

Subgenus *Carijoa*, F. Müller.

Carijoa, F. Müller, Archiv f. Naturgesch., Jahrg. xxxiii. p. 330, 1867.

Telesto (Carijoa) trichostemma (Dana) (Pl. III. figs. 1a, 1b; Pl. V. fig. 1; Pl. VI. figs. 1, 2).

Telesto (Carijoa) trichostemma, Chall. Report, Alcyonaria, Zool. Chall. Exp., part lxiv. p. 264.
Gorgonia trichostemma, Dana, Zooph., p. 665.

The description of this interesting species was given in the former report upon the Alcyonaria of the Challenger collection. This, after further research, I would now complete, and elucidate by means of several illustrations.

The most striking characteristic of the species is the peculiar construction of a kind of inner skeleton, such as is commonly to be met with in *Tubipora*. The spicules surrounding the elongated digestive cavities of the primary and secondary axial polyps lie in such intimate contact with one another that, in the older parts of the colony, they form a continuous calcareous cylinder. Towards the base this is further strengthened by the horny substance secreted between the spicules.

If this calcareous tube be isolated by maceration, or by treatment with caustic potash, it persists as a connected structure, composed of a very fine, almost sponge-like, calcareous substance having the form of the polyps. Its outer wall is marked with eight furrows, between which arise an equal number of longitudinal ribs. The associated tubes of the axial polyps of the second order are short, and seated upon the main axis like the calyces of a Madrepora. The cavity does not communicate with that of the main tube, but is separated from it by a delicate spongy calcareous lamella. In transverse sections of the older primary polyps of the stem, eight slightly-developed mesenteric folds may be seen to project into the cavity of the tube; their mesoderm contains no spicules; the inner wall is covered with a cylindrical epithelium, which, on certain parts of the preserved specimen, may be still seen to be equipped with cilia. To the outside of this follows a thin structureless mesodermic layer, which becomes thicker at a mesenteric fold into which it enters. Further to the outside is the zone of spicules. These are arranged, in part, longitudinally, in part towards the periphery; together they form a network. They do not, however, fuse together, but are only interlocked by their spines.

In this way they build up a connected whole, which, when isolated, forms a tube. The spicules are thickest in the inner layer, being quite loose towards the outside. The ectoderm is only distinguishable in a few places, when it appears as a layer of cylindrical cells. For the most part it has been destroyed and penetrated by the tissue of a siliceous sponge, which covers the whole colony, even spreading itself over the smaller secondary polyps. In the lower portion it develops in considerable thickness, and deforms, in a remarkable manner, the habit of the whole colony, so that the lateral polyps look as if they were pressed against the stem.