

has comparatively little to rely on. Parts which in other Hydroids afford convenient specific characters here present little or no variation. The instances in which the gonosome is known are so few that the use of this for diagnosis is necessarily very limited, while the form of the hydrothecæ is in all the known examples of *Cryptolaria* so much alike, that we can seldom find in it a character of undoubted diagnostic value. In the disposition of the hydrothecæ some sufficiently convenient characters may be found, while beyond this scarcely anything is left for the determination of specific difference but the form of the ramification, and even this varies within very narrow limits.

The species of *Cryptolaria* defined in the present Report have been founded on the characters just indicated, and notwithstanding the paucity of the material available for diagnosis, I believe that they may be accepted as legitimate groups.

*Cryptolaria humilis*, n. sp. (Pl. XVIII. figs. 1, 1 $\alpha$ , 1 $b$ ).

*Trophosome*.—Colony attaining a height of somewhat more than an inch, rooted by a plexus of fine branching filaments; stem sparingly and irregularly branched. Hydrothecæ alternate and distichous.

*Gonosome* not known.

*Locality*.—Station 73, near the Azores; lat. 38° 30' N., long. 31° 14' W.; depth, 1000 fathoms.

It was from the examination of this little species that I first obtained evidence of the true structure of *Cryptolaria*. By boiling the stem in caustic potash the adhesion of the component tubes with one another can be so weakened that it becomes easy to separate them by means of the dissecting needle. The axial tube with its hydrothecæ will then be brought into view, and its relation to the peripheral tubes will be at once made apparent.

Where the axial tube lies under cover of the peripheral it will be seen that the hydrothecæ spring from it at equal intervals, and that they are alternate and distichous. They are long and tubular, gently curving outwards, cylindrical towards the orifice, and thence tapering gradually to their point of origin from the axial tube, into which they directly open instead of being, as in the allied genus *Perisiphonia*, connected with this tube by the intervention of a definite peduncle.

At a short distance from the distal extremities of the branches the peripheral tubes cease to envelop the axial, which thus becomes naked for the remainder of its course. This condition, so far as is yet known, is universal among the *Cryptolariæ*. In the continuation of the axial tube beyond the peripheral fasciculus, the epicauline wall of the hydrothecæ is to a greater or less extent adherent to the opposed wall of the tube, while in the more proximal parts of the colony where the axial tube lies under cover of the peripheral no adhesion of this kind exists, the walls of hydrothecæ being here quite free from the supporting tube.