

Hexactinellid, which he names *Hyalonema arcticum*, belongs to the genus *Hyalonema*. No *Hyalonema* possesses a "round hollow stem," with rough, rod-like spicules, rounded off at both ends; and in no *Hyalonema* are there rough discohexacts, such as are figured (*loc. cit.*, fig. 10 α). On the other hand, I conjecture from the description and from the figures of Armauer Hansen that we have to deal with a species of my genus *Caulophacus*, and certainly at least with an Asconematid.

Character of the Genus.—The body is generally in the form of a thick-walled cup, from the shallow cavity of which a central conical boss projects. From the upper sharply defined border, which is distinguished by a fringe of marginal spicules, an independent sieve-net-like perforated membrane extends in many species over the whole oscular opening. From the centre of the lower, usually somewhat narrowed end of the body, a tuft of long and strongly developed basal spicules projects downwards. The tuft consists wholly or for the most part of four-toothed anchors, which serve to moor the sponge in the loose mud. The bundle of spicules is continued superiorly into the cone which rises in the gastral cavity. In most species, and perhaps even in all, the upper portion of this basal tuft is surrounded by an encrustation of *Palythoa*, which begins just below the end of the body proper, extending in different individuals to a very varied distance, but never growing on the lower somewhat bushy divergent portion of the tuft.

Both dermal and gastral skeleton are composed (1) of strong pentacts, with the unpaired ray sunk more or less deeply into the parenchyma, (2) of pinuli which have their tangential basal cross inserted in the skin, and (3) of amphidiscs which are radially disposed with the median axial cross portion embedded in the skin, and with one end projecting freely outwards, while the other extends into the parenchyma, or into the subdermal or subgastral spaces as the case may be. Amphidiscs more rarely occur tangentially in the skin, but are then represented only by minute forms. In some species the gastral skeleton is continued without much change into the efferent ducts, *i.e.*, into the canalicular skeleton. The parenchyma contains large and small oxyhexacts, cruciate tetracts, triacts, straight diacts, and occasionally isolated monacts.

The chambers are not so distinctly marked off as glove-finger or thimble-shaped sacs as in most of the other Hexactinellids. They appear rather as more irregular and less sharply defined diverticula of the membrana reticularis.

I shall divide the genus *Hyalonema*, Gray, into the two subgenera *Hyalonema*, *sens. strict.*, and *Stylocalyx*—a distinction based on the presence or absence of an oscular sieve-plate.