

the Cœlographida essentially the same form and structure as in the preceding Cœlodendrida. The only (but important) difference between them is indicated by the constant presence of the peculiar rhinocanna in the former, whilst this is always absent in the latter. The two valves of the shell, dorsal and ventral, are either hemispherical or somewhat flatter, sometimes nearly cap-shaped, and formed of an extremely delicate and irregularly fenestrated plate of silica, as in the Cœlodendrida. As in the latter, so also in the Cœlographida both valves are of similar form and usually of equal size, but sometimes the dorsal is a little smaller than the ventral valve. The remarkable difference which Bütschli describes in his *Cœlothamnus davidoffi*, and the inverse origin of the three tubes in both valves (*loc. cit.*, Taf. xxxi. figs. 2, 4), depends upon an error of observation, produced by the artificial inversion of one valve, and the dislocation of their natural arrangement. The valves are never in direct contact, but separated by the equatorial fissure or girdle-cleft, in which the girdle zone of the enclosed central capsule and its three openings lie freely (Pl. 127, figs. 4, 5; Pl. 128, fig. 2). The free margins of both valves, which are opposite to one another, and bound the girdle-cleft, are always equidistant, so that the cleft in the whole equatorial circumference is of equal breadth. The margins are usually irregularly denticulate, sometimes armed with longer bristles (Pl. 127, fig. 8), more rarely smooth (fig. 5). The delicate lattice-work of the valves is always irregular and very variable, usually with numerous small and unequal pores, sometimes rudimentary, so that the valves appear partly solid and hyaline. The size of the valves is usually between 0·2 and 0·5 (in diameter).

The galea (*g*) or the apical cupola, which arises from the vaulted apex of each valve (or its sagittal pole) is more developed in the Cœlographida than in the preceding Cœlodendrida, and differs from the latter in the peculiar rhinocanna arising from its base, and in the single or double frenulum, connecting the open mouth of the rhinocanna with the odd or paired main tube arising from the galea. The two opposite galeæ lie therefore on the poles of the sagittal axis of the bivalve shell, and are so symmetrically disposed in the sagittal plane, that the open mouths of their rhinocannæ are directed towards the oral pole of the main axis, and nearly come in contact with the proboscis arising from the radiate operculum of the central capsule (Pl. 127, figs. 4, 5).

The size and form of the galea are very variable, even in one and the same species. The volume of its cavity is generally about as great as that of the hemispherical valve from which it arises, sometimes larger, at other times smaller. Its fundamental form is constantly dipleuric or bilateral, since the radial hollow tubes arise symmetrically on both its sides, and the rhinocanna proceeding from its base determines the sagittal plane. Usually the galea has the form of a vaulted helmet, the convex crest of which is inclined towards the mouth (Pl. 127, figs. 4, 5, 8, 9). Its anterior or apical part is broad and truncated in the Cœlotholida, more or less conical in the Cœlospathida; sometimes it assumes nearly the form of a bilateral three-sided pyramid, at other times it is more