Rodriguez Key Field Trip with Diversity Indexing

Grade Level: High School or Above (**Must have participated in our Diversity Indexing Lab**)

Summary: The transitional ecotone habitats within the Florida Keys often harbor diverse communities. *Neogoniolithon strictum* ("Gonio") is a branching crustose coralline algae that creates a microhabitat for a diverse array of invertebrates. Students will snorkel the unique Gonio ecotone habitat and participate in a lab on the boat to observe the invertebrate community that lives within the Gonio. Students will then use the tools and knowledge gained during Diversity Indexing Lab to computer the diversity index for the area.

Program Objectives:

- Students will snorkel the unique ecotone habitat that a "Gonio" shoal creates
- Students will participate in a lab once back on the boat to observe the diverse community within the structure created by the coralline algae. The majority of the invertebrates discovered during the lab are not visible during the snorkel.
- Students will be able to identify *Neogoniolithon* algae and five species of invertebrates that live within *Neogoniolithon*
- Students will computer diversity index and compare index to number found for Largo Sound.

Concepts Covered:

- The algal shoal habitat (food, shelter, substrate)
- Zonation of the various habitats within the Florida Keys waters
- Diversity in different zones and ecotones
- Importance of *Neogoniolithon* algae as a habitat
- Diversity index

Vocabulary: ecotone, zonation, calcareous, coralline algae, Simpson's diversity index

Procedures: The field trip will begin at the dock with a brief discussion on ecotones, the specific shoal habitat the group will be snorkeling with an explanation of *Neogoniolithon* ("Gonio") algae, and examples of some of the organsims they can expect to see while snorkeling. Students will board the boat and snorkel the shoal. During the snorkel, MarineLab staff will collect the coralline algae. Once on the boat, students will break apart the algae to discover an array of invertebrates. Invertebrates will be identified and discussed. Using the data they have collected and the knowledge learned during the Diversity Indexing Lab, students will compute Simpsons' diversity index for the area and compare this number to index found for Largo Sound during their previous lab. Data will be discussed. Dependent on time and weather, students will be taken to a second snorkel site (North side of the island at the plane wreck or a patch reef.)

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