

ON A RARE EASTERN HIMALAYAN AND ASSAMESE LOACH
SOMILEPTES GONGOTA (HAM. BUCH.) WITH SPECIAL
REFERENCE TO ITS GENERIC POSITION.

By D. D. MUKERJI, M.Sc., Zoological Survey of India, Calcutta.

(PLATE XV.)

In 1831 Gray¹ observed that his genus *Botia* includes "all Hamilton's *Cobites*", but in 1839 Swainson² separated these forms into four distinct subgenera, viz., *Acoura*, *Canthophrys*, *Diacanthus* and *Somileptes* and assigned Hamilton-Buchanan's *Cobitis botia* and *Cobitis gongota* to the last named subgenus.³ He also changed the specific names of these two species into *unispinosa* and *bispinosa* respectively for no other reasons except that Hamilton-Buchanan had observed that his *C. botia* was a "Cobitis with a prickle under each eye", while his *C. gongota* was provided "with two prickles beneath each eye" (Italics are mine). Swainson defined the subgenus *Somileptes* as having the "Body lanceolate, much compressed, covered with small but conspicuous scales; eyes very large, placed near the muzzle; caudal fin rounded"

Cobitis botia, now known as *Nemachilus botia (sensu lato)*, was found by Hamilton-Buchanan "in the rivers of the north-eastern parts of Bengal", and is his first species of *Cobitis*, while *C. gongota*, which is the second of the species in his descriptions of the different species of the genus, was collected from "the rivers of Northern Bengal towards the mountains" In his "Gangetic Fishes"⁴ Buchanan did not publish any illustration of these two loaches, but among his unpublished manuscript drawings there are excellent illustrations of both *C. botia* and *C. gongota*; these were reproduced by McClelland⁵ in his account of the Indian Cyprinidae. McClelland redescribed Buchanan's *gongota* as *Cobitis oculata*, as the fish has very characteristic, large and superior eyes.

In 1863 Bleeker⁶ recognised *Somileptes* as a distinct and valid genus for *C. gongota* and gave an emended definition of it. His diagnosis is as follows: "*Pinnae dorsalis tota post pinnas ventrales sita, caudalis integra. Cirri 6, rostrales 4, supramaxillares 2. Vesica notorea tota in pyxide vertebrali inclusa. Oculi prominentes. Corpus elongatum. sp. typ. Somileptes gongota = Cobitis gongota Ham. Buch.*" (Italics are mine).

In 1868 Günther⁷ merged *Somileptes* into the synonymy of *Cobitis*

¹ Gray, J. E.,—*Zool. Miscell.*, p. 8 (1831).

² Swainson, W.,—*On the Natural History and Classification of Fishes, Amphibians and Reptiles*, II, pp. 310-311 (1839).

³ After defining *Somileptes*, Swainson mentions *bispinosa* as the first species. As is remarked above *bispinosa* of Swainson is the same as *gongota* of Hamilton, and this has been accepted as the type-species by Bleeker.

⁴ Hamilton-Buchanan, F.,—*An Account of the Fishes found in the River Ganges and its Branches* (1822).

⁵ McClelland, J.,—*Asiat. Researches*, XIX, pl. li, figs. 1 & 4 (1839).

⁶ Bleeker, P.,—*Atlas Ichth. Cypr.*, III, p. 3 (1863).

⁷ Günther, A.,—*Cat. Fish. Brit. Mus.*, VII, p. 363 (1868).

and described the species *gongota* as *Cobitis gongota* from a single specimen from "Assam and Bengal" which was "not in good state" of preservation. He observed that in this species the eyes are "small" and the "scales inconspicuous". There is, therefore, some reason to doubt that the fish described as *C. gongota* by Günther was not Buchanan's species, as in this form the eyes are not small, nor are the scales inconspicuous.

In 1872 Day¹ considered *Somileptes* to be congeneric with *Cobitis* and described *C. gongota* from "Assam". Subsequently, however, in 1878² and in 1889³ he considered *Somileptes* as a distinct genus and defined it as follows:—"Body elongated and compressed, dorsal profile nearly horizontal: snout elongated. Eyes prominent. Six barbels—four on the snout and two on the upper jaw. A small erectile, bifid suborbital spine. Dorsal fin inserted slightly behind the ventral; caudal entire." In his *Fishes of India*, Day published a life-size figure of a specimen of *Somileptes gongota* from the Khasia Hills and a reduced replica of this illustration appeared also in his *Fauna* volume. This drawing, however, is not a faithful delineation of the species, as is clear by comparison with Buchanan's original figure and the specimens on which the present note is based. The distributions of the genus *Somileptes* and the species *gongota* as given by Day (1878 and 1889) are "from Orissa through Bengal to Assam" and "Beerbhoom, Assam and Khasi hills" respectively. In his *Geographical Distributions of Indian Fresh-water Fishes* (1879) he gave the habitat of the species as "Himalayas, Assam and Lower Bengal", but it is not clear on what he based his statement that the fish occurs in "Orissa", "Beerbhoom" and "Lower Bengal".

To settle the question whether *Somileptes* should be considered as generically distinct from *Cobitis* (*sensu stricto*), it is imperative that the type-specimen of *Cobitis gongota* should be carefully compared with *Cobitis taenia* Linn., the type-species of the genus *Cobitis*. Unfortunately, none of Buchanan's specimens are available⁴ and one has, therefore, to rely on Buchanan's original figures and descriptions for determining the identity and the taxonomic position of his species. Fresh specimens from the type-localities are also of great help in arriving at definite conclusions in this connection.

Mr. G. E. Shaw recently collected a number of fine specimens of Buchanan's *Cobitis gongota* from the Latchki River at Siliguri, Darjiling, Himalayas, and elsewhere, and has presented a couple of them to the Zoological Survey of India. In reply to my letter to him asking for the precise locality of these two specimens, he writes that they "came from the Latchki River at Siliguri, but I found them in most of the rivers down there, one in the Dooars and one in Assam too".

With Mr. Shaw's specimens before me as a check to Buchanan's original figure and description, it is possible to discuss the generic posi-

¹ Day, F.,—*Monograph of Indian Cyprinidae*, V, p. 174 (1872).

² Day, F.,—*Fishes of India*, p. 608, pl. clv, fig. 2 (1878).

³ Day, F.,—*Faun. Brit. Ind., Fish.*, I, p. 219, fig. 79 (1889).

⁴ Hora, S. L.,—"An Aid to the Study of Hamilton-Buchanan's Gangetic Fishes."—*Mem. Ind. Mus.*, IX, No. 4, p. 178 (1929).

tion of *C. gongota* and to give a detailed description of this interesting loach.

Cobitis, as defined by Linnaeus,¹ is a composite genus. It has subsequently been split up into different genera by various ichthyologists. *Cobitis*, as now restricted, is found in Europe to Asia Minor,² China,³ E. Siberia⁴ and Japan.⁵ Its Indian allies are such genera as *Botia* and *Lepidocephalichthys*, from which, however, it differs in some important characters. I give below, in a tabular form, the chief differential characters of *Cobitis* and *Somileptes*.

Cobitis Linnaeus.

1. Body compressed laterally, slender.
2. Scales inconspicuous.
3. Eyes small, dorso-lateral.
4. Dorsal fin in advance of ventrals.
5. Lateral line incomplete.

Somileptes (Swainson) Bleeker.

1. Body cylindrical, stout.
2. Scales well developed.
3. Eyes large, superior.
4. Dorsal fin behind ventrals.
5. Lateral line complete.

From the above it is evident that *Somileptes* is generically distinct from *Cobitis* (*sensu stricto*), and it may be redefined as follows:—

Body stout, cylindrical and elongated; covered with conspicuous scales, except the head. Lateral line complete. Eyes bulging, fairly large, superior, transversely oval, pupil vertical; covered with skin. A simple or bifid erectile suborbital spine. Six barbels. Mouth small, inferior, horse-shoe shaped; lips fleshy, continuous and free from isthmus. Pharyngeal teeth 10 in number, small, slender, pointed or slightly hooked and arranged in a single row. Dorsal fin inserted behind the origin of ventrals; caudal entire, subtruncate or rounded.

Geographical distribution:—Rivers of Northern Bengal, the Eastern Himalayas and Assam.

Genus **Somileptes** (Swainson) Bleeker.

Somileptes gongota (Ham. Buch.).

D. 3/8; A. 2/5; P. 1/10; V. 2/6; C. 16 (excluding the small compact rays).

The body is elongated, cylindrical and strongly built; its maximum height is in front of the ventrals. The dorsal curvature ascends sharply from the tip of the snout to the anterior margin of the orbit, beyond which it runs more or less horizontally to the insertion of the dorsal fin, whence it curves downwards to form the upper margin of the caudal peduncle. The ventral outline is uniformly curved (pl. XV, fig. 1).

¹ Linnaeus, K.,—*Syst. Nat.*, 10th ed., I, p. 303 (1758).

² Pellegrin, J.,—“*Les Poissons des eaux douces d'Asie-Mineure*”, Paris (1928).

³ Nichols, J. T.,—“Two Chinese Loaches of the genus *Cobitis*.”—*Amer. Mus. Novitates*, No. 170 (1925).

⁴ Berg, L.,—“A Review of the Cobitoid Fishes of the Basin of Amur.”—*Proc. U. S. Nat. Mus.*, XXXII, pp. 435-438 (1909).

⁵ Jordan, D. S., & Fowler, H. W.,—“A Review of the Cobitidae, or Loaches of the Rivers of Japan.”—*Proc. U. S. Nat. Mus.*, XXVI, pp. 765-774 (1903).

The head is swollen, wider than deep, and nearly twice as long as its depth. The length is contained a little over 4 times in the length of the body excluding the caudal fin. The snout is rather long and straight, broad anteriorly and less than half the length of the head; the skin covering bears soft warty tubercles. The skin of the subopercular portion is corrugated. The eyes are superior, fairly large and bulging; they are transversely oval with small vertical pupils and have a thin skin covering. They are placed almost in the middle of the head and are contained nearly 5.5 times in the length of the head. The interorbital space is very narrow, concave and less than half as wide as the diameter of the eyes. A transversely oval shallow depression is present on the occiput. The suborbital groove is inserted just below the eyes. It is almost 1.5 times as long as the ocular axis, fairly deep and imbedded in it is a strong bifid spine. The openings of the nostrils are situated much nearer to the anterior margin of the orbit than to the tip of the snout. Both the nostrils are placed close together and open to the exterior separately through short tubules, one in a vertical and the other in a lateral direction. The gill-openings are lateral and the gill-membrane is joined below the bases of the pectoral fins in front.

The mouth is narrow, inferior and horse-shoe shaped. The lips are very fleshy, continuous and free from the isthmus. The upper lip is thickly papillated and protrudes over the lower one. The lower lip is crenulated in the middle and lobular at the sides. There are six short barbels, all of nearly the same length; two of them are situated on the rostrum, and two midway between these and the angle of the lower lip, where the remaining two are attached (pl. XV, fig. 2).

The dorsal fin is inserted much nearer to the base of the caudal fin than to the tip of the snout, and is behind the origin of the ventrals. It is almost equal to or slightly higher than the greatest height of the body and has a more or less straight margin. The anal fin is short and situated closer to the base of the caudal than to the commencement of the ventrals. The length of its base is contained almost 2.5 times in the length of the caudal peduncle. The pectorals are almost as long as or only slightly shorter than the height of the dorsal; they have a fleshy peduncle at their inner base and a rounded outer border; the unbranched ray is fairly thick and stiff. The ventrals are almost equal to or a little longer than the pectorals; their inner-most ray is the longest; their margin is convex and they are provided with a fleshy appendage. They do not reach the anal opening, which is situated close to the origin of the anal fin. The caudal fin is longer than high and is almost equal to the length of the head behind the opening of the nostrils. Its free end is somewhat irregularly rounded, the rays of its lower half being slightly shorter than those of the upper.

The entire body is covered with conspicuous scales except for the head, which is naked. The lateral line is very distinct, slightly curved anteriorly, almost straight behind, and complete.

The pharyngeal teeth are 10 in number, small, slender, pointed or slightly hooked and arranged in a single row (pl. XV, fig. 4).

The gill-covers on both sides and the roof of the mouth are uniformly covered internally with thick-set prominent papilla-like structures (pl. XV, fig. 3).

The dorsum is blackish with indications of 7 or 8 broad dark vertical bands which pass over a little at the sides. Throughout the body, above the lateral line and some portion below it, are dark cloudy irregular patches which give the fish a characteristic variegated appearance. The lower half of the body is dirty whitish. There is a prominent large dark patch on the cheek. The dorsal and the caudal fins have vertical dark bands. The other fins may have cloudy mottlings here and there.

Registered Number—F. 11113/1. Two specimens collected by Mr. G. E. Shaw from the Latchki River, Siliguri, Darjiling Himalayas, and preserved in the collection of the Zoological Survey of India, Indian Museum, Calcutta.

Measurements in millimetres.

Total length without caudal	89·0	83·0
Height of body	13·5	11·5
Length of head	22·0	21·0
Depth of head	11·5	10·5
Width of head	13·0	12·0
Length of snout	10·0	9·0
Diameter of eyes	4·0	4·0
Interorbital width	1·5	1·25
Length of caudal peduncle	12·0	11·5
Least height of caudal peduncle	6·5	5·0
Height of dorsal fin	14·0	14·0
Length of pectoral fins	14·0	12·75
Length of ventral fins	13·0	13·0
Length of caudal fin	17·0	15·5

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