**Preliminary study on microplastic assessment in the digestive system of marine mammals and turtles found stranded on Samos Island, Eastern Aegean Sea.**

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The Eastern Aegean sea is characterized by the presence of a unique marine biodiversity: cetaceans, turtles and monk seals (*Monachus monachus*). To date, very few studies have been carried out for microplastic analysis in marine mammals and sea turtles even if studies of the digestive tract of different marine species have reported the presence of marine debris.

A preliminary analysis of the presence of microplastic was conducted on a total number of 40 animals of several ages and sexes found stranded on Samos island coastline during 2016 and 2018. Necropsies in situ or in the laboratory, when possible, were conducted for standard diagnosis analysis samples for the fresh carcass and the isolation of the digestive system for all the stranded animals. The methodology applied for microplastic analysis consists in collecting the entire digestive system from the first tract (oesophagus) to the last (last tract of the large intestine). All of the samples, after dissolving the organic matter, are filtrated. The filters are read using a microscope in order to identify and categorize the microplastics (sources, type, shape, colour and size). A “needle test” is conducted to distinguish between plastic pieces and organic matter (De Witte *et al.*, 2014). A test for external contamination is conducted randomly.

A high concentration and variety of microplastics were found throughout each tract of the digestive systems of all the animals analysed without any exception, confirming the wide pollution of plastic affecting the top predators of the trophic chain.