

ZOOTAXA

1722

**Serpulids (Annelida: Polychaeta) from the Eastern Pacific,
including a brief mention of Hawaiian serpulids**

J. ROLANDO BASTIDA-ZAVALA



Magnolia Press
Auckland, New Zealand

J. Rolando Bastida-Zavala

Serpulids (Annelida: Polychaeta) from the Eastern Pacific, including a brief mention of Hawaiian serpulids

(*Zootaxa* 1722)

61 pp.; 30 cm.

7 Mar. 2008

ISBN 978-1-86977-199-7 (paperback)

ISBN 978-1-86977-200-0 (Online edition)

FIRST PUBLISHED IN 2008 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

© 2008 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)



Serpulids (Annelida: Polychaeta) from the Eastern Pacific, including a brief mention of Hawaiian serpulids

J. ROLANDO BASTIDA-ZAVALA

El Colegio de la Frontera Sur (ECOSUR), Chetumal, Quintana Roo, México, 77000, Apdo. Postal 424

New address: Universidad del Mar, campus Puerto Ángel, Laboratorio de Sistemática de Invertebrados Marinos (LABSIM), Ciudad Universitaria, Puerto Ángel, Oaxaca, México, 70902, Apdo. Postal 47. E-mail: rolando@angel.umar.mx

Table of contents

Abstract	4
Resumen	4
Introduction	4
Material and methods	5
Results	8
Key to Eastern Pacific species of serpulids sensu stricto, including Hawaii	8
Systematics	12
Family Serpulidae Rafinesque, 1815	12
Genus <i>Apomatus</i> Benedict, 1887	12
Genus <i>Bathypermilium</i> Zibrowius, 1973	14
Genus <i>Crucigera</i> Benedict, 1887	16
Genus <i>Ficopomatus</i> Southern, 1921	19
Genus <i>Hyalopomatus</i> Marenzeller, 1878	21
Genus <i>Hydrooides</i> Gunnerus, 1768	22
Genus <i>Laminatubus</i> ten Hove & Zibrowius, 1986	30
Genus <i>Placostegus</i> Philippi, 1844	30
Genus <i>Pomatoceros</i> Philippi, 1844	31
Genus <i>Pomatoleios</i> Pixell, 1913	33
Genus <i>Pomatostegus</i> Schmarda, 1861	34
Genus <i>Protis</i> Ehlers, 1887	34
Genus <i>Protula</i> Risso, 1826	35
Genus <i>Pseudochitinopoma</i> Zibrowius, 1969	38
Genus <i>Pseudovermilium</i> Bush, 1907	39
Genus <i>Pyrgopolon</i> de Montfort, 1808 4.....	42
Genus <i>Salmacina</i> Claparède, 1870	43
Genus <i>Semivermilium</i> ten Hove, 1975	45
Genus <i>Serpula</i> Linnaeus, 1767	45
Genus <i>Spirobranchus</i> de Blainville, 1818	48
Genus <i>Vermiliopsis</i> de Blainville, 1818	53
Concluding remarks	53
Acknowledgements	54
References	55
Appendix 1. Checklist of serpulids s.s. from the Eastern Pacific	60

Abstract

Serpulids are an important component of benthic hard-bottom communities, including fouling communities developing on natural and artificial substrates. This paper provides an overview of the serpulid fauna in the Eastern Pacific, including a brief mention of Hawaiian species. Fifty-eight serpulid species belonging to 21 genera were recorded in this area. Approximately 2,300 specimens were examined and 41 species were identified from the Eastern Pacific (Alaska to Chile) and Hawaii. Several specimens were recently collected, mainly in localities from the Pacific coast of Mexico and other localities from Panama and Hawaii; type material and additional specimens were revised in museum collections. The most diverse genus was, by far, *Hydroides* (21 species, 36.2%), followed by *Protula* and *Spirobranchus* (four species each one, 6.9%). A new species, *Bathyvermilia kupriyanovae* n. sp., is described from deep waters off California and three species, *Pomatoleios* sp., *Serpula* cf. *hartmanae* and *Spirobranchus* cf. *gaymardi*, need further study for their correct determination. For each species, one or two important references, a material examined section, a brief diagnosis, habitat and updated distributional information are included. Taxonomic remarks of several species and a meristic exploratory analysis of two *Spirobranchus* species are included. An identification key, illustrations and a checklist of all the species recorded in this region are provided.

Key words: *Bathyvermilia*, *Ficopomatus*, fouling species, *Hydroides*, *Protula*, *Serpula*, *Spirobranchus*

Resumen

Los serpulidos son un componente importante de las comunidades bénticas de sustratos duros, incluyendo comunidades incrustantes que se desarrollan en sustratos naturales y artificiales. Este trabajo proporciona un panorama de la fauna de serpulidos en el Pacífico oriental, incluyendo una sucinta mención de los serpulidos hawaianos. El número de especies de serpulidos registradas en esta área es de 58, pertenecientes a 21 géneros. Aproximadamente 2,300 ejemplares de serpulidos fueron revisados, de los cuales se identificaron y caracterizaron 41 especies del Pacífico oriental (Alaska a Chile) y Hawai. Varios ejemplares fueron recientemente recolectados, principalmente en localidades del Pacífico de México, y de otras localidades de Panamá y Hawai; también se revisaron materiales tipo y ejemplares adicionales en colecciones de museos. El género más diverso, con mucho, fue *Hydroides* (21 especies, 36.2%), seguido por *Protula* y *Spirobranchus* (cuatro especies cada una, 6.9%). *Bathyvermilia kupriyanovae* n. sp., es descrita en aguas profundas de California; y tres especies, *Pomatoleios* sp., *Serpula* cf. *hartmanae* y *Spirobranchus* cf. *gaymardi*, requieren un mayor estudio para su correcta determinación. Para cada especie se incluye una o dos referencias selectas, una sección de material examinado, una diagnosis breve, el hábitat y la información de distribución actualizada. También se incluyeron notas taxonómicas de varias especies y un análisis exploratorio de dos especies de *Spirobranchus*. Se proporcionan una clave de identificación, ilustraciones y una lista de todas las especies registradas en esta región.

Introduction

The Eastern Pacific extends from Point Barrow, Alaska, to the Magellan Strait, Chile (Fig. 1). The Eastern Pacific subdivisions into zoogeographical regions or provinces are recognized mainly by the geographical distribution of molluscs, crustaceans and echinoderms in tropical, subtropical, temperate and cold waters; however, the geographical limits of these regions (or provinces) varies from one author to another (Sverdrup *et al.* 1942; Keen 1971; Briggs 1974; Brusca 1980; Carvacho 1980; Maluf 1988; Hendrickx 1995).

The Eastern Pacific is characterized by cold waters from Alaska to Northern California, by temperate-subtropical waters from Central California to the western coast of Baja California Peninsula, by extensive tropical waters from Gulf of California to Peru, and another temperate-cold water region from Peru to Chile (Brusca 1980).

Since a strong North Equatorial current brings surface water from Western Mexico to Hawaii, combined with ship-transport, the Hawaiian Archipelago serpulids mostly originate from the American Pacific (*cf.* Bastida-Zavala & ten Hove 2003b). For this reason, the Hawaiian Archipelago is included in the present work (Fig. 1).