



## **Accumulation of heavy metals in soils and plants of Polar Urals and South Chukotka in contrast geochemical conditions in connection with the search for hyperaccumulator species**

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This study highlights the heavy metals (HM) distribution in soils and their uptake by wild plants that grow to the soils formed on the ultramafic and acid rocks of Polar Urals and South Chukotka in Arctic Russia. The contents of Fe, Mn, Zn, Cu, Ni, Cr, and Co have been determined by the atomic absorption spectrometry more than in 100 plant species of 25 families and in 92 soil samples. The data indicate that the levels of Fe, Cr and especially Ni in the soils on the ultramafic rocks exceeded those on acid rocks. It has been found that the mineral composition of plant species varies depending on edaphic conditions. Greater variability was noticed in the uptake of HM by various plant species on the studied soils. Taxon-specific features in the accumulation of heavy metals in plants of these regions have been revealed for the first time. Plants accumulation results showed that species *Thlaspi cochleariforme* and *Alyssum obovatum* (Brassicaceae) could act as hyperaccumulators Ni. The excessive concentrations of Cr and Ni in some plants species can be used for mineral prospecting. The excess of Ni is serious environmental problem and health risks in the inhabitants of the study areas.