

ment of this ring and coincident sagittal constriction of the cephalis the order *Spyroidea* may be derived from the *Cyrtoidea*. On the other hand, the *Plectellaria*, which possess no cephalis, and indeed no complete lattice-shell whatever, may be derived from the *Monocyrtida* by the assumption of a degeneration of this structure; the sagittal ring having been preserved in the *Stephoidea*, and the tripod of the *Tripocalpida* in the *Plectoidea*. Although such a monophyletic derivation of the *NASSELLARIA* from the *Cyrtoalpida* is possible, and though here, too, the *Cortinida* play an important part as connecting links, this hypothesis has less internal probability than that of the derivation from the *Stephoidea* (§ 184) or *Plectoidea* (§ 183).

186. *Genealogical Tree of the Plectoidea*.—The order *Plectoidea* includes those *NASSELLARIA* whose rudimentary skeleton does not contain the characteristic sagittal ring of the *Stephoidea*, but consists of several (at least three) radial spines, which proceed from a point in the centre of the porochora. The branches of these radial spines remain free in the *Plagonida*, whilst in the *Plectanida* they unite with each other to form a loose meshwork (not, however, a complete lattice-shell). The number and arrangement of the radial spines, which serve for generic distinctions, are the same in both families, so that each genus of the *Plectanida* has arisen from a corresponding genus of the *Plagonida*. The simplest *Plagonida*, which possess a basal tripod (*Triplagia* or *Plagiacantha* with three rays, *Tetraplagic* with four rays) are probably to be regarded as forming the common origin of the whole order. These agree with certain three- and four-rayed skeletal pieces of the *Beloidea* (*Thalassosphærida* and *Sphærozoida*); and also the four and six-rayed twinned pieces of the latter (spicula bigemina and trigemina) repeat in the same fashion the skeleton of the former (*Plagonidium*, *Plagonium*). This similarity, however, is a mere analogy and possesses no phylogenetic significance. On the other hand, certain *Plagonida* (*Plagoniscus*, *Plagiocarpa*), and the corresponding genera of *Plectanida* (*Plectaniscus*, *Periplecta*) seem to have important phylogenetic relations to certain *Stephoidea* (*Cortina*, *Cortiniscus*, &c.); the sagittal ring of the latter having perhaps arisen by the vertical apical spine of the former having been connected with their horizontal basal rod by two ventral apophyses growing out opposite to each other (compare pp. 902, 914, *Plagiocarpa procortina*, Pl. 91, fig. 5). In this case the *Plectanida* would belong to the simplest stem-forms of the *NASSELLARIA*.

187. *Genealogical Tree of the Stephoidea*.—The order *Stephoidea* includes all those *NASSELLARIA* whose skeleton does not form a complete lattice-shell, but consists of one or more rings, and often of a loose meshwork which arises by the union of branches of the rings. A vertical sagittal ring is constantly present, embracing the central capsule in the median sagittal plane, and forming at its basal pole various processes, the starting point for other skeletal forms. The most important of these is the tripodal *Cortina*