PRIMARY MODIFICATIONS OF FORM.—CLASSIFICATION OF THE HYDROIDA.

A complete system of the Hydroida would include not only all Hydroid trophosomes with their associated gonosomes, but all Hydromedusæ, whether traced to polypoid trophosomes or not. There exist, however, many free Hydromedusæ—both Anthomedusæ and Leptomedusæ,—which have not yet been so traced; but so closely do these correspond with Medusæ, which are known to be budded off from fixed trophosomes, that there can scarcely be a doubt that, were we acquainted with their whole life-history, we should find that, like the Medusæ which have been traced to hydriform stocks, these also are planoblasts which had originated as buds from fixed trophosomes. As, however, nothing is known of the trophosomes from which these Medusæ have been derived, it has been generally deemed convenient to treat them independently as members of a general system of the Medusæ, in which the Medusal structure is made the basis of the classification, without necessary reference to the morphological details of the polypoid trophosomes.[1]

There is, however, another group of Craspedotæ or Hydromedusæ, into whose life series a polypoid term does not appear to have been ever intercalated, and which may accordingly be regarded as forming in themselves a separate and well-defined group of the Hydroida.

It is proposed, therefore, in the following sketch of Hydroid classification, to include in the first place those Hydroids with whose trophosomes we are acquainted, making the characters of the trophosome the primary element in the classification; and in the second place, such free Hydromedusæ as there is good reason to believe are never derived from polypoid trophosomes. In the meantime, such free Anthomedusæ and Leptomedusæ as have not yet been traced to their trophosomes must be left to find their proper places among the former group as soon as the discovery of their trophosomes shall afford the necessary data.

The order Hydroida, in the sense in which it is thus proposed to regard it, includes so many well-marked modifications of form, that the zoologist has no difficulty in finding among these such characters as may be legitimately used as the bases of natural systematic groups.

A comparison of the members of the Hydroida with one another shows that—including the extinct Graptolites, whose allocation, however, among the Hydroida, depends on considerations of a more or less hypothetical nature—the order embraces within itself six primary types of form.

[1] See especially Haeckel, Das System der Medusen, Jena, 1879.