

costæ. The ribs seldom or never extend the entire length of the shell, but usually commence at the primordial end and run either parallel to the long axis, or more frequently in a somewhat oblique direction, as shown in Williamson's drawings, (*loc. cit.*, figs. 46, 47).

It would appear from the distribution-list that *Vaginulina linearis* is only really at home in comparatively shallow water on the Atlantic shores of Europe. The species has been obtained from three Challenger Stations, namely:—off Bermuda, 435 fathoms; off Culebra Island, 390 fathoms; and off the coast of South America, south-east of Pernambuco, 350 fathoms; but the specimens are few in number and hardly ever typical as to minor characters; whilst in some portions of the British seas, *e.g.*, Berwick Bay, Shetland, and the Hebrides, at depths of 15 to 90 fathoms it is one of the commoner Foraminifera. It occurs also on the western coast of Norway and of France.

In the fossil condition it has been found at least as far back as the London Clay; and specimens, identical in all important characters, are recorded from several microzoic formations of Middle and Later Tertiary age.

Vaginulina patens, n. sp. (Pl. LXVII. figs. 15, 16).

Test elongate, complanate, broadest near the middle, tapering to a point at the apertural end; aboral end broad or rounded, but finishing in a short stout spine. Dorsal edge thin, nearly straight, ventral margin thickest near the middle, square or somewhat bicarinate. Segments about twelve in number; long, narrow, slightly bent; obliquely set or nearly erect. Length, $\frac{1}{35}$ th inch (0·74 mm.).

This is one of the complanate or Planularian forms of *Vaginulina*. The test bears a strong resemblance to that of *Planularia costata*, Cornuel (Mém. Soc. géol. France, sér. 2, vol. iii. Mém. III. p. 253, pl. ii. figs. 5–8), from which it differs chiefly in the absence of sutural limbation. The distinction is not one of much importance, and the recent specimens might without impropriety have been assigned to Cornuel's species, but that the term "*costata*," which refers to the raised sutural lines, is likely to lead to confusion as applied to a member of a genus, some of the varieties of which are costate in the ordinary sense, that is to say, have parallel longitudinal ribs. Moreover, the same specific name had previously been used by d'Orbigny in connection with the genus *Vaginulina*, though for what particular form does not appear.

The figured specimens are from the Philippine Islands, 95 fathoms, and two or three examples have been found off Raine Island, Torres Strait, 155 fathoms; but the species has not been met with elsewhere in the recent condition.

Cornuel's *Planularia costata* is one of the fossil species from the Lower Cretaceous beds of the Department of Haute-Marne in France.