

*Scirpearella gracilis*, n. sp. (Pl. XXXI. figs. 1, 1a; Pl. XXXIV. fig. 6).

The colony is simple (as far as can be judged from the few fragments collected). These belong apparently to two separate colonies. The more perfect of these measures 1330 mm. in height, with a diameter, including the cœnenchyma, at the widest (basal?) portion of 2.5 mm., but tapering to the dimensions of a fine thread. Among the smaller fragments there is a terminal piece which ends in an acute apex, just below which are two polyps, opposite to one another; the axis at their base measures 1 mm. in diameter.

The axis is calcareous, very brittle; in the older portion of the stem it is compressed, with a broad diameter of 1.5 mm. and a short diameter of 1 mm. On its broader surfaces it is grooved. The polyps are crowded on the stem in four rows, the polyps in each row alternating with those in the next row, so as to give a more or less spiral arrangement to the polyp colony. This arrangement is sometimes obscured by the addition of young polyps between the older ones. The polyps are retractile, leaving prominent nipple-like verrucæ. The tentacles are first drawn together and in, then the upper portion of the polyp-body becomes invaginated; then the walls of the verrucæ are drawn together, leaving a prominence, with a basal diameter of from 1 to 1.5 mm. and about 1 mm. in height. On drying, these verrucæ often become wrinkled. Towards the apex of the stem the polyps are arranged in three rows, and at the very apex they are opposite.

The cœnenchyma is moderately thick, it and the verrucæ are rough, with a layer of spiny or warty double clubs; beneath these and in the bodies of the polyps are some spiny spindles and stellate forms; minute needle-shaped spicules with toothed edges, and mixed with some stellate forms, occur in and at the base of the tentacles.

The spicules measure as follows:—Warty spindles 0.1–0.04; 0.12–0.06 mm.; spiny spindles 0.16–0.06; 0.14–0.05; 0.12–0.02 mm.; double clubs 0.08–0.04; 0.1–0.04 mm.; stellate forms 0.06–0.06; 0.1–0.08 mm.; needles 0.04–0.02; 0.06–0.02 mm.

The colour in spirits is a brownish-white.

*Habitat.*—Station 177, off the New Hebrides; depth, 130 fathoms; bottom, volcanic sand.

This species and the preceding were taken at the same haul of the dredge, from a depth of 130 fathoms; although no doubt closely related forms, there seem sufficient differences to justify their being for the present treated as distinct.

*Scirpearella moniliforme*, n. sp. (Pl. XXXIV. fig. 8).

In two specimens the colony seems simple, in a third, and that the largest, it has a single branch. In this latter the axis is attached by a disc, 15 by 10 mm., and it has a total length of 505 mm. The branch comes off at a height of 215 mm. from the base.