

The cephalis, or the first shell-joint of the *Cyrtoidea*, is in the majority homologous with the cephalis of the *Spyroidea*, from which it differs in the reduction of the sagittal ring and the absence of the corresponding sagittal constriction; its cavity is therefore simple, not bilocular. Its homology with the original cephalis of the *Spyroidea* cannot be doubted, when its base exhibits the typical basal pores of the *Semantida*. But in many cases these are wanting, and in a great number of *Cyrtoidea* (mainly of *Monocyrtida*) there is more or less evidence that the original cephalis is lost, and that the real first joint is the thorax, the original second joint. At present it is quite impossible to distinguish between the former and the latter shells, and therefore in the following descriptions the first joint is always named cephalis and the second thorax. In future, when the affinities of the *Cyrtoidea* become better known, it will be necessary to distinguish the "Archicephalis," or the true cephalis of all *Spyroidea* and of the majority of *Cyrtoidea*, from the "Pseudocephalis" or the false cephalis of the minority (*e.g.*, of many *Monocyrtida aperta*, *Archipilida*, *Archiphormida*, *Archicorida*, &c.).

The thorax, or the second shell-joint of the *Cyrtoidea*, is in the majority homologous with the thorax of the *Phormospyrida* and *Androspyrida*, and therefore developed by apophyses, which arise from the base of the cephalis and become united by transverse branches forming a lattice-plate. Its size is generally in inverse proportion to that of the cephalis. The more the cephalis becomes reduced, the more the thorax is developed. Its form is very variable, usually three-sided pyramidal or prismatic in the triradiate, polyhedral in the multiradiate, and conical or cylindrical in the eradiate *Cyrtoidea*. Its terminal mouth is either a simple wide opening, or closed by a lattice-plate. In the majority of *Cyrtoidea* the thorax is separated from the cephalis not only by the external collar constriction, but also by the internal cortinar septum, a horizontal lattice-plate which exhibits the typical basal pores of the *Semantida* (usually two smaller jugular and two larger cardinal pores). But this septum is often reduced or perfectly lost, and then the external collar constriction alone indicates the separation of the cephalis and the thorax.

The abdomen, or the third shell-joint of the *Cyrtoidea*, absent in the *Monocyrtida* and *Dicyrtida* (as also in all *Spyroidea*), occurs constantly in all *Tricyrtida* and *Stichocyrtida*. It is a simple large chamber in the *Tricyrtida*, but forms an annulated body, composed of a variable number of successive joints, in the *Stichocyrtida*. The constrictions between these joints, and also the lumbar constriction, between abdomen and thorax, are usually provided with a lattice-girdle, projecting into the cavity of the shell, like a diaphragm. Usually this horizontal girdle bears only a single circle of pores, rarely two or more. In many *Cyrtoidea* it is replaced by a solid horizontal ring of silex, and often it is wanting. It originates by the insertion of the following shell-joint, which takes place not on the terminal mouth of the preceding joint, but somewhat above it.