

Does gender influence the levels of heavy metals in liver of wild boar?

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The aim of this study was to determine heavy metal reference levels for risk assessment studies. For this purpose, the levels of lead, cadmium, copper and zinc were determined in liver tissues of wild boars sampled in NW Spain. The mean values were 0.383, 0.326, 23.50 and 56.86 mg/kg dried weight, respectively. In general, the levels detected were similar to or lower than the levels reported in literature. This study not only provides a useful baseline for biomonitoring the levels of the analyzed contaminants in wildlife in NW Spain, it also helps to understand the effects of gender on the levels of these elements. Similar to studies performed in other geographical regions, no significant gender-related differences could be detected. Although differences were not significant, the levels of zinc, cadmium and lead were modestly higher in males (55.78, 0.346 and 0.424 mg/kg, respectively) compared to females (45.25, 0.305 and 0.341 mg/kg). Our results indicate that, although gender did not significantly affect heavy metal uptake and toxicokinetics of contaminants in wild boars, these effects could vary between species, populations, organs, and elements. It is therefore essential to investigate gender-related differences for each species. © 2017 Elsevier Inc.

Gender

Liver

Metal

Wild boar

cadmium

copper

heavy metal

lead

zinc

cadmium

copper

heavy metal

zinc

biomonitoring

gender relations

heavy metal

pig

risk assessment

Article

bioaccumulation

biological monitoring

concentration (parameters)

controlled study

environmental impact assessment

European wild boar

female

male

nonhuman

risk assessment

sex difference

Spain

tissue distribution

wildlife

animal

drug effects

environmental monitoring

liver

metabolism

pig

procedures

sexual development

Spain

Sus scrofa

Animals

Cadmium

Copper

Environmental Monitoring

Female

Liver

Male

Metals, Heavy

Sex Characteristics

Spain

Sus scrofa

Swine

Zinc