

The *Monosphærida* comprise all those *Sphæroidea* in which the carapace is represented only by one single lattice-shell. Originally this shell is probably everywhere an extracapsular or "cortical shell," which is developed on the outside of the jelly-veil enveloping the central capsule, and serves as a protective carapace for these soft enclosed parts. But with the progress of growth the central capsule becomes larger than the including shell, and sends out through its pores club-shaped prolongations or cæcal-sacs (Pl. 11, figs. 1, 5; Pl. 19, figs. 2, 3, 5; Pl. 20, fig. 1*a*; Pl. 27, fig. 3). These protruded sacs may fuse together again outside the shell and form a spherical bladder, now enveloping the smaller shell; the latter now becomes an intracapsular or "medullary shell."

As *Pliosphærida* (or *Sphæroidea concentrica*) we can oppose to the simple *Monosphærida* all other *Sphæroidea*, the lattice-shell of which is composed of two or more concentric shells, connected by radial beams. Probably all *Pliosphærida* (or at least the greater part of them) arise from the *Monosphærida* by centrifugal growth; two or more radial spines are developed from the surface of the simple lattice-sphere, and are united together by communicating lateral branches, developed at equal distances from the centre; and this same process may be repeated, two, three, four, or more times. In this way originate the characteristic systems of concentric spheres, all united by piercing radial beams which arise from the surface of the innermost sphere (not from its centre). Regarding this mode of growth, we can distinguish the innermost as "original" or "primary" shell, and all subsequent ones as "apposed" or "secondary" shells; if the number of concentric shells amount to three or more, commonly both innermost shells lie within the central capsule and are medullary shells, whilst all others lie outside it and are therefore cortical shells. This difference can be commonly recognised also in the isolated shell, without its central capsule; the distance between the cortical and the medullary shells being commonly much larger than the distance between the two medullary shells.

The *Dyosphærida*, or the *Sphæroidea* with two concentric shells, are the most numerous among the *Pliosphærida*. Commonly in this group the inner or primary shell lies within the central capsule as a true "medullary shell," whilst the outer lies outside it as a "cortical shell"; therefore the radial beams, connecting both, pierce the wall of the capsule. But in several forms, mainly in the peculiar group of *Diplosphærida*, both concentric shells remain outside the central capsule, and both are therefore "cortical shells."

The *Triosphærida*, or the *Sphæroidea* with three concentric shells, are also very rich in different forms, though not so numerous by far as the *Dyosphærida*. Commonly in the *Triosphærida* both inner shells lie within the central capsule as "medullary shells," whilst the third lies outside it as a "cortical shell"; therefore the central capsule remains intermediate in size between the outer and the middle shell. But in some genera (*e.g.*, *Rhodosphæra*) both outer shells are cortical and only the inner-