

a bundle of thread-like rods of silica, corresponding exactly in diameter with the external ridges, the sections of which exactly correspond with the others in the interior; the siliceous fibres are solid, cylindrical, with slight occasional transverse rugosities; they are less than their own diameter apart, and the interstices shew no organization under a magnifying power of 330 diameters, the limestone being of a finer texture and lighter colour than that of the matrix, as if there had been originally a soft animal matter in the spaces between, which kept out the coarse calcareous mud, but the space occupied by which became filled with fine material by percolation on its decomposition. I am therefore inclined rather to compare the fossil in question with the *Hyalonema* of Gray, of which a short notice was published in the *Zoological Proceedings* 1835, being, according to that naturalist, a recent marine zoophyte allied to *Gorgonia*, called *glass-plant* by the English at Canton. It has a long, thick, rope-like axis, formed of a bundle of very long, slightly-twisted threads of pure silica, held together by a little animal matter, the whole having an external animal pulpy layer in which the polyps were lodged, and which falls away at their death, leaving the siliceous axis of glass-like fibres exposed. The analogy between these seems to me very strong, and I know of nothing else in nature like the fossil. I have named the genus from *Πυρίτης*, *silex*, and *νήμα*, *filum*. Lest the specimen might be supposed to resemble a bundle of certain *Serpulæ*, I may mention that the rods of silica are not tubes, and have no walls.

Explanation of Figures.—Plate I. B. fig. 13. Natural size from the Limestone of Tre Gil.—Fig. 13 *a*. Portion of ditto magnified three diameters, shewing the external surface of the bundle of tubes with irregular transverse plicæ, and shewing in the horizontal section at top the termination of the various filaments in the interior of the mass.—Fig. 13 *b*. Do. Smaller portion more highly magnified, shewing the absence of intermediate structure or walls to the tubes.

3rd Fam. TUBIPORIDÆ (see p. 9).

Genus. FISTULIPORA (*M^cCoy*).

Ref.—M^cCoy, *Annals of Nat. Hist.* 2nd S. Vol. III. p. 130.

Gen. Char.—Corallum incrusting, or forming large masses, composed of long, simple, cylindrical, thick-walled tubes, the mouths of which open as simple, equal, circular, smooth-edged cells on the surface, and having numerous transverse diaphragms at variable distances; intervals between the tubes occupied by a cellular network of small vesicular plates, or capillary tubules traversed by diaphragms.

This genus was proposed to include the *Manon cribrosum* (Gold.) of the Eifel, &c., and some new species. They have no affinity with the fossil sponges of the genus *Manon*, with which the only previously known species was classed by Goldfuss and others, but are more allied to the so-called *Porites* of the palæozoic rocks (*Palæopora*, M^cCoy), from which they differ in the absence of the rudimentary radiating or vertical lamellæ to the cell-tubes. The sides of the tubes do not seem to be perforated by connecting pores. The absence of vertical lamellæ induces me to place this genus among the *Zoophytaria*, in the family *Tubiporida*, from the type of which (*Tubipora*) it will be found not to differ materially. In *Tubipora* we find exactly similar main tubes, but with rather less regular diaphragms: that is however merely a question of degree; the only positive difference between these genera is, that in *Tubipora* the connecting vesicular tissue is developed only in distant horizontal layers with clear interspaces, while in *Fistulipora* it fills all the space between the main pipes.

FISTULIPORA DECIPIENS (*M^cCoy*).

Ref.—M^cCoy, *Annals and Mag. Nat. Hist.* 2nd Series, Vol. VI. p. 285.

Sp. Ch.—Corallum forming hemispherical or subcylindrical masses three or four inches in diameter, concentrically wrinkled at base; cell-tubes straight, subparallel, with moderately thick walls, leaving clearly definite, circular, smooth-edged cells in the transverse section, very regular in size and disposition, usually slightly less than half a line in diameter, and averaging rather less than their diameter in the shortest line between adjacent cells, in which line there are usually two, or more rarely three, of the intermediate vesicular cellules; about eighteen of the intermediate or polygonal cellules in the space of two lines;