

whole, its internal organisation does not differ from that of the representatives of the genus *Spongelia*, except in the size of the flagellated chambers. What Dr. Marshall means by the words, "Das Gastrovascular-System ist hier nach dem astförmigen Typus angeordnet" (*loc. cit.*, p. 113), is of course to be regarded as an echo of corresponding erroneous statements of Prof. Haeckel. For any fine histological examinations the Challenger specimen proved to be insufficiently preserved. The Alga found by Marshall in all the specimens he had for examination was found to be characteristic also of the single specimen collected by the Challenger.

*Colour*.—Grey, skeletal fibres white.

*Habitat*.—Station 162, April 2, 1874, off East Moncœur Island, Bass Strait; depth 38 fathoms; sand and shells. Dr. Marshall's specimens were also obtained from Bass Strait.

*Psammoclema vosmaeri*, n. sp. (Pl. III. figs. 5 and 6).

This interesting species has been found in one colonial specimen, which is depicted of natural size on Pl. III. fig. 5. Some individuals of the colony are mouthless, the oscula of others are very small, and others again present cylindrical tubes, the diameter of the oscula being thus the same as that of their body in its different parts.

The surfaces of the sponge though entirely devoid of any conuli, are still rather uneven and rough, but whether this is due to the state of preservation or is characteristic of the species I cannot judge. The skeleton, when seen from the outer surface, admits of no distinction into primary and secondary fibres, the network of the fibres being very compact, *i.e.*, the meshes of a very small diameter, and it is only on the inner surface that the vertically directed primary fibres, 0.16 mm. thick on an average, are easily distinguishable; most of the fibres, and particularly the larger ones, are charged with foreign enclosures to such a degree that the enveloping horny substance is very thin and the surface of such fibres very rough. When dried the skeleton becomes hard and of a greyish colour. The type of the canal system and the histological structure do not differ from those, for example, of *Spongelia pallezens*, except that the flagellated chambers are of smaller dimensions and comparatively more constant in their roundish form, and that the internal cavity in some individuals is very large. Through the pores of the outer surface the water reaches the system of inhalent canals, flagellated chambers and exhalent lacunæ opening by comparatively small holes into the internal cavity.

From all other representatives of the genus hitherto known this species can be readily distinguished both by its external shape, which is more like that of a calcareous than a horny sponge, and by the compact network of its skeletal fibres, also perhaps by the tendency to form colonies.

I dedicate the species to Dr. G. C. J. Vosmaer of Naples.