

# Reef sites

## *Coralliophila* from Grand Cayman: Specialized coral predator or parasite?



**Fig. 1** *Coralliophila caribbea*. **a** Upper view. **b** Lower view. **c** View showing operculum (**b**, **c** same scale as **a**). **d** Proboscis inside a polyp. **e** Two specimens, each proboscis inside same polyp. **f** Feeding directly through coral tissues. *Proceraea* sp. **g** Near a polyp oral opening. **h** Worm with its head inside the oral opening

feeding for extended periods. Together with the presence of zooxanthellae in the digestive tract (Miller 1972), it suggests utilization of coral tissues and energy reserves, not kleptoparasitism (i.e., stealing food from polyps). In turn, the lack of feeding scars on *M. cavernosa* suggests a feeding strategy that is closer to parasitism than to specialized predation.

A similar behavior was observed in an undescribed species of autolytine polychaete (*Proceraea* sp.). It appears to live in the substrate surrounding the coral and feeds by inserting its head through the oral opening of the polyps (Fig. 1g, h). With two unrelated species apparently exploiting the same resources, we argue that energy reserves may be present in many other corals and exploited by *Coralliophila* and perhaps other scleractinian associates.

### References

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Species of *Coralliophila* are well-known cnidarian associates. *Coralliophila clathrata*, an obligate symbiont of the colonial zoanthid sea anemone *Palythoa*, feeds on nematocysts and zooxanthellae sloughed off in the host mucus (Robertson 1980). *Coralliophila abbreviata* rapidly consumes coral tissues causing substantial colony mortality. *Coralliophila violacea* remains sedentary and taps into coral energy reserves, a “prudent” sessile feeding strategy that allows the snails to feed without moving over long periods, maximizing energy exploitation while minimizing coral damage and mortality (Oren et al. 1998).

We found numerous specimens of *Coralliophila caribbea* (Fig. 1a–c) on *Montastrea cavernosa* (only coral observed) at Grand Cayman Island. This snail feeds by introducing its proboscis through the polyp’s oral opening (Fig. 1d, e) or, less frequently, through the coral epidermis (Fig. 1f), as previously observed for *C. abbreviata* (Miller 1972). Also a “prudent” strategy, this would allow sessile

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