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ON THE FLORISTIC DIVERSITY OF THE HUNGARIAN PTERIDOPHYTES

A magyarországi harasztflóra sokféleségéről

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Due to their specific morphology, pteridophytes have always been among the most difficult vascular plants to identify. Their taxonomy, which can be supported by modern phylogenetic studies, was not established until the 20th century. As a result, the study of their true species richness (from global to local scales) faced serious difficulties for a long time.

In our presentation, we focus on i) the change in the diversity and exploration of Hungarian pteridophytes based on references from the 20th-21st centuries, ii) we illustrate this diversity at different spatial scales (global, European, national, landscape), and iii) we highlight the taxonomic gaps that may prevent the detection of real species richness.

Based on our studies, the species richness of the Hungarian pteridophyte flora showed a 33% increase in the number of species from the beginning to the middle of the 20th century (including hybrids, this increase is 59%). As floristic, taxonomic and phytosociological research took a back seat, the situation hardly changed until the end of the century, and then a slight increase (5%) was observed in the first decade of the 21st century.

In order to compare the species richness of the Hungarian pteridophyte flora, we used the Red List of the European pteridophytes published in 2017 as a taxonomic reference, which counts 194 species/10^7 km^2 (excluding hybrids). This species richness is negligible by global standards, assuming that it represents only 1.6% of the approximately 12,000 species of pteridophytes that spread easily by spores. Only one third of the European pteridophyte species can be found in Hungary. The number of pteridophytes found on a landscape scale (500 km^2) in the Hungarian colline-montane region is 28-46 species, and it is much lower in the lowlands. On a finer spatial scale (100 m^2 or less) only scattered data are available. On the basis of some concrete examples, the richest pteridophyte flora, 9 species/8 m^2, 4 species/25 cm^2, can be found in synanthropic environments, on mortared walls. It can also be stated that the proportion of at least subspontaneous non-native pteridophyte species in Hungary is relatively low (8.7%), most of them live in synanthropic habitats and/or in warmer waters, and occur only locally as invasive plants.

The detection of true richness can also be influenced by taxonomic treatments. In this respect, the adaptation of the modern taxonomic approaches of the genera *Asplenium* and *Dryopteris* and their appearance in the Hungarian pteridophyte keys would lead to a significant change.