

more marked, and the corallum appears as if formed of a series of calicles fitted one within another. The discovery by Mr Charles Stewart¹ of the existence in *Tubipora musica* of infundibuliform tabulæ, which form delicate axial tubes within the larger tubes of the corallum just as in *Syringopora*, seems to prove undoubtedly that Dana, Haeckel, Zittel, and others are quite correct in placing these fossil forms in near relation with *Tubipora*. Professor Alleyne Nicholson,² who disagrees with the conclusions of the above-named authors, and considers *Syringopora* to be allied to the *Zoantharia perforata*, is apparently unaware of Mr Stewart's observations. He gives some account of the genus *Syringolites* (Hinde) which, though it has polygonal contiguous coralites, with mural pores like *Favosites*, has also infundibuliform tabulæ, and even axial tubes like *Syringopora*. This link closely connecting *Favosites* and *Tubipora* through *Syringopora* is a further proof of the Alcyonarian affinities of *Favosites* and its other allies.

On the Septa of Heliopora.—A difficulty appears to arise from the peculiar mode of the development of the calicles by budding in *Heliopora*, the foldings of the walls of the calicles being due, to a considerable extent at least, to the formation of these walls from a circle of cœnenchymal tubes. The septa are, however, not entirely formed in this way. It would of course be of great interest to see whether the primitive calicle, in the developing *Heliopora* colony, forms calcareous septa.

Heliopora having so commonly twelve septa, and in conjunction with these eight mesenteries, it was at first thought that here some key would be found to the elucidation of the question of the relations of the tetrameral corals to the Hexactinians; but no definite arrangement of the eight mesenteries to the twelve septa could be discovered.

Zooids of Sarcophyton compared with those of Pennatulids.—With regard to *Sarcophyton*, the fact that its colonies are composed of multitudes of siphonozooids, combined with a lesser number of sexual autozooids, as amongst the Pennatulidæ, was discovered by Kölliker, who failed to find such a condition existing in any other member of the Alcyonidæ or Gorgonidæ. In *Sarcophyton* and in *Heliopora* the "Dorsalfächer" are all turned towards the axes of the colonies and directed upwards, just as in Pennatulidæ. The siphonozooids in their structure seem to conform very closely to those of Pennatulids (*Sarcophyllum*, e.g.); but to the list of distinctive differences between the siphonozooids and autozooids of Pennatulids given by Kölliker, viz., the absence in the siphonozooids of tentacles, the presence of two mesenterial filaments (the dorsal ones), the absence of generative organs, and the shortening of the hypogastric region to such an extent that it fuses with the anastomosing canal system—to these marks of distinction must be added, in the case of the siphonozooids of *Sarcophyton*, the fact that four of the mesenteries, the dorsal and ventral pairs, are deeper than the others.

¹ C. Stewart, F.L.S., On a New Species of *Stylaster*, with a Note on *Tubipora*, Jour. of the Micro. Sci., 1879.

² H. Alleyne Nicholson, l.c., pp. 18, 19, 214.