution and status of diversified fish fauna of North East India; Pp. 31-48
In A.G. Ponniah and U.K. Sarkar (Ed.), *Fish Biodiversity of North East India*. NBFGR. NATP
Publication 2.

Talwar, P.K. and Jhingran, A.G. 1991. *Inland fishes of India and adjacent Countries*, Vol. 2. Oxford and
IBH Publishing Co., Pvt. Ltd. New Dehli, pp. 762-773.

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