

spherical form is quite constantly preserved in the central capsule, and commonly also in the fenestrated shell enveloping the latter, although in many forms the sphere is more or less modified; very frequently it is an "endospherical polyhedron," *i.e.*, a polyhedron all the angles (or the nodes of the network) of which lie upon the surface of a geometrical sphere; more rarely the spherical form is more or less modified and irregular. In the great majority of Sphæroidea there is no external indication of the three dimensive axes; but in many forms they are indicated by the regular position of certain external radial spines or internal radial beams. However, in no case are those three axes expressed in the form of the shell itself and of the enclosed spherical central capsule; this is the main character by which the Sphæroidea differ from the following sections:—Prunoidea, Discoidea, Larcoidea, all three of which arise from them.

The section Sphæroidea, in the sense here restricted, was founded by me in my Protistenreich (1878, p. 103) and adopted by Hertwig (1879) in his Organismus der Radiolarien (p. 39). The different groups appertaining to this large section were characterised more accurately in my Prodrömus (1881, pp. 448–456); there I gave the characters of six subfamilies with thirty tribes, containing ninety-three genera. Formerly, in my Monograph (1862), the Sphæroidea were disposed in five different families:—Ethmosphærida, Cladococcida, Ommatida, Spongosphærida, Colloosphærida. At that time I could not separate them sufficiently from some ACANTHARIA and PHÆODARIA, which have a similar spherical lattice-shell.

As the number of different genera and species in the Sphæroidea is much greater than in all other sections of SPUMELLARIA, many forms were already described by former authors. In the oldest system of Ehrenberg (1847, *loc. cit.*, p. 53) they represent one part of his Haliomatina (with four genera, *Haliomma*, *Chilomma*, *Stylosphæra*, *Spongosphæra*). Most species, however, of these genera are Discoidea. Also in the latest system of Ehrenberg (1875, *loc. cit.*, p. 157) his Haliomatina are a confused conglomeration of different SPUMELLARIA (Sphæroidea, Discoidea, and Prunoidea).

The section Sphæroidea is the largest division of Sphærellaria, comprising not less than one hundred and seven genera and six hundred and fifty species. This enormous number (easily to be augmented by further investigations) requires a careful disposition in different families and subfamilies. For this disposition two different principles only can be employed: firstly, the number and disposition of the *radial spines*; secondly, the number of the *concentric latticed spheres*, which are connected by radial beams. I give here the preference to the first principle, whilst in my Prodrömus (1881) I had preferred the second. The question, which of the two principles is more important for the classification of Sphæroidea, is very difficult to answer; probably in many cases the former, in many the latter is more important for their phylogeny.