Zootaxa 4032 (4): 407–416
www.mapress.com/zootaxa/

Article

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

http://dx.doi.org/10.11646/zootaxa.4032.4.5
http://zoobank.org/urn:lsid:zoobank.org:pub:84FFF17C-6737-42F5-8DB3-8F3325368E0A

First report of a parthenogenetic Grylloidea and new genus of Neoaclini (Insecta: Orthoptera: Grylloidea: Phalangopsidae: Phalangopsinae)

MARIA LUIZA FERNANDES[1], ADILSON ARIZA ZACARO[2] & JOSÉ EDUARDO SERRÃO[2,3]

[1]*Programa de Pós-Graduação em Entomologia, Departamento de Entomologia, Universidade Federal de Viçosa, Av. PH Rolfs, s/n°, Centro. CEP: 36570-000, Viçosa, MG, Brazil*
[2]*Departamento de Biologia Geral, Universidade Federal de Viçosa, Av. PH Rolfs, s/n°, Centro. CEP: 36570-000, Viçosa, MG, Brazil*
[3]*Corresponding author. E-mail: jeserrao@ufv.br*

Abstract

This study describes a new genus and species of Neoaclini cricket based on specimens collected in the Brazilian Atlantic forest. In addition to the morphological description, we also report karyotype. *Ubiquepuella telytokous* **n. sp.** represents the first recorded occurrence of parthenogenesis in Grylloidea. Although the exclusively parthenogenetic reproduction is rare in Orthoptera, we acknowledge this phenomenon in this species based on successful reproduction in the laboratory setting (i.e., approximately ten generations) despite the absence of males, indicating thelytokous parthenogenesis.

Key words: cricket, female, insect, parthenogenesis

Introduction

Obligate parthenogenesis is uncommon in insects (Chapman 2013) and considered rare in Orthoptera, with a reported frequency of 0.04% of species (Normark 2014). Thelytokous parthenogenesis (i.e., the production of diploid females from unfertilized eggs) is the only type of parthenogenesis reported in Orthoptera, having obligate thelytokous species and thelytokous populations of species that also sexually reproduce (Hoy 2008). Parthenogenetic species are known to occur in Eumastacoidea [*e.g. Warramaba virgo* (Key, 1963)], Tetrigoidea [*e.g. Tetrix undulata* (Sowerby, 1806)], Tettigonioidea (*e.g. Saga pedo* (Pallas, 1771) and *Poecilimon* (*Poecilimon*) *intermedius* (Fieber, 1853)), Rhaphidophoroidea [*e.g. Troglophilus (Paratroglophilus) neglectus* Krauss, 1879] and Gryllotalpoidea: Myrmecophilidae [*e.g. Myrmecophilus (Myrmecophilus) acervorum* (Panzer, 1799)], but have not yet been reported for Grylloidea.

The Neotropical tribe of true crickets Neoaclini was described by Desutter (1988) as belonging to the new family Neoaclidae. Later, Desutter-Grandcolas (1991; 1992) based on the results of Desutter (1990: see pgs 21 and 51), invalidated Neoaclidae and repositioned Neoaclini, along with Strogulomorphini in Phalangopsinae (Phalangopsidae). Gorochov (1995, *apud* Gorochov 2007) supported Desutter-Grandcolas' proposal (1991, 1992), but later suggested that species in Neoaclini should be included in Paragryllini, also belonging to Phalangopsinae (Gorochov 2007). Changes in classification led to the creation of subtribe Neoaclina, based on modifications of the status of Neoaclidae Desutter, 1988 (Gorochov 2011). The genera belonging to Neoaclini were then transferred to Paragryllini, which formed this new subtribe. Despite numerous changes proposed by Gorochov (2007, 2009, 2011, 2014) involving classification of Paragryllini as well as its genera, Neoaclini is now considered a tribe of Phalangposinae, following the classification adopted by Desutter-Grandcolas (2014). Currently, Neoaclini consists of the following genera: *Aclella* Desutter-Grandcolas, 2000; *Kevanacla* Desutter-Grandcolas, 1992; *Neoacla* Desutter-Grandcolas, 1988; *Superacla* Gorochov, 2009; *Yoyuteris* Ruíz-Bailú & Otte, 1997 and *Ectecous* Saussure, 1878.

There are no available information about the karyotypes of Neoaclini species and even at family level, these data are poorly characterized (Zefa *et al.* 2010), with information about only 23 species and 6 genera described

Accepted by D. Rentz: 16 Sept. 2015; published: 19 Oct. 2015