

very interesting species, is characterised by the flat crusty form, representing a roundish or subcircular disc, the peripheral margin of which bears a series of oscula or exhalent openings, whilst the inhalent dermal pores are disposed on the flat upper face of the disc. *Psammina*, therefore, closely approaches in structure those interesting Tetractinellidæ described by F. E. Schulze as Plakinidæ, of which *Plakina monolopha* is a typical form, because of its simple organisation. One of the three new deep-sea forms collected by the Challenger is so similar to it, that it may be regarded as a *Plakina monolopha*, in which the Tetractinellid spicules are lost and replaced by xenophya (calcareous shells of the Globigerina ooze). This species (*Psammina plakina*) contains no symbiotic Hydroid. The two other species are connected with a symbiotic *Spongoxenia* (probably *Stylactis* or an allied genus); its reticular hydrorhiza, composed of brown anastomosing chitinous tubes, is expanded horizontally in the medullar substance of the sponge, between the two solid parallel skeleton plates of the cortical substance (upper and lower face). The pseudo-skeleton in *Psammina globigerina* is composed of Globigerina shells; in *Psammina nummulina* of Radiolarian tests. The canals of the sponge are branched between the meshes of the Hydroid tubes (*h*), and open together with these on the peripheral margin of the disc. The isolated canals exhibit a distinct *membrana propria* (fig. 2D, c).

*Psammina plakina*, n. sp. (Pl. VII. figs. 1A–1D).

*Habitat*.—South Atlantic, Station 331; March 9, 1876; lat. 37° 47' S., long. 30° 20' W.; depth, 1715 fathoms; bottom, Globigerina ooze.

Sponge discoidal, subcircular, composed of two parallel hard cortical plates, with a soft medullar substance between them, the former being composed of *Globigerina* shells, the latter of malta and a simple gastral cavity, covered by a single layer of flagellated chambers. No symbiotic *Spongoxenæ*. Several oscula on the peripheral elevated margin.

*Psammina plakina* is a very remarkable form, which differs from the following typical species of the genus in such essential points, that it may perhaps be better described as the representative of a new genus, *Psammoplakina discoidea*. Two small specimens were observed forming white subcircular plates, the smaller 5 to 6 mm. in diameter, the larger 10 to 12, and 1.5 to 2.5 mm. in thickness. The internal structure is very similar to that of *Plakina monolopha*, accurately described by Franz Eilhard Schulze. If we were to suppose that the characteristic siliceous spicules of the Tetractinellid *Plakina monolopha* were lost or dissolved and replaced by Globigerina ooze taken from the bottom of the sea, then we should have the structure of *Psammina plakina*.

The consistence of *Psammina plakina* is very hard and solid, not so rigid, however, as in the similar following species. The subcircular disc is slightly convex on the lower,