

pre-opercular series; of these several in each row project with spatulate free edges. The pre-opercular layer is formed of eight large spicules with deeply hollowed spatulate free edges, which united form a frilled edge around the opercular scales, which latter are eight in number, each deeply folded on itself, the whole not projecting much beyond the limits of the pre-opercular calyx.

Spicules.—Those of the cœnenchyma measure 0·6–0·4; 0·5–0·20; 0·2–0·2 mm., of the polyps, 1·1–0·6; 0·7–0·8 mm., and of the operculum 0·9–0·6; 0·7–0·4 mm.

*Habitat.*—Station 145A, off Prince Edward Island; depth, 310 fathoms; bottom, volcanic sand.

5. *Stenella acanthina*, n. sp. (Pl. XIV. fig. 3; Pl. XX. fig. 10).

Axis consisting of a main stem, around which numerous branches are arranged in an incomplete spiral. Main axis in one specimen 390 mm. long, the side branches tapering from 50 mm. near the base to about 25 mm. near the summit. The axis is hard, brown in colour, about 4 mm. in diameter at base, consisting of numerous concentric twigs of fibrous substance, with calcareous particles. The nutrient canals form a row of tubes around the outermost layer, over which is a moderately dense cœnenchyma, in which numerous oval disc-like spicules are often very densely packed.

The polyps are small, in whorls of threes or fours, about 2 mm. in height by 1·25 mm. at widest diameter. The spicules on the body of the polyp vary greatly in size, those on the side nearest the axis being markedly smaller, and enabling the polyp to be folded in on itself; four series of spicules between the base of the polyp and the pre-opercular layer can be made out. The pre-opercular layer consists of three large acutely spined spicules.

Spicules.—Those of the cœnenchyma measure 0·302–0·204; 0·108–0·104; 0·1–0·1 mm.; those of the polyps, 0·8–0·6; 0·7–0·5; 0·702–0·604; the pre-opercular, 1·5–0·705; 0·9–0·504; 0·706–0·2; and those of the operculum, 0·7–0·304; 0·4–0·2; 0·502–0·2 mm.

*Habitat.*—Station 320, off the Rio de la Plata; depth, 600 fathoms; bottom, green sand.

Genus 4. *Thouarella*, Gray (*emend.*).

*Thouarella*, Gray, Cat. Lithophytes Brit. Mus., p. 45, 1870.

Gray's diagnosis of the genus is as follows:—"Coral simple, with long, simple, filiform branches, spreading on all sides of the stem. Bark formed of large imbricate scales. Polype-cells smooth, bell-shaped, scattered on upper side of branches, covered with four or five series of imbricate scales."

The genus was made for one species, *Primnoa antarctica*, Valenciennes. The characters