

pericystic cavity into the same number of radial pouches. Claus (74, p. 22) and Korotneff (50, p. 272) have described peculiar cæcal canals in the wall of the radial septa; but these hypothetical canals are in fact solid fibres composed of exoderm cells, and arising from the pneumadenia (or the air-secreting exoderm of the infundibulum), as has been shown by Chun (48, p. 514). The apex of the pneumatophore has no opening; but there is a stigma, or a constant opening through which the air is emitted, at the base of the pneumatophore, in the median line of its dorsal side, opposite to the ventral buds of the youngest nectophores; its place corresponds to that point where, in the Auronectæ, the aurophore is situated. Keferstein and Ehlers (33, p. 3) have already described the spontaneous emission of air by this stigma, and I have repeated the same observation in the Canarian *Physophora magnifica* (84, p. 35, pl. iii. fig. 26).

*Nectophores* (Pl. XIX. figs. 1–4).—The nectocalyces are in general very similar in form to those of the Agalmidæ. The bilaterally symmetrical umbrella is attached to the trunk by a lamellar triangular pedicle, which arises in the middle line of its concave ventral side. The opposite dorsal side is more or less convex. The principal axis is directed obliquely from above and within, downwards and outwards, so that the apical pole is situated more highly than the basal pole with the ostium. This latter is obliquely truncate, often with a pair of lobiform apophyses on the ventral side. The axial or apical half of the nectophore is always much broader than the basal half, and provided with a pair of auricles or apical horns which embrace the stem. Correspondingly, the large nectosac, which is not much smaller than the surrounding umbrella, is cordate and composed of three parts, a smaller odd basal part and a pair of large lateral lobes; the former is subcylindrical or subconical, the latter are subovate or trapezoidal. The four radial vessels are of very different shape, since the two paired lateral canals enter into the two dilated auricles; they form here several loops, and are therefore much longer than the two sagittal canals (shorter ventral and longer dorsal) which run simply curved in the median plane of the nectosac. The circular canal which connects the four radial canals above the insertion of the velum is small and ovate, corresponding to the small ostium of the nectosac. (Compare 10, Taf. xxx. figs. 33–35; 34, Taf. xxv. figs. 6–8; 27, Heft iii. Tab. vi. figs. 1–4, &c.)

*Siphosome* (Pl. XX. figs. 9–13).—The trunk of the siphosome in the Discolabidæ was regarded by all former observers as a simple sac-shaped and inflated dilatation of the blind basal part of the trunk of the nectosome, and the general opinion was, that the different appendages, beyond the corona of tasters, were more or less irregularly crowded at its basal face (with loose cormidia). This error was not corrected until the year 1877, when the excellent figures of *Physophora borealis* by M. Sars were published in the third part of the Fauna littoralis Norvegiæ (27, Heft iii. Taf. v. figs. 1–6). This celebrated observer had discovered, many years before, that the siphosome of *Physophora* is expanded subhorizontally, beyond the nectosome, in form of a large, reniform, spirally-twisted sac,