AREA ABUNDANCE OF HAWKSBILL PREY ITEMS WITHIN THE SANDY BAY WEST END MARINE RESERVE, ROATAN, HONDURAS

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Hawksbills are thought to be primarily spongivores throughout their range, helping to control the population of sponges and aiding the health of coral reef ecosystems by limiting competition for space. However, hawksbills have also been observed foraging on small invertebrates and algae. Recently, Baumbach et al. (2014) observed juvenile hawksbills foraging on sponge (*Geodia spp.*), brown algae (*Dictyota spp.* and *Lobophora spp.*), green alga (*Halimeda spp.*) and red alga (*Kallymenia spp*.) within the Sandy Bay West End Marine Reserve (SBWEMR). Hawksbills have rarely been observed foraging on algae and have not previously been reported feeding on *Kallymenia spp.* throughout their range. To determine the area abundance of each identified prey item, we conducted representative transects for each of 15 dive sites. Five to seven transects per site were conducted by laying a 30 m rope, marked every five meters with colored string and a number, over a section of the reef. We placed a 1 m^2 quadrat at each of the six markers, taking photographs from approximately 2 m above each quadrat. Photos were sorted by dive site and transect number, taken into Photoshop CS6 for editing, and imported into Coral Point Count with Excel extensions (CPCe). Each of the identified prey items were then traced to determine the area of abundance within each dive site. A percentage of total m^2 for each dive site was computed by dividing the total area of each prey item by the total number of quadrats in each dive site (30, 36, or 42). Mean percent areas and standard deviations were then calculated in Microsoft Excel 2016 for each prey item. Although hawksbills are known to be spongivores, we found the sponge *Geodia* has the lowest average density for dive sites (0.04% ± <0.001% SD), whereas algae represent the highest average density across dive sites (10.34% ± 0.030% SD). *Dictyota* represents the highest average density of the algae (4.51% ± 0.035% SD) followed by *Lobophora* (1.70% ± 0.023% SD), whereas *Halimeda* represents the lowest average density (0.15% ± 0.002% SD). *Kallymenia spp.* was not observed during area analysis due to its growth on the underside of corals and thus, is not reported. However, during dives, we were able to locate and collect samples of this prey item for further analysis. We suggest that the high percentage of dead coral (19.91 ± 6.51% SD) within the SBWEMR provides a large area on which macroalgae may grow. Future studies will investigate the full range of prey items available and their energy benefits. These investigations may help explain why hawksbills are frequently observed foraging on algae, and may help determine if the boundaries of the SBWEMR are adequate for this population.

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