

In one of these, neither hydrothecæ nor gonangia are developed, so that both hydranths and gonophores are always naked, or if a perisarcal pellicle is excreted over the body of the hydranth, as in *Eudendrium vestitum* (Pl. I. fig. 1), or over the gonophore as in *Cordylophora lacustris*, it is in the former case an adherent coat from which the hydranth is never free as in a true hydrotheca, and in the latter case, it is similarly adherent to the outer surface of the gonophore, and totally different from a gonangium which always includes a blastostyle, from which one or more gonophores are budded off. The gonophores are in some cases hedrioblasts, in others planoblasts, and the planoblasts, with scarcely an exception, belong to the Anthomedusal section of Craspedote Medusæ, and have the generative elements developed in the walls of the manubrium.

To this type the designation of GYMNOBLASTEIA has been given.

In another type of Hydroid form the hydranths are protected by hydrothecæ and the gonophores by gonangia; and though in one family (Haleciidæ) the hydrothecæ may be so degraded as to afford scarcely any protection to the hydranth, they are still recognisable under this degraded form. In this type, as in the former, we meet with both hedrioblastic and planoblastic gonophores, and when these are in the form of planoblasts, they belong almost without an exception to the Leptomedusal section of the Craspedote Medusæ, and have their generative elements developed along the course of the radial canals.

The group thus characterised forms the suborder CALYPTOBLASTEIA.

Both the Gymnoblasteia and the Calyptoblasteia, when new hydranth buds are emitted by them, retain these as permanent elements of the colony. There is, however, another small group of Hydroids in which the hydranth buds, after attaining a certain degree of maturity, detach themselves and lead henceforth, like the parent animal, an independent and free life. This group is represented by the fresh-water *Hydra*. No perisarc is here excreted, and the generative elements are not contained in gonophores, but are developed directly in the deeper parts of the ectoderm of the hydranth.

The group thus characterised forms another suborder—that of the ELEUTHEROBLASTEIA.

In a fourth group we have again hydranths united into permanent colonies, but the skeletal structures which when present in the former groups are in the condition of a chitinous perisarc, are here represented by a hard calcareous corallum. This is permeated by a network of inosculating cœnosarcial canals, and is overlaid by an external ectodermal coat. From the cœnosarcial network are developed zooids of two kinds; one (gastrozooids) with a mouth and stomach, and with a circlet of tentacles; the other (dactylozooids) in the form of tentacula-like zooids, and destitute of mouth. The gastrozooids represent the hydranths of the preceding groups. Both kinds of zooids are lodged within chambers excavated in the corallum and lined by reflections of the superficial ectodermal layer.