They appear to be homologous with the radial canals already described as occurring in a similar connection in *Sporadopora dichotoma* (Pl. X. fig. 3). In transverse sections of a zooid system, these radial offsets have much the appearance of the mesenteries of an Anthozoan coral cut across, and in some sections they show a certain amount of regularity in disposition at the particular level selected for the cut (Pl. XI. fig. 12).

These radial structures are here termed offsets, and not canals, because, although in some instances they appear to be similar in construction to the ordinary cœnosarcal canals, and usually show similar structure to these at their outer extremities, they usually consist towards their middles and inner extremities of simple bands of transparent fibrous tissue. The exact structure could not be determined, but it seems probable that these radial bands represent radially disposed offsets of the canal meshwork, which have become developed into fibrous organs with an elastic or muscular function, which is brought to bear on the zooid sac. In the case of the radial canals of *Sporadopora dichotoma*, distinct muscular elements were observed as forming part of their structure.

Dactylozooids.—The dactylozooids and their sacs in *Allopora profunda* are so closely similar in form and structure to those of *Stylaster densicaulis*, that they need no further description.

Gastrozooids.—The sacs of the gastrozooids in the present species differ from those in *Stylaster densicaulis* in being of smaller diameter in proportion to the dimensions of the pore cavities, and in being held in place by means of the radial offsets already described. It is possible that the wall of the sac of the gastrozooid lies nearer to the wall of the gastropore in the recent condition of the coral than is represented to be the case in Plate XXXIX. G Z, and in Plate XI. fig. 12; but all the spirit specimens examined yielded a similar result when decalcified. The sac of the gastrozooid is, as usual, a reflection of the surface layer of the ectoderm. In the contracted condition it forms a long tubular cavity, somewhat narrowed in the region just above the gastrozooid and at the mouth, and dilated towards the centre. At its mouth, the marginal fold of the sac rises in the form of a flattened dome somewhat above the level at which the openings of the sacs of the dactylozooids commence.

The gastrozooids are very deeply seated at the bottoms of their sacs. They are dome-like in form, with expanded bases. A whorl of tentacles, set on at some distance from the summit of the dome, marks the commencement of the large rounded hypostome. The tentacles are twelve in number, and are set on in a single whorl. They are elongate-ovoid in form. From the base of the zooid a series of radially disposed large canals pass outwards to be distributed as in *Stylaster densicaulis*, a certain number of their branches forming a tortuous meshwork, offsets from which pass to join those of the gastrozooid of the adjacent system.

The structure of the zooid cyclo-systems is clearly displayed in Plate XI. fig. 12, which