

## Phytoplankton Community Structure in the Moroccan Coast of the Mediterranean Sea: Case Study of Saiidia, Three Forks Cape

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**Abstract :** The study on the composition, abundance, and distribution of phytoplankton was conducted along the Moroccan coast of the Mediterranean Sea (Saiidia - Three Forks Cape) in April 2018. Samples were collected at thirteen stations using Niskin bottles within two layers (surface and deep layers). The identification and enumeration of phytoplankton were carried out according to the Utermöhl method (1958). A total number of 54 phytoplankton species were identified over the entire survey area. Thirty-six species could be found both in the surface and the deep layers while eleven species were observed only in the surface layer and seven in the deep layer. The phytoplankton throughout the study area was dominated by diatoms represented mainly by *Nitzschia* sp., *Pseudonitzschia* sp., *Chaetoceros* sp., *Cylindrotheca closterium*, *Leptocylindrus minimus*, *Leptocylindrus danicus*, *Dactyliosolen fragilissimus*. Dinoflagellates were dominated by *Gymnodinium* sp., *Scrippsiella* sp., *Gyrodinium spirale*, *Noctulica* sp, *Prorocentrum micans*. Euglenophyceae, Silicoflagellates and Raphidophyceae were present in low numbers. Most of the phytoplankton were concentrated in the surface layer, particularly towards the Three Forks Cape ( $25200 \text{ cells}\cdot\text{l}^{-1}$ ). Shannon species diversity (ranging from 2 and 4 Bits) and evenness index (broadly  $> 0.7$ ) suggested that phytoplankton community is generally diversified and structured in the studied area.

**Keywords :** abundance, diversity, Mediterranean Sea, phytoplankton

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