

show the calcareous shell within. When the contour of the sandy envelope is regular and convex, as in the former case, the specimens may easily be mistaken at first sight for *Webbina hemisphærica*, though always distinguishable by the different mode of aggregation of the sand-grains, which in the present species are retained in their position chiefly, if not entirely, by the sarcode of the living animal, whilst in *Webbina* they are embedded in inorganic cement and form a compact wall. A similar tendency to form a protective rampart of sand is noticeable in certain other species of adherent Foraminifera, notably in some arenaceous or subarenaceous types, such as *Valvulina*, but seldom to the extent of providing a complete covering.

*Truncatulina lobatula* is common at every latitude, from the most northerly points of the Arctic Ocean yet explored to the Antarctic Ice-barrier. Bathymetrically speaking, it is most abundant in the littoral, laminarian, and coralline zones, but it is by no means confined to shallow bottoms, and is still conspicuous at depths of nearly 3000 fathoms.

Its geological distribution is also very extensive. Specimens of the compact variety have been met with in rocks of Carboniferous age; and shells indistinguishable from those living at the present day on our own shores are found in the later Mesozoic formations, and in almost every marine deposit of Tertiary and Post-tertiary times.

*Truncatulina variabilis*, d'Orbigny (Pl. XCIII. figs. 6, 7).

"Testæ hammoniformes, plano-cochleatae, tuberosae articulatae, &c.," Soldani, 1789, Testaceographia, vol. i. pt. 1, pp. 77-80, pls. lxx.-xcii.

*Truncatulina variabilis*, d'Orbigny, 1826, Ann. Sci. Nat., vol. vii. p. 279, No. 8.

„ *innormalis*, Costa, 1856, Atti dell' Accad. Pont., vol. vii. p. 368, pl. xxi. fig. 11.

*Planorbulina truncata*, Egger, 1857, Neues Jahrb. für Min., &c., p. 280, pl. x. figs. 15-17.

*Truncatulina tuberosa*, Parker, Jones, and Brady, 1871, Ann. and Mag. Nat. Hist., ser. 4, vol. viii. p. 177, pl. xii. fig. 138.

„ *variabilis*, Terquem, 1878, Mém. Soc. géol. France, sér. 3, vol. i., Mém. III., p. 20, pl. i. figs. 18-25.

The wild-growing adherent *Truncatulinae*, to which Soldani devotes upwards of twenty plates of the "Testaceographia," without exhausting their multiform aspects, are grouped by d'Orbigny under a single specific name, *Truncatulina variabilis*.

Such varieties occur in greater or less numbers wherever the more normally constructed shells are at all abundant, but they are commonest at the shallow margins of subtropical and temperate seas. They are not, however, entirely confined to shallow water, for occasional specimens have been met with at depths of 500 or 600 fathoms, and in one instance at upwards of 2000 fathoms.

As a fossil *Truncatulina variabilis* has probably a similar range to *Truncatulina lobatula*, though there appears to be no mention of its occurrence in any formation earlier than the Eocene of the Paris Basin (Terquem). It has been obtained from the