Epidermal lesions and mortality caused by vibriosis in deep-sea Bahamian echinoids: a laboratory study

John C. Bauer, Craig M. Young

Division of Marine Science, Harbor Branch Oceanographic Institution, 5600 U.S. Hwy. 1 N., Ft. Pierce, Florida 34946, USA

*Corresponding author. E-mail: youngc@hboi.edu

ABSTRACT: When significant mortality of the bathyal spatangoid echinoid Paleopneustes cristatus occurred under laboratory conditions, we investigated the cause and course of the disease by culturing and identifying internal pathogens, then experimentally infecting healthy urchins with isolates of the suspected disease organism. The pathogen was determined to be the Gram-negative halophilic bacterium Vibrio alginolyticus. This species was also recovered from frozen post-challenge specimens of P. cristatus and from moribund individuals of Archaeopneustes hystrix, another spatangoid reared under similar in vitro conditions. This is the first experimental study of bacterial disease in any deep-sea invertebrate.

KEY WORDS: Bathyal echinoids · Epidermal lesions · Vibriosis · Mortalities

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