Summary
Factors determining plant species diversity and species composition in suburban landscape

Studies on vegetation are mostly dealing with natural areas with limited human influence. Little attention has been paid to vegetation of man-made habitats that are e.g. in suburban and postindustrial areas. This diploma thesis deals with vegetation of suburban area in the district of Kladno (Czech Republic). The aim of this thesis was to study structure and diversity of plant communities, abiotic factors determining composition of these plant communities, influence of land use and landscape structure on vegetation and traits of plant species occurring in this type of landscape.

I recorded 242 phytocenological relevés (5 × 5 m) in regular grid at area 2.5 × 1.8 km as basic information for the study. Data about abiotic factors (slope, potential irradiation, geology) and landscape structure (relevé distance to nearest way, relevé distance to nearest settlement, relevé distance to nearest other land cover type) were obtained from digital maps by using GIS tools. Information about plant species traits were taken from databases and literature. In analysis, I worked with 4 data sets: all relevés and relevés from fields, woodlands and other habitats separately. I made some basic diversity statistics and graphs (rarefaction, Shannon, Simpson and Equitability index, rank-abundace graph) and classified of non forest vegetation. I analysed influence of abiotic factors and landscape structure on diversity of species and families and on equitability (regression analyses) and on species composition (multivariate analyses). Plant species traits were analysed by basic statistics and also correlated with species scores from multivariate analyses.

I found 387 vascular plant taxa, which represented 69 families. The smallest number of species was found on fields and the largest in non forest non fields relevés (ruderal habitats and dry grasslands). Over half of all species (58%) was recorded only in 1–5 relevés. The vegetation gradient was very long going from woodlands through shrubs, grasslands, ruderals to weedy communities. Non forest vegetation was classified to 41 associations belonging to 10 classes. The most abundant association is *Veronicetum hederifolio-triphylli* Slavnić 1951. In the area, the most abundant species are phanerophytes a terophytes, C and R strategists and species with high values of Ellenberg´s N. Land cover is crucial determinant of both, diversity and species composition. For diversity relevé distance to nearest other land cover type is also important. Species composition is affected by all tested factors.

I conclude, species richness and diversity of vegetation types is relatively high in suburban landscape. Species diversity and species composition are mostly determined by human activities, from which arises landscape structure. Abiotic factors play smaller but also important role, they are in background.