

SECTION III.—GENERAL REMARKS ON THE HYDROCORALLINÆ.

CLASSIFICATION OF THE HYDROCORALLINÆ.

I place the Stylasteridæ with the Milleporidæ in a separate sub-order of the Hydroids, which I term Hydrocorallinæ in accordance with a suggestion which I made in my paper On the Structure of *Millepora*, in the Phil. Trans., vol. clxvii. part 1, 1877, p. 132. The placing of the two families together seems justified in the present stage of knowledge concerning them; but the Milleporidæ, in the general form of their zooids, seem allied to the gymnoblastic Hydroids, whereas the presence of distinct gonangia in the Stylasteridæ seems to ally these latter to the calyptoblastic group. Ampullæ seem certainly to be absent in the Milleporidæ, and their gonophores are, therefore, probably developed free of the cœnosteum. Further research may lead to the separation of the two families. The characters of the sub-order Hydrocorallinæ and of the families Milleporidæ and Stylasteridæ are given in the sequel in a concise tabular form, and also in a series of more extended and comprehensive statements in which no known detail of importance is omitted.

The components of the family Stylasteridæ have hitherto been classified from a knowledge of the structure of the cœnosteum alone, and even this has been but imperfectly investigated in most instances; further, the descriptions given of the genera and species have been distorted by the violent efforts made by naturalists to discover septa and interseptal chambers in the so-called calicles of these supposed anthozoan corals.

The descriptions of the genera at least, thus required to be rewritten, and modified according to the present knowledge of the structure of the members of the family. This has been attempted in the sequel, where the characters of the genera given embrace those derived from the structures of the soft tissues as well as of the hard. Unfortunately the soft structures are known in only one species in almost all the genera, and in almost all in but one sex. Hence the classification here given will doubtless need subsequent modification. It merely professes to be an attempt to define the genera in the best manner now possible.

In the case of three genera, *Labiopora*, *Stenohelia*, and *Conopora*, nothing is known of the soft structures.

Count de Pourtalès' genus *Lepidopora* is here emerged in *Errina*, from which it can hardly be considered distinct. The lid-like coverings of the gastropores, by the presence of which the genus *Lepidopora* is distinguished, are most frequently composed of fused dactylopore projections, and do not in most instances consist of special elevations of the margins of the gastropore mouths themselves, although this latter is sometimes the case. *Errina labiata*, a species of which the structure is described in the present treatise, seems to form a gradation between the species described as belonging to