

deeper in tint, almost orange coloured; the lower surface where not exposed to the light of a pale grey tint.

*Habitat*.—Station 162, off East Monceur Island, Bass Strait, April 2, 1874; lat. 39° 10' 30" S., long. 146° 37' 0" E.; depth, 38 fathoms; bottom, sand and shells. Dredged.

*Remarks*.—Of this conulose Stellettid a single specimen was dredged; it measures from 45 to 50 mm. in diameter. The conules vary from 1 to 5 mm. in height. There are three evident oscules situated near the base of the sponge, and indications of others; of the three, the two smaller are about 2 mm. in diameter, the third larger is about 5 mm. in diameter. The two smaller oscules open each at the base of a conule which overhangs them, the third larger is situated on the summit of an irregular tent-like elevation, with a conule at each side of its margin. It leads into a system of wide intercortical canals (constricted into vesicles by numerous vela), which receive the excurrent canals from the choanosome through sphinctrate apertures.

The pores of the pore-sieves are very small, usually from 0.008 to 0.015 mm. in diameter, they lead into widely extending intercortical cavities, which are converted by numerous velar partitions into a network of vesicles, and which communicate with the incurrent canals of the choanosome by descending radial canals.

The cortex (Pl. XXXVIII. fig. 2), about 2 or 3 mm. in thickness, consists almost entirely of fibrous tissue, the fusiform cells of which run in various directions concentric with the surface. Embedded in the tissue are abundant angular grains of quartz sand, and occasional Foraminifera and other foreign bodies, usually ranging between 0.08 and 0.5 mm. in diameter, on the average about 0.2 mm. The presence of these sand grains makes it impossible to obtain other than very thick slices of the cortex. The mesoderm of the choanosome is a sarcenchyma, except where it forms the walls of the larger canals; these are collechymatous.

*Skeleton*.—The megascleres are arranged in radial bundles, and the triænes and cladoxeas are first met with in the choanosome just below the cortex. The remarkable cladoxeas are more numerous than the triænes, occurring as the staple cladose spicule of the skeleton. This is the case in no other known Tetractinellid, for though similar forms may occasionally be found where the spicules are unusually massive and densely packed, as in *Ecionema pyriformis*, they are never other than exceptional and evidently abnormal varieties. These abnormal varieties are, however, of the highest interest, since the conditions which have exceptionally operated to produce them in one sponge may become general in their action in another, and thus lead to the multiplication of the abnormal into the characteristic or prevailing form. Of this process the instances afforded by the sponges are almost numberless, one of the commonest being the abnormal occurrence of oxystrongyles, strongyloxeas, and strongyles in skeletons composed otherwise solely of oxeas. It is in the study of these changes that we may find a clue to the