

Ecology of the Western Jumping Mouse
in Jackson Hole, Wyoming
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The purpose of this study was to document certain ecological relationships, reproductive biology, and food uses of the western jumping mouse, (Zapus princeps utahensis) in Jackson Hole, Wyoming. A total of 166 Zapus were captured in 1968 and 1969.

Ecological distributions were ascertained by trapping six different plant communities. These were: 1) Sedge Meadow, 2) Sedge-Grass Meadow, 3) Shrub-Swamp, 4) Shrub-Sedge-Grass-Savanna, 5) Aspen, and 6) Big Sagebrush Communities. Within each community the following data were recorded for each trapping location: 1) soil moisture and drainage, 2) plant cover, 3) distance to water, 4) type of trap (snap or Sherman), number of traps and duration of trapping, and 5) the species and number of all mammals captured.

The trapping effort for 1969 was 9,936 trap days. The species and numbers captured in 1969 were: Zapus princeps, 125; Microtus pennsylvanicus, 111; M. montanus, 171; M. longicaudus, 17; Clethrionomys gapperi, 41; Peromyscus maniculatus, 44; Sorex spp., 38; Thomomys talpoides, 5; Eutamias minimus, 3; E. amoenus, 3; Spermophilus armatus, 2; Glaucomys sabrinus, 1; Mustela frenata, 2; M. erminea, 1.

The reproductive condition of all animals collected was examined. Bodies were weighed (g) and the standard mammal measurements (mm) taken for each animal in order to classify the mammals into age groups. In males, the position of the testes was recorded, next the testes, epididymides and seminal vesicles were fixed in AFA. In females, external characteristics, such as condition of mammae and vulvae were noted. The ovaries, uterine tracts and vagina were preserved. Linear measurements in mm of testes and seminal vesicles are being made along with weights (paired glands) in g for these organs. The number of embryo swellings in the uterine horns will be counted. Counts of corpora lutea and placental scars will be made after clearing in methyl salicylate. Corpora lutea, embryos, and placental scars counts will be compared to determine blastocyst transmigration and embryonic loss due to resorption.

Ovaries, testes, and seminal vesicles will be sectioned at 8 μ and mounted as interrupted serials (one of every 10 sections). Hematoxylin and eosin will be used to stain the tissues. In testes, spermatogenic activity will be noted. In addition, 10 seminiferous tubules will be measured and a mean calculated for each cross section.

A plant histological reference collection was made this summer. This will facilitate identification of the stomach contents of the captured rodents.

Currently data is being analyzed to complete the study objectives. The results will be prepared for submission for publication as soon as possible.

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