

calyces and conical tentacular opercula; they are scattered at wide intervals on the branches and twigs, and somewhat more crowded towards the apex; at the apex three stand close together, one of them forming the terminal portion of the twig.

Height of the colony, the apex being broken off,	. . . . .	83 mm.
Length of the barren portion of the stem,	. . . . .	16 "
Diameter above the base,	. . . . .	8 "
Diameter about the middle,	. . . . .	6 "
Length of the largest branch arising at a height of 16 mm.,	. . . . .	52 "
Diameter near the base,	. . . . .	4 "
Length of a twig,	. . . . .	12-18-22 "
Diameter of the end of a twig,	. . . . .	2-3 "

One may well compare the habit of the colony with that of a birch twig, but it does not agree with the latter in the flexibility of the twigs, for the consistence of the whole is brittle and fragile.

The main stem is nearly cylindrical and diminishes only slightly in size from the base towards the upper end. Its direction is somewhat crooked, the coming off of the larger branches especially causing it to bend out of its course.

The surface is thickly encrusted by numerous calcareous spindles, which form a thick layer. They are very irregularly arranged, transversely, vertically, and obliquely. In the branches and twigs they first assume a more longitudinal direction, and form, especially in the thinner twigs, regular longitudinal bands. The polyps form long-drawn-out spirals on the branches and twigs, in which the individual polyps are separated from one another by intervals of 3 to 4 mm. Thus on a twig 22 mm. long there are only ten polyps, four of which stand around the apex, three in a close spiral and the fourth constituting the apex. The polyps have each a short, laterally appressed calyx, composed of a crown of elongated spicules. An obtusely conical tentacular operculum is composed of spicules arranged in a  $\Lambda$ -like manner in the bases of the tentacles. Beneath the latter there is a broad collaret of curved spindles. The length of the retracted polyps is 1.2 mm. and their diameter is 1 mm.

The canal-system usually consists, in the twigs and branches, of four wide, radially arranged canals separated from one another by thick, rigid, dividing walls filled with spicules. The canals are more numerous in the stem, where the dividing walls sometimes have a considerable thickness. The spicules of the stem are stout spindles, frequently pointed at one end and blunt at the other. They are thickly covered with stout warts, which are branched at the end, or bear numerous small sharp tubercles. These spicules are seldom straight, generally they are slightly bent or bow-shaped, or one end is bent round at an angle to the remaining straight portion. Sometimes they are strongly thickened at one end and pointed at the other. They measure 3.5 by 0.3; 3.0 by 0.28; 2.0 by 0.33; 1.3 by 0.2 mm. In the calyx, where they project from the