



Title	Ecological and phylogenetic studies on genus Waminoa and related acoel flatworms (family Convolutidae) and their symbiotic Symbiodiniaceae( Review_審査要旨 )
Author(s)	国広, 潮里
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琉球大学大学院

理工学研究科長 殿

論文審査委員

主査 氏 名 James Davis REIMER

副査 氏 名 須田 彰一郎

副査 氏 名 戸田 守



### 学位（博士）論文審査及び最終試験の終了報告書

学位（博士）の申請に対し、学位論文の審査及び最終試験を終了したので、下記のとおり報告します。

#### 記

申請者	専攻名 海洋環境学 氏名 国広 潮里 学籍番号 [REDACTED]	
指導教員名	James Davis REIMER	
成績評価	学位論文 <input checked="" type="radio"/> 合格 <input type="radio"/> 不合格	最終試験 <input checked="" type="radio"/> 合格 <input type="radio"/> 不合格
論文題目	Ecological and phylogenetic studies on genus <i>Waminoa</i> and related acoel flatworms (family Convolutidae) and their symbiotic Symbiodiniaceae 無腸目コンボルータ科ワミノア属とその近縁群および共生藻(Symbiodiniaceae)における生態学的・分子系統学的研究	
審査要旨 (2000字以内)	The candidate investigated the diversity and the ecology of the acoel worms genus <i>Waminoa</i> and related organisms (family Convolutidae) in the western Pacific Ocean. This group is known to be parasitic on hard and soft corals, but due to their small size and difficulty in sampling and examination, little research has been performed on their diversity and ecology. The candidate pursued research along two main lines; molecular phylogeny and ecology.	

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## 審査要旨

The candidate used DNA barcoding to identify her specimens, and then examined the number of operational taxonomic units (OTUs) via automatic barcoding gap discovery. Her results suggest two different genera, one *Waminoa* and another undescribed group. Within *Waminoa* all specimens were judged to be the same OTU, while in the undescribed clade, there were four OTUs.

The Symbiodiniaceae of her *Waminoa* specimens were also examined; most *Waminoa* harbored a unique type of clade C *Symbiodinium*. Ecologically, *Waminoa* were found on not only hard and soft corals, but also for the first time echinoderms, zoantharians, and corallimorpharians. Finally, while *Waminoa* were found in many different areas, in Okinawa they were most common in sheltered areas away from directly facing the ocean, and at depths within 10 m of the seafloor.

Overall, the candidate has completed a body of work substantially advancing our knowledge of *Waminoa* and related Convolutidae, and opened new lines of research combining molecular and ecological investigations. The candidate's results show how important it is to search for biodiversity in previously under-examined environments and locations. Finally, alpha taxonomy research is a critical first step towards a more complete understanding of coral reef ecosystems, allowing for more effective and accurate management and conservation. Thus, based on the above reasons, the downstream results of this research will be seen in various fields from basic zoology and biogeography to ecological studies, and to conservation-related themes.

The candidate's publication history related to this thesis meets graduation requirements, with one first author paper and one co-authored paper, both in international journals. The candidate gave a final thesis presentation (=final examination) on August 10, 2018, in the Science Collaborative Building Room 102, from 10:00 to 11:00 in front of all three members of the Committee. This presentation was open to the public, and attended by many people from both inside and outside the university. In her presentation she discussed her major results. Overall, the candidate talked for 40 minutes, and then appropriately answered numerous questions related to her thesis and research field for 20 minutes. The Committee then met on August 10, 2018, at 12:00, and discussed and judged the candidate's thesis, and her final presentation and answers to questions, as demonstrating her hard work, results, and knowledge. Thus, based on the above results, for these reasons, the Committee unanimously recommended "Pass" for the candidate.