

sake of its treasured sweets, precisely as many ants domesticate aphids, or, as the slave-making ants, *Formica sanguinea* and *Polyergus lucidus*, domesticate *Formica fusca* and *F. schaufussi*." I am inclined to believe with McCook, that both Fleeson and Krummeck confounded two totally different species of ants — *M. horti-deorum* and some leaf-cutter, or Attiine ant. The carrying of the flowers and leaves must refer to the latter and the web mentioned by Fleeson would seem to be an attempt to describe the fungus garden of some Attiine ant. But if these suppositions are correct, we must assume that both authors either jumbled together observations which they had made in very different parts of New Mexico, or merely reported from hearsay, for quite apart from the fact that there is no known leaf-cutting ant that agrees with Fleeson's worker No. 3, it may be rather positively stated that there are no leaf-cutting ants in the neighborhood of Santa Fe, which has an elevation of more than 2000 m. We surely cannot suppose that the *Atta fervens* (= *texana*) to which McCook refers, occurs there, because this ant is peculiar to the low-lying and rather humid portions of Texas. I am therefore of the opinion that neither Fleeson's nor Krummeck's accounts contain anything of value except the mere record of the occurrence of *M. horti-deorum* at Santa Fe. Equally worthless is a brief description by Blake (1873) of the gastric structure in some specimens of this ant presented to the California Academy by Edwards, since he confidently asserts that the intestine of the replete "is not continued beyond the thorax," and seems to imagine that the honey is contained in the body cavity!

In 1874 Loew, who was chemist and mineralogist to the Lieutenant Wheeler Exploring Expedition, published a few notes on *M. horti-deorum*, which he, too, observed at Santa Fe. He describes the nest correctly in the main, and then remarks that "the opinion that the honey is discharged into receptacles is entirely erroneous; the only receptacle is their own abdomen swollen up to the size of a pea, clear, transparent," etc. The honey of the repletes is described as "slightly acid in summer from a trace of formic acid, but perfectly neutral in autumn and winter; it contains a little more water than the honey of bees, and has therefore somewhat greater limpidity." Like previous writers he seems to believe that the ants produce the honey in addition to storing it, and makes the utterly impractical suggestion that "it would be worth while for beekeepers to try to introduce them into some kind of bee-hive with a suitable dry soil and the proper food at hand for them."

We owe to McCook (1882) the first and, up to the present time, the only trustworthy and adequate account of the habits of any of the American *Myrmecocysti*. His work is so well known and accessible that I may confine myself to a brief outline of its contents. He discovered *horti-deorum*