



Taxonomic review of the lac insect genus *Paratachardina* Balachowsky (Hemiptera: Coccoidea: Kerriidae), with a revised key to genera of Kerriidae and description of two new species

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Abstract

The genus *Paratachardina* Balachowsky (Hemiptera: Coccoidea: Kerriidae) is revised to include nine species: *P. decorella* (Maskell), *P. minuta* (Morrison), *P. mithila* Varshney, *P. morobensis* Williams & Watson, *P. silvestri* (Mahdihassan), *P. ternata* (Chamberlin), *P. theae* (Green), and two new species. *Tachardina lobata* Chamberlin (now *P. lobata*) is synonymized with *Tachardina silvestri* Mahdihassan (now *P. silvestri*), based on examination of type specimens. *Paratachardina capsella* Wang is transferred to *Albotachardina* Zhang as *Albotachardina capsella* (Wang) **comb. nov.** We provide a revised taxonomic key to the genera of the family Kerriidae and to all known species of the genus *Paratachardina*. All *Paratachardina* species are redescribed and illustrated with the exception of *P. mithila*. One of the new species described here is the polyphagous and pestiferous lobate lac scale, which damages trees and woody shrubs in Florida, U.S.A., the Bahamas and the territory of Christmas Island, Australia, and has been identified mistakenly as *Paratachardina lobata* (Chamberlin), an insect native to India and Sri Lanka. Here we recognize the lobate lac scale as a new species, name it

Paratachardina pseudolobata **sp. nov.** and describe it based on all stages of the female (adult, second instar and first instar). In addition, a second new species, *P. mahdihassani* **sp. nov.**, is described based on adult females from India.

Key words: lac insect, lobate lac scale, pest, taxonomy, new species

Resumen

El género *Paratachardina* Balachowsky (Hemiptera: Coccoidea: Kerriidae) es revisado para incluir nueve especies: *P. decorella* (Maskell), *P. minuta* (Morrison), *P. mithila* Varshney, *P. morobensis* Williams & Watson, *P. silvestri* (Mahdihassan), *P. ternata* (Chamberlin), *P. theae* (Green), y dos especies nuevas. *Tachardina lobata* Chamberlin (ahora *P. lobata*) se sinonimiza con *Tachardia silvestri* Mahdihassan (ahora *P. silvestri*), basandose en la examinación de especímenes tipo. *Paratachardina capsella* Wang se transfiere al género *Albotachardina* Zhang como *Albotachardina capsella* (Wang) comb. nov. Se provee una clave taxonómica revisada para los géneros de la familia Kerriidae y para todas las especies del género *Paratachardina*. Todas las especies de *Paratachardina* son redescritas e ilustradas a excepción de *P. mithila*. Una de las nuevas especies descritas en el presente estudio es la escama lobada de laca cual es una plaga polífaga que causa daños a árboles y arbustos en la Florida, las Bahamas y en el Territorio de la Isla de Navidad, Australia y la cual ha sido misidentificada como *Paratachardina lobata* (Chamberlin), un insecto nativo de la India y Sri Lanka. Aquí reconocemos la escama lobada de laca como una nueva especie, y la nombramos *Paratachardina pseudolobata* **sp. nov.** y la describimos basandose en todos los estadios de la hembra (adulto, segundo instar y primer instar). En adición, una segunda nueva especie de la India, *P. mahdihassani* **sp. nov.**, se describe e ilustra basandose en la hembra adulta.

Introduction

Lac insects constitute a family, the Kerriidae, of morphologically distinctive scale insects that produce gum-like or resinous secretions that form a hard scale cover or test (Chamberlin 1923; Varshney 1977, 1984; Lit 2002a). The best-known species is *Kerria lacca* (Kerr), renowned for its sticky resinous secretion (lac), which is used commercially as a natural polymer called shellac. The word “lac” is derived from Persian and Hindi words that mean “hundred thousand,” indicating the large number of insects required to produce shellac (Encyclopædia Britannica 2007). Approximately 90 species of lac insects have been described worldwide in nine genera (Ben-Dov 2006). Kerriid classification was established by the monographic works of Chamberlin (1923, 1925), with additional significant studies of Oriental, especially Indian taxa, by Varshney (1977, 1984), of South African *Tachardina* species by Munting (1965, 1966), and a review of New World *Austrotachardina* species by Kondo & Gullan (2005). There is no recent taxonomic treatment of the whole family, but a key to genera is provided by Zhang (1992) and Kondo & Gullan (2005). The present work reviews the lac insect genus *Paratachardina*, which was erected by Balachowsky (1950) for the Australian species *P. decorella* (Maskell). Currently there are nine described species of *Paratachardina* (Ben-Dov 2006): *P. capsella* Wang from China, the type species *P. decorella*, *P. lobata* (Chamberlin) from India and Sri Lanka (records of *P. lobata* from elsewhere are misidentifications, as explained in this paper), *P. mithila* Varshney, *P. silvestri* (Mahdihassan)[see section on this species for an explanation of the correct spelling of this name] and *P. ternata* (Chamberlin) all from India, *P. minuta* (Morrison) from the Philippines, *P. morobensis* Williams & Watson from Papua New Guinea, and *P. theae* (Green) from China (including Taiwan) and India. There is no key to all described species of *Paratachardina*, although Varshney (1977, 1984) has a key to species that occur in India, and Chamberlin (1923) included five species in his key to *Tachardina*, as this genus included *Paratachardina* prior to its separation by Balachowsky (1950).

Until recently, little attention has been paid to *Paratachardina* species, even to *P. theae*, which is an occasional pest of tea plants (Green & Mann 1907; Chamberlin 1923). However, in 1999, a lac insect identified as *P. lobata* was first recorded in Florida and since 2002 has been reported as a serious pest there, as it is highly