



Microplastic leachates: the pernicious threat behind a conspicuous pollution

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Plastics are a major source of global marine pollution. They have conspicuous effects such as the deposition of beached debris and the entanglement of marine fauna. Microplastics (i.e. plastic particles less than 5 mm) are, however, a more recent and pernicious source of pollution, persistent and nearly ubiquitous in marine systems. In particular, microplastics are a vector of chemical pollutants adsorbed onto their surface. Their ingestion by organisms as small as zooplankton prompts the desorption of these chemicals which cause adverse effects. They also accumulate into the tissues and organs, hence cascade through the food chain.

The effects of microplastics through the release in the environment of additives used in their manufacture and the contaminants that adsorb and accumulate onto their surface have been far less studied. The potential effect of microplastic leachates is, however, critical as most plastic contamination in the ocean is made of microplastics, which tend to accumulate more persistent pollutants than large debris.

In this context, this presentation illustrates how microplastic leachates (i) impair, and eventually inhibit, the predator-prey interactions between an intertidal snail and its predatory crab, (ii) affect the ability of male copepods to locate conspecific females, and (iii) modify the functional traits of an ecosystem engineer of great economic importance, the blue mussel *Mytilus edulis*. The potential implications of these findings on the future of ocean ecosystems

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