

Occurrences of invasive plant species and their coenological states in plant communities in four sample areas in Hungary

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In the framework of „Genetic researches and risk analysis of invasive animal and plant species in the region of West and North Transdanubia” project (TÁMOP-4.2.1.B-09/1/KONV), four sample areas have been being examined (Tétényi-fennsík, Cserhát, Tolnai-dombság, Pannonhalmi-dombság) in Hungary from 2010 to 2012. Our aims are to detect the most dangerous invasive species in the region, and to examine their importance in non-woody plant communities. 5 sample quadrates have been marked out in each microregion. We made coenological surveys with the method of Braun Blanquet in each quadrates and collected soil samples from two different soil strata for study the soil seed bank. The soil seed bank has been investigated by greenhouse assay. Through the seed bank examination we can draw the inference about the long term processes of vegetation change, the regeneration potential of grasslands, the changes of the dominance and future prediction of invasive species. The method is suitable for seed bank type classification of species which occur in the sample area.

The most frequent and multitudinous invasive species have occurred in the quadrates were the Canadian goldenrod (*Solidago canadensis* L.) (Cserhát, Tolnai-dombság, Tétényi-fennsík) and the giant goldenrod (*Solidago gigantea* AITON) (Pannonhalmi-dombság). Another common invasive species of dry grasslands is *Ailanthus altissima* (MILL.) SWINGLE, which was found en masse in Tétényi-fennsík, but it presented in other sample areas too. The high abundance of *Asclepias syriaca* L. has been found in fallow habitat inhibiting the process of natural succession. The following invasive species spread considerably in the sample areas too: *Celtis occidentalis* L. (Tolnai-dombság), *Aster lanceolatus* WILLD. (Pannonhalmi-dombság), *Erigeron annuus* L. (PERS.) (Cserhát), *Syringa vulgaris* L. and *Rhus typhina* L. (Tétényi-fennsík).

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