

Professor Claus' Grundzüge der Zoologie, 3^{te} Auflage, 1874, p. 226, rightly placed the Milleporidæ with the Hydroids.

General Nelson's figures (published by Professor Martin Duncan¹) of the animals of *Millepora alcicornis* do not seem to be of very much value. They appear to represent imperfect conceptions of the dactylozooids. In September 1878 Mr William North Rice published a short account of his observations of the living polyps of *Millepora alcicornis* at Bermuda. He saw apparently only the dactylozooids, of which he gives outline figures. The tentacles are not disposed in them in whorls of four as figured by General Nelson, but more as in *Millepora nodosa* as described by me. His results go to confirm my own in several points of importance.²

METHODS EMPLOYED.

Sections of the corallum were prepared in the usual manner by grinding. Portions of the living coral were placed in various solutions for subsequent examination, viz., in absolute alcohol, chromic acid, and glycerine. Portions were further treated with osmic acid, and then transferred to glycerine or absolute alcohol. Fragments of the hardened coral were subsequently decalcified with hydrochloric acid, and the residual soft structures were either mounted entire for examination, or cut in the usual manner into fine vertical and horizontal sections. The sections were stained with carmine or magenta. The specimens hardened in osmic acid, and decalcified after subsequent immersion in absolute alcohol, yielded the best histological results. Those which had been hardened in absolute alcohol alone gave the best results as to the coarser anatomy. The specimens preserved directly in glycerine preserved most perfectly the forms of the several histological elements, and especially yielded good preparations of the thread-cells, preparations of which are best procured by grinding up between two glass slides a zooid and its immediately surrounding calcareous bed, removed with the point of a scalpel. A view of the structure unacted upon by acids is thus obtained. The specimens placed in chromic acid were of little service for sections, owing to a thick crystalline deposit of sulphate of lime which formed upon them in the solution; but they showed best, on the under surface of the decalcified superficial film, the ramifications of the soft parts of the hydrophyton. Dr G. von Koch's³ method of cutting sections of corals in which both the hard and soft parts are displayed in the same preparation will no doubt yield excellent results in the case of the Hydrocorallinæ.

¹ Ann. and Mag. Nat. Hist., vol. xvii. p. 354.

² Wm. North Rice On the Animal of *Millepora alcicornis*, American Journ. of Science and Art, vol. xvii., Sept. 1878, p. 180.

³ For an account of the method, see Zool. Anzeiger, Bd. i.