

*Bregmaceros* (Pl. III. figs. A-D).

The progress of our knowledge of this genus has been somewhat chequered. It was first described by William Thompson in Charlesworth (*Ann. and Mag. Nat. Hist.*, 1840, vol. iv. p. 184) from materials given to him by Cantor, viz., a young specimen 3 inches long, and a drawing which, with some serious imperfections, was reproduced as a woodcut to illustrate Thompson's description. The species was named *Bregmaceros macclellandii*, and the genus recognised as a member of the family of Gadoids.

Ignorant of the existence of this paper, Sir J. Richardson redescribed and figured the same fish in the *Voy. Sulphur, Ichthyol.* (1843), p. 94, pl. xlvi. figs. 4-7, as *Calloptilum mirum*; and, although a much better figure was given by him, his description leaves as much to be desired as that by Thompson, owing to the small size of his examples, of which the largest was only 2·7 inches long, and is still preserved in the British Museum. He differed from Thompson in referring the genus to the Blennioid fishes.

Before comparing the descriptions given by these two zoologists, I must mention that Richardson himself in 1856 recognised the generic identity of the two fishes (*Encycl. Brit.*, ed. 8, vol. xii. p. 309), although he considered the species figured by him to be distinct from that described by Thompson. He also added to the generic diagnosis two apparently important characters, viz., *the absence of cæca and of an air-bladder*.

In 1862 I characterised the genus in the *Catalogue of Fishes* (vol. iv. p. 368) chiefly after Richardson, having no other material beside that used by my predecessor, and that considerably deteriorated. I differed from him, however, in adopting Thompson's views as regards the natural affinities of the genus, in giving different numbers of the fin-rays and scales, and, finally, in considering his *Calloptilum mirum* to be the same species as *Bregmaceros macclellandii*. My reasons for taking this latter view were, and are, the following:—

The different statements made by the authors as regards the number of dorsal and anal rays are to be accounted for by the uncertainty of the number of short and rudimentary rays in the middle of those fins. In some specimens it is impossible, and in all very difficult, to ascertain their number; nor is there such a marked break in the formation of the fin, that one could say exactly with which ray the anterior division ends and with which the posterior begins.<sup>1</sup> The difficulties are, of course, the greater, the smaller the specimens; thus, Richardson gave in the small specimen, which he figured, thirteen as the number of rays composing the posterior dorsal, whilst I count fifteen or sixteen in the same specimen, and up to twenty in others. Similar

<sup>1</sup> In my diagnosis I have, therefore, expressed this uncertainty by the mathematical symbol  $x$ , which by some subsequent writers has been copied as the roman figure X.