



## FAU Institutional Repository

<http://purl.fcla.edu/fau/fauir>

This paper was submitted by the faculty of [FAU's Harbor Branch Oceanographic Institute](#).

Notice: ©1997 Springer-Verlag. This manuscript is an author version which should be available at <http://www.springerlink.com> and may be cited as: Littler, M. M., & Littler, D. S. (1997). Epizoic red alga allelopathic to a Caribbean coral. *Coral Reefs*, 16(3), 168.



### *Epizoid red alga allelopathic (?) to a Caribbean coral*

The red macroalga, *Dasyopsis spinuligera* (Collins & Hervey) Howe is epizoid on the reef-building coral, *Madracis decactis* (Lyman 1859). Upper photo = 0.3X, lower photo = 1.0X). During a 1996 expedition to the eastern Caribbean, we observed an epizoid species of *Dasyopsis* colonizing and killing the mound-forming coral, *M. decactis*, 1.5-m deep on the windward seagrass flats off Caicos Island (at 21° 51.161'N, 72° 19.159'W). The alga had recruited and colonized outward from a centrally infected area, growing directly on the living coral tissue, which then died as the *D.*

*spinuligera* population continued to expand. The cause of the coral death, hypothetically, appeared to be an allelochemical interaction (i.e., a secondary-substance that induced

death), rather than physical interference (e.g., smothering, shading; Lewis 1986), since mortality was observed to occur several centimeters from the algal thalli. The only other example of an epizoid alga chemically lethal to corals is black-band disease (BBD, *Phormidium corallyticum* Ruetzler & Santavy, Cyanophyta), which occurs in Atlantic (Ruetzler et al. 1983), Red Sea, Philippine (Antonius 1985), Australian (Miller 1996), and South Pacific (Littler and Littler 1996) reef systems. However, the microscopic BBD spreads as a continuous band and kills by direct contact.

*Acknowledgements.* The ship-based May-June Caribbean expedition was funded by NSF Grant DEB-9400534 and by the Atlantic Foundation. Smithsonian Marine Station Contribution 427 and Harbor Branch Oceanographic Institution Contribution 1185.

#### *References*

- Antonius A (1985) Coral diseases in the Indo-Pacific: a first record. *PSZNI: Mar Ecol* 6(3): 197–218  
Lewis S (1986) The role of herbivorous fishes in the organization of a Caribbean reef community. *Ecol Monogr* 56: 183–200  
Littler MM, Littler DS (1996) Black band disease in the South Pacific. *Coral Reefs* 15: 20  
Miller I (1996) Black band disease on the Great Barrier Reef. *Coral Reefs* 15: 58  
Ruetzler K, Santavy DL, Antonius A (1983) The Black Band Disease of Atlantic reef corals. III. Distribution, ecology, and development. *PSZNI: Mar Ecol* 4(4): 329–358

M.M. Littler<sup>1</sup>, D.S. Littler<sup>1,2</sup>

<sup>1</sup> Department of Botany, National Museum of Natural History, Smithsonian Institution, Washington, DC 20560, USA

<sup>2</sup> Marine Botany Department, Harbor Branch Oceanographic Institution, 5600 U.S. 1 North, Fort Pierce, Florida 34946, USA