

synonyms, the swimming-bells are boat-shaped, and their radiating tubes winġing, as in *Galeolaria* among the *Diphyidæ*. In the genus *Athorybia*, the swimming-bells have the shape of arched ribs; and, though no radiating tubes have been described in them, I doubt not that they will be found, unless there exist here, as in *Tubularia*, various combinations of the more Hydroid or more Medusoid features. In the genus *Apolesia*, the swimming-bells resemble those of *Physophora*, and the Hydroids are arranged in clusters, hanging at intervals, along the main axis.

The genus *Physophora*, with its double row of bottle-shaped swimming-bells, approaches more nearly *Hippopodius* and *Vogtia* than *Agalmopsis* and *Forskålia*; for the sucker-like *Hydræ* are few (*Fig. 38*), at the base of the axis, as in *Vogtia*, and the *Medusæ* buds form small bunches. In *Agalmopsis*, on the contrary, there is below the double row of heart-shaped swimming-bells a long string of large Hydroids, provided with protecting scales and furnished with tentacles, and their sexual *Medusæ* buds form small bunches, suspended at considerable intervals between them. In *Forskålia*, finally, the more or less quadrangular swimming-bells, arranged in several rows, form a long cone, from which hang two kinds of Hydroids, one protected by, and the other without, scales; and it is from the cluster of the latter that arise the male and female *Medusæ* buds.

It is plain, from this rapid survey of the *Siphonophoræ*, that, with the exception of *Physalia*, *Vellella*, and *Porpita*, which consist of Hydroids only, they all agree in having a set of more or less numerous *Medusæ*-like Hydroids at the base of their common axis; and that from the prolongation of this axis arise other Hydroids, either altogether resembling the common Hydroids, without a bell, or protected by a scale-like open bell, in a measure intermediate between *Medusæ* and Hydroids; and that, finally, all produce *Medusæ* buds. These *Medusæ* buds mostly wither upon the community, though in some they free themselves in the shape of twin individuals composed of a Hydroid and a *Medusa*, which have been described as distinct genera, under the names of *Eudoxia*, *Aglaïma*, etc.

It follows from all this, that while the *Siphonophoræ* must be united with the Hydroids proper in one order, on account of the identity of their structure and of the similarity in the degree of complication of that structure, the types of this order in which the community consists of more *Medusa*-like *Hydræ*, such as the *Physophoridae* and *Diphyidae*, must constitute a sub-order by themselves; *Physalia*, another sub-order, on account of the peculiarity of structure of the common base of the community; *Vellella* and *Porpita*, another, for similar reasons; and the true

Fig. 38.



YOUNG PHYSOPHORA,
(Copied from Gegenbauer.)

c Buds of swimming bells.—*b b* So-called tentacles; lower *b* so-called Polyp.—*c c* Feelers with lasso cells.—*r* Air sac.