of the two external mantle-valves, opposed to one another in the circle of the equator, seem usually to catch one into another in the same way as the corresponding mantle-valves of the Cœloplegmida are loosely connected (Pl. **128**, figs. 1, 7). A true concrescence between the two valves seems never to take place.

The two subfamilies of Cœlodendrida therefore exactly correspond to the two subfamilies of the following family, the Cœlographida. The Cœlodorida and Cœlotholida form in a similar way a thicket, by dichotomous ramification of the hollow tubes, all the branches of which remain free. The Cœlodrymida and Cœloplegmida, on the other hand, form an outer lattice-mantle by anastomosing branches. The latter two subfamilies, of course, have been derived correspondingly from the two former, and the common ancestral form of all four is probably *Cœlodoras*, derived from the Concharida.

Though the two corresponding subfamilies in both groups are very similar, they are, however, separated by important hereditary characters. All Cœlodendrida (the Cœlodorida without a mantle as well as the Cœlodrymida with a mantle) possess no rhinocanna and no frenula on the galea, and they never develop prominent verticillate styles; the surface of their calymma is probably always spherical or subspherical. All Cœlographida, however (the Cœlotholida without a mantle as well as the Cœloplegmida with a mantle), possess a rhinocanna and frenula on the galea, and always develop prominent verticillate styles; the surface of their calymma is probably always symmetrically polyhedral.

The superficial armature of the skeleton in the Cœlodendrida is rather simple, and by no means so manifold and differentiated as in the more highly developed Cœlographida. The thin terminal branches of the hollow tubes are in the Cœlodorida closed at the distal end, and armed with a variable number of short teeth (Pl. **121**, fig. 2), or with a spinulate terminal knob, or a corona of recurved hooks (*ibid.*, figs. 5–7). In the Cœlodrymida, however, where the distal ends of the branches by anastomosing form the lattice-mantle, the spherical surface of this latter is armed with numerous thin spathillæ or radial bristles (often zig-zag or spinulate), and each bristle usually bears at the distal end a small anchor with two, three, or four recurved teeth; the outer convex edge of these teeth is usually smooth, the inner concave edge denticulate. All these ramules and branches of the tubes (also the thinnest terminal threads) are hollow, and filled up by jelly.

The *central capsule* of the Cœlodendrida does not lie outside the two central valves (as I supposed in my first description, in 1862, being deceived by the dark enveloping phæodium, Monogr. d. Radiol., Taf. xxxii. fig. 1), but it is enclosed between the two valves, as in the preceding and the following family. The first accurate description of it was given by Richard Hertwig in 1879 (*loc. cit.*, p. 95, Taf. x. fig. 3). Its constant position between the two lattice-valves (dorsal and ventral) is such, that its three openings lie in the frontal plane, in the open fissure between the valves. The astropyle or the main-opening, with the radiate operculum and the tubular proboscis arising from it, lies on the anterior (or oral)