Reef sites

Hidden ecosystem function of rabbitfishes? *Siganus fuscescens* feeds on the soft coral, *Sarcophyton* sp.

Fig. 1 *Siganus fuscescens* grazing on algae growing on *Sinularia* sp.

Fig. 2 *Siganus fuscescens* feeding on *Sarcophyton* sp.

Fig. 3 Top of a colony of *Sarcophyton* sp. after being fed upon by a group of *S. fuscescens*. Black arrow: scars; Red arrow: ungrazed coral tissue

The rabbitfishes, *Siganus* spp., are generally classified as herbivores. A recent study shows that closely related *Siganus* species can express distinct ecosystem functions with one as a grazer of reef turf algae and the other primarily a grazer of off-reef detrital aggregates (Fox et al. 2009), suggesting that the herbivorous role of rabbitfishes on reefs might not be as uniform as previously thought. In August 2014, at the Hobihu Marine Protected Area (MPA), Kenting National Park (21°56.30'N; 120°44.75'E), southern Taiwan, where herbivorous fishes are dominated by *Siganus fuscescens* and the benthic community is composed of soft corals including *Sinularia*, *Lobophytum*, and *Sarcophyton*, we observed schools of *S. fuscescens* foraging at the tops of soft corals and grazing on turf algae growing on the coral surfaces (Fig. 1; Electronic Supplementary Materials, ESM 1). One of the *S. fuscescens* schools (ca. 35 individuals) continued to bite *Sarcophyton* colonies after the surface turf algae were cropped (Fig. 2; ESM 2), leaving distinct scars on coral surfaces (Fig. 3; ESM 2). Our observations indicate that chemical toxins and sclerites (van Alstyne et al. 1994) did not deter *S. fuscescens* from feeding on *Sarcophyton* and provide evidence that the feeding habits of some coral reef-associated fishes might be oversimplified and should be validated on a species-by-species basis (Bellwood et al. 2006; Fox et al. 2009).

References

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