Coastal and marine ecosystems, biology and ecology

Dinoflagellate Cysts From Surface Sediments In The Gulf Of Gabes

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In marine areas, several planktonic species produce resting stages as part of their life cycle. In confined basins, usually characterised by low hydrodynamic conditions and high productivity, cysts produced in the water column sink to the sediments where they may remain viable for many years, constituting a reservoir of potential biodiversity. Dinoflagellate species are capable of forming dormant cysts. The analysis of these resting forms leads to a better consideration of rare species in the water column and to improve knowledge of planktonic biodiversity. In this context, a study was conducted, through two field campaigns in 2010, touching the four commercial ports situated in the Gulf of Gabes namely the ports of Sfax, Skhira Gabes and Zarzis. Thus, the search for Dinophyceae rest forms was resulted in the identification of 37 cysts taxa that can be added to the list of plankton species, and from which 17 were not found in their active form. Furthermore, the surface sediments of the Sfax, Skhira, Gabes and Zarzis harbour areas were characterized, respectively, by the presence of 16, 18, 18 and 13 cysts taxa, belonging to the orders, Gymnodiniales, Prorocentrales, Gonyaulacales and Peridiniales. The two latters represented the most dominant groups. Among the non-indigenous species in the Mediterranean sea we identified in this work, 6 encysted forms including those of the five potentially toxic species Gymnodinium catenatum, Karenia selliformis, Alexandrium minutum and Protoceratium reticulatum . The two encysted forms of Gymnodinium impudicum and Ensiculifera carinata were reported for the first time in Gulf of Gabes. The highest density cyst was mainly observed in the Zarzis port area (660 cysts g-1 DW sediment). It was generated by the alien species Scrippsiella trochoïda. Keywords: Dinoflagellates, Cysts, Sediments, Port areas, Tunisia