

pores divided into two chambers, an upper and a lower, by a constriction of their walls. Opening between the chambers rendered horse-shoe shaped by the projection across it, in the direction of the tips of the branches, from that side of its margin placed nearest the base of the branches, of a tongue-like excrescence. Ampullæ in the male stocks in a ring around the cyclo-system masses; none scattered on the branches. Dactylozooids, when at rest, doubled down within the upper chambers of the gastropores. Gastrozooids flask-shaped, devoid of tentacles, with numerous basal canals. Gonangia in the male stocks containing a central mass of cells from the surface of which are developed as buds numerous pedicellate lobular sacs, in which the spermatozoa are produced. Female stocks unknown.

12. *Cryptohelia*, Milne-Edwards and Haime.

Cœnosteum closely resembling that of *Astylus* in all respects, excepting that the cyclo-system masses are not so prominent, that the opening between the upper and lower chambers of the gastropores is circular in outline, and that a lid-like lamina of calcareous matter is directed horizontally across the mouths of all the cyclo-systems. The lids are supported on stout columns arising from the margins of the cyclo-systems and inclined over them. They spring from the sides of the systems nearest the bases of the branches, and are directed towards the tips of the branches. In female stocks only a single ampulla and gonangium developed in relation with each cyclo-system. No ampullæ on the connecting branches. In the males several ampullæ in the walls of each cyclo-system. Soft structures as in *Astylus*. In female stocks numerous gonophores present in each gonangium in all stages of development. Spadix cup-shaped, developing, as in *Errina*, into a fringed network at the margin. A solitary ovum developed in relation with each spadix. Planula very long and worm-like.

PEDIGREE OF THE HYDROCORALLINÆ.

The line of descent of the various genera of the Stylasteridæ from a parent form seems to be traceable with especial clearness. All gradations are present by which simple circular mouthed pores sporadically scattered over the cœnosteum become grouped and modified into cyclo-systems of the most symmetrical and complex character. Since styles appear in some genera in the dactylopores as well as in the gastropores, it seems probable that in the ancestral form or "Archistylaster" styles were present in both forms of pore. If the Milleporidæ prove closely related to the Stylasteridæ when their gonophores have been investigated, it will follow that the two families have had a common ancestor, and that Hydroids have developed a calcareous support only once in their history and not in two separate instances. This common ancestor may be presumed to have had a hydrosoma composed as throughout the sub-order Hydrocorallinæ; with its