

It is often exceedingly difficult to determine whether the tubular non-septate tests, so frequently met with in bottom-dredgings and in such diverse forms, have belonged to sarcodine-animals or to annelids; and there is unfortunately no character short of those pertaining to the creatures inhabiting them, that can be regarded as positive evidence. Annelid-tubes of the commoner species are easily recognised, and so also are the cylindrical tests of Rhizopoda when they are either septate or labyrinthic, or show a distinct primordial chamber; but many of the specimens alluded to, both arenaceous and porcellanous, present none of these features, and the question must be settled on the basis of analogy and probability.

These remarks apply with some force to the species under notice, which has many of the negative characters referred to. The Rhizopodal nature of the test was originally assumed from two or three facts, each small in itself, but collectively of some weight; namely, the firmly arenaceous texture of the walls; the distribution of the colouring matter which, as in several better known species, is often of a deep reddish-brown in the earlier portions and gradually becomes lighter towards the broad end; and lastly, the roughness of the interior, which would be ill-adapted to the organization and life-conditions of an annelid. More recently the matter has been set at rest by the discovery of a closely allied form with a small distinct primordial chamber.

Under ordinary circumstances *Jaculella acuta* forms a conical tube of about $\frac{1}{3}$ rd to $\frac{1}{2}$ an inch (8 to 12 mm.) in length, and $\frac{1}{20}$ th inch (1.3 mm.) in diameter at the wider extremity. Specimens of more than double this length are occasionally found, but such examples are of comparatively slender contour, as there is no proportionate increase in the width towards the oral end. The walls of the test are hard and brittle, the constituent sand-grains large and very strongly cemented together. There is perhaps no arenaceous Rhizopod-test of which it is so difficult to make a satisfactory section, and it is possibly owing to its extreme brittleness that large specimens are seldom found with the thin end entire.

Jaculella acuta has been found in the North Atlantic,—in one of the “Valorous” soundings, 1750 fathoms; off the coast of Norway; in St. Magnus Bay, Shetland, 60 fathoms (Norman); and off Cumbræ, 60 fathoms (Robertson). In the South Atlantic it occurs at two Challenger Stations, namely, south of Pernambuco, 350 fathoms, and off Buenos Ayres, 1900 fathoms; in the North Pacific, north of Papua, 2900 fathoms; and in the South Pacific, east of New Zealand, 1100 fathoms.

Jaculella obtusa, H. B. Brady (Pl. XXII. figs. 19–22).

Jaculella obtusa, Brady, 1882, Proc. Roy. Soc. Edin., vol. xi. p. 714.

Test long, cylindrical, nearly straight; consisting of a tapering tube, commencing in a small bulbous chamber, and gradually increasing in size to the opposite extremity