

the canal-system and the maltha, partly by the network of the symbiotic Spongoxenia. The horny lamellæ are partly tubular, partly expanded in the form of thin Keratose membranes. They are overladen with xenophya, in the same way as the granular maltha (fig. 7). There are besides a great number of roundish black-brown pigment-cells scattered in the maltha, so that its structure is difficult to make out.

Xenophya.—The majority of the foreign bodies in the maltha as well as in the Keratose lamellæ are broken siliceous spicules of different sponges; between them are scattered many fragments of *Globigerina* shells and mineral particles, more rarely single tests of Radiolaria. Many xenophya possess peculiar yellow envelopes of spongin, whilst others lie immediately in the transparent maltha (fig. 7).

Symbiontes.—The tubular network of Spongoxenia is very differently developed in the two specimens examined, in one very rich, in the other rather scarce. The anastomosing chitinous tubes are of the same shape as in *Stannophyllum*, and belong probably to *Stylactella*; they are filled with dark cellular detritus.

Genus 8. *Psammophyllum*,¹ n. gen.

Definition.—Spongeliidæ with foliaceous or flabellate body, supported by a network of homogeneous spongin-fibres of nearly equal thickness, which enclose manifold xenophya. Maltha clear, also often filled by xenophya.

The genus *Psammophyllum*, represented in the Challenger collection by three deep-sea species, is in the external foliaceous form very similar to the Stannomid *Stannophyllum*; in internal structure it is closely allied to the typical *Spongelia* or *Dysidea*. It differs from this latter in the flat leaf-like form of the body, which seems to be partly produced by the flabelliform growth of the symbiotic Hydroids (*Stylactella*, *Halisiphonia*, &c.) (cf. below). On the other hand, *Psammophyllum* seems to be nearly allied to *Phyllospongia papyracea*, Ehlers; from this, however, it differs essentially in the absence of main-fibres and the structure of the skeleton (cf. above, p. 43).

The three species of *Psammophyllum*, which are described in the following pages, were taken in the Tropical and Northern Pacific (from depths between 2100 and 2900 fathoms), and are of special importance; they are very similar in external shape, but rather different in internal structure. *Psammophyllum annectens* (Pl. IV. figs. 1–4) is very similar to *Stannophyllum zonarium*, and has similar thin spongin-fibrillæ, but they exhibit frequent ramifications and anastomoses, and begin to enclose xenophya. *Psammophyllum flustraceum* (Pl. IV. figs. 5–9) is distinguished by much coarser spongin-fibres, of very unequal thickness, many enclosing xenophya, as in *Spongelia*. It approaches more to *Psammophyllum reticulatum*, in which the horny network is composed of scanty fine

¹ *Psammophyllum* = Sandy leaf, ψάμμα, φύλλον.