

simple, they seldom give off one to two short lateral twigs, which do not ramify further. The height of the whole colony reaches 100 mm., the thickness at the base 1 mm. The length of the largest branches 15 to 20 mm.

The cœnenchyma is thin, and, in the stem, allows the axis to show through. The polyps are placed on the branches at intervals of 2 to 3 mm. from one another. They project perpendicularly from the branches. Their form can generally be characterised as tall, cup-shaped, the base broad, as also the mouth portion, in the middle slightly constricted. The height reaches 1.5 mm.

The tentacles are in repose bent from the base towards the inside, and form with two-thirds of their length a horizontal lid covering the oral opening. Hence the mouth of the polyp appears evenly truncated.

The calcareous joints of the axis are long, cylindrical, in the stem, their length reaches 10 to 15 mm., while the horny joints appear only as discs of 0.5 mm. diameter.

The branches arise to the number of four from different sides on each calcareous joint, either with a horny joint or from a short, cylindrical, calcareous process of the stem. They contain only three to four long, calcareous internodes, separated by very thin horny nodes.

The spicules of the cœnenchyma are longish, flat bodies, with toothed edges, from which sharp ribs run towards the middle line of the spicule, and lying below these are spiny spindles, 0.2 mm. long and 0.06 mm. broad, and spindles of 0.06 mm. in length and 0.012 mm. in thickness.

The scales of the calyx are transversely placed, four-cornered, with lobes on the lateral edges and sharp teeth on all the edges; from the teeth run sharp ribs over the surface of the scale to its centre, whereby its surface appears as though folded. There are also sharp, pointed spines on the scales. Height to breadth in mm.—0.09–0.2; 0.1–0.16; 0.06–0.16; 0.1–0.16.

The tentacle scales have the character of the foregoing; they form three rows, a middle one with broad scales of 0.1 mm. height and 0.13 mm. breadth, and two lateral ones with higher scales with toothed edges. Height to breadth, 0.15–0.05.

The species is distinguished from the foregoing by the sparser manner of branching, the form of the polyps, and the nature of the scales of the calyx, which here appear to be rough and spiny.

Habitat.—Station 145A, off Prince Edward Island; depth, 85 fathoms; bottom, volcanic sand.

3. *Primnoisis rigida*, n. sp. (Pl. VIII. figs. 3, 3a; Pl. IX. fig. 8).

The colony, unusually richly branched, forms a thick, upright bush, which tapers from the base towards the summit. The main stem is many times bent and