



Comparative characteristic of the sphagnum moss and peat of upland bogs in Siberia, Russia and central part of Germany

Antonina Mezhibor (1) and Ivan Podkozlin (2)

(1) Tomsk Polytechnic University, Institute of Natural Sciences, Department of Geoecology and Geochemistry, Tomsk, Russian Federation (amezhibor@gmail.com), (2) Vladimir State University, Vladimir, Russian Federation

This research represents the results of the ICP-MS study for the moss and peat samples from two upland bogs of Germany and one bog from Siberia, Russia (Tomsk region). Moss and upland peat are widely used for ecological studies. These substances enable to detect atmospheric pollution because of the peculiar structure of sphagnum moss. According to the obtained results, we can resume that moss and peat in Tomsk region are more enriched in such chemical elements as Cr, Fe, As, Sr, Y, Zr, Ba, La, Ce, Nd, Sm, Eu, Tb, Yb, Lu, Hf, Hg, Th, and U. The samples from Germany are more enriched in Mn, Cu, Zn, and Se. The geochemical composition of the bogs reflects the specificity of industries that pollute the atmosphere with definite chemical elements. Thus, REE, Th and U in the moss and peat of Tomsk region can originate from nuclear facility near the Tomsk city. Coal combustion in power stations can be the source of Cr, As, Sr and REE as well. Mn, Cu, Zn, and Se possibly can originate from metallurgical facilities in Germany.