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Description of eggs and nymphal instars of *Triatoma baratai* Carcavallo & Jurberg, 2000 based on optical and scanning electron microscopy (Hemiptera: Reduviidae: Triatominae)

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Abstract

Triatoma baratai Carcavallo & Jurberg, is a wild (i.e., nonperidomestic) species found in the State of Mato Grosso do Sul (Bodoquena region, county of Bonito), Brazil. Its eggs and nymphs are described here based on optical and scanning electron microscopy. The operculum and exochorion have pentagonal, hexagonal, and heptagonal cells, with small cracks and small random pits. Differences in the eggs and five nymphal instars of *T. baratai* allow them to be distinguished from the sympatric species *Triatoma williami* Galvão, Souza & Lima, and from six of the nine members of the *Triatoma oliveirai* complex. The most useful differentiating characters are in the color, shape of the abdomen, head, and total body length. Keys are provided to separate the eggs and nymphal instars of six of the nine members of the *Triatoma oliveirai* species complex.

Key words: *Triatoma baratai*, nymphs, eggs, external morphology, Chagas disease, keys

Introduction

The reduviid subfamily Triatominae is currently organized into 18 genera and six tribes, with 140 species (Galvão et al. 2003, Forero et al. 2004, Garcia *et al*. 2005, Galvão & Angulo 2006, Costa *et al.* 2006, Costa & Felix 2007, Bérenger & Blanchet 2007**,** Sandoval et al. 2007, Martínez *et al.* 2007). Most species are found in the Americas; a few are found in Asia (Galvão *et al*. 2003). Several of these species are vectors of *Trypanosoma cruzi* (Chagas), which causes Chagas disease.

Triatoma baratai Carcavallo & Jurberg, was described from specimens captured in Gruta do Carneiro, São Miguel farm, Bodoquena mountain range, Bonito county, Mato Grosso do Sul State, Brazil (Fig. 1). The species is related to *T. williami* Galvão, Souza and Lima, and both species belong to the *T. oliveirai* (Neiva, Pinto & Lent) complex, together with *T. vandae* Carcavallo, Jurberg, Rocha, Galvão, Noireau & Lent; *T. klugi* Carcavallo, Jurberg, Lent & Galvão, in Carcavallo *et al*. (2001); *T. jurbergi* Carcavallo, Galvão & Lent; *T. guazu* Lent & Wygodzinsky; *T. deaneorum* Galvão, Souza & Lima; *T. matogrossensis* Leite & Barbosa; and *T. oliveirai*, which is the nominotypical species (Noireau *et al.* 2002).

Successful campaigns to control Chagas disease vectors require correct identification of species, because each species displays ethological peculiarities that must be taken into account. In some situations, only eggs or nymphs are found inside human dwellings, not the adult insects; thus re-infestation is possible after control. Therefore, identification of immatures is important.

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