



**CONSERVATION PATTERN OF DEADWOOD DWELLING BRYOPHYTES IN
EUROPEAN BEECH DOMINATED OLD-GROWTH FORESTS**

Korhadó fán élő mohaközösségek természetvédelmi értékelése Európa bükkös
őserdő rezervátumaiban

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A group of bryologists has been regularly surveying the bryophyte communities on dead wood in beech dominated European forest reserves. Hitherto, more than 80 sites were inventoried in 17 European countries. The studied reserves represent the best natural reference beech stands of the regions. In each site 20-40 dead beech logs were sampled representing all decay stages. The aim of this study is to explore the site and log level species richness pattern of the studied reserves separating the main functional groups of dead wood dwelling bryophytes. The sites were classified based on the bryophyte species composition and the clusters were characterized by characteristic species. The biodiversity hotspots of dead wood dwelling bryophytes were the sites in Western Spain (Picos de Europa), Eastern and Southern Carpathians (Romania), some sites from the Central European Alpine region (Rotwald in Austria, Boubinsky Prales and Salajka in Czech Republic) and Dynaric Mountains (Rajhenav in Slovenia). Outstanding log level richness was observed in Rotwald (Austria) and Rajhenav (Slovenia). The richness of epiphytes was the highest in Western Spain and Romania, while, for epixylic diversity the hotspots were in the Alpine region of Central Europe. The species composition of the sites showed strong geographical pattern separating the species poor sites of Atlantic Europe and Germany from species rich regions. Bryophyte diversity on beech logs is connected to long site and dead wood continuity, high dead wood diversity and humid-cool microclimate. The presence of conifer species in the stands (silver fir, spruce) increases the diversity also on beech logs. The preservation of old-growth stands is crucial for the conservation of strict epixylics and epiphytics, these reserves can maintain the core populations of many endangered species that may colonize also the managed forests having appropriate dead wood conditions.