Herbivory and Feeding Preferences in Crabs: Nutrient additions impact the structure of marine ecosystems by altering feeding relationships of organisms that live within them. Specifically, elevated nutrient concentrations may lead to increased herbivory if: 1) plant nutritional value is raised and herbivores become tolerant of chemical defenses or 2) plants start to produce fewer defenses. At the same time, nutrient additions may lead to decreased herbivory if plants start to produce greater amounts or types of defenses. Therefore, to examine how nutrient additions impact feeding relationships, a fertilization study is being conducted that will assess how changes in plant chemistry affect crab feeding in mangrove ecosystems. Students have been working on processing leaves for chemical analysis. They have been drying, weighing, and grinding mangrove leaf material.

This plant matter will be analyzed for CNP values as well as for mangrove defenses including phenolics, condensed tannins, and terpenes. This summer, analysis of nutritional chemistry will be contracted out. In addition, methods will be developed for the isolation and characterization of terpenes within mangrove leaves. Students will be trained in column chromatography, TLC, and HPLC. If time permits, phenolics, tannins, and terpenes will be quantified as well.

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