

Another consequence of this peripheral thickening is the eccentric position of the tentacle tube, which is thrust towards the adaxial side, where it rises in the form of a short process bent slightly outwards. It is furnished at the end with a wide opening, visible to the naked eye; its surface is wrinkled in consequence of muscular contraction, and its walls are brittle like those of other parts of the body.

The longitudinal bundles of the tentacles being prolongations of the radial muscles of the oral disk are likewise mesodermal, though forced apart and into an irregular course by the abundant connective substance (Pl. IX. fig. 2); it is only near the point of the tentacle that the muscular bundles are collected into a layer close under the endoderm (Pl. IX. fig. 6); they are consequently separated from their place of origin, the ectoderm, by a wider interspace than in any other Actinia. The bundles, which are still strong in the bulb, are, in the tentacle tubes, resolved by repeated division into very small groups of fibrillæ, if they have not ended previously as many of them do. In short, the tentacles are, both from the extreme weakness of their muscles and from the stiffness of their walls, very ill adapted for seizing upon prey, whilst, on the other hand, the wide lumen of the terminal opening indicates their function as inhalent canals and tubes. We have therefore plainly before us a process of transformation, which is further advanced in *Sicyonis* and still more so in *Polyopsis* and *Polystomidium*, and which consists in the walls of the tentacle, its muscles, and its supporting lamella becoming reduced, whilst the terminal opening becomes widened. The tentacles are first transformed into tubes, and later into simple openings in the oral disk. As this is plainly the most important characteristic of our Actinia, I have named the animal *Polysiphonia* on account of the tubular nature of the tentacles.

The number of the tentacles amounts to nearly two hundred, perhaps to even more. They are distributed in two alternating rows, which do not, however, describe a simple circle, but are twelve times arched outwards at equal distances, so that the periphery of the oral disk becomes twelve lobed. At each of the twelve points which project inwards and separate the twelve lobes there is a remarkably large tentacle, which can easily be recognised by the thickness of its bulb; outside it, and belonging to the outer row, there are two equally large tentacles, whose bulbs are fused together; the other tentacles become smaller the further they lie right and left from these fused tentacles, so that the smallest are found on the outermost portions of the lobes.

The arrangement just described is still more plainly seen if we cut away the tentacles and their basal swellings by a horizontal section; this gives the figure shown in Plate II. fig. 8, in which the position of the tentacles is shown by the transected triangular canals. The mode in which the size of the tentacles gradually diminishes in the two alternating rows is very characteristic of *Polysiphonia tuberosa*, and distinguishes it from the majority of Actiniæ. In the Introduction I laid down the following rules:—(1) that the tentacles of one circle are commonly of the same size; (2) that the tentacles, if