The family Tripocalpida, composed of the Archipilida and Archiperida of my Prodromus, comprises those Cyrtoidea in which the lattice-shell is quite simple, without transverse constriction, and bears three radial apophyses. The two subfamilies differ in the shape of the basal mouth, which in the Archipilida is a simple wide opening, in the Archiperida closed by a lattice-plate; the former are here divided into eight, the latter into seven different genera.

Only three species of this family were hitherto described, all three belonging to the Archipilida, viz., (1) *Tripocalpis galea* (fossil in Barbados, figured by Ehrenberg, 1875, as *Halicalyptra galea*), (2) *Tripodiscium campanula* (fossil in Sicily, figured by Stöhr, 1880, as *Carpocanium*); and (3) *Tridictyopus elegans*, of which Richard Hertwig gave an excellent description in 1879, with an accurate figure of the central capsule. All the other species of the family (seventy) are new.

The shell in the majority of Tripocalpida is ovate or campanulate, sometimes conical or three-sided pyramidal. Three radial apophyses are constantly distinct, either three lateral wings or three terminal feet; these are usually solid spines, rarely lattice-plates. The top of the shell usually bears an apical horn, rarely two or more horns; often the horn is wanting. The lattice-work of the shell is very various in the different species, and often of a remarkable structure (Pl. **51**, figs. 6–8; Pl. **98**, figs. 4–8). The cavity of the shell is in all Archipilida, and in a part of the Archiperida (*Peridium*, *Archipera*, *Archibursa*) quite simple. In the other part of the Archiperida, however, constituting the peculiar group of Euscenida (genera 504–507), a vertical columella arises in the centre of the basal plate, and is prolonged upwards in the apical horn; this columella is either simple (*Euscenium*, *Archiscenium*) or branched (*Cladoscenium*, *Pteroscenium*); in the latter case the ascending branches are disposed in triradiate verticils and are inserted on the inner face of the shell (compare Pl. **53**, figs. 11–16, and Pl. **98**, figs. 1–4).

The phylogenetic origin of the Tripocalpida may be very divergent, and their morphological affinity to the other Nassellaria is a very complicated problem. The Euscenida (genera 504–507) may be derived directly from the Plagonida (*Plagoniscus*) or Plectanida (*Plectaniscus*). The Archibursida (genera 508–510) however, manifest a closer affinity to the Tripospyrida, and may be derived from them by reduction of the sagittal ring and constriction. In these two groups of Archiperida the shell may be regarded as a true cephalis. In the Archipilida, however, where the shell has a wide basal opening and the three radial ribs arise originally from the base of the apical horn, the shell itself may correspond to the thorax of the Dicyrtida, and may be derived from these by loss of the cephalis. This is the more probable, as sometimes a small remnant of the reduced cephalis is preserved (Pl. **98**, fig. 8). None of these difficult questions can be answered until a much closer morphological knowledge of the Tripocalpida is acquired.