

which had been carefully weighed was placed before the ants in their nest, and the discarded refuse and pellets were afterwards weighed and a chemical analysis of the substance was made both before and after the ants had had access to it, so as to ascertain just what proportion of the total quantity and what nutritive properties of each had been consumed. Some of the paste was fed by the ants to their larvae after being softened by malaxation. The larvae ate this readily, so Emery decided that the making of "larval bread" as described by Neger, is not necessary. The workers consumed about 7.3% of the starch in the paste in order to digest it or give it as food to the larvae. The quantity of non-starchy foods was not ascertained, but Emery assumes that the nitrogenous portions are more important than starch.

The harvesting ants are descended from insectivorous forms, which have taken up the grain-storing habit as an adaptation to life in the desert, on steppes, etc., where during parts of the year insect food is scarce. Seeds can be stored and kept, which is not true of insect food. Emery notes that the species studied, though a typical harvesting ant, never refuses insect food.

Ernst (16) placed a number of queens of *Lasius flavus* in an artificial nest. Eggs laid by these developed rather slowly, but produced larvae and imagines. The latter, while yet callows, disappeared, and Ernst found portions of their bodies and in the same place two individuals of the mite, *Laelaps oöphilus*, which must have been introduced into the nest on the bodies of the females. The number of mites increased very rapidly till the bottom, sides and covers of the nest, twelve by nine cm. in dimensions, were swarming with them. Many were among the eggs and even crawled upon the ants' heads, from which they were dislodged by vigorous shaking. A living callow lying on the bottom of the nest was seen to be attacked by numerous mites, most of which were on the thorax and legs. The next morning only portions of the ant were found, the probability being that the mites had taken it to pieces, though this was not actually seen. The mites in the nest died off very suddenly, so observations could not be continued. Ernst, from a long series of observations, believes that ants are capable of forming attachments to one another. Though an ant recognizes and is friendly