
Plastisphere assemblages differ from the surrounding bacterial communities in transitional coastal environments

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Abstract

Although no significant differences were detected in the α -diversity indexes of the bacterial communities between microplastics and their surrounding environments, data showed the occurrence of unique key bacterial groups on microplastics from both environments, such as pathogens (e.g., *Lactococcus*, *Staphylococcus* and *Streptococcus*) and groups commonly associated with wastewater treatment plants (e.g., members of the phylum Firmicutes). This highlights the concerns for microplastics to act as vectors of transmission and spread of these bacterial groups in transitional coastal ecosystems. Furthermore, it is raised the possibility of the existence of a substantial contribution of microplastics from the sea to the estuary to overall estuarine microplastics dynamics.

Keywords: Microplastics, estuary, sandy beaches, bacterial communities, Plastic pollution

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