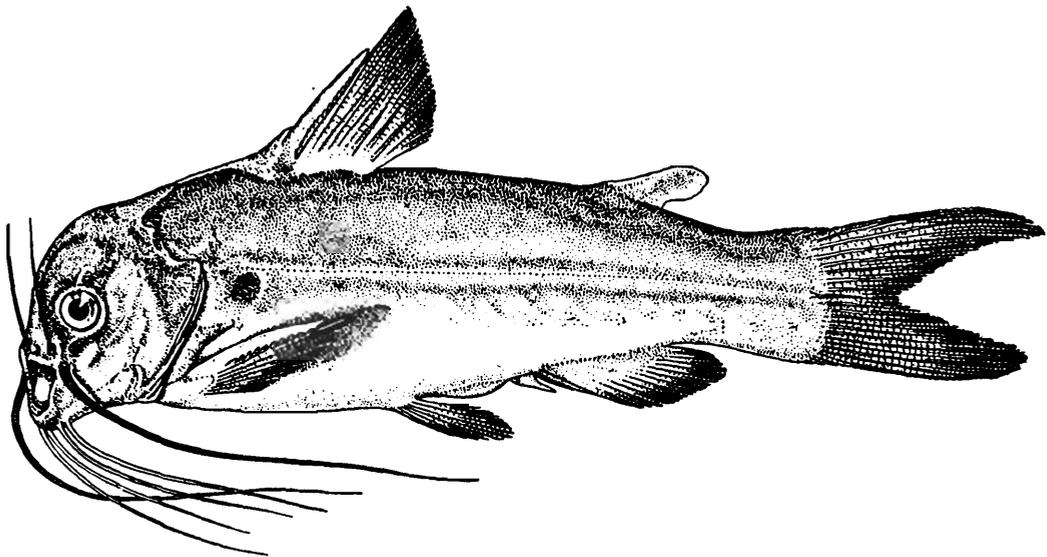


ON TWO "PUG-HEADED" SPECIMENS OF THE CAT-FISH,  
*AORIA GULIO* (HAM. BUCH.).

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

In May, 1927 a "pug-headed" specimen of the cat-fish was procured from a fish-market in Calcutta and later on a similar though much smaller specimen of the same species was sent to me for examination by Mr. J. N. Bhaduri, M.Sc., of the Zoological Department of the Calcutta University. I am obliged to Mr. Bhaduri for affording me an opportunity of examining this interesting specimen. Both the specimens were shown to Dr. S. L. Hora, who identified them as abnormal specimens of the cat-fish, *Aoria gulio* (Ham Buch). Besides identifying the fish Dr. Hora has helped me in the preparation of this note ; for all this my best thanks are due to him.



TEXT-FIG. 1.—*Aoria gulio* (Ham. Buch.); lateral view of the larger specimen.

*Aoria gulio* (Ham. Buch.), unlike most of the freshwater representatives of the genus, is found in seas, estuaries and tidal rivers of India, Burma and the Indo-Australian Archipelago. This fish, on account of its peculiar habitat, is popularly known in Bengal as the "*Nuna-tenggara*" or brackish water "*tenggara*."<sup>1</sup> On enquiry from local fishermen it has been found that the fish is fairly common in the salt-water lakes in the vicinity of Calcutta, and it is probable that the two abnormal specimens under report are from these lakes.

The local fishermen attribute the "pugginess" to some injury to the parts in question. They believe that some voracious fish must have nipped off the upper jaw and the wound on healing has resulted in this peculiar form of the fish. From the very nature of the abnormality it is, however, clear that this view is unjustified. Further, according to the

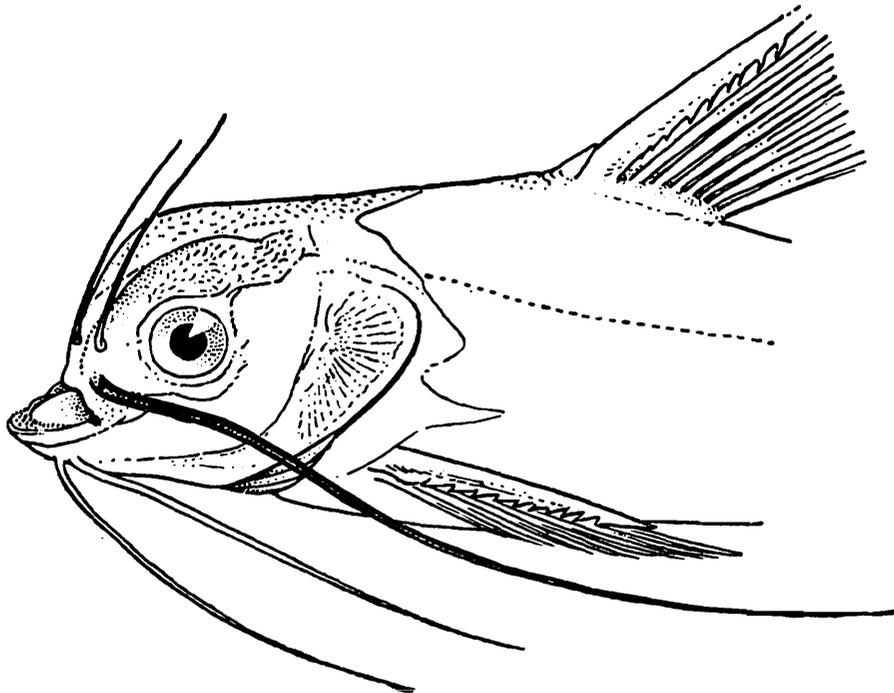
---

<sup>1</sup> *Tenggara* is the Bengali name for most of the species of the genus *Aoria* Jordan.

fishermen similar " pug-headed " specimens, though not common, are also to be found from time to time among other species of fish.

Teratological occurrences of this nature have been recorded <sup>1</sup> among many groups of fish, but so far as I can find from the literature none have been found among the cat-fishes (Siluroidea). In view of the rarity of occurrence of such an abnormality and its importance, I propose to describe here the two specimens mentioned above.

The two specimens differ from normal specimens of *Aoria gulio* (Ham. Buch.) in their " pug-heads ;" they are perfectly normal in other respects. The upper jaw ends more or less abruptly midway between the eye and the anterior end of the lower jaw, which, however, is almost normal and projects a considerable distance in front of the head. Consequently the villiform teeth of the lower jaw and also a portion of the tongue are quite exposed (text-fig. 2).



TEXT-FIG. 2.—*Aoria gulio* (Ham. Buch.) ; head of the smaller specimen.

The front part of the skull is prominent. In the region of the frontals it is sharply humped upwards in two distinct and somewhat prominent boss-like structures, one on either side of the median longitudinal groove. The head of the fish as a result looks quite like that of a typical pug-dog.

The anterior part of the upper jaw arches rapidly downwards and instead of lying horizontal to the long axis of the body lies in a more or less vertical plane. The snout looks directly downwards to the floor of the mouth (text-fig. 2). In a normal specimen, on the other hand, it looks forward and away from it. The anterior margin of the snout is rather broad and straight.

<sup>1</sup> For literature see :—

Atwood, *Proc. Boston Soc. Nat. Hist.* X, p. 68 (1864-66).

Bateson, *Materials for the Study of Variation*, pp. 57-59 (1894).

Patterson, *Zoologist* (4) I, pp. 275, 276, (1897).

Patterson, *Zoologist* (4) II, p. 130 (1898).

Pellegrin, *Bull. Soc. Zool. France*, XXXIII, pp. 25, 26 (1908).

Gemmill, *Teratology of Fishes*, pp. 48-50 (1912).

The median longitudinal groove, owing to the bulging of the frontal bones on either side of it, becomes more marked than in the normal individuals of the species (text-fig. 2). The bones of the skull, as also the interneural shield on the nape, appear to be more consolidated and are more firmly united to each other than they are in normal specimens.

The eyes, which are oval, with their long axes lying antero-posteriorly in normal specimens have become more or less rounded in the " pug-headed " individuals. This may be due to the shortening of the long axis of the normal eyes owing to some amount of compression in the antero-posterior direction.

I give below a table showing the measurements, in millimetres, of the head-region of a normal and of the larger " pug-headed " specimen (text-fig. 1) of *A. gulosus* (Ham. Buch.) respectively; both the specimens are of approximately the same size:—

	Normal.	Abnormal.
Length of head	30	23
Breadth of head	24	24
Height of head	14	19
Length of snout.	11	8
Interorbital width	13	13