

spine, and the Stauracanthida, with four crossed apophyses on each radial spine. The three genera of the Zygacanthida represent the stem-forms of the three families, since the radial spines in *Acanthometron* (the most primitive form of *Acanthonida*) are cylindrical, in *Zygacantha* two-edged, and in *Acanthonia* four-edged (p. 741).

175. *Capsophracta and Cladophracta*.—The extensive order *Acanthophracta*, which embraces all *ACANTHARIA* with a complete lattice-shell, is polyphyletic, its main subdivisions have been developed independently from different branches of the *Acanthonida*. The whole order may be divided directly into two main groups, the *Capsophracta* and *Cladophracta* (p. 793), which differ in the structure and the origin of their lattice-shell. The group (or suborder) *Capsophracta* includes only the single family *Sphærocapsida* (p. 795, Pl. 133, figs. 7–11; Pl. 135, figs. 6–10); the lattice-shell arises independently of the twenty radial spines, being made up like a pavement of innumerable small acanthin plates, united by a kind of cement; each plate being perforated by a fine pore. In addition twenty larger main pores (or groups of four pores each) are present, corresponding to the twenty radial spines; these are always equal, quadrangular prismatic, without transverse processes as in *Acanthonia*. In the *Cladophracta*, which include the five remaining families of the *Acanthophracta*, the structure and origin of the lattice-shell are quite different; the lattice-shell is here made up of the branches of the transverse processes, which radiate tangentially from the twenty radial spines and are only united secondarily.

176. *Ascent of the Dorataspida*.—The group *Cladophracta*, or those *ACANTHARIA* whose lattice-shell arises by the union of transverse processes of the twenty radial spines, includes five different families, whose stem-group is the family *Dorataspida*, with a simple spherical lattice-shell. This family itself is, however, diphyletic in origin, being composed of two essentially and originally different subfamilies—*Diporaspida* and *Tessaraspida* (p. 803). The *Diporaspida* (p. 808, Pls. 137, 138) have been developed from the *Phractacanthida*, and as each radial spine of the latter bears two opposite apophyses, so the lattice-shell of the former has forty primary aspinal pores (two on the base of each spine). On the other hand, the *Tessaraspida* (p. 830, Pls. 135, 136) have been developed from the *Stauracanthida*, and as each radial spine of the latter bears four crossed apophyses, so the lattice-shell of the former has eighty primary aspinal pores (four at the base of each spine).

177. *Descent of the Diporaspida*.—Whilst the *Tessaraspida* (§ 176) have given rise to no new groups which could take rank as independent families, no less than four separate families of *ACANTHARIA* have arisen from the *Diporaspida*. The *Phractopeltida* (Pl. 133, figs. 1–6) are distinguished from all other *ACANTHARIA* by the possession of two concentric spherical lattice-shells, and have probably been developed from the