

two, three, or more; and also on their more or less embracing character, and the degree to which they are separated by the depression or excavation of the sutures. These sub-generic terms have been employed, with or without reservation, by most Continental writers, but they are at last falling into disuse, as it is found that they do not really facilitate the systematic treatment of the group, but rather the reverse. They are, however, of certain interest as indicating the principal lines of structural variation and the resulting modifications in external form. Thus the Pyruline and Globuline series have nearly regular *Lagena*-like tests with complanate sutures; the Guttuline forms have inflated segments, of which a larger number are visible, combined in a somewhat obscure triserial spire; whilst the modifications of *Polymorphina*, proper, range from the irregularly triserial to the biserial varieties, of which some of the latter approach *Textularia* itself in the symmetrical disposition of their segments.

The aperture of the test is placed near the centre of the distal end of the final segment, either even with the surface or in a mammillate protuberance. The orifice consists sometimes of a number of radiating fissures, sometimes of a round opening encircled by a collar of radiating grooves or of slightly raised lines. In exceptional cases it is found in the form of a circular, oval, or fissurine opening, without the radiating border; and occasionally it is subdivided into a number of small pores. In one somewhat anomalous species, *Polymorphina longicollis*, the nipple-like projection is developed into a tubular neck of some length, terminating in a phialine or radiate lip; and specimens are by no means rare, especially in the starved or poorly developed varieties, in which the aperture forms an entosolenian tube extending into the cavity of the final segment.

The exterior of the test is either smooth, or beset with setæ, spines, or tubercles, or with granular lines, parallel striæ, or raised costæ.

In one peculiarity the genus *Polymorphina* stands almost alone amongst Foraminifera, namely, the tendency displayed by the later segments to produce irregular fistulose outgrowths, as shown in Pl. LXXIII. figs. 14-17. These expansions are probably an evidence of redundant growth, and they assume a great diversity of aspect. The shelly investment is commonly very thin, and often rugose externally; the margins are extended into tubular and sometimes irregularly-branching processes, the open ends of which serve as orifices. Soldani devotes three entire plates of the *Testaceographia* to the illustration of these curious anomalous forms. The fistulose or cervicorn varieties have been treated by some writers as constituting collectively a distinct specific or even generic<sup>1</sup> group; but as almost all the commoner species of *Polymorphina* are found from time to time in this condition, it appears more natural to assign such modifications to their respective types, their true position being that of individuals of monstrous development. Prof. Reuss in his later works adopted the latter view, and it has been followed in the present Report.

<sup>1</sup> The genus *Aulostomella* of Alth, see *Haidinger's Naturw. Abhandl.*, 1850, vol. iii. p. 263.