

## BIOACTIVE POTENTIAL OF LICHEN SECONDARY METABOLITES IN THE STRUGGLE AGAINST MALARIA AND OTHER INSECT VECTOR-BORNE DISEASES

A zuzmók másodlagos anyagcseretermékeiben rejlő bioaktív lehetőségek a malária és más, rovarok által terjesztett betegségek elleni küzdelemben

## Arthur Macharia Muhoro<sup>1\*</sup> & Edit Éva Farkas<sup>2</sup>

<sup>1</sup>Doctoral School of Biological Sciences, Hungarian University of Agriculture and Life Sciences, H-2100 Gödöllő, Páter K. u. 1, Hungary; <sup>2</sup>Institute of Ecology and Botany, Centre for Ecological Research, H-2163 Vácrátót, Alkotmány u. 2–4, Hungary; \*E-mail: arthmacharia@yahoo.com

This review study based on 27 literature sources is focused on lichens with potential insecticidal and antiprotozoal activity. The taxonomic groups of the insects, the protozoal parasites and the lichens, the type of bioactive compounds (including method of application and amount applied), and the potential bioactivity based on mortalities caused after 24 hours of exposure on insects and on parasitic protozoa were analysed. Insecticidal and antiprotozoal effects of crude extracts and 7 lichen secondary metabolites (mostly usnic acid) of 32 lichen species were described. These results are based on laboratory experiments; however, further studies are planned to be carried out simultaneously in laboratory and in the field.

Our work was supported by the Stipendium Hungaricum Scholarship (2020–2024) and by the project NKFI K 124341 financed by the Hungarian National Research Development and Innovation Fund.