Ecology, physiology and behaviour

Assessment of lead and cadmium in fish species from Begečka Jama Natural Park as environmental pollution indicators

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Heavy metals, such as lead and cadmium, are significant micropollutants originating from both natural processes and anthropogenic activities. The Begečka Jama Natural Park, spanning 379 hectares and located approximately 18 km from Novi Sad, is an ecologically important area formed from an old Danube riverbed. Despite its natural significance, the park is surrounded by intensively cultivated agricultural land and several illegal landfills, raising concerns about potential contamination. This study aimed to assess the presence of lead and cadmium in three fish species, namely *Micropterus salmonides, Carassius gibelio, and Hypophthalmichthys molitrix*, as bioindicators of environmental pollution. These fish species, which are an integral part of the local food chain and are occasionally consumed by fishermen, were analysed to determine heavy metal concentrations in their gills, liver, and caudal muscle. Water and sediment samples from several locations within the park were also tested for lead and cadmium levels before fish sampling. All analysed samples showed heavy metal concentrations within the permissible limits set by Serbian legislation. These findings indicate that, while current contamination levels are not alarming, the proximity of pollution sources necessitates continued monitoring to safeguard the park's ecological integrity and ensure the safety of its aquatic species.