

Sponge an irregular tuberoso on subglobose framework, composed of anastomosing lamellar branches. These are covered by a silvery dermal membrane, easily detached from the spongy medullar mass. Pseudo-skeleton composed of different xenophya, principally sponge spicules, *Globigerina* shells, and mineral particles.

*Cerelasma lamellosa* is represented in the Challenger collection by two tolerably well-preserved specimens, the smaller subglobose, 7 to 9 mm. in diameter, the larger more irregular, tuberoso, 16 to 20 mm. in diameter. The coarser and finer structures are the same in both. The body appears to the naked eye as a rather massive framework, composed of irregular lamellar branches, the thickness of which is 1 mm. on an average (the thickest branches 1.5 to 2 mm., the thinner only 0.6 to 0.8 mm.). The lamellar branches are so united as to form an irregular network of inter-canals or of anastomosing tubes, which are invested by the silvery dermal membrane. These curved inter-canals are for the most part cylindrical, with a diameter of 1 to 2 mm., rarely more.

The dry sponge is not elastic, rather firm, but friable. The whole surface and all the inter-canals are silvery, covered by the whitish cortex or dermal membrane, whilst the transverse section of the medullar mass of the lamellar branches is brown, partly yellowish, partly blackish, densely porous (fig. 6). After treatment with carmine the cortex becomes rose, the medulla blackish purple.

*Dermal Membrane.*—The thin silvery dermal membrane, which covers the whole surface of the anastomosing branches, and also lines all the cavities between them, may be easily detached from the soft brown medullar mass. Its white opaque appearance is produced partly by *Globigerina* shells and their fragments, partly by other xenophya taken from the surrounding ooze, partly by very small roundish mineral particles, which are not soluble in mineral acids. The whole dermal membrane is densely pierced by circular pores, which are very distinct in this species. Between the pores of the sponge are visible larger scattered openings, the external mouths of the tubes of the symbiotic Hydroid.

*Medullar Substance.*—The brown main mass of the sponge or the porous medullar substance, which remains after the detachment of the white cortex, is composed of the transparent maltha and of a dense network or framework of anastomosing horny lamellæ, both overladen with xenophya, and further of a loose network of the symbiotic Spongoxenia. The structure of the narrow irregular canal-system, and especially the shape of the flagellated chambers, could not be made out in a satisfactory manner, but it seems to be similar to that of *Spongelia*.

*Spongion-Skeleton.*—The horny lamellæ of the true skeleton are in general thin and broad, of a yellow colour, very irregularly branched, varying greatly in thickness and breadth. They pass over immediately into the horny substance of the saccular envelopes which surround many xenophya. The lamellar branches are everywhere connected by anastomoses, and form a dense framework, the meshes of which are filled up partly by