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Evidence of microplastic contamination in *Alosa immaculata* fish from the Lower Danube River

In aquatic ecosystems, microplastics have been identified in both abiotic and biotic components. Plastic particles are perceived by benthic fauna and fish as food and are subsequently ingested. Although microplastics are widely excreted following ingestion, there is evidence to suggest that microplastics may be retained in the gut, where they can cause various diseases or even cross the gut wall to be stored in tissues. Gills are also a pathway for microplastics to enter fish organs. The main aim of this study was to assess the presence of microplastics in the gastrointestinal tract and gills of the fish species *Alosa immaculata* (pontic shad) caught from the Danube River. This anadromous fish species has an important economic value in the Danube Delta and the Lower Danube sector. The identification of microplastic particles was carried out using the micro-FT-IR Spotlight 400 FT-IR, Perkin Elmer, in the REXDAN Research Infrastructure from “Dunarea de Jos” University of Galati, Romania. According to the obtained results, the highest abundance of MPs was identified in the gastrointestinal tract (GIT), respectively 4 particles per specimen. The average concentration of MPs in the GIT was 1.35 particles per specimen. At the gill level, a lower abundance of MPs was reported than in the GIT, with an average of 0.5 particles per specimen, the highest concentration being 2 particles per specimen. In terms of shape and composition of the identified microplastics, fragments and fibers containing polyethylene, polypropylene, and polyester polymers were observed.

Biography

Madalina Calmuc, Research Assistant at REXDAN Research Infrastructure from “Dunarea de Jos” University of Galati, Romani. BSc in Environmental science (2017), MSc in Environmental monitoring and management (2019) at the Faculty of Science and Environment, „Dunarea de Jos”, University of Galati, Romania.