

Title: Demographic structure of two common dormouse (*Muscardinus avellanarius* L.) populations in Lithuania, *Proceedings of the Latvian Academy of Sciences*; 53, 1999

Author: R Juškaitis

Country: Lithuania

Background to study

Few detailed studies exist that present the demographic structure of common dormice populations. To date one long term study using capture, mark, recapture to determine age structure has been conducted in the Moscow region. A long term study of two Lithuanian dormouse populations are presented to provide a general picture of the demographic structure of populations and how this compares with data collected elsewhere.

Method

- Capture-mark-recapture study of dormice in two isolated forests in Lithuania was conducted using 262 and 341 nest boxes between 1984 and 1990/1993 respectively.
- Nest boxes were spaced at 50 m intervals at 4/ha density and checked monthly between April and October. An additional box check was conducted in May and September. All individuals were marked using rings and juveniles <10 g with toe amputations. Data on weight, sex and age were recorded. The majority of dormice were marked when juveniles and exact age could be determined, where dormice were unmarked, ages were determined based on fur colour, tail hairiness and body weight. In spring dormice were categorised as 1-4 yr olds and in autumn as adults (survived hibernation), early litter (May-July) or late litter (August-September) juveniles.

Key results

- Juvenile and adult sex ratios did not significantly deviate from 1:1 over the study periods at both sites, however insignificant fluctuations in male or female dominance within litters and in adults did occur in certain years and seasons.
- Evidence from this and other studies that females are likely to predominate the population when the density is low.
- One year old male and female dormice were the dominant age group at both sites in spring (67-70%), two-year-olds were the second most dominant group (c. 24%) and four year olds were the least encountered age group (1-2%).
- Young-of-the-year dormice predominated each year in autumn (52-85%) in Lithuania, however a smaller proportion of this age group is observed in Moscow in autumn, suggesting dormice have different patterns of reproduction across their distributional range.
- After intensive reproduction, the proportion of one-year-old dormice increased the following year and vice versa.
- Dormice can survive >5 hibernations (5 -6 years), however this was not commonly recorded.
- Lithuanian dormice populations have two peaks of juvenile births (spring and autumn) and on average the proportion of early and late litter juveniles born per year was similar.

Key messages to landowners and managers derived from these results

- Capture-mark-recapture studies using monitoring nest boxes are an important tool for providing information on longitudinal changes in population demographics which in turn can provide evidence of reproductive and survival rates of dormice populations. Such studies are recommended especially when monitoring the effects of changes in woodland management.

Key words/phrases

Common dormouse; *Muscardinus avellanarius*; Lithuania; population demographics; age structure

