

*Colour*.—Ochreous-white, or cream-coloured.

*Habitat*.—Station 163B, Port Jackson, Sydney, June 3, 1874; depth, 35 fathoms; bottom, hard ground; bottom temperature, 63°. (Type specimen.)

Var. *a*. Samboangan, Philippine Islands.

Var. *β*. Station 186, between Cape York and the Arrou Islands, September 8, 1874; lat. 10° 30' S., long. 142° 18' E.; depth, 8 fathoms; bottom, coral mud.

*Remarks*.—Bowerbank's description of *Tethea simillima*, Bowerbank, *loc. cit.*, is a medley of the characters of two specimens belonging to different species, and indeed different genera; one, as can be readily seen from his illustrations, a cortical sponge like *Craniella* (figs. 7, 8, *loc. cit.*), and the other (fig. 6, *ib.*) non-corticate and apparently resembling *Tetilla*. Now a species has no claim to recognition unless it is described so that it can be distinguished, and instead of spending time on a discussion as to which of these two species the term *simillima* should be applied, I thought it safer when drawing up my Preliminary Report to suppress the name altogether; though I had but little doubt as to the identity of the corticate sponge with *Craniella bowerbankii*. Since then I have had an opportunity of examining one of the two types on which Bowerbank founded his species, and the other is not to be found; it happens that the still existing type which is preserved in the collection of the Royal College of Surgeons is specifically identical with the sponge under description, and to save confusion I now return to Bowerbank's name. Bowerbank does not give measurements of the spicules of this sponge, but as he states the magnification of his drawings it is possible to get approximate dimensions from these; thus I find the large oxate spicule measures 3·15 by 0·031 mm., and is therefore much the same size as that in our specimens.

*Craniella simillima* closely resembles *Craniella carteri*, from which it is distinguished by the absence of pigment-glands in the outer layer of the cortex.

Three specimens of this sponge were obtained, one from Port Jackson, Sydney, 20 mm. high by 23 and 16 mm. in diameter; one from Samboangan, Philippine Islands, 29 mm. high by 27 mm. in diameter, and the third from Torres Strait, 20 mm. high by 15 mm. in diameter. In general appearance the specimens from Samboangan and Port Jackson are most similar, the Torres Strait specimen differs in the character of the conules, which are more slender and more numerous than in the other specimens, the projecting spicules of the conules also extend further from the surface than in those specimens.

Similar differences exist between the other two specimens, that from Port Jackson being distinguished from that of Samboangan by coarser and more rigid conules.

Differences occur also in the size of the spicules of all three specimens, but these are not sufficiently great for specific distinction. The measurements are as follows:—