A NEW SPECIES OF THE GENUS *BATASIO* BLYTH (SILURIFORMES: BAGRIDAE) FROM SHARAVATI RIVER, UTTARA KANNADA, KARNATAKA

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Abstract

Batasio sharavatiensis a new bagrid catfish is described from the River Sharavati, Uttara Kannada District, Karnataka, India. It differs from all the known species of the genus in having a plain body without any bands or bars, spots or stripes and also in having a long adipose dorsal fin almost adnate with the caudal fin but separated by a indistinct notch.

Keywords

Batasio sharavatiensis *sp. nov., Karnataka, new species, RiverSharavati*

Abbreviations

CES - Center for Ecological Sciences, Bangalore IISc - Indian Institute of Science, Bangalore
ZSI/SRS - Zoological Survey of India, Southern Regional Station, Chennai
ZSI - Zoological Survey of India, Kolkata

Introduction

The Western Ghats of India is one of the 18 hotspots of biodiversity and it harbours a number of endemic taxa of fauna and flora. The ichthyology of southwestern India and in particular streams of Uttara Kannada, Karnataka is very poorly known. The only work worthy of mention is of Jerdon (1844).

Four specimens of a bagrid catfish were collected from Sharavati river at Joginmatha, one kilometer upstream of Jog Falls (14º14'N and 74º49'E, 476m) (Fig. 1) during an ichthyological survey of Uttara Kannada District, by the first author. These differ from all the known eight species of *Batasio* by an unique combination of characters and as such these are described as belonging to a new species.

Counts and measurements are those used by Jayaram (1999).

***Batasio sharavatiensis* sp. nov.**
(Figs. 2-4)

Holotype: Female, 8.iii.1998, River Sharavati (14º14N', 74º49'E), Joginmatha, Uttara Kannada, Karnataka, coll. Anuradha Bhatt, ZSI/SRS F 6419, 99.0mm SL.
Paratypes: Female, 8.iii.1998, River Sharavati (14º14N', 74º49'E), Joginmatha, Uttara Kannada, Karnataka, coll. Anuradha Bhatt, ZSI/SRS F 6420, 104.0 mm SL; 18.iii.1999, coll. Anuradha Bhatt, CES/IISc; 28.iii.1998, coll. Anuradha Bhatt, CES/IISc, 107.0; 18.xi.1999, coll. Anuradha Bhatt, CES/IISc, 121.0mm SL.

Material examined

Batasio travancoria Hora & Law, ZSI F 13449/1, 56.5mm SL, Peruntenaruvi, a tributary of the Pamba River at Edakadathy; two ex., 59.0 and 65.0mm SL, Kolathupuzha, a tributary of the Kallada river; one ex., 74.0mm SL, Chittar River, Palode; one ex., 79.0mm SL, Kallada River, four miles east of Thenmalai, ZSI/

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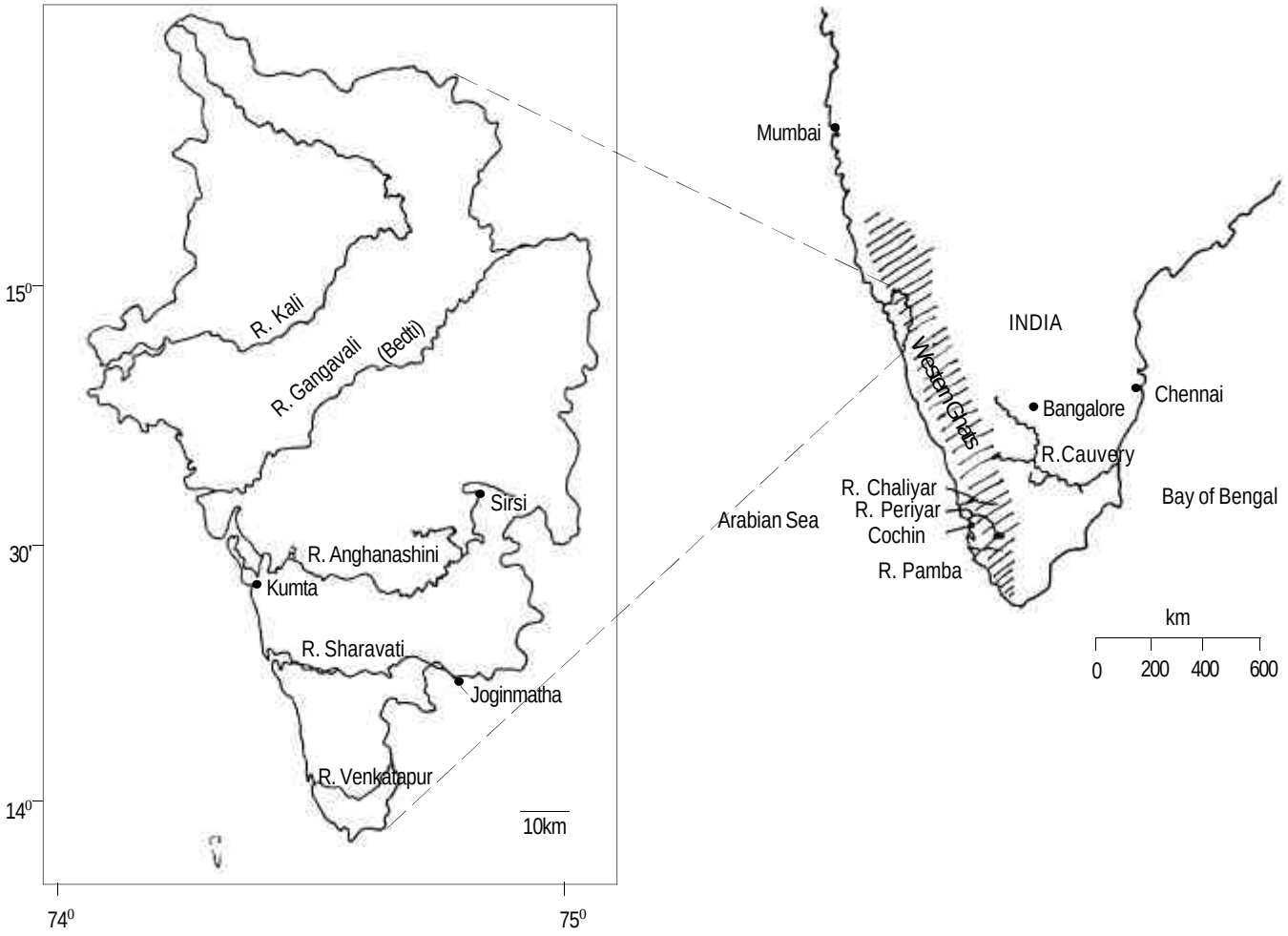


Figure 1. Map showing Uttara Kannada District, with its major rivers and the study site (Joginmatha) on River Sharavati.

SRS F 3436; one ex., 65.0mm SL, Deviyar River at Mannambandam, Kottayam District, Kerala, coll. Erick Ahlander and Suzanne Wejland.

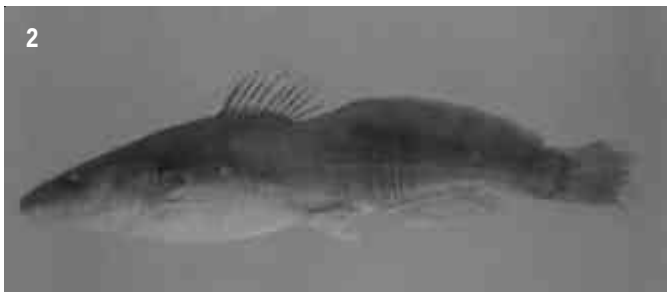
Distribution
India: River Sharavati, Uttara Kannada District, Karnataka.

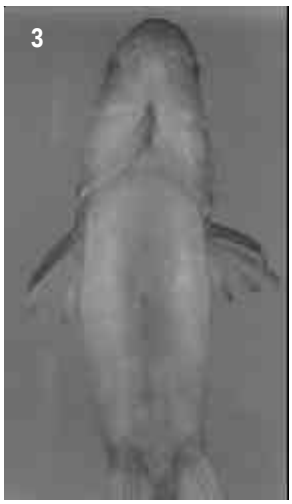
Etymology
Named after Sharavati River .

Diagnosis
Batasio sharavatiensis sp. nov. is differentiated from all the so-far known eight species of *Batasio* by its plain colourless body, without any bars or bands, spots or stripes and the long adipose dorsal fin almost confluent with the caudal but for a narrow notch.

Description
Morphometric data are shown in Table 1. Body laterally compressed. Head globular, rounded anteriorly. Dorsal profile arched, rising deeply up to base of dorsal fin. Dorsal fin with one smooth spine and 7(3) and 8(1) branched rays. Pectoral fins with one spine serrated along inner edge with 11(3) and 12(1) antrorse teeth. Pelvic fins with one simple and five branched rays. Anal fin with three simple, 14 branched (2) and four simple and 12(2) branched rays. Caudal fin 8+7(2) and 7+8(2) rays. Gill rakers on the first gill arch 3+5(1). Occipital process short 1.0 or 1.5 times in its length and not reaching basal bone of dorsal fin. Median longtitudinal groove inconspicuous, covered with thick skin. Barbels four pairs, all shorter than head, not very fleshy, not annulated; outer and inner mandibular barbels inserted horizontally at same level.

Colouration: When live, ash gray all over, ventral side lighter





***Figs. 2-4.* Batasio sharavatiensis**
2 - Paratype ZSI/SRS F 6420; 3 - Ventral view; 4 - Dorsal view

Table 1. Morphometric data of* Batasio sharavatiensis *sp. nov.

Specimen	H	P1	P2	P3
Standard length (mm)	99.0	107.0	121.0	104.0
Total length	126.3	114.0	117.3	118.3
In % of standard length				
Head length	28.6	27.1	26.4	26.9
Head depth	14.1	13.1	14.9	13.9
Head width	16.1	17.7	17.3	15.4
Snout length	11.1	10.3	9.9	10.6
Eye diameter	5.0	4.7	4.9	4.8
Inter-orbital width	7.1	6.5	6.6	6.7
Body depth	21.2	18.7	18.2	23.3
Pre-dorsal distance	42.4	39.2	39.7	40.4
Pre-pectoral distance	27.3	25.2	25.6	25.9
Pre-anal distance	69.7	64.5	65.3	66.3
Pre-pelvic distance	56.6	52.3	51.2	50.9
Length of dorsal fin	13.1	18.7	14.0	13.5
Length of pelvic fin	13.1	11.2	10.7	10.6
Length of anal fin	15.1	11.2	10.7	12.5
Length of pectoral fin	14.1	13.1	13.2	12.0
Basal width of dorsal fin	13.1	14.0	13.2	13.5
Basal width of pelvic fin	3.0	3.7	3.3	2.9
Basal width of pectoral fin	5.0	3.7	4.1	4.8
Basal width of anal fin	20.2	17.7	19.0	18.3
Length of caudal peduncle	18.7	17.7	17.3	18.3
Depth of caudal peduncle	10.1	8.3	9.5	9.6
In % of head length				
Eye diameter	17.8	17.2	18.7	17.8
Snout length	39.3	37.9	37.5	39.3
Inter orbital distance	25.0	24.1	25.0	25.0

H - Holotype; P1, P2, P3 - paratype

than dorsal. In formalin preserved specimens adipose dorsal fin and upper side of body darker than ventral side. Body plain without any bars or bands, spots or stripes.

Discussion

The new species has been collected from a poorly explored area in respect of its rich fauna. The only other species which is close to it is *Batasio travancoria* Hora & Law described from river Chittar, Kallada and Pamba in southern Kerala. This species has not been so far reported from any other locality outside of Kerala or elsewere in the Western Ghats (Jayaram, 1999). Easa and Shaji (1997) considered it as very rare. The only recent records are of Devi *et al.* (1996), Shaji & Easa (1996-1997, 1998). The new species is unique in the sense that of all the eight species known so far of this genus this is the only one with a plain body without any colour markings. The closest ally is *Batasio travancoria* which has a lateral stripe along the lateral line, a faint shoulder spot, a shorter adipose dorsal fin separated from the caudal fin by a distinct gap, a short anal fin with 12-15 (vs 15-18 rays), caudal fin with 18-19 (vs 15 rays). The eye diameter is 32.2-36.8% in head length (vs 17.2-18.7). Also the caudal peduncle is shorter in the new species than in *B. travancoria* 17.4 -18.3% in SL (vs 11.1-13.5).

Ng and Kottelat (2001) in their review of the genus *Batasio* from Indo-china recognized four species: *B. batasio* (Hamilton – Buchanan, 1822), *B. tengana* (Hamilton-Buchanan, 1822), *B.*

travancoria Hora & Law, 1941 and *B. pakistanicus* Mirza & Jafn, 1989. Mo (1991) considered *Chandramara chandramara* (Hamilton-Buchanan) as a synonym of *Batasio rama* Bleeker, but Ng and Kottelat (2001) thought otherwise. These authors after examining specimens of *Batasio* from Indo-china (as defined by Kottelat, 1990) opined that four species *B. affinis* Blyth, *B. dayi* Vinciguerra, *B. havmolleri* (Smith) and *B. tigrinus* are the only valid ones found outside India. The last three species have been resurrected from the synonymy of *B. tengana*. All these four species are with bars or bands, spots or stripes and are not plain-bodied as *B. sharavatiensis* sp. nov. *B. pakistanicus*, whose generic affinity has been doubted, has a black humeral spot with a dark streak on the dorsum. The remaining two Indian species *B. tengana* and *B. batasio* differ from the new species on the shape of the adipose fin and colouration. The latter species has a dark stripe along the lateral line and another above. *B. tengana* has five broad bands descending from the dorsal surface to the lateral line. However, the photo of the example UMMZ 209009 published by Ng and Kottelat (2001: p. 505, fig. 7) is without any band, but the humeral spot is distinct. The colour might have faded due to long preservation.

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References

Devi, R.K., T.J. Indra and K.G. Emiliyamma (1996). On the fish collections from Kerala, deposited in Southern Regional Station, Zoological Survey of India by NRM, Stockholm. *Records of the Zoological Survey of India* 95 (3 & 4): 129 – 146.

Easa, P.S. and C.P. Shaji (1997). Freshwater fish diversity of Kerala part of the Nilgiri Biosphere Reserve. *Current Science* 73(2): 180-182.

Hamilton–Buchanan, F. (1822). An account of the fishes found in the river Ganges and its tributaries. vii + 405pp. Edinburgh & London.

Ng, H.H. and M. Kottelat (2001). A review of the genus *Batasio* (Teleostei: Bagridae) in Indochina, with the description of *B. tigrinus* sp. n. from Thailand. *Review Suisse Zoologia* 108(3): 495 -511.

Hora, S.L. and N.C. Law (1941). Siluroid fishes of India, Burma and Ceylon X. Fishes of the genus *Batasio* Blyth. *Records of the Indian Museum* 43(1): 28-42.

Jayaram, K.C. (1999). The freshwater fishes of the Indian region. Narendra Publishing House, Maliwara, Delhi, 551pp.

Jerdon, T.C. (1849). On the freshwater fishes of southern India. 2. *Madras Journal of Literary Science* 15: 302-346.

Kottelat, M. (1990). *Indochinese Nemacheilines. A Revision of Nemachiline Loaches (Pisces: Cypriniformes) of Thailand, Laos, Combodia and Southern Viet Nam*. Munchen, 262pp.

Mirza, M.R. and M.A. Jafn (1989). *Batasio pakistanicus* new species, a new catfish (Pisces, Bagridae) from Pakistan. *Science Khyber* 2(2): 283-286.

Mo, T. (1991). Anatomy, relationships and systematics of the Bagridae (Teleostei: Siluroidei) with a hypothesis of siluroid phylogeny. *Thesis Zoologicae* 17: 1-216.

Shaji, C.P. and P.S. Easa (1996-1997). Fish fauna of Chalakudy River in Kerala. *Journal of the Zoological Society of Kerala* 6 & 7: 87-91.

Shaji, C.P. and P.S. Easa (1998). Status and distribution of endemic freshwater fishes in Kerala, Western Ghats, India. *Tiger paper* 25: 21-23.