

Post-bleaching recovery of transplanted coral nubbins in Abu Al Abyad Island of Abu Dhabi, United Arab Emirates

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The catastrophic bleaching phenomenon is being noticed in several parts of the world since April 2010. Even though the Gulf water corals are accustomed to higher temperature and salinity fluctuations, they are also prone to extreme temperature anomaly (Riegl, 2003). This evidences the recent global mass bleaching and its influence on the Scleractinian corals of Abu Al Abyad Island of Abu Dhabi (United Arab Emirates). The coral reef strength of Abu Al Abyad has significantly reduced after 1998 and 2002 bleaching phenomena (Thabit, 2002). Coral propagation study has been already initiated to restore the coral reefs in the vicinity of this island. After the global alarming of this mass bleaching, the Scleractinian corals of this island are monitored for bleaching event since April, 2010.

Eventually, the bleaching symptom was initially observed in the transplanted corals *Acropora arabensis* in the mid of July. The rightmost nubbin of the table was taken as a reference for the recovery study (Fig. 1). The temperature logger data revealed that, the water temperature has risen up to the maximum of 37°C in the month of July. However Zooxanthellae were expelled, the corals were noticed with active polyps in the study site. The selected nubbin was revisited at once in two months to observe the recovery pattern. The Zooxanthellae were initially reassembled at the base of the nubbin and gradually progressed towards the apex.



Fig. 1 Bleached coral nubbins of *Acropora arabensis*



Fig. 2 Coral nubbins inhabited with turf algae after bleaching



Fig. 3 The recovered coral nubbins after the bleaching

During this period, the turf algae were found inhabited on the infested colonies covering the vicinity (Fig. 2). The algal accumulation on the nubbin was cleaned during the consequent visits which promoted the nubbin recovery within 5 months. Whereas the corals left without cleaning were completely dead due to algal competency. Since the temperature has been fallen down to normal in the consecutive months, the gradual recovery of the coral was noticed, while the complete recovery was observed in the month of December (Fig. 3).

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