XXXV.—A FURTHER NOTE ON HAMILTON'S *CYPRINUS* (*GARRA*) *LAMTA*.

In my[1] revision of the fishes of the genus *Garra* it was indicated that the type-locality of Hamilton's[2] *Cyprinus lamta* had to be located in " small streams among rocks south of Monghir " whence he obtained his specimens of *Godyari*, also called *Sahari*. It was further pointed out that in the ' rocks south of Monghir ' reference was probably made to the well-known Kharagpur Hills in the present-day district of Monghir. To elucidate the precise specific limits of the species, topotypes were obtained, but unfortunately I was only able to secure very young specimens, less than 50 mm. in total length. Among the material thus obtained two distinct types were recognised, one with a short central proboscis on the snout and the other without a proboscis. It was then presumed that the former represented the male and the latter the female of the same species. The characters of *G. lamta*, based on juvenile specimens, were, however, not found sufficiently distinctive by Prashad and Mukerji[3] and Mukerji[4], who referred certain examples from Burma to *Garra lamta*. It thus seemed clear that only mature specimens of *G. lamta* could enable a proper appreciation of the species.

In February 1937, I came to know that Mr. A. Das, a botanist and a keen naturalist, was touring in the Kharagpur Hills. A request was made to him to collect specimens of the local fish *Godyari* and sufficient details were sent for the recognition of the species. In March, I received 10 specimens of the desired type with a small miscellaneous lot. Mr. Das, like myself, found that *Garra* is known as *Patharchata*, stone-licking fish, in the Bhimband locality, Kharagpur Hills. The specimens, from 36 mm. to 67 mm. in length without the caudal, were collected from the Man river. The material contains the adult examples of both the sexes, so it is now possible to give a detailed description of the species and to remove a certain amount of confusion from the taxonomy of the genus.

Hamilton's description of *G. lamta* is of a very generalised type, but attention may be directed to the following salient features as noted by him :—

1. Pectoral fins sharp in the middle.
2. Grows to about three inches in length.
3. A faint spot on each side towards the end of the tail.
4. Dorsal fin before the middle.
5. Pectoral fins nearly as long as the head.

In the manuscript drawing of the species there is an indication of a lateral band about the level of the lateral line which terminates behind in the precaudal spot and extends forwards to the gill-opening. The

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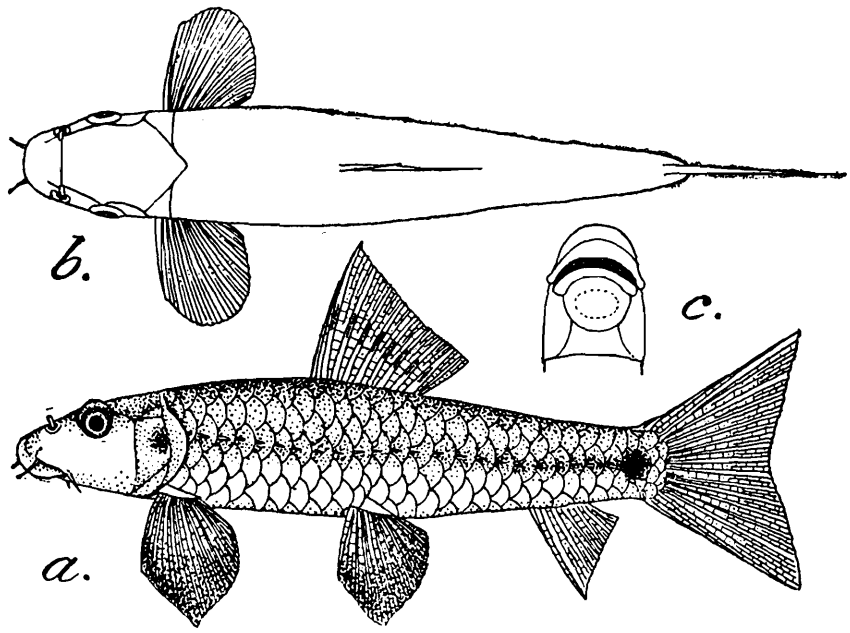
[1] Hora, *Rec. Ind. Mus.*, XXII, pp. 633-687, pls. xxiv-xxvi (1921).

[2] Hamilton, *Fish. Ganges*, pp. 343, 393 (Edinburg : 1822).

[3] Prashad & Mukerji, *Rec. Ind. Mus.*, XXXI, p. 192 (1929).

[4] Mukerji, *Journ. Bombay Nat. Hist. Soc.*, XXXVII, p. 48 (1934).

fins are grayish with the middle portions of the inter-radial membranes of the dorsal fin marked with black spots.



TEXT-FIG. 9.—Copies of Francis Hamilton's manuscript drawings of *Cyprinus (Garra) lamta.*

a. Lateral view finished in colour in the original ; *b.* Outline sketch of dorsal view ; *c.* Ventral surface of head, finished in pencil in the original.

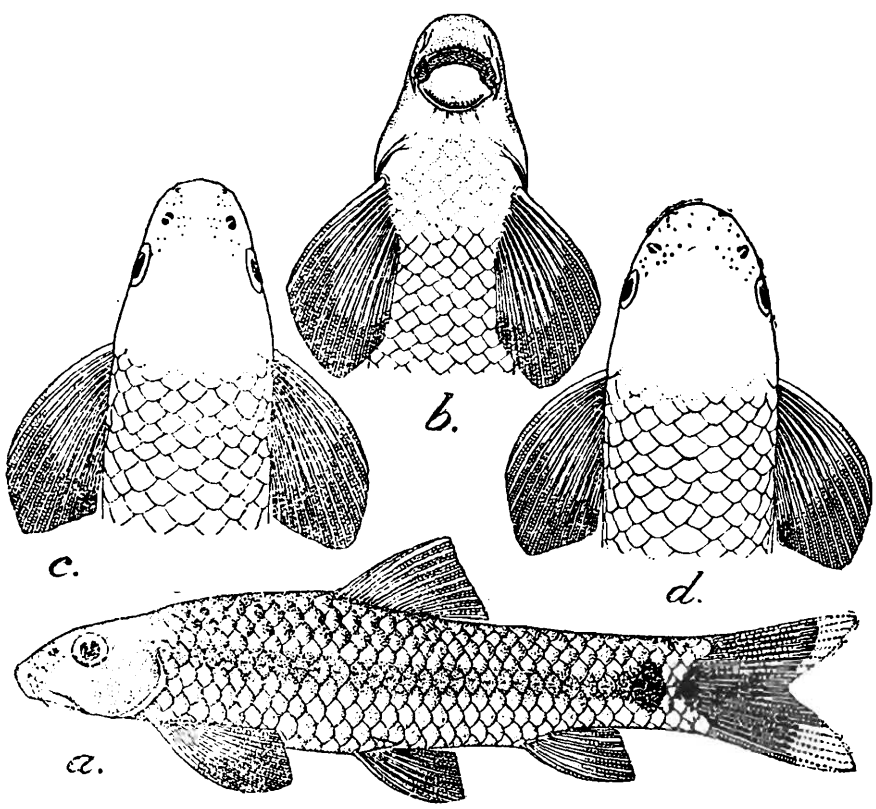
Judging from the characters noted above, there seems no doubt that the material sent by Mr. Das is definitely referrable to *G. lamta* which may now be defined as follows :—

Garra lamta Hamilton.

1822. *Cyprinus (Garra) lamta,* Hamilton, *Fish. Ganges,* pp. 343, 393.
1838. *Gonorhynchus lamta,* McClelland, *As. Res.,* XIX, p. 282, pl. cliii, fig. 2.
1921. *Garra lamta,* Hora, *Rec. Ind. Mus.,* XXII, p. 660.

Garra lamta is a small species in which both the dorsal and the ventral profiles are somewhat arched. The head and the anterior part of the body are flattened. The head is small, broad and broadly rounded in front ; its length is contained from 4·3 to 4·6 times in the total length and from 4·1 to 4·5 times in the length without the caudal. The head is proportionately longer in younger specimens. The head is relatively narrower in the smaller individuals ; its width is contained from 1·2 to 1·4 times and its height at occiput about 1·3 times in its length. The eye is situated near the dorsal profile of the head and in adult males it is almost in the middle of the head while in females it is nearer to the posterior margin of the operculum than to the tip of the snout. The snout is considerably broader in the females than in the males. The diameter of the eye is contained from 2·5 (in the young) to 3·5 times in the length of the head. In young specimens the diameter of the eye is greater than the length of the snout, but in adults it is about two-thirds of the same dimension. The interorbital distance is only slightly greater than the diameter of the eye in young specimens but with growth it almost becomes double the eye diameter. In the adult

females the interorbital space is somewhat greater than that in the males. The tip of the snout is marked off by two short lateral grooves. There is no proboscis but a few horny tubercles are usually present. The mental disc is relatively small.



TEXT-FIG. 10.—*Garra lamta* Hamilton (Specimen from the Kharagpur Hills, Bihar).

a. Lateral view of a male specimen. Nat. size; *b*. Ventral surface of head and anterior part of body of a male specimen. ×1⅓; *c*. Dorsal surface of head and anterior part of body of a male specimen. ×1½; *d*. Dorsal surface of head and anterior part of body of a female specimen. ×1⅓.

The depth of the body varies from 4 to 5·2 times in the total length and from 3·7 to 4·1 times in the length without the caudal. The caudal peduncle is only slightly longer than its height. The body is covered with firmly-set scales which are only faintly marked in the chest region. There are about 32-34 scales along the lateral line and 3½ rows below it to the base of the ventral fins. The rows of scales between the lateral line and base of the dorsal fin varies from 4½ to 5½. The number of predorsal scales is 12. The ventral fin is provided with a scaly appendage at its base.

The dorsal fin commences slightly in advance of the ventrals; its commencement is nearer the tip of the snout than the base of the caudal fin. The longest ray of the dorsal fin is somewhat longer than the head in young specimens and shorter in adults. The pectoral fin is slightly longer than the head and is separated from the ventrals by a considerable distance. The ventrals are considerably nearer the base of the caudal than the tip of the snout; they just extend to the anal opening. The distance between the vent and the base of the anal fin is less than one-third the distance between the commencements of the anal and ventral fins.

The most characteristic feature of the species is its colouration. There is a broad lateral band from behind the gill-openings to the base of the caudal fin where it ends in a rounded spot. It is bordered, both above and below, by light pale stripes. The dorsal surface is grayish and each scale is marked with a dense black dot in the centre of the posterior margin. These black spots form longitudinal stripes. A black spot near the upper angle of the gill-opening is present and the membranes between the dorsal spines, especially near the base, are marked with dark spots. The lateral surface below the lateral line is dusky and so are the dorsal and the caudal fins.

The lateral band and the precaudal spot should enable this species to be readily distinguished.

Measurements in millimetres.

							♂	♂	♀
Total length without caudal	36·0	39·0	45·0	46·0	49·0	51·0	58	65	67
Length of head	8·8	9·0	11·0	11·2	11·7	12·0	13·0	14·3	15·0
Width of head	6·3	7·0	8·0	9·0	9·2	9·3	10·1	12·0	12·1
Height of head at occiput	7·0	7·3	8·0	8·2	8·5	9·0	10·0	10·5	11·0
Height of body	9·0	10·5	11·0	12·2	13·0	13·0	15·0	17·0	17·0
Length of snout	3·1	3·0	4·3	4·7	4·9	4·8	5·0	6·0	6·0
Diameter of eye	3·5	3·5	4·0	3·9	4·0	4·0	4·25	4·25	4·3
Interorbital width	3·9	4·0	5·0	5·0	5·5	6·0	6·0	7·0	7·5
Longest ray of dorsal	9·0	9·0	11·5	11·2	12·0	13·0	13·7	14·0	13·0
Longest ray of anal	7·3	7·5	7·5	8·0	9·0	10·0	11·5	11·0	11·0
Length of pectoral	10·0	10·0	11·0	11·2	12·5	14·5	14·5	16·0	15·4
Length of caudal peduncle	5·7	5·8	7·5	8·0	8·0	9·0	9·0	11·0	11·0
Least height of caudal peduncle	5·0	5·0	6·2	6·9	7·0	8·0	8·0	9·0	9·5

Remarks.—From the above it is clear that the small specimens with a median proboscis on the snout, which I[1] had regarded to be the males of this species, do not belong to *G. lamta*. They seem to be similar to the young specimens of *G. gotyla*, which Mukerji and I[2] collected in the Eastern Doons. It was observed by us that "The proboscis is present in both the sexes and even in young specimens, about 53 mm. in total length, it is fairly prominent."

The young specimen recorded by Prashad and Mukerji[3] from the Sankha hill-stream in the Myitkyina District, Upper Burma, as *G. lamta* belongs to *G. gotyla*, as also the specimen reported upon by Mukerji[4] from the Mali Hka river. The last specimen is undoubtedly similar to the form recorded by Vinciguerra[5] as *G. lamta*, but a detailed study of the specimens has shown that they belong to *G. gotyla*. The proboscis is broad and massive in these specimens and is anteriorly lobed

[1] Among the specimens I had referred to *G. lamta* in 1921, I find that there are only four, 1 from the Man river and 3 from the Katin nallah, which belong to this species while all the others are young of *G. gotyla*.
[2] Hora & Mukerji, *Rec. Ind. Mus.*, XXXVIII, p. 144 (1936).
[3] Prashad & Mukerji, *Rec. Ind. Mus.*, XXXI, p. 192 (1929).
[4] Mukerji, *Journ. Bombay Nat. Hist. Soc.*, XXXVII, p. 48 (1934).
[5] Vinciguerra, *Ann. Mus. Civ. Stor. Nat. Genova* (2), IX, p. 275 (1890).

by the presence of the hard, horny tubercles. In the Indian specimens of *G. gotyla* the proboscis is narrower and projects forward as a short cylinder. It is probable that when further material becomes available from Burma it may have to be regarded as a separate species, but in the present state of our knowledge such a course is not justified. *G. gotyla* is known from the Chindwin and Irrawadi drainage systems (*vide supra*, p. 333); its range extends all along the Himalayas. Deraniyagala[1] found a closely allied form in Ceylon and in commenting on its relationships I observed (*vide* Deraniyagala, *op. cit.*): " The Ceylonese *G. gotyla*, if I may use this phrase, seems to have evolved the characters of the species independently, so that these two forms are the results of a parallel evolution." In view of certain palaeogeographical considerations[2] I now find that at a certain period the fauna of the Himalayas probably spread along the Satpura trend to the Western Ghats and thence to the hills of the Peninsula and Ceylon. The record of the young specimens of *G. gotyla* from the eastern section of the Vindhyan Range is, therefore, of special significance in this connection. The antiquity of *G. gotyla* is also evident from the fact that, according to Deraniyagala, the young of *G. ceylonensis ceylonensis*, the commonest form of *Garra* in the island, often show the characters of *G. gotyla.*

From the above observations it may be concluded that *G. lamta* is known so far only from the Kharagpur Hills for it is likely that the Rapti river form (Gorakhpore Dist.) may prove to be quite different.

XXXVI.—On a New Genus of Chinese Catfishes allied to *Pseudecheneis* Blyth[3].

In his " Study on some Chinese Catfishes", Tchang[4] recorded *Pseudecheneis sulcatus* (McClelland)[5] from China and very fortunately gave a description and two figures of the single specimen obtained in Yunnan and now preserved in the Zoological Museum of Fan Memorial Institute of Biology, Peiping (No. 12016). The description and figures are so different from those of the form known to me from India and Burma that I wrote to Dr. Tchang for a loan of the interesting specimen for comparison with the numerous topotypes of the species in the collection of the Zoological Survey of India, but in reply he expressed his inability to accede to my request. The Yunnanese example, however, seems to be so different from the Indian species that I have no hesitation in suggesting for it a separate genus **Propseudecheneis** and to christen the species, after the name of its discoverer Dr. T. L. Tchang, **Propseudecheneis tchangi,** sp. nov.

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[1] Deraniyagala, *Ceylon Journ. Sci.* (B), XVII, p. 227 (1933).

[2] Hora, *Rec. Ind. Mus.*, XXXIX, p. 255 (1937).

[3] The article along with a specimen of *Pseudecheneis sulcatus* (McClelland) was sent in April 1937 to Dr. T. L. Tchang for his comments and its subsequent publication in the Bulletin of the Fan Memorial Institute of Biology. No reply has yet been received and owing to the Sino-Japanese war its publication in China now seems doubtful.

[4] Tchang, *Bull. Fan Memorial Inst. Biol.* (Zool.), VII, p. 47 (1936).

[5] McClelland, *Calcutta Journ. Nat. Hist.*, II, p. 584 (1842).