

SUMMARY

The weathering of arsenopyrite (FeAsS) has been studied at the experimental site Načetín in the Ore Mountains, Czech Republic. There were chosen three areas with different vegetation (beech, spruce and unforested areas) at this site. The arsenopyrite samples were placed in all soil horizons (litter, horizons A, B and C for forest areas; horizons A, B and C for unforested area), where they were exposed to ambient conditions for one year. After one-year weathering, the newly formed secondary minerals were identified and the rate of surface oxidation was determined, both depending on the environment of oxidation. Although physical-chemical parameters and content of main and trace elements of the studied soils varied, the only detected crystalline secondary mineral of arsenic was scorodite ($\text{FeAsO}_4 \cdot 2\text{H}_2\text{O}$). Nevertheless, these differences affected the amount of formed scorodite. The highest concentrations were determined on the surface of the arsenopyrite grains that oxidized in the beech stand, conversely the lowest concentrations were determined on the arsenopyrite grains from the unforested area.