

the latter is either conically pointed as above (Pl. LXIX. fig. 5), or becomes gradually narrower towards the end.

In the fibrous rudiment of a stalk, the majority of the long diacts, which vary exceedingly in thickness, have their ends thickened in club-like fashion, or thickly beset with spines, while on the surface of many which are otherwise smooth small spines occur on the middle portion. Towards the lower end of several of the long diacts, which are disposed in longitudinal bundles parallel to one another, one finds spines, bosses, or protuberances of some kind projecting laterally. These seem to represent the rudimentary traces of the synapticula which are subsequently seen in their developed form.

The radially disposed, freely projecting prostalia, which are found on the side and probably were also on the superior margin of the cup-shaped body, are oxydiacts measuring 2 to 4 cm. in length. Their freely projecting surface is, for the most part, somewhat thickly studded with numerous minute, quite irregularly scattered, conical bosses or spines.

Genus 10. *Aulocalyx*, n. gen.

This genus contains only one species, *Aulocalyx irregularis*.

Aulocalyx irregularis, n. sp. (Pl. LX.).

Off Marion Island, south-east of the Cape of Good Hope (Station 145A, lat. 46° 41' S., long. 38° 10' E.), from a depth of 310 fathoms and a volcanic sand bottom, several much injured and partially macerated specimens of a Hexactinellid were dredged. The lattice framework still hung together, and the general form was that of a broadly expanded cup with complex, much folded or diverticulated wall (Pl. LX. fig. 1), similar to that observed in *Periphragella elisæ*, Marshall. Although the fragments obtained were only from 3 to 4 cm. in height, it seems probable that the uninjured cup was at least twice as high. Of the soft tissue only some very small fragments remained.

The skeletal framework, which is moderately thick at the base and as hard as stone, becomes gradually looser and more delicate towards the upper end, and finally so sparse and thin, that, as in *Regadrella*, *Dictyocalyx*, *Rhabdocalyptus*, *Hertwigia*, &c., one is inclined to believe that in the upper, most recently added portion no firm fusion of the skeletal elements has occurred.

As to the general structure of the soft tissue, it must be noted that between the two sieve-like, perforated, bounding lamellæ of the body-wall (the dermal and gastral membrane), the membrana reticularis forms in simple folds a connected series of thimble-like diverticula composing the chamber layer. The complication of this folding increases