

Comparative monitoring of dominant symbiont clades of *Symbiodinium* in reef-building corals of eastern Kish Island, Persian gulf

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Abstract

Aim and Background: *Symbiodinium* is a unicellular biflagellate alga that performs symbiosis with certain invertebrates. Different clades of *Symbiodinium* show variety of physiological features that could have uneven affect on the hermatypic corals stability and survival in various environmental conditions and geographical locations. In this study, Clades of symbiotic zooxanthellae of hermatypic corals of eastern Kish Island were compared to samples taken in 2007.

Materials and Methods:

Samples were taken at depth of 2 to 5 meters from 5 coral species including *Acropora arabiensis*, *Platygyra daedalea*, *Porites compressa*, *Acropora downingi* and *Psammacora contigua*. Coral colonies were air brushed in order to separate *Symbiodinium* cells. DNA was extracted using CTAB-Chloroform method. LSU (Large Subunit Ribosomal DNA) region was used as target for amplification. Finally PCR products were sequenced.

Results: Results did not show any difference between Corals' symbionts and the study in the area during 2007. None of the studied coral species have switched or shuffled their symbionts populations.

Conclusion: Taking into account inhospitable condition and shallowness of eastern parts of the Kish Island, presence of clade D might be an adaptive or acclimatized response due to dominant regional condition.

Keywords: Kish Island, *Symbiodinium*, Hermatypic Corals, Acclimatization, Sequencing

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