

# 琉球大学学術リポジトリ

## サンゴ礁域におけるスナギンチャク類の普通種 *Palythoa tuberculosa* の生物学

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Form 3

論 文 要 旨

Abstract

論 文 題 目

Title

The biology of the common reef zoanthid species – *Palythoa tuberculosa*

Coral reefs around the world are now facing rapid degradation due to anthropogenic destruction and climate change, and it is urgent to build up baseline knowledge of various benthic organisms under different environmental conditions for future coral reef projections, conservation and management. Zoanthids (Cnidaria: Hexacorallia) are an order of morphologically plastic hexacorals, and due to their plasticity and various coloration, their taxonomy has been chaotic in the past. Recently a combination of morphology and molecular analyses has been able to solve the taxonomy dilemma for many zoanthid groups. In such recent analyses the diversity of zoanthids has been shown to be high in the western Pacific region. Along with the high diversity of zoanthids, their endosymbiotic zooxanthellae (*Symbiodinium* spp.) might also have high diversity. Many zoanthids are considered generalists, and although their *Symbiodinium* may be generalist clades the zoanthids have potential to host various of *Symbiodinium* clades in different environments. Many zoanthids are common at similar spatial and temporal regions as hard corals (Scleractinia) but their ecological aspects have been rarely studied and most research has been done in the western Atlantic and the Caribbean, and not in the Pacific. One species of zoanthid, *Palythoa tuberculosa*, is a colonial zoanthid that embeds sand within its tissue, and it has been shown to commonly occur on reef flats and reef crests in Okinawa and the Indo-Pacific region. *Palythoa* spp. have also been shown to grow very quickly, be aggressive during composition, and have a tendency to dominate in polluted waters. However, how *Palythoa tuberculosa* populations react under different benthic compositions and environmental conditions remain unclear. The purpose of this dissertation therefore is to: 1. clarify the identity of *Palythoa tuberculosa* and *Palythoa caesia* in the Pacific; 2. reveal *Symbiodinium* diversity in *P. tuberculosa* in Taiwan and compare to previous results from Japan; and 3. clarify ecological aspects of *Palythoa tuberculosa* and its relationship with environmental factors in Okinawa.

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