

Genus 2. *Periphragella*, Marshall (Pls. LXXX., LXXXI.).

1875. Marshall, Zeitschr. f. wiss. Zool., Bd. xxv. Suppl., p. 177.

1876. Marshall, Zeitschr. f. wiss. Zool., Bd. xxvii. p. 113.

History.—Among the Hexactinellida which Marshall described in 1875 in the Zeitschrift für wissenschaftliche Zoologie, there was a cup-shaped sponge about 15 cm. in height from the Moluccas. On the lateral walls of this “there are curious tubuliform individuals, which have coalesced and communicate with one another, and are provided with a labyrinth of internal canals. They are sometimes broad and flat, sometimes tubuliform, but always very slender.” Marshall has applied to this form the name *Periphragella elisæ*.

The network of siliceous beams, which is very dense beneath, but more diffuse above, presents a tolerably regular structure with permeating square meshes, and very small plain, round knobs on the surface of the beams. Of free spicules Marshall found (1) smooth hexradiate spicules; (2) simple five-rayed spicules, the unpaired principal ray being twice as long as the others; (3) small hexradiate spicules with concave terminal discs, with five circularly disposed teeth on the margin of each; (4) somewhat larger hexradiate forms in which the rays are divided about the middle of their length into from two to four pointed prongs; (5) broom-shaped spicules with a smooth shaft, on the expanded extremity of which there are four somewhat diverging clubs, whose circular terminal knobs are provided with zones of plain recurved tubercles. All these spicules occurred exclusively in the middle and upper parts of the sponge; in the base only small smooth hexradiate spicules were found between the lattice-like network of beams.

In his statement in regard to the affinities of the Hexactinellida,¹ Marshall summarised the characters of the genus *Periphragella* in the following words:—“Polyzoic, individuals conical, mouth naked, with conspicuously developed goblet-shaped pseudogasters. Spicules sometimes hexradiate or simple dentate rosettes. Broom spicules with four regular teeth. Special closing spicules for the dermal pores. Lattice-work very regular.”

Periphragella elisæ, Marshall (Pl. LXXX., Pl. LXXXI.).

Among the dried Hexactinellida which Dr. Döderlein acquired in Enoshima (Japan), there were three specimens of *Periphragella elisæ*, Marshall. One of these, which is figured on Pl. LXXX. fig. 1, has the form of a slightly bent cup or funnel 15 cm. in length. This rises with a round hollow stalk of 12 mm. in diameter, from an irregularly formed basal plate from 30 to 40 mm. broad, and gradually expands upwards towards the round terminal opening, which is 50 mm. in breadth. The thin plate which directly surrounds the lumen of the funnel is continued, above the stalk region, into numerous radially disposed tubes of various width (from 3 to 15 mm. or more). These in most

¹ Zeitschr. f. wiss. Zool., Bd. xxvii. p. 113.