

rows were closely identical. The number of the papillæ varies between six and seven. From this observation it may be inferred that with increasing growth an addition to the rows of papillæ occurs, proportional to the additions to the pairs of mesenteries. In connection with this is the fact that the rows of papillæ correspond to the intra-mesenterial chambers.

Two examples of the present species were taken from the same locality as the one example of *Amphianthus bathybium*, Station 241. This renders it necessary to weigh the possibility that the differences which have been made of importance, are perhaps only of secondary significance, and that all the specimens may be referred to one species. Owing to the limited material, the question could not well be decided.

From the minuteness of the organism, anatomical investigation could only be effected by means of longitudinal and transverse sections; to this purpose I devoted two complete examples, the one from Station 241, the other from Station 244, besides quadrants of specimens from Stations 241 and 56. It resulted that the papillæ were proved to be solid outgrowths of the body-wall, and, like it, consist of an extremely fibrous mesogloea. The fibres are generally interlacing, as is for the most part normal among Actiniæ, so that the tissue appears finely granular; they also here and there show a tendency to arrangement into bundles. In transverse sections, therefore, a reticulate figuring appears round the endodermal lining; this can be rendered clearer by staining, when it appears that small branches of the fibrils cross the course of the rest of the fibrils in a longitudinal direction. Similarly, one sees numerous radial fibres also in the peripheral parts of the body-wall, and a corresponding radial striation is thus produced.

The sphincter is completely embedded in the connective-tissue of the body-wall, and consists of small mesogloéal muscle-bundles composed of few, but powerful, fibres. In some places only two or three fibres are united in a bundle, or a single fibre even may run in the connective-tissue. The individual bundles are enclosed in such numbers in the mesogloea as to be separated from the two epithelial surfaces by only a narrow layer. In transverse section, the muscle in most cases forms a club-shaped figure, being of weak development below and broadening out strongly upwards; this increase in breadth is so considerable that the whole upper end of the body-wall is strongly thickened. Even in the youngest specimens the sphincter was completely formed, and inclosed in the mesogloea. As it is separated from the endodermal circular musculature by the insertion of a layer of connective-tissue, it seems that in the course of further growth the bundles can only increase by division of the bundles of fibrils.

The musculature of the oral disc and tentacles is purely ectodermal, but very markedly pleated. The number of tentacles corresponds to the number of mesenteries, and this is different in the different individuals investigated. In the youngest specimen from Station 244, the two first cycles were already formed, and of the third traces