

ventral horn larger than the dorsal (Pl. 124, figs. 3, 6). Rarely the two caudal horns are fenestrated at the base and reach a considerable size, as in *Conchoceras* (Pl. 124, figs. 15, 16).

The walls of the bivalved shell usually exhibit in the Concharida a rather solid shape and regular structure, with an elegant network of regularly arranged pores. But in some species the walls of the shell become very thin and fragile, and assume the same shape (with very irregular network), as in the Cœlodendrida and Cœlographida. The pores are usually small and numerous, circular, often hexagonally framed (Pl. 125, figs. 4–6). They pierce the thick shell-wall either in a radial or in an oblique direction. Sometimes each pore is armed with six radial teeth (Pl. 123, fig. 7a). At other times each pore represents an oblique ampullaceous canal, dilated in its middle part, with two narrow openings (Pl. 125, figs. 5a, b, c, 6). The pores are so arranged in the majority of species that they form regular curved series, which are separated by prominent crests, and converge towards the poles of the main axis. Usually the marginal pores (along the frontal margins of the valves) are much smaller (compare Pls. 123–125).

The *central capsule* of the Concharida, very well preserved in numerous specimens of the Challenger collection, constantly possesses the same situation and structure. It is always enclosed in the aboral or posterior half of the shell-cavity, whilst the oral or anterior half is filled up by the phæodium. The free spaces between both and between the inner surface of the shell are completely filled up by the jelly of the calymma, which also covers the whole shell as a thin outer jelly-envelope. The form of the central capsule is sometimes nearly spherical, usually somewhat compressed in the direction of the main axis, and sometimes also in the direction of the frontal axis (Pl. 123, figs. 1–9). In some species it becomes bilobed, with an upper dorsal and a lower ventral lobe, and in some others it becomes triangular (Pl. 125, fig. 7). Its two membranes (inner and outer) are often separated by a broad colourless interval, containing a clear fluid or jelly (Pl. 123, figs. 8, 9). The nucleus is usually about half as large as the central capsule and ellipsoidal, its longer axis lying in the sagittal diameter of the body. Several specimens (of different genera) contained two separate nuclei, one placed in the dorsal, the other in the ventral half of the capsule (Pl. 124, fig. 6). This duplication of the nucleus is probably the preparation for the division of the capsule. The division will be probably effected in the frontal plane, so that each half of the bisected capsule gets one nucleus and one valve, and the other valve becomes newly formed (in a way similar to that in the bivalved Diatomaceæ). The astropyle, or the main-opening of the capsule, is closed by a radiate operculum, from which arises a tubular proboscis; this lies in the main axis of the body, is directed towards the anterior mouth of the shell, and surrounded by the phæodium. The two shorter tubes of the paired parapylæ, or the accessory lateral openings, lie on the posterior or caudal side of