

# Molpadiid Sea Cucumbers (Echinodermata, Holothuroidea) Of The Southern Atlantic, Pacific, And Indian

Memoirs of Museum Victoria 70: 37–50 (2013) Published 10-12-2013

1447-2554 (On-line)

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## New sea cucumber species from the seamounts on the Southwest Indian Ocean Ridge (Echinodermata: Holothuroidea: Aspidochirotrida, Elasipodida, Dendrochirotrida)

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<http://zoobank.org/urn:lsid:zoobank.org/pub:DECF956F-C474-4C8D-82AF-48FD0EC0BB4A>

**Abstract** O'Loughlin, P.M., Mackenzie M. and VandenSpiegel D. 2013. New sea cucumber species from the seamounts on the Southwest Indian Ocean Ridge (Echinodermata: Holothuroidea: Aspidochirotrida, Elasipodida, Dendrochirotrida). *Memoirs of Museum Victoria* 70: 37–50.

Marine research program JC066 (JC067) in the southwest Indian Ocean on the RRS *James Cook* in November and December 2011 collected sea cucumbers with an ROV from the *Atlantis* Bank and *Coral* Seamount. Three new species are described: *Amphigymna staplesi* O'Loughlin sp. nov.; *Pannychia toyfiorae* O'Loughlin sp. nov.; *Psolus atlantis* O'Loughlin sp. nov. Genera *Amphigymna* Walsh and *Pannychia* Théel are reviewed. A lectotype for *Pannychia moseleyi* Théel is designated.

### Keywords

JC066, *Atlantis* Bank, *Coral* Seamount, *Amphigymna*, *Pannychia*, *Psolus*, lectotype

### Introduction

The Natural Environment Research Council marine program JC066 (JC067) in the southwest Indian Ocean, embracing oceanography, biology and fisheries, and geology and geophysics, was conducted from the RRS *James Cook* in November and December 2011. Sampling was undertaken on the seamounts on the Southwest Indian Ocean Ridge: *Coral* Seamount, *Melville* Bank, *Middle of What* Seamount, *Sapper* Bank and *Atlantis* Bank (Fig. 1). Three specimens of sea cucumbers were collected by a submersible remotely operated underwater vehicle (ROV, 'Kiel 6000') and were sent to Museum Victoria for identification. The specimens represent new species of the synallactid genus *Amphigymna* Walsh, 1891, the elasipodid genus *Pannychia* Théel, 1882, and the psolid genus *Psolus* Oken, 1815. We use Oken, 1815 as author of *Psolus* provisionally as we await the outcome of an application by Paulay and O'Loughlin to the ICZN (case 3598) for validation of Oken, 1815 as author of this genus. The three new species are described in this work, and the type specimens are lodged in the British Museum of Natural History.

### Methods

Scanning electron microscope (SEM) images were taken by Didier VandenSpiegel after clearing the ossicles of associated soft tissue in commercial bleach, air-drying, mounting on aluminium stubs, and coating with gold. Observations were made using a JEOL JSM-6400LV SEM. Measurements were made with Smile view software.

Photos of specimens were taken in Museum Victoria by Melanie Mackenzie, in collaboration with Mark O'Loughlin, using an SLR Nikon D300S digital camera with a 60 mm Nikkor lens for large specimens, and a Leica DFC300 camera and microscope M20S high-resolution digital camera system with Auto Montage software for small specimens. Photos of live specimens were taken by photographer David Shale and used with permission.

### Abbreviations

ICZN The International Commission on Zoological Nomenclature, or the International Code of Zoological Nomenclature, as appropriate.  
NERC Natural Environment Research Council

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las campanas TALUD . Southern California that includes 5 deep-water species. and Foell, , an abyssal benthopelagic sea cucumber, Pacific Ocean, Indian Ocean, North Atlantic Ocean and Molpadiid sea cucumbers ( Echinodermata.) published a revision of the paracaudinid sea cucumbers of Australia and New Pawson, D. () Molpadiid sea cucumbers (Echinodermata: Holothuroidea) of the southern Atlantic, Pacific and Indian. Oceans. See details and download book: Molpadiid Sea Cucumbers Echinodermata Holothuroidea Of The Southern Atlantic Pacific And Indian Oceans Ibook. Collections of holothuroid echinoderms received from the Natal and South African Museums, the . Pawson, D.L. () Molpadiid sea cucumbers ( Echinodermata:Holothuroidea) of the southern Atlantic, Pacific and Indian Oceans. 3.The Holothuroidea, or sea cucumbers, are an abundant and diverse group of worm-like . In many parts of the South Pacific and along Oriental coasts, people . Right: Pieces from fossil molpadiid holothurians from the Hauterivian of Germany, approx. . Biogeographic Regions: indian ocean; atlantic ocean ; pacific ocean.

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