

*Pilochrota tenuispicula*, Sollas (Pl. XV. figs. 28–32).

*Pilochrota tenuispicula*, Sollas, Prelim. Account, Sci. Proc. Roy. Dubl. Soc., vol. v. p. 190, 1886.

*Sponge* (Pl. XV. fig. 28), small, irregularly spherical, free. A single comparatively large oscule on the upper surface, with a membranous margin, leading into a large and deep cloaca, on the walls of which numerous excurrent canals open. Surface smooth, partly incrustated with foreign bodies raised into a honeycomb-like reticulation of smooth ridges; in the depressions between these, the pore-sieves, overlying the chones, are situated.

*Spicules*.—I. Megascleres. 1. *Oxea* (Pl. XV. fig. 29), varying from a stout, fusiform, somewhat sharply pointed variety to a slender anisoactinate form, having its greatest diameter nearer the distal than the proximal end, from 1·35 to 2·3 by 0·16 mm.

2. *Orthotriæne* (Pl. XV. fig. 30). Rhabdome slender conical, attenuated to very sharply pointed proximal extremity; cladi simple, conical, and extending horizontally almost immediately on leaving the rhabdome, frequently crooked, and otherwise crippled. Rhabdome 1·6 by 0·16 mm., cladi 0·12 mm. long.

II. Microsclere. 3. *Chiaster* (Pl. XV. fig. 31), rare, a small but evident centrum and very slender actines, not tylote; 0·012 mm. in diameter.

*Colour*.—Puce-grey.

*Habitat*.—Bermuda.

*Remarks*.—There is a single specimen of this sponge, 14 by 11 mm. in width and breadth, and 10 mm. in height. The single oval oscule measures 3 by 1·5 mm. in diameter.

*Ectosome*.—The cortex (Pl. XV. fig. 32), from 0·5 to 0·72 mm. in thickness, consists chiefly of fusiform fibres distributed as in *Pilochrota pachydermata*; beneath the outer epithelium is a layer of variable constitution, 0·02 mm. thick; it is not clearly defined from the rest of the cortex, but appears as in the other species of this genus to consist of the colenchymatous matrix which forms the basis of most of the tissues, freer in this case of cellular elements than elsewhere; the gelatinous basis is stained by hæmatoxylin, and contains in addition to tangentially disposed fusiform cells (though these are sometimes absent), either the minute vesicular cells, about 0·009 mm. in diameter, previously described, or minute oval protoplasmic bodies, about 0·003 mm. in diameter, which may be the protoplasmic parts of the vesicular cells without the enclosing vesicle; these little bodies are prolonged into a slender, darkly stained fibril, which proceeds from their distal end towards the outer epithelium, 0·02 mm. distant, against which it terminates. Similar bodies occur in many other sponges, and some are figured from the ectosome of *Azorica pfeifferæ* (Pl. XXXVI. fig. 22). Beneath this outermost layer occur the round oval clusters or balls of cells, which appear to be constantly present in species of this genus. They may