

occupies only the upper quarter of the cortex, and that the spicules composing it project beyond the surface for nearly half their length. The lower three quarters of the thick ectosome are penetrated and strengthened only by the ends of the main skeleton fibres. (Compare this arrangement with that found in *Suberites caminatus*, where the cortical layer of spicules occupies nearly or quite the entire thickness of the ectosome.)

*Spicules.*—*Megasclera*; all tylostylote. (1) Large, stout, straight, gradually and very sharply pointed, with very slightly developed heads, which are a little elongated; size up to about 1·2 by 0·02 mm. These spicules occur in the fibres of the main skeleton. (2) Much smaller, straight or slightly curved, slender, gradually and sharply pointed, with heads more distinctly marked and usually of the shape termed by Bowerbank “enormispinulate,” size variable, say about 0·3 by 0·006 mm. These spicules form the special cortical skeleton and also occur in bundles or tracts in the deeper parts of the sponge.

We at first put this species down as a slight variety of *Suberites caminatus*, nobis, but our subsequent more careful examination of it has proved it to be really quite distinct, although in many respects the two species resemble one another. The most important points of difference concern (1) the oscula, which are minute and non-tubular; (2) the arrangement of the cortical skeleton (*vide supra*); (3) the form and size of the cortical spicules, which in the present species are much smaller and slenderer than in *Suberites caminatus*. In minute histological characters, however, the two species come very close to one another.

*Locality.*—Station 150, February 2, 1874; lat. 52° 4' S., long. 71° 22' E.; between Kerguelen and Heard Islands; depth, 150 fathoms; bottom, coarse gravel; bottom temperature, 35°·2. One specimen.

*Suberites perfectus*, Ridley and Dendy (Pl. XLI. fig. 9; Pl. XLV. figs. 3, 3a, 3b).

1886. *Suberites perfectus*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 485.

Sponge (Pl. XLI. fig. 9) erect, lobose. The single specimen in the collection is a simple, upright, subcylindrical lobe, 81 mm. high by about 19 mm. in diameter. *Colour* in spirit brownish-yellow. *Texture* hard, firm, very slightly compressible. *Surface* minutely reticulate, almost glabrous in appearance but in reality very minutely hispid, harsh to the touch, fairly even. *Dermal membrane* fairly distinct, but reduced to a network by the very numerous pores. *Oscula* small, very abundant, irregularly scattered, each on the summit of a small projection. *Pores*; the surface of the sponge, as already stated, is minutely reticulate; it is divided into a number of oval meshes by a network of tissue; each mesh is about 0·2 mm. in diameter and is subdivided into smaller meshes by the delicate, cribriform dermal membrane which stretches across it; there are thus larger and smaller meshes, the larger meshes containing some half dozen of the