Zoology Part VII: Report on Certain HYDROID, ALCYONARIAN, and MADREPORIAN CORALS. By Professor H. N. Mose

these tubular cavities are set in a circle, at the bottoms of the interspaces between the pseudosepta, at points about equidistant between the inner extremities of the pseudosepta and the outer margins of the chambers which they enclose (Pl. II. fig. 15).

The ampullæ are confined to the zones around the pore systems, and do not occur on the branches. Their cavities are usually kidney-shaped.

Soft structures of *Astylus subviridis*.

The general arrangement of the soft structures is represented on Plate VIII. fig. 1.

Cœnosarc.—The usual surface layer is present, which is continuous with the sacs of the zooids. A fine superficial reticulation of smaller cœnosarcal canals (Pl. VIII. fig. 1, S S) extends over the surfaces of the branches and ampullæ, and coral generally, beneath the surface layer. The axes of the branches are occupied by meshworks of large canals, which lead from one cyclo-system to another, and place the whole of the systems in free communication with one another.

Large canals are given off from the periphery of the gastrozooids. Some of these communicate directly with the axial meshwork of canals, whilst another set passes upwards in the wall of each cyclo-system to join, after a certain small amount of ramification and anastomosis, the basis of the dactylozooid. From the surface of the meshwork of these latter canals which adjoins the dactylopore cavity, a few transverse smaller canals are given off, which pass inwards radially to be attached to the wall of the pore-sac, and represent the more fully-developed "radial offsets," already described as occurring in *Allopora profunda* (Pl. VIII. fig. 1, R).

The ampullar sacs are embedded in a meshwork of offsets of the larger canals, and each of the gonophores is attached to one or more stout canal branches.

Stout offsets of the deeper canal meshwork traverse the interior of the pseudoseptal laminæ, and especially near the summits of the pseudosepta large tortuous branches pass radially outwards between the dactylozooid sacs, and, branching at their outer extremities, join the surface network at the margins of the cyclo-systems (Pl. IX. fig. 2). Just over the outer extremities of each of the pseudosepta, at the margin of the top of each cyclo-system, and in the angles between the outer margins of the dactylopores, are situated ovoid nematophores. A single nematophore is placed in each above-described position. The nematophores are ovoid sacs, closely packed with about three tiers of nematocysts of the larger form, placed with their longer axes parallel to those of the containing sacs (Pl. IX. fig. 2, N).

The endoderm of the soft parts in the present form were observed to have, in the fresh condition, a dusky bluish-green colour, with which the whole cœnosarc and zooids of the recent animal when dredged were seen to be tinged. The pigment is soluble in alcohol, and yields a green solution, which produces a well-marked absorption-

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