

Our knowledge of the generative system is imperfect; but in one family at least the sexual elements appear to be developed in gonophores lodged in cavities of the corallum.¹

The Hydroids constructed on the plan thus characterised constitute the fourth suborder, that of the HYDROCORALLIA.

As already said there are certain free Medusæ (Trachomedusæ and Narcomedusæ) which though they belong to the Craspedotæ are known to be developed directly from the egg without passing through a polypoid stage. Such a phenomenon, showing as it does the omission of a characteristic morphological element in the life-history of the species, renders necessary the association of these directly developed Medusæ into an independent group, which will thus form a fifth suborder of the Hydroida.

To this suborder the name of MONOPSEA has been given. It is exactly equivalent to the Trachylinæ in the system of Hæckel.²

If the view which I have elsewhere maintained³ be correct, that the extinct organisms known as Graptolites were Hydroids in which a longitudinal chitinous rod had become developed in the walls of the cœnosarc, and in which the hydranths had been replaced by sarcostyles, which as we know precede the hydranths in the development of certain Plumularidæ, in whose early stages sarcostyles alone are present, then the Graptolites would represent another primary modification of Hydroid structure. I have accordingly, under the name of RHABDOPHORA, considered the Graptolites as representing one of the primary groups of the Hydroida. Having regard, however, to our necessarily very imperfect knowledge of these Palæozoic fossils, I do not desire to assign to this group more than a hypothetical value.

¹ See Moseley, *Phil. Trans.*, vol. clxvii, 1877; and Report on certain Hydroid, Alcyonarian, and Madreporarian Corals, Zool. Chall. Exp., part vii.

² In *Limnocodium*, whose relations to the Trachomedusæ are in many respects so close as to justify us in regarding it as an aberrant member of this group, there is some reason for supposing that a Hydroid trophosome shows itself in the course of its development. In the tank where this remarkable Medusa first made its appearance a minute Cœlenterate organism, comparable to a fixed Hydroid destitute of tentacles and otherwise in a condition of extreme simplification, was discovered by Mr. A. G. Bourne, and regarded by him as the hydriform trophosome of *Limnocodium*. It is difficult on any other grounds to explain the association of the two organisms in the same tank; but as no genetic connection between them has as yet been discovered, this must for the present be regarded as hypothetical; see A. G. Bourne in *Proc. Roy. Soc.*, 1884, vol. xxxviii, p. 9. A solitary exception to the generally admitted derivation of the Anthomedusæ and Leptomedusæ from polypoid trophosomes has been recorded by Claparede (*Zeitschr. f. wiss. Zool.*, 1861) who believes that he had seen the eggs of an Anthomedusa, referable to the type to which Edward Forbes gave the name of *Lizzia*, directly developed into Medusæ while still lying in the walls of the manubrium of the parent. It is, however, by no means rare for Medusæ to give rise by budding to young Medusæ in a way very similar to that in which planoblasts are budded off from trophosomes; such a formation of Medusa buds is well known to occur in the manubrium of *Lizzia*, and so very easy is it to confound the development of these buds in the Medusæ with that of an egg, that even so excellent an observer as Claparede may well have been deceived by it. But even though Claparede's view of the direct development of the egg in *Lizzia* be correct, this solitary fact need not be regarded as constituting a disturbing element in the classification here adopted.

³ *Gymnoblasic Hydroids*, p. 279.