

Abstract

The thesis summarizes current knowledge about the polyploid complex of *Galium pumilum* agg. in Central Europe. This work should provide a theoretical background for a following diploma thesis. Most species of the aggregate are difficult to be determined due to considerable morphological variability and a complex evolutionary history probably involving recurrent polyploidization and hybridization events. Currently, new molecular methods are changing our opinion on the taxonomical classification within the group. Except for *G. pumilum* MURRAY, the other species show rather disjunctive distribution and are found on relict habitats. This could be caused by postglacial migration and subsequent area fragmentation. Most of the previous studies focused on *Galium* were published by Friedrich Ehrendorfer, who since the 50th defined division of the complex on the basis of chorological, karyological and morphological data. With new molecular methods, his hypotheses are now exposed to verification.

Galium sudeticum TAUSCH. represents an enigmatic and vulnerable taxon of the Czech flora, that raises various interesting questions from both evolutionary and conservation points of view. It has a remarkable disjunct distribution in the Giant mountains (Krkonoše) and in one serpentine area in western Bohemia (Slavkovský les). The close relationship between the mountain and serpentine populations has not yet been conclusively proven and it is possible that each of them belongs to different closely related species such as *G. valdepilosum* H. BRAUN and *G. anisophyllum* VILL. Final conclusions, however, could not be drawn solely on the basis of differences in habitat preferences and morphological plasticity. For this reason, my thesis also contains a brief overview of molecular methods that I want to use for resolving the position of *G. sudeticum* in my following diploma thesis.

Key words: *Galium sudeticum*, *G. pumilum* agg., hybridization, polyploidization, reticulate evolution