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Polybrominated Diphenyl Ethers and Polychlorobiphenyls in Fish from the Ionian Sea (Western Mediterranean)

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ABSTRACT

This study reports on the accumulation of polybrominated diphenyl ethers (PBDEs) and polychlorobiphenyls (PCBs) in the muscle tissue of 11 species of fish from the Ionian Sea (Western Mediterranean). The results are consistent with previous studies that have reported now-generalized contamination by PCBs of the Mediterranean marine environment, as well as widespread diffusion of emerging contaminants such as polybrominated diphenyl ethers (PBDEs). The Western Mediterranean Sea, from which the 11 fish species were collected, receives a heavy pollutant input from the urban and industrial areas along its coasts. Higher values of PCBs (average over 1.5 mg/kg f.w.) were observed in pelagic top predators (little tuna, bluefin tuna and swordfish). These same species also showed higher levels of PBDEs, averaging above 0.5 ng/g f.w. This puts a few fish species at the top of the food chain—such as bluefin tuna and swordfish—at particular risk, and the importance of these species in the human diet suggests the need for particular care in our food choices.

KEYWORDS

PBDEs; PCBs; Fish Muscle; Western Mediterranean

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