

## **Abstract**

Plants and herbivores influence each other for more than million years. Most studies are focused on interspecific variability in herbivory intensity, but little is known about intraspecific variability and what controls it. Environmental conditions can determine intraspecific variation. Goal of this thesis is to examine importance of environmental conditions and interspecific variation for invertebrate herbivory preferences.

Plant material that was used in experiments comes from several species from subfamily Carduoideae. Preferences of invertebrate herbivores are tested in food-choice experiments. Plastic arenas are made for these experiments, in which leaves are put in small tubes that are placed along the periphery. After herbivores are placed in to arena, arena is covered by net to ensure that herbivores can't escape.

Plant material for experiments was grown in experimental garden and was also brought from field. Plants from garden differ in productivity of soil and water regime. In experiments with field material, plant leaves were collected from eight localities, four fields and four grasslands. Leaves were scanned before and after each experiment. Scans were processed and the amount of consumed leaf tissue was determined. For plant characteristics I measured plant functional traits, specific leaf area and toughness.

Results show significant impact of soil nutrients, water regime and plant species in garden experiments and significant impact of plant species and locality in the field experiments. Both intraspecific and interspecific variability affect herbivore's preferences.