

## Publication

# Subtle Effects of Experimental Grassland Fragmentation on Density, Species Composition and Functional Dispersion of Gastropods

### JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

**ID** 4645288

**Author(s)** Braschler, Brigitte; Oggier, Peter; Baur, Bruno

**Author(s) at UniBasel** [Braschler, Brigitte](#) ; [Baur, Bruno](#) ;

**Year** 2022

**Title** Subtle Effects of Experimental Grassland Fragmentation on Density, Species Composition and Functional Dispersion of Gastropods

**Journal** Diversity

**Volume** 14

**Number** 6

**Pages / Article-Number** 474

**Keywords** biodiversity, body size, functional diversity, habitat fragmentation, habitat preference, invertebrates, slugs, snails, species composition, terrestrial gastropods

The fragmentation of continuous habitats has significant consequences for species and for the functional diversity of plant and animal communities. Fragmentation effects can be indirect, can occur at different spatial scales and may vary over years. Small fragmentation-related effects may only be detected in standardized, controlled field experiments accounting for the natural variation in environmental conditions and in remnants of habitat. Using a non-invasive trapping approach, we examined the responses of terrestrial gastropods (snails and slugs) to small-scale habitat fragmentation in a controlled experiment conducted in three species-rich, nutrient-poor calcareous grasslands in the Jura Mountains, Switzerland, over four years. We found site-specific differences in species richness, individual density, and species composition. Experimental grassland fragmentation did not significantly affect species richness or density, but affected functional dispersion (a measure of functional diversity) in the final year, indicating that fragmentation-related changes may occur with a time delay. Similarly, experimental fragmentation influenced the mean shell size of the snail assemblage and the proportions of individuals with certain life-history traits or habitat preferences in some years. The observed fragmentation effects were subtle and varied over time, underlining the importance of controlled field experiments.

**Publisher** MDPI

**ISSN/ISBN** 1424-2818

**URL** <https://www.mdpi.com/1424-2818/14/6/474>

**edoc-URL** <https://edoc.unibas.ch/88652/>

**Full Text on edoc** Available;

**Digital Object Identifier DOI** 10.3390/d14060474