

which branches come off at right angles at moderate intervals, and these may bear again secondary branches coming off nearly at right angles. The stem and branches are slightly thickened at the ends. In the single specimen in the collection three larger branches arise on one side, of these three the second bears a secondary branch coming off from it below and the third bears two secondary branches which are directed upwards. From the other side of the stem there arises only a short unramified branch which comes off straight. The height of the main stem is 50 mm., its thickness above the base 0.5 mm. The first branch arises at a height of 18 mm. above the base. Length of the second branch 23 mm., of the third 21 mm., of a secondary branch 10 mm. The thickened ends of the branches have a diameter of 1 mm. On the stem and branches the polyps are placed mainly on the two sides in alternating rows, on the thickened ends of the branches they are arranged spirally around the whole periphery.

The calycular portion, within which the anterior part of the polyp can withdraw itself up to the tentacular operculum, forms only a low prominence, scarcely projecting above the cœnenchyma, with a diameter of 0.5 mm.

The oral region is surrounded by eight groups of upright spicules. The tentacular operculum is formed by the bases of the tentacles, on which only a few spicules occur, to the number of two or three, with converging apices, when the tentacles are folded together they do not quite fill the mouth of the calyx. The operculum scarcely projects above the margin of the calyx and is only slightly higher in the middle than at the edge.

The cœnenchyma is thick and filled with large, spindle-shaped spicules, which lie close together and are arranged mainly in a longitudinal direction on the stem and branches. They are thick and somewhat flattened, at times curved, sometimes but rarely regular, straight spindles. Frequently they are thicker towards the one end and show a tendency to become club-shaped. They are thickly covered with large, rough-surfaced, and sometimes branched warts. The warts on the outer side are always larger and generally provided with spine-like or branching outgrowths. The spicules measure 0.43 by 0.12; 0.3 by 0.12; 0.46 by 0.05 mm.

In the calyx the spicules are thickly placed around the periphery, generally, like the calyx itself, upright upon the cœnenchyma. They are now more club-shaped, curved or straight structures which are provided only with a few sharp spines; or they are structures provided with sharp, sometimes branching spines, and usually somewhat flattened. Their apices project frequently above the margin of the calyx, so that the latter appears to be surrounded by a crown of spines. The size of the spicules of the calyx is 0.2 by 0.03; 0.25 by 0.03; 0.3 by 0.033; 0.2 by 0.04 mm. In correlation to the manner in which the calyx, within which the anterior portion of the polyp can completely withdraw itself, is armed, we find the tentacular operculum only feebly developed. In the base of each tentacle there are usually two convergent, slender, curved spicules, between which a third may sometimes lie.