

The mode in which the hydrophores form direct continuations of the segments of the stem is quite similar to the condition met with in *Halecium dichotomum*.

The gonangia are for the most part borne in an entirely similar way on the free summits of the segments of the ramifications, thus taking the places which in other parts of the colony are occupied by the hydrophores. Gonangia are also occasionally borne on the summits of short lateral branches given off close to the free end of the segment.

The gonangia present in the specimen appeared to be male, and their contents exhibited some curious and interesting features. Through the axis of the compressed pyriform gonangium the blastostyle (figs. 4 and 5, *a*) extends as a continuation of the cœnosarc of the stem, and soon emits from its side a single gonophore (figs. 4 and 5, *b*) which continues to be surrounded by an ectodermal envelope (figs. 4 and 5, *c*) from the sides of the blastostyle. The distal half of the cavity of the gonangium is occupied by a remarkable structure which lies like a cap over the summit of the gonophore, and consists of two concentric but laterally compressed hollow thick-walled hemispheres, the inner entirely embraced by the outer. The outer (fig. 4, *e*), which is in contact with the inner surface of the gonangium walls, is composed of radiating filaments, each of which under a sufficiently high power of the microscope may be resolved into a linear series of spherical corpuscles. The structure of the inner hemisphere (*d*) which lies in contact with the membranous envelope of the gonophore is more obscure, but would seem to consist of a plasmatic mass containing irregularly disposed nucleus-like corpuscles. The double cap which thus lies upon the summit of the gonophore in the young gonangium gradually atrophies as the gonophore advances towards maturity, and ultimately disappears (fig. 5) or leaves behind only a few radiating irregular threads as evidence of its former existence.

### *Diplocyathus*, n. gen.

*Name* from διπλός, double, and κύαθος, a cup, in allusion to the accessory cup at the base of the hydrotheca.

*Generic Character.* *Trophosome*.—Hydrocaulus a branching stem on which the hydrothecæ are replaced by hydrophores, each having a small cup of a different form at its base.

*Gonosome* not known.

This remarkable genus has strong affinities with *Halecium*, from which it differs in the presence of a second cup-like receptacle at the base of every hydrophore. This receptacle is probably a true sarcotheca, and *Diplocyathus* would thus afford an additional instance of the presence of such bodies in Hydroids not belonging to the Plumularinæ.

It is impossible, however, to avoid a comparison of the accessory cup and its contents with the "tentaculoid organs" described by Hincks in *Ophioides*,<sup>1</sup> another genus having close affinities with *Halecium*. An examination of living specimens can alone afford

<sup>1</sup> *Ann. and Mag. Nat. Hist.*, ser. 3, vol. xviii. p. 421, pl. xiv., 1886; *British Hydroid Zoophytes*, p. 230, pl. xiv.