tolerably smooth, exhibiting four to eight protruding bosses on the middle of the axis rod, and bear bell-shaped umbels with somewhat divergent rays of a flat paddle-like form (Pl. L. fig. 8). Others, measuring 0·1 mm., have a thinner, knotted axis rod, and umbel rays with somewhat pointed ends, while small forms also occur, measuring 0·06 to 0·04 or even 0·03 mm. in length (Pl. L. figs. 10, 11, 12).

Very similarly constituted are the spicules which form the skeleton of the other, or gastral side of the curved body. Here also the same oxypentacts occur as hypogastralia, the same pentact pinuli as autogastralia, and amphidiscs of similar form and equally varied dimensions (Pl. L. fig. 1).

In the lateral wall of the larger efferent canals there are also oxypentacts similar to the hypodermal and hypogastral forms, though less strongly developed and less long. Pinuli, however, are absent, but the very abundant amphidiscs exhibit the same size and form as those of the skin.

The long lank marginalia which form the marginal fringe round the edge of the whole sponge, usually measure some mm. (up to 1 cm. or more) in length. They are for the most part quite smooth, form internally a long thin point, while externally they bear small, somewhat distant lateral teeth, which project obliquely upwards and outwards. They finally end externally in a slight club-shaped or bud-like swelling (Pl. L. figs. 1, 4). The long strongly developed spicules (5 to 10 cm. in length), which project like a beard from the thickened lower portion of the sponge body into the mud, are quite smooth. They end internally, *i.e.*, in the sponge body, in a simple point, while towards the lower outer free end they first decrease gradually in thickness, and then again slowly increase, finally forming a double toothed very gently curved anchor. The two teeth of the latter stand out almost at right angles from the shaft, are only slightly bent, and end in a somewhat blunt point (Pl. L. fig. 7).

It is especially interesting to note that in the larger cavities of one of the specimens of *Poliopogon amadou* some small, approximately spherical sponges were found, measuring about 3 mm. in diameter, and undoubtedly young forms of *Poliopogon*. Since their tissue was still in tolerable preservation, it was possible to make sections through the small bodies. These results were important not only for the species but for the whole genus, and indeed for the family of Hyalonematidæ.

I have given in Pl. L. fig. 2 a diagrammatic representation of the structure exhibited in successful axial sections of the young sponge forms. The characters more or less distinctly prominent on various sections have been combined in a synthetic figure. A central cavity with which all the diverticula of the folded chamber-layer directly communicate, opens to the exterior at the upper pole of the somewhat transversely oval section. This external aperture is not, however, completely free and open, but seems still to be covered by a delicate membrane. The *membrana reticularis* which forms the chamber-like diverticula, is perfectly continuous, forming a much folded and puckered