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**TRACES OF HUMAN PREHISTORIC INFLUENCE ON PODZOL PROFILES —  
PRELIMINARY REMARKS**

*Abstract*

The aim of this work was to find out how human prehistoric activities could be discovered in a podzol profile. Soil samples were taken from the occupation layer of two Stone Age dwelling sites in the coastal area of northern Ostrobothnia and also from undisturbed podzol profiles close to these sites. The Hiidenkangas site has been <sup>14</sup>C-dated to 2100–1500 BC (42–43.70 m a.s.l.) and the Veskankangas site to 5500–4500 BC (85 m a.s.l.). The thickness, colour, particle size distribution, organic matter content, specific conductivity and pH of each horizon were determined. The total element analyses were carried out by using X-ray fluorescence method (Al, Fe, P, Ca, Zn, Cu) in the < 0.6 mm particle size fraction of the soil.

There is a clear correlation between acidity and conductivity in both undisturbed and human affected profiles. In the human affected profiles the pH is lower than in the undisturbed ones. The acidity and conductivity decrease with depth which shows normal podzol behaviour. The distribution of Al and Fe in all profiles is determined by soil formation processes; the highest amount of Al and Fe was found in the B-horizon, so the human influence cannot be noticed in the distribution of sesquioxides. As expected, the concentration of P and Ca was greatest in the occupation layers of both sites. The high concentration of Zn and Cu was also determined in the archaeological horizons. It is possible that the Zn- and Cu-enrichment is connected with fish or shellfish remains deposited in the settlement soil. However, there is no archaeological evidence of shellfish nutrition. The tests showed that the enrichment of Zn and Cu was not due to contamination caused by the excavations. The concentrations of P, Ca, Zn and Cu show anomalous values in the human affected profiles, but the significance of the podzolization processes which act continuously on these sites has also to be taken into consideration when explaining the distribution of these elements.

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