High diversity and abundance of scleractinian corals growing on and near mangrove prop roots, St. John, US Virgin Islands

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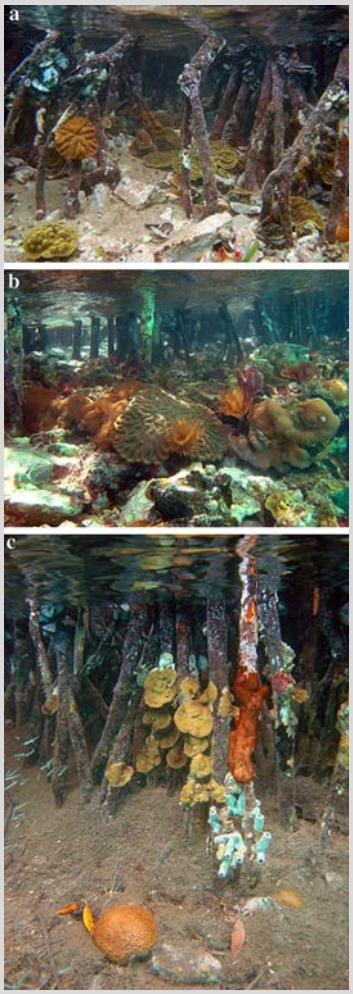

Fig. 1 Several species of corals growing directly on or near the prop roots of red mangrove trees: **a** *C. natans*, *Agaricia* spp., and *P. astreoides*, **b** large colonies of *M. faveolata* and *C. natans*, **c** *S. siderea* (foreground) and *Agaricia* spp. on prop roots

A narrow zone of red mangroves fringes the shorelines of four small bays in Hurricane Hole, within Virgin Islands Coral Reef National Monument (VICRNM) on St. John. In two of these bays, Otter Creek and Water Creek, a particularly high abundance and diversity of corals are growing directly on or near the prop roots (Fig. 1a,b,c). To date, 28 coral species have been found: *Stephanocoenia intersepta*, *Agaricia* sp., *Agaricia agaricites*, *Siderastrea siderea*, *S. radians*, *Porites porites*, *P. astreoides*, *P. furcata*, *P. divaricata*, *Favia fragum*, *Diploria strigosa*, *D. labyrinthiformis*, *D. clivosa*, *Manicina areolata*, *Colpophyllia natans*, *C. amaranthus*, *Montastraea annularis*, *M. faveolata*, *M. franksi*, *M. cavernosa*, *Oculina diffusa*, *Meandrina meandrites*, *Dendrogyra cylindrus*, *Scolymia cubensis*, *Mycetophyllia* sp., *Eusmilia fastigiata*, *Cladocora arbuscula*, and *Tubastrea coccinea*. The size of many of the colonies, including some *M. faveolata* and *C. natans* colonies over 1 m across (Fig. 1b), indicate that they survived the 2005/2006 bleaching and disease event that caused losses of over 60% of the coral cover on St. John reefs (Rogers et al. 2008). Shading by the mangroves possibly reduced the thermal and photic stress on these corals. The coral diversity in these mangroves may be higher than for other Caribbean mangrove systems. Few published papers include data on corals in these habitats. Two comprehensive reviews of the biology of mangroves make no reference to corals on or near prop roots (Kathiresan and Bingham 2001; Nagelkerken et al. 2008). The number of corals in Hurricane Hole, particularly the new recruits on the prop roots (Fig. 1c), may have increased since the establishment of the VICRNM in 2001, as boaters are not permitted to overnight in these bays or to tie their boats to the mangrove trees as was done in the past.

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Reef sites

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