

## Family PLEXAURIDÆ, Gray.

*Eunicea*, Lamouroux.*Eunicea*, Lamouroux, Hist. des Polyp. flexibl., p. 431, 1816.

Milne-Edwards, Hist. Nat. des Coralliaires, t. i. p. 146.

*Eunicea palmata*, n. sp. (Pl. IV. figs. 2a, 2b; Pl. V. fig. 9).

Colony upright; slightly branched in one plane, the branches commencing about halfway up the stem. A thick cylindrical stem rises from a broad leaf-like base to a height of 330 mm.; thickness at the base 9 mm., near the apex 6 mm. Its course is irregularly curved. The first branches are given off at a height of 100 mm.; these are few and thick, and arise from both sides at right or obtuse angles. They bend upwards after a short distance, and take a course parallel to that of the stem. The lower ones are large, giving off two or three long twigs with the same characters as the branches. The upper ones are but short, and stand straight out. Branches and twigs are thick, cylindrical; some bend downwards gradually towards the base, thickened terminally. The branches average 190 mm. in length, with a thickness at the base of 7 mm. and of 6 or 7 mm. near the tip. The simple side twigs are 50 to 120 mm. long. The cœnenchyma which covers stem and branches is thick and full of spicules. In a branch 6 mm. in diameter it averages 2 mm. in thickness. The polyps are distributed over the whole surface, and quincuncially arranged; generally they appear at intervals of 2 mm. apart, and only at the ends of the twigs are they more closely disposed, so that the walls of the calyces are in contact. The apex is occupied by a single polyp calyx. Each polyp is formed by a calyx and a completely retractile oral region over which the calyx mouth may be completely closed as a two-lipped slit.

The calyces are low; on the stem and on the lower part of the branches they project but slightly, and are wart-shaped. Towards the ends of the branches and twigs they are higher. Their height is 1 to 2 mm., their diameter 2 to 2.5 mm.

The spicules of the cœnenchyma and of the calyces are mostly club-shaped. Straight and bent clubs with more or less leaf-like ends may be distinguished; they are covered with rough warts, or with branched, curved, and straight processes. Dimensions 0.38 by 0.1 mm.; 0.5 by 0.12 mm.; 0.4 by 0.09 mm. In addition, there occur straight and bent spindles with warts and spines, or with irregular processes which may be branched; these exhibit manifold transitions towards the club-shaped form. Dimensions 0.35 by 0.05 mm.; 0.5 by 0.05 mm.; 0.43 by 0.07 mm.; 0.33 by 0.05 mm.