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Sabellariidae from Lizard Island, Great Barrier Reef, including a new species of *Lygdamis* and notes on external morphology of the median organ

MARÍA CAPA[1, 2*], LARISSE FARONI-PEREZ[3] & PAT HUTCHINGS[2]

[1]*NTNU University Museum, Norwegian University of Science and Technology, NO-7491 Trondheim, Norway.*
[2]*Australian Museum Research Institute, Australian Museum, 6 College Street, Sydney, 2010 NSW, Australia.*
[3]*PPGECO, Departamento de Ecologia e Zoologia, Universidade Federal de Santa Catarina, Campus Universitário, s/n, CCB, Córrego Grande, Florianópolis, SC, 88010-970, Brazil.*
[*]*Corresponding author: maria.capa@ntnu.no, capa.maria@gmail.com*

Abstract

We document herein the occurrence of three species of Sabellariidae at Lizard Island, Great Barrier Reef, including a new *Lygdamis* species. *Sabellaria lungalla,* described from Northern Territory, is reported for Queensland for the first time. The genus *Gesaia*, represented by a planktonic larva collected in shallow waters of the Archipelago, is a new record for Australia. *Lygdamis nasutus* n. sp. is characterised by one of the most conspicuous median organ described in the family (cylindrical, distally pigmented and is provided with a flattened, teardrop corona), its paleae morphology (with straight paleae, outer ones with asymmetrical pointed tips and subtle thecal sculpture and inner paleae with blunt tips and smooth surface), three lateral lobes on chaetiger 2, abdominal chaetigers with two type of neurochaetae, and notopodial uncini with 1–4 longitudinal rows of teeth. Comparison of the external morphology of the medial organ and median ridge of several species has been undertaken. Even though its function remains uncertain, the median organ morphology seems species specific and may provide relevant information about the evolutionary history and adaptations of sabellariids.

Key words: Australia, median ridge, *Sabellaria lungula, Gesaia* larva*, Lygdamis nasutus* n. sp.

Resumen

En este estudio se documenta la presencia de tres especies de Sabellariidae en Lizard Island (Gran Barrera de Coral), incluida una nueva especie de *Lygdamis*. *Sabellaria lungalla*, descrita en el Territorio Norte, constituye un nuevo registro para Queensland. El género *Gesaia*, representado por una larva planctónica colectada en las aguas someras del archipiélago, se cita en Australia por primera vez. *Lygdamis nasutus* n. sp., que se caracteriza por uno de los órganos medios más conspicuos descritos en la familia (cilíndrico, pigmentado distalmente, y provisto de una corona plana y con forma de lágrima), la morfología de las paleas, (rectas, las externas con puntas asimétricas y ligera escultura tecal y las paleas internas con punta roma y superficie lisa), tres lóbulos laterales en el setígero 2, sedas abdominales con dos tipos de neurosedas, y uncinos notopodiales con filas longitudinales provistas de 1–4 dientes. Se ha comparado la morfológica externa del órgano medio y cresta media en distintas especies. A pesar de que la función de este órgano sigue siendo desconocida, concluimos que la morfología de este órgano medio parece específica de cada especie y puede proporcionar información relevante acerca de la historia de la evolución y las adaptaciones en sabeláridos.

Palabras clave: Australia, cresta media, *Sabellaria lungulla,* larva de *Gesaia, Lygdamis nasutus* n. sp.

Introduction

Sabellariids (Sabellariidae Johnston, 1865) are a highly specialised group of tube-dwelling marine annelids characterised by a well-developed anterior operculum provided with rows of paleae that can seal the entrance of the tube when the animal withdraws into it, providing protection from desiccation, silt deposition, and predators. Some

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