

Occurrence of microplastics in fishes from aquatic ecosystems of northern Kosovo

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Abstract

This study aimed to assess the possible presence of environment contaminant microplastics (MP) in the digestive systems of fish samples captured in the northern region of Kosovo as well as in the corresponding surface waters. Given that fish are consumed by residents, they may represent a potential source of microplastics for humans. The identification of MP was attempted within specimens isolated from *Squalius cephalus*, *Rutilus rutilus*, *Chondrostoma nasus*, *Alburnus alburnus*, *Alburnoides bipunctatus*, and *Lepomis gibbosus*. The MP analysis consisted of two steps, *i.e.* preliminary evaluation by optical microscopy followed by tentative chemical characterization by Fourier-transform mid-infrared attenuated total reflection spectroscopy (ATR-FTIR) for the investigation of plastics polymers [1]. The results, indicating that microplastics were present in all studied fish species, were in accordance with other studies showing that MP items enter the trophic chain with a potential impact on food security and human health [2]. Information from the statistical evaluation of the spectroscopic data is also presented.

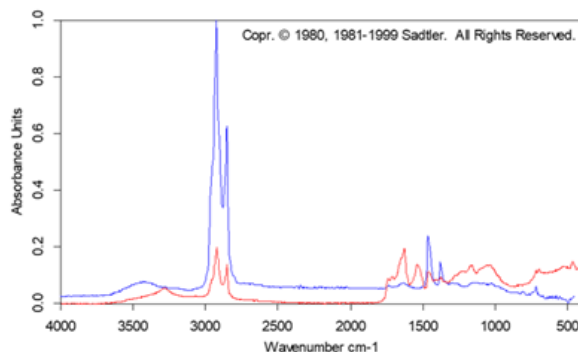


Figure 1. Identification of polyethylene in a fish sample of the presented study

References:

- [1] T. Andreas Hadibarata, P. Sathishkumar, H. Prasetia, E.D. Hikmat Pusfitasari, A.N. Tasfiyati, D. Muzdalifah, J. Waluyo, A. Randy, D.P. Ramadhaniyngtyas, O. Zuas, A.A. Sari Microplastic contamination in the Skipjack Tuna (*Euthynnus affinis*) collected from Southern coast of Java, Indonesia *Chemosphere*, 276 (2021), Article 130185.
- [2] Agathe Bour, Carlo Giacomo Avio, Stefania Gorbi, Francesco Regoli, Ketil Hylland. Presence of microplastics in benthic and epibenthic organisms: Influence of habitat, feeding mode and trophic level, *Environmental Pollution Volume 243, Part B*, December 2018, Pages 1217-1225.