

the Eudoxidæ. The first group, Diplophysidæ, possess a smooth umbrella with rounded surface, never prismatic; hemispherical or mitriform in *Diplophysa* and *Eudoxella*, conical or spathiform in *Cucubalus* and *Cucullus*. The second subfamily, Aglaismidæ, has a polyhedral or prismatic umbrella with angular surface; it is more or less cuboidal in *Cuboides* and *Aglaisma*, wedge-shaped or similar to a prompter's box in *Sphenoides* and *Amphiroa*. The cuboidal form (Pls. XL., XLII.) is of special interest as a reminiscence of the quadri-radial structure in the original umbrella of the ancestral Medusa.

*Bracteal Cavity*.—Whilst the superior or proximal face of the bract is convex, and corresponds to the exumbrella of the Medusa, its inferior or distal face is concave and comparable to the subumbrella. In the fundus of this cavity hangs the siphon, like the manubrium or gastral tube of the Medusa. Its point of insertion is usually dislocated towards the dorsal side. The single tentacle, which arises from the base of the siphon, is placed between this and the dorsal wall of the subumbrellar cavity. The greater ventral part of the cavity is occupied by the gonophore.

The form of the bracteal cavity has sometimes preserved the original hemispherical form of the subumbrella; but usually it is more campanulate or conical, and often at the same time bilateral, more rarely asymmetrical. Its basal opening, or the bracteal mouth, is usually oblique, more or less bevelled off, sometimes armed with prominent teeth.

*Phyllocyst*.—The central part of the subumbrella, where the siphon is inserted, contains in each Eudoxia a cæcal diverticulum of the entoderm, which is in direct communication with the basal part of the siphon, and in the young sessile Eudoxia with the central canal of the stem. This phyllocyst (*bursa centralis bracteæ*) is comparable to the apical canal, which in certain Medusæ (Codonidæ, &c.) ascends vertically from the base of the manubrium, and ends blindly in the jelly of the umbrella.

The cavity of the phyllocyst is usually small, lined by large clear vacuolated entoderm-cells, which are polyhedral from mutual pressure. The apical part of the phyllocyst usually contains an oleocyst (*co*), an oil-globule, which has a hydrostatic function. The phyllocyst of the bract is, therefore, similar to and comparable with the somatocyst of the nectophore.

The phyllocyst is sometimes a simple cylindrical cæcal canal or an ovate sac, placed in the vertical axis of the bract, or somewhat excentric; as in *Diplophysa*, *Cucubalus*, and *Cucullus*. But usually some nutritive canals arise from its base, which enter into the jelly mass of the bract. The number and disposition of these phyllocyst canals are characteristic of the different genera, and of interest as remnants of the four radial canals, which run in the subumbrella of Medusæ towards its margin. *Eudoxella* (Pl. XXXII.) and *Aglaisma* (Pl. XL.) still possess all four canals; two of them are placed in the sagittal plane (one dorsal and one ventral), two others symmetrically on both sides (one right and one left). The latter are preserved too in *Cuboides* (Pl. XLII.) and in *Amphiroa* (Pl. XXXVI.), whilst the two sagittal canals are lost. *Sphenoides* (Pl. XXXVIII.) possesses only a single canal, descending on the dorsal side; the three others have disappeared.