

cortex where it surrounds the poriferous area. It already presents, at the entrance to the poriferous area, cells remarkably like sense-cells (Pl. XXXIX. figs. 6, 7). In the next smallest specimen (Pl. III. fig. 9), over 4 mm. in diameter, the walls of the cloacal chamber are thicker, more deeply invaginated, and the whole structure is essentially similar to that of the adult oscule and chamber. The spiral arrangement of the spicular fibres is already well developed in the youngest specimen, and the young oxeas are bent in exact accordance with the curvature of the spiral, which is not much more than one spicule in length; thus showing that the spiral is not due to the form of the spicules, but the form of the spicules to the spiral; both are caused by a spiral growth of the sponge.

Craniella, O. Schmidt.

The cortex is differentiated into an inner fibrous layer traversed radiately by cortical oxeate spicules, and an outer collenchymatous layer, excavated by subdermal cavities. The choanosomal mesoderm is a sarcenchyma; the chamber system aphodal.

Craniella simillima (Bowerbank) (Pl. II. figs. 5-20; Pl. IV. figs. 23-31).

Tethea simillima, Bwk., *pars*, Proc. Zool. Soc. Lond., p. 15, pl. iii. figs. 7-8, 1873 (South Seas).
Craniella Bowerbankii, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 181, 1886.

Sponge subspherical, surface conulose; a single oscule at the summit, its position indicated by the greater length of the conules which project around it; base distinguished by a general pilosity and absence of conules.

Spicules.—I. Megascleres. 1. *Somal oxea*, anisoactinate (Pl. II. fig. 6; Pl. IV. fig. 24), fusiform, maximum diameter nearest the distal end; proximal end highly attenuated; 3.26 by 0.047 mm.

2. *Cortical oxea* (Pl. IV. fig. 27), fusiform, 1.4 by 0.04 mm.

3. *Protriæne* (Pl. II. figs. 7, 8, 14, 15; Pl. IV. figs. 26, 28). Rhabdome slightly narrower just below the cladome than a little further down, attenuated to a filiform distal end; rhabdome 5.12 by 0.02 to 0.024 mm.; cladi 0.12 mm. long, chord 0.06 to 0.07 mm.

4. *Anatriæne* (Pl. II. figs. 9, 10, 16, 17; Pl. IV. figs. 25, 29). Rhabdome at first nearly cylindrical, thin, tapering to a filiform extremity; cladome almost conical, somewhat pointed in front; axial fibre of rhabdome continued into it 0.016 mm. past the origin of the cladal axes; cladi conical, rather short; rhabdome 5.8 by 0.02 mm.; cladi 0.058 mm. long, chord 0.08 mm.

II. Microscleres absent.