Zoology Part LXXXII: Report on the DEEP-SEA KERATOSA. By Professor Ernst Haeckel. Bound in Volume 32,1889.

contain the usual brown phæodia-like contents, which fill up the hydrorhiza of the symbiotic Tubularian (probably *Stylactis* or *Stylactella*, figs. 2, 3, *h*). I was, however, not able to observe anywhere the hydranths or the gonophores of the Hydroid, which might be due to the bad state of preservation.

Xenophya.—The foreign bodies which compose the pseudo-skeleton of this species are almost exclusively various siliceous spicules of sponges, belonging to very different genera of Hexactinellida, Tetractinellida, and Monaxonida; the quality and quantity of different forms is very variable, according to the accidental composition of the ground on which the sponge grows. The majority of the xenophya, and especially the larger spicules, are not completely enclosed by the horny fibres, but only partially on the ends.

Horny Skeleton (figs. 2–4, *f*).—The entire body of the foliaceous sponge is supported and traversed by a very fine framework, composed of anastomosing horny fibres produced by the sponge itself. Examined by a weak lens, this delicate network fills up all the meshes of the coarser network of the polyp-corm (fig. 1). The yellow horny fibres are of the usual Keratose structure, the broader with a distinct axial filament. The majority of the fibres are 0·004 to 0·006 mm. broad, many finer, only 0·001 mm. or less; rarely there are larger fibres, 0·01 to 0·012 mm. in diameter, or even more. The stellate nodal points of the Keratose network are 0·02 to 0·04 in diameter.

Psammophyllum flustraceum, n. sp. (Pl. IV. figs. 5–8; Pl. V. fig. 5).

Habitat.—North Pacific, Station 241; June 23, 1875; lat. 35° 41′ N., long. 157° 42′ E.; depth, 2300 fathoms; bottom, red clay.

Sponge foliaceous, reniform, pedunculate, rather thick and soft, with lobulate distal margin. Surface with branched ribs in the proximal part, with concentric zones in the distal part. Framework of the spongin-fibres very dense and irregular, composed of branched and anastomosing fibres of unequal thickness; these include numerous siliceous spicules of sponges, Radiolarian tests and other xenophya, which also fill up the maltha.

Psammophyllum flustraceum is of special interest as a connecting link between the preceding and the following species. The single specimen observed (figured in Pl. IV. fig. 5, natural size) is a broad flabelliform leaf, similar to *Stannophyllum venosum* (Pl. I. fig. 4). Its breadth is 105 mm., its height (without pedicle) 70 mm.; the slender pedicle, which arises from the centre of the concave proximal margin, is inversely conical, 33 mm. long, 16 mm. broad at the distal insertion. The convex distal margin of the leaf is lobulate, with twelve to fifteen large lobes, each of which is again divided into two to four smaller lobules.

The surface of the reniform leaf is felty, of a brown colour. The proximal part is traversed by branched radiating ribs, which diverge from the attachment of the pedicle,

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