

The constitution of the margins is the standard by which I have determined that the stomidia may be normal phenomena and not merely rents in the oral disk. The outer stomidia leading into the interseptal spaces are separated from one another by narrow ridges, which have arisen from the septa belonging to a pair converging upwards and becoming directly united. The roof of an intraseptal space furnished by the oral disk, which is usually of considerable breadth, has consequently undergone almost complete retrograde formation. Towards the oral opening the stomidia are surrounded by swollen lips, folded like frills; these are still more perceptible on the inner stomidia, round which they form a border.

As the arrangement of the stomidia follows that of the tentacles in other Actiniæ, there seems no doubt that they represent the latter morphologically. I have already shown in the Introduction that they may be derived in the most simple way from the tentacles if we assume that the wall of the tentacle has become contracted into the encircling lip-swelling, whilst the terminal opening has become proportionably widened.

The oral disk is thickly pleated inwards from the stomidia, and covered with radial swellings, which lie between the insertions of the septa and gradually disappear towards the oral opening. The radial muscular fibres do not pass into the mesoderm, but remain in the ectoderm; like all muscular fibres of *Polystomidium*, they are very powerful, and are united into a thickly-pleated lamella. The muscular folds are specially high in the peripheral parts of the oral disk, where they lie thickly compacted and repeatedly branched (figs. 4 and 7).

On the œsophagus there is a remarkable circular fold, which runs at a little distance below the labial margin, and marks off in this way a small upper section of the œsophagus. Openings, equal in number to the stomidia on the oral disk, lie in this section, and lead directly into the radial chambers (fig. 1). I have only observed similar formations in *Polyopis striata*, another Actinia in which the tentacles have undergone retrograde formation. The lower section of the œsophagus is covered with numerous longitudinal furrows. Besides these there are two well-marked œsophageal grooves, and two long œsophageal lappets, by which the directive septa can be easily determined.

The number of the septa is smaller than in most of the larger Actiniæ. Calculating the number in the entire animal from the quadrant in which I dissected the septa, and from the longitudinal lines on the surface of the body, there are altogether thirty-six pairs of septa; six pairs of principal septa of the first order, six pairs of the second order, and twenty-four pairs of the third. The last number is very remarkable, as there are usually only twelve pairs of septa of the third order. In consequence of this the interseptal spaces of the second order are divided, not as usual into two, but into three interspaces, because of the duplication of the septa of the third order. In this way *Polystomidium patens* shows a variation from the regular conditions of the hexamerous Actiniæ.

The muscular part of the septa is very thick and powerful, and uniformly strong