
What are turtles eating in the Canary Islands?

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Abstract

Sea turtles have been proposed as marine litter indicator for the Southern European waters (INDICIT Project), through sampling litter ingested by dead and alive individuals. In Canary Islands, 100% of loggerhead turtles sampled presented marine litter in their digestive tracks. However, only in one individual marine litter ingestion was determined as the cause of death, considering that ingested litter does not appear to cause severe damages to animals, mainly on live animals which expel the litter in few days.

Next step was to determine the sublethal effects that the marine litter ingested could trigger on the animals, using FTIR techniques, to identify plastic composition, and toxicological analysis, by blood and liver sampling on live and dead individuals respectively.

The results obtained on FTIR analysis showed that majority of the ingested plastics found in the animals were polyethylene and polypropylene.

On the toxicological analyses, concentration of inorganic compounds was significantly higher on death animals, as well as the cadmium and arsenic elements, that presented values of 13-36ppm and 17-20 ppm respectively. The rest of the inorganic elements presented low values. For organic elements, death animals showed higher concentrations of PCBs than alive animals, which in general showed low concentrations of persistent organic compounds (OPC) and polychlorinated biphenyl (PCBs).

These results showed the importance of further research on the sublethal effects of marine litter ingestion, and more studies are required to determinate how the plastic composition could transfer specific toxic elements to the animals.

Keywords: sea turtles, toxicology, debris ingestion

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