Echinoclathria carteri, Ridley and Dendy (Pl. XXIX. figs. 12, 12*a*; Pl. XXXI. figs. 3, 3*a*).

1886. *Echinoclathria Carteri*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 476.

Sponge (Pl. XXXI. fig. 3) cylindrical, ramose, each branch consisting of flat, ribbon-like trabeculæ, anastomosing and interwoven so as to form a loose, honeycombed whole, with rounded meshes on the surface about 2 mm. in diameter. The largest specimen is about 250 mm. long; diameter of branches about 6 to 15 mm. *Colour* in spirit pale yellow. *Texture* (of the individual trabeculæ) tough and compact. *Surface* very minutely hispid. *Dermal membrane* thin, transparent, very rarely found stretching across the meshes on the surface. *Oscula* (Pl. XXXI. fig. 3*a*, *o*) minute, scattered over the trabeculæ.

Skeleton.—A rather close reticulation of strongly developed horny fibre, cored and echinated by stylote spicules of one kind only, though the spicules within the fibre seem to be usually slenderer than those outside.

Spicules.—(*a*) *Megasclera;* (1) smooth, sharply and gradually pointed styli (Pl. XXIX. fig. 12*a*), not markedly constricted above the base; measuring about 0·132 by 0·009 mm.; in the fibre, irregularly echinating the same, and scattered. (2) Long, smooth, very slender subtylostyli (Pl. XXIX. fig. 12), measuring about 0·16 by 0·002 mm.; irregularly scattered. (*b*) *Microsclera;* of one kind only, viz., small, palmate isochelæ, very abundant in some specimens, about 0·015 mm. long.

This is an exceedingly remarkable species. It might be thought that its peculiar external form would be quite sufficient to distinguish it from all other sponges, but there is a digitate variety of Carter's *Echinoclathria favus* (one of the types in the British Museum referred to by him,[1] and labelled 37. 5. 13. 36. and 208 *bis*), also from South Australia, which very closely resembles it. As regards external appearance the two may, however, be distinguished by the fact that in *Echinoclathria carteri*, nobis, the anastomosing trabeculæ usually present a flat surface towards the outside, while in *Echinoclathria favus*, Carter, they usually have their edges turned outwards. On examination with the microscope the two are more readily distinguished, for *Echinoclathria favus* possesses few or no chelæ, and there are also other slight differences in spiculation which will be seen by reference to the descriptions.

Localities.—Station 162, April 2, 1874; lat. 39° 10′ 30″ S., long. 146° 37′ 0″ E.; Bass Strait; depth, 38 fathoms; bottom, sand and shells. One or two specimens.

Station 163A, April 4, 1874; lat. 36° 59′ S., long. 150° 20′ E.; south-east Australia; depth, 120 fathoms; bottom, green mud. Three or four specimens.

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

[1] *Ann. and Mag. Nat. Hist.*, ser. 5, vol. xvi. p. 292.