



## Biological, morphological and morphometric studies of *Triatoma melanocephala* Neiva & Pinto, 1923 (Hemiptera: Reduviidae: Triatominae)

JADER DE OLIVEIRA<sup>1,4</sup>, VAGNER J. MENDONÇA<sup>2</sup>, RENATO FREITAS DE ARAÚJO<sup>3</sup>,  
ELIANE GÓES NASCIMENTO<sup>3</sup> & JOÃO ARISTEU DA ROSA<sup>1</sup>.

<sup>1</sup>Universidade Estadual Paulista “Júlio de Mesquita Filho”, Faculdade de Ciências Farmacêuticas (UNESP/FCFAR), Departamento de Ciências Biológicas, Laboratório de Parasitologia. Rod. Araraquara-Jaú, Km 1. CEP 14801-902. Araraquara, São Paulo, Brasil.

<sup>2</sup>Laboratório de Parasitologia, Universidade de Brasília, Faculdade de Medicina. Brasília DF, Brasil.

<sup>3</sup>Secretaria Estadual de Saúde, Salvador, Bahia, Brasil.

<sup>4</sup>Corresponding author. E-mail: [jdr.oliveira@hotmail.com](mailto:jdr.oliveira@hotmail.com)

### Abstract

*Triatoma melanocephala* Neiva & Pinto is found in the Brazilian states of Bahia, Paraíba, Pernambuco, Rio Grande do Norte, and Sergipe. In addition to the species' specific description, eight other articles on this insect were found in the literature. In this study, data was obtained on the morphology, morphometry, and life cycle of *T. melanocephala*, since this vector is of epidemiological and taxonomic importance. The specimens studied were obtained from a colony that has been kept at the Triatomine Insectarium of the College of Pharmaceutical Sciences of São Paulo State University's in Brazil. The morphological studies were performed using scanning electron microscopy. These studies characterized the eggs, the external adult female genitalia, and the ninth ventral abdominal segments of male and female nymphs. The morphometric studies characterized the five nymphal instars and the adult stage by measuring the head, thorax, abdomen, antennae, and mouthparts parameters. The life cycle of *T. melanocephala* was developed starting by 15 couples in the fifth instar. They were fed on Swiss mice every two weeks and observed daily. During daily observation, minimum temperature, maximum temperature, and relative humidity of the laboratory were measured. The results of the biological, morphometric, and morphological studies have increased the knowledge available on *T. melanocephala*.

**Key words:** *Triatoma melanocephala*, morphometry, morphology, biology

### Introduction

*Trypanosoma cruzi* is the etiological agent of Chagas disease, an illness that is endemic to Latin America. Between seven and eight million individuals are affected, and twenty-five million live in areas that put them at risk of infection. Transmission mainly occurs through the feces of triatomines, which are responsible for approximately 80% of Chagas cases (Galvão *et al.*, 2003; WHO, 2014;).

The description of *Triatoma melanocephala* Neiva & Pinto was based on an encounter with a single specimen collected by Pirajá da Silva in the Brazilian state of Bahia. Since then, the species has been registered in the states of Bahia, Paraíba, Pernambuco, Rio Grande do Norte, and Sergipe (Neiva & Pinto, 1923; Galvão *et al.*, 2003). Sherlock & Serafim (1972) studied the Triatominae fauna in the Brazilian state of Bahia, and found *T. melanocephala* to be present in small numbers. They highlighted that this species had been poorly studied, particularly with regard to its behavior and biology. Despite the few *T. melanocephala* records of occurrence, this species is of epidemiological importance due to its finding within human dwellings. Reports of *T. melanocephala* specimens within human dwellings were published by (Sherlock & Guitton, 1980); however, the findings indicated only sporadic invasions, without evidences of domiciliation. The susceptibility to by *T. cruzi* infection was studied in laboratory using bugs fed on infected guinea pigs. The results obtained revealed that the species possessed a high degree of parasite burden and is therefore thought to play an important role in the wild cycle of Chagas disease. (Ribeiro *et al.*, 2014) isolated a strain of *T. cruzi*, also designated as TM of Group Tc I based on the specimens collected in the city of Bom Jesus da Serra, Bahia State, Brazil.