

tips of the tentacles of the zooids; but both large and small nematocysts of this kind occur also in the cœnosarc.

The larger ovoidal nematocysts are also such as occur in Hydroids, but are not of so characteristic a form as the three-spined kind. They, as well as the others, were already figured by the late Professor Agassiz from *Millepora alcicornis*. These nematocysts never occur in the tentacles of the zooids, being confined to the cœnosarc, and being present in the greatest abundance in zonal masses around the bases of the zooids lying in the superficial layer of the ectoderm. Both these forms of nematocysts occur together in *Gemmaria implexa*, and with a similar distribution. In *Millepora alcicornis*, according to Professor Agassiz,¹ these ovoid nematocysts occur in abundance in the tentacles of the zooids. Possibly he was mistaken in the matter.

Both kinds of nematocysts occur, in all stages of development, in the ectoderm of the vascular network of the cœnosarc, extending in position to a considerable depth from the external surface of the coral (Pl. XIV. fig. 8).

The nematocyst appears to be developed out of the nucleus of the ectodermal cell, the ectodermal cell becoming much enlarged and forming a wide chamber in which the process of development takes place. The ovoid nucleus becomes enlarged together with the cell, but not at all in the same proportion, the cell always appearing as a wide cavity around it. The nucleus, as it enlarges, has a rounded nucleolus developed at one end of it. The nucleolus has large granules developed within it, whilst the nucleus becomes finely granular. In the next stage one large coil of the thread appears in the nucleus. Nothing further could be made out from the hardened specimens as to the development of the nematocysts.

Most unfortunately no trace of generative organs could be detected in connection with any of the zooids, neither in the *Millepora* from Tahiti nor in the other two species examined. These other two species have essentially the same structure as the Tahitian species, having dactylozoid and gastrozoid. They have both of them closely similar nematocysts of both forms and with a similar distribution. Moreover, the larger nematocysts have very nearly the same dimensions in all three species; they are a trifle smaller only in *Millepora alcicornis*. This latter species and the Samboangan one differ from the Tahitian species mainly in not having their zooids grouped in distinct systems.

GENERAL REMARKS ON THE STRUCTURE OF THE MILLEPORIDÆ.

Although, most unfortunately, no evidence as to the structure of the generative system of *Millepora* has as yet been obtained, the results here set forth yield, nevertheless, I think, convincing proofs that this interesting form of coral is a true Hydroid, as discovered by Agassiz in 1859. The peculiar structure of the cœnosarc, the forms of the

¹ *Loc. cit.*, vol. iv. p. 293.