ABSTRACT CODE

Analyzing the presence of microplastics in *Cronius ruber* and their possible relationship with wastewater discharges.

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This study examines the presence of microplastics in *Cronius ruber*, an invasive crab species in the Canary Islands, and investigates their potential link to nearby wastewater discharges. A total of 63 crabs were sampled from four beaches in Gran Canaria in 2021, and their stomach contents were analyzed through alkaline digestion, filtration, and Fourier Transform Infrared Spectroscopy (micro-FTIR). Microplastics were detected in 52% of individuals, with an average of 1.73 particles per crab. Fibers constituted 90% of the microplastics, with blue and black being the predominant colors. Rayon, commonly used in textiles, was the most frequently identified polymer (52%), highlighting the role of wastewater from laundry processes as a significant pollution source. Beaches with unauthorized wastewater discharges, such as Anfi del Mar and El Puertillo, showed the highest contamination levels. This is the first study to document microplastic ingestion in *C. ruber*, raising concerns about its ecological impact and the bioaccumulation of contaminants in marine ecosystems. Further research is essential to understand the long-term consequences of microplastic exposure on invasive species and their potential role in pollutant transfer through food webs.

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