

hexagonal meshes, the bars of which bear the same verticils, each composed of four thin quadri-dentate anchor-threads. At each nodal point arises a slender, smooth, radial spine, which bears at its distal end a verticil of four large, curved, terminal branches.

Dimensions.—Diameter of the inner shell 0.4, of the outer 3.2.

Habitat.—South Atlantic, Station 332, depth 2200 fathoms.

Order III. PHÆOGROMIA, Haeckel, 1879.

Definition.—PHÆODARIA with a simple, not bivalved lattice-shell, which assumes very different forms, but is always provided with a peculiar mouth and peristome on the oral pole of the main axis. Central capsule always excentric, placed in the aboral half of the shell-cavity.

Family LXXVIII. CHALLENGERIDA, John Murray (Pl. 99).

Challengerida, John Murray, 1876, Proc. Roy. Soc. Lond., vol. xxiv. p. 471, pl. xxiv. figs. 1, 2.

Definition.—PHÆODARIA with a monaxonal, usually ovate or lenticular shell, which exhibits a peculiar, fine, regularly hexagonal, diatomaceous structure, and is usually provided with teeth on the mouth, but without articulated feet. Central capsule excentric, placed in the aboral half of the shell-cavity.

The family Challengerida represent a large, peculiar, and interesting group of PHÆODARIA, which are, for the most part, inhabitants of great depths, and were perfectly unknown before the discoveries of the Challenger. The first note on these remarkable Radiolaria was given in 1876 by John Murray, in his Preliminary Reports on Work done on board the Challenger (Proc. Roy. Soc. Lond., vol. xxiv. pp. 471, 536, pl. xxiv. figs. 1, 2). He described the peculiar exceedingly beautiful tracery of their shell, similar to that of the Diatomaceæ, the enclosed central capsule coloured by carmine, and the surrounding mass of black-brown pigment lumps (the phæodium). "At times these Challengerida come up with a good deal of sarcode outside of the shell, and two specimens have been seen to throw out elongated pseudopodia" (*loc. cit.*, p. 536). He found also the shells in the Radiolarian ooze of the deep sea. The number of different forms found in the collection of the Challenger is so great, that I can describe in the following pages not less than six genera and fifty-eight species. A part of these have already been figured by Dr. John Murray in the Narrative of the Challenger Expedition, vol. i. p. 226, Pl. A, 1885.

In my first preliminary note on the PHÆODARIA, in 1879, I gave a stricter definition