

Reef sites

Tissue loss in corals infested by acoelomorph flatworms (*Waminoa* sp.)

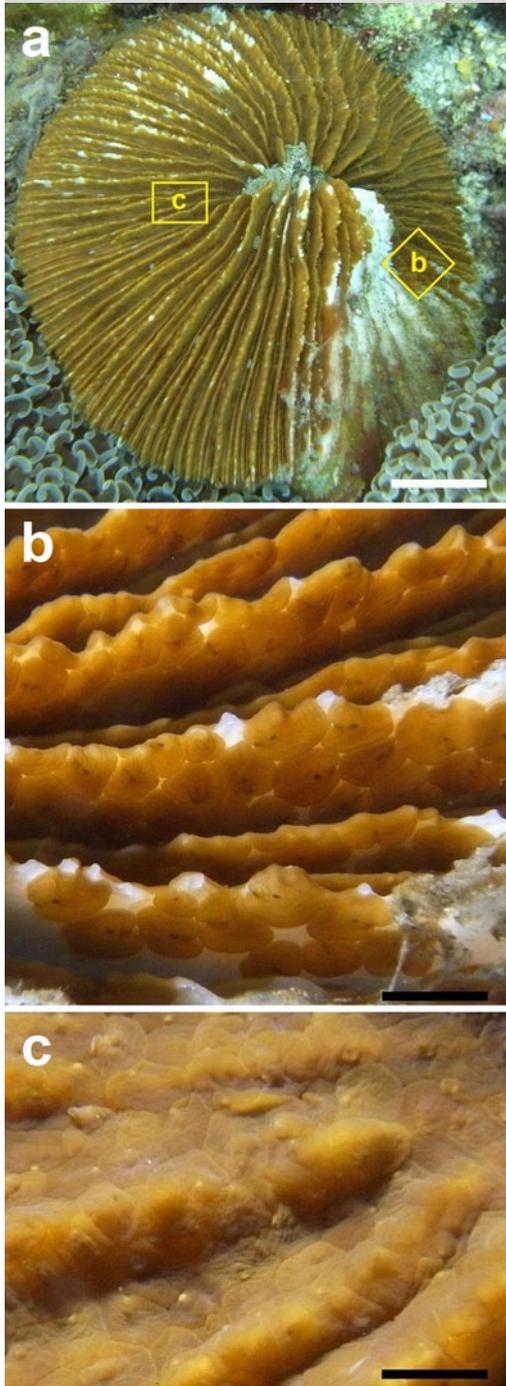


Fig. 1 a Specimen of the mushroom coral *Danafungia scruposa* showing dense *Waminoa* cover and tissue loss (squares indicate position of close-ups in b, c; scale bar 2 cm). b, c Close-ups of areas marked in a (scale bars 5 mm)

Little is known about species and host specificity of epizoa acoelomorphs that live in association with corals (Barneah et al. 2012; Hoeksema et al. 2012). Most records concern zooxanthellate acoels of the genus *Waminoa* Winsor, 1990, which reproduce both sexually and asexually and may harm their hosts by shading and by eating their protective mucus layer, but no coral injuries have been reported so far (Haapkylä et al. 2009; Naumann et al. 2010).

During a biodiversity survey around Lembeh Island (North Sulawesi, Indonesia) in January–February 2012, various damaged corals were observed that were partly or completely covered by acoels. A specimen of the mushroom coral *Danafungia scruposa* (Klunzinger, 1879) had 100 % *Waminoa* cover on its upper surface, except for a part with tissue loss (Fig. 1). Its mouth appeared clogged by sediment (Fig. 1a). The damaged area was not similar to the contact zone with neighbouring corals, although interaction with these corals may have weakened the mushroom coral's defence capacity.

Apparently, acoels can harm corals by smothering them, which may hinder their respiration, feeding and sediment shedding capacities. The infestation may be contagious, since a *Sandalolitha robusta* (Quelch, 1886) mushroom coral, with more than 90 % acoel cover was observed to be in close contact with one of another species, *Pleuraetis granulosa* (Klunzinger, 1879), that was only infested at the nearest side, implying that acoels crawled or swam from one coral to another. All presently reported mushroom coral species represent new host records for *Waminoa* (see Hoeksema et al. 2012).

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