

they are not of the same size, become smaller in proportion as they belong to the more lately formed intraseptal spaces. Neither of these rules applies to *Polysiphonia tuberosa*. A glance at fig. 9 (Pl. II.) shows at once the differences which take place in one and the same circle, and if we go into the relations with the intraseptal spaces, we find that the twelve largest tentacles open into the twelve primary and secondary intraseptal spaces, whilst the smallest of all the tentacles belong to the twelve tertiary intraseptal spaces. In *Polysiphonia* the principle which regulates the size of the tentacles may be included in the proposition, that the tentacles become smaller the further they are removed from the twelve large tentacles of the first and second orders.

The œsophagus is tough and thick walled like the oral disk, whilst the septa are thin like veils; the œsophageal grooves and longitudinal furrows require no special description. Of the forty-eight pairs of septa twenty-four are perfect, but the state of preservation of all the internal organs of the species was such that I can say nothing as to the structure and arrangement of the reproductive organs.

*Polystomidium*, n. gen.

Liponemidæ, with longitudinal furrows and marginal spherules on the wall; tentacles transformed by retrograde formation into stomidia; circular muscle endodermal.

In the *Polystomidia*, the tentacles have undergone retrograde formation to an extent which has hitherto been observed only in the genus *Polyopsis*; the only traces of them are the terminal openings, which lead directly into the radial chambers and are surrounded by swollen margins, the remains of the tentacle wall. In their habit of body, in the endodermal position of the circular muscle, and in the presence of the marginal spherules, these animals are allied to the Antheadæ.

*Polystomidium patens*, n. sp. (Pl. V.).

Body dish-shaped, widening from the small pedal disk to the wide oral disk; stomidia in two alternating rows.

*Habitat*.—Station 296. November 9, 1875. Lat. 38° 6' S., long. 88° 2' W. Depth, 1825 fathoms. One specimen.

*Dimensions*.—Diameter of the oral disk, 6 cm.; diameter of the pedal disk, 1.5 cm.; height of the wall, 2.7 cm.

*Colour*.—(Determined from the spirit specimen) brownish-grey, the endodermal parts brown-violet, except the filaments which were coloured white.

Of this interesting deep-sea Actinia, which I have placed here under the name *Polystomidium patens* as the representative of a new genus and new species, I had unfortunately only one specimen at my disposal, and it had been so severely injured in being dredged from the depth of 1825 fathoms, that it was in a condition but little adapted for minute examination. The body was flattened into a cake, of which one side was com-