

Title: Dormice in small mammal assemblages in a mixed southern European forest. *Peckiana*, 2012

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Background to study

Dormice are the only rodent family of European origin and have been in gradual decline since their diversification during the Early Miocene. Today, 28 species of dormice exist, forming just 1.2% of extant rodent species and in Europe, dormice make up just 10% of the small rodent community. As such dormice are considered to play a relatively insignificant ecological role in European mixed/deciduous forests compared to other small mammal species.

Method

- Small mammals were sampled within 40, spatially independent (>200 m) 15 x 15 m plots located in Fir-beech forest on Mt. Snežnik, south western Slovenia. Sampling was carried out in spring and autumn, 2008 and 2009 and in Spring 2010.
- Plots were located in closed canopy, homogenous areas and small mammals were captured using 8 snap traps, 4 Ugglan mesh traps and 4 sherman folding traps. The latter were placed on branches >2 m above ground and the remaining traps positioned at ground level. Traps were left in situ for 3 days and checked every 12 hours with one trap night constituting 24 hours.
- Captured animals were fur clipped and released. Dead animals were preserved in ethanol.

Key results

- A total of 911 individuals in 9600 trap nights were captured comprising of 8 species; 3 shrews, 2 *muroide* rodents and 3 dormice (*Glis glis*, *Dryomys nitedula*, *Muscardinus avellanarius*).
- Dormice were the rarest family encountered (9.5%) and *muroide* rodents were the most abundant (67.7%) and common dormice were the least encountered species (N=2).
- Dormice accounted for 33.7% of the 28,007 g total biomass of sampled small mammals and the edible dormouse was one of three rodent species that accounted for 92.2% of total biomass, with a contribution of 32.6%.
- All species and taxonomic groups showed significant variations in abundance across seasons. Trapping success was lowest in spring 2009 (2 captures/100 trap nights) and highest in spring 2008 (18.9 captures /100 trap nights).
- Dormice had higher densities during spring, compared to autumn in 2008 and 2009.
- Edible dormice were primarily captured >2 m above ground and shrews and *muroide* rodents were collected at ground level suggesting significant resource partitioning between species.

Key messages to landowners and managers derived from these results

- Edible dormice play a significant role in forest ecosystems in Slovenia and therefore conservation measures to maintain extant populations is recommended.
- Common dormice are rare in Fir-beech closed canopy woodlands, suggesting this habitat is only marginally suitable for the species. Its presence however in this woodland type should not be overlooked.

Key words/phrases

Dormice; *Muscardinus avellanarius*; *Glis Glis*; *Dryomys nitedula*; live trapping; fir-beech forest; Slovenia; small mammal communities; ecological roles; forest ecosystems