The Mullineaux Lab: Lara Gulmann's Research

Role of Digestive Symbionts in the Marsh Fiddler Crab

The activities of gut-associated microbes are essential for optimization of digestive efficiency in many marine species. I am studying a digestive association between fiddler crabs (*Uca pugnax*) and their resident gut microbiota. Crab-microbiota interactions are important in salt marsh ecology both in terms of impact on the crabs' physiology as well as alterations of material passing through their guts. My goals are to determine if resident microbiota are present throughout the year, document the biomass and identity of the microbiota and to investigate the nature of the association. I am predicting that the interaction is a mutualism because of the potential for both the hosts and microbiota to benefit from the association. Specifically, I expect that the resident microbiota are providing their hosts with valuable digestive enzymes and that the hosts are providing the microbiota with a stable environment and a consistent food supply. Results from this research will contribute to a better understanding of the combined role of fiddler crabs and their microbiota in salt marsh ecology.

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