

RANGE EXTENSION AND NEW DISTRIBUTIONAL RECORD OF *HETEROPNEUSTES LONGIPECTORALIS* REMA DEVI AND RAGHUNATHAN 1999 IN WEST BENGAL, INDIA

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ABSTRACT

Heteropneustes longipectoralis Rema Devi and Raghunathan 1999 was originally described from the Thirumurthi Dam, Anamalai Hills, Western Ghats, Tamil Nadu, India. Earlier, this species was only found in the Western Ghats Tamil Nadu, India. However, in this study, *H. longipectoralis* is reported for the first time from West Bengal, and its distribution range and endemic status is extended from Western Ghats to the Jalangi River, Islampur, Murshidabad of West Bengal in India. Till now only one species of *Heteropneustes*: *H. fossilis* (Bloch 1794) reported from West Bengal. The present species is the second species of *Heteropneustes* added to the state. This discovery contributes to the understanding of the biogeographic range of *H. longipectoralis*.

Keywords: *Heteropneustes longipectoralis*, Distribution range, West Bengal, Western Ghats Tamil Nadu.

INTRODUCTION

In present study one specimen brought from Murshidabad, West Bengal was identified as *Heteropneustes longipectoralis*, which belongs to the Heteropneustidae family and order Siluriformes. This species was only known from the Western Ghats. A total of 5 valid species of *Heteropneustes* (Stinging Catfish) are distributed globally, from this 3 are distributed in India. The occurrence of *H. longipectoralis*, is the first documented report from the West Bengal, and hence this study is having a significant finding, as it shows the distribution range, which is extended from Western Ghats, Tamil Nadu to West Bengal, India. The importance of this species also increases because of its high market price and commercially important. This species is also having great food values as its protein content is high with low fat. This genus is also distinguished by elongated and compressed body with small mouth. Its dorsal fin shorter and soft and strong pectoral fins are with serrated spines and long ribbon like anal fin. This species habitat mainly swamps, marshes, ponds, rivers, ditches and even folded water-logged areas and paddy fields etc. (Hossain, *et al.*, 2013).

MATERIAL AND METHODS

During a local ichthyofaunal collection, one specimen of *Heteropneustes* was collected from the Jalangi River, Islampur, Murshidabad (Lat 24.15483 N and Long 88.46651 E) West Bengal. This specimen was studied in detail by comparing with original description of *Heteropneustes longipectoralis* Rema Devi and Raghunathan 1999, from Thirumurthi Dam, Anamalai Hills, Western Ghats, Tamil Nadu, India. The local freshwater fish collection was made on December 2024, from Jalangi River, a tributary of Padma River, Islampur of West Bengal. The Fish samples were collected from the fishermen doing fishing using cast net. The specimens were fixed in 10 % formalin at the field for fixing of tissue and then brought back to the laboratory where after repeated wash in water preserved in 70 % ethanol. Measurements were made point to point with digital calliper on the left side of the specimens. Counts (Meristic) and measurements (Morphometry) follow Jayaram (2010). Identification of the species was made following Jayaram (2010). The specimen examined is deposited to the Zoological Survey

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of India, Kolkata, and the collection procedure followed the mandate of the Institute.

Material examined

ZSI FF 11005, India: West Bengal: Murshidabad: Islampur, Jalangi River ,24.15483 N; 88.46651 E (Figure 2), Collected on 21 December 2024 by Md. Rasmanjani Ali.

RESULT AND DISCUSSION

Heteropneustes longipectoralis Rema Devi and Raghunathan 1999 (Figure 1, (A, B, C))

Heteropneustes longipectoralis Rema Devi & Raghunathan 1999, *Records of the Zoological Survey of India*. 97 (3): 109-115, Pls. 1-2

Type Locality

Thirumurthi Dam, Anamalai Hills, Western Ghats, Tamil Nadu, India

Common Name

Long finned *Heteropneustes*

IUCN status

Data deficient

Table 1. Morphometric data for *Heteropneustes longipectoralis* Rema Devi and Raghunathan 1999 (ZSI FF 11005).

Total length (mm)	204
% Standard length (mm)	179.7
Head length (mm)	17.25
Head depth	8.12
Head width	15.03
Body depth at anal fin	15.64
Body width at anal fin	7.90
Predorsal length	33.00
Prepectoral	14.13
Preventral	34.50
Preanal	43.96
Preoccipital	19.48
Postoccipital	13.52
Length of dorsal fin	8.68
Length of pectoral fin	11.24
Length of pelvic fin	8.46
Length of anal fin	57.99
Length of base of dorsal fin	4.12
Length of base of anal fin	54.87
Length of caudal peduncle	11.24
Depth of caudal peduncle	3.90
Width of caudal peduncle	0.56
Length of caudal fin	0.00
Distance from Pectoral fin to pelvic	22.65
Distance from pelvic to anal	8.63
Distance from anal to caudal	54.54
Length of air sac	38.23
Width of air sac	
% Head Length	
Snout length	54.84
Post orbital length	30.65
Width of gape of mouth	14.19
Eye diameter	51.94
Interorbital width	26.45
Internarial width	64.52
Anterior fontanel length	43.87
Anterior fontanel width	47.10
Occipital fontanel length	58.06
Occipital fontanel width	58.06
Distance from ventral fin to vent	
Distance from anal fin to vent	117.74
Length of nasal barbels	184.52

Length of maxillary barbel	142.90
Length of outer mandibular barbel	141.94
Length of inner mandibular barbel	141.94

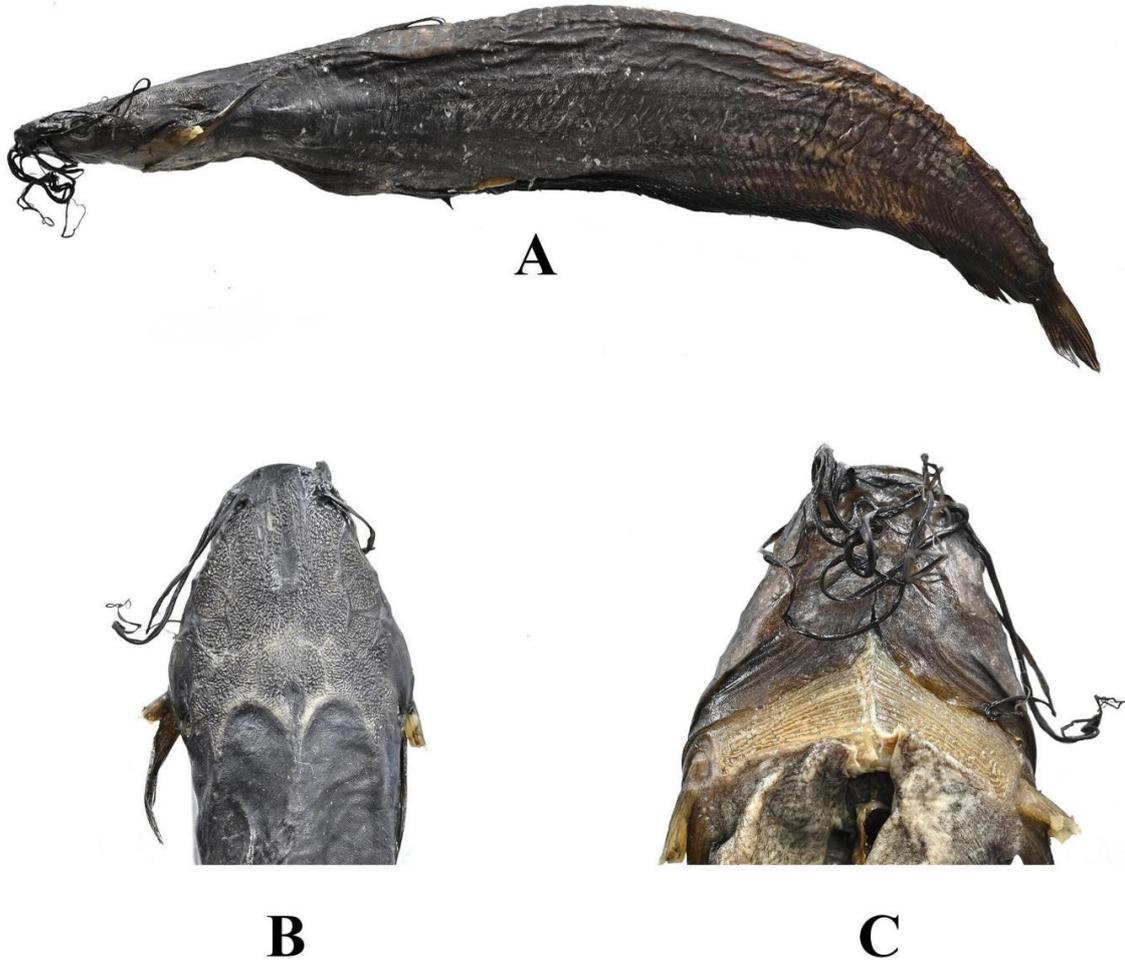


Figure 1. *Heteropneustes longipectoralis* Rema Devi and Raghunathan 1999, A-Lateral view, B-Dorsal view of Head and C-Ventral view of Head.

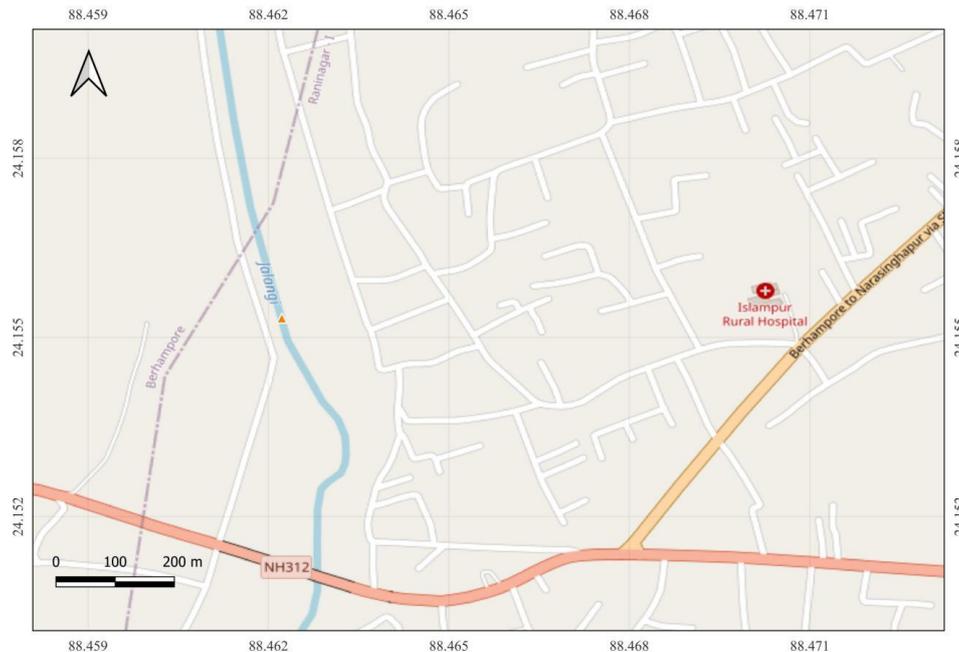


Figure 2. Map showing collection site of *Heteropneustes longipectoralis* in the Jalangi River, Islampur Murshidabad, West Bengal.

Heteropneustes longipectoralis was originally described from Thirumurthi Dam, Anamalai Hills, Tamil Nadu, Rema Devi and Raghunathan 1999. Till now 5 species of *Heteropneustes* are valid globally. *Heteropneustes fossilis* (Bloch, 1794). *Heteropneustes longipectoralis* Rema Devi & Raghunathan, 1999, *Heteropneustes fuscus* Plamoottil, 2021. *Heteropneustes kemratensis* (Fowler, 1937). *Heteropneustes nani* Hossain, Sarker, Sharifuzzaman and Rahman Chowdhury, 2013. Heteropneustidae is a monotypic family known by the genus *Heteropneustes* which is restricted in its distribution to the Indian Sub-Continent and Southeast Asia. Among these 5 species, 3 species are distributed in India where as *Heteropneustes kemratensis* is distributed in Kemrat, Thailand and *Heteropneustes nani* is distributed in Noakhali, Bangladesh. Earlier *Heteropneustes microps* (Günther 1864) was also a valid species but Pethiyagoda and Bahir (1998) concluded that *H. microps* is considered as a junior synonym of *H. fossilis*. From Western Ghat, Plamoottil 2021 has described *Heteropneustes fuscus* from Kerala, So Now in India 3 species are distributed *Heteropneustes fossilis* (Bloch 1794), *Heteropneustes fuscus* Plamoottil 2021, *Heteropneustes longipectoralis* Rema Devi and Raghunathan 1999. In this *H. fossilis* is widely distributed whereas *H. longipectoralis* and *H. fuscus* is endemic to Western Ghat, but after a local collection in West Bengal, few examples of *Heteropneustes* from which one is identified as *H. longipectoralis*, So now this significant discovery of *H. longipectoralis* is reported first time from West Bengal, so its occurrence in W.B. is extended its

native range from Tamil Nadu to West Bengal. Due to its limited information the species is categorized as Data deficient by the IUCN.

Diagnosis

Heteropneustes longipectoralis can be distinguished from all congeners in having pointed, acute and long Pectorals fin with serration, soft and short dorsal fin, caudal fin is also pointed, eyes large about 5.5 in HL and uniformly slender body. Air bladder short, less than $2/5^{\text{th}}$ in SL and extending to about $1/4^{\text{th}}$ over anal fin.

Description

Morphometric data in Table 1. Body uniformly slender; Mouth small and terminal; teeth in villiform bands on jaws, Head is depressed. Occipital process not reaching dorsal fin base. Four pairs of Barbels; nasal, maxillary and two pairs of Mandibular barbels. Nasal barbels extending to pectoral base or beyond, maxillary barbels and outer mandibular barbel extend to middle of pectoral fin, inner mandibular barbels extend little beyond pectoral base. Dorsal fin ray is short and lack of any spine, with 7 rays, Pectoral fin with one spine, strong, inner edge is serrated, 7 branched rays, Pelvic fin with one simple and 5 branched rays and its tip reaching anal fin origin. Anal fin long, with 2 simple and 66 branched rays, Anal fin is long base, not united with caudal but separated by a distinct notch. Caudal fin long and pointed.

Colour

Dark brown body with tinted yellowish brown over body and lighter below in abdomen; no yellowish band present in body. Fins are dark and dusky, dorsal, anal and caudal are dark black in colour and Pectoral and pelvic fin is dusky and pale in colour.

Distribution

India; Western Ghats in Thirumurthi Dam, Anamalai Hills, Tamil Nadu and West Bengal.

CONCLUSION

In the current study, *Heteropneustes longipectoralis* is reported from West Bengal for the first time, based on the specimen collected from Jalangi River, Murshidabad. The discovery contributes to the understanding of the biogeographic range of *H. longipectoralis*. This finding extends its distribution range and endemic status from Western Ghats to further eastern region West Bengal, India.

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CONFLICT OF INTERESTS

The authors declare no conflict of interest

ETHICS APPROVAL

Not applicable

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AI TOOL DECLARATION

The authors declares that no AI and related tools are used to write the scientific content of this manuscript.

DATA AVAILABILITY

Data will be available on request

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