which are always quite simple in form and usually irregularly distributed; this main division includes only the one order Actinelida, with six genera, among which is *Actinelius*, the common stem-form of all the ACANTHARIA. The more recent group, Icosacantha, includes all the other ACANTHARIA (fifty-nine genera), and is very markedly distinguished from the Adelacantha by the fact that the radial spines are always twenty in number, and arranged according to Müller's law (compare pp. 717–725, and § 110). Since this regular disposition (in five alternating zones each of four spines) has been retained by inheritance in the whole of the Icosacantha, it is probable that this large group has been developed monophyletically from a twig of the Adelacantha; *Actinastrum* (p. 732) and *Chiastolus* (p. 738) still present connecting links between the former and the latter, between *Actinelius* and *Acanthometron*.

173. *Acanthonida and Acanthophracta.*—The extensive main division Icosacantha (§ 110), which embraces all ACANTHARIA with twenty radial spines, disposed according to Müller's law, may be subdivided into two large groups or orders :—the Acanthonida (p. 740, Pls. **130–132**) and the Acanthophracta (p. 791, Pls. **133–140**). The latter possess a complete extracapsular lattice-shell, which the former have not. The more recent Acanthophracta may be derived phylogenetically from the more primitive Acanthonida simply by the development of this lattice-shell, with which process are usually (perhaps always) connected certain alterations in the malacoma, *e.g.*, degeneration of the myophrisces (§ 96). The most primitive form of all Icosacantha is the genus *Acanthometron* (p. 324), in which all the twenty acanthin spines are of the simplest constitution and of equal dimensions.

174. *Differentiation of the Acanthonida.*—The order Acanthonida, which embraces all Icosacantha which have no complete lattice-shell, divides early into three main branches, the three families Astrolonchida, Quadrilonchida, and Amphilonchida (p. 727, Pls. **130–132**). The first of these constitutes the common stem-group from which the other two as well as the whole group Acanthophracta have been developed; the common stem-form of all is *Acanthometron* (§ 173). All the Astrolonchida (p. 740, Pl. **130**) have twenty radial spines of equal size and similar form. On the other hand, in the Quadrilonchida (p. 766, Pl. **131**) the four equatorial spines differ from the others in size and sometimes also in form. In the Amphilonchida (p. 781, Pl. **132**) two opposite equatorial spines (lying in the hydrotomical axis) are much larger than the other eighteen and of a different shape. Of the three families of the Acanthonida the most important is the primitive group Astrolonchida, for from this the various stem-forms of the Acanthophracta arise. They are subdivided according to the formation of the spines into three subfamilies : the Zygacanthida, with simple spines without apophyses (or transverse processes); the Phractacanthida, with two opposite apophyses on each radial