

cysts, and (usually) exhibits a distinct octoradial pigment star in its centre (fig. 7). The internal or inferior lamella is the pneumatosaccus, the invaginated plate of the exoderm, which secretes the chitinous pneumatocyst. Its lower face is in contact with the upper face of the centradenia.

*Limbus Umbrellæ* (Pl. L. figs. 1, 9, *us*).—The free horizontally prominent margin of the umbrella, which separates the exumbrella from the subumbrella, is in all Discalidæ more or less octolobate; the eight interradial convex lobes are the more prominent, the deeper are the eight incisions in which are inserted the marginal tentacles. The whole edge of the mantle-border is beset with a continuous series of marginal muciparous glands.

*Subumbrella*.—The inferior (basal or distal) face of the umbrella is convex, and bears in its centre the large conical central siphon, around this a corona of gonostyles (eight in *Discalia*, sixteen in *Disconalia*), and in the peripheral part a simple or double corona of tentacles (eight simple tentacles in *Discalia*, Pl. XLIX., eight radial bunches of numerous tentacles in *Disconalia*, Pl. L.).

*Pneumatocyst* (Pl. XLIX. figs. 4, 5, 8, 9).—The float filled with gas, which is included in the pneumatosaccus, always exhibits in the Discalidæ a regular octoradial structure. This is of typical simplicity in *Discalia* (Pl. XLIX. figs. 2–5), composed only of a subspherical central chamber and a surrounding regular ring of eight equal triangular radial chambers. The more advanced genus, *Disconalia* (figs. 8, 9), exhibits the same biconvex octoradial disc in its central part; but it is here surrounded by a peripheral girdle of five to ten concentric ring-chambers; the middle ones of these are far broader than the innermost and the outermost.

*Pneumothyræ*.—Each of the eight radial chambers of the central disc of the pneumatocyst communicates with the common central chamber by an inner opening or pneumothyra, placed on the proximal apex of the triangular chamber. Opposite to this lies in the centre of its distal base another pneumothyra, which opens into the first or innermost ring-chamber. An interradial series of similar septal openings, by which every two neighbouring chambers communicate, lies in the centrifugal continuation of the interradial line, which bisects each triangular chamber and connects its apical with its basal pneumothyra. They are, therefore, in *Disconalia* eight regular interradial rows of pneumothyræ (Pl. XLIX. figs. 8, 9, *pg*), and these alternate regularly with the eight perradial grooves which separate the eight triangular chambers from one another, are continued to the peripheral margin of the pneumatocyst, and divide the latter into eight equal triangular octants. The free margin of the pneumatocyst thus becomes distinctly octolobate.

*Stigmata* (Pl. XLIX. figs. 2, 5, 8, 9).—The superior (apical or proximal) face of the pneumatocyst bears the stigmata or the short tubular openings which pierce the exumbrella and permit an expulsion of the enclosed air. *Discalia* (fig. 2) has only nine stigmata, one central, in the central chamber, and one in each of the surrounding eight radial chambers. In *Disconalia* (figs. 8, 9) this number is increased by a variable number of