Zootaxa 4019 (1): 635–694
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.4019.1.22
http://zoobank.org/urn:lsid:zoobank.org:pub:88F2DB05-58C4-4726-89D5-99302FABB908

Spionidae (Annelida) from Lizard Island, Great Barrier Reef, Australia: the genera *Aonides*, *Dipolydora*, *Polydorella*, *Prionospio*, *Pseudopolydora*, *Rhynchospio*, and *Tripolydora*

VASILY I. RADASHEVSKY
A.V. Zhirmunsky Institute of Marine Biology, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok 690041, Russia.
E-mail: radashevsky@gmail.com

Abstract

Nineteen species in seven genera of spionid polychaetes are described and illustrated based on new material collected from the intertidal and shallow waters around the Lizard Island Group, northern Great Barrier Reef. Only one of these species had been previously reported from the Reef. Six species are described as new to science, and the taxonomy of seven species should be clarified in the future. *Prionospio sensu lato* is the most diverse group with 11 species identified in the present study. One species is identified in each of the genera *Dipolydora*, *Polydorella*, *Rhynchospio* and *Tripolydora*, and two species are identified in each of the genera *Aonides* and *Pseudopolydora*. The fauna of spionid polychaetes of the Great Barrier Reef seems to be more diverse than previously described and more species are expected to be found in the future. An identification key is provided to 16 genera of Spionidae reported from or likely to be found on the Great Barrier Reef.

Key words: Queensland, morphology, ecology, reproductive biology, polychaetes, key to genera

Introduction

Spionidae Grube, 1850 is one of the largest taxa of polychaetous annelids; its members are common in marine and estuarine communities all over the world. Adult spionids and their developing larvae are readily recognized by their general body morphology and the pair of elongate prehensile palps extending from the head (see Blake, 1996, 2006; Radashevsky 2012 for an overview of the morphology, biology and systematic treatments of the spionids). Previous inferences of phylogenetic hypotheses about relationships of the Spionidae with other polychaetes, and among spionid taxa, using morphological characters, have provided ambiguous results. Analyses using nucleotide data have been inconsistent regarding relationships among spiomorph polychaetes but all agree that Spionida Dales, 1962 is polyphyletic as currently defined, and that *Apistobranchus* Levinsen, 1883, *Chaetopterus* Cuvier, 1830, and *Magelona* F. Müller, 1858 are not closely related to Spionidae. They confirmed the close relationships between Spionidae, *Poecilochaetus* Claparède in Ehlers, 1875 and *Trochochaeta* Levinsen, 1883 but were not able to resolve these relationships (Radashevsky 2013).

The first spionids from Australia were reported by Haswell (1885) who was requested to examine oysters from the Hunter River beds in New South Wales, which appeared to be dying in large numbers owing to the attacks of some parasites. Haswell (1885) identified two *Polydora* Bosc, 1802 species one of which was abundant and, according to him, identical with the European *Polydora ciliata* (Johnston, 1838). The only anterior fragment of the other species Haswell (1885) recognized as a new *Polydora* (*Leucodore*) *polybranchia*. Ironically, briefly described and without deposited type material the latter species turned to be a type species of *Boccardia* first recognized by Carazzi (1893) as a subgenus of *Polydora* and later given a genus rank by Chamberlin (1919). Later attempts to find and re-describe *Polydora polybranchia* from the Hunter River by Blake & Kudenov (1978) and myself in 2013 were unsuccessful and *Boccardia polybranchia* remains one of the enigmatic and poorly defined species which has nevertheless been reported all over the world. It seems to be a destiny of old polychaete species to become cosmopolitans. Their original brief descriptions often provided not specific but general characters

Accepted by E. Kupriyanova: 21 Jul. 2015; published: 18 Sept. 2015