

succession. Their contents were then gradually eaten away by the minors. The majors take little interest in the seeds after they have opened them.

The behavior of *ridicula* runs counter to the "classic" view of the habits of *Pheidole* in several important respects. This view states that most species of *Pheidole* gather large quantities of grass seeds during a harvest period in late summer or early fall. These seeds are carried to the nest, stripped, and stored in seed chambers. The discarded hulls are built into a chaff pile. As a result of this the colony is provided with an abundant store of seeds which carries it over the time when no seeds are available. The account is usually rounded off with the statement that the stored seeds are opened by the major, whose large head and powerful jaws adapt it for seed crushing. There is nothing illogical in the above view. The only trouble is that, as the habits of the genus *Pheidole* become better known, it seems to fit fewer and fewer species.

Let us look for a moment at the matter of the use of stored seeds during periods when none are available. It is possible that a few species of *Pheidole* whose ranges extend into the northeastern United States (*Ph. bicarinata*, *davisi*, *morrissi* and *pilifera*) may behave in this fashion, for climatic conditions there often prohibit foraging over a period of five or six months. But this is assuredly not true of the bulk of our species, most of which forage all year long or at least for the greater part of the year. In addition, it can often be shown that there is no harvest period in the sense that the seeds are garnered when they have matured. Many species of *Pheidole* collect their seeds from surface litter and this litter furnishes a supply of seeds that may be worked for months after the seeds have ripened. The "harvest" may thus proceed throughout the entire winter and into the spring. *Ph. macclendoni*, *militicida* and *ridicula* all behave in this way. It seems plain enough that these species are not storing seeds against a period when seeds are not available, for there is either no such period or, if one exists, it is too brief to be of any significance.

There is the even more disturbing fact that many species of *Pheidole* do not confine themselves to a diet of seeds. No other North American species of *Pheidole* gathers greater quantities of seeds than does *Ph. (M.) rhea*. A large nest of this species may have several bushels of chaff around the nest entrances. But, when the foraging columns of *rhea* are observed it may be seen that the foragers often bring in seeds and insect remains in equal numbers. Allowing for