

which it is brought about are of considerable importance in their morphological bearings it is necessary they should be clearly understood.

In the earliest stage the test consists of a flattened, planospiral tube, which, after a number of very narrow convolutions, widens somewhat rapidly, exactly after the manner of *Cornuspira foliacea*. In some specimens this central portion is tubular from the very beginning, as shown in fig. 6, *a*, and fig. 7; but in others the tube has its origin in a small circular primordial chamber, as seen in one of Dr. Carpenter's drawings (Report on Orbitolites, pl. i. fig. 1). The later convolutions of the Cornuspiral portion are sometimes constricted, either at irregular intervals or at opposite points of the periphery, thus interposing something like a Spiroloculine stage before the formation of the subdivided chambers. The broad end of the Cornuspiral shell serves as the commencement of a series of arched chambers, which follow on in the same spiral direction. These segments increase rapidly in length and curvature, and become successively more and more embracing until, by the meeting of the lateral ends, they completely encircle the shell. After this point is reached, the remainder of the test is made up by the addition of annular segments, each applied to the peripheral margin of its predecessor.

The spiral and annular chambers, which collectively constitute almost the entire shell, are subdivided by radial partitions into a multitude of minute chamberlets. These partitions or secondary septa project from the inner wall of the chamber, and do not quite reach its outer margin, but leave a continuous peripheral passage by which the connection between the chamberlets of each annulus is maintained. The chamberlets are long and narrow, the longer diameter being in the radial direction.

The peripheral wall of each chamber is perforated at regular intervals, and each pore opens into a chamberlet of the succeeding annulus. The marginal pores of the final chamber form the aperture of the test.

The foregoing description embodies the typical characters of the species. Examples of deviation from the normal structure are neither numerous nor very important, and they are generally confined to slight modifications of existing features. Occasionally, between the Cornuspiral commencement and the subdivided chambers one or two undivided segments are interposed, which represent a sort of Peneropline stage of development; and in rare instances some of the later annuli revert to the undivided condition, as shown in fig. 6, *d*.

So far as at present known, the geographical distribution of *Orbitolites tenuissima* is confined to the North Atlantic and the Mediterranean. It occurs at one Challenger Station, near the coast of North America, off Cape Hatteras, depth 1700 fathoms; and at seven or eight "Porcupine" Stations to the west and north-west of Ireland, at depths of 630 to 1443 fathoms. On the cruise of the "Valorous" it was taken at two points considerably further north (about lat. 56° N.), depth 690 fathoms and 1450 fathoms respectively; and at one point in Baffin's Bay, lat. 62° 6' N., depth 1350 fathoms, which latter