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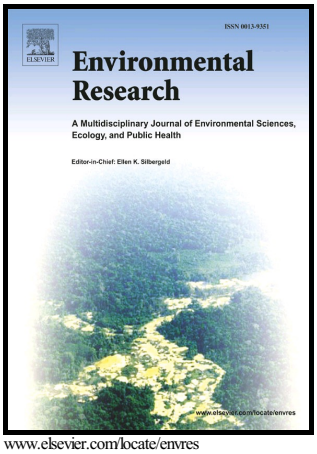

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Ingested microplastic as a two-way transporter for PBDEs in *Talitrus saltator*

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Abstract

The presence and accumulation of plastic waste into the marine environment are well known environmental issues. Microplastics (MPs) end up in sea waters and, due to their hydrophobicity and high surface/volume ratio, POPs tend to sorb and accumulate to their surface. The supralittoral amphipod *Talitrus saltator (T. saltator)* was selected to study the role of MPs in the transfer of organic pollutants and to investigate if ingested MPs could either transfer contaminants to biota or clean it adsorbing pollutants taken from the diet. *T. saltator* is an established POPs (Persistent Organic Pollutants) biomonitor in coastal environments and it is able to swallow microplastics in natural condition.

Two laboratory experiments were performed and *T. saltator* was exposed to a labelled polybrominated diphenyl ether (^{13}C-labeled BDE-47) to investigate the opposite gradient role of MPs. X Ray Micro-CT (*Micro-Computed Tomography)* analyses were also performed on