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Título artículo: Trace element bioaccumulation in hypersaline ecosystems and implications of a global invasión

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RESUMEN: Hypersaline ecosystems are under increasing threat due to anthropogenic pressures such as environmental pollution and biological invasions. Here we address the ecotoxicological implications of the *Artemia franciscana* (Crustacea) invasion in saltpans of southern Spain. This North American species is causing the extinction of native *Artemia* populations in many parts of the globe. The bioaccumulation of trace elements (As, Cd, Cu, Co, Cr, Mn, Ni, Pb and Zn) in native populations (*A. parthenogenetica*) from Cabo de Gata and Odiel saltpans and invasive *Artemia* from Cádiz saltpan was studied at different salinities. Furthermore, in Odiel, the most polluted study site, we also analysed the bioaccumulation of trace elements by *Chironomus salinarius* larvae (Diptera) and *Ochthebius notabilis* adults (Coleoptera). High levels of trace elements were detected in the studied saltpans, many of them exceeding the recommended threshold guidelines for aquatic life. Bioaccumulation of trace elements by *Artemia* was lowest at the highest salinity. The invasive *A. franciscana* showed higher potential to bioaccumulate trace elements than its native counterpart (in particular for As, Cd, Ni and Cr). In Odiel, *O. notabilis* stood out as showing the highest potential to bioaccumulate As and Cu. Results showed that the shift from a native to an alien *Artemia* species with a higher bioaccumulation capacity may increase the transfer of trace elements in hypersaline food webs, especially for waterbirds that depend on *Artemia* as food. Thus, our study identifies an indirect impact of the *Artemia franciscana* invasion that had not previously been recognised

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