specimens of one species, which I will here describe on account of the striking appearance of the body.

The body of Stephanidium is in diameter 1·5–2·2 mm., and about 1 mm. high in the contracted condition. The epithelium had been stripped off at most points, and remained only on the lowest parts of the body-wall, the mesoglœa thus being exposed over a wide extent, and allowing the mesenteries to be seen through it. The resulting appearance is drawn in Pl. I. fig. 14, and was originally interpreted as follows:—I believed that the surface was indented by deep furrows corresponding to the mesenteries; the ridges lying between these furrows become narrower, from a definite part of the body-wall outwards; they are extremely unequal in breadth, a broader and a narrower ridge alternating regularly with one another, and to every broader ridge corresponds, at the upper edge of the body-wall, a special structure of the following nature: the edge of the body-wall is elevated into a kind of battlement (Pl. III. fig. 7), on the outer side of which are situated roundish or oval bodies, which call to mind the marginal spherules of *Actinia mesembryanthemum*. The longitudinal ridge of the body-wall meets the spherule, splits into two forks, and surrounds the structure from below.

Sections through the animal, however, showed that the body-wall is smooth, and that the appearance of furrows was caused by the insertions of the mesenteries. On the other hand, the spherules are really present, and form evaginations of the body-wall, above a spot which is marked by the position of the circular muscle (Pl. III. fig. 1). The latter, in spite of the contracted condition of the Actinian, is of weak development, and is merely a part of that endodermal circular muscle-layer which is at other points hardly recognisable, but is here elevated into small folds. It is most obvious at those places where it traverses the thickness of a mesenterial insertion; here the endodermal muscle-layer is not recognisable, but mesoglœal muscle-rings are embedded in the region of the sphincter, largest at the upper end, and becoming gradually less obvious in a downward direction, till one meets with small groups of only two or three fibres, or even with completely isolated fibres.

Of the tentacles and oral disc it can only be said that the ectodermal muscle-layer is strongly pleated.

The mesenteries, the number of which may be learnt even by superficial observation, amount to twenty-six, and are differentiated, as in the Zoantheæ, into macro- and micro-mesenteries. Of their arrangement, despite much trouble, I have not yet arrived at a completely clear comprehension, but I could demonstrate the probability that the directives of the one side are macro-mesenteries, those of the other micro-mesenteries, that dorsal and ventral mesenterial zones meet with micro-mesenteries, and that one pair is more developed on the one side than on the other.

The mesenteries (probably only macro-mesenteries) bore ripe male generative organs. I was unable to recognise a siphonoglyphe.