



# Article

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## Description of *Rhodnius montenegrensis* n. sp. (Hemiptera: Reduviidae: Triatominae) from the state of Rondônia, Brazil

JOÃO ARISTEU DA ROSA<sup>1,9</sup>, CLÁUDIA SOLANO ROCHA<sup>1</sup>, SUELI GARDIM<sup>1</sup>, MARA CRISTINA PINTO<sup>1</sup>, VAGNER JOSÉ MENDONÇA<sup>1,2</sup>, JÚLIO CÉSAR RENTE FERREIRA FILHO<sup>1</sup>, ELAINE OLIVEIRA COSTA DE CARVALHO<sup>3</sup>, LUÍS MARCELO ARANHA CAMARGO<sup>4,5</sup>, JADER DE OLIVEIRA<sup>1,6</sup>, JULIANA DAMIELI NASCIMENTO<sup>1,6</sup>, MARIO CILENSE<sup>7</sup> & CARLOS EDUARDO ALMEIDA<sup>1,8</sup>

<sup>1</sup>Departamento de Ciências Biológicas, Faculdade de Ciências Farmacêuticas (UNESP), Araraquara, SP, Brasil

<sup>2</sup>Instituto de Biologia, Departamento de Biologia Animal, Universidade Estadual de Campinas (UNICAMP), SP, Brasil

<sup>3</sup>Instituto Federal de Educação, Ciência e Tecnologia de Rondônia – Campus Ariquemes, RO, Brasil

<sup>4</sup>Faculdade São Lucas, Porto Velho, RO, Brasil

<sup>5</sup>Instituto de Ciências Biomédicas V, Universidade de São Paulo (USP), Monte Negro, RO, Brasil

<sup>6</sup>Departamento de Ciências Biológicas, Centro Universitário de Araraquara (UNIARA), SP, Brasil

<sup>7</sup>Departamento de Físico-Química, Instituto de Química (UNESP), Araraquara, SP, Brasil

<sup>8</sup>Biodiversity Institute, University of Kansas, Dyche Hall, 1345 Jayhawk Blvd, Lawrence, KS 66044-7593, USA.

<sup>9</sup>Corresponding author. E-mail: joaoaristeu@gmail.com

### Abstract

We present here a multisource approach that takes advantage of several disciplines to address a taxonomic issue. A triatomine related to *Rhodnius robustus* Larrousse, 1927 was recently found in the state of Rondônia, Brazil. The name *Rhodnius montenegrensis* n. sp. is suggested because it was found in the municipality of Monte Negro. The main differences between these two species can be detected in the female and male genitalia, but there are also noticeable differences in their eggs. Molecular analysis using PCR-RFLP technique and Bayesian inferences based on a fragment of the Cytochrome *b* (Cyt *b*) gene corroborated the morphological findings. We used this integrative approach to address the taxonomic decision for a new *Rhodnius* species and its relationship with others of this genus. Results obtained herein stress that morphology must be used as the major approach for obtaining phenotypic information, and molecular data should be taken as a complementary tool.

**Key words:** new species, *Rhodnius montenegrensis*, *Rhodnius robustus*

### Introduction

Triatomines have epidemiological importance because they are responsible for the transmission of *Trypanosoma cruzi* (Chagas 1909) to humans, and also because they are a fundamental link for keeping the zoonotic cycle of such a protozoan among wild animals in peridomestic and domestic habitats.

There are 18 acknowledged genera of triatomines (Galvão *et al.* 2003; Forero *et al.* 2004). The genera *Panstrongylus*, *Rhodnius*, and *Triatoma* are those with the highest number of species and contain the most prevalent and relevant species regarding the transmission of *T. cruzi* to humans.

Among the described triatomines, the genus *Rhodnius* is the easiest to identify by external morphological examination; however, the specific separation involves several difficulties, as already noticed by Neiva and Pinto: “The genus *Rhodnius* is well characterized, which does not happen to the species that constitute it” (Neiva & Pinto 1923).

In 2007, samples of a *Rhodnius* were collected in 100 properties within the municipality of Monte Negro, state of Rondônia, including 75 males, 61 females, 53 fifth instars, 46 fourth instars, 70 third instars, 23 second instars, and 3 first instars. These specimens raised some doubts regarding their specific definition, but they were assumed