

or four spongy, radial arms—the former as well as the latter lying in the equatorial plane of the disk, either regularly or irregularly disposed.

The *Equatorial Margin* of the lenticular disk exhibits in all six families of *Discoidæa* similar characters, mainly serving for the distinction of subfamilies and genera. In the most primitive genera of all six families the margin is simple, without radial prolongations (spines or arms); it is quite simple in *Cenodiscus*, *Sethodiscus*, *Phacodiscus*, *Lithocyelia*, *Coccodiscus*, *Archidiscus*, *Porodiscus*, *Pylodiscus*, and *Spongodiscus*. In some genera the simple margin of the lenticular disk is bordered and surrounded by a thin, hyaline, equatorial girdle of silex, either quite solid or slightly porous (*Zonodiscus*, *Periphæna*, *Perizona*, *Perichlamyidium*, and *Spongophacus*).

A quite peculiar and remarkable character of few genera is the development of one or two oscula, larger marginal openings, which are surrounded by a corona of spines, and probably are fit for the issue of a peculiar bunch of pseudopodia or of a "sarcode flagellum." Such oscula occur only in two families of *Cyclodiscaria*; in the *Porodiscida* and *Pylodiscida*; in the former *Ommatodiscus*, in the latter *Discopyle* (Pl. 48, figs. 19, 20) is distinguished by a single marginal osculum; besides this, in the former occurs *Stomatodiscus*, with two such oscula, opposite on the poles of one axis (Pl. 48, fig. 8). These oscula may be compared with the similar polar formations in some *Ellipsida* (*Lithomespilus*) and in many *Cyrtoidea*; but they do not prove a nearer affinity with the latter, and are only analogous, not homologous.

*Radial Spines* occur on the margin in the equatorial plane of the *Discoidæa* in the greatest variety of number, form, size, and disposition. If the number be low (between two and eight) they are commonly regularly disposed; if the number be larger (ten to twenty or more) their disposition becomes commonly more or less irregular. The regular disposition is of great promorphological importance, as indicating the axes in which the growth is preponderant, and introduces other peculiar radial formations. Regarding these axes we can generally distinguish two groups, *Artiacantha* with a paired number (two, four, eight), and *Perissacantha* with odd numbers (usually three). The section of *Artiacantha* could be divided into the three following groups:—A. *Stylodiscida*, with two radial spines only, lying opposite on both poles of one equatorial axis (the "first cross axis")—*Stylodiscus*, *Sethostylus*, *Stylocyelia*, *Xiphodictya*, *Spongolonche* (Pl. 31, figs. 9–12; Pl. 38, fig. 1; Pl. 42, figs. 10–12, &c.); B. *Stauroidiscida*, with four radial spines, lying opposite in pairs on the poles of two crossed equatorial axes, perpendicular to one another (first and second cross axes)—*Crucidiscus*, *Sethostaurus*, *Staurocycelia*, *Stauroidictya*, *Spongostaurus* (Pl. 31, figs. 1–8; Pl. 37, figs. 1–4; Pl. 42, figs. 1–6; Pl. 48, fig. 2, &c.); C. *Octostylida*, with eight radial spines, opposite in pairs in four axes, which are crossed at angles of 45°—*Heliosestrum*, *Astrosestrum*, &c. (Pl. 32, figs. 4, 5; Pl. 34, figs. 3, 6); in this latter case sometimes the radial symmetry is the same as in many *Medusæ*, four larger (perradial)