

Title: Nest site selection by the dormouse *Muscardinus avellanarius* in two different landscapes, *Ann. Zool. Fennici*, 1998

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Background to Study:

Dormice are patchily distributed in Sweden and mostly confined to southern areas where the landscape varies considerably. The occurrence of dormice in Sweden appears to be associated with shrubs and early successional stages of woody vegetation, however it is currently undetermined the range of different habitats that dormice utilize and how this effects their distribution.

Method:

- Plots of 10 x 10 m were surveyed for dormouse presence in two c. 10 km² areas in Sweden, one dominated by cultivated coniferous woodland, the other by cultivated farmland.
- Dormouse presence was confirmed by the presence of nests within each surveyed plot.
- A total of 50 plots were surveyed in both areas in 1989 and replicated with additional 20 and 18 plots in 1990 in the wooded and cultivated areas respectively.
- Habitat characteristics were recorded in all surveyed plots and consisted of; % cover and mean height of shrubs (<4 m) and trees (>4 m); species number and total % cover of shrub and tree species; distance to nearest forest and distance to nearest open area when plots were located within open and forested areas respectively.
- Nest site data from a variety of habitats 1987 and 1988 was used as a comparative dataset.

Key Results:

- Number of shrub species, cover of shrub and distance to forest edge were the main factors influencing dormouse presence. Dormice showed preference for sites with high cover of juniper and hazel and diversity of shrubs in the forested landscape and were found in sites closer to forest edges within the cultivated landscape.
- Dormice exhibited a preference for nesting in juniper, irrespective of its occurrence within the forested landscape and for juniper, honeysuckle, blackthorn, *rosa* spp. and bramble (most common) in the cultivated landscape. Hornbeam, *Crataegus* spp. and hazel seemed to be avoided as nest sites when compared with their abundance. Hazel was however important to determining dormouse presence in the forested landscape.
- Breeding nests were more frequently observed in the forested landscape (70%) but were still abundant in the cultivated landscape (59%).

Key messages to landowners and managers derived from these results:

- Shrub habitats provide important nesting locations for dormice in woods where nesting holes are scarce (old beech forest, young hornbeam and commercial conifer forest). Management should create and/or maintain shrubby areas along rides, forest edges and within clear fells.
- Shrubby growth in clear fells are likely to provide important temporary refuges for dormice in cultivated landscapes where dispersal between habitat fragments is constrained. Manage clear fells to provide contiguous shrubby habitats within woods to safeguard dormouse populations.
- Maintain high shrub species diversity to provide seasonal food sources for dormice and intensive clearing or grazing of shrubby habitats should be avoided.
- Dormice prefer nesting in shrubs over utilizing nest boxes in Sweden and natural nest counts may be a more reliable method for determining presence and monitoring yearly trends.

Key words/phrases

Dormice; *Muscardinus avellanarius*; Sweden; nest site selection; landscape; shrub; juniper; hazel