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Alexandrium pacificum Cysts Distribution in One North African Lagoon Ecosystem

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Abstract : Study of dinoflagellate cysts is a precious tool to get information about environment and water quality in many aquatic ecosystems. The distribution of Alexandrium pacificum cysts, in Bizerta lagoon located in North of Tunisia, was made based on sediment samples analysis from 123 equidistant stations delimiting 125 km² surfaces. Sediment characteristics such as percentage of water, organic matter, and particle size were analyzed to determine the factors that influence the distribution of this dinoflagellate. In addition, morphological examination and ribotyping of vegetative forms from microalgal cultures made from cyst germination confirmed the identity of the species attributed to A. pacificum. A correlation between the abundance of A. pacificum cysts and the percentage of water and sediment organic matter was recorded. In addition, the sedimentary fraction < 63µm was found to be potentially favorable for the installation and initiation of the Alexandrium pacificum efflorescence at the Bizerte lagoon. The mapping of cysts in this aquatic ecosystem has also allowed us to define distinct areas with specific abundance with closed relationship with shellfish aquaculture stations located within the lagoon.

Keywords : Alexandrium pacificum, cysts, Dinoflagellate, microalgal culture
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