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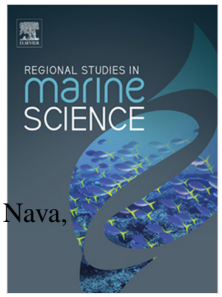

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Size structure and possible bleaching susceptibility of mushroom corals in the Philippines following a bleaching event

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ABSTRACT

The extent and severity of mass coral bleaching events vary among geographic locations and bleaching response varies among coral genera. Mushroom corals (Fungiidae) are known to occur in the tropical Indo-Pacific, where they can form dense multi-species assemblages. This offers opportunities to study interspecific variation in bleaching susceptibility during mass bleaching events. This study assesses bleaching in discoidal mushroom corals of several genera in shallow (2 to 6 m) areas of Toroso Reef in Talim Bay, Luzon Island, Philippines during the 2010 mass coral bleaching event. Bleaching condition and assemblage size structure were determined through counts and diameter measurements of mushroom corals from transect photographs taken during and after (May and October 2010) the bleaching event. Bleaching occurrences increased between months and the mean diameter of the assemblage was significantly larger in October than in May, where mortality of smaller bleached individuals could have positively skewed the size structure of the assemblage between months. If-then hypotheses, using isometric growth and bleaching condition as variables, were tested to determine possible fates of the assemblage between May and October. While effects of bleaching on an individual level were not deduced in this study, results indicate that unbleached mushroom corals in the May assemblage bleached and grew isometrically, remained unbleached and did not grow, or bleached and recovered but did not grow. These findings contribute to the understanding of how mushroom corals respond to bleaching and