

when seen in sections taken longitudinally through the wall. The two sphincters are in fact merely local accumulations of these muscular rings, which are exceedingly strongly developed (Pl. XIII. fig. 2). The muscular rings rise much more than usual above the surface of the wall, and seldom remain simple, but divide in transverse section into two or three processes; they may even divide repeatedly, and in this way give rise in transverse section to the candelabra-like figure shown in Plate XIII. fig. 2. As the upper sphincter lies at a little distance from the margin of the oral disk, it causes a deep constriction of the wall and a corresponding external collar-like fold (Pl. III. fig. 1, *a*).

The twelve tentacles are placed on the margin of the oral disk where the latter turns over into the wall; they are pointed in the smaller specimens, obtuse and compressed in the larger. They are distinguished in both cases by two longitudinal furrows, one of which runs on the adaxial side (fig. 1, *b*), the other on the abaxial (fig. 1, *a*). The muscular system is ectodermal, and tolerably thickly pleated; it has the same character on the oral disk, which is so small that the tentacles appear to be placed immediately on the oral margin.

The oral opening (Pl. III. fig. 1, *b*) is circular and enclosed by twelve swellings. It leads into a long similarly shaped œsophagus, which hangs down in the middle of the body; the lumen of the œsophagus is narrow above and becomes wider below. I was not able to find out œsophageal grooves, either in surface view after opening the animal (Pl. III. fig. 1), or in transverse section (Pl. XIII. fig. 4); but, on the other hand, it is set with twelve strongly-marked longitudinal ridges, corresponding to the insertions of the septa. As the free margins of the longitudinal swellings are thickened, the intermediate furrows are closed so as almost to form canals.

The septa are thin, veil-like lamellæ, with a thick longitudinal muscle which lies much nearer the œsophagus than the wall. The muscle begins in the lower part, the physa, bulges out in the region of the scapus, becomes narrow again in the upper part of the body, and ends on the oral disk not far from the oral opening (Pl. III. fig. 1). In transverse section it forms a muscular mass of considerable size, which rests like a cushion on the surface of the septum, but is marked off from it by a deep groove which runs beneath its margin on either side (Pl. XIII. fig. 4). As to its structure it is a thickly pleated portion of the longitudinal muscular layer, which, moreover, forms a small longitudinal cord close to the wall. The rudiments of a parietobasilar muscle are also found in a similar position on the side of the weakly developed transverse muscles.

The septa are placed at regular distances from one another, though at the same time they are associated together in pairs. Two opposite pairs of septa have longitudinal muscles on the sides turned from one another, whilst on either side there are two pairs with the longitudinal muscles turned towards one another. This is, therefore, an arrangement of the septa which must be taken as a starting point for all Hexactinæ. *Halcampa clavus* has only the principal septa, which, as we have already shown, are distinguished by a