

Rotaliform or lenticular varieties being placed at or near the peripheral margin. The *Pulvinulinæ* are always finely porous and the test (with only two or three exceptional species) is almost invariably regularly Rotaline; the sutures are often limbate externally, but the surface hardly ever otherwise ornamented. The genus *Rotalia* attains a somewhat higher type of structure than its allies, the well-characterised forms having double septa and an interseptal skeleton, the latter often traversed by a more or less complex system of canals; whilst the smaller varieties, which have no supplemental skeleton, betray their relationship by the thickened and granulose edges of the sutures on the inferior side.

The connection of *Rupertia* and *Carpenteria* with the foregoing genera, through the subconical *Planorbulinæ*, is easily traced. The former in its early stage has a *Truncatulina*-like shell, which grows adherent by its superior face; and the subsequent whorls, which are of nearly uniform diameter, are superimposed vertically instead of peripherally, so as to form a columnar test, the aperture of which is at the inner margin of the terminal segment. The relationship of *Carpenteria* is best understood from *Carpentaria monticularis*. In the young condition the test, which is scarcely distinguishable from that of *Truncatulina refulgens*, consists of a depressed cone growing attached by its superior lateral surface; the aperture, however, at a very early stage becomes apical or nearly so, and the later chambers assume an elongated and irregular contour, spreading radially. Some species of *Carpenteria* exhibit double septal walls and a rudimentary canal system; but this is not a constant or even a usual feature.

*Calcarina* differs from *Rotalia* chiefly in the excessive development of the supplemental skeleton, which not only fills the umbilical cavity of the test, but forms the peripheral spines that characterise the genus.

The Sub-family TINOPORINÆ embraces a number of types, the Rotaline affinity of which is not quite so apparent. The test of *Tinoporus* consists of a central plano-spiral disk, with chamberlets piled on either side in more or less regular tiers; and it is furnished with a supplemental skeleton, which manifests itself externally in radial spines like those of *Calcarina*. The closely allied *Gypsina* has likewise a spiral nucleus, though of minute dimensions, with chamberlets clustered around it either in one plane or more or less equally on all sides. Neither of these types present any general aperture, external communication being maintained by the coarse perforations of the chamber-walls. *Aphrosina*, on the other hand, has a similar test, of irregular convex shape and spreading habit, with numerous marginal orifices.

The somewhat aberrant genus *Polytrema* displays intermediate characters. Its affinity to the TINOPORINÆ is indicated by its numerous minute chambers disposed in more or less regular layers, and by the absence, in the encrusting varieties, of any general aperture; whilst the monticular apertural processes of the arborescent forms suggest their near relationship to *Carpenteria*.

By some recent authors the genus *Cymbalopora* has been placed amongst the GLOBI-