



The presence of toxic dinoflagellate *Amphidinium* sp. (Myzozoa) in the coastal waters of Sea of Oman with the potential to cause Harmful Algal Blooms (HABs)

Attaran-Fariman G. ^{1*}; Asefi M.A. ¹

1-Department of Marine Biology, Faculty of Marine Sciences, Chabahar Maritime University, Iran

*Corresponding autor's Email: gilan.attaran@gmail.com

Abstract:

The aim of this study is provide unialgal strains from HABs former species and accurate identification, isolated from the Sea of Oman. In the February 2020, the presence of a dinoflagellate, *Amphidinium* was observed simultaneously with the blooming of *Noctiluca scintillans* in the coastal waters of Chabahar Bay located in the northern part of Sea of Oman. Sampling of seawater was performed by sterile one-liter bottles, and salinity, temperature, and pH parameters were measured. In the laboratory, the sampled species were identified, purified and counted. Upon initial examination based on morphology, the species was most similar to *Amphidinium carterae*. A total of 13 phytoplankton were identified, to associate with this bloom, the most abundant after *N. scintillans* dinoflagellate belonging to *A. carterae* species (600 cells per liter). The single cells of the species was isolated from the water and transferred to Petri dish containing F2 medium, and the unialgae isolate was kept in Phycolab's room at 12D:12L at 25°C±1°C. The finding of this study revealed that *A. carterae*, one of the most harmful algae species (HABs), is presence in the Chabahar Bay region and can cause Bloom in suitable environmental conditions and it may resulted to HABs. According to studies, the high density of this species is associated with the production of toxins and reduced oxygen and it can cause losses in aquatic animals, especially fish. First step in each HAB study is accurate investigation and identification of red tide dinoflagellates species in an area and keep alive species in vitro in order to more study. This can be lead to a more precise understanding the life cycle of these bloom former species and their presence time in the water column, and thus lead to better monitoring and control decisions to prevent or minimize environmental damage and ecosystem and human health.