

coides which Ehrenberg united in his group Lithocyclidina (1875, represented by four genera and eight species); several of these, however, appertain to quite different families, as his *Astromma entomocora*, *Lithocyclia amphitrites*, &c. His knowledge of the structure was very imperfect. The peculiar differentiation of the genera and species exhibits the greatest analogy to that of the following family, Porodiscida, though the structure of the central disk in both families is quite different.

*The Phacoid Shell*, or the circular, lenticular cortical shell exhibits in the Coccodiscida quite the same structure and composition as in the Phacodiscida, described above (p. 420), so that there can be no doubt as to the phylogenetic origin of the former from the latter. Quite in the same way in both families, the lenticular "phacoid shell" is connected by numerous, short, radial beams with the intracapsular, simple or double, medullary shell; and also here these beams are commonly disposed in two groups around the poles of the shortened main axis of the lens, so that their distal ends are implanted in both circumpolar areas (Pl. 36, figs. 2-6; Pl. 37, figs. 3, 7; Pl. 38, figs. 2, 7). The medullary shell is commonly simple, spherical, sometimes a little lenticularly compressed; more rarely it is double, composed of two concentric lattice-shells, which are connected by radial beams; in this case either both concentric medullary shells are spherical, or the inner is spherical, and the outer lenticular, very rarely the inner is lenticular also. In average size and structure they agree perfectly with those of the Phacodiscida.

*The Chamber Girdles* or "chambered rings" around the equatorial margin of the disk, which constitute the only difference between the Coccodiscida and the Phacodiscida, seem to exhibit a considerable degree of difference of structure in the numerous species of this family; but I regret that I cannot explain them here satisfactorily. The study of these structures is extremely difficult because of the thickness and darkness of the massive opaque shells; to get a perfect knowledge of them, it is indispensable to compare slides made in different directions (horizontal slides through the equatorial and parallel planes, vertical slides through radial and parallel planes, oblique slides in different directions). But this requires a long time and a most careful study of the slides, which are very difficult to get in satisfactory condition. Therefore the following remarks can have only a provisional value.

In all Coccodiscida we can distinguish on the equatorial chamber-girdle of the lens-margin (even on superficial inspection) three different elements of structure, viz.:—(A) concentric circular rings in the equatorial plane; (B) numerous radial beams piercing the former and dividing them into imperfect chambers; (C) porous plates or sieve-plates on both convex faces of the disk. The probable morphological significance of these three elements is the following:—Each ring or girdle corresponds to an outer lenticular cortical shell, which is only developed on the marginal part, whilst its central part is represented by the phacoid shell. Therefore the radial beams (separating the imperfect chambers) are the same as in the concentric Polysphærida, and the sieve-