

SOCIAL DYNAMICS OF THE MONTANE VOLE, MICROTUS MONTANUS,  
AND THEIR POPULATION CONSEQUENCES

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The social structure of a mammalian species is a basic feature of its life history. Although a knowledge of the social system is prerequisite to understanding various reproductive and endocrinologic phenomena seen by other workers studying Microtus, Mus, and Peromyscus in the laboratory, behavior and sociality of Microtus in the field have been overlooked because they are difficult to study and because emphasis in microtine research has been placed on the microtine population "cycle".

There are two general areas of interest in my work: the description of the social system and how it changes with changing density; and the documentation of the initiation and cessation of breeding seasonally and of the reproductive parameters which I believe are related to the social environment. The work includes the following endeavors:

1. Observations and experiments to describe the social relationships within the population.
2. Experimental work on behavior in a large enclosure and in open fields.
3. Population estimates made from capture-recapture programs in grided areas. An index of density changes in other fields which have been trapped can be figured from a trap-night yield.
4. Trap-out of grids at various times during the year. An aging scheme has been worked out in the lab utilizing eye lens weights of known-age animals.
5. Collection of animals during the spring, summer and fall for reproductive data.
6. Removal of some animals in a small field to ascertain the effects of removal trapping on the nature of groups of animals.

Populations this year were quite "high". Data and material have not yet been analyzed at the time of this writing, but there appear to be interesting correlations between social relationships, survivorship, and reproduction.

Other small projects were continued in 1974 and one was completed. Field work on most of these, as well as the dissertation work on M. montanus, should be completed in 1975.