

dermal reticulation, where they reduce the dermal membrane to a mere network; diameter about 0.05 mm.

Skeleton.—Very diffuse and with only very slightly developed spiculo-fibre; consisting of thickly but irregularly scattered tylostylote spicules, sometimes arranged in tracts; towards the surface the skeleton becomes much denser so as to form a kind of cortical layer. This is most strongly pronounced in the mammiform processes, where it consists of a very dense reticulation of interlacing spicules. The cortical layer is, however, much broken up by the large, irregularly shaped, subdermal cavities, and it is not very sharply marked off from the deeper skeleton. At the surface of the sponge are irregular brushes of smaller tylostylote spicules whose apices project for a short distance beyond the dermal membrane.

Spicules.—(a) *Megasclera*; (1) the main spicules; straight or slightly curved, gradually and sharply pointed, fairly stout tylostyli (Pl. XLV. fig. 11), with well developed, broadly oval heads; size about 0.5 by 0.0157 mm. (2) The spicules of the surface brushes; smaller, straight, slender tylostyli (Pl. XLV. figs. 11a, 11b), commonly with well developed, broadly oval heads and gradually and finely pointed apices; size about 0.3 by 0.008 mm. (b) *Microsclera*; stout spined spirulæ (Pl. XLV. figs. 11c–11g), consisting each of three or four bends and with abundant strong spines; size, exclusive of spines about 0.5 by 0.009 mm.; smaller ones of rather different appearance are also abundant, but they are probably only young forms of the larger. These spicules occur in very great numbers in the dermal membrane and for a short distance below it.

The peculiar warty appearance of the surface seems to be the most characteristic feature of this species, but, owing to information received from Dr. R. von Lendenfeld, we are doubtful whether this will turn out to be a constant character.

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

Genus *Latrunculia*, Bocage (Pls. XXIX., XLIV., XLV.).

1870. *Latrunculia*, Bocage, Journ. Acad. real. Sci. Lisboa, vol. ii. p. 161.

1875. *Sceptrella*, Schmidt (*pars*), Jahresb. Comm. wiss. Unters. deutsch. Meere, Jahrg. ii., iii. p. 119.

Sponge massive, sessile, usually corticate. Upper surface usually covered with mammiform projections. Megasclera smooth styli (? or oxea). Microsclera discastra, characteristic of the genus and typically forming a dense dermal crust.

The numerous small mammiform processes are very characteristic of this genus; some of these bear oscula while others are raised pore-areas; we cannot, however, say whether this arrangement obtains in all species.

Bocage (*loc. cit.*) gives no attempt at a generic diagnosis but plunges at once into the description of the type species, *Latrunculia cratera*. Previous to the appearance of our