Assessment of air pollution using mosses as a bio-indicator in some localities in Kosovo

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Abstract

The aim of research is assessment of air pollution with heavy metals through air depositions by using mosses as bioindicators in some localities. Samples of mosses of some localities were collected along Prishtina – Mitrovica axis, spread out relatively equally. Sample collection was taken in eleven sampling points, each containing three to five subsamples within 50 X 50 m surface area. Levels of heavy metals (Pb, Cd, Zn, Cu, Ni, Cr, Mn and Fe) are analyzed by using flame and oven atomic absorption spectroscopy (AAS). Statistical analyses were used for processing of experimental data. Concentrations of Pb, Cd, Cu and Ni in some sample points are high. The main emissions of these elements for a long time are mine industry, coal sources of energy and traffic overloaded with vehicles. The findings of this research provide accurate data for potential sources of pollution with metals for polluted areas which can serve to respective institutions and future researches for the implementation of strategies to reduce this pollution.

References
[1]   Maxhuni, A. et al. First survey of atmospheric heavy metal deposition in Kosovo using moss biomonitoring. Environ Sci Pollut Res 23, 744–755 (2016). https://doi.org/10.1007/s11356-015-5257-1.
[2]   Lazo, P. et al. Introduction. In: The Evaluation of Air Quality in Albania by Moss Biomonitoring and Metals Atmospheric Deposition. Springer Briefs in Environmental Science. Springer, Cham. (2021). https://doi.org/10.1007/978-3-030-62355-5_1

Figures

Figure 1: Mosses Sclerpodium purum dhe Hypnum cupressiforme