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Marine Litter On The Beaches Of Durres And Lalzi Bays: A Preliminary Assessment Of Their Abundance, Composition And Sources

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Marine litter is a global concern, affecting all oceans and seas of the world. Every year, millions and millions of tonnes of litter end up in the coastal and marine environment worldwide, resulting in environmental, economic, health and safety impacts. The Durres county has a coastline of some 62 km along the Adriatic Sea, extending from Lalzi Bay till the area of Golem. The abundance, composition and sources of marine litter were determined on beaches in the eight sites located at the Bay of Durres and in two sites located in the protected area of the Lalzi Bay. All surveys performed followed the approach described by the EU MSFD TG10 "Guidance on Monitoring of Marine Litter in European Seas". A total of 3326 marine litter items was recorded, removed and classified during April 2018. 10 beach transects were surveyed, covering 24000 m² and extending over 1000 m of coastline. The average beach litter density of 0.1365 items/m² (average: 136 items/100m; range: 40-295 items/100m) was found within this study for the Durres Bay and the Lalzi Bay. The beaches investigated varied in terms of human-induced pressures, with their majority classified either as urban, semi-urban or semi-rural. The majority of marine litter items were artificial polymer materials accounting for 64.8% of all beach litter. The most abundant item was G208 (Glass or ceramic fragments >2.5cm) with 19.7%, followed by G27 (Cigarette butts and filters) with 17.9%. Litter from shoreline sources including poor waste management practices, tourism and recreational activities accounted for 64.5% of total litter items collected on all sites, while fly-tipping accounted for 20.8% of total litter items. When looking at the sea-based sources of litter (fisheries and aquaculture, shipping) these accounted for 0.8% of total litter items on all beach locations. The beach cleanliness of the surveyed locations was assessed through the Clean Coast Index.

Recent Publications

1. Gagan Matta and Laura Gjyli (2016). Mercury, lead and arsenic: impact on environment and human health, *Journal of Chemical and Pharmaceutical Sciences*, JCPS Volume 9 Issue 2; 718-725; ISSN: Print 0974-2115, Online 2349-8552; Scopus index journal, International Scientific Indexing (ISI) and Impact factor 1.421; www.jchps.com
2. Jerina Kolutari, Laura Gjyli, Pierluigi Carbonara (2016). Preliminary results and impact of marine litter in Albanian Adriatic area, *Journal of Environmental Protection and Ecology (JEPE)*, 17, No 3, 922-931, ISSN 1311-5065, Scopus and Thomson Reuter index journal; Journal Impact Factor (2015) = 0.734; <http://www.jepe-journal.info/>
3. Laura Gjyli, Ariola Bacu, Jerina Kolutari, Silvana Gjyli, Anisa Trifoni (2016). Estimation of N/P Ratios Levels in a Coastal Bay, Southern Adriatic Sea, *Journal of Agriculture and Ecology Research International* 8(1): 1-9, 2016; Article no. JAERI.25052 ISSN: 2394-1073; international www.sciencedomain.org, DOI : 10.9734/JAERI/2016/25052
4. Gjyli L. & Bacu A. (2014). Possible correlation between the diversity of 16-23S rDNA-ITS diversity of *Synechococcus* populations and quality of the waters at Durres Bay. *Journal of Natural and Technical Sciences, (JNTS)*, Vol. XIX (1): 77-90, ISSN: 2074-0867. <http://www.akad.gov.al/ash/pdf/periodike/JNTS36-online.pdf>

Biography

Laura GJYLI obtained her PhD at the age of 33 years from the University of Tirana in the field of biotechnology, contributing to the identification of the presence of cyanobacterial species, for the first time in Albanian marine waters, based on the PCR amplification of 16-23S ribosomal DNA sequences. She is elected by the academic staff in the position of the Head of Department of Medicine, a position she held during the period 31.05.2016- 12.09.2017. Currently she is a lecturer in the Department of Applied and Natural Sciences, University "Aleksander Moisiu", Durres. Dr. Gjyli is the first author and co-author of more than 15 research articles published in international journals, she has referred in more than 20 international conferences and she is the coordinator and creator of the student conference in biomedical fields. She is part of the editorial board of the "International Journal for Environmental Rehabilitation and Conservation".

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