

soon, however, becoming more or less parallel with it in their upward course. These give off twigs in a manner identical with the branching of the main axis, but it is only in very rare cases that these twigs again produce side shoots. The branches given off from the middle of the stem are the longest, those above and below showing considerable decrease in length.

The lower branches are in part decayed. The length of the main axis and of the whole colony is 120 mm. Its thickness at the base is 2 mm.; in the upper third it measures 1.5 mm. The length of the branches is 40 to 80 mm., of the twigs 6 to 22 mm.

The cœnenchyma is of a moderate thickness. Its surface appears somewhat rough and granular, when seen in a dried condition under the lens. The polyps are everywhere arranged in spirals, upon the stem, the branches, and upon the twigs. They rise at right angles to the subjacent layer, at intervals of 1 to 1.5 mm., and there are usually four to each spiral. At the apices of the twigs there is always a blunt stolon-like process, from below which arise two elongated polyps, one always situated below the other and on the opposite side. In each polyp there is a rigid calycine region and a retractile oral region, which latter in dead specimens is entirely retracted within the calyx, the mouth being closed without displaying any visible star.

The calyx is cylindrical, terminally truncated, and standing upright upon the stem. It is 1 to 1.5 mm. high, with a diameter of about 1 mm. The terminal calyces stand more obliquely upon the axis, and attain a length of 3 mm.

The spicules of the cœnenchyma and of the calyces form, as in *Bebryce mollis*, two layers; the upper of these shows the characteristic form as described by Kölliker and figured by von Koch (*loc. cit.*, pl. i. fig. 1). I observed, as the essential form, more or less club-shaped or truncated conical structures, the broader part of which is directed outwards and beset with numerous warty protuberances. From the base proceed five or six star-shaped root-like processes bearing simple or branched prolongations. Their height compared with their maximum breadth is as 0.067 to 0.065 mm.; 0.06 to 0.054 mm. Sometimes the horizontal prolongations are united into a plate or scale from which simple or branched processes proceed; this secures a large flat expansion whilst the club itself is shortened and finally is reduced to several slight projections in the centre of the plate. A line of division separating these spicules into halves is clearly distinguishable. Such plates have a diameter of 0.096 to 0.15 mm. In the deeper layer are elongated spicules, which at times incline to the form of the spicules of the cortex. They are elongated club-shaped bodies with jagged spines, or spindle-shaped, straight or curved, with sharply pointed spines. Dimensions 0.72 by 0.01 mm.

The oral portion of the polyp, which is retractile within the calyx, has beneath the base of the tentacles a collar of curved spiny spicules, arranged in a circle. Upon the