

about 0.42 by 0.0063 mm., dermal; (2) smooth styli (Pl. XIX. figs. 5, 5'), varying much in size, up to about 2.0 by 0.025 mm.; slightly curved and sharply and gradually pointed at the apex. Although styli of this size are abundant it is more common to find them much shorter and stouter, measuring about 0.77 by 0.034 mm. The styli make up the main skeleton. Besides these two forms there is a third large spicule which may be mentioned here, although it is probable that from its peculiar form it should be placed rather in the category of microsclera than that of megasclera (*vide infra*), only its great size argues against this view. It is a very long and very slender oxete spicule (Pl. XIX. fig. 5a'''''), sharply pointed at each end, and commonly with a single rather sharp bend in the centre; size up to about 2.0 by 0.01 mm. These spicules are abundantly scattered throughout the sponge and sometimes occur in bundles; their occurrence in the dermal membrane has already been referred to. (b) *Microsclera*; (1) very minute, palmate isochelæ, about 0.0065 mm. long, scarce; (2) large, stout toxa (Pl. XIX. figs. 5a, 5b, &c.), measuring about 0.35 by 0.0063 mm. This is about the average size, but there is very considerable variation in this respect, and indeed it is not difficult to pick out a connecting series between these toxa and the long oxea above mentioned. Such a series is represented on Pl. XIX. figs. 5a-5a'''''.

This species is very well marked, and may be readily recognised both by its external appearance and its spiculation. All the spicules, except the minute isochela, which is unusually small, are of exceptionally large size. The toxa are probably the largest known examples of their kind. Some of them were found still enveloped by the mother-cell, as shown on Pl. XIX. fig. 5b. The most interesting feature of the species is, however, the manner in which the toxa appear to develop into oxea.

*Localities*.—Christmas Harbour, Kerguelen, 70 fathoms. One specimen (the type, from which our description is taken).

Off Marion Island, between 50 and 75 fathoms. One specimen.

*Amphilectus annectens*, Ridley and Dendy (Pl. XIX. figs. 4, 4a).

1886. *Amphilectus annectens*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 351.

Sponge massive, lobate, represented only by a single fragment, 25 mm. long by about 13 mm. broad. *Colour* in spirit pale, greyish-yellow. *Texture* very soft and spongy. *Surface* uneven, rugose, hispid in places (perhaps owing to artificial causes). *Dermal membrane* distinct, thin and transparent. *Oscula* small and scattered.

*Skeleton*.—(a) *Dermal*; consisting of tylota loosely scattered through the dermal membrane and also arranged in tufts beneath it. (b) *Main*; a very loose and irregular reticulation of large styli, in which no distinct fibre is discernible.

*Spicules*.—(a) *Megasclera*; of two kinds—(1) very large, stout, smooth, usually slightly