



COMPARISON OF SITES OF PROTECTED LICHEN SPECIES IN THE BAKONY REGION (HUNGARY)

Védett zuzmófajok bakonyi lelőhelyeinek összehasonlítása

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Nine protected lichen species (*Cetraria aculeata*, *C. islandica*, *Cladonia arbuscula*, *Cl. mitis*, *Cl. rangiferina*, *Solorina saccata*, *Peltigera leucophlebia*, *Xanthoparmelia pulvinaris*, *X. pokornyii*) in the Bakony Region, their population size, status and habitat characteristics were investigated in 149 field sample units. 268 previous herbarium records and 6 literature records have been analysed. New occurrences of these species were also discovered. The field recordings were analysed in 2 m × 2 m sample plots (149) to detect the factors determining their occurrence. A total of 501 species were recorded, i. e. 297 vascular plant, 106 lichen and 98 bryophyte species. The principal component analysis based on the cover (%) of all species distinguished three major groups separated partly by protected lichen species and partly by habitat type. The permutation multivariate analysis of variance also showed a significant difference between the groups. *C. aculeata*, *C. islandica*, *X. pokornyii* and *X. pulvinaris* formed a group, records of *S. saccata* and *P. leucophlebia* were separated together and a third group included records from the habitats of the three *Cladonia* species. One acidic and two calcareous species communities have been outlined. The difference between the two calcareous groups is caused by differences in soil pH and CaCO₃ content, vascular plant species, moss cover and soil depth, based on an RDA analysis of environmental variables. RDA analysis shows that the calcareous habitat types form a separate group from the reindeer lichen species quadrats, the dry grassland group of *Cetraria* and *Xanthoparmelia* species, and the rocky habitats of *saccata* and *P. leucophlebia*. The two calcareous groups differ in canopy closure, rock cover and disturbance. The separation of *S. saccata* and *P. leucophlebia* is largely explained by canopy closure and rock cover. The protected lichen species occurring in the Bakony are of different ecological tolerance, that makes them suitable for indexing their environment. This survey also allowed their conservation assessment. This research was funded by the grant NKFI K 124341.