

**STUDIES ON THE FISH FAUNA OF UTTAR PRADESH TERAII 3.
NOTES ON THE DISTRIBUTION AND ECOLOGY OF *BALITORA
BRUCEI* GRAY (HOMALOPTERIDAE)**

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INTRODUCTION

Balitora brucei Gray, a homalopterid fish, is remarkably adapted to torrential streams and has so far been recorded from Burma, Meghalaya, Darjiling (West Bengal) and Bihar (Hora, 1920, 1932; Silas, 1952; Mohan et al., 1977; Jayaram, 1981. Recently, a 53 well preserved specimens of this species have been collected from Gola river below Jamrani, nearly 10 Kms. east of Kathgodam in Nainital district. The stream flows along the base of hills but the flow of water is tremendous. The water flows very fast through stony boulders on which these fishes cling very strongly. The impact of the flowing water is so heavy that it is difficult for a person to stand in the bed of the stream. The representatives of this species get dislodge from the rocks only when the latter are moved with a jerk. The dislodged fishes get washed into the hand-net placed just behind the moved rock. The living fish were kept on the wet palm of a hand and even when the hand was moved upside down, the clinging fish did not fall down and remained sticking to the palm. The head and body of the fish are greatly depressed and the paired fins are highly expanded and fan-like. There is no sucker on the chest or the fins but the skin of this area secretes a strongly adherent mucous substance. The remarkable adaptation of this fish to torrential streams has been described by Hora (1922 a, 1922 b, 1927, 1930, 1932). The present material from Gola river is far superior in number and quality of preservation than that studied by Hora (op. cit.) and Silas (op. cit.). Some of the salient characters of this species are studied in this material and are mentioned below.

Balitora brucei Gray

1832. *Balitora brucei* Gray, *Ill. Indian Zool.*, 1, pl. 88, fig.

1920. *Balitora brucei* : Hora, *Rec. Indian, Mus.*, 19 :197, fig.1.

B.III, D.II-III/8, P.VIII-X/10-12, V.II-III/9, A.II-III/5, C. 17-19; Lat.1. 67-72, Lat.tr. 9-11/8-11.

Material examined : 53 examples (52-102 mm total length), below dam site, Jamrani Bandh, Gola river, district Nainital, Coll. Raj Tilak, 20-22.2.85.

The head and body are greatly depressed and the ventral side is flattened. The length of head is contained 5.85-6.36 times in total length and 4.82-5.17 times in standard length of body. The dorsal side of head and body are arched and dome shaped. The ventral side of body and entire head region are scaleless. The eyes are small and situated on upper

part of the domb. The diameter of eye is contained 6.33-8.25 times in length of head, 2.66-3.50 times in interorbital width and 4.0-4.5 times in length of snout. The interorbital width is contained 2.2-2.4 times and length of snout 1.58-1.8 times in length of head. The snout is covered with small and sharp tubercles. The snout is trenchant. The rostrum in front of the mouth is separated by a groove which extends round the angles of the mouth. The rostrum has a median and two lateral lobes. The gill openings extend ventrally for a short distance in front of the pectoral fins. The depth of the body is contained 10.0-13.25 times in total length and 8.11-10.75 times in standard length. There are three pairs of thick short barbels. The paired fins are greatly expanded and bear more than one unbranched rays on the anterior side. The pectoral fin is pedunculate and much expanded; they do not reach the ventral fins. The lower lobe of the caudal fin is much longer than the upper. The least height of the caudal peduncle is contained 2.88-3.71 times in its length.

The long preserved specimens studied by Hora (1920) and subsequently by Silas (1952) had lost all natural colouration. Hence, no description of the colouration of the body of this species is available in literature except of the figure of Gray (1832). The colouration of the body and fins in the present nicely preserved fresh material is given below for future reference.

The dorsal side of head and body are dark in colour. On the head, the dark colouration is broken into many small dark blotches with intervening light and dark spaces, giving the appearance of almost of a reticulation. From the posterior end of the head upto the upper part of the base of the caudal fin, there are series of large dark blotches, of which 3 are present before the dorsal fin, one at the origin of the dorsal fin, another one at the base of the middle dorsal encircled by a light area. The lateral side of the body are irregularly blotched and reticulated with dark and light areas.

The dorsal fin bears 3-4 dark cross bands. The dorsal side of the pectoral and ventral fins bear 2-3 band each of the dark spots. The anal fin bear one dark cross band. There are 4 dark cross bands on the caudal fin. The ventral side of the body upto the base of the anal fin is immaculate yellow. The area behind the anal fin is dark in colour which is invariably broken into small blotches. The colouration of this species is quite characteristic and differs from all species in these waters.

Distribution : Uttar Pradesh, Bihar, West Bengal, Meghalaya and Burma.

ZOOGEOGRAPHICAL REMARKS

Tilak (in press a and 1990) has already pointed out the zoogeographical occurrence of *Conta conta* (Family : Sisoridae), *Chandramara chandramara* (Family : Bagridae) and *Acanthopthalmus pangia* (Family : Cobitidae) in Uttar Pradesh Terai. These species have been recorded from Uttar Pradesh Terai for the first time; they were earlier known only from eastern India. Similarly, Tilak and Husain (1975, 1978, 1980) have also reported the occurrence of eastern Himalayan fish forms in Uttar Pradesh (*Laguvia*

ribeiroi kapuri Tilak & Husain, *Leidocephnalus annandalei* Chaudhuri, *Glyptothorax saisii* Jenkins etc.). *Balitora brucei* Gray is still another species which is recorded here from Uttar Pradesh for the first time and its earlier records have been only from Bihar and eastern parts of of Himalaya. The occurrence of a large number of eastern Indian fish forms in Uttar Pradesh is zoogeographically important.

Hora (1932) studied the material of *Balitora brucei* in the collections of Zoological Survey of India and British Museum and came to a conclusion that there were more than one subspecies. The specimens from Khasi Hills (Meghalaya) and Darjiling (North Bengal) belong to *Balitora brucei brucei* Gray (forma typica). The material from Meekalan, Meetan and Chittagong hills belonged to *B. brucei burmanicus* Hora. A species collected from Megha stream at Burma-Siam border and housed in British Museum belonged to *B. brucei melanosoma* Hora, because of its dark colouration. Hora (1941) named another sub-species, *B. brucei mysorensis* Hora, based on a single specimen collected from Sivasamudram, Mysore state. These four subspecies were recognised as independent forms by Silas (1952) but Menon et al. (1977) have merged *burmanicus* with *brucei* and raised *mysorensis* to the level of a species; they made no mention of *melanosoma*. Jayaram (1981) has followed the classification of Menon et al. (op. cit.). *B. maculata* Gray is already a separate species known from Darjiling hills. So, there are now three species of *Balitora* known from India viz. *B. brucei* Gray, *B. maculata* Gray and *B. mysorensis* Hora.

SUMMARY

Balitora brucei Gray (Family Homalopteridae), which is highly adapted to torrential streams, has been so far recorded from Burma, Meghalaya, West Bengal and Bihar. Recently, a good series of this species comprising 53 examples have been collected from Gola river between Jamrani and Kathgodam, district Nainital, Uttar Pradesh. The ecology of this species in this river has been studied. The colouration of the species was not described earlier and this has been done in this paper based on freshly preserved material. The present record of *Balitora brucei* from Uttar Pradesh Terai extends the range of distribution of this species further westwards along the base of Himalaya; this is zoogeographically important.

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