

and so short that they may more properly be regarded as prosopyles; their communication with the excurrent canals is by means of aphodi, which are about 0.012 mm. in diameter where they enter the chamber. Their length is variable, standing in adaptation to the distance of the chambers from the excurrent canal; they are either simple or unite together branch-like as they approach their termination.

The choanocytes are preserved chiefly in an extended state; they measure about 0.014 mm. in length.

The species most nearly related to this appears to be *Cydonium globostellata*, Carter, which is distinguished by the substitution of orthotriænes for dichotriænes, and these are smaller than the dichotriænes of *Cydonium eosaster*.

Genus 6. *Synops*, Vosmaer.

Poriferous and oscular surfaces of the sponge distinct. Oscules the single openings of excurrent chones; pores in sieves overlying incurrent chones.

Synops neptuni, Sollas (Pls. XXIV.—XXVI.).

Synops neptuni, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 198, 1886.

Sponge (Pls. XXIV., XXV.; Pl. XXVI. fig. 1).—Cup-shaped; walls thick, diminishing to a narrow edge at the summit, attached, sessile. Both inner and outer surfaces deeply corrugated, on the outer surface the sinuses of the corrugations continued into the thickness of the walls as irregular canals. Surface smooth. Oscules scattered over the interior of the cup, pores on the outside. Cortex moderately thick, constituted chiefly by sterrasters; beneath the epithelium a layer of minute chiasters.

Spicules.—I. Megascleres. 1. *Oxea* (Pl. XXVI. figs. 2, 3), fusiform, straight or curved or sinuous, bluntly or sharply pointed, or rounded off at the ends, 1.27 by 0.0193 mm.

2. *Orthotriæne* (Pl. XXVI. fig. 4), rhabdome conical, tapering to a filiform, sharply pointed extremity; cladi curving outwards and but slightly forwards, ends usually rounded off or bluntly pointed. Rhabdome 0.964 by 0.016 mm., cladi 0.18 mm. long, chord 0.355.

3. *Anatriæne*; but a single specimen seen; cladi short, 0.019 mm. long; rhabdome broken, over 0.26 mm. long by 0.011 mm. in diameter.

II. Microscleres. 4. *Sterraster* (Pl. XXVI. figs. 5, 8), spherical, ends of actines small, polygonal, bearing five or six recurved spines, 0.448 in diameter.

5. *Somal chiaster* (Pl. XXVI. fig. 10), centrum scarcely distinguishable, several short, abruptly truncated, rod-like actines; total diameter when occurring in the cortex 0.006 mm.; in the choanosome 0.008 mm.