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***Muelleritermes*: A new termite genus with two species from the Brazilian Atlantic Forest (Isoptera: Termitidae: Nasutitermitinae)**

DANILO E. OLIVEIRA¹, MAURICIO R. ROCHA² & ELIANA M. CANCELLO²

¹Universidade Estadual de Goiás, UnUCET, 75132-903 Anápolis, GO, Brazil. E-mail: daniloelo@gmail.com

²Museu de Zoologia da Universidade de São Paulo (MZUSP), 04263-000, Av. Nazaré, 481, Ipiranga, São Paulo, SP, Brazil.

E-mail: ecancell@usp.br

Abstract

We present the description of *Muelleritermes*, **new genus**, and two new species: *M. fritzi*, **sp. n.** and *M. globiceps*, **sp. n.** Both species were found only in the Atlantic Forest of southern Brazil. All castes are described and illustrated, and a distribution map is provided. These species seem to be closely related to the genera *Velocitermes* and *Diversitermes*, sharing traits such as the presence of three types of soldiers and workers and a short mixed segment. This genus differs from *Velocitermes* and *Diversitermes* in the presence of a few ommatids on soldier's head, behind the antennae. It also differs from *Velocitermes* in the lack of a constriction on the head of major soldiers, and from *Diversitermes* in the presence of short hairs on top of the soldier's head, instead of microscopic ones.

Key words: termites, Neotropic, *Velocitermes*, Fritz Müller

Introduction

The subfamily Nasutitermitinae comprises almost 80 genera and more than 600 described species (Krishna *et al.*, 2013a). It is the most species-rich subfamily of the Neotropical region (Krishna *et al.*, 2013a; Constantino, 2014). The phylogenetic relationships within this subfamily are still controversial (Inward *et al.*, 2007). The “*Velocitermes* group”, comprised of the genera *Velocitermes*, *Diversitermes* and *Ngauratermes*, is probably monophyletic (Constantino & Acioli, 2009), but has an exceptionally confused taxonomy (Inward *et al.*, 2007; Constantino & Acioli, 2009). This group has been revised (Oliveira, 2013) and the paper is being prepared.

Among the neotropical species of Nasutitermitinae, only the genera *Velocitermes* and *Diversitermes* have three types of soldiers, i.e. the intermediate soldier in addition to the major and minor soldiers. The genus *Ngauratermes*, the third member of the “*Velocitermes* group”, has two types of soldiers, as do *Obtusitermes* and some species of *Nasutitermes* and *Parvitermes*. In *Velocitermes heteropterus* the minor worker is the predecessor of both the intermediate and major soldiers (Haifig *et al.*, 2012), and this may also be the pattern for other species of *Velocitermes*, *Diversitermes*, and the new genus described here. The role of the intermediate soldier is still unknown. Alfred Emerson hypothesized, in an unpublished note, that this soldier remains on the nest while the major and minor soldiers serve as scouts for the workers during foraging. Our personal observations do not agree with this hypothesis, as we have observed intermediate soldiers foraging outside the nest.

In this contribution, we describe a new genus and two new species from the southern Brazilian Atlantic Forest. This genus shares many characteristics with other genera of the *Velocitermes* group, including a relatively short mixed segment, dimorphic workers, and, most important, the presence of the intermediate soldier. We also describe and illustrate all castes, and discuss some biological traits and the geographic distribution of this genus.

Material and methods

We examined 31 samples from the Atlantic Forest of southeastern Brazil, including the type material. The first