

accessory stigmata, lying in one or in several of the concentric ring-chambers. Usually the third or fourth only of these exhibit eight stigmata, placed in the interradial lines, which pass through the former. But sometimes these accessory stigmata are irregularly scattered. The gas enclosed in the pneumatocyst may issue by these stigmata, when the strong muscle-plate of the surrounding pneumatosaccus contracts.

*Tracheæ* (figs. 5, 9, *pt*).—The inferior (basal or distal) face of the pneumatocyst bears the aëriferous tubules which receive the gas secreted by the pneumadenia and conduct it into the chambers of the former. The simplest genus, *Discalia* (fig. 5), possesses only eight short tracheæ, which arise from the peripheral part of the inferior side of the eight triangular radial chambers. The more highly developed *Disconalia* (fig. 9) exhibits, besides these latter, a greater number of peripheral tracheæ, arising from the lower face of the concentric ring-chambers; they are more numerous in the innermost than in the middle ring-chambers, and are wanting in the outermost. Their number amounts to from twenty to eighty or more; their arrangement is variable and irregular. The tracheæ in all *Discalidæ* are very short and small, their cylindrical articulate tubules composed of ten to thirty small conical segments. They are more or less irregularly curved, and descend in various directions into the solid glandular parenchyma of the centradenia, where their open distal ends are surrounded by exodermal cells. In no *Discalidæ* do the short tracheæ pierce the entire centradenia and the subjacent gastrobasal plate, nor do they enter into the base of the wall of the central siphon and the gonostyles, as is the case in the *Porpitidæ*.

*Central Siphon*.—The large central polypite, which corresponds to the manubrium or gastral tube of the original Medusa, in the *Discalidæ* is relatively larger and more developed than in the *Porpitidæ* and *Velellidæ*. It is in the former the only organ for the reception of food and digestion, whilst these nutritive functions in the two latter families are executed also by the sexual peripheral siphons. The central siphon of the pyriform *Discalia* (Pl. XLIX. figs. 1–4, *sa*) is very elongated, and about as long as the greatest diameter of the umbrella, whilst it is much smaller in the discoidal *Disconalia* (Pl. L. fig. 1); its diameter (in length and breadth) is here only one-third or one-fourth of the latter. The basal part (or stomach) is ovate or pyriform, the distal half (or proboscis) cylindrical. The thick, very contractile wall is composed, as usual, of a stronger exodermal longitudinal layer of muscles, and a thinner entodermal layer of circular muscles, separated by an elastic structureless support.

The fundus of the stomach is separated from the superjacent centradenia by the horizontal gastrobasal plate. The periphery of this solid circular or octagonal support exhibits eight equidistant openings, the ostia, which conduct into the eight radial canals of the subumbrella. These ostia are prolonged sometimes downwards into eight longitudinal grooves at the inside of the stomach, and to these correspond eight longitudinal folds or ribs on its outside.