Abstract

The direct impacts of coral diseases on coral populations have been assessed by quantifying coral tissue loss and colony mortality, but the determination of the indirect effects of diseases, such as disruptions in life history functions (e.g. reproduction, growth and maintenance), are more difficult to ascertain and have been scant. This study involved a comparison of various measures of reproductive output from histological slides of healthy tissue samples of Montastraea faveolata and tissue samples from colonies with white plague (WP) infections in Dominica (West Indies). Although the variability in the reproductive data was high, WP had significant negative impacts on the percentage of reproductive polyps per cm², the percentage of reproductive mesenteries within a polyp, oocyte quantity per polyp, mean oocyte volume (mm³), and fecundity (oocyte volume per cm² of tissue). However, these effects were only observed in the tissue directly impacted by the WP disease "band" and were not observed in tissue samples taken 20 cm away from the lesion. Therefore, the effects of a coral disease (WP) on reproductive output are localized and not expressed colony-wide. Rev. Biol. Trop. 58 (Suppl. 3): 99-110. Epub 2010 October 01.

Keywords

Coral disease, white plague, coral reproduction, Montastraea faveolata, Dominica.