

and rounded, or takes the form of an inflated or bulbous capitulum. Walls thin, arenaceous, more or less beset with sponge-spicules, especially at the distal end. Length, about $\frac{1}{20}$ th inch (1.3 mm.).

This interesting little organism, with its sessile columnar test bristling with borrowed spicules, was not unnaturally classed by its discoverers amongst the Spongiadæ; indeed at first sight the only feature likely to suggest a doubt as to the propriety of the position assigned to it was its comparatively diminutive size. But little was known twenty years ago of sessile Foraminifera, and as little of the composite tests of the arenaceous types; and their frequent preference for sponge-spicules as a building material, was scarcely even thought of until the "Lightning" Expedition of 1868 and the first "Porcupine" Expedition of the following year, made us acquainted with such forms as *Marsipella* and *Pilulina*. In justice to Dr. Bowerbank, to whom we are indebted for the early descriptions of *Haliphysema*, it should be said that he recognised to some extent its anomalous structure viewed as a sponge, both with respect to the peculiar characters of the "expanded base," the preponderance of broken spicula, and the presence of grains of sand and other extraneous matter in the composition of the investment. These facts, though duly set forth, were explained away or left unexplained; at any rate they do not appear to have created in the mind of the author any misgivings as to the conclusions he had arrived at. It was left for Mr. Carter, some years later, to demonstrate the Foraminiferal nature of the type, and for subsequent observers, some controversy notwithstanding, to confirm his exposition in all its more important particulars.

The test of *Haliphysema tumanowiczii* consists of two tolerably distinct portions, the expanded base and the column or pedicel.

The base is a convex or tent-like disk, from $\frac{1}{20}$ th to $\frac{1}{30}$ th inch (0.2 to 0.3 mm.) in diameter, which in the normal position is attached by its inferior or flat surface to some foreign body such as stone, sea-weed, or zoophyte. Its interior cavity, without being distinctly segmented, is more or less subdivided by irregular radiating partitions, as shown in fig. 5.

The pedicel or column varies much in contour. At the point of union with the expanded base it is thin and slender, and it gradually increases in width as it approaches the distal end. The figures 4 and 5 represent average specimens, in which the increase in diameter is tolerably rapid and the resulting tests clavate in form, with broad rounded ends. But frequently the column remains of nearly uniform diameter, or increases but slightly in width as it grows; and in these cases it forms a long and often much contorted tube, which expands suddenly near the end into an inflated or subglobular head. Rarely the clavate specimens have two or three transverse or oblique constrictions, at irregular intervals; but they are too slight and too variable to have much significance, and as they are not observed at all in the long slender varieties the interior of the column may be said to form a continuous non-segmented tube.