

II. Microscleres. 4. *Oxyaster* (Pl. XVI. fig. 10), a comparatively small centrum produced into few or many conical sharply pointed actines, smooth or minutely spined, each about 0.0198 to 0.027 mm. long, by 0.003 to 0.004 mm. wide.

5. *Spheraster* (Pl. XVI. fig. 11), a comparatively large centrum, produced into very numerous short conical or rod-like actines, abruptly truncated at the ends, usual diameter 0.01 mm.

*Colour*.—Faint yellowish-white.

*Habitat*.—Station 308, Tom Bay, Patagonia, January 5, 1876; lat. 50° 8' 30" S., long. 74° 41' 0" W.; depth, 175 fathoms; bottom, blue mud. Trawled.

*Remarks*.—There are several examples of this sponge in the collection; the largest measures 70 by 46 mm. in length and breadth, and 61 mm. in height. It is firmly attached to a specimen of *Astrella vosmaeri*; in another case a *Cydonium magellani* furnishes a surface of attachment. The hispidating spicules are, in most cases, worn off from the greater part of the surface, the embossed character of which thus becomes revealed.

The cortex (Pl. XVI. fig. 12) measures about 1.75 mm. in thickness; immediately beneath the outer epithelium follows a layer of spherasters one aster thick; this is succeeded by a very thin layer (about 0.0118 to 0.0276 mm. in thickness) of fusiform cells lying tangentially in various directions, this layer is reflected down the sides of the radial spicular bundles; it passes on its inner side into a thick layer (0.9 mm.) of collenchyma, containing numerous fusiform cells which wander irregularly through it; this layer passes into a thick fibrous felt (0.48 mm. thick) composed of bundles of fusiform cells running tangentially in all directions (Pl. XVI. fig. 13).

The chones are broken up into numerous irregular vesicular canals within the collenchymatous cortex, but within the fibrous layer they form well-defined cylindrical tubes, which are closed at their inner ends by thick sphinctral muscles, consisting of concentrically-arranged myocytes (Pl. XVI. fig. 12).

The choanosomal mesoderm is a sarcenchyma, but in one specimen it becomes collenchymatous where it surrounds the larger canals, forming a wall about them from which flagellated chambers are absent (Pl. XVI. fig. 14). The flagellated chambers range from about 0.02 by 0.02 mm. to 0.04 by 0.03 mm. in length and breadth; the aphodal canal is frequently from 0.02 to 0.04 mm. long and about 0.012 mm. in breadth.

No genital products were observed in any of the specimens, but several very small young sponges were found attached to the hispidating spicules. Of these serial sections were cut in several cases, and they afforded results of some importance relating to the development of the chones and cortex. The smallest of the young sponges from which slices were prepared was approximately spherical and measured about 0.635 mm. in diameter. The ectosome is very thin (0.0275 mm. thick) and consists of collenchyma,