

nature in the resemblance they bear to the common Medusæ of the type of *Aurelia*, *Cyanea*, and *Pelagia* (*Fig. 63*), I do not believe that their affinity to the latter is sufficiently close to justify their association with them in one and the same order. (Compare *Figs. 65, 66, and 67*, which are the Medusæ buds and the free Medusa of the Hydroid of *Fig. 64*; and *Figs. 69 and 70*, which are the Medusæ buds and free Medusa of the Hydroid of *Fig. 68*, with genuine Discophoræ as represented in *Fig. 63*.) I take here, therefore, the group of Discophoræ Cryptocarpæ (*Figs. 66, 67, and 70*) as entirely distinct from that of Discophoræ Phane-rocarpæ (*Fig. 63*), for which alone, I shall retain the name of Discophoræ. For the present, I desired only to trace the natural limits of the class of Acalephs, to give examples of their various types, and to prove that the Hydroids cannot be separated from the naked-eyed Medusæ any more than from the Siphonophoræ. We shall see presently that this natural division differs essentially, as an order, from the Discophoræ proper, the *Steganophthalmata* of Forbes, or *Acraspeda* of Gegenbaur.

Fig. 71.

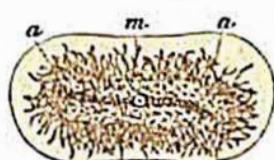


Free Medusa of

VELELLA NUTICA, Bosc.

*a* Proboscis. — *b* Radiating chymiferous tubes. — *c* Circular tube.

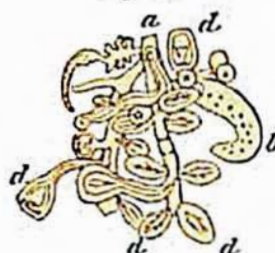
Fig. 72.



VELELLA NUTICA, Bosc.

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

Fig. 73.

Bunch of Medusæ of  
PHYSALIA ARETHUSA, Til.

In various stages of development.

*a* Common hollow base of attachment of the whole bunch, communicating with the chymiferous cavity of the air sac. — *b* So-called Polyp, or sucker. — *d d d d* The Medusæ buds arising from the simplest kind of Hydra existing in the whole community.

Fig. 74.

Bunch of single Hydraz and  
clusters of Medusæ of PHY-  
SALIA ARETHUSA, Til.

*b b* The Hydraz, with their tentacles *c c*. — *d d* The bunches of Medusæ.

For the united Gymnophthalmata and Hydroidea, there is only one name acceptable, according to the law of priority: they must be called HYDROIDE. But this order must further include the Siphonophoræ, since they likewise exhibit two structural types, some individuals of their communities being Hydraz and others Medusæ, variously combined, and the Medusæ either becoming free (*Fig. 71*, derived from *Fig. 72*) or remaining sessile (*Figs. 73 and 74*), as among the majority of the Hydroids proper.

As soon as the different families of this order are brought together side by side, and their structure and modes of development are compared, it is impossible to overlook the typical conformity which exists among them, and unites them all into one natural group. Had the peculiar modes of reproduction of the Acalephs been known as early as their adult condition, this affinity would have been much sooner recognized. The idea of pedunculated Acalephs, attached to the