{rokbox title=|Total number of studies published :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-consequences-co-exposure-microplastics-and-pollutants-bivalves-rios-et-al-2022-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-consequences-co-exposure-microplastics-and-pollutants-bivalves-rios-et-al-2022.jpg{/rokbox}

Beatriz Rios-Fuster, Carme Alomar, Salud Deudero, 2022. **Elucidating the consequences of the co-exposure of microplastics jointly to other pollutants in bivalves: A review.** Environmental Research. Volume 216, Part 2, 1 January 2023, 114560. https://doi.org/10.1016/j.envres.2022.114560

Abstract: The marine environment has numerous impacts related to anthropogenic activities including pollution. Abundances of microplastics (MPs) and other pollutants are continuously increasing in the marine environment, resulting in a complex mixture of contaminants affecting biota. In order to understand the consequences, a review of studies analyzing combined effects of MPs and other types of pollutants in bivalves has been conducted as species in this group have been considered as sentinel and bioindicators. Regarding studies reviewed, histological analyses give evidence that MPs can be located in the haemolymph, gills and gonads, as well as in digestive glands in the intestinal lumen, epithelium and tubules, demonstrating that the entire body of bivalves is affected by MPs. Moreover, DNA strand breaks represent the most relevant form of damage caused by the enhanced production of reactive oxygen species in response to MPs exposure. The role of MPs as vectors of pollutants and the ability of polymers to adsorb different compounds have also been considered in this review highlighting a high variability of results. In this sense, toxic impacts associated to MPs exposure were found to significantly increase with the co-presence of antibiotics or petroleum hydrocarbons amongst other pollutants. In addition, bioaccumulation processes of pollutants (PAHs, metals and others) have been affected by the co-presence with MPs. Histological, genetic and physiological alterations are the most reported damages, and the degree of harm seems to be correlated with the concentration and size of MP and with the type of pollutant.

Keywords: Plastic polymers, Pollutants of emerging concern, Ecotoxicology, Mussels