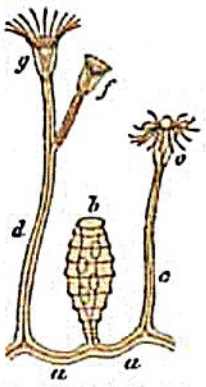
combined. Thamnocnidia (Vol. 4, Pl. XXII.) has four distinct tentacles and a large proboscis, but neither radiating nor circular tubes. Parypha (Vol. 4, Pl. XXIII.) also has tentacles, but of a very different form, and a large proboscis, but no chymiferous tubes.

Fig. 15.

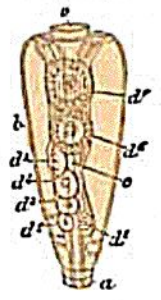


TROCHOPYXIS, Ag.
New genus of Campanularidæ.

a a Common basis of the community. —*b* Fertile Hydra. —*c d* Stems of sterile Hydræ. —*e g* Sterile Hydræ expanded. —*f* Secondary sterile Hydra bud.

In the family of Campanulariæ, the Hydroids seem to differ greatly from the Tubulariæ, the stem being horny, and the bell-shaped animal surrounded by a horny bell; but a microscopic examination of the surface of the stem, and even of the bell, of all Hydroids, shows that the only difference in the outer layer of the animal consists in the thickness of that hyaline layer which in Campanularia and Sertularia becomes so firm as to assume permanent forms and to be visible to the naked eye as a sort of horny sheath enclosing all the soft parts, while in Tubularia it is soft and flexible. This once understood, the difference between a Campanularia (*Fig.* 15) and a Tubularia head is only such as we should expect between members of different families, — they differ in form only. Yet there is another distinction to be made among them. The individuals of the same community, united upon the same stem but arising from different axes, exhibit marked differences among themselves: the larger number, which have all the same form, remain for ever sterile (*Fig.* 15, *c d*), while others, of a different form, produce buds along their internal proboscis (*Fig.* 16 d^1, d^2, d^3, d^4, d^5, d^6, d^7), which in due time free themselves and swim off as distinct Medusæ (*Fig.* 17). This is, for instance, the case with Thaumantias and Tiaropsis, which are only the free Medusæ of different genera of Campanularians. The same is the case, again, with the Sertularians (*Fig.* 18), which produce other kinds of free Medusæ.

Fig. 16.



FERTILE HYDRA of Campanularia.

a Base of attachment. —*b* Calyx. —*c* Digestive tube. —*o* Mouth. —d^1 d^2 d^3 d^4 d^5 d^6 d^7 Medusæ buds successively older. I have frequently seen these buds freeing themselves and assuming the form of Fig. 17.

Fig. 17.

FREE MEDUSA of the Campanularia represented in *Fig.* 16. It is represented here with the margin of the disc and the tentacles raised, while the proboscis is pendent. Its adult state is described in the Contributions to the Nat. Hist. of the Acalephs, under the name of Thaumantias.

c Mouth and proboscis. —*o o* Radiating chymiferous tubes. —*e e* Eyes. —*t t* Tentacles.

Fig. 18.

DYNAMENA FABRICII, Ag.
One of the most common Sertularian Hydroids of our coast.

a b c Single individuals; that occupying the cell *b* is entirely, and that in cell *c* partly, expanded.

With these facts before us, there can be no doubt left in the mind of any unprejudiced observer, that, even though the Hydroids from which arise many of the naked-eyed Medusæ thus far described have not yet been ascertained, and though many Hydroids are known the Medusæ of which have not yet been identified, enough is clearly