Zoology Part XL: Report on the RADIOLARIA. By Ernst Haeckel. Bound in Volume 18,1887.

prolongations of the segments of the frontal ring), or three feet (one caudal and two pectoral, as in *Cortina* and *Cortiniscus*), or four feet (two sagittal and two lateral, as in *Stephanium* and *Stephaniscus*), or six feet (two sagittal, two pectoral, two tergal, as in *Semantiscus*), sometimes numerous feet (as in *Petalospyris* and *Anthocyrtis*, &c.).

The Trissocyclida represent the fourth and last subfamily of Coronida, distinguished from all others in the possession of three complete rings, perpendicular one to another, and of eight large gates separated by them. Two of the three rings are vertical (the primary sagittal and the secondary frontal ring), the third is horizontal (the basal ring). The four upper gates correspond to the four lateral gates of the preceding three subfamilies; the four lower gates are the same as the four basal gates of *Semantrum* (two primary jugular and two secondary cardinal gates); therefore the Trissocyclida may be derived directly from these Semantida by development of a complete frontal ring. Probably the two jugular gates were originally smaller than the two cardinal, but usually they have become equal. In *Tristephanium* (the common ancestral form of the Trissocyclida) and in the closely allied *Tricyclidium* the four basal gates remain smaller than the four lateral gates. But in two other genera, *Trissocircus* and *Trissocyclus*, the four lower or basal gates reach the same size as the four upper or lateral gates; therefore all eight gates become equal and the basal ring becomes equatorial. In the most regular species of the latter genera also the three rings become perfectly equal and cannot be any longer distinguished. Here the original bilateral (or dipleuric) fundamental form of the shell passes over into a regular cubic or octahedral form (with three equal, isopolar axes, perpendicular one to another). The eight large gates of the Trissocyclida usually remain simple (*Tristephanium*, *Trissocircus*), but sometimes they become partly closed by loose lattice-work (*Tricyclidium*, *Trissocyclus*).

The original rings, and the secondary rods or bars, composing the loose framework of the Coronida are either roundish (with circular or elliptical transverse section) or three-edged (with triangular transverse section), rarely quadrangular or provided with distorted edges. The branches or spines arising from them, are either simple or branched, and offer a great variety in number, form, and disposition. The most important forms are those which develop the three typical basal feet of *Cortina*, *e.g.*, *Podocoronis cortina* (Pl. **97**, fig. 2).

The Central Capsule of the Coronida is the same as in the other Stephoidea (comp. p. 937), and offers all those characteristic peculiarities of "Monopylea" which we have mentioned above in the general description of the NASSELLARIA (p. 890). Usually it is spherical or ellipsoidal, often violin-shaped or bilobed, with a sagittal constriction. The porochora of its basal pole is in close contact with the base of the sagittal ring.

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