**CONTRIBUTIONS TO THE KNOWLEDGE ON EXTREME TOLERANCE OF *Cladonia* *foliacea* A TEMPERATE CONTINENTAL GRASSLAND LICHEN SPECIES**

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The preliminary studies for the ongoing acetone rinsing experiment have justified that the selected species *Cladonia foliacea* survived the acetone treatment. The vitality of the thalli was verified by chlorophyll fluorescence kinetic measurements and found that the long-term tolerance of this species is higher than any other species checked earlier under more humid conditions. Its thalli were collected in lowland steppe (Vácrátót) and montane grassland (Bakony Mts) and treated by acetone during the end of summer 2017. The acetone rinsed and control samples are kept in the experimental field in Vácrátót (Hungary) for a 3-year-experiment. Samples remaining in their natural environment are studied in three different size categories: entire thalli (1), big fragments (2) and small fragments (3) of thalli. Samples originating from the Bakony Mts were transplanted as entire thalli. The entire thalli placed back in Vácrátót environment are represented as controls for them. The samples collected back already four times in half a year intervals are analysed for the current presentation. Usnic acid and fumarprotocetraric acid content measured by HPLC-PDA showed a decreasing difference in acetone treated and control samples, while results of chlorophyll fluorescence investigations showed almost equally good condition of all samples. Further minor alterations are shown in the respect of size categories and the montane samples. The results confirm the importance of investigating samples deriving from different habitat types to find the response of lichens to the changing environment in space and time. Our work was supported by the project NKFI K 124341 financed by the Hungarian National Research Development and Innovation Fund.