

A NEW CATFISH SPECIES OF THE GENUS *Sisor* HAMILTON (TELEOSTEI: SILURIFORMES) FROM MANIPUR, INDIA

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web supplement

ABSTRACT

A new catfish of the genus *Sisor* Hamilton is described from the Barak River, a tributary of Brahmaputra River drainage in Manipur, India. *Sisor barakensis* sp. nov. differs from its closest congener *S. chennuah* Ng, in having larger eye (14.6-16.7% HL vs 9.9-11.4), narrower interorbital distance (16.0-19.8% HL vs 22.1-22.7), deeper body at anus (6.3-7.2% SL vs 5.6-5.8), longer dorsal spine (10.5-14.3% SL vs 7.9-9.5) and pectoral spine (18.6-20% vs. 16.9-18.2) length, deeper caudal peduncle (2.2-2.3% SL vs 1.4-1.6) and more number of serrations (15-21 vs 10) on posterior the edge of pectoral spine.

KEYWORDS

Barak River, new description, *Sisor barakensis* sp. nov., *Sisor chennuah*

ABBREVIATION

MUMF - Manipur University Museum of Fishes

The south Asian sisorid catfish of genus *Sisor* Hamilton is characteristic in having a combination of characters: vertebrae with transverse processes, pectoral spine with serrated anterior margin, bony plates on surface of body, first principal caudal fin ray enlarged and elongated as a filament and absence of mandibular laterosensory canal (de Pinna, 1996).

While revising the genus, Ng (2003) redescribed *Sisor rhabdophorus* Hamilton and designated a neotype from Bhagirathi River, Gangetic basin, West Bengal, India. He also described three new species from different parts of northern India: *S. chennuah* from Brahmaputra basin, and *S. rheophilus* and *S. torosus* from Gangetic basin. A collection of fish from Barak River, Brahmaputra basin in Manipur included a *Sisor*, which is different from the so far known species and is described here as a new species.

MATERIAL AND METHOD

Measurements were made using dial caliper taking nearest to the tenth of a millimeter. Counts and measurements follow Ng (2003). Caudal fin length was measured from posterior most end of hypural plate to the end of longest ray excluding the filamentous extension of first principle ray. Drawing of pectoral spine was made from the images captured by Grand VCD 2000 plus software under stereo-zoom dissecting microscope. The specimens are deposited in the Manipur University Museum of Fishes (MUMF). Number in parentheses indicates number of specimens.

Sisor barakensis sp. nov.

Material examined

Holotype: Female, 10.ii.1998, River Barak, Jiri, Manipur, India, 84.8mm SL, coll. Ch. Basuda Devi (MUMF 3131).

Paratypes: 3 ex., 21.iv.1997, River Barak, Jiri, Manipur, India, 96.6-114.7mm SL, coll. W. Vishwanath (MUMF 9007/1-9007/3).

Distribution

Barak River, Brahmaputra drainage, Manipur, India.

Entymology

Named after Barak River, the type locality.

Diagnosis

Head depressed, longer than broad, frontal and supraoccipital portion of head with ridges converging towards the base of occipital process and the remaining portion of head covered with skin. Median longitudinal groove on head reaching base of occipital process, the latter not reaching basal bone of dorsal fin. Gill opening narrow, gill-membranes confluent with each other and also with isthmus. Eyes small, transversely oval. Anterior and posterior nasal very close and separated by small flap. Mouth inferior. Upper jaw exposed. Upper lip with slender fleshy process at each corner. A row of 2-4 minute conical premaxillary teeth present near the corner of mouth on each side of upper jaw. Palate edentate. A thick triangular median plate on the lower lip. No teeth on lower jaw. Lower jaw with prominent uninterrupted post labial groove.

Body elongate and depressed. Tail long, tapering and filamentous. Skin with numerous tubercles. Dorsal surface of body with a series of bony plates: first series of five plates at the base of dorsal fin, second of 7-8 plates after a distinct gap after the last plate of the first series. Median ridges present on each plate of the second series, the ridge of the last plate terminates in a backwardly projected short spine. Dorsal portion of caudal peduncle has a series of bony ridges. A short adipose fin in the form of a membranous flap lies between the last bony plate of second series and the first bony ridge of caudal peduncle. The anterior portion of the adipose fin attached to the ventral portion of the spine of the last bony plate of second series. Lateral surfaces of body with 77-79 distinct bony lateral line ossicles forming a ridge along the lateral line. Another series of widely spaced 5-7 ossicles arranged almost parallel below the anterior portion of lateral line. Lateral line complete. Nasal barbel absent, maxillary pair short with broad base, reaching vertical through posterior rim of eye. Four outer

mandibular barbels joined together by a membranous flap; inner mandibular pair minute, close to each.

Fins: Dorsal fin with I, 6 (4) rays. Spine weak and anteriorly serrated. Pectoral fin with I, 9, i (1) or I, 10 (1) or I, 10, I (2); its spine curved backward, serrated at both edges with 25-35 anteriorly and 15-20 posteriorly. Tip of pectoral fin reaches posterior end of the base of pelvic fin. Pelvic fin with I, 5 (1) or i, 6 (3) rays. Anal fin with i, 3, i (1) or i, 4 (3) rays. Caudal fin with i, 10, i rays. Uppermost principle ray extended as a long filament. Caudal fin truncate. Branchiostegal rays six (4).

Colour

In formalin, dark brown dorsally and pale yellow ventrally (Image 1^w).

DISCUSSION

Sisor barakensis sp. nov. differs from all other four known species of *Sisor* in having longer dorsal spine length (10.5-14.3 vs. 7.5-10.1%SL), longer pectoral spine (its length 18.6-20.4 vs. 15.7-18.2%SL) except in *S. rhabdophorus*, deeper caudal peduncle (its height 2.2-2.3 vs. 1.4-2.0%SL) and deeper head (9.1-10.7 vs. 7.0-9.4%SL), closely set eye (interorbital space 16.0-19.8 vs. 20.1-23.0%HL) except in *S. torosus* and larger eye (eye diameter 14.6-16.7 vs. 6.9-11.4%HL) except in *S. rhabdophorus* and *S. rheophilus*.

The new species is similar to *S. chennuah* in having similar

Table 1. Morphometric data of *Sisor barakensis* sp. nov. in % SL and % HL except SL in mm.

	Holotype ^w MUMF 3131	Paratypes MUMF 9007/1	MUMF 9007/2	MUMF 9007/3
Standard length (mm)	84.8	114.7	96.6	89.5
In % of SL				
Body depth at anus	6.3	7.2	6.7	6.9
Pre dorsal length	33	33.3	32.6	33.1
Pre anal length	66.3	68.4	69.9	67
Pre pelvic length	33.1	35.8	36	33.9
Pre pectoral length	16.9	19.9	18	17.1
Length of dorsal fin base	13.3	14.1	13.4	13.5
Length of dorsal spine	14.3	10.5	13.6	10.7
Length of anal-fin base	8.1	8	6.9	7.9
Length of pelvic fin	14.2	14.7	13.9	14.5
Length of pectoral fin	20.5	21	22	21.2
Length of pectoral spine	18.9	20.4	18.6	19.7
Depth of caudal peduncle	2.2	2.2	2.3	2.3
Length of caudal peduncle	26.7	25.4	24.8	25
Length of caudal fin	14.7	12	12.4	12.9
Head length	21.9	22.4	21.9	22
Head width	15.3	15.9	9.1	16.1
Head depth	10.7	10.2	9.1	9.9
In % of HL				
Snout length	52.7	55.3	54.2	54.1
Inter orbital distance	19.8	16	16.9	17.2
Eye diameter	16.7	16.7	14.6	15.3
Length of maxillary barbell	54.2	52.5	57.5	55.5
Length of outer mandibular barbel	59.1	59.9	65.6	58.6

number of bony lateral line ossicles and in its distribution in the Brahmaputra basin. However, it differs from the latter in having deeper body at anus (6.3-7.2 vs. 5.6-5.8%SL) and in having more number of serrae on the posterior edge of pectoral spine (15-20 vs. 10); wider trilobed nuchal plate (its width 1.2-1.4 vs. 1.1-1.2 in its length).

Ng (2003) reported the genus to have 7-8 bony plates in the first series while Jayaram (1979), Talwar and Jhingran (1991) and Mishra (1976) reported five plates along each side of dorsal fin base. The new species has five plates. It also has a row of 2-4 minute pointed premaxillary teeth at the corner of lip, little anterior to the base of each slender fleshy process of the upper lip. But no teeth were observed in the middle portion of the lip. Mahajan (1966) reported presence of premaxillary teeth in young specimens of *Sisor*. In the present study, only one specimen of SL 96.6mm was found to have a minute premaxillary teeth near the corner of mouth of upper jaw.

The species differs from *S. rheophilus* in having longer (21.9-22.4 vs. 18.0-20.6%SL), wider (15.3-16.5 vs. 14.5-14.8%SL), and deeper (9.1-10.7 vs. 7.0-8.2%SL) head; longer pelvic fin (13.9-14.7 vs. 11.8-13.9%SL) and a relatively shorter caudal peduncle (24.8-26.7 vs. 26.0-28.0%SL). It also differs from *S. torosus* in its longer head (21.9-22.4 vs. 20.2-21.3%SL) and predorsal length (32.6-33.3 vs. 30.5-32.3%SL). The species also differs from *S. rhabdophorus* in having more serrae on both the edges of pectoral spine: anterior (29-35 vs 27-29) and posterior (15-21 vs. 6-15) and more lateral line ossicles (77-79 vs. 66-70).

^w see Image 1 in the web supplement at www.zoosprint.org

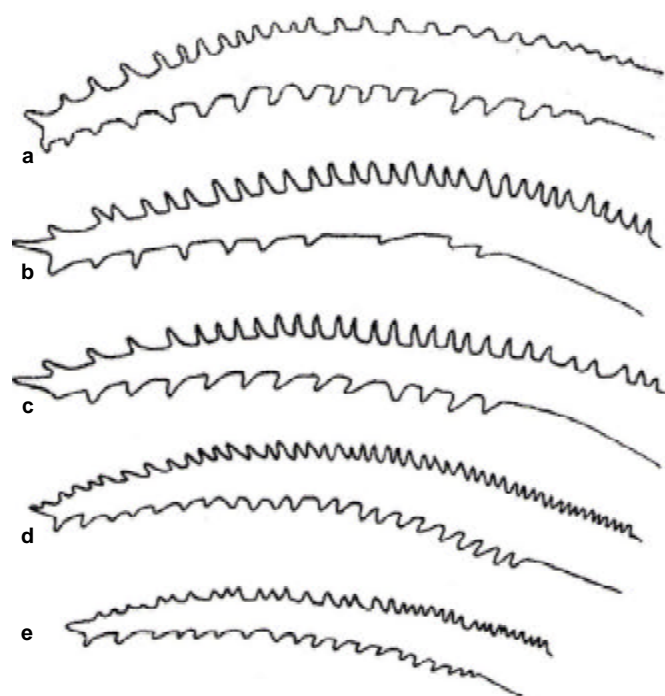


Figure 1. Comparison of pectoral spines of:
a - *Sisor barakensis* sp. nov.; b - *S. chennuah*;
c - *S. rhabdophorus*; d - *S. rheophilus*; and e - *S. torosus*
(Figures b, c, d and e redrawn after Ng, 2003)

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VET BRIEF

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SURGICAL MANAGEMENT OF EXTENSIVE HAEMORRHAGE IN THE LIP OF A LION

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web supplement

Wounds of different types are common in wild animals. Most of them go unnoticed and are difficult to treat because of problems in restraining animals. Bleeding wounds need special attention as they may result in haemorrhagic shock and even death. The possible etiological factors attributed for haemorrhage in caged animals are hitting against iron bars, sharp projections, foreign bodies (thorns, metallic agents causing damage to superficial blood vessels), fighting among themselves etc.. Any negligence in treating these types of injuries leads to major complications like sepsis, shock, and death. A case of deep-seated wound with extensive haemorrhages at labial aspect of lower lip in a lion and its surgical management is presented in this study.

Case history: A nine-year-old lion was presented with spurts of bleeding from lips. The ground area in the cage was soiled with blood and blood clots. Physical examination up close revealed no external injury. The lion was given Chromostat (Adrenochrome monosemicarbazone) @ 4ml intramuscularly and two Styptocid (adrenochrome monosemicarbazone) tablets along with B-Complex electrolytes mixed in meat orally. The animal was isolated and fed with beef and there was no bleeding. Next day evidence of spurts of bleeding was noticed. The same treatment was continued for two more days. As there

was no improvement surgical intervention was opted for.

Anesthesia and surgery: The animal was sedated with Xylazine hydrochloride (200mg) and Ketamine hydrochloride (400mg) combination using a blowpipe. The lion showed vomition initially and was positioned in lateral recumbancy. The site of bleeding was identified on labial surface of lower lip. It was prepared for surgery. The bleeding points were identified. Ligatures at anterior and posterior aspects of the bleeding points corresponding to the direction of labial artery were applied using 1/0 chromic catgut (Image 1^w). To help vasoconstriction Adrenaline was applied locally. After ensuring proper haemostasis Tincture Benzoin seal was applied to stop haemorrhage.

Treatment: The lion was given Ringer's lactate-1lt i/v along with 5ml Dexamethasone to combat fluid loss during sedation and Chromostat* 4ml was given i/m. Electrolytes, Glucose and B-Complex vitamins were given orally along with drinking water for five days. The ligated areas were dressed with Betadine spray for five days. The animal was fed regular diet without any complication.

Conclusion: Xylazine and Ketamine combinations produce satisfactory anesthesia in wild animals for performing different surgical operations. Schulman *et al.* (2003) performed surgical excision of cutaneous fibro papilloma in a mountain lion. In this case the bleeding could have happened due to small pointed object. The animal was in a habit of rubbing its face against the bars of the cage and other hard objects. This might have resulted in this condition and repeated trauma lead to extensive haemorrhage.

As the lion was a rescued animal, kept in dark conditions (without power supply), wild and aggressive in nature, its occurrence and treatment attracted special interest. It is advised to avoid iron traps and pegs (in any form) to prevent accidental injuries and rubbing.

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^w see Image 1 in the web supplement at www.zoosprint.org

