

the surface of the cœnosteum in well-marked and separated systems, and in this respect is more closely allied to *Millepora plicata*, *Millepora foliata*, and *Millepora ehrenbergi*, as described by MM. Milne-Edwards and Haime.

In the fresh condition the growing tips of the lobes of the coral are of a bright gamboge-yellow colour, which shades off into a yellowish-brown on the sides and bases of the lobes. The expanded zooids have the appearance of a close-set pearly white down upon the surface of the cœnosteum.

The zooids seem to be somewhat capricious in the matter of expansion. I made one attempt to obtain them expanded, in which I carefully cut off masses of the coral by means of a chisel and transferred these to a glass vessel without lifting them above the surface of the water. The zooids did not expand. Mr Murray succeeded on both occasions on which he collected specimens, although he exposed his to the air for a moment on transferring them to a vessel. Dana, Pourtales, and others speak of the peculiar difficulties attending the observation of the animals of *Millepora*. The cœnosteum is so hard that it is almost impossible to break off a small flake without damaging the soft structures to such an extent that the animals fail to expand. The animals, as expanded on larger masses of the cœnosteum, can only be examined with very low powers of the microscope, which, on account of the very small size of the animals, are unable to show sufficient details in their structure. A momentary view of one dactylozooid was, however, obtained under Hartnack's objective No. 4, eyepiece No. 3. I obtained the view of the expanded zooids only on the morning on which H.M.S. Challenger was steaming out of Papiete Harbour. The animals remained expanded about two hours, but the motion of the ship interfered considerably with the investigation of them.

LITERATURE OF THE SUBJECT.

M. Milne-Edwards (Hist. Nat. des Coralliaires, Paris, 1860, tom. iii. p. 224) formed the family Milleporidæ to include a series of genera, amongst which *Millepora* and *Heliopora* are the only recent ones, whilst he classed the Pocilloporinæ as a sub-family of the Favositidæ, together with the Milleporidæ and Seriatoporidæ, under his section of the Madreporaria Tabulata. The section was characterised by him as having the corallum composed essentially of a much developed mural system, with the visceral chambers divided into a series of stories by complete diaphragms or transverse floors, the septal arrangements being rudimentary or represented by trabeculæ, which have a greater or less extension in the intertabulate spaces. In his description of the Milleporidæ (*l. c.*) M. Milne-Edwards referred to Professor Agassiz's then recent paper, entitled "Les Animaux des Millépores sont des Acalèphes Hydroides et non des Polypes" (Bibl. Univ. de Genève, Arch. des Sci., Mai 1859, tom. v. p. 80), to the following effect:—"At the moment of