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Cover image: *Macrophthalmus depressus* at Saco da Inhaca, Mozambique (© Jose Paula, 2014)

# Broadcast spawning in *Porites lutea* at Reunion Island (Western Indian Ocean)

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The scleractinian *Porites lutea*, commonly found on back reefs, lagoon and fringing reefs, is an important reef-building coral in the western Indian Ocean (WIO). Despite its widespread distribution, little is known of its reproductive biology. Here, *in situ* observations of broadcast spawning of *P. lutea* on a shallow reef flat of Reunion Island are reported on.

Spawning in *P. lutea* was observed in January 29th 2016 on the reef flat of Etang Salé (~1m deep, Reunion Island, 21°16'°00"S, *55*°19'*55*"E, Figs.1a, b), five days after the full moon, at 19h30. At least six large colonies (>50cm in diameter) of *P. lutea* were observed simultaneously releasing either sperm or oocytes (Figs. 1a, b). During spawning, eggs were released in clumps (Figs. 1c, d). No other coral was observed spawning on this night. An additional night observation was conducted the following day, but no spawning was observed.

Gonochorism and a similar timing of reproduction with respect to the full moon were reported previously in *P. lutea* on the reef flat of la Saline (Planch'Alizé, Réunion Island), where spawning occurred on December 29th 2007, *5* days after the full moon (Denis *et al*., 2011). This mode and timing of reproduction (December to early February, 2-*5* days after the full moon), has also been observed in colonies of *P. lutea* and *P. Lobata* at similar latitudes (20-23°S) in eastern and western Australia (Kojis and Quinn, 1982; Baird *et al*., 2011; Stoddart *et al*., 2012). This suggests a consistent pattern of reproduction in *P. lutea* in environments exposed to a similar temperature regime. Further study is required to understand spawning cues in *P. lutea* and document its reproduction in Reunion Island.

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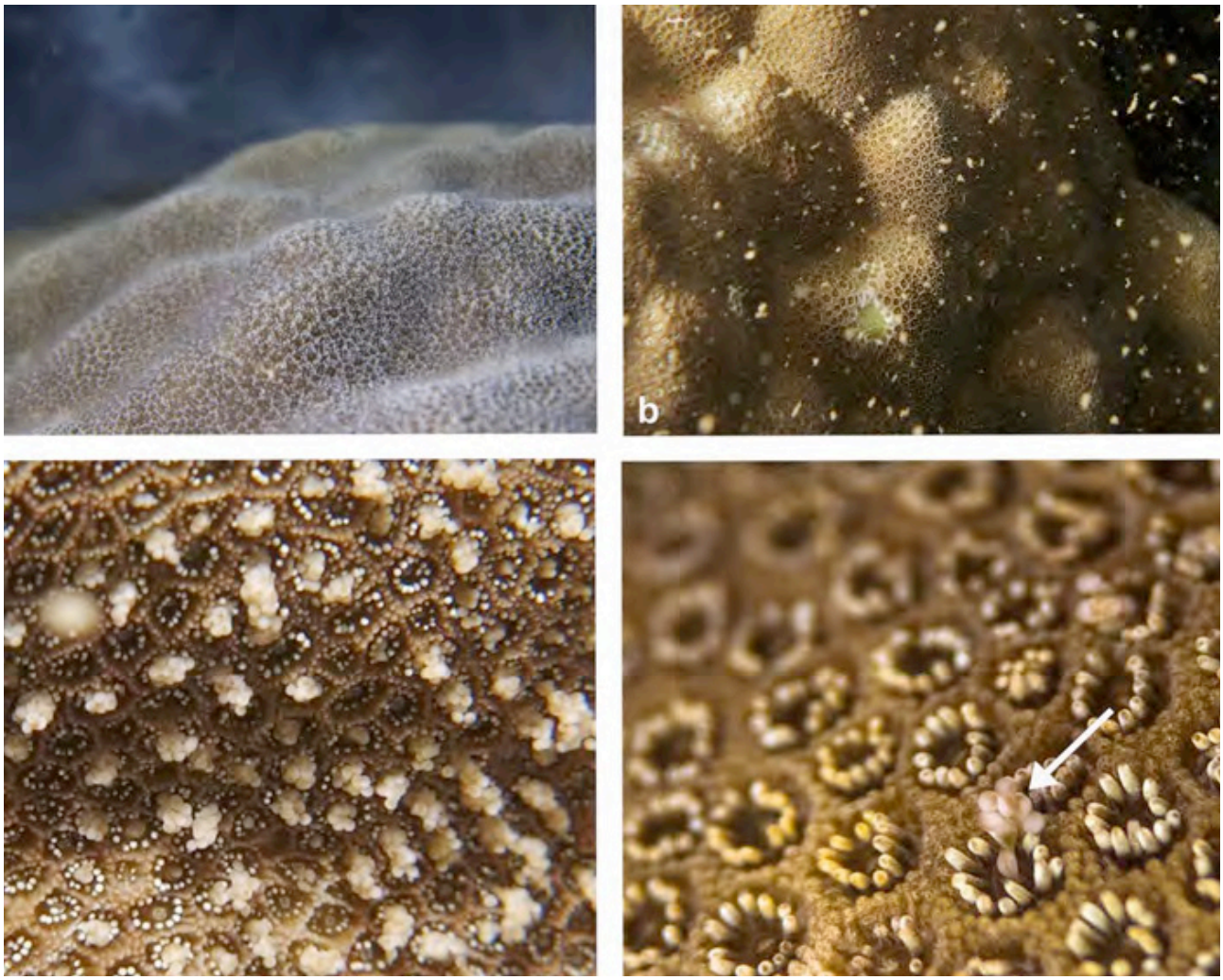


**Figure 1.** Male (a) and female (b, c, d) colonies of *Porites lutea* during spawning on the reef flat of Reunion Island in January 2016. In female colonies, oocytes are expelled in clumps (c), showing a dark green pigmentation (d), probably due to the presence of zooxanthellae.