ABSTRACT

CHANGE ON A JAMAICAN NORTH COAST REEF:
variations in coral community structure to a depth of 46m

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Jamaican reefs were once healthy, diverse and spatially complex. They are now dominated by algae and considered degraded although some locations may exhibit signs of a phase shift recovery. This study documents the current structure of a Jamaican north coast coral assemblage; identifies coral species responsible for temporal and spatial changes in the community and assesses species-specific coral bleaching and recovery following the 2005 pan-Caribbean bleaching event. Assemblage data were collected from a March 2005 video survey of a section of Discovery Bay reef (to -46m) while peer-reviewed publications provided past assemblage data. Bleaching data were collected from November 2005 to August 2006 photo-transects of specific depth contours and tagged corals established on this reef. Detailed analyses of community composition and spatio-temporal similarity were carried out with PRIMER-E and SPSS software. Mean coral cover from all depths was 16.6% from 38 species of coral. Acropora palmata was absent from the shallow Palmata zone. At mid-water depths, coral cover was low. In deep water, high coral cover was dominated by Agaricia and Montastrea spp. Change in the coral assemblages was attributable to increased numbers (or biomass) of select species. Species replacement occurred over the reef’s depth profile.