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## PLENARY LECTURES



## THE CADMIUM AND MERCURY CONTENTS IN THE LIVER TISSUE OF WILD BOARS (*SUS SCROFA*) FROM DIFFERENT HUNTING GROUNDS IN THE WESTERN PART OF NORTH MACEDONIA

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### SUMMARY

Due to its relatively long lifespan and its biological characteristics, hunting is increasingly used as a biomonitor of environmental pollution. In this study wild boars were used as biomonitor of cadmium and mercury occurrence in different hunting grounds located around seven cities (Resen, Ohrid, Kičevo, Kruševo, Debar, Prilep and Bitola) in the region of the western part of North Macedonia. The samples of wild boar livers (n = 49) were analyzed by atomic absorption spectrometry (AAS) for cadmium concentration and by cold vapor atomic absorption spectrometry (CVAA) for mercury. All wild boars were shot during a regular hunting season in 2018. For both heavy metals, no statistically significant difference was found between locations (p value > 0.05). The average concentration by locations for Cd ranged from 159.1 to 461.4 µg/kg, with the mean concentration for all 368.3 µg/kg, while for Hg ranged from 11.4 to 65.9 µg/kg with the mean concentration for all 34.99 µg/kg. The 20.4% (Cd) and 4% (Hg) from a total of 49 samples exceed the maximum permissible limits for cadmium (500 µg/kg) and mercury (100 µg/kg) according to the legal regulation in North Macedonia. The maximum value for Cd (1929 µg/kg) and Hg (252 µg/kg) were found in hunting grounds located near the city Prilep. The concentration of mercury in 20.4% or a total of 10 samples was below the limit of detection, while cadmium was detected in all samples. Despite the fact that certain values exceed the permissible limits for investigated heavy metals, the average values are below the maximum permissible limits. It can be concluded that the western part of North Macedonia is not exposed to cadmium and mercury contamination however there is need for further research in this area.

**Key words:** Hunting ground; Wild boar, Cd, Hg.