galls exude minute droplets of a sweet, watery secretion (Fig. 23). This is eagerly collected by the ordinary workers, carried to the nest in their crops and fed to the repletes, which thus function as living bottles or casks, storing the precious liquid so that it can be drawn upon when other sources of food are exhausted.

Forel, in 1880, disproved Leidy's and Blake's statements by showing that the gaster of the replete *horti-deorum* owes its size and rotundity exclusively to an enormous distension of the crop, or ingluvies and not of the

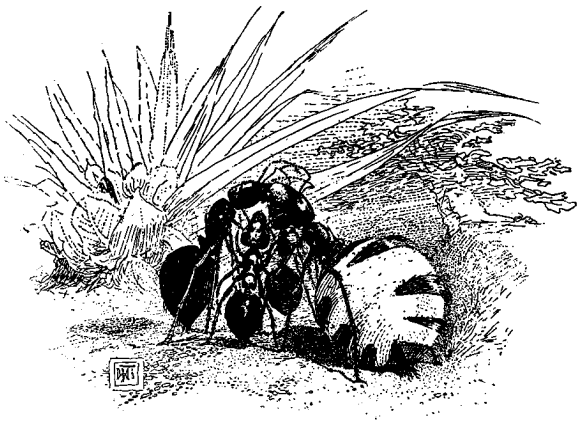

Fig. 22. Replete *Myrmecocystus horti-deorum* in the act of regurgitating food to workers of the ordinary form. (After McCook.)

stomach, and that all the other structures found in the gaster of the ordinary worker are present in the replete, though they are necessarily crowded up against the gastric wall. These observations were confirmed by McCook's careful dissections and figures of the gaster of ordinary workers, semi-repletes ("semirotunds") and repletes. He inferred that "the process by which the rotundity of the honey-bearers has probably been produced, has its exact counterpart in the ordinary distension of the crop in overfed ants; that, at least, the condition of the alimentary canal, in all the castes, is the same, differing only in degree, and therefore, the probability is very great that *the honey-bearer is simply a worker with an overgrown abdomen.*" He found, moreover, that "a comparison of the worker with the honey-bearer shows that there is absolutely no difference between them except in the distended condition of the abdomen" and he therefore inferred "that the worker majors, for the most part, and sometimes the minors, are transformed by the gradual distension of the crop, and expansion of the abdomen, into the honey-bearers, and that the latter do not compose a distinct caste.