

181. *Plectellaria and Cyrtellaria*.—The extensive legion NASSELLARIA far surpasses the other three legions in the endless variety of its skeletal structures, and owing to the complicated relationships of its numerous families presents no lack of difficult phylogenetic problems. All NASSELLARIA may be divided first into two main groups or sublegions, Plectellaria and Cyrtellaria; the latter having a complete lattice-shell, the former not. Probably the Cyrtellaria have been polyphyletically developed from several different groups of Plectellaria. These groups are, however, connected in such manifold ways that a monophyletic origin of all the NASSELLARIAN skeletons from one original element is possible. Such a primitive element may have been furnished by any one of three different skeletal parts, the sagittal ring, the basal tripod, and the latticed cephalis (compare pp. 891–895, and Bütschli, L. N. 40, 41).

182. *Phylogenetic Skeletal Elements of the Nassellaria*.—The multiform skeleton of the NASSELLARIA may be referred in different ways to one of the three above-mentioned structural elements. Each of these (p. 891) may by itself form the skeleton; the sagittal ring in the simplest Stephoidea (*Archicircus*, *Lithocircus*), the basal tripod in the simplest Plectoidea (*Triplagia*, *Plagiacantha*), the latticed cephalis in the simplest Cyrtoida (*Cyrtocalpis*, *Archicapsa*). In the great majority of the NASSELLARIA, however, two of these elements, or even all three, are found combined. In most Cyrtellaria, more especially, both the sagittal ring and the basal tripod may be recognised in the lattice-shell, though often only in slight rudiments or scarcely perceptible traces. In the Plectellaria also (which possess no latticed cephalis) there are individual genera with complete development both of the sagittal ring and basal tripod; this important combination is especially well represented in the Cortinida (*Cortina*, *Cortiniscus*, *Stephanium*, *Stephaniscus*, *Tripocoronis*, &c.). The greatest difficulty as regards the phylogeny of the NASSELLARIA lies in the fact that the most various combinations of the three elements are presented by closely related or very similar forms. If, in spite of this, a monophyletic hypothesis as to the origin of the NASSELLARIA seems essential all sides of the three possible hypotheses must receive full consideration and critical comparison (§§ 183–191).

183. *Ascent of the Nassellaria from the Plectoidea*.—The monophyletic hypothesis (No. 2, p. 893) which regards the basal tripod as the common origin of the skeleton of all NASSELLARIA, starts from the simplest forms of the Plectoidea (*Triplagia*, *Plagoniscus*, *Triplecta*, *Plectaniscus*, &c., Pl. 91). All Plectoidea may be immediately derived as diverging twigs of these, as well as all triradial and multiradial forms of Cyrtoida and Spyroida; for in all these cases the distinctive triradial (or the derived multiradial) form of skeleton appears directly derivable from the simple basal tripod of the former. The same is perhaps also true of many Botryoida. Further-