

**Title:** Breeding of the common dormouse (*Muscardinus avellanarius* L.) in Lithuania, *Natural Croatia*, 1997

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### **Background to study**

Despite a number of empirical studies presenting the size of litters for the common dormouse across its distributional range, a full understanding of their breeding dynamics is still required. The use of nestboxes assists in the collection of longitudinal breeding data and as such allows a thorough investigation into dormice breeding dynamics.

### **Method**

- Data on breeding dormice was obtained from a nestbox monitoring of 2 sites in southwest and eastern Lithuania between 1981 and 1990 and 1984 and 1993 respectively.
- Data on number of pregnant females, females with litters, size of litters, sex ratio, weight, age and birth date of juveniles was obtained. A total of 374 breeding females and 319 litters recorded across both sites were used in the analyses.

### **Key results**

- Breeding dormice are commonly observed by end of April/early May. The earliest litter was 15 May and the latest litter recorded on September 22nd.
- Two peaks of birth of young are observed; late May/early June with 38% of all litters and August with 44% of litters. Litters were recorded in July and September but to a lesser extent (<9%).
- Breeding seasons varied slightly over years and the Chernobyl Nuclear Power Plant accident in 1986 may have prolonged breeding in one site where 1/3rd of females gave birth in September.
- At least 42 adult females (one year olds and older) produced two litters/year with a gap of 2 months between litters. Evidence that 3 litters may be produced in the event litter fatality.
- Young one-year-old females weighing 10-14 g in May are less likely to produce 2 litters that year.
- Females of 2.5-3 months produced litters in Aug/Sept, notably at low population density.
- Mean litter size was 3.9 (range 1-7) and litters of 3-5 were most frequent. Litter size did not vary significantly between years. Largest litters were born in May (4.4 juveniles) and the smallest in July (3.7 juveniles). Nearly half of juveniles were born in the first half of summer.
- Larger litter size positively correlated to the age of mother. Older females had larger litters.
- Proportion of breeding adult females varied from 24% and 83% and was dependent on the population density in spring with high densities reducing the proportion of breeding females and vice-versa. External factors may also vary the amount of breeding females as evidence of low population density and low number of breeding females was observed in one year.
- One year old females make the greatest contribution to the breeding cohort due to their abundance in spring however some one year olds do not take part in the breeding process.
- Half of 14 recorded cases of dead litters were litters born in September.
- Juvenile sex ratio did not significantly depart from 1:1. Evidence of female skew at low density.

### **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*; breeding; nest boxes; Lithuania