# The role of sediment Features on abundance and diversity of dinoflagellate cysts in Chabahar Bay

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**Abstract**
Dinoflagellate is one of the most important groups of phytoplankton which produces cyst in their life history and also under unfavorable environmental conditions. Cyst in sediments has a major role in leading and blooming of different species of phytoplankton. In this study, sediment samples were taken from Chabahar bay in September 2013. The cyst abundance in station 4 on based ecological indexes of dominance, richness and diversity of species. As a result, 23 cysts species belonging to 7 genera of dinoflagellate were identified. *Scrippsiella* was the most abundant genus and *Alexandrium* and *Dubridinium* had the leas density. The species abundance showed significant difference in stations based on one way analysis variance. In this study sediments grain size and total organic matter were determined. According to our findings, the rate of total organic matters (TOM) in sediment had a direct effect on abundance and distribution of dinoflagellate, as there is a positive correlation between the TOM with distribution and abundance of dinoflagellate cysts. The highest cysts abundance 2399 number in 100 gram sediment was observed in station 3. This station had also the highest number of organic substances. The index rate of species richness and the diversity in station 3 were 2.31 and 4.13, more than the other stations. Totally, this research gives us useful information about potential of harmful algae bloom in the study area.

**Keywords:** Species diversity, Sediments, Chabahar Bay, Dinoflagellate cysts, Phytoplankton.