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## PASSIVE BIOMONITORING OF ATMOSPHERIC POLLUTION WITH HEAVY METALS USING NATIVE EPIGEIC MOSS

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### Abstract

It were investigated some atmospheric sediments of copper and chromium in mining areas of Dorna Basin by passive monitoring with six species of native epigeic moss (*Mnium hornum*, *Mnium cuspidatum*, *Mnium punctatum*, *Polytrichum strictum*, *Thamnium alopecurum* si *Cephalozia bicuspidate*) in two stages: April - September 2005 and October 2005 - March 2006. These determinations were achieved in 4 locations: Dealul Boambei, Saru Dornei, Sarisorul Mic, Neagra Sarului. In the same time was determined the concentration of these elements in soil. It was noticed a decrease of copper and chromium concentrations in the second stage comparing to the first stage (copper maximum concentration in moss for the dry plants in the first stage is 34.17  $\mu\text{g/g}$ , in the second stage is 22.39  $\mu\text{g/g}$ . In dry soil, the concentration in the first stage was 55.46  $\mu\text{g/g}$  and 27.42  $\mu\text{g/g}$  in the second stage. In the case of chromium samples, the concentration in mosses for dry plants in the first stage is 17.29  $\mu\text{g/g}$  and 4.93  $\mu\text{g/g}$  in the second stage. In dry soil, the concentration in the first stage was 16.97  $\mu\text{g/g}$  and 5.65  $\mu\text{g/g}$  in the second stage). The concentration factor (CF) values for Cu samples ( $\text{CF}_{\text{Cu}}$ ) has a maximum value of 6.1669 in the first stage and 4.0427 in the second stage. For Cr samples,  $\text{CF}_{\text{Cr}}$  has a maximum value of 10.8062 in the first stage and 3.0793 in the second stage. This variation shows a maximum accumulation in the selected epigeic mosses. There are presented external and internal factors that affect passive absorption of the heavy metals in the atmosphere. High capacity retention of the same moss species is due to both environment mental factors and high content of the complex compounds in their composition.

*Key words:* atmospheric, biomonitoring, FAAS, heavy metals, monitoring, pollution

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