



Zootaxa 3601 (1): 001–133
www.mapress.com/zootaxa/

Copyright © 2013 Magnolia Press

Monograph

ISSN 1175-5326 (print edition)

ZOOTAXA

ISSN 1175-5334 (online edition)

<http://dx.doi.org/10.11646/zootaxa.3601.1.1>

<http://zoobank.org/urn:lsid:zoobank.org:pub:B32F2745-5326-47B7-9111-CAA6BC9149DE>

ZOOTAXA

3601

**A taxonomic revision of the southern African leaf-cutter bees,
Megachile Latreille sensu stricto and *Heriadopsis Cockerell*
(Hymenoptera: Apoidea: Megachilidae)**

CONNAL EARDLEY

Agricultural Research Council, Private Bag X134, Queenswood 0121, South Africa / School of Biological and Conservation Sciences,
University of KwaZulu–Natal, Private Bag X01, Scottsville, Pietermaritzburg, 3209, South Africa. eardley@arc.agric.za



Magnolia Press
Auckland, New Zealand

Accepted by C. Rasmussen: 24 Oct. 2012; published: 11 Jan. 2013

CONNAL EARDLEY

A taxonomic revision of the southern African leaf-cutter bees, *Megachile* Latreille *sensu stricto* and *Heriadopsis* Cockerell (Hymenoptera: Apoidea: Megachilidae)

(*Zootaxa* 3601)

133 pp.; 30 cm.

11 Jan. 2012

ISBN 978-1-77557-082-0 (paperback)

ISBN 978-1-77557-083-7 (Online edition)

FIRST PUBLISHED IN 2013 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

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

© 2013 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
Methods	5
Abbreviations and acknowledgments	6
Identification key to the southern African subgenera of leaf-cutter bees (<i>Megachile</i>)	7
<i>Megachile</i> (Amegachile) Friese	8
Identification key to species of <i>Megachile</i> (Amegachile)	8
<i>Megachile</i> (Amegachile) <i>fimbriata</i> Smith	8
<i>Megachile</i> (Amegachile) <i>nasalis</i> Smith	12
<i>Megachile</i> (Amegachile) <i>bituberculata</i> Ritsema	15
<i>Megachile</i> (Platysta) Pasteels	18
<i>Megachile</i> (Platysta) <i>khamana</i> Cockerell	19
<i>Megachile</i> (Eutricharaea) Thomson	21
Identification key to species of <i>Megachile</i> (Eutricharaea)	22
<i>Megachile</i> (Eutricharaea) <i>venusta</i> Smith	23
<i>Megachile</i> (Eutricharaea) <i>basalis</i> Smith	28
<i>Megachile</i> (Eutricharaea) <i>afra</i> Pasteels	31
<i>Megachile</i> (Eutricharaea) <i>bucephala</i> (Fabricius)	33
<i>Megachile</i> (Eutricharaea) <i>salsburyana</i> Friese	37
<i>Megachile</i> (Eutricharaea) <i>eurymera</i> Smith	39
<i>Megachile</i> (Eutricharaea) <i>pachyceps</i> Friese	42
<i>Megachile</i> (Eutricharaea) <i>familiaris</i> Cockerell	45
<i>Megachile</i> (Eutricharaea) <i>barbata</i> Smith	47
<i>Megachile</i> (Eutricharaea) <i>aurifera</i> Cockerell	50
<i>Megachile</i> (Eutricharaea) <i>aurilabris</i> Pasteels	52
<i>Megachile</i> (Eutricharaea) <i>konowiana</i> Friese	54
<i>Megachile</i> (Eutricharaea) <i>wahlbergi</i> Friese	57
<i>Megachile</i> (Eutricharaea) <i>cyanescens</i> Friese	61
<i>Megachile</i> (Eutricharaea) <i>regina</i> Friese	65
<i>Megachile</i> (Eutricharaea) <i>albohirsuta</i> Pasteels	66
<i>Megachile</i> (Eutricharaea) <i>muansae</i> Friese	67
<i>Megachile</i> (Eutricharaea) <i>meadewaldoi</i> Brauns	70
<i>Megachile</i> (Eutricharaea) <i>gobabebensis</i> sp. n.	74
<i>Megachile</i> (Paracella) Michener	77
Identification key to species of <i>Megachile</i> (Paracella)	78
<i>Megachile</i> (Paracella) <i>barkeri</i> Cockerell	79
<i>Megachile</i> (Paracella) <i>frontalis</i> Smith	80
<i>Megachile</i> (Paracella) <i>admixa</i> Cockerell	80
<i>Megachile</i> (Paracella) <i>pilosella</i> Friese	87
<i>Megachile</i> (Paracella) <i>ungulata</i> Smith	90
<i>Megachile</i> (Paracella) <i>malangensis</i> Friese	94
<i>Megachile</i> (Paracella) <i>chrysopogon</i> Vachal	98
<i>Megachile</i> (Paracella) <i>semierma</i> Vachal	102
<i>Megachile</i> (Paracella) <i>curtula</i> Gerstaecker	106
<i>Megachile</i> (Paracella) <i>edwardsi</i> Friese	109
<i>Megachile</i> (Paracella) <i>filicornis</i> Friese	112
Species of <i>M.</i> (Eutricharaea) or <i>M.</i> (Paracella) that are of unknown identity	114
<i>Megachile attenuata</i> Vachal	114
<i>Megachile callichlora</i> Cockerell	114
<i>Megachile opaculina</i> Cockerell	114
<i>Megachile patellimana</i> Spinola	115
<i>Megachile zambesica</i> Pasteels	115
<i>Megachile</i> (Heriadopsis) Cockerell	115
<i>Megachile</i> (Heriadopsis) <i>whiteana</i> Cameron	115
Doubtful distribution record for southern Africa	117
<i>Megachile striatula</i> Cockerell	117
Species of uncertain identity or incorrect records for southern Africa	118
<i>Megachile clypeosinuata</i> Pasteels	118
<i>Megachile parancinnula</i> Cockerell	118
<i>Megachile riggenbachiana</i> Strand	119
<i>Megachile senex</i> Smith	119
<i>Megachile temora</i> Cameron	119

Food plant families	119
List of <i>Megachile</i> food plants and their family names.	119
Localities	121
Literature	128
Index	132

Abstract

The five southern African subgenera of *Megachile* with recessed cutting edges between their teeth are revised. The entire group comprises 37 valid species, two of which are new: *Megachile* (*Eutricharaea*) *gobabebensis* **sp. n.** and *Megachile* (*Eutricharaea*) *goegabensis* **sp. n.** Other species are: *Megachile* (*Amegachile*) *fimbriata* Smith, *Megachile* (*Amegachile*) *nasalis* Smith, *Megachile* (*Amegachile*) *bituberculata* Ritsema, *Megachile* (*Eutricharaea*) *afra* Pasteels, *Megachile* (*Eutricharaea*) *aurifera* Cockerell, *Megachile* (*Eutricharaea*) *barbata* Smith, *Megachile* (*Eutricharaea*) *basalis* Smith, *Megachile* (*Eutricharaea*) *bucephala* (Fabricius), *Megachile* (*Eutricharaea*) *cyanescens* Friese, *Megachile* (*Eutricharaea*) *eurymera* Smith, *Megachile* (*Eutricharaea*) *familiaris* Cockerell, *Megachile* (*Eutricharaea*) *konowiana* Friese, *Megachile* (*Eutricharaea*) *meadewaldoi* Brauns, *Megachile* (*Eutricharaea*) *muansae* Friese, *Megachile* (*Eutricharaea*) *pachycephs* Friese, *Megachile* (*Eutricharaea*) *regina* Friese, *Megachile* (*Eutricharaea*) *salsburyana* Friese, *Megachile* (*Eutricharaea*) *venusta* Smith, *Megachile* (*Eutricharaea*) *wahlbergi* Friese, *Megachile* (*Heriadopsis*) *whiteana* Cameron, *Megachile* (*Paracella*) *admixta* Cockerell, *Megachile* (*Paracella*) *barkeri* Cockerell, *Megachile* (*Paracella*) *chrysopogon* Vachal, *Megachile* (*Paracella*) *curtula* Gerstaecker, *Megachile* (*Paracella*) *edwardsi* Friese, *Megachile* (*Paracella*) *filicornis* Friese, *Megachile* (*Paracella*) *frontalis* Smith, *Megachile* (*Paracella*) *malangensis* Friese, *Megachile* (*Paracella*) *pilosella* Friese, *Megachile* (*Paracella*) *semierma* Vachal, *Megachile* (*Paracella*) *ungulata* Smith, *Megachile* (*Platysta*) *khamana* Cockerell. Of the 78 **new synonymies** *fimbriata vulpecula* Pasteels is *M. fimbriata*; *volkmani ventrifasciata* Strand is *M. nasalis*; *sjoestedti* var. *rubripedana* Strand is *M. tuberculata*; *gratiosa* Gerstaecker, *concinna* Smith, *marusa* Cameron, *robertiana* Cameron, *venustella* Cockerell, *umbiloensis* Cockerell and *acallognatha* Cockerell are *M. venusta* Smith; *latimetatarsis* Strand and *rozenii* Pasteels are *M. basalis* Smith; *semifulva* Friese and *planatipes* Cockerell are *M. bucephala* (Fabricius); *seclusiformis* Cockerell is *M. salsburyana* Friese; *flava* Friese and *rhodoleucura* Cockerell are *M. eurymera* Smith; *luteola* Pasteels and *stellensis* Pasteels are *M. familiaris* Cockerell; *nasutula* Brauns, *coelostoma* Cockerell, and *nitidicauda* Cockerell are *M. barbata* Smith; *venustoides* Strand, *venustella zambesica* Cockerell and *pondonis* Cockerell are *wahlbergi* Friese; *okanjandica* Strand and *vittatula* Cockerell are *cyanescens* Friese; *leucospilura* Cockerell is *M. muansae* Friese; *cordata* Smith, *tardula* Cameron, *ekuivella* Cockerell, *krebsiana* Strand, *rhodesica* Cockerell, *natalica* Cockerell, *masaiella* Cockerell, *chromatica* Cockerell, *gratiosella* Cockerell, *rhodesica haematognatha* Cockerell, *mackieae* Cockerell, *flammicauda* Cockerell, *venusta* var. *semiflava* Cockerell, *rufulina* Cockerell, *rufosuffusa* Cockerell, *melanura* Cockerell, *asarna* Cockerell, *capiticola* Cockerell, *heteroscopa* Cockerell, *capiticola* Cockerell and *chrysognatha* Cockerell are *M. frontalis* Smith; *boswendica* Cockerell, *rubrociliata* Pasteels and *rufisetosa* Pasteels are *M. pilosella* Friese; *apiformis* Smith is *M. ungulata* Smith; *stellarum* Cockerell, *laticeps* Friese, *malangensis mamalapia* Pasteels, *obesa* Pasteels and *ovatomaculata* Pasteels are *M. malangensis* Friese; *flavibasis* Cockerell, *heterotricha* Cockerell, *candidicauda* Cockerell, *candidigena* Cockerell, *candidicauda spinarum* Cockerell, *neli* Cockerell, *albofilosa* Cockerell, *discretula* Cockerell, *rubeola* Pasteels and *meesi* Pasteels are *M. chrysopogon* Vachal; *lydenburgiana* Strand, *aliceae* Cockerell, *pretoriaensis* Pasteels and *pycnocephala* Pasteels are *M. semierma* Vachal; *benitocola* Strand and *granulicauda* Cockerell are *M. curtula* Gerstaecker; and *spatulicornis* Pasteels is *M. edwardsi* Friese. Brief descriptions are provided for all the species, as are their distributions in southern Africa, known host plants and parasites. Keys for the identification of the species are also given.

Introduction

The Afrotropical species of the genus *Megachile* Latreille were last revised by Pasteels (1965), together with *Chalicodoma* Lapeletier and *Creighonella* Cockerell as distinct genera (The latter two taxa were later synonymized with *Megachile*, Michener 2000). Bees in the genus *Megachile*, *sensu* Pasteels (1965), are commonly known as