

## Family XXIV. LARCARIDA, Haeckel, 1883 (Pl. 50, figs. 1, 2).

*Definition.*—Larcoidea with a regular, completely latticed, lentelliptical cortical shell, without open gates and annular constrictions; medullary shell absent or simple (not trizonal), connected with the cortical shell by radial beams.

The family Larcarida opens the long series of Larcoidea as the most simple group of this suborder. It commences with *Cenolarcus*, a quite simple lentelliptical latticed shell, which is characterised by three unequal isopolar dimensive axes, perpendicular one to another. The major of these three axes is the longitudinal or principal, the middle is the lateral or transverse, and the minor is the equatorial or sagittal axis (as in the human body). Among the three dimensive planes, which are determined by pairs of these axes, the lateral plane is the largest (halved by the crossed principal and lateral axes). The intermediate is the sagittal plane or median plane (halved by the crossed principal and sagittal axes). The smallest is the equatorial plane or transverse plane (halved by the crossed lateral and sagittal axes). Therefore the shell has all the characters of the true *Lentellipsis* or of the "triaxial ellipsoid," and its axes agree with the three axes of the "rhombic crystalline system."

In the three subfamilies of Larcarida this lentelliptical shell assumes a different shape: in the Cenolarcida it remains simple, in the Spongolarcida it becomes spongy (sometimes quite filled out with a spongy framework), in the Coccolarcida it is composed of two or more concentric lentelliptical shells (at least an inner medullary and one outer cortical shell). These shells are simply connected by radial beams, and not, as in the Larnacida, by latticed wings (or half girdles).

The network of the Larcarida shell is sometimes regular, commonly irregular (as in the greater number of Larcoidea). The surface of the shell is sometimes smooth or thorny, at other times covered with radial spines. These are often symmetrically disposed, either on the poles of the dimensive axes or in crossed diagonal planes.

The central capsule is a true "lentellipsis" in a geometrical sense; it is halved by three elliptical dimensive planes of different sizes, perpendicular one to another. In the Cenolarcida the central capsule lies freely inside the simple (cortical) shell, only separated from it by the jelly-mantle. In the Coccolarcida it contains the medullary shell, and is enclosed by the simple or double cortical shell, perforated by the radial beams connecting the two shells. The spongy shell of the Spongolarcida exhibits a different relation to the central capsule: in *Spongolarcus* the latter lies freely in the internal cavity of the spongy shell; in *Stypolarcus*, where this cavity is quite filled with a spongy network, the central capsule also contains a part of it.

The morphological and phylogenetic relations of the Larcarida to the other families of SPUMELLARIA admit of a different explanation. As this family contains the