

ART. XIII.—*On a New Species of Leucosolenia from the neighbourhood of Port Phillip Heads.*

By ARTHUR DENDY, D. SC.

[Read December 8, 1892.]

The species here described was collected by Mr. J. Bracebridge Wilson, M.A., in the neighbourhood of Port Phillip Heads, but unfortunately too late for it to be included in Part I of the Monograph of the Victorian Sponges, which deals with the group (Homocœla) to which it belongs.

Leucosolenia uteoides, n. sp.

In external form and canal system the sponge very closely resembles *Leucosolenia stolonifer*, Dendy,* belonging, like the latter, to the section of the genus *Leucosolenia* to which I have proposed to apply the name *Simplicia*. The single specimen is colonial, consisting of about one hundred individuals united together by their bases only and rising vertically upwards side by side so as to form a compact colony. The spongorhiza is not conspicuous, being represented by the union of the various individuals at their bases. From the basal portions of the individuals, thus united, arise numerous short, slender, downward-growing, tubular processes, which apparently serve, as in *L. stolonifer*, to attach the colony to the substratum. The fully developed Ascon individuals attain a height of about 35 mm. and a diameter of about 2.5 mm. Each is a nearly straight, slender, cylindrical, thin-walled tube, narrowing slightly towards the naked, terminal osculum. The tubes may branch, especially near their bases. Under a lens the outer surface of each tube appears very slightly hispid and also exhibits that longitudinal striation, due to the presence of large oxecote spicules, which is so characteristic of the genus

* "Monograph of the Victorian Sponges," Part I, p. 46, Plate I, Fig. 2.

Ute, whence the specific name *uteoides*. The wall of the tube is about 0.13 mm. thick, the mesoderm being, as in *L. stolonifer*, very strongly developed for a Homocœl sponge.

The skeleton consists of quadriradiate and two kinds of oxeote spicules. The quadriradiates are arranged as usual in the thickness of the mesoderm towards the inside of the sponge-wall, the facial rays lying parallel to the gastral surface, the basal ray directed away from the osculum, and the apical ray projecting into the gastral cavity. These spicules are markedly sagittal, the oral rays being widely extended and distinctly recurved towards the basal. All three facial rays are long and slender, but the basal is much more so than the orals and is slightly hastate; all three are fairly sharply pointed. In an average-sized spicule the oral rays measure about 0.186 by 0.0082 mm. (near the base) and the basal about 0.31 by 0.006 mm. (near the base), but of course there is a good deal of variation, and I have measured the basal ray up to 0.42 mm. in length. The apical rays are very strongly developed; long, slender and sharply pointed; usually more or less crooked and varying greatly in length; the average length is perhaps about 0.15 mm., but this is often greatly exceeded.

The oxeote spicules may be divided into two classes according to their shape, size and position in the sponge. (1) Very large spindle-shaped oxea, completely imbedded in the outer portion of the sponge wall and arranged parallel to the long axis of the sponge. These spicules are usually straight and symmetrically fusiform, very thick in the centre and tapering gradually to a fine point at each end. Fully grown examples measure a little over 1 mm. in length and about 0.065 mm. in greatest thickness (in the centre). They are placed pretty close together side by side in a single layer. (2) Much smaller oxea projecting from between the large ones and abundantly echinating the outer surface of the sponge. These spicules are rather slender, often slightly curved or even crooked, fairly gradually sharp-pointed at each end, but with the outer end often bent slightly though sharply to one side, like a bayonet; size about 0.22 mm. by 0.008 mm. The colour of the sponge in spirit is yellowish-white.

As already pointed out this species is nearly related to my *Leucosolenia stolonifer*, but it appears to be even more

nearly related to Carter's *L. asconoides*,* with which it agrees not only in general form but also in the *Ute*-like armour of huge spindle-shaped oxea. In *L. asconoides*, however, there appear to be none of the smaller oxea which so abundantly echinate the dermal surface of our species, while the large oxea are nearly twice the size of those of *L. uteoides*. It is a curious fact that in *L. asconoides*, "more or less of the arms" of the quadriradiates are "exserted between the long acerates, so as to give this part a minutely hispid appearance. At first sight the latter look like mortar-spicules or small acerates, but although they appear to serve the same purpose, they are *not* so, but what I have stated." † In view of this very definite statement it appears tolerably certain that *L. uteoides* is specifically distinct from *L. asconoides*.

* *Vide*, "Monograph of Victorian Sponges," Part I, p. 48.

† Carter, "Annals and Magazine of Natural History," August 1886, p. 135.