

thoroughness by Thomas Higgin, and the result is to show that it must simply be included in the genus *Pheronema*. Since I have not myself been able to examine *Pheronema hemisphaericum*, I will here content myself with citing the last and most thorough description, that of Higgin,<sup>1</sup> and with shortly summarising the most essential characteristics.

According to Higgin, the sponge is in form "like a small bird's nest, the bottom of which is flat, with a well-defined edge: the sides are rounded; and the sponge attains its greatest diameter about one-third of the way down from the edge of the hollow of the nest, towards the base." According to his figure on Pl. XXII. fig. 3 the shape is like that of a prehistoric Greek clay urn, and exhibits a convex surface above and below the annular pad which occupies about the median third of the lateral wall. The maximum transverse diameter measures about 10 to 12 cm., and the height about 9. The upper flatly spherical cavity is at the margin 8 to 9 cm. in width, and is 4 cm. deep. The length of the anchor needles in the basal tuft is 8 to 9 cm. On the superior, sharply defined margin there is a wreath of varying length and 1 to 3 cm. in breadth, composed of long straight pointed spicules, which project at right angles. The lateral usually projecting annular zone is covered with "whisker-like bundles of long spicules which issue from circular holes the edges of which are slightly raised, each bundle consisting of a dozen or more spicules. Around the circumference of the base are arranged loose fascicles of anchoring spicules, from 7.5 to 8 cm. in length, and having a diameter of about 12 mm. measuring along the edge of the base, by 6 mm. to 10 mm. A few scattered short spicules project here and there from the base generally, but there are no bundles other than those around the edge. The anchoring spicules are of one kind only, viz., smooth, fusiform, terminating at the free end in two opposite hooks; there are no spined forms. The spicules of the whisker-like tufts are plain, fusiform; the spicules of the erect fringe round the labrum are also fusiform and smooth throughout, but there is an appearance of spines on some towards the free end." In the surface reticulation T. Higgin found four kinds of spicules—(1) pentacts, whose four tangential arms are equally smooth and opposite or at right angles to each other, inclined slightly downwards or inwards; the shafts of the larger spicules are 12 mm. long; (2) long, slender, acerate spicules, thickly covered with short sharp spines, all pointing towards one and the same end of the shaft; (3) smooth acerates with the cross on the central canal; (4) plumose spicules, of shapes intermediate between one with a very thick shaft, short and bushy looking, with long, strong, bluntly ended arms; and another with small, short, fine arms and a long feather-like shaft; the crucial arms of which, thickly studded with short obtusely pointed spines, are bent downwards, as if to embrace or fit to the arms of the large spicules on which they rest. The strongly woven together basket work of the interior, as seen through the investing network, is composed of:—(1) smooth spicules of the sexradiate type (that is, *acerate* with simply

<sup>1</sup> *Ann. and Mag. Nat. Hist.*, ser. 4, vol. xv. p. 377