

remains one, *Shepherdella*, in which the test consists of a long, more or less flattened cylinder, with an aperture at each end.

It has been suggested by Claus¹ that certain naked sarcode organisms, with long reticulated pseudopodia, *Protogenes primordialis* and others, classed by Haeckel amongst the *Monera*, are true Rhizopods, and that they have more in common with the *Gromidæ* than with the naked Lobose types (*Amœbæa*)—in other words, that they should be regarded as Foraminifera without tests. Probably the *Biomyxa vagans* of Leidy,² which has been provisionally placed by its discoverer amongst the *Gromidæ*, is an organism of the same class.

The *Gromidæ* inhabit both salt water and fresh; *Gromia oviformis* and *Gromia dujardini*, *Lieberkuehnia wagneri*, and *Shepherdella tæniiformis* are marine forms found amongst the algæ of shore-pools or otherwise in shallow water. The Challenger collections have yielded no specimens that can with any degree of certainty be assigned to the group. One or two examples of a minute, flask-shaped, chitinous Rhizopod, with broad phialine neck, have been met with amongst the surface gatherings, but the dead tests possess no characters by which their particular affinities can be determined.

The nearest allies of the *Gromidæ* are to be found amongst the *Porcellanæ*. In the *Miliolidæ*, the chitinous test is replaced by calcareous deposit, forming a compact imperforate shell; and it is interesting to note that in brackish water, where the proportion of mineral constituents is relatively small, the tests not merely of the *Miliolinæ*, but also of certain species of arenaceous Foraminifera, are often distinctly chitinous and to some extent flexible. There is little except the comparatively larger size of the specimens to distinguish some of the *Astrorhizidæ*, which have membranous tests coated with mud or loose sand (*Pelosina*, for example), from such forms as *Diaphoropodon*; and in one or two genera of the same group short filose extensions of the sarcode springing from the superficial coatings, similar to those which have been noticed in the latter genus, have also been observed.

Family II. MILIOLIDÆ.

The family MILIOLIDÆ is coextensive with Dr. Carpenter's *Miliolida*, with Von Reuss's *Porenlose Foraminiferen*, and with Professor Rupert Jones's *Imperforata vel Porcellana*.

The salient peculiarity of the test throughout the group is accurately characterised by the word porcellanous. In the adult condition the typical shell is smooth, even-textured, and opaque-white; in young specimens, opalescent and translucent; and whether young or old always imperforate.

Its minute structure, as seen when fragments of very young specimens or thin sections of older ones, mounted in Canada balsam, are viewed by transmitted light, is peculiar

¹ Grundzüge der Zoologie, 4th ed. (1880), vol. i. p. 172.

² Fresh-water Rhizopods of North America, p. 281.