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## Spionidae (Annelida: ‘Polychaeta’: Canalipalpata) from Lizard Island, Great Barrier Reef, Australia: the genera *Malacoceros*, *Scolelepis*, *Spio*, *Microspio*, and *Spiophanes*

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### Abstract

Seven species belonging to the spionid genera *Malacoceros*, *Scolelepis*, *Spio*, *Microspio*, and *Spiophanes* were found during the polychaete workshop on Lizard Island in August 2013. One species is new to science and named *Scolelepis inversa* n. sp., another *Scolelepis* species is probably also a new species but was represented in our samples by only a single specimen and not formally described. All other species have been reported previously from Australia. Species diagnoses of all species found during the workshop and of *Scolelepis balihaiensis* Hartmann-Schröder, 1979, *Microspio microcera* (Dorsey, 1977) and *M. minuta* (Hartmann-Schröder, 1962) have been critically reviewed and amended based on the study of type material. The potential synonymy of *Microspio minuta* (Hartmann-Schröder, 1962) and *M. microcera* (Dorsey, 1977) is discussed. The new combination *Spio jirkovi* (Sikorski, 1992) proposed by Sikorski (2013) is returned to *Malacoceros*. We added DNA barcodes for five species collected in the Lizard Island area to public databases which will be useful in future phylogenetic and phylogeographic studies. For *Microspio* we provide the first sequence data for this genus.

**Key words :** COI, *Malacoceros indicus*, *Microspio granulata*, morphology, *Scolelepis inversa* n. sp., *Scolelepis kudenovi*, *Spio blakei*, *Spiophanes viriosus*, taxonomy, 16S rDNA, 18S rDNA

### Introduction

The spionid fauna of Australia has been studied by several authors. One of the most comprehensive studies was by Blake & Kudenov (1978) who studied the Spionidae from southeastern Australia and adjacent areas. The authors reported 68 species including four new genera and 43 new species. Hutchings & Turvey (1984) published a paper on the Spionidae of South Australia. Taxonomic revisions of certain genera were provided by Wilson (1990) (*Prionospio* and *Paraprionospio*), Meißner & Hutchings (2003) (*Spiophanes*), Sato-Okoshi *et al.* (2008) and Walker (2011) (polydorids), and by Greaves *et al.* (2011) (*Laonice*). Spionidae, as a widespread and common group, are of course also dealt with in faunistic papers studying Australian polychaetes in general. Good examples for such publications are those by Augener (1914) reporting about the results of the Hamburgian research expedition to SW Australia in 1905, by Hartmann-Schröder (1979, 1981, 1989, 1991a) who collected polychaetes along most of the Australian coasts, or the studies on the polychaete fauna of Careel Bay, New South Wales (Hutchings & Rainer 1979) and the Hawkesbury River and the southern estuaries of New South Wales (Hutchings & Murray 1984). There are also two occasional papers on Spionidae from Lizard Island. One is by Ben Eliahu *et al.* (1984) reporting about the occurrence of *Malacoceros indicus* (Fauvel, 1928) on the island, together with some taxonomic notes. A second paper by Dauer (1985) describes a new species, *Scolelepis hutchingsae*.

The present paper is an outcome of the polychaete workshop which took place on Lizard Island after the 11<sup>th</sup> International Polychaete Conference in Sydney in 2013. The aim of the workshop was to collect and study