

*Xenophya*.—The foreign bodies which compose the pseudo-skeleton of this, the largest, species seem to offer a new argument in favour of my opinion, that such a pseudo-skeleton is constructed, in the Psammospongiæ as well as in other animals (for instance, in the Physemaria, &c.), with a certain amount of selection of materials, for the skeleton of the thick ribs approaches that of *Stannophyllum globigerinum*, whilst that of the thin membrane between them is more like that of *Stannophyllum radiolarium*.

*Stannophyllum globigerinum*, n. sp. (Pl. I. figs. 5A–5C).

*Habitat*.—Station 271; depth, 2425 fathoms; bottom, Globigerina ooze.

Sponge with a flabby, white, arenaceous leaf of subovate or triangular outline, the tapering base of which is supported by a conical pedicle. Surface coarsely granular, friable, without radial ribs, but often with more or less distinct concentric zones. Skeleton composed mainly of calcareous Globigerina ooze, the shells and fragments of which are larger in the two cortical faces, smaller in the medullar mass between them. Spongin-fibrillæ very unequal in size, many coarser and branched between the interwoven finer ones.

*Stannophyllum globigerinum* is the opposite end in the series of continuous links which are presented by the five species of this genus, beginning with the coriaceous *Stannophyllum zonarium*. In contrast to this latter the true fibrillar skeleton is here very weak, especially in the dermal plates, and the main mass of the arenaceous leaf is a pseudo-skeleton, composed almost entirely of Globigerina ooze. Intermingled between the shells and fragments of *Globigerina* and *Pulvinulina* there occur many small siliceous shells of Radiolaria, in far smaller quantity, however, than in the other four species. The spongin-fibrillæ which support the cementing maltha are of very unequal and irregular shape, and are most irregularly interwoven in all directions. There are many very thick fibres, 0.006 to 0.01 mm. in diameter and more, and in these the medullar or axial thread is twice as broad as the surrounding cortical wall. The thickest fibrillæ are often richly branched, and sometimes begin to anastomose (transition to *Psammophyllum*).

*Xenophya*.—The foreign bodies which compose the pseudo-skeleton of this species are in the majority of the numerous preserved specimens almost wholly calcareous shells of Globigerina ooze, and their fragments; usually the two parallel dermal plates of the foliaceous body are composed of larger shells, the softer medullar mass between them of smaller shells and fragments; within this latter is expanded the rich brown network of the symbiotic Hydroid. The scanty maltha between the fibrillæ includes often rather numerous Radiolarian shells, and, in the basal pedicle, sponge spicules.

*External Form*.—The flabelliform body of *Stannophyllum globigerinum* is easily