Zanclea–coral association: new records from Maldives

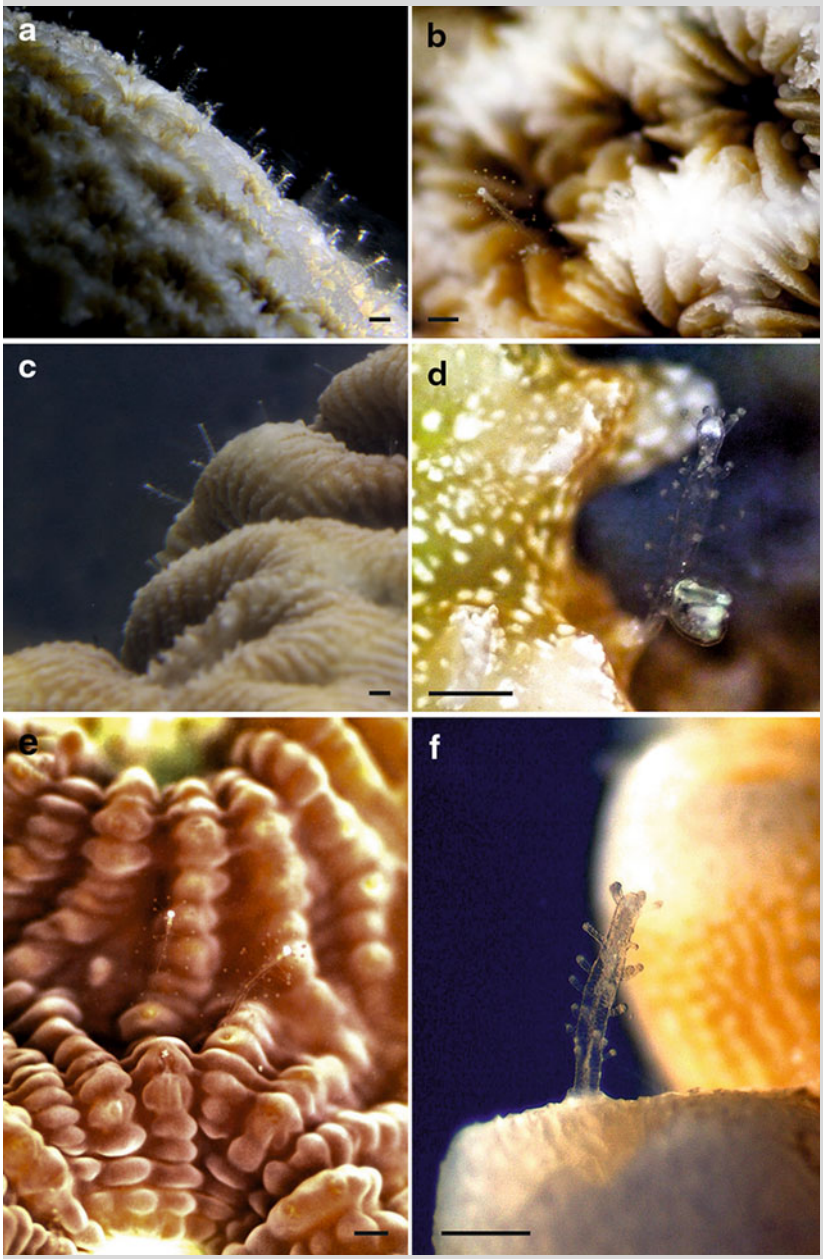

Fig. 1 Some of Maldivian *Zanclea*–coral associations. *Zanclea* polyps inhabiting **a**, **b** *Leptastrea purpurea*, **c**, **d** *Favites halicora*, **e** *Favia favus,* and **f** *Acropora muricata*; (*Scale bars*: **a**, **c** 1 mm; **b**, **d**–**f** 500 μm)

To date, few hydroids have been observed to be associated with anthozoans, and only three Pacific *Zanclea* species are known to live in symbiosis with scleractinian corals, namely *Zanclea gilii*, *Z. margaritae,* and *Z. sango* (Boero et al. 2000; Pantos and Bythell 2010; Hirose and Hirose 2011). Here, we report the first evidence of this kind of association in the Indian Ocean. During recent expeditions to Magoodhoo Island (3°04′N; 72°57′E, Faafu Atoll, Republic of Maldives), numerous *Zanclea* spp. colonies were observed to live in symbiosis with scleractinians up to about 10 m depth. Specimens belonging to *Zanclea* spp. were found not only on *Acropora muricata* and *Pavona* sp., which are scleractinians previously known to be involved in this association, but also on coral colonies belonging to *Favia favus*, *Favites halicora*, *Leptastrea purpurea*, *Montipora* sp., *Porites cylindrica*, and *Symphyllia* sp. (Fig. 1a–f). Thus, our results extend the geographic distribution and the host range of this symbiosis, strongly suggesting that associations between hydroids and scleractinians could be much more widespread than previously thought, which is consistent with the scenarios depicted by recent molecular studies (Fontana et al. 2012). The benefits and costs of this symbiosis are still not clear. Although trophic and/or protection mutualism seems a plausible explanation of the relationship, a possible relationship between the occurrence of hydroids and coral diseases has also been proposed (Pantos and Bythell 2010). The potential implications of the hydroid–scleractinian symbiosis for coral health, its wide distribution, and the number of species it involves indicate urgent need for further investigations.

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