

NOTES ON FISHES IN THE INDIAN MUSEUM.

By SUNDER LAL HORA, D. Sc., F. R. S. E., F. N. I., Assistant Superintendent, Zoological Survey of India, Calcutta.

XXX.—ON THE SYSTEMATIC POSITION OF *CYPRINUS COSUATIS* HAMILTON.

Cyprinus cosuatis is one of the ten species assigned by Hamilton¹ to the eighth division—*Cabdio*—of the genus *Cyprinus* which comprises a very heterogenous assemblage of forms. The other species of this division are *C. jaya*, *C. mola*, *C. hoalius*, *C. borelio*, *C. solio*, *C. guganio*, *C. cotio*, *C. devario* and *C. dancena*. The generic name *Cabdio* is not in common use, but according to Jordan² its type should be the first species named, i. e., *Cyprinus jaya* Hamilton. In view of this limitation it is likely that *Aspidoparia* Heckel³, with *A. sardina* as orthotype may have to be suppressed in favour of *Cabdio*. Of the other species, *C. mola* is usually assigned to the genus *Amblypharyngodon* Bleeker, *C. cosuatis* and *C. guganio* to *Barbus* Cuvier, *C. cotio* to *Rohtee* Sykes, *C. devario* to *Danio* Hamilton, while the precise generic and specific limits of the remaining species are still in doubt. Of the two small species at present included in the genus *Barbus*, *B. guganio* is known only from Hamilton's original description and figure and so far as I am aware no specimen of the species is at present available in any museum collection, though according to Hamilton (*loc. cit.*, p. 339) "The *Guganio* (*Gugani*) is probably found in most of the rivers and ponds of the Gangetic provinces, as I have seen it in both the Brahmaputra and Yamuna, the extreme rivers of that territory." Day⁴ considered it to be a close ally of his *B. ambassis*, which he found in "Madras, Orissa, Bengal, and Assam at least as high as Suddya." *Barbus cosuatis* was originally described from the Kosi river, but Day extended its range to "Bengal through the N. W. Provinces, the Deccan and Bombay, and down the Western coast as low as Cottayam in Travancore."

Among other characters Hamilton (*loc. cit.*) noted the following distinguishing features of his *Cyprinus cosuatis* :

"The form is deep, compressed, more prominent on the back than below. The colour is silver, with a greenish back, and the scales on the part are dotted towards the root. The ventral fins are red, all the others are yellowish, and those of the back and behind the vent are stained with black. The eyes are silver, stained above with black."

Day (*loc. cit.*) who figured a specimen of the species from Jubbulpore, noted that the fish attains 2 to 3 inches in length and directed attention

¹ Hamilton, F.—*An Account of the Fishes found in the River Ganges and its branches*, pp. 333-343 (Edinburgh : 1822).

² Jordan, D. S.—*The Genera of Fishes*, p. 115 (Stanford University, California : 1917).

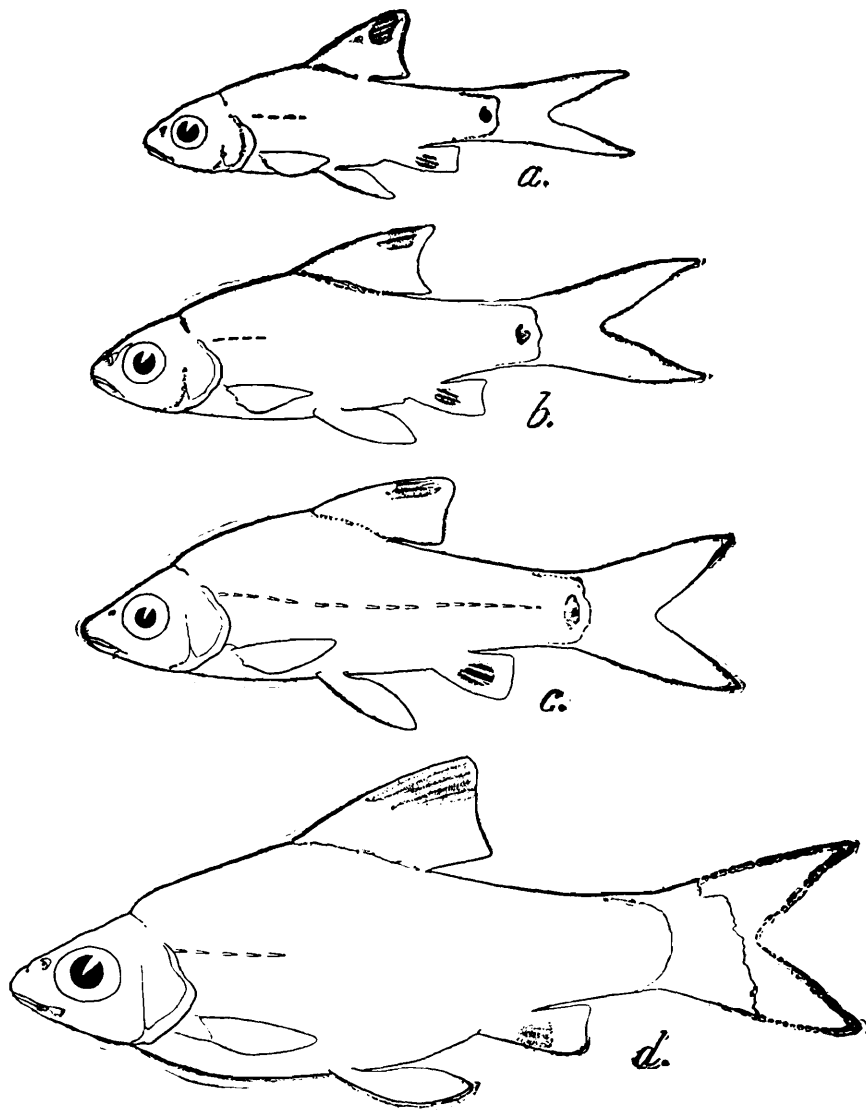
³ Heckel, J. J.—*Ichthyologie (von Syrien)*. In Russegger (Joseph von) : *Reisen in Europe, Asien und Africa, mit besonderer Rücksicht auf naturwissenschaftlichen Verhältnisse der betreffenden Länder, unternommen in den Jahren 1835 bis 1841*. Part 2, p. 288 (1877).

⁴ Day, F.—*Fishes of India*, pp. 576, 579, 581 (1877).

to several of its salient features. Among these mention may be made of the following, (i) dorsal without any osseous ray, (ii) height of dorsal greater than depth of body, (iii) incomplete lateral line, (iv) scales along lateral line larger than others, (v) 8 or 9 rows of scales before base of dorsal and (vi) colouration. Recently in a specimen of the species from Mysore I¹ pointed out the greater extent of the lateral line and the well defined nature of the rounded black spots on the dorsal and the anal fins. Further it was observed that :

“The most remarkable feature of this species appears to be the presence of numerous, fine, parallel sensory folds on the sides of the head. This feature it shares with the fishes of the genus *Cyclocheilichthys* Bleeker, but in other respects it is quite different.”

Later I found that Smith² had already described a new genus *Oreichthys* from Siam for Cyprinid fishes of the type of *Barbus cosuatis* and



TEXT-FIG.1.—Outline drawings of the growth-stages of *Oreichthys cosuatis* (Ham.).

a. 18 mm. in length without caudal ; b. 23 mm. in length without caudal ; c. 26 mm. in length without caudal ; d. 34 mm. in length without caudal.

¹ Hora, S. L.—Notes on Fishes in the Indian Museum, XXVIII. On three collections of Fish from Mysore and Coorg, South India. *Rec. Ind. Mus.*, XXXIX, pp. 17, 18 (1937).

² Smith, H. M.—Contributions to the Ichthyology of Siam, III. A New Genus and New Species of Cyprinoid Fishes. *Journ. Siam Soc., Nat. Hist. Suppl.*, IX, p. 63 (1933).

had assigned to it a new species *O. parvus*, which is said to grow to 31 mm. in total length. In general facies, lepidosis and colouration the Siamese fish seemed so similar to Hamilton's *cosuatis* that I requested Mr. Luang Choola, Officer-in-charge, Bureau of Fisheries, Bangkok, to send me for comparison a few specimens of Smith's species. He very kindly presented 3 examples of *O. parvus* to the Zoological Survey of India, and these have enabled me to come to a definite conclusion that *O. parvus* is a juvenile form of *Cyprinus cosuatis*. Further, it is clear that this species is sufficiently distinct, especially on account of the sensory folds on the head, from the numerous species of the genus *Barbus* known from India, and should, therefore, be retained in a separate genus *Oreichthys* Smith, which as pointed out by its author, is closely allied to *Cyclocheilichthys* Bleeker.

Oreichthys cosuatis (Ham.) is represented by a few specimens in the collection of the Indian Museum, and unfortunately most of them are not in a good state of preservation. The sensory folds on the head are, however, fairly distinct in all of them. A comparison with the young specimens from Siam shows that when the fish is about 18 mm. in length without the caudal fin (text-fig. 1 *a.*), the dorsal spine is longer than the head and the depth of the body, and the spot at the base of the caudal fin is intensely black. The spots on the dorsal and the anal fins are also well marked and seem quite compact. In a specimen about 23 mm. in length without the caudal (text-fig. 1 *b*) the depth of the body is almost equal to the length of the dorsal; the length of the head is considerably shorter than both these dimensions. The three colour spots are somewhat diffuse but more extensive. In a specimen from Mysore, about 26 mm. in length without the caudal (text-fig. 1 *c*), the depth of the body is considerably greater than the length of the dorsal fin, which is almost equal to the length of the head. The dorsal and the anal fin spots are well pronounced, while that at the base of the caudal fin is very diffuse and indistinctly marked. The most remarkable feature about this specimen is that the lateral line, though interrupted in places, extends up to the 20th scale. As a rule, it is present only on the first 4 or 5 scales. In a specimen from the Saran District of Bihar, about 34 mm. in length without the caudal (text-fig. 1 *d*), the length of the dorsal fin, though greater than that of the head, is considerably shorter than the depth of the body. The spot on the dorsal fin is very diffuse and extensive while that on the anal fin is only faintly marked. As far as I can make out from the spirit material, the spot at the base of the caudal fin is almost absent.

Though sufficient material is not available for a detailed study of the variations undergone by this fish with growth, it is clear from the above that the young specimens from Siam are referable to Hamilton's species.

XXXI.—ON A SMALL COLLECTION OF FISH FROM SANDOWAY, LOWER BURMA.

In the course of an investigation of the Anopheline fauna of Sandoway, Lieut. E. S. Feegrade, Malariologist to the Public Health Department of Burma, collected several samples of fish from the stone-lined