

composed of smooth stylote spicules united together by a large proportion of horny matter; it is echinated by numerous smaller, spined styli, which project from the surface at right angles (Pl. XLVI. fig. 9).

*Spicules.*—(a) *Megasclera*; of three kinds—(1) nearly or quite straight, rather slender, sharply and gradually pointed styli, usually with slightly spined base; measuring about 0·2 by 0·0065 mm., forming the dermal crust. (2) Smooth, slightly curved, stout styli, measuring about 0·3 by 0·018 mm., forming the main skeleton. (3) Small, straight, entirely spined styli, measuring about 0·1 by 0·01 mm., echinating the skeleton fibre. (b) *Microsclera*; of two kinds. (1) Minute, palmate isochelæ, about 0·016 mm. long. (2) Very long, slender, hair-like toxa, usually occurring in very loose bundles, length about 0·16 mm. These are the most characteristic spicules of the species, and it is from their hair-like nature that the specific name has been taken. They may at once be recognised as toxa by the sharp bend in the centre.

From the same station as this sponge comes a species of *Pachychalina*, which so closely resembles the specimen of *Rhaphidophylus filifer* in external appearance as to be very readily mistaken for it (compare Pl. IV. fig. 1 with Pl. XXVIII. fig. 2). This close resemblance in external form between two such widely different species is very remarkable. The *Pachychalina* is a shade lighter in colour than the *Rhaphidophylus*.

This species resembles Mr. Carter's common Australian species *Echinonema typicum*,<sup>1</sup> the latter is, however, of a much more luxuriant growth, and the proportions of the spicules also differ. According to the original description there are no chelæ or toxa in *Echinonema typicum*, and only two forms of megasclera, but an examination of the dried types in the British Museum has given us good reason for asserting our belief in the presence of both forms of microsclera. We have not, however, found sufficient grounds for an identification. A redescription of *Echinonema typicum* from spirit specimens is much needed.

*Locality.*—Station 208, January 17, 1875; lat. 11° 37' N., long. 123° 31' E.; Philippine Islands; depth, 18 fathoms; bottom, blue mud. One specimen.

*Rhaphidophylus lobatus*, Vosmaer, sp., var. *horrida*,<sup>2</sup> nov. (Pl. XXVIII. fig. 1; Pl. XXIX. figs. 4, 4a, 4b, 4c).

1880. *Clathria lobata*, Vosmaer, Notes from the Leyden Museum, vol. ii. p. 151.

Sponge (Pl. XXVIII. fig. 1) stipitate, compressed, palmate, dichotomously branching. The stem, which is about 6 mm. in diameter, springs from a flattened and slightly expanded base and divides into two at a height of two inches from the ground, each branch again subdividing. Total height of specimen 106 mm.; breadth at the top (the broadest part) 44 mm. *Colour* in spirit light, greyish-yellow. *Texture* fine, fairly

<sup>1</sup> *Ann. and Mag. Nat. Hist.*, ser. 5, vol. vii. p. 378.

<sup>2</sup> So called from the bristling appearance of the surface when seen under a low power of the microscope.