

the opening of the nectosac (*uo*) surrounded by the velum (*v*), and at its ventral side the opening of the hydrœcial canal (*ui*). Near the velum arise two small lateral spines, which lie in the radius of the two much larger triangular teeth, being the distal prolongations of the two dorso-lateral edges (*n*¹ left, *n*² right).

Nectosac (figs. 1-4, *w*²).—The subumbrella of the second nectophore is cylindrical and occupies its dorsal half. The nectocalycine duct, which comes from the top of the stem and enters into the subumbrella somewhat below its apex, divides into the four radial canals (*cd* dorsal, *cv* ventral, *cx* right, *cl* left). These descend vertically and nearly parallel to the ostium, where they are united by the circular canal.

Hydrœcial Canal.—The ventral groove of the second nectophore, which forms the continuation of the hydrœcium of the first, has an irregular form (figs. 10-12, *ui*, in transverse section). It is enclosed between the ventral wall of the second nectophore, and the two broad ventro-lateral wings which arise from it, the right (*ux*) overlapping somewhat the left (*ul*).

Siphosome (*as*).—The long stem, which may be retracted completely into the hydrœcial canal, bears a series of twenty to thirty or more *cormidia*. These are detached from the stem before they reach sexual maturity and swim freely about as *Aglaisma gegenbauri* (Pl. XL.). They are characterised by a cuboidal bract, which has a caudal prolongation at the inferior dorsal edge, and by four radial canals arising from the phyllocyst (two slender odd sagittal and two paired broad lateral). Compare on their structure, above p. 119.

Family VIII. DESMOPHYIDÆ, Haeckel, 1888.

Desmophyidæ, Hkl., System der Siphonophoren, 95, p. 36.

Definition.—Calyconectæ polygastricæ, with a biserial nectosome, composed of four to six or more opposite nectophores. Cormidia ordinate, eudoxiform or ersæiform, separated by equal free internodes; each siphon with a bract.

The family Desmophyidæ, represented by two new genera only, is of special interest as a connecting link between the preceding (VII.) and the following family (IX.). It agrees in general structure and composition with the Diphyidæ, but differs from them in the greater number of nectophores which are arranged in a biserial nectosome. This latter character is also found in the Polyphyidæ, which, however, differ in the absence of bracts. The Desmophyidæ may be derived immediately from the Diphyidæ, by multiplication of the nectophores. The Polyphyidæ may have arisen from the former by reduction and loss of the bracts.

Two genera only of Desmophyidæ have been observed by me, each with a single species. Both agree in the form of the rounded edgeless nectophores and bracts with the