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A survey of Red Mangrove *Rhizophora mangle* prop root community diversity along a latitudinal gradient

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Climate change is causing shifts in species geographic distributions. This trend is seen throughout the globe but the impact is especially noticeable in marine environments, which are highly sensitive to phenological and ecological alterations. Here, systemic shifts have cascading effects on the food web, productivity, and event timing. Throughout the tropics and the subtropics, mangrove trees act as the primary foundation species that dominate the intertidal zone. In particular, red mangroves *Rhizophora mangle* play a crucial role by acting as substrate for sessile species within their ecosystems. In these ecosystems, secondary foundation species that can colonize the prop roots of the red mangroves thereby further affecting the structure of the community. The original habitat architecture limits species variety and the effectiveness of species to utilize the space. Habitat architecture is strongly influenced by the foundation species that form the base for community structure. Investigating the connections between a primary foundation species, secondary foundation species, and the resulting biodiversity of sessile species is critical to understanding the variability of the ecosystem. Association with certain foundation species may provide a more positive environment for certain taxa than others and thus ease stressors that otherwise could functionally eliminate a species from the ecosystem. In addition, these associations can have cascading effects on neighboring species and neighboring ecosystems. Here, we conducted a presence/absence survey from Key West to the Kennedy Space Center to identify the species that utilized mangrove prop roots as habitat, their associations, and distributions.