

Fish predation on Hawaiian corals

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Fig. 1 *Cantherhines dumerilii* preying on *Porites lobata*



Fig. 2 *Arothron meleagris* about to take a bite of *Porites compressa*

Frequent predation on living coral by barred filefish (*Cantherhines dumerilii*) and spotted puffers (*Arothron meleagris*) may be a substantial energy drain on coral populations in the main Hawaiian Islands, and may contribute to the irregular morphology of the corals.

Cantherhines dumerilii preys mainly on *Porites lobata* and *Pocillopora meandrina*, leaving small superficial lesions. *A. meleagris*, on the other hand, makes substantial concave excavations on *P. lobata* heads and *Porites compressa* fingers (Figs. 1, 2, 3).

Predation only kills the smaller corals. In a healthy community, on *P. compressa* colonies over 1–2 cm tall, coral tissue starts to regenerate across exposed skeleton within 8 days. Although the bite marks are not healed beyond recognition before 42 days, this initial rapid recovery appears to prevent algae from colonizing the open lesions.

Grazing by herbivorous fishes may also limit algal colonization. Our surveys show that predation is abundant, but due to this process of recovery, the intensity of predation has gone largely unnoticed. The process of recovery may be a chronic energy drain (Meesters et al. 1994) for *P. compressa*, *P. lobata*, and other Hawaiian coral populations.

The abundance of bites appears disproportionate to the small number of *A. meleagris* observed. This is may be because *A. meleagris* is shy and more abundant than is indicated by visual surveys (I.D. Williams, personal communication).

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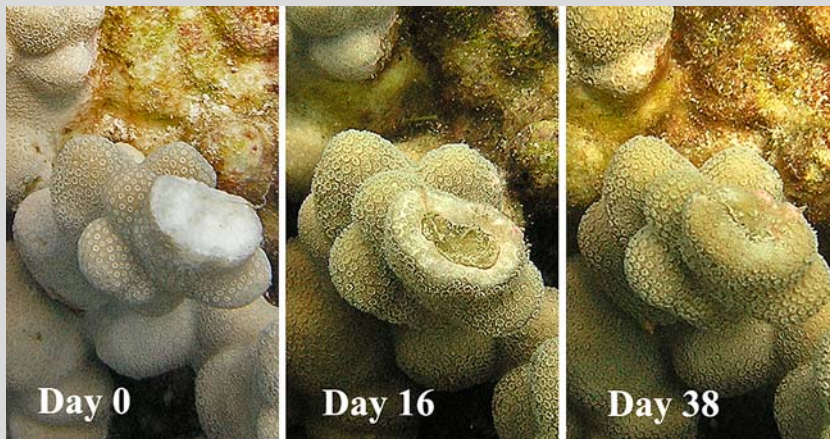


Fig. 3 Stages of tissue regeneration following a bite on *Porites compressa*

References

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D. Jayewardene (✉) · C. Birkeland
 Zoology Department, University of Hawaii, 2538 The Mall, Honolulu, HI 96822, USA
 E-mail: jayeward@hawaii.edu

Reef sites

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