



**HABITAT PRECONCEPTIONS AND EXPERIENCES IN THE PANNONIAN REGION,
USING THE EXAMPLE OF BRYOPHYTE SPECIES OF EUROPEAN IMPORTANCE**
Élőhelyi preconcepciók és tapasztalatok a Pannon régióban, európai jelentőségű
mohafajok példáján

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Accurate knowledge of habitat preferences is essential for unraveling species distribution patterns during systematic, extensive mapping. This is particularly true for bryophytes; due to their specific substrate and microhabitat specialization, as well as their minute size, sheer geographical coordinates are insufficient for field localization. Because of the inaccuracies of GPS coordinates, searching for species without knowing the appropriate substrate results in extremely low efficiency. Therefore, to increase research success and optimize stratified sampling, targeted selection at the (micro)habitat level is crucial. A prime example is *Buxbaumia viridis*, a species of Community interest: contrary to international experience, this species in Hungary mostly develops on humus-rich, acidic soil rather than decaying wood. The recognition of this ecological trait, combined with the extensive survey based upon it, resulted in the number of known localities increasing from 2 to 86, triggering a revision of the species' Red List status. In our study, through the examples of additional species of European conservation priority, we examine how the understanding of microhabitat preferences influences the detection of rare bryophytes and what impact this may have on their conservation assessment. In light of this, we detail the cases of *Fissidens arnoldii*, a species Vulnerable (VU) both in Europe and Hungary, previously linked to watermills and the vicinity of the Bakony Mountains; *Thamnobryum neckeroides*, formerly thought to be a North American endemic and currently Vulnerable (VU) in Europe; and *Taxiphyllum densifolium*, which has a Carpathian-Caucasian distribution and is Endangered (EN) in Europe and Vulnerable (VU) in Hungary. For all three species, targeted national surveys provided new distributional and ecological data that significantly refine and, in several aspects, overwrite previous knowledge on a European scale. Our results highlight that under the unique environmental conditions of the Pannonian Basin, numerous bryophyte species may occupy ecological niches that differ from those of their European core areas. Furthermore, they demonstrate the extent to which the "confirmation bias" arising from professional preconceptions, along with the shortage of experts and data, causes a systematic bias in the realistic assessment of the threat status of the Hungarian and European bryoflora.