

and coarsely porous. No distinct dermal membrane is present, whereas in the following species this is easily detached from the softer medulla.

*Interior.*—The structure seems to be the same in all parts of the sponge. Its main mass is composed of foreign enclosures, viz., the hydrorhiza of a symbiotic Hydroid, and innumerable siliceous shells of Radiolaria, which are embedded as well in the transparent maltha as in the Keratose lamellæ. The latter are expanded in the most irregular manner between the chitinous tubes of the symbiotic Spongoxenia. Between the latter and the former are visible remnants of the canal-system of the sponge, apparently with irregularly-disposed, large, flagellated chambers. The bad state of preservation of the soft tissues, however, did not allow me to form a decided opinion on this difficult subject. (Compare figs. 2-5 and their explanation.)

*Spongin-Skeleton.*—The true horny skeleton secreted by the sponge itself is composed of two different portions, viz., firstly, the saccular spongin-envelopes which surround the single xenophya, and secondly, the branched lamellæ which connect the former and are expanded in the meshes between the chitinous tubes of the symbiotic hydrorhiza. The thickness of the yellow spongin-plate in the sacculi, as well as in the lamellæ, is very variable, and often much stronger in the nodal points of the network. In those places where the yellow spongin-lamellæ (fig. 3, *f*) are inserted into the outer wall of the similar yellow chitinous tubes of the hydrorhiza (fig. 3, *h*), there is often an appearance as if both these substances might pass directly one into the other; closer examination, however, proves that there is a distinct limit between them (fig. 4).

*Xenophya.*—The foreign bodies which compose the pseudo-skeleton of *Cerelasma gyrosphæra* are almost exclusively Radiolarian shells, in the astonishing variety and richness which characterises the Radiolarian ooze of Station 271. The majority of these siliceous shells are enclosed by a thinner or thicker envelope of yellow spongin-substance, either an isolated sacculus, or an inflated portion of a lamella (fig. 5, *f*); but there are other xenophya (probably taken up recently) which lie immediately in the clear maltha, without a spongin-envelope.

*Symbiontes.*—The network of anastomosing cylindrical chitinous tubes, filled by a dark brown cellular mass (figs. 2, 3, *h*), everywhere traverses the body of this sponge so densely, that it occupies perhaps one-third or one-fourth of its volume. In the preliminary examination I was inclined to regard these tubes either as hollow spongin-tubes (similar to those in *Aplysina*) or as peculiar canals of the sponge, but afterwards I was convinced that they belonged to the hydrorhiza of a symbiotic Hydroid, probably *Stylactella*. In some places their epithelium was preserved (fig. 4, *h*).

*Cerelasma lamellosa*, n. sp. (Pl. VI. figs. 6, 7).

*Habitat.*—Tropical Pacific, Station 216A; February 16, 1875; lat. 2° 56' N., long. 134° 11' E.; depth, 2000 fathoms; bottom, Globigerina ooze.