Poster Session 1 – Rodent Management

30 Common vole dynamic and its crop preferences in the agroecosystems during a ten-year study

Marta Heroldová[1], Jan Šipoš[2], Jan Zejda[3], Josef Suchomel[2]

[1]Institute of Forest Ecology, Mendel University in Brno, Brno, Czech Republic, suchomel@mendelu.cz
[2]Department of Zoology, Fisheries, Hydrobiology and Apiculture, Mendel University in Brno, Brno, Czech Republic
[3]Institute of Vertebrate Biology, Academy of Sciences, Brno, Czech Republic

In the Czech Republic data on the common vole (*Microtus arvalis*) abundances (burrow index - BI) were collected in various agricultural crops in spring and autumn. A ten-year data set may cover enough spatial and temporal variation in the natural population fluctuations to allow for the test of the effect of various crops and climate on the common vole, which is the most abundant central European herbivorous rodent. The highest BI was in permanent crops (i.e. alfalfa, clover, grasslands, meadows and orchards). The winter crops were also suitable habitats. Higher densities were found in winter rape compared to winter wheat which provides higher cover and availability of biomass in autumn and winter. We assume that the vole population migrated to spring crops (e.g. spring barley, sugar beet) as soon as some food biomass was available, their populations went fast up to higher densities compared to winter crops. Three minima and maxima in common vole burrow densities were found within ten years. Low but non-zero densities were found in foraging crops. We suppose that during low population densities these habitats being a refugium for common vole populations. In contrast to this, the population of common vole in winter cereals reached the population minimum (mostly zero BI). The climate (expressed by NAO index) has affected common vole populations in all types of crops equally. Positive values of spring and winter NAO (which indicates mild and wet weather) were negatively correlated with BI. We assume that mild weather during winter and early spring may cause flooding of the burrow system and rain and subsequent freezing severely limits their access to food. On the other hand, BI was positively correlated with negative value of winter NAO, indicating a positive effect of more snow days.

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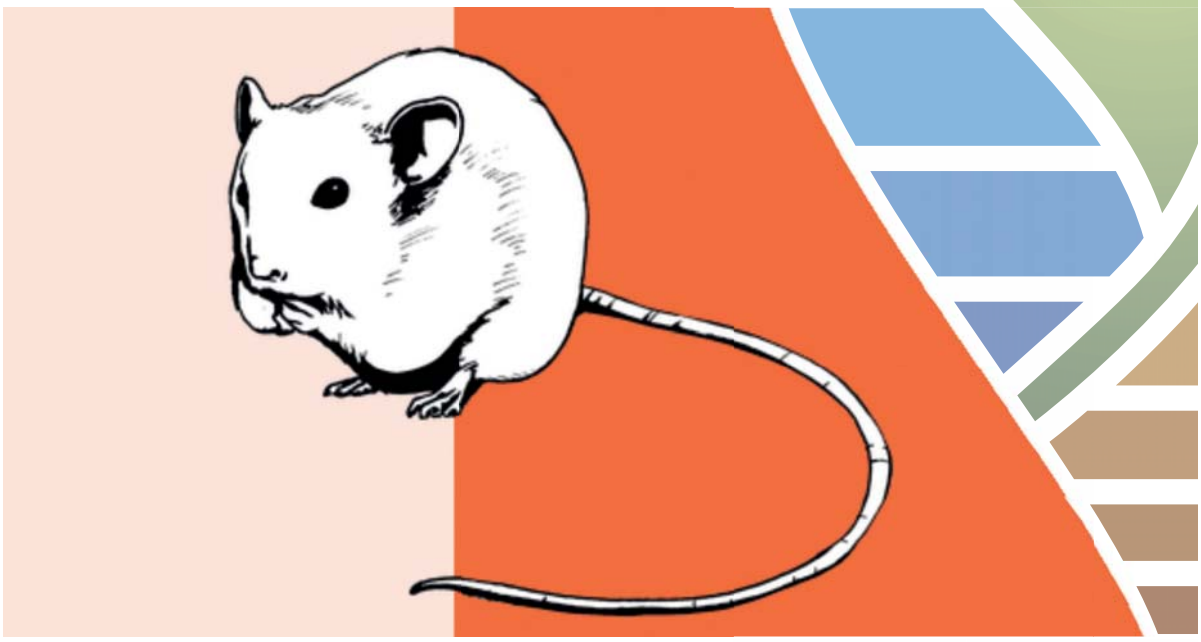

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Editors:
Jens Jacob[1] and Jana Eccard[2]
[1]Julius Kuehn Institute, Federal Research Centre for Cultivated Plants,
Institute for Plant Protection in Horticulture and Forests, Vertebrate Research,
Toppheideweg 88, 48161 Münster, Germany
[2]University of Potsdam, Institute of Biochemistry and Biology,
Animal Ecology Group, Maulbeerallee 1,
14469 Potsdam, Germany

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