

Short Communication**FURCATED CAUDAL FIN IN *Heteropneustes fossilis* (BLOCH)
FROM DOON VALLEY_A TERATOLOGICAL OBSERVATION**

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Injury-stricken or congenital deformities are not only common to the human population but also to other animals, including fishes. First figure of teratological fish was published in 1553 when Pierre Belon, a French Naturalist illustrated the head of old male Atlantic Salmon with a deformed upper jaw. The second deformed fish to be figured was pug-headed carp illustrated by Guillane Rodenlet in 1555 (Gudger 1936). Dawson (1964, 1966 and 1971) and Dawson and Heal (1976) provided Ichthyologists with an extensive bibliography of fish anomalies. The said aspect has been found so interesting to the Ichthyologists that Tim and Ray-Jean (1981) examined a total of 18,361 specimens belonging to 34 species and 6 families from the Ohio river for external morphological anomalies like deformities of spinal curvature, fins, mouth, operculum, pug-headedness etc.

In India, too, the results of such studies have appeared in literature from time to time (Ovais, 1974; Sundarsingh, 1975; Rahman and Raghavan, 1976; Thakur and Kohli, 1976; Ram, 1976; Shivakumar and Bhat, 1977; Somvanshi and Bapat, 1982; Husain, 1985) etc.. *Heteropneustes fossilis* (Bloch) [Grade-Teleostomi, Order-Siluriformes, Family-Heteropneustidae] is not an exception to such instances (Datta and Ghosh, 1975; Thakur and Munnet, 1982; Baburao and Reddy, 1982 etc.). The authors have also

recently reported teratology in the form of forked rostral barbel in *Lepidocephalus guntea* from Doon (communicated elsewhere for publication).

The present material (112 mm in Total Length [TL] and 101 mm in Standard Length [SL]) is one (Fig. 1a) of the 55 specimens (112-183 mm in TL and 101-165 mm in SL) collected from the swampy and marshy niches of Suswa river at Mothronwala, Kansrao, Raiwala, in Eastern Doon, a region falling under Raja Ji Sanctuary.

Diagnostically, the caudal fin is rounded (Fig. 1c) but the specimen in question attracted the attention owing to its furcated caudal fin (Fig. 1a & b). Meristically, it had normal 19 fin rays, the bifurcation point being at 9th and 10th fin rays, upper lobe containing 9 rays while the lower one 10 rays. Other meristic (Br. vii, D.6, P.8, V.6, A.62, C.19) and morphometric (Body Height 6.4 in TL and 5.77 in SL, Head Length [HL] 5.6 in TL and 5.05 in SL, Eye Diameter 6.67 in HL, 1.83 in snout and 3.33 in the interorbital width, Predorsal length 3.03 in TL, Anal 1.87 in TL, Caudal 10.18 in TL) characters are well in agreement with Day (1878), Jayaram (1981), Talwar and Jhingran (1991), Vishawanath (2007).

Such a curious feature prompted to look into the possible reasons behind this oddity.

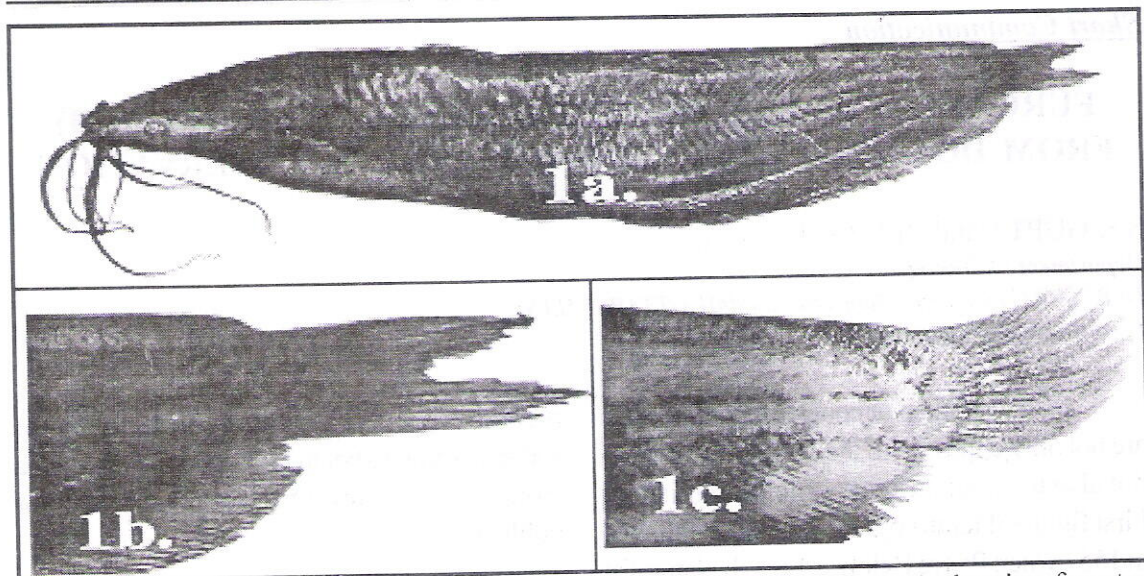


Fig. 1: *Heteropneustes fossilis*, (a). Lateral view (Total Length 112 mm.) showing furcated caudal fin, (b). Enlarged view of furcated caudal fin, (c). Enlarged view of normal caudal fin.

Firstly, as for the shape of the fin, it didn't appear different from the commonly found furcation at the caudal fin in some other cat fishes and led to the conclusion as if some genetical disorder directed the development of such a fin (Gordon 1954; Dahlberg, 1970; Nelson, 1971 etc). Secondly, some injury during early stages of development (Komada 1980; Tim and Ray, 1981) might have caused this deformity and as the animal attained growth, the damaged parts got repaired, giving furcated appearance.

Earlier, Thakur and Munnet (1982) reported teratological manifestations in *Heteropneustes fossilis* with reference to furcated maxillary and mandibular barbel and also notched anal and caudal fin. They contemplated that the deformities in the said fins were caused due to some predatory attack and accidental injuries sustained by the fish during early stages of development. Rahman and Raghavan (1976) while reporting absence of caudal fin in *Clarias batrachus*, said that it might be due to act of predation. Sathyanesan (1962) also had been of the same view while

observing abnormal dorsal fin in *Labeo calbasu*. Such deformities are of keen interest to the taxonomists and hence be put on record for reference to the future workers.

ACKNOWLEDGEMENT

The authors are indebted to Uttarakhand State Council for Science and Technology (U-COST) for carrying out a Major Research Project. Thanks are also due to ZSI (NRS), Dehradun for providing identification and library facilities and to D. B. S. Postgraduate College, Dehradun for providing necessary facilities.

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