

the peripheral outline being either irregular and subangular, as in figs. 1, 2, or almost circular, as in fig. 3. The segments are inflated and slightly embracing on the free side of the test, but their form and mode of combination are generally more distinctly seen on the superior or attached face. Average specimens have a diameter of about $\frac{1}{25}$ th inch (1 mm.).

Under the name *Planorbulina retinaculata*, Parker and Jones have described a curious modification of the present species, "which, besides being scabrous with granulation [like *Planorbulina larvata*], develops a large number of peripheral, subsidiary, tubular apertures, connecting together, and still keeping apart, the sarcode-chambers, and forming a kind of irregular network over the surface of the shells on which it grows" (Phil. Trans. vol. clv. p. 380, pl. xix. fig. 2).

Planorbulina mediterraneensis is found in almost every sea within the temperate and tropical zones. It is commonest at depths of less than 50 fathoms; but it occurs sparingly in the North Atlantic at 430, 600, and 635 fathoms, and a single specimen has been obtained from a sounding taken north of the Canaries, at 1125 fathoms. In the South Atlantic it extends to a depth of 350 fathoms, and in the South Pacific as far as 255 fathoms.

As a fossil the species has been observed in the Miocene of the Vienna Basin (d'Orbigny), in the later Tertiaries of Italy and Sicily (Jones and Parker, Seguenza); in the Crag of the east of England (Jones, Parker, and Brady), in the Post-tertiary formations of Norway (Sars, Crosskey, and Robertson), of Scotland (Robertson), of Ireland (Wright), and of the Island of Ischia (Vanden Broeck); and in the Fen-clays of Lincolnshire and Cambridgeshire (Parker and Jones).

Planorbulina acervalis, n. sp. (Pl. XCII. fig. 4).

Test normally adherent, discoidal; superior (attached) face flat, inferior more or less convex; margin lobulated, with interspaces between the segments of the final whorl. General structure resembling that of *Planorbulina mediterraneensis*, with the addition of a mass of minute acervuline segments covering to a greater or less thickness the free surface of the test. Diameter, $\frac{1}{25}$ th inch (1 mm. or more).

The acervuline varieties of *Planorbulina* are distinguished from corresponding modifications of *Tinoporus* (*Gypsina*) by the retention of the normal Planorbuline arrangement of the segments on the attached face of the shell, and more especially by the peripheral apertures.

Such forms are not uncommon amongst the islands of the Pacific, as well as in the Indian Ocean, and in the Red Sea. They frequent shallow water, and are most plentiful on bottoms of less than 20 or 30 fathoms, but are sometimes found at much greater depths.