

**Koncz, G., Papp, M., Török, P., Kotrocó, Zs.,
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Abstract

The role of seed bank in the dynamics of undertorey in an oak forest in Hungary
G. Koncz, M. Papp, P. Török, Zs. Kotrocó, Zs. Kraikomperger, G. Matus and B.
Tóthmérész

We studied the potential role of seed bank in the dynamics of the understorey in a turkey oak-sessile oak forest (*Querceteum petraeae-cerris*) in Hungary. We used long-term records of the herb layer (1973-2006) and the seed bank composition of 2006 to assess the role of seed bank in the regeneration of herb layer. The total cover of herb layer decreased from 22% (1973) to 6% (1988), and remained low (10%) till 2006; coinciding with the increasing cover of secondary canopy dominated by *Acer campestre*. We found a low density seed bank (ca. 1300 seeds/m²). Altogether 33 species were germinated from the soil samples. A few generalist weed species composed the majority of seed bank. It was possible to assign a seed bank type for 19 species; 14 species out of 19 was long-term persistent. We found that the characteristic perennial forest herbs and grasses had only sparse seed bank. The Jaccard similarity between vegetation and seed bank was low (30%). Our results suggest that the continuous establishment of forest herbs are not based on local persistent seed bank; it should be based on vegetative spreading and/or seed rain.

habitat: open/dry oak forests

forest structure: herb layer

Notes

Forest decay, herb species, seed density, seed persistence, seedling emergence

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