Zootaxa 3873 (1): 025–036
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3873.1.2
http://zoobank.org/urn:lsid:zoobank.org:pub:CDFB109C-DC5D-4153-985D-20AA0F289C0C

A new species of mealybug in the genus *Paracoccus* Ezzat & McConnell from North America (Insecta: Coccoidea: Pseudococcidae)

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Abstract

A probably adventive mealybug species, *Paracoccus gillianae* **sp. n**. is described from North America. Its entry into the United States was likely to have been via the horticultural trade of *Agave* spp. (Liliales: Agavaceae) and other host plants in the family Agavaceae. Illustrations of the adult female and male, and diagnosis from congeners in the New World and from other *Paracoccus* species known to feed on Agavaceae, are provided.

Key words: Coccoidea, adventive, description, *Agave*, California, Florida

Introduction

The genus *Paracoccus* was erected by Ezzat & McConnell (1956) to include seven species, and many more have been added and described since, totaling 88 to date (Ben-Dov, 2014). *Paracoccus* is a challenging genus taxonomically because there is considerable intraspecific variation in several character systems, making taxonomic delineation difficult (Williams & Granara de Willink, 1992). In the New World, *Paracoccus* is represented by 21 species (Williams & Granara de Willink, 1992) and extends from the southern United States to South America, with 17 species recorded from Mexico alone (Ben-Dov, 2014). Previously, only four species were known from the United States (Williams & Granara de Willink, 1992; Miller *et al*., 1999); three that are believed to be native (*P. juniperi* (Ehrhorn), *P. reductus* (Ferris), *P. townsendi* Cockerell) plus *P. marginatus* Williams & Granara de Willink, which is almost certainly an adventive species native to Mexico or Central America.

Since 2010, an apparently undescribed *Paracoccus* species has been found infesting *Agave* and other agavoids in nurseries in southern California, and intermittently in Florida nurseries since 2002. Molecular sequences of specimens from California and Florida were found to match, corroborating co-specificity and suggesting that the California and Florida populations had the same biogeographical origin. The new species is most similar to *P. hamoni* Williams & Granara de Willink, described from Cactaceae from Mexico. Examination of morphological characters in a large series of specimens enabled us to distinguish this species from *P. hamoni* and other *Paracoccus* species recorded from Agavaceae (i.e., *P. glaucus* (Maskell), *P. marginatus*, *P. reductus*, and *P. solani* Ferris), based primarily on the length of labium and tentorium, number of cerarii, and number and position of dorsal oral rim ducts. The new species is described and illustrated, based on adult females and males.

Material and methods

Specimens studied are deposited in the following collections:

CSCA California State Collection of Arthropods, Sacramento, California, USA

Accepted by C. Hodgson: 19 Sept. 2014; published: 14 Oct. 2014

for landscaping. In California, it has been found in nurseries in San Diego, Riverside, Los Angeles, and Santa Barbara Counties; it has been recorded outdoors only once from a landscape infestation in Riverside County, which is thought to have been eradicated. In Florida, it has been collected from nurseries in Alachua, Brevard, Broward, Duval, Escambia, Miami-Dade and Orange Counties, and outdoors from the Jacksonville Zoological Gardens in Duval County, but has not been found anywhere in the state in the general environs.

Etymology. We name this species *gillianae* after our friend and colleague Dr. Gillian Watson, renowned specialist in the taxonomy of scale insects, who first suspected that this mealybug represented a new species and graciously agreed to us describing it in her honor.

Acknowledgments

We are grateful to G. Evans and D.R. Miller (USNM), and P. Brown (BMNH) for the loan of specimens and type material, to S. Kinnee (CDFA) for running the molecular analysis, to G.W. Watson (CDFA), R.J. Gill, D.R. Miller, C.J. Hodgson, and an anonymous reviewer for their comments and suggestions on the manuscript, and to G.W. Watson for mounting the long series of slides of this species at CSCA and for her advice and encouragement during the development of this study. This research was approved by the Florida Department of Agriculture and Consumer Services, Division of Plant Industry for publication as contribution 1255.

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