Mass mortality of gorgonians due to a *Cyphoma gibbosum* (Linnaeus) population outbreak at Mona Island, Puerto Rico

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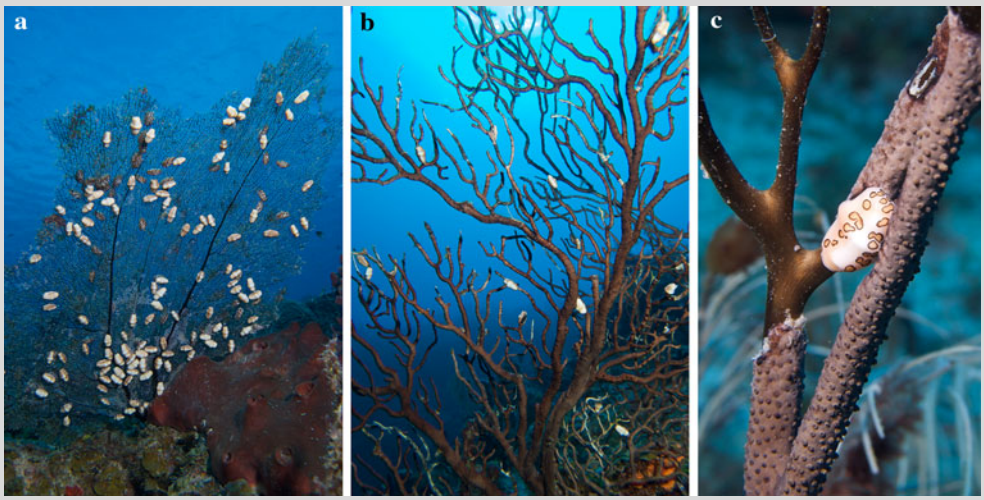

Fig. 1 Gorgonians with infestations of *Cyphoma gibbosum* at Mona Island. **a** Completely predated *Gorgonia ventalina*, **b** partially predated *Iciligorgia schrammi*, and **c** close up of predation effects on *Pseudoplexaura* sp.

Although the impact of predation by *Cyphoma gibbosum* has been reported as minimal on gorgonian survivorship (Yoshioka and Yoshioka 1991), during population outbreaks, their effects may influence the abundance and spatial distribution of gorgonians on coral reefs. In the Caribbean, localized *C. gibbosum* outbreaks have been documented since the 1980s (Williams and Bunkley-Williams 2000). At the remote coral reefs of Mona Island, Puerto Rico, an outbreak of *C. gibbosum* has decimated over 90% (based on roving surveys) of the shallow water gorgonians (Fig. 1a) since 2008. Although at first, only a few individual gorgonian colonies were affected by large numbers of snails in a localized area of the southern coast, a recent survey confirms the infestation is widespread throughout the island's coral reefs and gorgonian mortality is massive.

All gorgonians are colonized by extremely high numbers of *C. gibbosum* including *Eunicea* sp., *Gorgonia ventalina*, *Plexaura flexuosa*, *Plexaura* sp., *Pseudoplexaura* sp., *Pseudopterogorgia americana*, *Pterogorgia* sp., and the previously unreported *Iciligorgia schrammi* (Fig. 1b). Colonies with aggregations of *C. gibbosum* were observed to depths of 40 m and were more frequent on *G. ventalina.* The average number of snails per colony was 34.4 at four shelf-break sites, and the maximum number was of 190 snails per colony on *G. ventalina*. Predation completely denudes live tissue (Fig. 1c) sloughing the sclera layer and leaving the proteinaceous axes exposed to fouling by cyanobacteria and algae. Solitary *Hermodice carunculata* were observed on a few heavily infested colonies.

References

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Reef sites

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