

MSc. thesis is based on evaluation of intraspecific morphological and genetic variation of *Sparganium erectum* L. in the Czech Republic. Four intraspecific taxa were examined: *S. erectum* subsp. *erectum* L., *S. erectum* subsp. *oocarpum* (ČELAK.) DOMIN, *S. erectum* subsp. *neglectum* (BEEDY) RICHTER and *S. erectum* subsp. *microcarpum* (L.M. NEUMANN) DOMIN.

Various approaches such as multivariate morphometric analysis (PCA, discriminant analyses), estimation of genome size by propidium iodide flow cytometry and molecular analysis of total genomic DNA (AFLP) were applied for study close related subspecies.

Multivariate analysis of morphological characters of fruits (for 350 individuals from 63 native populations) presented some distribution to four closed groups. Partial overlapping was observed for *S. erectum* subsp. *neglectum* with subsp. *microcarpum* and subsp. *oocarpum*. Similar situation (overlapping subsp. *neglectum* a *microcarpum*) was observed within genome size. Remaining two taxa, *S. erectum* subsp. *erectum* and subsp. *oocarpum*, were well-differentiated using genome size data. Most important morphological characters on fruits useful for subspecies determination were: sterility of fruit heads, presence or absence of peduncle, distinct shoulder between upper and lower part, constriction below the shoulder, width of fruit and length of the lower part of fruit.

Molecular analysis of 176 individuals using amplified fragment length polymorphisms (AFLPs) provided 120 polymorphic loci. Diverse analytical methods (NJ tree, PCoA) confirmed recent classification of *Sparganium erectum*. Additionally, the hybrid origin of *S. erectum* subsp. *oocarpum* was partially checked using model-based clustering method.