Zoology Part XXII: Report on the Foraminifera. By Henry Bowman Brady. Bound in Volume 9,1884.

Carterina spiculotesta, Carter, sp. (Pl. XLI. figs. 7–10).

Rotalia spiculotesta, Carter, 1877, Ann. and Mag. Nat. Hist., ser. 4, vol. xx. p. 470, pl. xvi.—*Ibid.*, 1879, ser. 5, vol. iii. p. 414.—*Ibid.*, 1880, ser. 5, vol. v. p. 452.

Test adherent, Rotaliform; superior surface convex or subconical, inferior flat or concave; outline lobulated or irregular; margin rounded, or thin and subangular. Composed of numerous convex segments, small at first and arranged in a Rotaliform spire, but subsequently becoming irregular in form and disposition. Walls thin and arenaceous; constructed for the most part of fusiform calcareous spicules embedded in calcareous cement. Surface nearly smooth; colour dark-brown near the centre, the subsequent whorls much lighter, and the outermost chambers often nearly white. Aperture indistinct; situated at the umbilical margin of the inferior side of the terminal chamber. Diameter, $\frac{1}{15}$th inch (1·6 mm.) or less.

Of the contour and general structure of this species little need be said beyond what is embodied in the foregoing zoological description. Small specimens are as a rule regularly trochoid and Rotaliform (fig. 8), and scarcely differ in shape from *Trochammina squamata*, but they invariably become less symmetrical as they increase in age. In very large examples, such as that represented in Mr. Carter's original drawing, the margin is thin, the later segments broad and spreading, and the outline deeply lobed and very irregular.

Generally speaking it is extremely difficult to detect the pseudopodial aperture; but in one specimen which has come under my notice it is tolerably distinct, and consists of a curved slit, placed at the umbilical edge of the inferior side of the last segment, and is partially hidden by a shelly flap. It probably therefore follows the same rule as to position and form as similar varieties of *Trochammina* and *Valvulina*.

The interest of the species, however, centres in the spicules, which are solid fusiform bodies with pointed ends; the larger ones, that is to say, the great majority of the whole, measuring pretty uniformly about $\frac{1}{360}$th inch (0·07 mm.) in length, with a diameter at the middle equal to $\frac{1}{4}$th or sometimes $\frac{1}{3}$rd of the length, the smaller ones being proportionately narrower. Their appearance, magnified 100 diameters, is given in figs. 9, 10. They are to be found in every stage of growth, but in the later segments of the mature test, those of maximum size predominate almost to the exclusion of the smaller ones. It is an interesting fact that the shape and dimensions of the spicules of specimens collected in the Red Sea correspond accurately with those described by Carter from tests collected in the South Sea Islands and the Gulf of Manaar. The spicules are calcareous, and they dissolve slowly in acids with effervescence. In the figured specimens (figs. 7, 8), so far as can be seen externally, they constitute almost the entire testaceous skeleton, but in one which has been broken in order to show the structure, the thicker portions of the

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