

branch of the outer branchial arch, where they are remarkably short; gill-rakers in quite a rudimentary condition.

The barbel is of nearly uniform thickness, and scarcely more than half as long as the head; it is inserted somewhat behind the anterior extremity of the hyoid bone, and seems to have terminated in a short, small, black lobe.

The vent is placed very far backwards, its distance from the root of the caudal not much exceeding that between the pectoral fin and the end of the snout. The anal commences immediately behind the vent, and its depth, as well as that of the dorsal, is less than that of the tail between these two fins. The dorsal fin is shorter than the anal, commencing a little behind, and terminating in front of, the anal. Caudal short, cleft with pointed lobes. Pectoral very narrow, its upper ray is separate from the remainder of the fin, and produced into a very long and exceedingly fine filament, which nearly reaches the ventral. Ventrals very narrow, pointed, and somewhat longer than the head; the distance of their base from the end of the caudal equals that from the root of the pectoral.

The luminous organs¹ are arranged thus:—

a. A series of rather small, but distinctly developed eye-like bodies begins on the isthmus, and runs along each side of the abdomen to the commencement of the anal fin; it consists of eight in front of the pectoral, twenty-nine between pectoral and ventral, and fifteen between ventral and anal.

b. A parallel series, beginning above the root of the pectoral, and running below the median line of the side of the body along the base of the anal to the root of the caudal. The position of the organs corresponds to that in series *a*; but there are twelve additional posterior ones, from the commencement of the anal to the root of the caudal.

c. A series of similar organs along the base of the branchiostegals.

d. Innumerable smaller, and partly quite rudimentary, organs are scattered between the principal series; they extend upwards on the sides to the back, but they are there more regularly arranged, a biserial row corresponding to each myocomma. A great number of rudimentary organs, like raised pigment-spots, are scattered all over the head.

e. An isolated eye-like organ, larger than any of the others hitherto described, occupies the suture between operculum and suboperculum.

f. The principal luminous organ, situated behind the eye, along the maxillary, is of a narrow cuneiform shape, pointed behind, and longer than the eye; it is said to be rose-coloured during life.

Colour, uniform black.

Habitat.—Very rare at Madeira, where the only specimen I have seen was obtained; it is 9 inches long. Another example is reported to have been taken off the coast of Massachusetts.

¹ The result of their histological examination will be given in Appendix B.