

Suborder III. CYRTOIDEA, Haeckel, 1862.

Cyrtida, Haeckel, 1862, Monogr. d. Radiol., pp. 272, 280.

Cyrtoidea vel *Cyrtida*, Haeckel, 1881, Prodrusus, pp. 425-439.

Polycystina solitaria, Ehrenberg, 1847, Monatsber. d. k. preuss. Akad. d. Wiss. Berlin, pp. 53, 54.

Monodictya nassellaria, Ehrenberg, 1875, Abhandl. d. k. preuss. Akad. d. Wiss. Berlin, pp. 156, 157.

Definition.—*NASSELLARIA* with a complete lattice-shell, exhibiting a simple or reduced cephalis, which is neither bilocular nor lobate, without sagittal constriction.

The order *Cyrtoidea*, described by me in 1862 as the family *Cyrtida*, is by far the largest of all the main groups of Radiolaria, and remarkable from the extraordinary variety of forms and the number of species. In the following system more than eleven hundred species are described, comprising about one-fourth of the number of species in the whole class of Radiolaria. This astonishing variety, however, is not effected by development of a large number of different types, but by an extraordinary variability within certain restricted boundaries, similar to what is seen among insects and birds. The number of genera, therefore, is comparatively small, and they may all be disposed into four families only, which in my Monograph (1862, p. 280) were distinguished as *Monocyrtida*, *Dicyrtida*, *Tricyrtida* and *Stichocyrtida*. If we divide these four groups in the following pages into twelve families and twenty-four subfamilies, we are guided by practical considerations only, hoping thereby to give a better survey of the difficult labyrinth of *Cyrtoidean* morphology.

The *Cyrtoidea* are characterised by this wonderful richness of specific forms not only in the present seas, but also for millions of years in the former ages of our globe. The majority of all the fossil Radiolaria which are now known belong to this group, and many species of it are so common, that great rocks are formed by their union. This fact was first observed by Ehrenberg, who in his first system of *Polycystina* (1847, *loc. cit.*, p. 54) enumerated forty-four genera and two hundred and eighty-two species; the *Cyrtoidea*, his *Polycystina solitaria*, form the preponderant majority of the whole class, viz., twenty-five genera and one hundred and ninety-three species.

In this first system (of 1847), as well as in the last systematic table of Ehrenberg (of 1875, *loc. cit.*), the *Cyrtida* as "*Polycystina solitaria*" are opposed to all other Radiolaria, as "*Polycystina composita*." The former bear the definition "*Testæ siliceæ spatio interno ample pervio, aut passim levius transverse constricto*"; the latter, however, "*Testæ siliceæ spatio interno celluloso aut strictura longitudinali constricto*." In reality these definitions are insufficient, and the conclusions which Ehrenberg derived