

Title: Weight changes of the common dormouse (*Muscardinus avellanarius* L.) during the year in Lithuania. *Trakya University Journal of Scientific Research, 2001*

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Background to study

Due to the hibernating nature of dormice, the requirement to accumulate fat reserves is integral to their survival. The weight dynamics of dormice has only been analysed in some parts of their distributional range, yet this information has important considerations when monitoring dormice in determining their age and ability to survive.

Method

- Information on weight of over 5000 dormice was obtained in south-west Lithuania in 1981-1990 and 1997-1999 and in east Lithuania in 1984-1993.
- All dormice captured in nestboxes were weighed, sexed, aged and marked with rings.
- Juveniles were categorised into those born May-June; July; August-September and only marked individuals were used in the analysis. The weights and age of 2691 dormouse were obtained.

Key results

- The majority of males encountered post hibernation in April had non-exhausted fat reserves and weighed on average 20.4 g (maximum recorded 25.3 g). In comparison, females awoke in early May and had exhausted their reserves weighing on average 16 g.
- Males lost weight gradually during April and early June (minimum 17 g) but remained relatively consistent during May and July. Weight gains were observed from August and rose to their maximum weight in early October which on average was 29.8 g, but was commonly over 30 g.
- Female weight peaked in early June and early August which correlated to pregnancy and by early October weights were on average 27 g, 3 g less than males encountered at the same time.
- The heaviest male and female weights recorded were 42.8 g and 35 g in September.
- Juvenile weight was dependent on time of birth. Early born juveniles increased weight faster than late born juveniles and pre hibernation, early born and July born juvenile weights were similar to adult females. Late born juvenile weight reached 8-9 g less by September and by October weighed on average 15 g which was 12 g less than early born juveniles.
- Male and female dormice lost c. 33% of their maximum autumnal weight during hibernation.
- Weights can determine between early litter juveniles and adults from late July to mid-August and early and late litter juveniles in September who differ by 8-12 g. Overlaps exist elsewhere.
- The weights of dormice remain relatively consistent across different demographic groups in Lithuania, but dormice in the northern part of their range weigh more in autumn.

Key messages to landowners and managers derived from these results

- When monitoring dormouse populations, individuals can be categorised as adult or juveniles during July and August based on their weights and early and late born juveniles can be distinguished between when encountered during September.
- Small populations are at risk in years when adverse summer weather conditions delay breeding. Later born litters are unlikely to obtain sufficient weight to survive hibernation. Habitat management to increase small population sizes will be beneficial.
- Woodland management should encourage the growth of shrubs and trees that dormice can harvest in autumn to allow them to build up fat reserves to survive winter.

Key words/phrases

Common Dormouse; *Muscardinus avellanarius*; weight dynamics; age determination; Lithuania