HABITAT PREFERENCES OF THE THREATENED KNOTHOLE MOSSES
CODONOBLEPHARON FORSTERI AND ANACAMPTODON SPLACHNOIDES IN
ABANDONED COPPICE OAK FORESTS
A vészélyeztetett odúlakó Codonoblepharon forsteri és Anacamptodon splachnoides élőhelyi viszonyai idős, sarjaztatott tölgyesekben

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Water-filled holes in trees (dendrotelms) are rather rare microhabitats in woodlands intensively managed by rotation forestry system. However, some traditional management practices (e.g. coppicing) may provide microhabitats for knothole mosses and other water-filled tree hole specialists, increasing biodiversity in managed forest ecosystems. Codonoblepharon forsteri and Anacamptodon splachnoides are two epiphytic habitat specialists characteristically limited to the vicinity of dendrotelms. Due to the sporadic occurrence of this special microhabitat, the distribution of these red listed moss species is rather scattered and less revealed. Therefore, we aimed to map the distribution of the species in detail across two sites where new populations were discovered and assess the microhabitat conditions of the dendrotelms the species occupy. We have surveyed two abandoned coppice oak forests in Cserhát Mts. (Bokri Hill) and Balaton Uplands (Koloska Valley), where all the dendrotelms colonized by C. forsteri and A. splachnoides were mapped and their abiotic variables were measured. The microclimatic conditions of 40 dendrotelms occupied by C. forsteri and 40 uncolonized dendrotelms were also measured. In Bokri Hill, 52 trees were found to be colonized by C. forsteri, covering ~800 cm² as mature plant and ~2900 cm² as protonema, and A. splachnoides on four trees covering ~180 cm². In Koloska Valley, C. forsteri was found on 32 trees with ~410 cm² coverage of mature plants and ~1470 cm² protonema, and A. splachnoides on 16 trees with ~830 cm² coverage. The relatively high total coverage of C. forsteri on 84 Quercus cerris trees is of great significance both on a European and a global scale. Three different types of microhabitats colonized by the two moss species were distinguished: 1) edge of wet tree hole with wide entrance and ± permanently filled with water (81%); 2) bare surface of the ring of callus growing around a small water-filled hole (14%); 3) in bark fissures around a wound without any visible hole (5 %). The main drivers of the colonization of C. forsteri seemed to be the distance from the closest colonized trees and the amount of diffuse light. Both species are pioneer with colonist life strategy and low competitiveness. For successful colonization the moisture provided by dendrotelms might be essential, as well as the bare bark surface which is maintained by the continuous leakage of alkaline water from the tree-hole interior, locally eradicating the competitor bryophyte species.