Does Acanthaster planci preferably prey on the reef zoanthid Palythoa tuberculosa?

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The crown-of-thorns starfish Acanthaster planci is generally known as an intensive predator on hermatypic corals, especially Acropora spp. (Pratchett, 2007). Outbreaks of A. planci cause serious damages to coral reefs. In contrast, it is less known that A. planci also consumes zoanthids. We observed A. planci preying on a reef covering zoanthid, Palythoa tuberculosa at night between August and September 2010, in the outer reef flat of Mizugama, Okinawa. Several individuals aggregated on P. tuberculosa colonies (Fig. 1). The individuals were relatively small, approximately 5–10 cm in radial length. Acanthaster planci preying on P. tuberculosa were also observed in the daytime in October 2010 in Lyudao, Taiwan. According to Gleibs and Mebs (1999), A. planci predates upon Palythoa in the South Pacific, which may indicate this is a usual event.

Interestingly, at Mizugama, no individuals were detected on neighboring Acropora spp. colonies that probably had recruited after the mass bleaching event of 1998. From additional observations in April 2011, neither A. planci individuals nor feeding traces of them were detected on P. tuberculosa colonies, suggesting that preying on P. tuberculosa occurs seasonally. At Mizugama, P. tuberculosa breeds in August (Hirose et al. 2011). In fact, pink-colored mature eggs were observed within colonies damaged by A. planci feeding. It is possible that A. planci preys on P. tuberculosa to obtain a more nutritious food, their eggs.

References

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