

Trace element concentrations in Japanese black bears in Iwate prefecture

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Abstract

PIXE assay was carried out in the liver, kidney and hair samples collected from 64 Japanese black bears captured in Iwate prefecture to determine the concentration of calcium, chromium, manganese, copper, zinc, selenium, rubidium, molybdenum, cadmium and lead. The concentrations of these elements were similar to those of human and several other animals which have previously been reported. However, two bears had extraordinarily high concentrations of zinc, especially in the hair, suggesting an excess exposure to this element. Whereas most of the hepatic lead concentrations were below 1 mg/kg, 4 bears showed the concentrations above 2 mg/kg. The high lead concentrations might be caused by the environmental contamination in Iwate area.