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Microplastics in Different Coastal Zone Compartments at the South-Eastern Baltic Sea

Authors : Viktorija Sabaliauskaitė, Arūnas Balčiūnas, Renata Rubavičiūtė

Abstract : Research on microplastic pollution in aquatic environments is being conducted worldwide. This presented research focused on the South-Eastern Baltic Sea, where, due to the natural conditions, algae accumulation on beaches is common. The present conditions enabled to apply and integrate of various microplastic extraction techniques: filtration, density separation, and sample aeration in order to investigate the microplastic concentrations within different beach compartments (nearshore water reference zone, nearshore algal scum zone, beach surface sand reference zone, beach wrack zone). This study demonstrates results from a total of 496 collected samples. The comparison of microplastic mean concentrations in water-based (0,016 item/cm³) and land-based (0,29 item/cm³) samples gave a clear insight into the microplastic accumulation hot spots, which pose pollution hazards to marine ecosystems and humans.

Keywords : beach wrack, marine litter, microplastics, pollution
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