

of other Hydroids. They are figured by Professor Agassiz¹ as occurring in *Millepora alcicornis*. They are spheroidal in form, with transparent wall, and contents composed of irregular granules, which are of a bright gamboge-yellow colour. It is these cells which give the bright yellow tinge to the tips of the living coral. The cell-contents in these cells are frequently to be seen divided into two, each half having its own nucleus, or sometimes more rarely into four (Pl. XIV. fig. 9, b, c). The more superficial part of the vascular network of the cœnosarc is in most places almost crammed full of these pigmented cells, and they are abundantly present also within the somatic cavities of the zooids. They become less abundant towards the deeper parts of the living layer, and in certain of the deepest ramifications of the network are entirely absent, their place being taken by transparent globules. In some parts of the hydrophyton large quantities of the pigmented cells are met with which are coloured dark brown instead of yellow. These belong probably to the older parts of the coral, which have in the living condition a brown appearance, it being only the growing tips which are bright yellow. Such, however, was not ascertained to be the case.

At the under surface of the living layer of the hydrophyton the cœnosarc network has in connection with it, or is prolonged into, a network of extremely transparent thin-walled vessels, many of which terminate in blind extremities, as shown in Plate XIV. fig. 8, B. These vessels are distended with small exceedingly transparent and highly refractile globules, without any admixture of pigmented cells. These transparent globules are found scattered amongst the pigmented cells throughout the vessels of the cœnosarc, but occur in masses only as above described. No clue to the function of these transparent globules, nor explanation of their being thus agglomerated in the deeper parts of the living layer, was obtained; the masses of them probably point to a fatty degeneration of the effete deep regions of the network of the cœnosarc.

Nematocysts.—The nematocysts are of two kinds. They are shown, carefully drawn to measurement, in Plate XIII. figs. 1 and 2. One kind is that which appears to be confined to Hydrozoa, and not to occur at all in Anthozoa, viz., that in which a bladder-like enlargement of the thread occurs at that part of it which is immediately next the mouth of the cell, the bladder being armed near its summit by three spines set in one whorl. The three spines in this form of nematocyst in *Millepora* are remarkably long, and directed at right angles to the axis of the thread, instead of recurved, as usual. These nematocyst vary very much in size. The one figured is one of the largest observed, being of about two-thirds of the length of the ovoid nematocysts. The larger examples of these three-spined nematocysts are of comparatively rare occurrence, only a few being present in some of the tentacles, and being more commonly present in the tentacles of the gastrozooids. The smaller nematocysts of this form have not more than 1-6th of the length of the larger ones. They form the bulk of the spheroidal

¹ *Loc. cit.*, plate xv. fig. 5.