

DISTRIBUTION AND HABITAT PREFERENCE OF *LEUCOBRYUM HAMPE* SPECIES IN THE MECSEK MTS. (HUNGARY)

A *Leucobryum* Hampe fajok elterjedése és élőhelyi preferenciája a Mecsekben

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The genus *Leucobryum* includes two species (*Leucobryum glaucum* and *L. juniperoideum*) in Hungary. While *L. glaucum* is sparse, *L. juniperoideum* is rather rare in the country. The first species is protected by law in Hungary and listed in Annex V of the Habitats Directive, therefore its monitoring is obligate for all members of the EU. Because these taxa are very similar and usually occur together, it is possible to confuse them in the field.

During systematic surveys from 2016 to 2017, we have checked previously known localities and similar habitats in the Mecsek Mts. Following the standard protocol, 11 representative stands were sampled thoroughly in 1 ha quadrats. Within these quadrats five phytocoenological relevés were taken randomly in 100 m² plots. The cover of *Leucobryum* [dm²] was recorded and the presence of co-occurring species per layer were listed in the 1 ha quadrats. The cover values of moss layer, bare surfaces and organic debris were estimated within the 100 m² plots, while the exposure, the inclination and the distance from water sources were recorded in both scale. Soil pH_[H₂O] of the upper 5 cm layer of the ground were measured by Hannah Combo pH and EC meter.

43 *Leucobryum* stands were found in 11 flora mapping units (ca. 35 km²) in the Mecsek Mts. In 10 of these quadrats *L. glaucum*, and in 3 of them *L. juniperoideum* were recorded. The total cover of *Leucobryum* in the Mecsek is 20.500 m² as a minimum. Considering that the last survey estimated 16.300 m² as a minimum and 36.675 m² as a maximum in the whole country, and there are several large white moss stands in other parts of Hungary, the results indicate the bias of the former surveys. Both species occurred on steep north-facing slopes in stands of acidophytic beech and oak forests. The average pH was 4.3 in the soil. Both the cover of *Leucobryum* and the frequency of bryophyte species, which prefer moist habitats, tend to be lower Eastwards in the Mecsek. According to the survey 129 vascular plant and 84 bryophyte species were found in the *Leucobryum* stands (approx. 30% of the total bryophyte flora of the Mecsek Mts). Most of the taxa are relatively frequent in fresh acidophytic habitats, but among the bryophytes there are several threatened species (e.g. EN: *Buxbaumia viridis*, *Jungermannia leiantha*, *Marsupella funckii*; VU: *Buxbaumia aphylla*, *Scapania nemorea*; DD: *Campylopus pyriformis*; NT: *Bazzania trilobata*, *Calypogeia fissa*, *Diphyscium foliosum*). Although there are several large stands of white moss in the Mecsek Mts., most of them (60%) are threatened by the expansion of *Campylopus flexuosus*, a strong competitor in mesic acidophytic forests. However, their habitat preference is +/- different, *Campylopus introflexus* (probably the most dangerous invasive bryophyte species in Europe) was also found in some stands of *Leucobryum* (26%). Since the expansion or invasion of these mosses is rather fast, monitoring of *Leucobryum* stands in the Mecsek Mts, is the problem of the present day.