

Spawning behaviour in *Platygyra daedalea* off South Africa

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Coral spawning has never been observed in South Africa at the southernmost limit of scleractinian distribution along the East African Coast. Corals in the region are exposed to low temperatures (summer means of 26°C) and turbulent conditions (Schleyer et al. 2008), which may influence their spawning. Visiting the reefs at night is difficult, so 10 colonies of *Platygyra daedalea* (Ellis and Solander 1986) were collected on Two-mile Reef (27°31'376"S, 32°41'181"E) a few days before the full moon of February 2012 (07/02/12) and placed in open-water aquaria. The date of spawning in *P. daedalea* off South Africa was predicted from regular sampling of colonies from 2010. Spawning occurred over three consecutive nights (full moon +2 to +4 days) in 6–9 colonies at a water temperature of 26°C. The peak activity in spawning was observed at full moon +4 days when 9 colonies spawned synchronously. Field sampling showed that in-situ colonies also spawned around these dates. Sperm and egg bundles were released between 19:00 to 22:00, with peak release at 20:30. Individual polyps released single bundles in synchronous waves, every 15–30 minutes. Each bundle of gametes was visible in the polyp mouth for 0.5–2 h before release (Figs 1A, B). During this time, they were rotated inside the polyp mouth, probably to compress the gametes and facilitate bundle expulsion (Fig. 1C). After release, the polyp mouth continued to gape for several minutes (Fig. 1D). This spawning behavior has been reported in several *Platygyra* species (Babcock et al. 1986). In the present study, the bundles averaged 2.2 mm (SE=0.2, N=25) in diameter and contained an average of 89.2 oocytes (SE=15.9, N=15). Each polyp released 2–3 bundles per spawning night. A single *P. daedalea* colony with an average diameter of 10 cm could thus release up to 10,000 oocytes per night. *P. daedalea* is known to spawn dur-

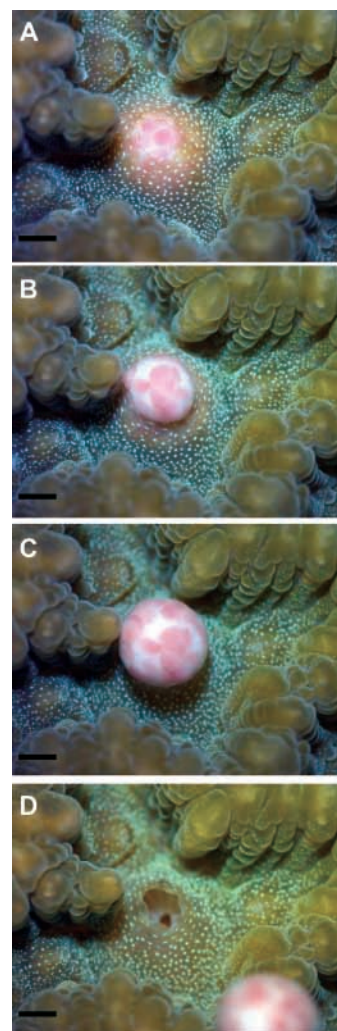


Fig. 1. A–D *Platygyra daedalea* polyp at various stages of spawning. Scale bar: 1 mm

ing the mass spawning period in Australia (Babcock et al. 1986) and may be a bi-annual spawner in Kenya (Mangubhai and Harrison 2008). This record of *P. daedalea* spawning in South Africa showed that its sexual reproduction is not limited to tropical reefs.

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