

## FISH OF THE SIJU CAVE, GARO HILLS, ASSAM.

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The fish fauna of the Siju Cave comprises eight species, as many as five of which belong to the family Cyprinidae. The other three are placed among the families Cobitidae, Percidae and Ophiocephalidae. With the exception of a species of the genus *Nemachilus*, which I have not been able to determine definitely, all have been referred to species already known. It is interesting to find two specimens of *Psilorhynchus sucatio* (Ham. Buch.) in the collection. This species has so far been known only from the base of the Darjiling Himalayas.<sup>1</sup> Specimens of all the species, except *P. sucatio*, were quite common in the stream outside the cave.

The fish, as a whole, are casual visitors to the cave; most of the specimens in the collection were captured between 300 and 600 feet from the entrance, while only a few individuals were taken at greater depths. *Barbus hexastichus* McClelland has penetrated to a length of 2,000 feet in the cave, whence one half-grown and three young specimens are represented in the collection. Two specimens of *Nemachilus* were taken in a pool 1,700 feet from the entrance and one example of *Ophiocephalus gachua* at 1,350 feet. In all these three species the colour has considerably changed, but in no other respect do they exhibit adaptation to a life in perpetual darkness. Three young specimens of *Barbus hexastichus* from 2,000 feet from the entrance possess normal colouration, but in all probability they had not been in darkness for a sufficiently long time to undergo any appreciable change.

### Family CYPRINIDAE.

#### ***Psilorhynchus sucatio*** (Ham. Buch.).

1921. *Psilorhynchus sucatio*, Hora, *Rec. Ind. Mus.* XXII, p. 731, pl. xxix, figs. 1, 1a.

This species is represented by two specimens, which do not exceed 61mm. in length including the length of the caudal fin. They were taken between 300 and 600 feet from the entrance, and agree very closely with specimens from the base of the Darjiling Himalayas.

*Distribution*:—Darjiling Himalayas and Garo Hills, Assam.

#### ***Barbus hexastichus*** McClelland.

1889. *Barbus hexastichus*, Day, *Faun. Brit. Ind. Fish.* I, p. 308.

This is by far the commonest species found inside the cave and several specimens, including fry and half-grown fish, are represented

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<sup>1</sup> Hora, *Rec. Ind. Mus.* XXII, p. 734 (1921).

in the collection. The following table shows the depths at which specimens were obtained in the cave :—

No. of specimens.	Distance from entrance.
2	0—100
13	300—600
1	400
4	2,000

Of the four specimens taken at a point 2,000 feet from the entrance, three are young and appear to be quite normal as regards colouration ; each possesses a well-marked black rounded spot before the base of the caudal fin. The remaining specimen has lost its normal colour ; the head and body are dull white, except for a light grey streak along the dorsal surface. The dorsal fin is provided with a black stripe in its distal half and the posterior margin of the caudal is infuscated with black. The rostral barbels are streaked with black posteriorly. This specimen is 13 cm. in length.

*Distribution* :—Kashmir, throughout the Himalayas, Sikkim and Assam.

#### **Barilius bendelisis** (Ham. Buch.).

1889. *Barilius bendelisis*, Day, *Faun. Brit. Ind. Fish.* I, p. 347.

There are five young specimens of this species in the collection. They were taken between 300 and 600 feet from the entrance.

*Distribution* :—India, except the coast of Malabar, Kanara and Sind. Also found in Ceylon.

#### **Barilius barna** (Ham. Buch.).

1889. *Barilius barna*, Day, *Faun. Brit. Ind. Fish.* I, p. 350.

Several young and half-grown specimens of *Barilius barna* were taken between 300 and 600 feet from the entrance.

*Distribution* :—Gangetic plain, Orissa, Bengal and Assam.

#### **Danio aequipinnatus** (McClelland).

1889. *Danio aequipinnatus*, Day, *Faun. Brit. Ind. Fish.* I, p. 356.

Seven specimens of this species were taken between 300 and 600 feet from the entrance.

*Distribution* :—Darjiling Himalayas, Assam and Tenasserim.

### Family COBITIDAE.

#### **Nemachilus** sp.

The earlier species of the genus *Nemachilus* from Assam, most of which were described by McClelland in his Monograph of Indian Cyprinidae, are in a state of great confusion and at present it is very difficult to determine their specific limits correctly. McClelland's descriptions of the species are applicable to more than one form, and his figures do not help much in their identification. Under the circumstances,

I have thought it advisable to describe and figure the specimens from the Siju Cave without giving them any specific name.

From the cave there are only three specimens; one was taken within a hundred feet from the entrance, while the other two were netted in a pool 1,700 feet from that point. The latter are considerably modified as regards their colouration. There are, however, several specimens of the species from outside the cave, and it is on these that the following description is chiefly based.

D. 2/8.

A. 1/5.

The length of the head is contained about 4 to 5 times in the total length without the caudal; it is two-thirds as broad as long. The eyes are not visible from below and their diameter is contained 5 to 5.3 times in the length of the head. The snout is longer than the post-orbital part of the head and is slightly less than twice the diameter of the eye. The barbels are longer than the diameter of the eye; the mandibular barbel, when adpressed, reaches below the posterior limit of the orbit or extends slightly beyond it. The mouth is situated on the under surface slightly behind the tip of the snout and is bordered by fairly well-developed lips. The lower lip is interrupted in the middle and the upper lip shows a slight incision at the same point. The male is provided with a free triangular pad of skin below the anterior margin of the orbit.

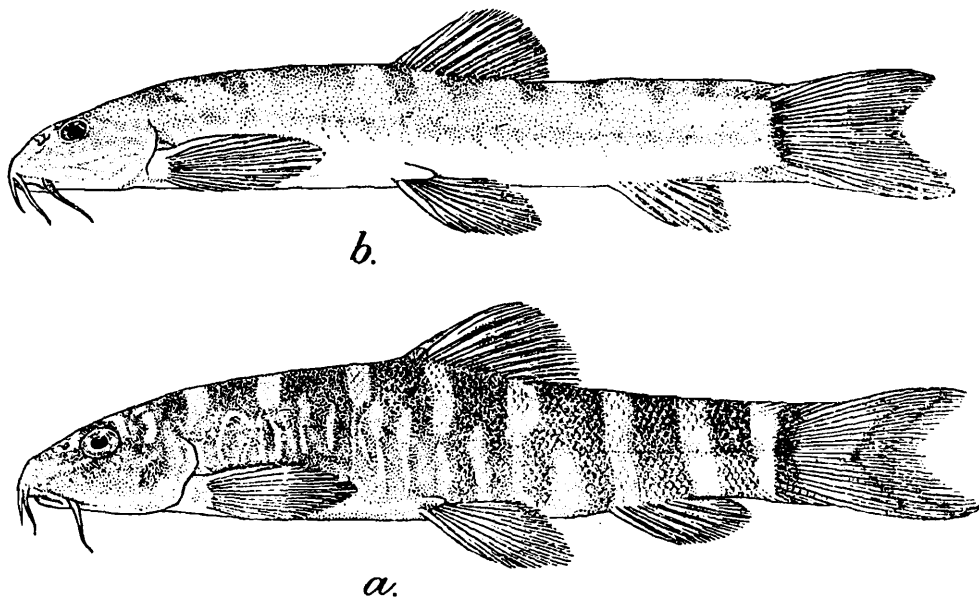


FIG. 1.—*Nemachilus* sp.

a. Normal specimen from outside the cave.

b. Decolourized specimen found in the cave at 1,700 feet from the entrance.

The longest ray of the dorsal fin is almost equal to the depth of the body below it. The origin of the dorsal is almost opposite that of the ventral and its commencement is somewhat nearer to the base of the caudal than to the tip of the snout. The pectoral is almost as long as the head and is separated from the ventral by a considerable distance. The latter just extends to the anal opening and does not reach the base of the anal fin. The caudal is bilobed, with the lower lobe slightly longer than the upper.

In specimens preserved in spirit there are usually 8 to 10 dark brown bands across the back, which break up into secondary bands below the lateral line. They are separated by narrower bands of pale olivaceous colour. The last band of the series before the base of the caudal fin is much darker in colour. The upper surface of the head is grey and is marked with a number of white streaks. The under surface of the head and body is pale. The first ray of the dorsal fin is provided with a black spot at its base and all the rays of this fin are infuscated with black in the middle of their length. The pectoral, ventral and anal fins have similar markings, but not so conspicuous. The caudal is provided with two V-shaped bands near its extremity.

Specimens from 1,700 feet are uniformly pale in colour with about 9 short light grey bands on the back and a stripe of the same colour along the lateral line. The upper surface of the head is marked with a few spots and there is a short grey band before the base of the caudal fin. The head and body in these abnormal specimens are comparatively more depressed, and the paired fins greatly stretched outwards, showing thereby that the cave individuals are better adapted to a life in rapid-running waters than those collected from outside. Moreover the eye is smaller in these specimens and its greatest diameter is placed longitudinally.

Working with the Fauna volume and Day's *Fishes of India* I identified the Siju specimens as *Nemachilus spilopterus*, but on looking up the original description of the species by Cuvier and Valenciennes, I find that my specimens do not belong to that form. In *N spilopterus* the caudal fin is rounded and the pectorals are separated from the ventrals by their own length.

*Measurements in millimetres.*

Total length including caudal	...	...	44.5	52.5	46.0
Length of caudal	...	...	8.0	10.0	8.6
Length of head	...	...	8.0	10.8	9.5
Breadth of head	...	...	5.8	6.8	6.0
Height of head near occiput	...	...	4.7	6.5	5.2
Length of snout	...	...	3.2	4.8	4.0
Diameter of eye	...	...	1.5	2.1	1.8
Length of caudal peduncle	...	...	5.5	6.7	5.5
Least height of caudal peduncle	...	...	4.2	5.2	4.0
Longest ray of dorsal	...	...	6.5	7.8	8.0
Longest ray of anal	...	...	4.8	7.0	5.2
Length of pectoral	...	...	8.0	9.9	8.0
Length of ventral	...	...	7.0	8.5	7.2

Family PERCIDAE.

**Ambassis nama** (Ham. Buch.).

1889. *Ambassis nama*, Day, *Faun. Brit. Ind. Fish.* I, p. 486, fig. 149.

There are 5 specimens in the collection belonging to this species. They were taken between 300 and 600 feet from the entrance.

*Distribution* :—India, Assam and Burma.

## Family OPHIOCEPHALIDAE.

**Ophiocephalus gachua** (Ham. Buch.).

1889. *Ophiocephalus gachua*, Day, *Faun. Brit. Ind. Fish.* II, p. 364.

This species is represented in the collection by two specimens. One was taken between 300 and 600 feet from the entrance, while the other is from 1,350 feet. The latter has lost the characteristic colouration of the species and is of a uniform brown colour. The fins are uniformly grey.

*Distribution* :—India, Ceylon, Burma and the Andamans.