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A new Neotropical genus of Ommatolampidinae (Orthoptera: Acridoidea: Acrididae) from Brazilian Atlantic Forest, with chromosome complement

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Abstract

A new Neotropical genus of Ommatolampidinae belonging to the genus group Ommatolampae Brunner von Wattenwyl, 1893 from Brazilian Atlantic Forest was described, diagnosed, and illustrated. The description was based on the external morphology, as well as genitalia and chromosomal characterization. *Muriciacris* **n. gen.** was proposed to include *Muriciacris triflavovittata* **n. sp.** (type species) described from northeastern of Brazil, state of Alagoas.

Key words: Insect, Caelifera, grasshopper, taxonomy, cytogenetics

Introduction

The grasshopper subfamily Ommatolampidinae includes seven tribes, with 280 described species distributed throughout 110 valid genera (Eades *et al.* 2014). Its members are distinguished from the remaining acridids by their mesonotum, which is either not externally visible or only visible at the posterior region (Costa *et al.* 2007). Ommatolampidinae occurs on a wide range of regions, dwelling from canopy to bushes, and young trees in clearings, as well as on small secondary anthropogenic formations (Costa *et al*. 2010). The genera of the Ommatolampidinae are rather heterogeneous in terms of their internal and external morphology, but within each genus, species follow more or less a uniform pattern (Amédégnato & Descamps, 1979). This subfamily is widespread from northern South America, Central America, and to some Caribbean islands (Eades *et al*. 2014).

The genus group Ommatolampae Brunner von Wattenwyl, 1893 includes 31 species distributed on fourteen genera (Eades *et al.* 2014), occurring in Bolivia, Colombia, Ecuador, Guyana, Peru, and Brazil, latter with *Episomacris* Carbonell & Descamps, 1978 from state of Pará, and *Eulampiacris* Carbonell & Descamps, 1978 from Amazonas (Carbonell & Descamps, 1978; Descamps, 1976). Carbonell & Descamps (1978) organized the Ommatolampae group into three groups of genera according to altitude variation: a) genera spread between 1500 to 2800m (*Kyphiacris* Carbonell & Descamps, 1978, *Leptopteracris* Carbonell & Descamps, 1978*, Ronderosacris* Carbonell & Descamps, 1978, the first one from Ecuador, and the other two from Peru); b) genera found in the Amazon forest for about 100m to 1500m, and 1800m altitude exceptionally (*Peruana* Koçak & Kemal, 2008, *Episomacris* Carbonell & Descamps, 1978*, Lamiacris* Carbonell & Descamps, 1978, *Ommatolampis* Carbonell & Descamps, 1978, *Stenelutracris* Carbonell & Descamps, 1978, *Tingomariacris* Carbonell & Descamps, 1978, and *Eucosmetacris* Carbonell & Descamps, 1978); and c) genera from warmer and deeper regions of the Amazon rainforest, whose distribution is not related to the altitude: *Eulampiacris* Carbonell & Descamps, 1978 and *Hippariacris* Carbonell & Descamps, 1978.

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internal apophysis narrow; number and position of the protuberances in epiproct, phallic complex features, and ejaculatory sac splitted into three parts**.** *Stenelutracris* is another genus of the Ommatolampae group most closely related to **n. gen.** differing in some important characters, such as the frontal costa grooved; the contrasting color of the base of the tegmen, and the many callosities in the posterior margin of tenth tergite. Hind femora with dorsal carinae smooth, constrast with the serrulated in new genus.

Carbonell & Descamps, 1978, mentions that the genera *Episomacris* and *Stenelutracris* are part of a Ommatolampae group found in the Amazon Forest for about 100m to 1500m, and 1800m altitude. The *Muriciacris* occurs in altitude of 500m in Atlantic Forest, such as close related genus *Episomacris* and *Stenelutracris*, and all of them sharing details of the external morphology, as protruding eyes; fastigium subtriangular and short; pronotum carrying a deep sulci, without median carinae; epiproct subtriangular with protuberant and posterior margin of tenth tergite with black callosities.

Muriciacris triflavovittata **n. sp.** was included in the Ommatolampae group, which has 31 described species, four of them (*Eulampiacris leucoptera*, *Lamiacris nigroguttata*, *Ommatolampis perspicillata*, *Peruana palpata*) with their chromosomes studied, all with the same Acrididae's basic diploid number of 2n = 23, X0. Species cytological information is restricted to the chromosome number and mechanism of sex determination, precluding comparisons between the karyotypes (Mesa *et al*. 1982).

Chromosome derivations through centric fusion reduced the diploid number in some species of other Ommatolampidinae tribes, as 2n = 17, XO in *Pycnosarcus* and *Lagidacris* Amédégnato & Descamps, 1979 (Pycnosarcini), 2n=19, XO in *Jodacris* Giglio-Tos, 1897 and *Sitalces* Stål,1878 (Abracrini), 2n=21, XO in *Bucephalacris* Giglio-Tos, 1894 (Dellini), and 2n=21, XO in *Abracris* Walker, 1870, *Eujivarus* Bruner, 1911 and *Omalotettix* Bruner, 1906 (Abracrini) (Ferreira *et al*. 1980; Mesa *et al*. 1982; Mesa & Fontanetti, 1983; Rocha *et al*. 2011). However, few species were studied chromosomally to establish some karyotype relationship in this group.

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