smaller, which are about 0·07 mm. in diameter and are the true pores; these pores lead into well-developed subdermal cavities between the ends of the radiating skeleton fascicles.

Skeleton.—Radiately arranged, composed entirely of tylostylote spicules. There is a dermal crust of small tylostylote spicules arranged in closely placed, but not very tightly packed, divergent brushes, the points of the component spicules projecting freely beyond the dermal membrane and giving rise to the hispidity already mentioned. The main skeleton is composed of radiating fascicles of large tylostylote spicules, running vertically to the surface and there ending in the brushes of small spicules which form the dermal crust; between these main fascicles are scattered other tylostylote spicules.

Spicules.—Megasclera; of one form only, viz., smooth tylostyli (Pl. XLV. figs. 3, 3*a*, 3*b*), straight or slightly crooked, slightly fusiform, with well-developed, hemispherical or nearly globular heads, and fairly sharply but rather suddenly pointed at the apex. These spicules are very variable in size; small ones are found in the dermal crust and large ones in the deeper parts of the skeleton; the range in length is about from 0·2 to 1·2 mm. and in diameter about from 0·0078 to 0·03 mm. The spicules of the dermal crust commonly measure about 0·28 by 0·0126 mm.; those of the deeper skeleton about 1·0 by 0·025 mm.; but there is great variation.

This is a remarkably fine species and shows the oscula and pores (which are often extremely difficult to make out in the genus *Suberites*) very distinctly.[1] Its distinguishing characters are the general external appearance, the hard texture and the incipient stalk; in the latter point it approaches *Suberites axiatus* (below).

Locality.—Port Jackson; depth, 30 to 35 fathoms. One fine specimen.

Suberites antarcticus, Carter (Pl. XLV. fig. 7, 7*a*, 7*b*, 7*c*, 7*d*).

1876. *Suberites antarcticus*, Carter, Ann. and Mag. Nat. Hist., ser. 4, vol. xviii. p. 391.

Sponge erect, much branched, bushy; branches long, cylindrical, may anastomose on coming into contact with one another. Total height of Challenger specimen about 150 mm.; greatest breadth about 50 mm., diameter of branches 6 to 8 mm. *Colour* in spirit black (colouring (?) the spirit deep amber).[2] *Texture* firm, but a little spongy. *Surface* fairly even, but minutely reticulate and also very minutely hispid; harsh to the touch. *Dermal membrane* delicate, transparent, difficult to make out. *Oscula* numerous, small, distinct, scattered over the branches, sometimes placed serially one above the other, each on the top of a small, low papilla. The excretory canals can be very distinctly seen through the skin, converging towards the oscula in a stellate manner. *Pores* apparently arranged as in *Suberites perfectus*, nobis, but not clearly made out.

[1] Further details with regard to the anatomy and histology will be found in the Introduction.

[2] It is possible that this colour is due to other sponges packed in the same vessel, but Mr. Carter's type specimen in the British Museum seems to indicate otherwise.