

{rokbox title=| Map of the distribution of sea turtle stranding locations :: Image:

Authors|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-underestimated-microplastics-sea-turtles-2026-jaume-thumb-et-al.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-underestimated-microplastics-sea-turtles-2026-jaume-et-al.jpg{/rokbox}

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Fernández-Maldonado, Sandra Manzano-Medina, Alejandra Cerezo Caro, Elisa Martí, Rocío Quintana, Andrés Cózar, Remedios Cabrera, Gonzalo M. Arroyo, Carmen Morales-Caselles, 2026.

[Underestimated microplastics in sea turtles: Implications of a 200 µm detection limit for ingestion monitoring.](#)

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Abstract: Marine litter, particularly plastic pollution, poses a significant threat to marine ecosystems. Sea turtles are especially vulnerable to plastic ingestion due to their feeding behaviour and migratory patterns, making them valuable bioindicators of marine plastic pollution. This study aimed to introduce a methodological improvement by reducing the minimum particle size analysed from 1 to 0.20 mm, and to quantify and characterize plastics found in the digestive tracts of sea turtles. We report a high incidence of plastic ingestion in nearly every turtle examined ($n = 39$; frequency of occurrence = 95%), including individuals from three distinct marine turtle species. The most frequently ingested plastics were films and fragments, primarily composed of polyethylene (PE) and polypropylene (PP), with a notable prevalence of light-coloured items. The number of plastic items was significantly higher in the intestine than in the stomach and oesophagus. Notably, 31.93% of the plastic identified were microplastics smaller than 1 mm. These results suggest that previous studies relying on the 1 mm threshold may have underestimated the occurrence of microplastics in sea turtles, including those originating from biodegradable plastic materials, underscoring the need to revise current monitoring protocols and assumptions regarding alternative plastics.

Keywords: marine pollution, plastic ingestion, microplastics, sea turtles, bioindicators species, monitoring protocols.