Electronic Supplementary Material 2

Latitudinal variation in monthly-scale reproductive synchrony among *Acropora* coral assemblages in the Indo-Pacific

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Determining the predicted day of spawning within the lunar month

To determine on which day of the lunar month *Acropora* species are most likely to spawn, we compiled *Acropora* spawning observations from Eastern Australia (Harrison et al. 1984; Wallace 1985; Willis et al. 1985; Babcock et al. 1986; Heyward and Babcock 1986; Van Oppen et al. 2002; Wild et al. 2004; Eyre et al. 2008), Western Australia (Simpson 1985; Babcock et al. 1994; Gilmour et al. 2009), the Red Sea (Shlesinger and Loya 1985; Bouwmeester et al. 2015; Bouwmeester et al. 2016), Indonesia (Tomascik et al. 1997), Japan (Heyward et al. 1987; Yeemin 1991; Hayashibara et al. 1993; van Woesik 1995; Omori et al. 2001; Fukami et al. 2003; Okamoto et al. 2005; Mezaki et al. 2007), Taiwan (Dai et al. 1992), the Philippines (Vicentuan et al. 2008); Guest et al. unpublished), Singapore (Guest et al. 2005; Guest et al. unpublished), American Samoa (Mundy and Green 1999), French Polynesia (Carroll et al. 2006), and Palau (Kenyon 1995). The peak days of spawning were then used to determine from which day of the lunar cycle were mature colonies more likely to spawn following the subsequent full moon.

The numbers of species recorded to spawn on each lunar day in each location were added, and a cumulative sum of *Acropora* records was plotted for each lunar day (ESM1 Fig. 1). The number of spawning records varied from 3 to 149 for each lunar day. The most common day of spawning was six days after full moon (149 spawning records), followed by four days after full moon (87 records).

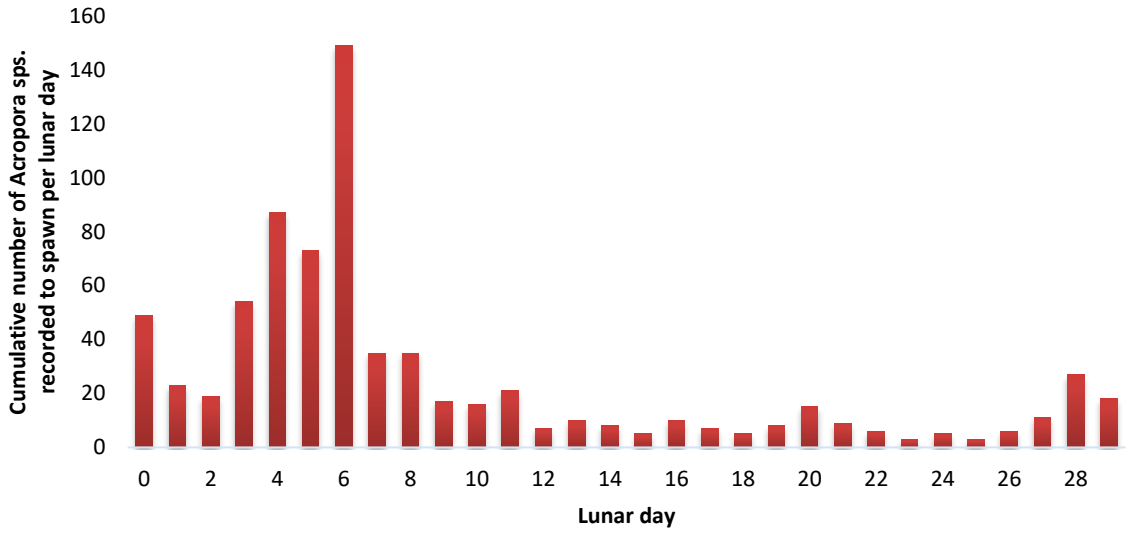

Fig. S1: Cumulative number of Indo-Pacific *Acropora* species recorded to spawn per location on each lunar day. Lunar day 0 is considered as the full moon.

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