

What influences predation by *Coralliophila*? Exploring the relationships between corals, symbiotic zooxanthellae, and corallivorous gastropods

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Coral feeding gastropods can occur in high numbers and may have severe impacts on reefs, but their ecology is still poorly understood. This study explores which intraspecific variations of corals (such as depth, color morph and associated zooxanthellae strain) influence predation by corallivorous gastropods. Samples, field data and pictures of corals and snails were taken in reefs around Bocas del Toro, in the Caribbean region of Panama. Zooxanthellae were identified by Denaturing Gradient Gel Electrophoresis (DGGE), after DNA was obtained from corals with a recently developed micro-invasive technique, using a syringe with a blunted needle, and was herein proven to be applicable for a variety of coral species. The study found that (1) corals of the *Monastrea annularis* complex that incorporate white structures ('white layer') of unknown origin in their tissue are less often infested by *Coralliophila abbreviata*. (2) When associated with one rare symbiont strain of clade B (8%), *Acropora cervicornis* bears higher densities of *C. caribaea* than if associated with the other, more common strain of clade A (92%). General occupation rates of *A. cervicornis* in Bocas del Toro are low for *C. abbreviata* (4%) and high for *C. caribaea* (63%) compared to other locations in the Caribbean. (3) *C. caribaea* differs from its congener by not undergoing sex change, a less destructive feeding strategy by prudent sessile feeding, which does not cause open lesions, and seemingly remaining longer on the same coral polyp. Together with the known fact that it transmits white-band-disease, the study suggests that high abundances of *C. abbreviata* on *A. cervicornis* are more alarming than of *C. caribaea*, which should be addressed in further studies.