

Spatial variability in juvenile coral bleaching from settlement panel experiments in the Gulf of Thailand

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Coral recruitment has been studied for a few decades with the main objective of understanding the processes sustaining coral populations and recovery from disturbances, particularly coral bleaching events. The impacts of coral bleaching include low coral reproductive output, reduced growth rates, increased susceptibility to diseases and elevated mortality rates. The severe mass coral bleaching events in the Gulf of Thailand were recorded in the years 1998 and 2010. The coral bleaching also occurred in the Gulf of Thailand in summer months of 2018. This study aimed to examine spatial variability in juvenile coral bleaching from the settlement panel experiments at three study sites in Mu Ko Chumphon, the Western Gulf of Thailand. The settlement panels were made of gypsum and submerged during April 2017 to May 2018. Twelve panels were attached to the iron frames in vertical, horizontal and oblique positions. The major coral recruits on the settlement panels were *Pocillopora* spp. Numbers of bleached *Pocillopora* recruits on the panels were greatly different among the study sites. The highest percentage of bleached coral recruits on the panels was observed at Ko Ngam Noi (70%), followed by Ko Rungajew (38.9%) and Ko Kula (27.8%). The results imply that the 2018 coral bleaching event may have low impacts on juvenile corals on coral reefs in the Western Gulf of Thailand. However, appropriate coral reef management strategies should be implemented to cope with coral bleaching impacts and other anthropogenic disturbances in order to enhance coral reef resilience.

Keywords: coral bleaching, Gulf of Thailand, *Pocillopora*, recruitment, resilience

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