

(Pl. XX. *Fig. 4, t*) appear, nearly opposite to each other, on the head, and not far below its apex. These knobs are densely crowded with lasso-cells, which give them the appearance of being the globular tips of the tentacles. A bud a little older (Pl. XX. *Fig. 5*) not only discloses the nature of these knobs, but also shows that they belong to a hydroid form exactly like the stock from which it arises. The knobs of the last phase have become elongated on a short pedicel, and broadened a little, and two more of the same kind have grown out nearly opposite to each other (Pl. XX. *Fig. 5, t*), at two points ninety degrees from the situation of the first two, but a little higher up on the head. They have now every characteristic of tentacles, and unmistakably demonstrate that the globular tip of the tentacle is developed first, as suggested in regard to the earliest phase (Pl. XX. *Fig. 4, t*). At this stage the young Hydroid resembles the genus *Stauridia* of Dujardin,¹ in the relation of the tentacles to each other, and to the head, on which they are so arranged as to resemble a Maltese cross, when seen from above. We have already alluded to the probability that the tentacles do not develop absolutely by twos and multiples of two, but so closely one after another, and so nearly on the same level in the early stages, that they have the appearance of originating in pairs. In a not much further advanced phase, there are six tentacles (Pl. XVII. *Fig. 8*), four of them arranged as in the last stage, and two higher up, which appear to be placed at intermediate points, over two opposite angles of the lower cross. That the tentacles are very irregular, at times, in their development, may be seen in a figure of a young Hydroid on which eight tentacles (Pl. XX. *Fig. 6, t*) were counted, all of them mere knobs, filled with lasso-cells. We have no doubt that in this case the tentacles were all pretty nearly equal in development, and, moreover, just beginning to bud. By the time the Hydroid has ten tentacles it may be considered as adult, if we may judge from the fact that it may bear medusæ (Pl. XVII. *Fig. 9, md*). In the oldest Hydroids which we have seen, the tentacles very seldom exceed sixteen in number (Pl. XVII. *Figs. 11, 11^a, and 12*).

Since the Hydroid never buds from any other part of the parent except the stem, it must of necessity pass through the horny tube, in order to be able to develop. It does not, however, make an open passage through the tube (Pl. XX. *Fig. 3, c*), but absorbs the horny substance where it touches it, and at the same time elaborates a thin sheath (Pl. XX. *Fig. 3, c¹*) for itself, which is united to the edge of the opening in the old tube, resulting in a continuity of the two. Before the formation of the mouth, in the young Hydroid, the new sheath remains a

¹ *Annales des Sciences Naturelles*, 1843, Vol. XX. p. 370, and 1845, Vol. IV. p. 271, Pl. XIV. *Figs. C¹ to C⁷*. *Cladonema Dujard.* (Inter *Stauridia Wright*) is the free Medusa of *Stauridia*.