Late detachment conceals serial budding by the free-living coral *Fungia fungites* in the Inner Gulf of Thailand

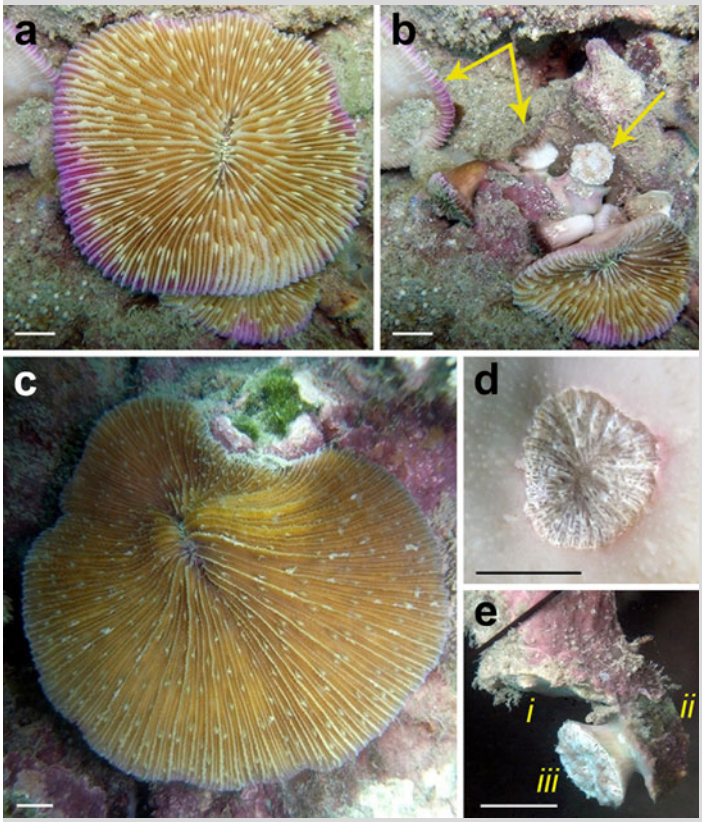

Fig. 1 *Fungia fungites* corals on reefs around islands in the Inner Gulf of Thailand. *Scale bars*: 1 cm. **a** Two attached corals and a loose disc (*left*) at Koh Lan. **b** Removal of largest disc (see **a**) from its stalk (*arrow*) revealed a cluster of small buds; one bud regenerating from the stalk vacated by the disc already loose (*double arrows*). **c** An attached disc (∅ 12.5 cm) with (**d**) large scar after detachment (∅ 15 mm) at Koh Khrok. **e** Removal of an attached disc (∅ 9.5 cm) reveals an empty stalk (*iii*), regenerated from two preceding generations of stalks (*i*, *ii*) at Koh Klung Badan

The free-living coral *Fungia fungites* (Linnaeus, 1758) (Scleractinia: Fungiidae) is a common species on Indo-West Pacific reefs, where it is most abundant in shallow reef zones. Prior to its free mode of life, the coral lives attached to a hard substratum by means of a stalk from which it separates by localized calcium dissolution (Yamashiro and Yamazato 1996). The abundance of this species may partly be related to its capacity to reproduce asexually by budding (Fig. 1). After a coral disc becomes detached from its stalk, a fresh scar is visible at its underside (Fig. 1d). From the empty stalk and the scar, asexual recruits (buds) may develop by regeneration (Fig. 1b) and grow until they also break off.

Normally, *F. fungites* corals detach when their diameter is less than 5 cm (Goffredo and Chadwick-Furman 2003; Gilmour 2004), but during a recent survey of 20 sites in the Inner Gulf of Thailand (February 2011), many large (∅ 7.5–12.5 cm) attached *F. fungites* corals were observed (Fig. 1a, c). Removal of large attached discs from their stalks revealed the presence of many smaller buds (Fig. 1b) and the occurrence of successive budding (Fig. 1b, e). As long as large corals remain attached, they may hinder the growth of their smaller clone siblings.

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