

considerably in shape and size; there are five kinds present; (1) trichodragmata (Pl. IX. fig. 5, *c*); bundles of very fine hairs, measuring (the bundles) about 0.455 by 0.175 mm.; these occur in great abundance; (2) large, stout sigmata (Pl. IX. fig. 5, *d*), some only very slightly contort, others considerably so; size 0.06 by 0.0047 mm.; (3) small, thin, contort sigmata<sup>1</sup> (Pl. IX. fig. 5, *e*), size 0.0189 by 0.0015 mm.; (4) a few tridentate isochelæ, about 0.019 mm. long; (5) minute isochelæ (Pl. IX. figs. 5, *f*, and 8), 0.01 mm. long, of very peculiar form. The shaft is much expanded laterally and, when viewed from the side, is seen to be notched in the centre. There is only one tooth at each end, which is sharply recurved; owing to the minute size it is difficult to make out further details.

Only one specimen of this species is present. It has evidently been cut from a stone or some other attachment, so that in place of the base of the sponge a large circular aperture is left; this leads into a large cavity, caused by the shrinking up, and perhaps partly by the loss of the internal soft tissues. Perhaps the most remarkable feature about the sponge is the exceedingly hard and tough external rind, formed as described above, a feature not at all common amongst the Desmacidonidæ. The great number and variety of microsclera is also noteworthy.

*Locality.*—Station 188, September 10, 1874; lat. 9° 59' S., long. 139° 42' E.; off the south-west corner of New Guinea; depth, 28 fathoms; bottom, green mud. One specimen.

### Genus *Iophon*, Gray (Pls. XVI., XVII.).

1867. *Iophon*, Gray, Proc. Zool. Soc. Lond., May 1867, p. 534.

1867. *Alebion*, Gray, Proc. Zool. Soc. Lond., May 1867, p. 534.<sup>2</sup>

Sponge soft and crumbling, usually dark coloured. Skeleton divisible into (*a*) a dermal layer of diactinal spicules, usually tylota, *i.e.*, with knobbed extremities which may be smooth or spined, and (*b*) a deep-lying reticulation of loose spiculo-fibre, composed of stylote spicules which are generally more or less spined. (? The proper skeleton may be replaced by foreign bodies, such as sand-grains, foreign spicules, &c.) Microsclera generally of two kinds. (*a*) Palmate anisochelæ, the small end of which terminates in a sharp spur; these appear to be constant. (*b*) Bipocillate spicules, very characteristic of the genus and almost always present, consisting of a curved shaft terminated by a cup-shaped expansion at either end, which is sometimes divided into lobes in a trefoil-like manner.

Species of this genus may generally be recognised by the combination of several of the above characters. A good external guide is the dark colour, many species being black. The sponge is usually an amorphous mass of crumbling substance, but it may

<sup>1</sup> Possibly young forms of the larger ones.

<sup>2</sup> For further generic synonyms, see under *Iophon pattersoni*.