

that is to say, not marked with longitudinal furrows; they are either curved or straight, and are pointed at their extremities. The septa are double, and in large specimens the sutures are marked externally either by limbate lines or by rows of exogenous beads. The body of the test seldom measures more than $\frac{1}{10}$ th inch (0.5 mm.) in diameter.

The present species must not be confounded with the *Rotalia pulchella* of d'Orbigny (Ann. Sci. Nat., vol. vii. p. 274, No. 32;—Modèle, No. 71), which, according to modern nomenclature, belongs to the genus *Pulvinulina*.

The Challenger collections furnish doubtful specimens of *Rotalia pulchella* from Kandavu, 255 fathoms; and Humboldt Bay, Papua, 37 fathoms. Better examples have been obtained from the Strait of Banca, 7 or 8 fathoms (Parker); off Java (Robertson); and off Penang (Siddall). The originally published habitat was the coast of Cuba.

Calcarina, d'Orbigny.

Nautilus, pars, Gmelin [1788], Fichtel and Moll, Dillwyn.

Siderolites, Lamarck [1801], Montfort, Blainville.

Siderolina, Blainville [1825], d'Orbigny (?).

Calcarina, d'Orbigny [1826], Bronn, Reuss, Carpenter, Parker and Jones, Morris and Quekett, Schwager, Gümbel, Brady, Carter, &c.

The structural relations of the genus *Calcarina* have been worked out with much care by Dr. Carpenter; and his account of the minute anatomy of the testaceous skeleton, first published in the Philosophical Transactions for 1860 (p. 548), and subsequently in the Introduction to the Study of the Foraminifera (p. 216), leaves no point of importance unnoticed.

In general terms, the typical form of the test of *Calcarina* is that of an irregular biconvex disk with radiating peripheral spines. These characters it shares to a greater or less extent with *Tinoporus* and with certain varieties of *Rotalia*. From *Tinoporus* the difference is primarily one of internal structure; but the two types are also distinguishable by external features, the later chambers of the Rotaliform spire of *Calcarina*, for example, being apparent on the inferior side of the disk, whilst in *Tinoporus* no portion of the spire is visible.

The affinity of *Calcarina* with *Rotalia* is of a much closer description, indeed it has been said with perfect justice that the characters which differentiate the two genera are altogether gradational. The most serviceable distinctions are,—firstly, the aperture, which in the typical *Calcarina* consists of a row of pores along the inner margin of the septal face; and secondly, the extraordinary development of the supplemental skeleton and the canal system. It is true that analogous structures are occasionally met with amongst the higher *Rotaliæ*, but they differ from those of *Calcarina* both in nature and extent, and the exceptional specimens in which they form a conspicuous feature are not such as resemble the latter genus in external contour.