

Genus *Plexaura*, Lamouroux, *emend.*

*Plexaura*, Lamouroux, Hist. des Polypiers flexibles, p. 24, 1816.

„ Milne-Edwards, Hist. Nat. des Coralliaires, vol. i. p. 152, 1857.

„ K lliker, *pro parte*, Icon. Histiol., Abth. ii. Heft 1, p. 138, 1865.

*Plexaura valenciennesi*, n. sp. (Pl. XXXIII. fig. 1).

*Plexaura flexuosa*, Lamk., Valenciennes ("de la Havane"), Comptes rendus, t. 41, p. 12, 1855.

Non „ „ Lamouroux, Hist. des Polypiers flexibles, p. 424, 1816.

The species of this genus would appear to be essentially shallow-water forms. Only a single species appears in the Challenger collection; this was dredged in one of the Bays of the Bermudas, in quite shallow water. It appears to be as yet undescribed, although it is the form referred to by Valenciennes which is in the Museum at Paris.

In the only specimen preserved the colony arises from an attached and somewhat spreading base to a height of 24 cm., the main axis being at its base 12 mm. in diameter; when about 12 mm. high it branches. The larger of the two branches is 8 mm. in diameter and attains a height of 20 cm.; from it several other branches proceed, but from the one side only and in the same plane, and from these secondary twigs proceed in like manner.

The diameter of the principal twigs is from 3 to 5 mm. The basal portion of the axis is denuded of polyps, and here the outer layer of purple spicules being worn off, the middle layer of large spicules is seen to form a compact pavement.

The colour of this portion of the axis is a dirty brown; that of the upper portion and of the branches is a dark purple with a slight tinge of yellow.

The polyps are numerous, thickly set in irregular spirals round the stem and branches, extending to the very summits of these latter. The position of each polyp is very distinctly marked by a short papilliform projection which is often circular but sometimes oval, and within which the polyp is completely retractile, the tentacles being drawn in last, when the central pit slightly contracts, and in doing so a bilabial appearance is sometimes seen. These projections rise but slightly from the level of the c nenchyma, but sufficiently so to give a quite pustulate appearance to the colony.

The c nenchyma is massive, and formed of several layers of spicules; the outer layer consists of purple-coloured spicules, foliated clubs, and spindles, beneath which is a layer of large, tuberculate, fusiform spicules, while the innermost layer is formed of small, radiate, tripartite and fusiform spicules of a bright purple colour or colourless.

The small nutrient canals from each polyp penetrate beneath the first layer in communicating with those of the neighbouring polyps, while a series of larger nutrient canals runs parallel with the axis within cover of the middle layer of spicules. The central axis is horny.

The polyp bodies, at least the retractile portions, are destitute of spicules, unless for