

from 20 to 110 workers, though these numbers were taken from Dr. Cook's own statement concerning the colonies introduced into Texas. We are now told that they (not the colonies in Texas!) comprise between 200 and 300 individuals and that 'there are seldom less than 100 and sometimes 400 or more.' Now even if we put the number at 500, these are still very small colonies, as ant colonies go, and show conclusively that the kelep, like other *Ponerinae*, must be either short-lived or much less prolific than other ants, or both.

The adaptability of the kelep, according to Dr. Cook, is 'shown by its association with the cotton for the sake of its nectar, as well as by its skill in stinging the boll weevil.' If this shows anything it does not show adaptability but adaptation, which is a very different matter. The first part of Dr. Cook's statement, together with several of his previous statements, implies that the cotton plant and the kelep live in a state of symbiosis, like that which has been claimed to exist between the South American *Cecropia* tree and the ant *Azteca instabilis*, and between the African and tropical American acacias and the species of *Sima* and *Pseudomyrma* respectively. These classical cases, however, have never been demonstrated to the satisfaction of either the botanists or the myrmecologists. Any one who observes without bias the insects visiting many plants with extra-floral nectaries, like our species of *Cassia*, *Ricinus*, *Stillingia*, *Populus*, etc., will find that certainly in such cases no symbiosis exists. Not only do all sorts of ants, mutillids, bees, wasps, beetles, flies, etc., visit the extra-floral nectaries, but caterpillars, chrysomelid larvæ, etc., may be found feeding with impunity on the lacerated foliage of the plants thus 'protected.' It is possible, of course, that some of the cases of so-called ant and plant sym-