Social Organization Among Colonies in Ants

Gerald Scherba
San Bernardino State College

Follow this and additional works at: http://repository.uwyo.edu/jhrs_reports

Recommended Citation
Available at: http://repository.uwyo.edu/jhrs_reports/vol1964/iss1/13
Social Organization Among Colonies in Ants
Gerald Scherba
San Bernardino State College
Project Number 80

The population of mound nests of *Formica opaciventris*, under observation since 1957, was again examined. Since 1957 the total population has declined 16% with a corresponding decrease in the proportion of more active mounds. Average mortality rate is 10.4%; average birth rate, 9.9%. Brood was present in 85% of the mounds.

On the basis of the information available so far, the colony life history appears to be as follows. New mounds are formed by budding of workers, brood and queen from an established nest. Mortality rate of these bud nests is high, but if the nest survives, winged males may be released during the August mating flights after the second year of existence. Some years after founding, and only once during the life of a single colony, the colony will produce and release winged virgin queens. These queens will mate, then return to the nest of origin. The colony will grow in size, produce brood, release bud nests, and, with the end of egg production or death of the queens, the colony will become senescent and die. The population of colonies is, however, maintained by the production of bud nests.

Evidence has been accumulating over the years which seems to support the concept of a social organization existing among this population of mounds. The evidence from visiting behavior and from the division of reproductive function among the mounds has been detailed in earlier reports. Additional findings now indicate that feeding sites and bait placed among a group of nests are shared by the workers from different nests. This is in marked contrast to the behavior of other species of ants.

An incidental, though interesting find, was that of a Braconid wasp, believed to be parasitizing workers of *opaciventris*. The wasp hops onto the abdomen of the ant and presumably deposits an egg through the ant's anus.

Assisted by John Cummings, University of California, Riverside. Supported by National Science Foundation Grant 23423.