

# Coral reef fishes use crown-of-thorns seastar as habitat

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**Fig. 1** *Dascyllus flavicaudus* and *Siphamia* sp. (upper left) sheltering amongst the spines of *Acanthaster planci*. Photo by M.A. Steele

observed them occupying *Acanthaster* at other times during January (Fig. 1), also only when the host seastar was distant from the reef. During surveys in June along three transects (5, 10, and 20 m depth), we observed 11 *Acanthaster* and three of these that were more than 5 m from the reef were occupied by cardinalfish (2–9 per seastar, mean = 4.3) and one also had a single damselfish that was too small and unpigmented to identify.

We know no prior records of damselfishes occupying *Acanthaster*. The outcome of this apparently short-term, opportunistic, commensal relationship is unclear. Only recently settled damselfishes were seen inhabiting *Acanthaster*, implying that individuals either move to more typical habitat after settling on *Acanthaster*, perhaps when seastars move near the reef, or die. In contrast, all life stages of the cardinalfish *Siphamia* sp., from recent settlers to adults mouthbrooding eggs were found on *Acanthaster*, as has been noted for other members of this genus (e.g., Allen 1972). These observations reveal previously unappreciated flexibility in the range of habitats used by several coral reef fishes. Future studies will be necessary to document whether this association persists beyond the current outbreak of *Acanthaster* and to determine the types and magnitude of potential effects on the population dynamics of the fish species involved.

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## Reference

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Reef sites

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