

modified form), without a shell-mouth or a peculiar constant large opening on the lattice-shell; (B) *Phæogromia*, with an ovate or polyhedral, not bivalved shell (often also of a subspherical, ellipsoidal, or another modified form), constantly provided with a shell-mouth or a peculiar large opening on one pole of the main axis of the lattice-shell; (C) *Phæoconchia*, with a bivalved shell, composed of two completely separated, hemispherical, cap-shaped or boat-shaped valves (a dorsal and a ventral), comparable to that of the Brachiopoda.

The *Phæosphæria*, or those *PHÆODARIA* the big shell of which is usually spherical, never bivalved and never provided with a peculiar shell-mouth, comprise a great number of common and large-sized *PHÆODARIA*, which may be arranged into four different families, according to the different structure of the shell—(1) *Orosphærida* (Pl. 106, 107), spherical shell extremely big and robust, composed of a single piece of coarse lattice-work, the thick bars of which are stratified and contain partly a fine axial-canal, meshes of the network usually irregularly polygonal, no astral septa in the nodal points; (2) *Sagosphærida* (Pl. 108), spherical shell large-sized, but extremely delicate and fragile, composed of a single piece of arachnoidal lattice-work, the thin bars of which are simple solid threads, without axial-canal, meshes of the network always large and triangular, no astral septa in the nodal points; (3) *Aulosphærida* (Pl. 109–111), spherical shell large-sized, but very fragile, composed of numerous hollow cylindrical tubes, which are connected (and at the same time separated) by peculiar astral septa in the nodal points, meshes either triangular or polygonal; (4) *Cannosphærida* (Pl. 112), spherical shell double, composed of two concentric shells which are connected by thin hollow radial tubes, the inner shell simple, solid or fenestrated, with a shell-mouth on the basal pole, the outer shell composed of hollow cylindrical tubes which are connected by astral septa in the nodal points. The structure of this outer shell is the same as in the *Aulosphærida*, while the basal mouth of the inner shell brings this family in closer relationship to the *Phæogromia*.

The *Phæogromia*, or those *PHÆODARIA* the shell of which is not bivalved, but provided with a peculiar constant mouth on the oral pole of the main axis, are in general similar to the *NASSELLARIA* (*Monocyrtida*), and may be divided into five different families, viz., (1) *Challengerida* (Pl. 99), shell ovate or subspherical, also often triangular or lenticular, distinguished by a peculiar diatomaceous structure, an exceedingly fine tracery of regular hexagonal, very delicate network; (2) *Medusettida* (Pl. 118–120), shell ovate, campanulate or cap-shaped, distinguished by a peculiar alveolar structure, with a corona of peculiar hollow, large, articulated feet around the mouth; (3) *Castanellida* (Pl. 113), shell spherical or subspherical, of ordinary simple lattice-work, usually with a corona of simple solid teeth around the mouth; (4) *Circoporida* (Pl. 114–117), shell spherical or polyhedral, with panelled or dimpled surface, distinguished by a peculiar porcellanous structure (numerous thin needles being