

Reef sites

Acropora muricata mortality associated with extensive growth of *Caulerpa racemosa* in Magoodhoo Island, Republic of Maldives

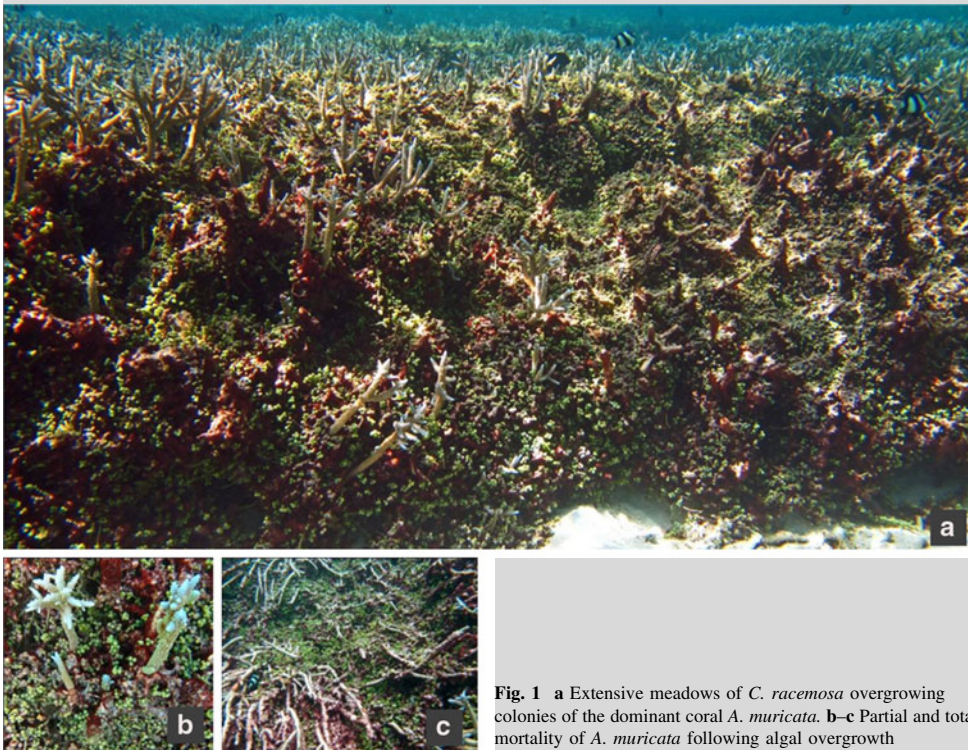


Fig. 1 a Extensive meadows of *C. racemosa* overgrowing colonies of the dominant coral *A. muricata*. b–c Partial and total mortality of *A. muricata* following algal overgrowth

Caulerpa racemosa, a common and opportunistic species widely distributed in tropical and warm-temperate regions, is known to form monospecific stands outside its native range (Verlaque et al. 2003). In October 2011, we observed an alteration in benthic community due to a widespread overgrowth of *C. racemosa* around the inhabited island of Magoodhoo (3°04'N; 72°57'E, Republic of Maldives). The algal mats formed a continuous dense meadow (Fig. 1a) that occupied an area of 95 × 120 m (~11,000 m²) previously dominated by the branching coral

Acropora muricata. Partial

mortality and total mortality (Fig. 1b, c) were recorded on 45 and 30% of *A. muricata* colonies, respectively. The total area of influence of *C. racemosa* was, however, much larger (~25,000 m²) including smaller coral patches near to the meadow, where mortality in contact with the algae was also observed on colonies of *Isopora palifera*, *Lobophyllia corymbosa*, *Pavona varians*, *Pocillopora damicornis*, and *Porites solida*. Although species of the genus *Caulerpa* are not usually abundant on oligotrophic coral reefs, nutrient enrichment from natural and/or anthropogenic sources is known to promote green algal blooms (Lapointe and Bedford 2009). Considering the current state of regression of many reefs in the Maldives (Lasagna et al. 2010), we report an unusual phenomenon that could possibly become more common.

References

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