

It is exceedingly difficult to separate such forms as those portrayed in figs. 12 and 13 from the attenuated varieties of *Virgulina*; but the apertures appear to indicate more direct affinity with the genus *Pleurostomella*; and in the shape and disposition of the segments the specimens agree with the *Pleurostomella subnodosa* of Reuss.

This particular modification of the type has been met with at two Stations in the South Atlantic, in mid-ocean, 2200 fathoms and 2350 fathoms; and at two in the South Pacific, west of Chili, 1825 fathoms and 1375 fathoms respectively.

As a fossil *Pleurostomella subnodosa* occurs in Cretaceous deposits of various age, in North Germany and Bohemia (Reuss, Marsson).

### *Virgulina*, d'Orbigny.

*Virgulina*, d'Orbigny [1826], Römer, Bronn, Reuss, Czjzek, Egger, Parker and Jones, Karrer, Brady, M. Sars, Hantkon, Schulze, Robertson, &c.

*Bulimina*, pars, Bailey [1851], Parker and Jones, Williamson.

*Polymorphina*, pars, Costa [1856].

Excepting the genus *Lagena*, there is no group of hyaline Foraminifera the knowledge of the varietal modifications of which has received larger accessions from the study of the Challenger material than that comprising the aberrant forms of *Bulimina*, included under the generic or subgeneric terms *Virgulina* and *Bolivina*.

In both of these genera the divergence from the typical Bulimine structure is the result of a tendency to assume a simpler mode of growth,—to become, in fact, more or less biserial in the arrangement of their segments, whilst still retaining the characteristic Bulimine aperture. It is impossible to separate the two groups from each other, or indeed from the typical *Buliminæ*, by any well-defined or constant peculiarity; all that can be said by way of distinction is that *Virgulina* is more Bulimine and less Textularian in the disposition of its segments than *Bolivina*, and that *Bolivina*, on the other hand, is more Textularian and less Bulimine.

This distinction may generally be recognised amongst the biserial varieties of *Virgulina* in the inequilateral setting-on of the chambers, and the consequent difference in the appearance of the two lateral faces of the test, whilst in *Bolivina* the two sides are nearly alike. The structural features of the test render it comparatively easy to associate *Virgulina* with its type; but *Bolivina* often only betrays its affinity by the aperture, which takes some form within the range of variation to be found in *Bulimina* itself. Amongst the varieties of *Virgulina* are to be found all the links connecting *Bolivina* with the typical *Bulimina*.

The geographical distribution of the genus *Virgulina* is world-wide, and does not appear to be influenced by latitude or depth of water. Its geological history scarcely extends to the commencement of the Tertiary epoch, but in the Miocene and subsequent formations the genus is of common occurrence.