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多様な形質に基づくイワスナギンチャク *Palythoa* 属（刺胞動物門：花虫綱：スナギンチャク目）近縁種間における種の境界

メタデータ	言語: 出版者: 琉球大学 公開日: 2020-11-06 キーワード (Ja): キーワード (En): 作成者: Mizuyama, Masaru, 水山, 克 メールアドレス: 所属:
URL	http://hdl.handle.net/20.500.12000/47145

(様式第3号)

論 文 要 旨

論 文 題 目

Integrative delimitation of species boundaries in closely related *Palythoa* species (Cnidaria: Anthozoa: Zoantharia)

多様な形質に基づくイワスナギンチャク *Palythoa* 属 (刺胞動物門: 花虫綱: スナギンチャク目) 近縁種間における種の境界

Molecular phylogenetics is the study pursuing the understanding of genetic relationships between organisms. To decide the taxonomic status of unknown specimen groups, reconsideration of the species definition of that organism should be required. In this study, we targeted a *Palythoa* species group (Cnidaria: Anthozoa: Zoantharia), and considered the delimitation of species boundaries using morphological, ecological and molecular phylogenetic characters. In detail, we compared datasets of colony morphology, nematocysts, spawning timing, and molecular phylogenetics, and from this closely related species group was considered to include four distinct species based on morphological differentiation and distinct spawning periods, even though no molecular marker was successful in dividing these species into their own monophyletic clades (Chapter 2). In the following chapters 3 and 4, by comparison of genetic composition of endosymbiotic Symbiodiniaceae algae and the trophic niches between host species and symbionts, we detected micro-scale geographic variations of the Symbiodiniaceae among these putative *Palythoa* species within a single coral reef (Chapter 3) and also observed trophic niche partitioning among sympatric *Palythoa* lineages (Chapter 4). Hence, the integrative species delimitation approach utilized in this thesis from multiple sources succeeded in providing robust evidence of species delineation of four closely related *Palythoa* species.

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