

that of the Membraniporidæ, against which location, however, there seem to me to be very cogent reasons. In the first place, among the forty or fifty recent and other forms belonging to that Family, there is none, so far as I am aware, in which the cells are disposed in transverse series, nor any in which the surface is divided into angular areas by continuous ridges which apparently belong, as in all the Salicornariadæ, not to the individual zoœcia, but seem to form a continuous network within which the latter are contained. In the Salicornariadæ this continuous network is indicated, as before stated, by slender chitinous continuous hollow threads, and such may be contained within the thick calcified ridges in the present species, or may have been detached with the common epitheca by which they were originally clothed, but which in the single old and worn specimen afforded by the Challenger collection have become lost. Nor among the Membraniporidæ am I aware that any have a central aperture with a beaded and thickened border.

On the other hand, the chief, if not the only obvious, character in which any important divergence from the rest of the Salicornariadæ is exhibited, is the existence of an aperture larger than the true orifice.

All that is wanting to put the question of the Salicornarian affinities of the present species at rest, would be the existence of a chitinous ring or of lateral trabeculæ around or on the sides of the orifice. But whether such a provision existed in the superficial epitheca, or may be still contained in the thickened border of the aperture, I have not been able to make out. A remarkable peculiarity of *Melicerita dubia* is the extremely dense, hard, semi-transparent texture of the zoarium.

Family XV. TUBUCELLARIADÆ.

Cellaridæ (pars), d'Orb.

Salicornariidæ (pars), Macgilliv.

Porinidæ (pars), Hincks.

Character.—Zoarium erect; radicate, composed of cylindrical internodes. Zoœcia disposed round an imaginary axis, convex, distinct, pyriform; peristome produced, tubular. Surface reticulato-punctate or simply punctate with or without a simple median pore on the front (often wanting). Avicularia and oœcia 0.

The Family here contains the following genera :—

1. *Tubucellaria*, d'Orbigny.

(1) *Tubucellaria opuntioides*, Pallas (Pl. XXIV. fig. 7, and Pl. XXXVI. fig. 19).

(2) *Tubucellaria hirsuta*, Lamx. (Pl. XXXVI. fig. 18).

2. *Siphonicytara*, n. gen.

Siphonicytara serrulata, n. sp. (Pl. XV. fig. 2).