

hundred minors. These figures are based on totals secured by prolonged baiting of two of the colonies. Since neither nest was put out of action by the baiting it seems certain that the estimate is on the conservative side, yet there would be justification for the view that a much smaller population was present. There is rarely a conspicuous accumulation of excavated soil or of chaff around the nest entrance, for both are brought to the surface gradually and in small quantities. Even when a crater is built its diameter seldom exceeds three or four centimeters. Moreover, the crater is a transient structure for, since *ridicula* mixes the chaff with the excavated soil particles, the texture of the crater is loose and light and it is easily scattered by wind or rain. Hence much of the time the only indication of a *ridicula* nest is the nest entrance itself. This is never more than five millimeters in diameter and, more often, its diameter is about two millimeters. In addition, the nest entrance is frequently blocked up and drifted over with windblown dust and detritus. Early in this study the writer found it necessary to mark the nest entrances in order to be sure of their exact position.

There is a simple explanation for most of the above features. While *ridicula* will sometimes bring in seeds, it is mainly interested in those of the careless weed, *Amaranthus palmeri*. These seeds are matured throughout the year, hence there is an ample supply of them at all times and large numbers are not garnered seasonally. Moreover, a great many of the *palmeri* seeds are free of any covering when they are brought to the nest. As a result there is no occasion for the production of a large chaff pile or an extensive crater since, in the genus *Pheidole*, both these features usually result from a seasonal excess of grass seeds which must be stripped and stored².

The soil in which *ridicula* nests is the Victoria loam, a fine-textured, compact soil which is virtually stone free. As the walls of excavations made in it are slow to crumble, there was every reason to expect that a *ridicula* nest could be fully exposed. Actually this proved to be impossible. It was easy to trace the main nest passage, which consists of an unbranched shaft of remarkably uniform diameter (about 2 mm.) that descends vertically through the soil to a depth of about thirty-two inches. It was not difficult to demonstrate the existence of lateral passages leading away from the main shaft, for the workers would open up the transected ends of these passages

²Similar considerations apply to *Ph. cerebrosi* Wh. which mainly garners the seeds of desert portulacas (*P. oleracea* Linné and *P. retusa* Engl.). This crop is seasonal but, since the seeds are bare when brought to the nest, no chaff pile results.