

which cover the calyx and stem are thin, entirely or half cycloid, with small prominences which surround the nucleus; between 0.27 and 0.12 mm. in diameter. In the cœnenchyma beneath the scales there is a layer of rough thorny spicules.

The entire colony forms a very elegant structure, which most closely resembles that of a Sertularian. The main stem is thin, near the base it is cylindrical, with a diameter of 1.5 mm. Its length reaches, in three specimens, 145 to 180 mm.; but the actual base is wanting in all the specimens. At a height of from 45 to 60 mm. the stem becomes flat and then gives off opposite branches on either side. The interval between two pairs of twigs, or the length of the internode, reaches in one specimen 15 mm., in another it varies between 15 and 25 mm. The terminal portion of the stem, which bears no branches, is 25 mm. long. The number of pairs of branches reaches in one colony five, in a second eight. The branches are largest at the commencement of the colony, generally the first to the third attains the maximum length, 80 to 85 mm., from the third they gradually decrease in length. The branches are simple, only in one specimen does a branch exhibit secondary twigs. The axis of the main stem is yellow, at the beginning hard and brittle, towards the apex flexible. The same condition prevails in the case of the twigs, only the smallest near the summit are quite flexible. On the stem and branches the cœnenchyma is thin and white, with two layers of spicules. The polyps commence low down on the stem, below the points of origin of the twigs, always opposite and in pairs, yet not all in the same plane; frequently two pairs are turned towards one another at angles of about 45° to 90°. They first arrange themselves in one plane between the twigs. The terminal portion of the stem exhibits a regular row of opposite polyps, between the two last a small portion of the stem projects, covered with cœnenchyma and forming the delicate apex. On the branches the pairs of polyps succeed at regular intervals of 2 mm. Here also now and again a pair come off in another plane. The polyps on the lower part of the stem are larger than the polyps on the twigs, cylindrical, 1.5 mm. long; those of the branches are more wart-like, with a broad base of attachment, 1 to 1.3 mm. long; young polyp buds arise between the old polyps, on the internodes.

The spicules, which cover the calyces and cœnenchyma like roof-tiles, are small and closely packed, on one calyx one may count over thirty longitudinal rows. They exhibit in their attitude to one another a quincuncial arrangement, like some reptilian scales. Their size does not vary much, only at the mouth of the calyx can one distinguish six to eight larger and more elongated scales, which project somewhat over the contracted mouth and constitute a rudimentary operculum, which does not, however, cover the mouth. The scales are thin discs, with a convex, semicircular free edge, and a straight, toothed lower edge, which is covered by the next scale. The nucleus stands out slightly and is surrounded by a few circular, small, smooth wartlets. Size