

The minute structure of the parapylæ (or "Neben-Oeffnungen") has been described already very accurately by Hertwig (*loc. cit.*, p. 95, Taf. x. figs. 1-11b). The two membranes of the capsule are in direct and immediate connection on each parapyle. The strong outer membrane arises in the form of a ring or of a short cylindrical tubule (collare paraboscidis or "Oeffnungshals"), is then reflected inwards, and connected at the bottom of the cylindrical cavity with the delicate inner membrane. From this connective ring arises a short conical or cylindrical tubule, which we call shortly the "paraboscis." According to Hertwig (who calls it "Oeffnungskegel") the paraboscis is a direct prolongation of the inner membrane only. My own observations have led me to the opinion, that the paraboscis of each parapyle is a direct prolongation of the outer membrane (similarly to the larger proboscis of the astropyle), and that the basal connective ring is, therefore, the inner opening of the paraboscis, through which the entosarc enters, being protruded through its outer circular opening. Usually the paraboscis of each parapyle is only a short cylinder, arising by a conical base; but sometimes, especially in some Aulosphærida and Sagosphærida, it is prolonged into a slender tubule, nearly as long as the radius of the central capsule. It has been already figured by Hertwig (*loc. cit.*, Taf. x. figs. 6-8). It seems, therefore, that the paraboscis of the accessory openings is developed in a way similar to the proboscis of the main-opening, and that the chief difference between the two is indicated by the large radiate operculum of the latter.

The cavity of the endocapsa, or the spheroidal space enclosed by the inner membrane of the central capsule, is filled up in its central part by the big nucleus, in its peripheral part by the endoplasm, or by the internal protoplasm, which is in communication with the outer or extracapsular protoplasm by the openings of that capsule. The endoplasm, or the intracapsular sarcode, is rather opaque, finely granulated, and usually filled up by numerous small clear spherules of equal size, which are more or less regularly arranged and equidistant. These spherules have usually a diameter of 0.01 to 0.015, rarely more than 0.02 or less than 0.005 mm.; their size is generally equal in each capsule. They have been already described and figured in my Monograph, as "wasserhelle kugelige Bläschen," and are probably vacuoles or small vesicles filled up by jelly or by a clear fluid. Usually each vesicle contains a small dark granule of fat, or a group of such granules connected together; and in these Hertwig observed a vibrating molecular motion. The central capsule of many PHÆODARIA contains, besides the vacuoles, often granules of pigment (usually red or yellow) and sometimes numerous groups of small crystals, placed mainly beyond the operculum of the astropyle (Pl. 127, figs. 4-7). The outer layer of the endoplasm, placed immediately beyond the endocapsa, often exhibits a fine striation, as if composed of delicate fibrillæ. This fibrillar striation is usually most distinct on the base of the openings, where also the endoplasm becomes stained very intensely by carmine. The astropyle as well as