

In one remarkable genus of Statoplea contained in the Challenger collection (*Diplocheilus* (Pl. VIII. figs. 4-7), the hydrotheca presents a double margin formed by the development of an external chitinous sheath round the upper third of the hydrotheca.

Nematophores.—The presence of nematophores, whether fixed or moveable, constitutes the most characteristic feature in the Plumularidæ. The nematophores are hollow chitinous bodies, more or less cup-shaped or tubular, and having their cavity in communication with that of various parts either of the trophosome or of the gonosome. Their contents consist of protoplasm, in which thread-cells are often immersed, and which has the faculty of emitting pseudopodial prolongations which often attain great development.

Those nematophores which belong to the fixed type are usually blunt spine-like bodies, with a continuous cavity and a terminal orifice, and with one or sometimes two lateral orifices. The terminal orifice is usually oblique or deeply emarginate.

The nematophores of the moveable type are more constant in form. They are funnel- or trumpet-shaped, and never provided with lateral orifices. They are mostly bi-thalamic, their cavity being divided into a proximal narrow chamber and a distal wide cup-shaped chamber, separated from one another by a transverse perforated septum. The distal chamber opens by a wide terminal orifice, which is usually deeply emarginate on one side.

Nematophores are either hydrocladial, hydrocauline, or gonosomal, according to the special part of the colony with which they are in immediate connection. An accurate knowledge of their arrangement and modifications will be best acquired by examining them separately in the two great Plumularian sections.¹

¹ Bodies resembling the nematophores of the Plumularidæ have, however, been found in other Hydroids. Hincks (*loc. cit.*, p. 230, pls. i. iv. fig. 2) has constituted the genus *Ophiodes* for a remarkable Hydroid closely allied to *Halecium*, in which he had discovered certain singular bodies in the form of long cylindrical, very contractile tentacula-like appendages, each protected at its base by a small chitinous cup, through which it communicates with the cœnosarc of the colony, and terminating distally in a spherical capitulum, loaded with thread-cells. They occur here and there on the stem, at a slight distance below the hydrotheca, but are chiefly found scattered on the creeping stolon.

Bodies closely resembling these have been found by G. O. Sars (*loc. cit.*, p. 109, pl. iv. figs. 5-8) in a Hydroid which he refers to the genus *Ophiodes* of Hincks, under the name of *Ophiodes parasitica*. This determination is not accepted by Hincks, who proposes for Sars's Hydroid the new generic name of *Ophionema*, believing it to belong to the Plumularidæ instead of regarding it with Sars as a near ally of *Halecium*. Notwithstanding, however, the resemblance of Sars's figures to a Plumularian, it is plain to me that the affinities of his *Ophiodes parasitica* are really with *Halecium*, and that the Norwegian zoologist had a true conception of its nature when he referred it to Hincks's genus *Ophiodes*. The tentacula-like organs in *Ophiodes* would seem to take the place of the nematophores of the Eleutheroplean Plumularidæ. They appear, however, to stand on a much higher grade of development than true nematophores, and to have passed out of the condition of mere protoplasm into that of a multi-cellular organ. If this be so we should not be justified in assigning to both the same significance.

Belonging apparently to the same group of appendages are certain minute bodies which occur in *Oplorhiza parvula*, a little Hydroid allied to *Lafoëa*, obtained during the United States exploration of the Gulf Stream. They are here in the form of tubular receptacles, which are developed on the hydrorhizal network, and enclose a granular fleshy column, which supports a cluster of thread-cells (Hydroids of Gulf Stream, p. 14, pl. vii. figs. 1-3). In a nearly allied form, *Lafoëa tenuis*, Sars, from the Norwegian seas, the hydrorhiza supports appendages which would seem to be essentially of the same kind (G. O. Sars, *loc. cit.*, p. 119, pl. v. figs. 1-5). Minute fleshy processes of doubtful significance have also