

of the rays serving as apertures. Walls coarsely arenaceous, very firmly cemented; exterior rough, internal surface smooth. Dimensions very variable, ranging from about $\frac{1}{4}$ th to $\frac{3}{8}$ ths inch (3 to 17 mm.) from point to point.

Rhabdammina abyssorum was one of several new species of Foraminifera enumerated by the late Prof. Michael Sars in his list of animals dredged in deep water off the coast of Norway. Of these and many other marine invertebrata discovered by the lamented Norwegian naturalist, no description was published, and their identification is due to the kindness of his son Prof. G. O. Sars in distributing type specimens.

Some idea of the variety of form assumed by the test may be gathered from Pl. XXI., but it would require a much longer array of figures to illustrate fully the polymorphic tendencies of the species. Its salient morphological features are described by Dr. Carpenter¹ in the following terms:—

“What is most remarkable, is the geometrical regularity of its form, which is typically *triradiate* [figs. 1, 2], the rays diverging at equal angles from the central cavity, and each being a tube with an orifice at its extremity. Not unfrequently, however, it is *quadri-radiate* [figs. 3, 4], the rays diverging at right angles; and occasionally a fifth ray presents itself, its radiation, however, being on a different plane [fig. 7]. The three rays are normally of equal length; but one of them is sometimes shorter than the other two; and when this is the case, the angle between the long rays increases at the expense of the other two, so that the long rays lie more nearly in a straight line [fig. 8]. Sometimes the place of the third ray is indicated only by a little knob; and then the two long rays have very nearly the same direction. We are thus led to forms in which there is no vestige of a third ray,² but merely a single straight tube, with an orifice at each end; and the length of this, which often exceeds half an inch, taken in connection with the abundance in which it presents itself in dredgings in which the triradiate forms are rare, seems to preclude the idea that these long single rods are broken rays of the latter.”

Little need be added to the foregoing clear exposition, which, though written on the basis of specimens collected from a comparatively limited area of the North Atlantic, is for the most part equally applicable to those obtained from other parts of the world. It may be remarked, however, that in the quadri-radiate tests the arms are not always arranged at right angles (see fig. 6); and in the five-rayed specimens, the tubular arms though often irregular, as shown in fig. 7, are nevertheless sometimes disposed on one plane, as in figs. 5 and 11.

Occasionally ramose tubes, like fig. 9, are met with in localities where *Rhabdammina* abound. Such specimens probably belong to an allied species referred to by Dr. Carpenter in his notes on some of the Foraminifera procured on the “Lightning” Expedition, under

¹ The Microscope and its Revelations, 6th Ed., 1881, p. 562.—The references in brackets apply to figures in Pl. XXI. of the present Memoir.

² The *Rhabdammina discreta* of the present Report, Pl. XXII. figs. 7-10