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# Ship traffic and the introduction of diatoms and dinoflagellates via ballast water in the port of Annaba, Algeria

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We present here the first study on the role of ship traffic in the introduction of potentially harmful and/or non-indigenous species in the port of Annaba (Algeria). A total of 25 ships of two different types (general cargo and bulk carriers) were sampled and separated into two categories: oceanic and Mediterranean ships. We estimated propagule pressure of high-risk coastal phytoplankton delivered in ballast water to the port of Annaba. We identified 40 diatom and 38 dinoflagellate taxa, among which, 11 harmful/toxic taxa: *Pseudo-nitzschia* spp., *Alexandrium tamarense*, *Alexandrium* sp., *Dinophysis acuminata*, *Dinophysis rotundata*, *Dinophysis* sp., *Gonyaulax spinifera*, *Gymnodinium catenatum*, *Lingulodinium polyedrum*, *Protoceratium reticulatum* and cyst of *Alexandrium* sp. In addition, 8 taxa (5 diatoms, 1 dinoflagellate and 2 dinoflagellate cysts) never observed in the Annaba region were considered as potentially non-indigenous: *Actinoptychus splendens*, *Coscinodiscus asteromphalus*, *Coscinodiscus lineatus*, *Odentella granulata*, *Thalassiosira* cf. *decipiens*, *Prorocentrum scutellum*, cyst of *Polykrikos kofoidii* and *Islandinium*

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