



Zootaxa 3543: 1–65 (2012)  
www.mapress.com/zootaxa/

Copyright © 2012 · Magnolia Press

ISSN 1175-5326 (print edition)

**ZOOTAXA**

ISSN 1175-5334 (online edition)

# Monograph

urn:lsid:zoobank.org:pub:AD4DF500-9034-4B1F-9FB1-A0B0D441A034

# ZOOTAXA

3543

## **A taxonomic revision of the mealybug genus *Ferrisia* Fullaway (Hemiptera: Pseudococcidae), with descriptions of eight new species and a new genus**

M. B. KAYDAN<sup>1</sup> & P. J. GULLAN<sup>2,3</sup>

<sup>1</sup>Imamoglu Vocational School, Çukurova University, Adana, 01330, Turkey. E-mail: bkaydan@cu.edu.tr

<sup>2</sup>Division of Evolution, Ecology and Genetics, Research School of Biology, The Australian National University, Canberra, A.C.T. 0200, Australia. E-mail: penelope.gullan@anu.edu.au

<sup>3</sup>Department of Entomology, University of California, One Shields Avenue, Davis, CA 95616-8584, U.S.A.



Magnolia Press  
Auckland, New Zealand

Accepted by C.J. Hodgson: 25 Sept. 2012; published: 7 Nov. 2012

M. B. KAYDAN & P. J. GULLAN

**A taxonomic revision of the mealybug genus *Ferrisia* Fullaway (Hemiptera: Pseudococcidae), with descriptions of eight new species and a new genus**

(*Zootaxa* 3543)

65 pp.; 30 cm.

7 Nov 2012

ISBN 978-1-77557-046-2 (paperback)

ISBN 978-1-77557-047-9 (Online edition)

FIRST PUBLISHED IN 2012 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: [zootaxa@mapress.com](mailto: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	3
Introduction	4
Materials and methods	7
Specimens and depositories	7
Descriptive taxonomy	7
Relationships and distribution of <i>Ferrisia</i> species	8
Genus <i>Ferrisia</i> Fullaway	10
Generic description of adult female	10
Key to species of <i>Ferrisia</i> based on adult females	11
<i>Ferrisia claviseta</i> (Lobdell)	14
<i>Ferrisia colombiana</i> Kaydan & Gullan sp. n.	14
<i>Ferrisia cristinae</i> Kaydan & Gullan sp. n.	16
<i>Ferrisia dasyilirii</i> (Cockerell) stat. rev.	19
<i>Ferrisia ecuadorensis</i> Kaydan & Gullan sp. n.	23
<i>Ferrisia gilli</i> Gullan	26
<i>Ferrisia kondoi</i> Kaydan & Gullan sp. n.	29
<i>Ferrisia malvastra</i> (McDaniel)	32
<i>Ferrisia meridionalis</i> Williams	35
<i>Ferrisia milleri</i> Kaydan & Gullan sp. n.	35
<i>Ferrisia multififormis</i> Granara de Willink	37
<i>Ferrisia pitcairnia</i> Kaydan & Gullan sp. n.	39
<i>Ferrisia quaintancii</i> (Tinsley)	41
<i>Ferrisia setosa</i> (Lobdell)	44
<i>Ferrisia terani</i> Williams & Granara de Willink	46
<i>Ferrisia uzinuri</i> Kaydan & Gullan sp. n.	48
<i>Ferrisia virgata</i> (Cockerell)	50
<i>Ferrisia williamsi</i> Kaydan & Gullan sp. n.	56
Genus <i>Pseudoferrisia</i> Kaydan & Gullan gen. n.	59
Diagnosis of adult female	59
Description of adult female	59
<i>Pseudoferrisia floridana</i> (Ferris) comb. n.	60
Acknowledgements	62
References	63

## Abstract

The mealybug genus *Ferrisia* Fullaway is revised to include 18 species, based on morphological and molecular data. We distinguish the widespread pest species *F. virgata* (Cockerell) from morphologically similar species and provide a revised description and illustration for the adult female of *F. virgata*. We resurrect *Dactylopius dasyilirii* Cockerell **stat. rev.** from synonymy with *Dactylopius virgatus* Cockerell as *Ferrisia dasyilirii* (Cockerell) and apply this name to many North American and Caribbean populations previously recognised as *F. virgata*; *F. dasyilirii* is the most difficult to distinguish morphologically from *F. virgata* and exhibits morphological and molecular variation among some populations. We designate a lectotype for *D. dasyilirii* Cockerell. Eight new species of *Ferrisia* are described and illustrated based on the adult female, and named as *Ferrisia colombiana* **sp. n.**, *F. cristinae* **sp. n.**, *F. ecuadorensis* **sp. n.**, *F. kondoi* **sp. n.**, *F. milleri* **sp. n.**, *F. pitcairnia* **sp. n.**, *F. uzinuri* **sp. n.** and *F. williamsi* **sp. n.** The relationships of five of these new species and five named species are discussed in relation to a previously published phylogenetic tree that was based on nucleotide sequence data. Taxonomically informative morphological features (such as the size, shape and position of discoidal pores associated with the dorsal enlarged tubular ducts and the ventral oral-collar tubular ducts), identified for each of the genetic groups (clades) on the tree, are used to help to diagnose the species. We also describe and illustrate the adult female of a form of *F. gilli* Gullan, found on *Magnolia* and some other host plants, that has numerous clusters of small ventral oral-collar ducts on the body margins. For seven named species—*F. claviseta* (Lobdell), *F. malvastra* (McDaniel), *F. meridionalis* Williams, *F. multififormis* Granara de Willink, *F. quaintancii* (Tinsley), *F. setosa* (Lobdell) and *F. terani* Williams & Granara de Willink—we provide revised illustrations of the adult females as well as diagnostic morphological notes and information on distribution and host plants. We also recognise *Eurycoccus copallinae* Ferris as a junior synonym (**syn. n.**) of *Dactylopius quaintancii* Tinsley (now *F. quaintancii*) and designate a lectotype for *E. copallinae*. We include photographs of the live appearance of the adult females of six *Ferrisia* species and also a key to all known species of *Ferrisia* based on the morphology of the adult females. We transfer the species currently known as *Ferrisia floridana* (Ferris) to a new monotypic genus, *Pseudoferrisia* **gen. n.**, as *Pseudoferrisia floridana* (Ferris) **comb. n.**, and provide a description of the genus and its type species (*Ferrisiana floridana* Ferris), as well as a new illustration of the adult female.

**Key words:** striped mealybug, *Pseudoferrisia*, pest