

Hawaiian green turtles graze on bioeroding sponges at Maunalua Bay, O‘ahu, Hawai‘i

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Green turtles (*Chelonia mydas* (Linnaeus, 1758)) are primarily herbivorous as adults, consuming minimal amounts of sponge tissue in the Hawaiian Islands (<1 % gut content; Arthur and Balazs 2008) with occasional higher consumption rates in areas where sponges are more abundant (Seminoff et al. 2002). Here we report repetitive field observations of *C. mydas* feeding on sponges in Maunalua Bay (adjacent to Honolulu, O‘ahu, Hawai‘i) as originally reported by O‘ahu Diving on October 10, 2009 (Fig. 1A, B). These observations prompted us to collect sponge specimens at the *C. mydas* foraging site, which were subsequently identified as the boring sponge *Spheciospongia solida* (Ridley and Dendy, 1886) (Fig. C). This sponge lives attached to sand-buried dead coral skeleton in Maunalua Bay and is abundant in this wave-protected habitat. Repeated observations documenting opportunistic feeding behavior on the sponge *S. solida* provide further evidence that diet specialization in *C. mydas* is more complex than simple herbivory. We speculate that the collapse of the Maunalua Bay coral ecosystem in recent decades (including loss of coralline algae; Wolanski et al. 2009) may have increased the abundance of *S. solida*, which along with macroalgae became a more prevalent food source for *C. mydas*.

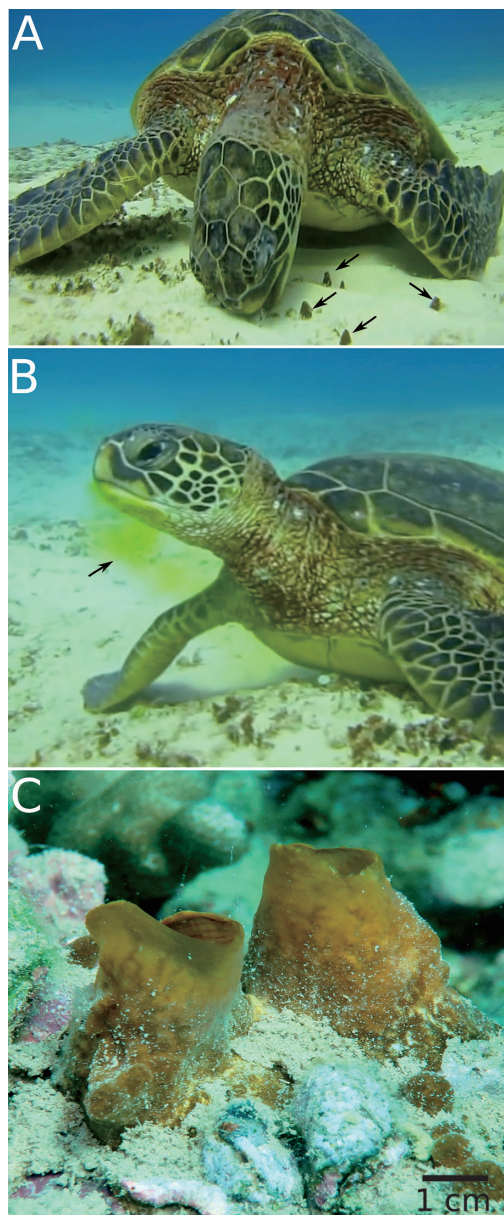


Fig. 1 Green turtle *Chelonia mydas* and prey sponge *Spheciospongia solida*. A. Green turtle selectively feeding on small individuals of *S. solida* (indicated by arrows). B. Exuded pigments from the chewed sponge tissue (indicated by arrows). C. Close in situ picture of *S. solida*. Live video footage of this event can be found here: <https://www.youtube.com/watch?v=HG4c8d2C88A>.

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