

ground. The soil was comparatively solid. From the freshness of the leaves which composed the cells it would seem that the work had but lately been accomplished, but after the examination of a few, it was evident that some time had elapsed, since the larvae had attained to considerable dimensions.

The cells were nearly three-quarters of an inch in length, with a diameter of one-fourth of an inch. They were constructed of nearly perfect leaves of *Spiraea corymbosa*, instead of those of the various species of Rose. The outermost circle of leaves, three in number, had their margins slightly overlapping on the exterior, each piece forming an arc of a circle of 120 degrees. Within these were other three, arranged alternately with them; others, again, alternating with the latter, and so on until there were no less than six circles, having eighteen pieces in all. Each succeeding individual layer from without inwardly projected but slightly beyond its predecessor, having but a slight resemblance "to a long sleeve with folds upon it," as has been affirmed by writers. The mouth of each cell was closed by six circular pieces of leaves, nipped from the same plants. These were a trifle larger than the mouth of the cell, and when in position presented a concave surface facing outwardly. It is obvious that the whole structure is a striking proof of adaptation to an end. If the cell had been arranged vertically, its structure would doubtless have afforded water a ready access to the larva and its food, and thus have defeated the object which nature had in view. In the horizontal position the tile-like arrangement in the exterior, acts as a sort of roof by which the water is turned off. The concave arrangement of the circular pieces subserves a similar purpose. The freshness of the leaves was due, no doubt, to the protection which the enveloping earth afforded. The chemical rays of sunlight, which act upon the parenchymatous material of the leaf, when deprived of its vitality, converting the green and granular chlorophyl into others of a brownish hue, operate with less intensity at the depth of three inches. The comparative absence of moisture in the ground, no doubt, prevents oxidation; there being ample moisture at the same time to insure softness and prevent rigidity.

During the early part of last April (1874), several cells were brought to me by one of my pupils, which, on a superficial examination, appeared to be the mud cells of our ordinary *Pelopæus*, the mud-dauber. They were found adherent to the rafters of an unplastered attic. The cells were arranged side by side in numbers of three. On the exterior there