

*Archidiscus* (Pl. 48, figs. 9–11) is not only the common phylogenetic ancestral form of all Cyclodiscaria, but also the common ontogenetic original form of all Porodiscida, or at least of the greater part of them. The numerous species of *Archidiscus*, which are distinguished in the sequel, are at the same time the embryonic forms of different Porodiscida, corresponding to the "biogenetic main law of development." The small shell of *Archidiscus* is sometimes completely lenticular, circular, at other times more or less polygonal; commonly on the biconvex centre much thicker than on the margin, but sometimes also of nearly equal thickness (like a medal or a short cylinder). The latticed central chamber of it is probably in the majority of species spherical, but in some more or less compressed, lenticular; the number of small pores on its surface is probably commonly between ten and twenty (four to eight usually being visible on each hemisphere). The number of radial beams, which connect it with the equatorial ring, varies commonly from four to eight; but sometimes only two or three are to be found, in other cases nine to ten or more. The regular disposition of these beams (in certain equatorial axes of the disk) is probably of great importance, as determining the later development of characteristic radial appendages of the margin in the more highly developed Porodiscida. The equatorial ring itself, forming the margin of the lenticular disk, is either a simple solid ring or a broader latticed girdle; in the latter case it merges slowly into the opposite sieve-plates of the two flat disk sides, or the porous "cover-plates," covering its parallel or convex surfaces. These latter can be regarded as direct peripheral continuations of the polar regions of the spherical central chamber. The ring-chambers, surrounding the latter in a single circle, are commonly of nearly the same breadth, but often also of different irregular size. Their number varies between two and ten or more, but commonly between four and eight; each ring-chamber is covered on the upper and lower side by the sieve-plate, bounded on the inner (proximal) side by the wall of the central chamber, on the outer (distal) side by the marginal ring, on both lateral sides by the contiguous neighbouring ring-chambers.

The important question as to the phylogenetic origin of *Archidiscus* can be answered in a twofold way. The most simple form of *Archidiscus* (*Archidiscus dioniscus*) can be derived immediately from the Stylosphaerida, *Saturnalis* (Pl. 13, fig. 16), only by the development of lattice-work between the equatorial ring and the two polar faces of the concentric central chamber (on the surface of the biconvex jelly-mantle). But on the other hand *Archidiscus* may also be derived from the simplest Phacodiscida, *Sethodiscus* (Pl. 33, figs. 1–3), by the stronger compression of the biconvex lenticular shell, so that the enclosed medullary shell on the two poles runs together with the lenticular phacoid shell, of which only the peripheral part remains free, and thus forms the chambered ring; this latter explanation seems the more natural in many cases, as often in the Porodiscida the central chamber is enclosed in one or two concentric spherical or lenticular lattice-shells.