

of ash after ignition, and this was almost entirely composed of silica. When living, or in the fresh condition, the relative amount of inorganic material would necessarily be a good deal smaller; but the quantity of moisture normally present in the test cannot be estimated from specimens which have been preserved for a long period in alcohol. Under the microscope the appearance of the tubes is such as would lead to the idea that the chitinous or organic basis formed a much larger proportion of their entire weight. The arenaceous constituents consist partly of minute angular sand-grains embedded in the chitinous envelope but sufficiently exposed to impart a distinct roughness to the exterior, and partly of the empty siliceous tests of Radiolaria, which are present in considerable numbers in the mud of the sea-bottom at this particular locality.

Boiling in water has no appreciable effect on the organism in the condition in which it has come into my hands, that is, after long maceration in alcohol; and moderately strong acetic acid produces no perceptible change in it, even on the application of heat.

Heated in dilute hydrochloric acid (one part of acid to four of water), there is at first a slight effervescence, the carbonic acid being evolved from a few minute Foraminifera built into the test rather than from any secreted calcareous matter, of which there appears to be little or none. After a time most of the tubes break up, and eventually become entirely disintegrated, owing apparently to the solution of the organic matter. In those which remain the test appears as a colourless sandy envelope, and the sarcode, which has swollen to its original size, as a granular, transparent, brown mass, filling the cavity of the tube, as shown in figs. 9, 10.

With nitric acid (one part of acid to four of water), the disintegration is much more rapid, and after a time there is but little residue beyond the siliceous material originally embedded in the test.

Treated with solution of caustic potash and heated, the tubes are considerably disintegrated, but in a different way. Those that have retained their form are split and empty, as though the contents had swollen to bursting before being dissolved out, as seen in fig. 11. Digestion was not carried far enough in these cases to affect the siliceous constituents, and what remains therefore is chiefly the inorganic portion of the investment.

At one of the localities in which *Rhizammina* is plentiful there occurs in company with it an organism in some respects similar, but generally taking the form of little rosettes. It was at first thought that this also might belong to the Rhizopoda; the more so, as some of the branches had the appearance of subdivision into chambers; further examination, however, has led to the belief that the structure is cellular, and that it pertains to the vegetable rather than to the animal kingdom. Fragments of Polyzoa and other similar organisms are often found entangled amongst the branches of *Rhizammina* when it is brought up in the weed-like masses already described.

The Challenger Station alluded to, at which *Rhizammina algæformis* was so abundant,