Very high coral cover at 36°S on the east coast of Australia

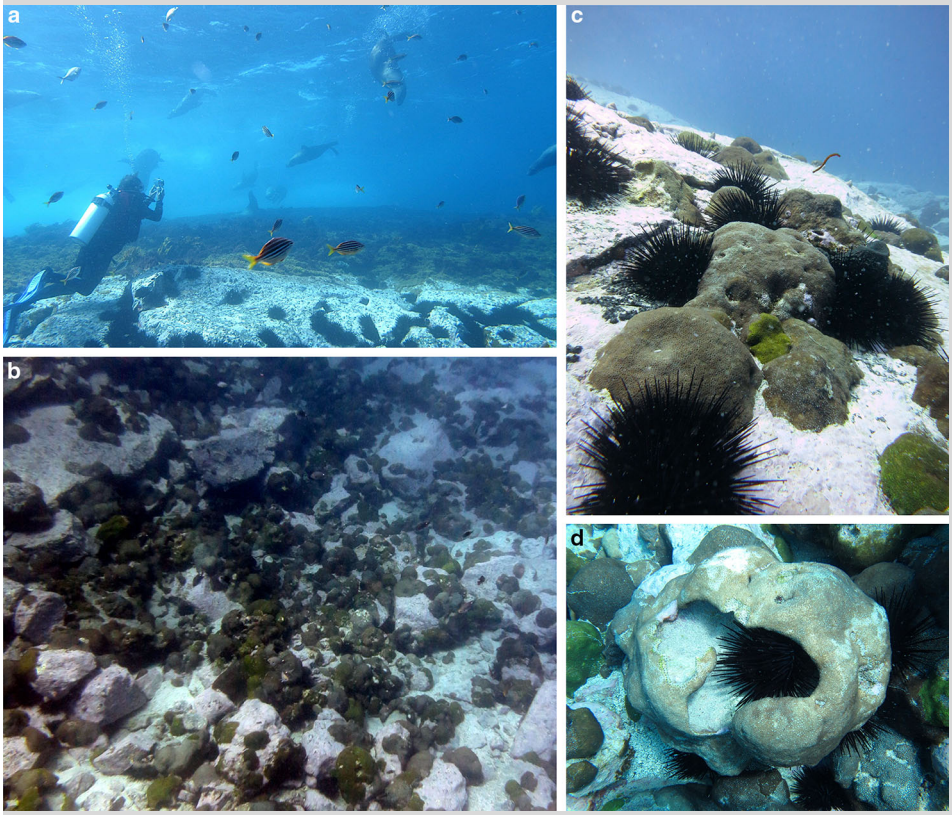

Fig. 1 **a** Beneath the Australian fur seal colony at Montague Island, NSW, Australia. **b** High densities of *Plesiastrea versipora* sharing space with **c** the sea urchin *Centrostephanus rodgersii*. **d** The sea urchin excavating a colony of *P. versipora*

There are very few data on the occurrence of scleractinian coral species in temperate regions. Here, we conducted a series of surveys along the New South Wales coastline to document their distribution and abundance. Interestingly, one species dominated the benthos at a number of these sites. For example, very high densities of the geographically widespread coral *Plesiastrea versipora* were found together with high densities of the sea urchin *Centrostephanus rodgersii* at Montague Island (36.2449°S, 150.2239°E), amongst a colony of Australian fur seals (Fig. 1a, b). At up to 80 % cover (mean 42 %, range 0–80 %), coral abundance equals or exceeds those on tropical reefs. However, due to cool water temperatures and low carbonate saturation state, *P. versipora* grows slowly (Burgess et al. 2009) and reef accretion does not occur. Preliminary observations suggest that stable populations of herbivorous sea urchins at 5–15 m depth contribute to the success of this coral in sheltered temperate sites. However, living in close quarters with an algal-grazing urchin, which mechanically burrows into solid granite for protection from predators, resulted in a high number of instances in which the urchin burrowed into the softer corals themselves (Fig. 1c, d). More work on coral populations at high latitudes is required to establish the exact mechanisms that lead to their ecological success.

Reference

Burgess SN, McCulloch MT, Mortimer GE, Ward TM (2009) Structure and growth rates of the high-latitude coral: *Plesiastrea versipora*. Coral Reefs 28:1005–1015

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