

those quadrupedal forms in which two opposite sagittal feet (the caudal and sternal) alternate in the form of a cross with two paired lateral or pectoral feet (Tetraspyrida, Pl. 53, figs. 19, 20). In many Spyroidea the number of basal feet is greatly increased, and they form a regular radial corona around the basal plate, like a circle of tentacles (Polyspyrida, Pl. 87). In this latter case the feet are usually flat and lamellar, whilst in the other groups they exhibit a very variable form, as is seen in Pls. 83-89.

The Central Capsule of the Spyroidea has been accurately observed in only a few genera, and requires a further exact examination regarding the different modifications which occur in their different families. It is very probable that these will agree with the well known modifications in the corresponding groups of Cyrtoida. The characteristic Monopylean structure of the capsule (with porochora and podoconus) was first described by Richard Hertwig in his *Ceratospyris acuminata* (*loc. cit.*, p. 72, taf. vii. fig. 2). I found the same afterwards in many other forms. In the Zygospyrida and Tholospyrida the central capsule seems to be usually bilobate (bisected by the sagittal ring), and enclosed in the two chambers of the cephalis. The two lobes of the capsule (right and left) are equal and connected by a smaller middle part, which contains the transverse elliptical nucleus and is enclosed by the sagittal ring; often each lobe contains a large oil-globule. In some forms, however, three or four lobes (sometimes perhaps more) are developed, which pierce the cortinar pores of the basal plate and depend freely between the basal feet (Pl. 53, fig. 19). In the Phormospyrida and Androspyrida the formation of such basal lobes seems to be more frequent; they are here enclosed by the thorax. Usually each lobe contains a large oil-globule. In *Nephrospyris* (Pl. 90) and in some similar genera the central capsule is violin-shaped, deeply bisected by the sagittal ring; in each of the two lobes a series of oil-vesicles is developed at both poles of the transverse axis (figs. 7, 10); the nucleus, a transverse cylindrical body, is placed in the latter. In the periphery of the voluminous calymma of this singular genus a large number of globular cells are developed (figs. 7, 10), probably symbiotic xanthellæ. In some forms of *Nephrospyris* these xanthellæ are enclosed by a peculiar inflated girdle, developed in the periphery of the kidney-shaped skeleton (Pl. 90, figs. 1, 4-6).

Synopsis of the Families of Spyroidea.

Shell without thorax; no second shell-joint, developed from the base of the cephalis.	{	Cephalis without galea (or apical cupola),	1. ZYGOSPYRIDA.
		Cephalis with a galea (or apical cupola),	2. THOLOSPYRIDA.
Shell with a thorax, or a second shell-joint, developed from the base of the cephalis.	{	Cephalis without galea (or apical cupola),	3. PHORMOSPYRIDA.
		Cephalis with a galea (or apical cupola),	4. ANDROSPYRIDA.