

nectosome, in the superior or apical half of the corm, is composed of three different portions: (1) a gigantic spheroidal or lenticular pneumatophore; (2) a horizontal corona of numerous radially arranged nectophores beyond the float; and (3) a pyriform or subspherical aurophore placed in the dorsal median line of the corona, probably an enlarged pneumadenia. The siphosome, which occupies the inferior or basal half of the corm, is composed of a large bulbous axial trunk and of numerous peripheral cormidia, which cover its whole surface. Each cormidium bears upon a short common pedicle a single siphon with a tentacle and one or two monoclinic gonodendra, provided with one or more sexual palpons.

*Pneumatophore* (*p*, Pl. I. fig. 1; Pl. III. figs. 13, 14; Pl. IV. fig. 15; Pl. VI. figs. 32, 33; Pl. VII. figs. 39, 40, 48, 50).—The apical float filled with air is very voluminous, comparatively larger than in any other known Siphonophoræ, with the sole exception of the Physalidæ. It is about half as large as the bulbous siphosome and has the form of an inflated lens or a flattened spheroid, its vertical diameter (or central axis) being usually only half as long as the horizontal diameter (or the transverse axis); the former in the largest specimens of *Rhodalia* measures 10 to 11 mm., the latter 20 to 22 mm. The horizontal section of the pneumatophore (figs. 1, 16, *p*) is circular, the vertical section (figs. 15, 40, 50, *p*) elliptical. The greatest part of its surface is free and smooth. Only the lower surface is attached to the truncated proximal face of the stem and separated from it by the flat horizontal hypocystic cavity (figs. 15, *aa*, 40, *ah*). The dorsal side of the pneumatophore bears at its base the large aurophore (*l*), whilst on the opposed ventral side the set of buds is placed (Pl. IV. fig. 15, *i*).

Although the development of the pneumatophore in the Auronectæ is unknown, there can be no doubt that it originates in the same way as in the Physonectæ and Cystonectæ; it represents, as in these latter, the modified umbrella of a Medusa, the manubrium of which is the trunk of the siphosome (Pl. VII. figs. 40, 50). Since the large air-sac is produced by an invagination of the apical part of the tubular trunk or cœnosome, its wall is hollow, and the cavity of the wall filled by nutritive fluid; the pericystic cavity (Pl. V. fig. 24, *ps*) communicates below with the flat hypocystic cavity (Pl. IV. fig. 15, *aa*). This latter is a simple circular or lenticular cavity without septa. But the pericystic cavity is traversed by a variable number of irregular trabeculæ or radial septa, which connect the thicker outer wall (pneumatocodon) with the thinner inner wall (pneumatossaccus).

*Pneumatocodon*.—The outer wall of the float (Pl. V. figs. 24, 30, *z*) is rather thick, very firm and elastic, and is composed of five strata, viz.—(1) the outer exodermal epithelium (*e*); (2) a subjacent layer of longitudinal or radial muscles; (3) a thick fulcral plate (*z*); (4) a thin stratum of circular muscles; and (5) an inner exodermal epithelium (*d*). The exodermal cell-layer, or the epidermis, is a thin and flat pavement epithelium. The strong subjacent muscle-plate is composed of longitudinal fibres which diverge