

the aid of a magnifying glass; the longest rays are about the middle of the tail, where they are about two lines long, free, and extremely delicate; they disappear at some distance from the end of the tail. The structure of the anal fin is similar, but the rays are on the whole longer and somewhat less delicate. The number of these rays is independent of that of the vertebræ; two or three may be reckoned to each vertebra.

The pectoral fins are minute, placed immediately behind, and a little above, the gill-openings; they have a comparatively broad base and a rounded margin, and are composed of about thirty closely approximate, very thin rays.

A pair of narrow bluish-white lines commence on the nape and accompanies the dorsal fin, one on each side, until it disappears on the tail. The base of the fin itself runs on a whitish median line which is separated from the lines on the side by a deep black line. Also the anterior part of the anal runs on such a light coloured line, but the lateral lines are very indistinct.

I cannot see a trace of these lines in our young specimen, which agrees in every respect with the larger one, except in some unimportant points to be mentioned hereafter.

Taking into consideration certain discrepancies in the descriptions given by Mitchill and Harwood, Cuvier as well as Johnson suspected that these authors possibly had distinct species of the same genus before them. However, if no more than due allowance is made for the difficulty in making out the exact proportions and structure of these fragile and more or less distorted and injured objects; for individual variations, such as the length of the hair-like posterior part of the tail; for the changes dependent on growth; and finally for the imperfect observations which in Mitchill's, and still more in Harwood's descriptions are manifest,¹ those discrepancies will be taken at their true value.

1. Cuvier draws attention to Mitchill's statement that the lower jaw of his fish was toothless. This may have actually been the case, as the teeth are loosely attached to the jaw and readily come off; or they may have been overlooked by Mitchill, as in our larger specimen such teeth as are still preserved, point inwards, and are hidden under the fold of the skin which runs along the inner margin of the jaw. The mandibular teeth are decidedly smaller than those of the upper jaw, as is best seen in our smaller example which has them fully preserved.

2. The relative length of the jaws and of the body, that is, the distance between the snout and vent, seems to undergo a change with growth; at least so it would appear

¹ Even in Mr. Johnson's description an observation occurs which, without the type specimen, might have been readily misinterpreted and misused. He says: "What is very remarkable about these (gill-) apertures is that, within the lips of each, the opposite sides are connected by three narrow cutaneous bands, two near the anterior end of the aperture, and one near the posterior end." These three "cutaneous bands" are the third, fourth, and fifth branchial arches which are exposed in the gill-opening.