

# **Abstract**

## **Factors determining distribution of species in semi-natural grasslands**

Survival and colonization of plant species in fragmented landscapes are topic of many recent studies. Most of them deal with one or just a few species or with overall species diversity. There are also a lot of studies devoted to the effect of abiotic characteristics and other parameters of fragmented habitat patches. Studies that would enable to evaluate behaviour of a large number of individual species are still relatively rare, especially in case of grassland species. Comparison of species traits in conjunction with the knowledge of type of historical land use and abiotic requirements of species can be a key to understanding of current species dispersal and their regional dynamic in fragmented landscape. This method of prediction of species dispersal can be a good implement for landscape planning and conservation of species and also their habitats.

Goal of my thesis was to determine which traits of species influence response of species on land-use history in fragmented habitat of dry grasslands. I tried to use effect of land-use history without effect of environmental factors on species composition in phytosociological relevés. Then I tried to explain the reaction of species through their traits. I focused partially on traits connected with long-distance dispersal (seed mass, presence of pappus, terminal velocity, coherence of seeds, endozoochory rate), partially on traits connected with survival (germination, demands on habitat in form of Ellenbergs values) and on trait connected with both (onset, duration and end of flowering, height of plant). I also compared the results of my work with species composition in whole localities. Supplementary question was to determine which species traits are responsible for the occurrence frequency of species.

Results of the thesis confirm that land-use history, particularly the more recent, has significant effect on species composition. Species bound to lands that used to be forest are more xerophilous and have heavier seeds without pappus that are best adapted to exozoochory in contrast with species from former fields. Species from former fields are in contrast with all other types of managements (forest, path, pasture and balk) higher, less continental, more hydrophilic with higher claims on soil nutrients and their seeds are adapted on anemochory through presence of pappus and lower terminal velocity.

Species that are in relevés more often are lower, more xerophilic, subcontinental, with early onset of flowering, have lower demands on nutrients and their seeds are adapted on exozoochory but worse on anemochory.

Results differ a bit among levels of relevés and whole localities, in relevés come out more traits connected with persistence.

**Key-words:** semi-natural grasslands, plant traits, seed dispersal, land-use history, field.