

Title: The structure and dynamics of common dormouse (*Muscardinus avellanarius L.*) populations in Lithuania, *Hystrix*, 1995

Author: R. Juškaitis

Country: Lithuania

Background to study

Few longitudinal studies on dormice populations have been conducted. To date, only one study in Moscow presents data on dormouse population dynamics over seven years. As such, information on annual variations in population structure and dynamics is useful for determining characteristic demographic trends and to identify any variations in demography across its distributional range.

Method

- Data on breeding dormice was obtained from a nest box monitoring study across two sites. Both sites had hazel understory but varied in canopy composition.
- 262 and 341 nest boxes were erected at 50 m intervals at Site A and B respectively, covering 22% and 17% of the total area occupied by dormice at both sites. Monitoring was carried out monthly between April and October from 1984 till 1990/1993 in Sites A and B respectively.
- All captured dormice were marked using aluminium rings (>10 g) or toe amputations (<10 g) and the weight, sex and age of each dormouse was determined.
- Population density, sex and age structure and proportion in breeding cohort was analysed for spring and autumn each year from nest box monitoring data.

Key results

- A total of 627 and 1,154 dormice were captured in Site A and B respectively of which 58% and 42.6% were recaptured between 1 and 26 times.
- Population density ranged from 0.4-1.5 individuals/ha in spring and 0.9-3.8 individuals/ha in autumn with only slight variations across years.
- Juvenile sex ratio remained close to 1:1, however 5:0 and 0:4 were recorded in independent litters. In one year, a female skew was observed in Site B when population density was low.
- Adult sex ratio remained close to 1:1 but the proportion of males ranged from 35-60%.
- One-year-olds made up the greatest proportion of the population (67-70%) and four-year-olds the least (1-2%). A gradual decline in the proportion 1-4 year olds was observed.
- In autumn, young of the year predominated at both sites across years (range 48-85%).
- The proportion of breeding females varied depending on spring population density (range 24-83%), when high, the proportion of breeding females was low and vice-versa.
- Two breeding seasons were observed, the first in May-June, the second in August-September.
- Characteristic high overwinter mortality <70% with highest mortality of young when born in autumn. Mortality of 70-75% overwinter saw greatest reduction in spring population density.
- Winter mortality was highest when young made up the greatest proportion in autumn.
- When spring density was 0.4-0.6 populations split into territorial groups and reproductive intensity increased.

Key messages to landowners and managers derived from these results

- Breeding by common dormice varies across its distributional range, but evidence suggests self regulation of population size with considerations for analysis of trend data.
- Management of spring/autumn flowering plants is recommended to encourage juvenile survival.

Key words/phrases

Dormice; *Muscardinus avellanarius*; population structure; nest boxes; Lithuania

NB PTES does not condone the use of toe amputation or any methods of marking animals that would harm them in anyway.