

The *Porodiscida* (Pls. 41-47), the largest family of all *Discoidea*, begins the series of *Cyclodiscaria*, or those *Discoidea* in which there is no "phacoid shell," but a small simple central chamber surrounded by a number of small latticed chambers of nearly the same size and form. In the *Porodiscida* these chambers are arranged in complete circular concentric rings or spiral convolutions; in the small family of *Pylodiscida* the central chamber is surrounded by three radial arm-chambers separated by three open spaces; in the third family of *Cyclodiscaria*, the *Spongodiscida*, all the chambers are arranged more or less irregularly, and the whole disk becomes spongy; also the surface of the disk is spongy, whilst in both former families it is covered by two regular even porous plates or "sieve-plates." Probably all *Cyclodiscaria* can be derived phylogenetically from *Archidiscus*, a very small and simple lenticular disk, which is composed of a small spherical latticed central chamber and of a single concentric chambered ring or girdle; the margin of this ring is connected with the central chamber by a variable number of radial beams. This *Archidiscus* can be derived either from *Saturnalis* (Pl. 13, fig. 6) by the development of lattice-work between the equatorial ring and both polar faces of the concentric central chamber, or from *Sethodiscus* (Pl. 33, figs. 1-3) by flattening of the lenticular shell, so that the enclosed inner medullary shell (the central chamber) meets the outer phacoid shell at both poles.

The *Porodiscida* are commonly flat or biconvex (rarely biconcave) disks, the central chamber of which is surrounded not by a single, but by a variable number (commonly three to six) of concentric chambered girdles or rings; they arise from *Archidiscus* by apposition of new concentric chambered rings around the first ring, all lying in the equatorial plane. Afterwards the disk often becomes thickened by apposition of concentric chamber-rings on both flat sides also, so that two to four or more layers are stratified one over the other. The circular concentric rings often become interrupted, or spirally convoluted (wholly or partially); also the chambers sometimes become irregularly crowded. But in all cases both surfaces of the disk (upper and lower) continue to be porous plates or sieve-plates, at least in the centre, but they never become spongy.

The margin of the disk exhibits in the *Porodiscida* a great variety of different forms, serving for distinction of subfamilies and of genera. In the *Trematodiscida* the margin remains quite simple, as in the *Archidiscida*, or is only surrounded by a hyaline equatorial girdle. In the *Ommatodiscida* it is distinguished by one or two peculiar oscula, surrounded by a corona of spines. The *Stylodictyida* are distinguished by a number of solid radial spines, and the *Euchitonida* by a number of chambered, or spongy, radial arms, arising from the margin of the disk and lying in the equatorial plane. The variety of these radial marginal appendages is in the *Porodiscida* much greater than in the *Coccodiscida*.

The *Pylodiscida* (Pl. 48, figs. 12-20) represent a new, small, but very remarkable family of *Discoidea*, all triradial, and distinguished by the peculiar formation of