

Title: Breeding of the common dormouse (*Muscardinus avellanarius*) in Lithuania, *Nat. Croat.*, 1997

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Background to study

Detailed information on breeding patterns in the common dormice is scarce across the species distributional range where studies commonly present just the size of litter detected. The use of nestboxes as a tool for research facilitates more detailed studies on the breeding of common dormice and results of a long term study in Lithuania are presented here.

Method

- Capture-mark-recapture study of dormice in two forests in Lithuania was conducted between 1981 and 1990/1993 using regularly checked dormouse nest boxes.
- All breeding females, females with litters, size of litters, sex ratio, weight, age and birth date of juveniles was recorded. Age of juveniles was defined according to body weight and external features. A total of 374 breeding females and data on 319 litters were used in the analyses.

Key results

- Two peaks of birth of young were observed. Late May to June (38%) and August (44%). Smaller proportions of litters were observed in July and September (c. 9%).
- Slight annual variation in breeding seasons was observed and an extended breeding season was observed in 1986, the year of the Chernobyl Nuclear Power Plant accident. This was followed by low breeding and litter sizes in 1987 at one of the study sites.
- Adult females (one year olds >14 g and older) commonly produce two litters per year (May and August) and births were commonly separated by two months. Three litters were observed, notably in response to a fatality of a litter. Occasional breeding by 2.5-3 month old females was recorded in August/September and increased at lower population densities.
- Average litter size was 3.9 (ranged 1-7) and was highest in May (4.4) and smallest in July (3.7). Litter size increased with age of mother and between the first and second litters.
- Annual variation in the proportion of breeding females was observed (24%-83%) and was highest when the spring population density was lowest.
- Early born juveniles (May-July) were characterised by a higher survival than those born later.
- One-year-old females made the greatest contribution to the breeding cohort in spring which was proportional to their abundance. Not all one-year-olds took part in the breeding process and the contribution of older age groups was proportional to their abundance in the population.
- Juvenile sex ratio ranged from 5:0 to 0:5 but commonly remained close to 1:1. A low proportion of males were observed at low population densities.

Key messages to landowners and managers derived from these results

- Planting and/or maintaining a high diversity of spring and autumn flowering/fruited trees and shrubs is recommended to ensure juveniles and breeding females have adequate resources for weight gain in preparation for hibernation and for rearing young.
- Common dormice populations fluctuate in density and are likely to self regulate when conditions remain stable. Small scale changes in density should be accounted for when assessing trend in abundance to determine conservation status.

Key words/phrases

Common dormouse; *Muscardinus avellanarius*; Lithuania; breeding; density; survival