

Occurrence of exotic vermiculated sailfin catfish *Pterygoplichthys disjunctivus* from the lower stretch of River Ganga, West Bengal, India

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The present study reports a record of invasive Loricariid catfish *Pterygoplichthys disjunctivus* (Weber, 1991) (Siluriformes: Loricariidae) from the Bhagirathi-Hooghly system of River Ganga in West Bengal, India. The species was encountered from Farakka and Balagarh regions of Ganga, two areas with different hydrological regimes. The average total length and total weight of the collected species was in the range of 360–450 mm and 314–545 g respectively. This exotic species is reported to contribute about 10% of the total catch from the Balagarh area of the river stretch, while its occurrence is sparse in Farakka. The algivorous nature of feeding can pose a threat to native-bottom dwelling fish due to feeding competition. As the presence of this exotic fish in the lower parts of Ganga has been confirmed, we discuss necessary management interventions like identifying the source of its introduction in order to prevent future threats from this invasive species to native river species.

Keywords: Algivorous feeding, exotic fish, invasive species, *Pterygoplichthys disjunctivus*, river system

River: Ganga prior to draining into the sea flows for a distance of about 260 km within West Bengal, India acquiring its local name 'Hooghly'. The Hooghly is the largest estuary in India and forms a part of one of the largest estuarine systems globally. The Hooghly along with other distributaries of River Ganga in West Bengal provides a constant supply of water to the associated plains for domestic, agriculture and industrial usage. The faunal resources of River Ganga have distinct characteristic features that fall into three zones: the upper region of Ganga River in hilly terrain; the middle stretch of Ganga River flowing in Uttar Pradesh, Bihar and West Bengal, and the lower Ganga River in deltaic tract¹. Introduction of alien and invasive fish species into River Ganga has

been reported by several researchers in the recent past from Patna, Bihar and in river Gomti near Lucknow, Uttar Pradesh². Species like *Pterygoplichthys disjunctivus* and *P. pardalis* (Family: Loricariidae, Order: Siluriformes) have been encountered from several wetlands in West Bengal as well³. During our surveys in 2018, four specimens of exotic fishes were recorded from the Farakka and Balagarh regions of River Ganga in West Bengal, and these were identified as *Pterygoplichthys disjunctivus*⁴. This is considered to be one of the rapid dispersing species introduced predominately through uncontrolled pet trade, and its invasion impact results in various ecological and economic outcome⁵. This algivorous species has expanded to a large extent owing to its swift nature and ability to withstand diverse environments. The most recent establishment of the species has been reported from the upper stretches of river Cauvery in South India⁶. In recent fish faunal studies in the tidal stretch of the Hooghly estuary^{7,8}, occurrences of Loricariid catfish have not been seen. To the best of our knowledge, there have been no previous studies of *P. disjunctivus* from the Bhagirathi-Hooghly river system.

Materials and methods:

Although climate in the region is tropical throughout the year, due to their geographical location both Farakka (24°48'47.31"N, 87°53'1.22"E) and Balagarh (23°7'38.88"N, 88°27'58.74"E) regions have diverse hydrological regimes. Unlike the former, the latter experiences continuous tidal effects. In the present study, a total of four specimens were collected from the above-mentioned locations during a fish diversity study on 6 and 16 July 2018 using gill nets (locally known as fasha-jal) of mesh size 40–45 mm during early morning between 5.00 and 6.00 a.m. Immediately after collection, the fishes were photographed and measured on the spot to the nearest 1 mm using Vernier callipers, and weighed

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