

(superior or abaxial) half than in the rudimentary ventral (inferior or axial) half. The wide opening or ostium of the flat nectosac is sometimes circular, at other times reniform or even cordate, notched by a deep incision in the middle of the ventral margin. Usually two strong ventral teeth (or the lowermost apophyses of the two lateral wings) are prominent over both sides of that notch.

*Canals of the Nectosac.*—The subumbrella of the nectophores possesses in the Polyphyidæ, as in all other Siphonophoræ, four radial canals, united by a marginal ring-canal above the velum. But they are here peculiarly differentiated. The pedicular canal of each nectophore, which arises from the tubular stem and runs through the lamellar pedicle, is short and divides in the middle of the ventral groove into two branches, an ascending and a descending. The ascending branch is a simple blind pallial vessel (corresponding to the superior mantle-canal of *Praya*); it runs in a radial direction, inside the jelly-mass of the nectophore, towards its outermost and uppermost dorsal angle (between the median line of the ventral groove and the dorsal side of the nectosac). The descending branch runs to the top of the subumbrellar cavity, and divides here into four very unequal branches or radial canals. The median dorsal and the two paired lateral canals are very short, and soon open into the marginal canal. The median ventral canal, however, is very long and dilated towards the margin of the umbrella; it forms here a flat sinus or diverticulum, the form of which is very characteristic of the individual species (sinus ventralis, *cv''*, figs. 3, 4, 13, 14). It is elliptical or ovate in *Hippopodius gleba*, hexagonal in *Polyphyes ungulata*, two-winged in *Vogtia köllikeri*, &c. The cells of the entoderm, which line the flat and broad cavity of this ventral sinus, are very large, polygonal, and filled with peculiar fine granules. The narrow intervals between the single cells have been described by Claus as "peculiar ramifications of the vessel" (35, p. 553).

*Siphosome* (fig. 1).—In the Polyphyidæ the trunk of the siphosome, or the common stem which bears the cormidia, is usually contracted and retracted into the hydroœcial cavity of the nectosome. But in the expanded state, and protruded through the basal opening of that cavity, it is a rather long tubular stem, two, three, or more times as long as the nectosome. The number of cormidia is sometimes small, four to eight, at other times much larger, twenty to thirty or more; besides the numerous buds of young cormidia, which are found in a crowded ventral series along the uppermost part of the siphosome (Pl. XXIX. fig. 7, *is*).

*Cormidia.*—The groups of polymorphous persons, which cover the trunk of the siphosome, differ from those of all other polygastric Calyconectæ in the complete absence of bracts. This may be explained either by total reduction and loss of the hydrophyllia (perhaps in correlation with the development of the large nectosome and its peculiar hydroœcial cavity), or by a phylogenetic dislocation of organs which were originally connected. It is possible, that in older ancestral forms of this family, the