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THE EXPOSITION OF DUNE SIDES DETERMINES THEIR TERRICOLOUS LICHEN COMMUNITY COMPOSITION IN TEMPERATE SEMI-ARID SANDY GRASSLANDS

A homokbuckák kitettsége meghatározó tényező a talajlakó zuzmóközösségek összetétele szempontjából félszáraz homoki gyepekben

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Inland dune ecosystems are rich in terricolous lichen species. Though terricolous lichens have a dominant role in semi-arid sandy grasslands, we still have limited information about these communities of dunelands and the environmental factors affecting assemblages in Europe, especially on calcareous sand. Besides, few studies have been focused on investigating the influence of microhabitat exposition on terricolous lichen community composition, to which dunes provide ideal locations. To fill in the mentioned knowledge gaps, we aimed to answer the following questions: a) what is the difference between the dune sides in species richness and composition and what kind of environmental variables could cause this difference? We studied the structure of the terricolous lichen assemblages of calcareous grasslands in an inland duneland ecosystem by comparing the lichen communities of the different dune sides. Microcoenological data were ascertained according to the Braun-Blanquet method. Environmental variables include the cover of bare soil, moss, litter, vascular plant cover and height of vascular plants. We investigated the relation of these variables and the presence and absence data of terricolous lichen species to the dune side. The investigation was completed with micrometeorological data collection to reveal the prevailing environmental conditions between the dunes. Our results showed that arid and humid dune sides host special lichen communities. Some lichen species were more abundant (e.g. *Cladonia furcata*) or only found (e.g. *Xanthoparmelia subdiffluens*, *Gyalolechia fulgens*) on arid dune sides. In contrast, others preferred (e.g. *C. pyxidata*) or occurred only (e.g. *Peltigera* species, *C. rei*) on humid sides. In general, lower vascular plant cover and height and a higher moss cover were characteristic of arid dune sides compared to humid sides, probably caused by the lower relative humidity and higher incoming irradiation (both in intensity and duration). The diverse microenvironmental conditions provide different microhabitat types; therefore, species with various ecological requirements can live together in the same habitat forming a species-rich and valuable terricolous lichen communities in inland dune ecosystems.