

those of larger forms, *e.g.*, the sterrasters of *Cydonium hirsutus*. The ends of the actines are not produced into spines, but rounded and covered with granulations.

*Synops vosmaeri*, Sollas (Pl. XXIII.).

*Synops vosmaeri*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 197, 1886.

*Sponge* (Pl. XXIII. fig. 1).—Cylindrical, with a cup-shaped depression, surrounded by a rounded margin, at the upper end; erect, attached. Oscules confined to the cup-shaped depression, the patent openings of excurrent chones. Pores in sieves (Pl. XXIII. fig. 17), collected into oval depressed areas on the lateral surface, which is raised into irregular rounded ridges running chiefly longitudinally, the depressions bearing the pores lying between. Some of the depressions are continued as tubes into the middle of the sponge-body, their walls being lined by an extension of the cortex, much reduced in thickness, and bearing numerous pore-sieves. Cortex; the ectochrote is crowded with spherasters of the same kind as those associated with the epithelium; the sterrastral layer is thin and the fibrous layer underlying it remarkably thick.

*Spicules*.—I. Megascleres. 1. *Somal oxea* (Pl. XXIII. figs. 3, 4, 12), fusiform, sharply pointed or not, straight or curved, from 1·321 by 0·016 to 1·68 by 0·008 mm.

2. *Cortical oxea* (Pl. XXIII. figs. 6, 14), slender, fusiform, 0·3 by 0·004 mm.

3. *Orthotriæne* (Pl. XXIII. fig. 5), rhabdome conical, usually sharply pointed; cladi simple, diverging outwards, at first slightly forwards, and subsequently backwards. Rhabdome 1·107 by 0·0387 mm., cladi 0·286 mm. long.

II. Microscleres. 4. *Sterraster* (Pl. XXIII. figs. 7, 9), small, spherical, ends of the actines slightly smaller than those of the corresponding spicule of *Synops nitidus*, not so closely contiguous, and with fewer spinelets; 0·0394 mm. in diameter.

5. *Somal spheraster* (Pl. XXIII. fig. 11), minute, a somewhat small centrum; short, relatively thick, minute actines, truncate or rounded at the ends; 0·004 mm. in diameter.

6. *Choanosomal oxyaster* (Pl. XXIII. figs. 8, 10), a scarcely perceptible centrum, long, slender, hair-like actines, not numerous, usually six to ten in number; length of a single actine 0·0118; total diameter 0·0256 mm. In the neighbourhood of the subcortical canals this form becomes somewhat modified, the actines are shorter and more numerous, and a small but evident centrum is present; the diameter of the variety is about 0·016 mm.

*Colour*.—Cream-white, stained pink in places by a rhodophycaceous *Alga*.

*Habitat*.—Station 122, off Barra Grande, September 10, 1873; lat. 9° 5' S., long. 34° 50' W.; depth, 350 fathoms; bottom, red mud. Trawled.

*Remarks*.—The single specimen of this sponge is fairly symmetrical in shape, and perfect from base to summit; it measures 96 mm. in height and 50 mm. in diameter. The margin of the cup at the summit is thicker and higher on one side than the other.