

114. *The Astroid Skeleton*.—Under the name “Astroid” we place the peculiar star-shaped skeletons of the ACANTHARIA in opposition to those of all other Radiolaria, for they are separated from them not only fundamentally by reason of the chemical nature of their substance (Acanthin, § 102), but also by their centrogenous origin, and the resulting stellate form (Pls. 129–140). The ACANTHARIA are the only Radiolaria in which the skeleton arises within the central capsule by the formation of numerous rays or radial spines of acanthin which project on all sides from the centre. Originally these are united at this point, their conical or pyramidal points meeting and being supported one upon another. In the great majority of ACANTHARIA this loose apposition is constant, so that when the soft parts are destroyed the skeleton falls to pieces. Only in a few forms in this legion are the central ends of the spines fused so that the whole skeleton forms a connected star (*Astrolithium*). The small group Chiastolida (or Acanthochiasmida) is characterised by the fact that the two rays which are opposite to one another in each axis unite and form a diametral bar. The skeleton is almost always composed of twenty radial spines, which are regularly disposed (Icosacantha), only in the small primitive group Actinellida is the number variable (Adelacantha, § 110).

115. *The Beloid Skeleton*.—As Beloid or spicular skeletons are grouped together all those which consist of several disconnected portions; these always lie outside the central capsule, either within the calymma or on its surface. Such extracapsular Beloid skeletons are entirely wanting in the ACANTHARIA and NASSELLARIA; they occur only in the Beloidea among the SPUMELLARIA, and in the Phæocystina among the PHÆODARIA; the individual Beloid portions of the former are solid, those of the latter hollow. In both groups the simplest forms of the separate portions are simple unbranched needles (*Thalassosphæra*, *Thalassoplancta*, *Physematium*, *Belonozoum*, among the SPUMELLARIA; *Cannobelos* and *Cannorrhaphis* among the PHÆODARIA); usually these spicules are disposed tangentially over the surface of the calymma. Among the Beloidea branched spicules occur more commonly than these simple ones; they are either stellate (with many rays united in a centre) or twin-like, with a tangential bar, from each pole of which two or three (seldom more) radial branches project (Pls. 2, 4). Among the PHÆODARIA the subfamily Dictyochida is characterised by the annular shape of its Beloid portions, either simple rings, or hat-shaped or pyramidal bodies with a latticed cap over the ring (Pl. 101, figs. 3–14; Pl. 114, figs. 7–13). The family Aulacanthida among the PHÆODARIA, alone possesses hollow *radial tubes*, which penetrate the whole calymma, and project distally over its surface, whilst their proximal ends rest upon the surface of the central capsule. Although in these cases the enclosed proximal end is always simple, the free distal end develops the most various processes in adaptation to its prehensile functions (Pls. 102–105).