

in *Astrorhiza arenaria* and its immediate allies. These are shown in the side view (fig. α), at the spot marked *aa*.

The tubes of some parts of the test were filled with dark-coloured sarcode, similar in all respects to that found in the tests of many of the larger arenaceous Foraminifera.

Chemical analysis shows that upwards of 53 per cent. of the dry test consists of siliceous sand, and about 35 per cent. of carbonate of lime. The latter item may be accounted for by the presence of a very large number of minute Foraminifera amongst the sand of which the test is built; of secreted calcareous matter there appears to be little or none.

The precise habitat of the specimens is given in the following note from the log of the "Triton":—

"Station 11. August 28th, 1882, lat. $59^{\circ} 39' 30''$ N., long $7^{\circ} 13'$ W.; depth, 555 fathoms; ooze; surface temperature, $57^{\circ} \cdot 2$; bottom temperature, $45^{\circ} \cdot 5$ F."

The position is to the west of the Wyville-Thomson Ridge, and close to the "Holtenia Ground" of the "Porcupine" Expedition.

Mr. Murray states that a somewhat similar specimen was dredged at a depth of 1000 fathoms off the Azores, during the Challenger cruise, but that it went to pieces in the sieve.

Sub-family 2. *Pilulininæ*.

Pilulina, Carpenter.

Pilulina, Carpenter [1870], Brady.

The genus *Pilulina* is at present limited to a single species, as follows.

Pilulina jeffreysii, Carpenter (Pl. XXV. figs. 1–6).

Pilulina, sp., Carpenter, 1870, Descr. Cat. of Objects from Deep-sea Dredgings, p. 5, No. 5.

Pilulina jeffreysii, Id. 1875, The Microscope, 5th ed., p. 532, figs. *d.*, *e.*

Test free, nearly spherical; consisting of a single undivided chamber, the walls of which are composed of felted sponge-spicules and fine sand with no calcareous cement. Aperture a long curved or sigmoid slit, with slightly raised lips. Colour light grey or nearly white. Diameter, $\frac{1}{4}$ th inch (3.5 mm.).

This species is perhaps the best type of the series to which it belongs, and exhibits in as marked a manner as any the peculiarities of structure which constitute the salient feature of the entire Sub-family. Evidences of selective power, in respect of the extraneous substances employed in the construction of the test, are not uncommon amongst the arenaceous or composite types of Foraminifera; and nowhere is this faculty more