



Fig. 1 *Trapezia* crab defending its coral host, *Pocillopora damicornis*, from a crown-of-thorns starfish. (Photo by P. Parks)

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References

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Coral crabs influence the feeding patterns of crown-of-thorns starfish

Trapezia and *Tetralia* crabs (Family Trapeziidae) form an obligate association with scleractinian corals and often defend their coral hosts from the corallivorous starfish, *Acanthaster planci* (Weber & Woodhead 1970; Glynn 1976). Crabs of the genus *Trapezia*, which provide the best defence of their host colonies, occupy pocilloporid corals, whereas crabs of the genus *Tetralia* occupy only *Acropora* corals. When *A. planci* attempt to feed on pocilloporid corals, *Trapezia* crabs will attack the thorns of the starfish breaking them off at the pedicel (Fig. 1). *Tetralia* crabs on the other hand, pinch mainly at the tube feet of the starfish, and unlike *Trapezia* do not cause any noticeable damage to the starfish.

Variation in the effectiveness of *Trapezia* and *Tetralia* crabs in defending their host colonies exerts a major influence on the patterns of coral mortality during *A. planci* outbreaks. In feeding experiments where crabs were removed from all coral colonies we found that *A. planci* consumed both *Acropora nasuta* and *Pocillopora damicornis* in equal numbers. When *Tetralia* and *Trapezia* crabs were present in their respective host species, *A. planci* consumed all the *A. nasuta* colonies, but never consumed *P. damicornis*.