



First record of sisorid catfish *Glyptothorax indicus* Talwar, 1991 (Teleostei: Sisoridae) from Mizoram, India

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ABSTRACT

Glyptothorax indicus, a sisorid catfish, is reported from Mizoram, India, giving a brief description and morphometric characters. Additional characters other than reported in the original description, such as irregular black spot on the posterior region particularly on the caudal peduncle region, and also on the caudal fin are reported. This study provides additional information on the distribution of this species in India, and is first report from Mizoram.

Key words: Catfish; caudal fin; caudal peduncle; *Glyptothorax indicus*; Mizoram

INTRODUCTION

Glyptothorax Blyth, 1860, is a sisorid catfish which typically inhabits fast flowing hill streams or faster-flowing stretches of larger rivers. The genus is the most diverse (about 71 valid species) and widely distributed (from the Tigris and Euphrates River drainages eastwards to the Yangtze River drainage and southwards to Southeast Asia).¹ Members of the genus are diagnosed in having a distinctive thoracic adhesive apparatus comprising an elliptical field of folded longitudinal pleats of skin, a detached distal portion of the premaxilla, and long and thin lateral arms of the vomer that extend under the entire length of the articular process of the lateral ethmoid.²

The genus is very diverse in the Indian sub-continent (29 of the 84 nominal species are known from there), although the taxonomy of Indian *Glyptothorax* is poorly understood.³

Mizoram is known for its rich biodiversity, a large part of the state still remains unexplored and the diversity of both floral and faunal elements remains largely undocumented. Even where report exists, many groups remain unstudied. The state is drained by three river drainage system, namely Barak, Koladyne and Karnaphuli drainages. A series of collections made from the headwaters of Barak in Mizoram included *Glyptothorax indicus* Talwar (Teleostei: Sisoridae). This study records the species from Mizoram and gives a brief description of the species.

MATERIAL AND METHODS

Measurements were made point to point

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with digital calipers and data recorded to tenths of a millimeter. Counts and measurements were made on the left side of specimens whenever possible, following Ng and Dodson.⁴ Subunits of the head were presented as proportions of head length (HL). Head length and measurements of body parts were given as proportions of standard length (SL). Fin-rays were counted using binocular stereo microscope. The specimens were deposited and catalogued at the Pachhunga University College Museum of Fishes (PUCMF), Aizawl, Mizoram, India.

Specimen examined

PUCMF 1040, 57.02 mm SL; India: Mizoram, Tlawng River, in the vicinity of Buichali, Sairang, 23°51'08.44"N 92°39'01.44"E; coll. Lalramliana, 24 January 2010. PUCMF 1041, 88.82 mm SL; India:

Mizoram, Tuirial River, in the vicinity of Air-field, Tuirial, 23°45'44.89"N 92°48'30.78"E; coll. K. Vanlalthanzauva and Sawmtea, 6 November 2010.

Distribution and habitat

Collected from the Barak River drainage (Tlawng and Tuirial river) of Mizoram, India (Fig. 1). The Barak River forms the headwaters of the Surma-Meghna River system (one of the three river systems that combine to form the Ganges Delta). *G. indicus* has been collected from clear, shallow, fast-flowing streams with a predominantly rocky bottom.

DIAGNOSIS

The species described here (Figures 2 & 3) differs from its congeners by its smooth skin, peculiar adhesive apparatus which extends

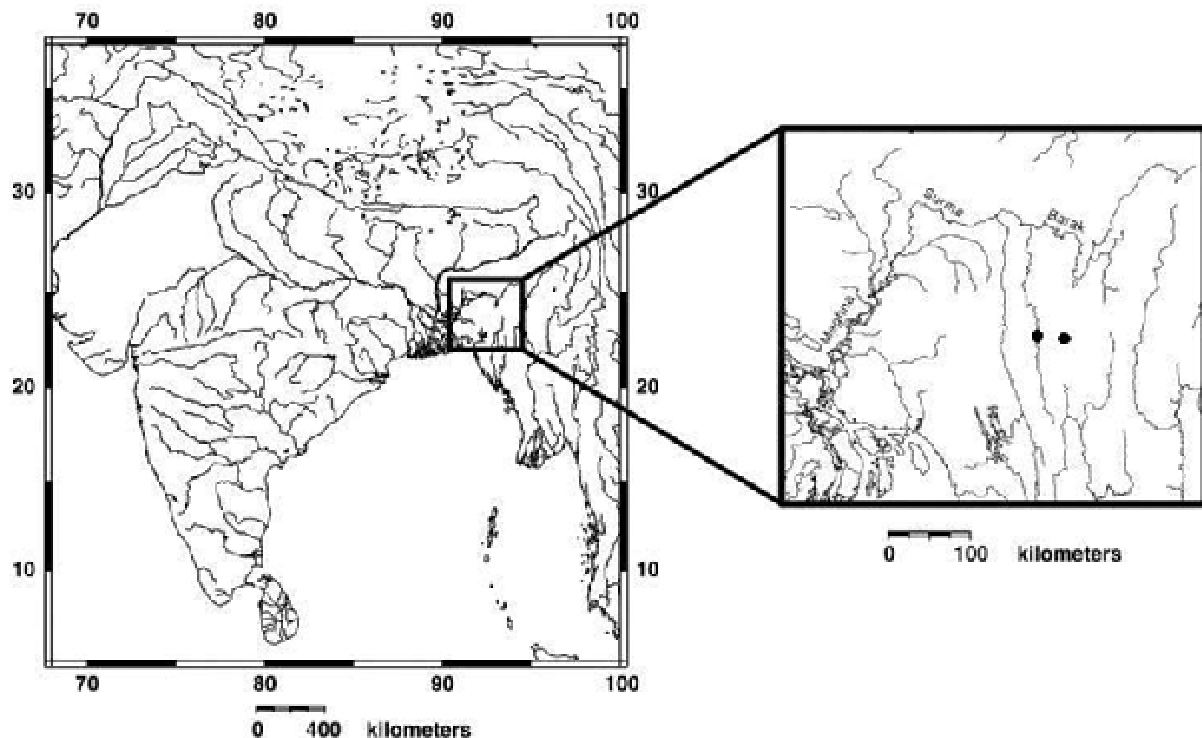


Figure 1. Map showing collection localities (black circles) of *Glyptothorax indicus*.



Figure 2. *Glyptothorax indicus*, 57.02 mm SL, PUCMF 1040, showing scattered black spot on caudal peduncle and caudal fin.

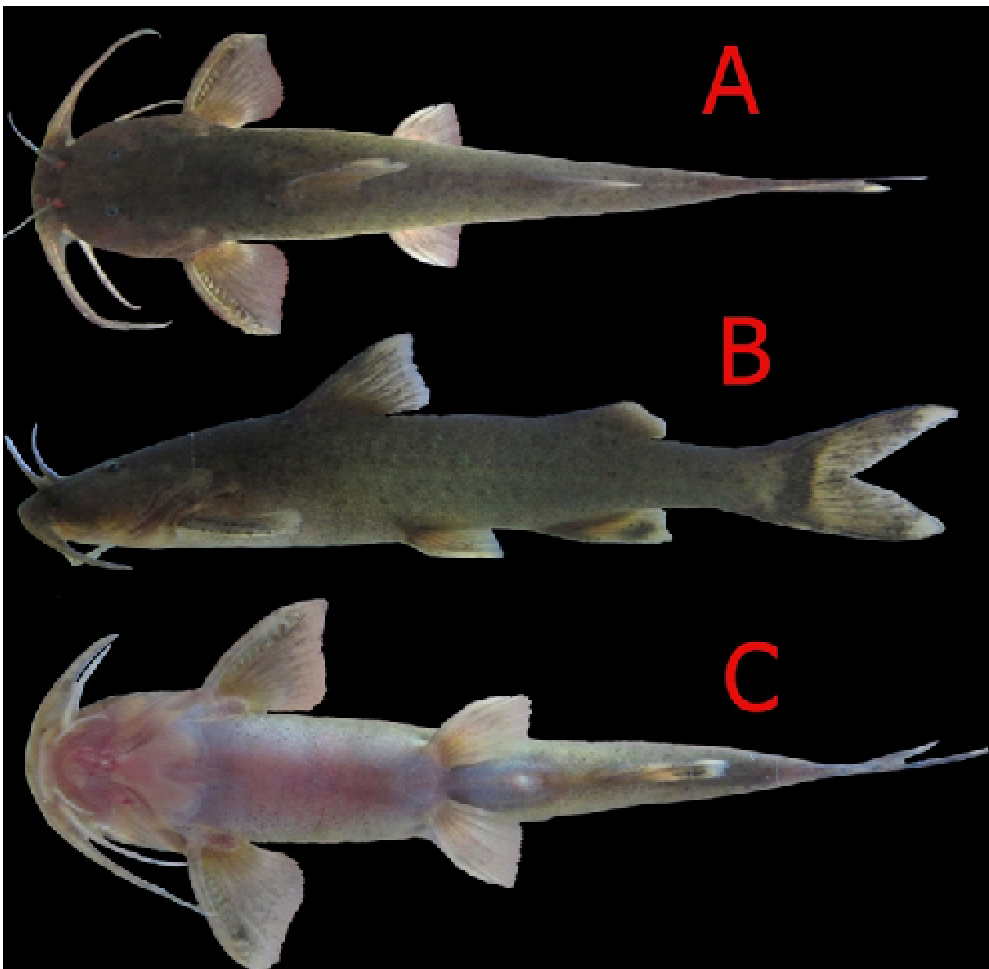


Figure 3. *Glyptothorax indicus* 88.82 mm SL, PUCMF 1041
A. Dorsal; **B.** Lateral; and **C.** Ventral view

Table 1. Biometric data for *Glyptothorax indicus*.

Parameters		Mean In % SL	SD	Min.	Max.
SL (mm)	57.02 – 88.82				
Predorsal length		37.7	1.3	36.8	38.6
Pre anal length		64.8	1.1	63.9	65.6
Pre pelvic length		46.3	0.3	46.0	46.5
Pre pectoral length		22.6	0.3	22.4	22.9
Length of dorsal-fin base		11.5	0.9	10.8	12.2
Dorsal-fin spine length		13.2	1.9	11.9	14.6
Length of anal-fin base		13.0	0.5	12.7	13.4
Pelvic-fin length		13.9	1.2	13.0	14.8
Pectoral-fin length		18.7	0.6	18.3	19.1
Pectoral-fin spine length		14.6	0.5	14.3	14.9
Upper caudal fin-length		22.5	3.0	20.4	24.6
Lower caudal-fin length		21.4	2.1	19.8	22.8
Length of adipose-fin base		14.4	1.2	13.6	15.3
Dorsal to adipose distance		22.7	4.1	19.7	25.6
Post-adipose distance		23.5	5.4	19.7	27.4
Caudal peduncle length		23.2	1.8	21.9	24.4
Caudal peduncle depth		7.7	0.2	7.5	7.8
Body depth at anus		13.8	0.6	13.3	14.2
Head length		26.9	0.8	26.4	27.6
Head width		19.7	1.2	18.8	20.5
Head depth		13.5	0.8	12.9	14.0
In % HL					
Snout length		49.5	1.4	48.5	50.4
Interorbital distance		25.8	0.4	25.6	26.2
Eye diameter		5.2	0.9	4.5	5.9
Nasal barbel length		35.6	5.1	31.9	39.2
Maxillary barbel length		95.3	1.5	94.2	96.4
Inner Mandibular barbel length		27.9	1.7	26.7	29.1
Outer mandibular barbel length		58.5	7.8	52.9	64.0

from the lip, through gill membrane halfway down to the pectoral region in a rhomboidal shape. It differs from *G. cavia* in not having a central pit in the adhesive apparatus.

DESCRIPTION

Biometric data as in Table 1. Head depressed, body moderately compressed. Dorsal profile rising evenly from tip of snout to origin of dorsal fin, then sloping gently ventrally to end of caudal peduncle. Ventral profile flat to pelvic-fin base, then sloping gently dorsally to end of caudal peduncle. Eye small, ovoid, not visible from ventral. Median longitudinal groove on head not reaching base of occipital process. Occipital process longer than broad, not reaching basal bone of dorsal fin. Teeth villiform, no teeth on palate. Four pairs of barbels, maxillary extending beyond pectoral fin base, nasal barbels long, reaching post orbit, outer mandibular reaching pectoral-fin base and inner reaching half of outer pair. Thoracic adhesive apparatus well developed extending from lip to halfway down to pectoral fin base, longer than broad, rhomboidal shape and without a pit. Dorsal fin i (6), inserted halfway between pectoral- and pelvic-fin, origin nearer to adipose origin than to snout tip, spine strong, serrated along its outer margin. Adipose fin short, posterior end deeply incised, located above anal-fin base. Pectoral fin i (9), not reaching pelvic fin origin spine strong with retrorse teeth along posterior margin, not plaited ventrally. Pelvic fin i (5), not reaching anal fin, not plaited ventrally. Anal fin i (9), not reaching caudal fin base, straight margin. Caudal fin with scattered black spot, iii, 9 + 9, iii, deeply forked, upper lobe slightly longer than lower lobe. Skin smooth with scattered black spot on caudal peduncle region.

Colouration

Dorsum and head region copper gray to dark yellowish or pale brownish, with pale

yellowish on abdomen. Fins lightly copper tinge, caudal with scattered black spot.

DISCUSSION

G. indicus differs from other known species of *Glyptothorax* in having a smooth skin, peculiar adhesive apparatus which extends from the lip, through gill membrane halfway down to the pectoral region in a rhomboidal shape and without a pit. Diagnostic characters in the present study agreed with the original description of *G. indicus*. However, this study reports additional characters such as irregular black spot on the posterior region particularly caudal peduncle region and also on the caudal fin.

Kar and Sen⁵ reported 5 species of *Glyptothorax* from rivers of Mizoram, namely, *G. cavia* (Hamilton, 1822), *G. conirostrae conirostrae* (Steindachner, 1867), *G. telchitta* (Hamilton, 1822), *G. trilineatus* (Blyth, 1860) and unknown species of *Glyptothorax*. In this report *G. cavia* and *G. telchitta* are reported from Kolodyne drainage, whereas all other species, including *G. telchitta*, are reported from Barak Drainage. It is strongly believed that *G. cavia* might also occur in the Barak drainage of Mizoram since the distributional patterns of this species previously reported⁶ are inclined towards this river system. Recently, Anganthoibi and Vishwanath⁷ described a new species *G. chimtupuiensis* (Anganthoibi & Vishwanath, 2010) from Kolodyne river. With the addition of *G. indicus* reported in this study, there are, so far, 6 valid species of *Glyptothorax* known from rivers of Mizoram.

G. indicus is described from stream of Terai, Northern Bengal in India. It is distributed in Sone and Kosi rivers of Bihar, Moga of E. Punjab, rivers of the Vindhya Mountain range in Eastern Himalaya, Rihand river of UP, and Nepal.^{8,6} It is also reported from river Kameng, Subansiri and Siang of Arunachal Pradesh.⁹ This study provides addi-

tional information on the distribution of this species in India and is the first report from Mizoram.

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