

adjacent mesoderm), but is not differentiated to form a cortex; so too the walls of both systems of canals are without any special mesodermic investment. Vela are absent, as well as special subdermal cavities.

The flagellated chambers (Pl. I. figs. 17, 26), are usually ellipsoidal, and vary in size from 0.048 by 0.040 to 0.071 by 0.044 mm., measured along their longest and shortest diameters. They open by a wide mouth immediately into the excurrent canals. The canals of the sponge are largely occupied by the volcanic mud on which it rested, particles of pumice being particularly abundant.

The mesoderm, which is very poorly developed, contains large amoeboid cells, but no genital products.

In general character *Tetilla sandalina* closely resembles *Tetilla polyura* as figured and described by Vosmaer,<sup>1</sup> but differs as much from *Tetilla polyura* as figured by Schmidt<sup>2</sup> as Vosmaer's representations do. But for the absence of anatriænes in the Challenger specimen, I should be disposed to regard them as merely varietal modifications of Vosmaer's species. That these spicules are not present I can assert confidently, for they are absent not only from the separate mountings of spicules, but also from thin sections of the entire sponge; nor are any to be seen when the whole sponge is examined under the microscope, although the ends of the projecting spicular fibres can thus be closely examined and their composition clearly determined.

*Tetilla leptoderma*, Sollas (Pl. I. figs. 1-15).

*Tetilla leptoderma*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 179, 1886.

*Sponge* (Pl. I. fig. 1) more or less spherical or ellipsoidal, with a single oscule; produced below or at the end opposite the oscule into several slender rootlets; ectosome thin, consisting of modified collenchyma; mesoderm but sparingly present, collenchymatous; flagellated chambers large, pouch-shaped, eurypylous.

*Spicules*.—I. Megascleres. 1. *Oxea*, of the radial fibres, fusiform, anisoactinate (Pl. I. fig. 2), much more abruptly pointed at the distal than at the proximal end; 4.185 by 0.0474 mm. to 4.284 by 0.0434 mm.

2. *Oxeas*, irregularly scattered (Pl. I. fig. 5). These, though smaller than the preceding spicule, cannot be distinguished from young forms of it, measurements therefore are not given.

3. *Protriæne* (Pl. I. figs. 3, 9). Usually with one cladus longer than the other two, which are generally of approximately equal size. Rhabdome diminishing gradually from the cladome to an almost filamentous termination; rhabdome 4.03 by 0.0118 mm., the

<sup>1</sup> Sponges of the "Willem Barents" Expedition, p. 9, pl. i. figs. 1-3.

<sup>2</sup> Spong. Atlant. Gebiet, p. 66, pl. vi. fig. 8, 1870.