

**Martínková, J. (1999)** *Diferenciace nik koexistujících lučních druhů: mnohorozměrná analýza ekologických a morfologických znaků* [in English] Bakalářská práce, Jihočeská univerzita, Biologická fakulta, České Budějovice, 42 pp.

### **Niche differentiation of coexisting grassland species: a multivariate analysis of morphological and ecological traits**

Differentiation of species niches is one of the possible mechanisms enabling species coexistence. We explored this differentiation for 101 grassland species. The compiled information on 96 ecological and traits represented differences in ecological characteristics and we contrasted them with higher level of classification of species into ecological groups of gradients, namely Grime's C-S-R classification, Ellenberg's indicator values and types of clonal architecture. Additionally, the growth characteristics of a subset of studied species were determined experimentally. The usability of ecological traits for explaining real community patterns was tested using fine-scale transect dataset. Multivariate statistical methods were used both for exploratory and confirmatory analyses of our datasets. We used PCA to identify interesting patterns in the datasets and several constrained ordinations were done using RDA. The explanatory power of C-S-R strategies, Ellenberg's indicator values, or experimental growth characteristics was negligible, so these gross-scale classifications seem to have a little applicability for the explanation of niche differentiation on the scale of grassland community, except to distinguish between the graminoids and forbs. Clonal architecture exhibits much larger variability among grassland species and shows some interesting patterns in its relation to the grassland species ecological traits.