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Montserrat Compa, Carme Alomar, Ana Ventero, Magdalena Iglesias, Salud Deudero, 2022.

[Anthropogenic particles in the zooplankton aggregation layer and ingestion in fish species along the Catalan continental shelf](#)

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Abstract: In this study, we examine anthropogenic particles (APs) in the zooplankton aggregation layer and in fish species along the continental Catalan shelf. APs in the zooplankton aggregation layer were found in 100% of the net tows. Fibres of textile origin dominated the types of AP found in the zooplankton aggregation layer (96%). APs were found ingested in all species of fish at each sampling site, with an overall ingestion occurrence of 21%, with the most abundant fragments (62%). Significant differences in ingestion occurrence were found between species and hierarchical cluster analysis identified two feeding groups,

S. pilchardus

,
T. trachurus

and

P. erythrinus

almost exclusively ingested fibres while

T. mediterraneus

,
S. colias

and

S. cantharus

almost exclusively ingested fragments. The results indicate that the ingestion of APs in the first group of species occurs through indirect ingestion, whereas, in contrast, the second group is composed of more predatory and selective feeders, possibly through accidental predation. In general, our findings indicate that the fate of APs in fish on the Catalan continental shelf depends on the combination of feeding ecology and the availability of APs in the water column.

Keywords: zooplankton aggregation, Fibers, anthropogenic particles, pelagic fish species