

Severe loss of anemones and anemonefishes from a premier tourist attraction at the Houtman Abrolhos Islands, Western Australia

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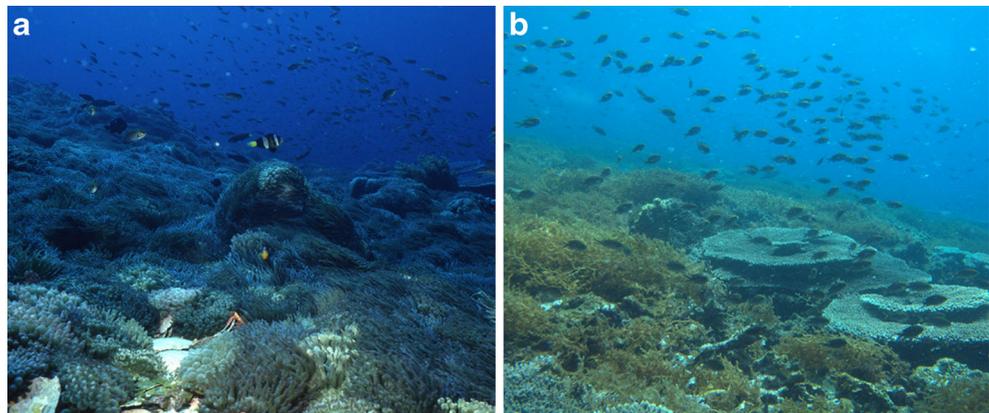
The Houtman Abrolhos Islands (29° 00' S) are the southernmost coral reefs in the Indian Ocean, located 60 km off central Western Australia. The “Anemone Lump”, a 185 × 400 m reef that rises steeply from 38 m to 4 m, is the premier dive site at the Islands, with a dedicated underwater tourist trail. The site is a fish habitat protection area and tourist attraction due to its abundance of anemones (*Entacmaea quadricolor*) and anemonefish (*Amphiprion clarkii*).

Photographic evidence and diver observations documented that in 1992, anemone cover exceeded 70 % (Fig. 1a) and supported hundreds of Clark’s anemonefish. By October 2012, no anemones or anemonefishes could be found despite intensive searching over an area of 2,500 m². The site, once renowned for being covered in anemones, is now covered

predominantly by *Sargassum* and plating *Acropora spicifera* (Fig. 1b).

The loss of anemonefishes is most likely due to the loss of anemones, but the reason(s) for the loss of anemones is unknown. Elevated sea temperatures can bleach and kill *Entacmaea quadricolor* (Hill and Scott 2012), and declines in abundance have occurred at various locations in association with coral bleaching events (Hobbs et al. 2013). Anemones were present before the “marine heat wave” of 2011, which caused widespread coral bleaching across the Houtman Abrolhos Islands (Abdo et al. 2012). However, it is also likely that factors other than elevated sea temperatures have contributed to loss of anemones as anecdotal reports indicate the decline in anemones has occurred over the last 20 years.

Fig. 1 Photograph of “Anemone Lump” at the Houtman Abrolhos Islands from **a** 1992 and **b** 2012



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