

yet, some of these Hydræ — Hydractinia, for instance — produce only male Medusæ buds, and others only female Medusæ buds, and in this genus the individuals producing either male or female Medusæ buds form distinct communities. Again, not all Medusæ are fertile; for instance, the so-called swimming-bells of the Diphyidæ and Siphonophoræ, though evidently medusoid in their structure, have neither male nor female organs.

After this digression, which was indispensable as an introduction to a critical survey of the prevalent nomenclature of the Acalephs, let us now consider the different names under which the different elements forming the communities of the Siphonophoræ have been described, that we may hereafter more readily compare them with the other members of the class; for the chief difficulty in harmonizing the nomenclature of the Acalephs arises from the complication of the names applied to the Siphonophoræ. In these communities we have at first to distinguish the medusoid and the hydroid individuals, in the same manner as among the Hydroids proper; and, to do this with accuracy, we must recall the comparison already made (p. 50) between Siphonophoræ and Hydroids as compound communities, and remember the prevalence of polymorphism in most of these animals.

The extensive investigations of Leuckart, Vogt, Kölliker, Gegenbauer, and Huxley upon Siphonophoræ, and the many species now known in all their stages of growth, furnish the most welcome materials upon which to base further comparisons. The young Vellella, as described and figured by Huxley (Oceanic Hydrozoa, Pl. XI. Figs. 9 and 14), is unquestionably a simple genuine Hydra, provided at first with only few tentacles, and in that condition comparable to any single head of a common Hydroid freed from its stem. An adult Vellella, on the contrary, is a Hydrarium, that is, a community of secondary Hydræ grown up between the actinostome and the tentacles of the primary Hydra, and from which in due time genuine Medusæ buds arise. The presence of a shield with a crest in the disc or bell of the

Fig. 47.



VELELLA MUTICA, Bosc.

*m* So-called mouth. — *a a* So-called tentacles. Between the sterile tentacles and the mouth arise the secondary Hydræ, or so-called fertile tentacles, the gonoblastidial Polypites of Huxley.

primary Hydra is only a structural peculiarity of that animal, but not any more altering its true nature and affinities, than the presence of a shell in the mantle of a Gasteropod. The enlarged primary Hydra of the Vellella community, when it has become a complicated floating apparatus (Fig. 47) from which hang numerous fertile Hydræ, the so-called fertile tentacles, — “gonoblastidial Polypites” of Huxley, “individus reproducteurs” of Vogt, “peripherische Polypen” of Leuckart, “kleine Polypen” of Kölliker (Fig. 48), — is still as much a Hydra

Fig. 48.



Single so-called fertile tentacle of

VELELLA MUTICA, Bosc, bearing Medusæ buds *d d.* — *a* Base of attachment. — *b* Blunt end of the tentacle, as it appears when the mouth is closed.

reproducteurs” of Vogt, “peripherische Polypen” of Leuckart, “kleine Polypen” of Kölliker (Fig. 48), — is still as much a Hydra