

MICROPLASTICS IN SUBLITTORAL COASTAL SEDIMENTS OF THE CANARY ISLANDS (SPAIN)

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Abstract: Microplastics are globally emerging environmental pollutants which have received increasing attention over recent years, especially in the marine environment, which is one of the most affected environmental compartments. In the particular case of the Canary Islands archipelago, marine pollution by microplastics is particularly relevant, due to its geographical location, highly influenced by the North Atlantic gyre which brings to the islands important amounts of marine debris. This investigation aimed to study, for the first time, the presence of microplastics in sublittoral coastal sediments of the Canary Islands. Sediment samples were collected by scuba divers at 30 locations of the archipelago, at a depth down to 10 m on a uniform sandy seabed using stainless-steel corers. Once at the laboratory, each sample was digested with H₂O₂ to remove the organic matter, followed by a flotation process with a NaCl saturated solution. The filtrates (50 µm stainless-steel filters were used) were visualized under a binocular stereomicroscope and the composition confirmed by Fourier Transformed Infrared microscopy. Results revealed the presence of microfibrils, fragments, films and microbeads, mainly transparent (74%) and blue (15%) microfibrils, with an average size between 1 and 2 mm. The mean concentration found ranged between 141 ± 136 and 4155 ± 1404 items/ kg dry weight (Villanova-Solano et al., 2022).

Key words: Microplastics, fibres, sediments, Canary Islands, Fourier Transform Infrared microscopy

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