



Zootaxa 3246: 1–69 (2012)
www.mapress.com/zootaxa/

Copyright © 2012 · Magnolia Press

Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

ZOOTAXA

3246

**The Pachynidae fam. nov.
(Crustacea: Amphipoda: Lysianassoidea)**

J.K. LOWRY¹ & H.E. STODDART²

Crustacea Section, Australian Museum, 6 College Street, Sydney, New South Wales, 2010, Australia.

E-mail: ¹jim.lowry@austmus.gov.au; ²helen.stoddart@austmus.gov.au



Magnolia Press
Auckland, New Zealand

Accepted by G. Karaman: 20 Jan. 2012; published: 23 Mar. 2012

J.K. Lowry & H.E. Stoddart

The Pachynidae fam. nov. (Crustacea: Amphipoda: Lysianassoidea)

(*Zootaxa* 3246)

69 pp.; 30 cm.

23 Mar. 2012

ISBN 978-1-86977-891-0 (paperback)

ISBN 978-1-86977-892-7 (Online edition)

FIRST PUBLISHED IN 2012 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

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

© 2012 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)

Table of contents

Abstract	4
Introduction	4
Material and methods	4
Systematics	5
Pachynidae fam. nov.	5
Key to genera of Pachynidae	6
<i>Acheronia</i> Lowry, 1984	7
<i>Acheronia pegasus</i> Lowry, 1984	7
<i>Coriolisa</i> Lowry & Stoddart, 1994	8
<i>Coriolisa novacaledonia</i> Lowry & Stoddart, 1994	8
<i>Drummondia</i> Lowry, 1984	9
<i>Drummondia corinellae</i> Lowry, 1984	9
<i>Drummondia luce</i> sp. nov.	11
<i>Drummondia marlo</i> sp. nov.	13
<i>Drummondia parviramus</i> Lowry, 1984	15
<i>Drummondia tridentata</i> sp. nov.	16
<i>Ekelofia</i> Lowry, 1984	16
<i>Ekelofia eltanin</i> sp. nov.	19
<i>Ekelofia oculata</i> (Schellenberg, 1931)	20
<i>Figorella</i> J.L. Barnard, 1962	21
Key to species of <i>Figorella</i>	22
<i>Figorella angulosa</i> sp. nov.	22
<i>Figorella corindon</i> Lowry & Stoddart, 1993	24
<i>Figorella formosa</i> sp. nov.	25
<i>Figorella franklin</i> sp. nov.	27
<i>Figorella macrophoculata</i> Ren, 1991	30
<i>Figorella tanidea</i> J.L. Barnard, 1962	30
<i>Figorella tasmanica</i> Lowry, 1984	31
<i>Pachychelium</i> Stephensen, 1925	31
Key to species of <i>Pachychelium</i>	32
<i>Pachychelium davidis</i> Stephensen, 1925	32
<i>Pachychelium fucaensis</i> sp. nov.	32
<i>Pachychelium tropicalis</i> sp. nov.	35
<i>Pachynus</i> Bulycheva, 1955	36
Key to species of <i>Pachynus</i>	38
<i>Pachynus barnardi</i> Hurley, 1963	38
<i>Pachynus chelatum</i> Bulycheva, 1955	38
<i>Pachynus denticulatum</i> Lowry, 1984	40
<i>Pachynus obsolescens</i> sp. nov.	42
<i>Pachynus pugilator</i> Lowry, 1984	43
<i>Prachynella</i> J.L. Barnard, 1964	45
Key to species of <i>Prachynella</i>	45
<i>Prachynella epa</i> sp. nov.	45
<i>Prachynella lodo</i> J.L. Barnard, 1964	46
<i>Prachynella mediterranea</i> (Ruffo, 1975)	50
<i>Prachynella oculata</i> sp. nov.	51
<i>Prachynella shijiki</i> sp. nov.	52
<i>Renella</i> gen. nov.	53
<i>Renella sculptidentata</i> (Ren, 1991)	54
<i>Sheardella</i> Lowry, 1984	57
<i>Sheardella kapala</i> Lowry, 1984	57
<i>Sheardella tangaroa</i> Lowry, 1984	58
<i>Smaraldia</i> gen. nov.	59
<i>Smaraldia springthorpei</i> sp. nov.	61
<i>Ultimachelium</i> gen. nov.	62
Key to species of <i>Ultimachelium</i>	62
<i>Ultimachelium barnardi</i> (Alonso de Pina, 1993)	62
<i>Ultimachelium nichollsi</i> (Lowry, 1984)	63
<i>Ultimachelium schellenbergi</i> (Lowry, 1984)	64
<i>Ultimachelium tac</i> sp. nov.	65
Acknowledgments	67
References	68

Abstract

The new family Pachynidae is established. Three new genera are described: *Renella* **gen. nov.**, *Smaraldia* **gen. nov.** and *Ultimachelium* **gen. nov.** and fifteen new species: *Drummondia marlo* **sp. nov.**, *D. tridentata* **sp. nov.**, *Figorella angulosa* **sp. nov.**, *F. formosa* **sp. nov.**, *F. franklin* **sp. nov.**, *Pachychelium tropicalis* **sp. nov.**, *Pachynus obsolescens* **sp. nov.** and *Smaraldia springthorpei* **sp. nov.** from Australian waters; *Ekelofia eltanin* **sp. nov.** from Antarctic waters; *Prachynella shijiki* **sp. nov.** from Japanese waters; *Pachychelium fucaensis* **sp. nov.** from south-western Canadian and Californian waters; *Prachynella epa* **sp. nov.** and *Pr. oculata* **sp. nov.** from Californian waters; and *Drummondia luce* **sp. nov.** and *Ultimachelium tac* **sp. nov.** from southern Chilean waters. New records of *Pachynus barnardi* Hurley, 1963 and *Prachynella lodo* J.L. Barnard, 1964 are reported from Canadian waters; *Drummondia corinellae* Lowry, 1984, *Figorella tasmanica* Lowry, 1984, *Pachynus denticulatum* Lowry, 1984, *P. pugilator* Lowry, 1984, *Sheardella kapala* Lowry, 1984 and *S. tangaroa* Lowry, 1984 from Australian waters; and *Renella sculptidentata* (Ren, 1991), *Ultimachelium nichollsi* (Lowry, 1984) and *U. schellenbergi* (Lowry, 1984) from Antarctic waters.

Key words: Crustacea, Amphipoda, Pachynidae, taxonomy, new family, new genera, new species, *Acheronia*, *Coriolisa*, *Drummondia*, *Ekelofia*, *Figorella*, *Pachychelium*, *Pachynus*, *Prachynella*, *Renella*, *Sheardella*, *Smaraldia*, *Ultimachelium*

Introduction

Lowry (1984) recognised the pachynid group of lysianassoid genera as a monophyletic group characterized by gnathopod 1 with its extremely compressed carpus and greatly enlarged propodus. The group included the genera *Acheronia*, *Drummondia*, *Ekelofia*, *Figorella*, *Pachychelium*, *Pachynus*, *Prachynella* and *Sheardella*, together containing 18 species. Since then, Ren (1991) described two new species of pachynid (*Drummondia sculptidentata* and *Figorella macrophocolata*), Alonso de Pina (1993) described *Pachychelium barnardi*, Lowry & Stoddart (1993) described *F. corindon*; and Lowry & Stoddart (1994) described the new genus and species *Coriolisa novacaledonia*. New collections we have examined from Antarctica, Australasia, south-western Canada and southern Chile, plus re-examination of previously recorded material, have revealed three new genera and 15 new species of pachynids and range extensions for several existing species.

In this paper we formally establish the family Pachynidae **fam. nov.**, we revise the generic concepts and describe three new genera: *Renella*, *Smaraldia* and *Ultimachelium*, and fifteen new species: *Drummondia marlo*, *D. tridentata*, *Figorella angulosa*, *F. formosa*, *F. franklin*, *Pachychelium tropicalis*, *Pachynus obsolescens* and *Smaraldia springthorpei* from Australasian waters; *Ekelofia eltanin* from Antarctic waters; *Prachynella shijiki* from Japanese waters; *Pachychelium fucaensis* from south-western Canadian and Californian waters; *Prachynella epa* and *Pr. oculata* from Californian waters; and *Drummondia luce* and *Ultimachelium tac* from southern Chilean waters.

Material and methods

Descriptions have been generated from a DELTA (Dallwitz 2005) database of the world genera and species of Pachynidae. Diagnostic descriptions for all genera have been generated through Intkey (Dallwitz 2005). All diagnostic characters form the description and the diagnostic characters for each genus or species are in **bold** type. Terminology for setae and spines follows Watling (1989). Illustrations are of medial views unless otherwise stated. Whole animal measurements are made from anterior margin of the head to the base of the telson.

Material is deposited in the Australian Museum, Sydney (AM); the Los Angeles County Museum of Natural History, Los Angeles (LACM); Museum Victoria, Melbourne (MV); the Canadian Museum of Nature, Ottawa (NMCC); the Swedish Museum of Natural History, Stockholm (SMNH) and the United States National Museum of Natural History, Washington (USNM). The following abbreviations are used on the plates: **A**, antenna; **E**, epistome and upper lip; **EP**, epimeron; **G**, gnathopod; **MD**, mandible; **MDp**, mandibular palp; **MP**, maxilliped; **MPIP**, maxilliped inner plate; **MPOP**, maxilliped outer plate; **MX**, maxilla; **P**, pereopod; **PE**, pereonite; **T**, telson; **U**, uropod; **UR**, urosome; **L**, left; **R**, right; **lat**, lateral.