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Short Communication

First report of *Triatoma sordida* Stål, 1859 (Hemiptera, Reduviidae, Triatominae) in the State of Acre and Brazilian Western Amazon

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Abstract

Introduction: The occurrence of *Triatoma sordida* in the Brazilian Western Amazon is reported for the first time. **Methods**: *Triatoma sordida* specimens were collected from a *Gallus gallus* nest in a peridomiciliary area of Senador Guiomard municipality in the state of Acre. **Results**: The number of triatomine species in Acre increased from six to seven with this first report of *T. sordida* in the Brazilian Western Amazon. **Conclusions**: The occurrence of *T. sordid*a in Acre is of concern since it is among the most captured triatomines in peridomiciliary environments in Brazil, and carries a high potential for vector transmission.

Keywords: Triatomines. Chagas disease. Trypanosomatids.

Triatominae (Hemiptera, Reduviidae, Triatominae) are insects of medical importance, since they can transmit *Trypanosoma cruzi*, the etiologic agent of American trypanosomiasis, also known as Chagas disease[1], which affects approximately 12 million people, with a further 60 million people living in areas of risk around the world[2].

In the Brazilian Amazon, there are at least 20 species of wild triatomines[3], among which six species distributed in three genera are recorded in the state of Acre: *Rhodnius montenegrensis*[4], *Rhodnius stali*[5], *R. robustus*[6], *R. pictipes*, *Panstrongylus geniculatus*[3], and *Eratyrus mucronatus*[7].

This study reports for the first time the occurrence of the species *Triatoma sordida* in the state of Acre and the Brazilian Western Amazon; this is also the first record of the genus *Triatoma* for the State of Acre.

Two specimens, adult *T. sordida* males (**Figure 1**), were collected at the Catuaba Experimental Reserve, Senador Guiomard, Acre, Brazil (10° 09′ 03″ S 67° 44′ 09″ W), an area belonging to the Federal University of Acre (UFAC). The insects were collected during May 2016, through active searches in *Gallus gallus* nests in the peridomiciliary area of an old farm house, built with wood and covered with palm tree thatching. The building is situated in the middle of a secondary forest fragment, surrounded by palms of the genera *Attalea*, *Euterpe*, and *Bactris*.

The triatomines were sent to the Laboratory of Tropical Medicine (LABMEDT) at UFAC, where the taxonomic identification was carried out based on external morphological characteristics, as described by Lent and Wygodzinsky[8]. Trypanosomatid infection was also analyzed by diluting the triatomine feces in saline solution, preparing them on microscope slides, and then examining them under light microscopy (1,000×

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FIGURE 1: *Triatoma sordida* collected in the Catuaba Experimental Reserve. **(A and B):** dorsal view; **(C and D):** ventral view.

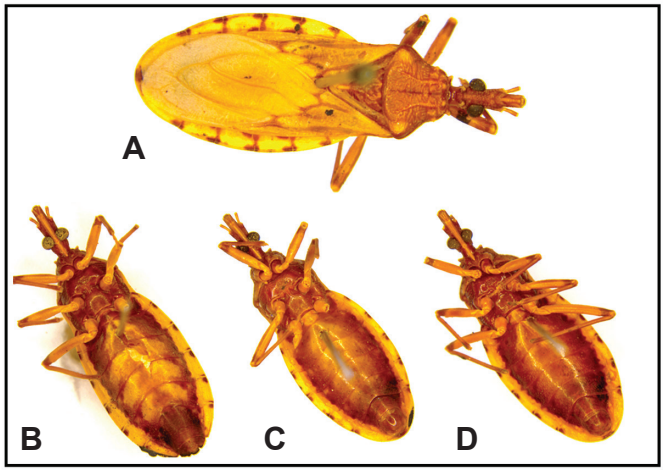

FIGURE 2: Specimens of *Triatoma sordida* stored in the Department of Entomology of the State Health Department of Acre. **(A):** dorsal view; **(B)**, **(C)** and **(D):**: ventral view.

magnification) after staining with triarylmethane (0.1%), xanthene (0.1%), and thiazine (0.1%).

The occurrence of this species in nests is already known, as it has recently been found in bird and mammal nests in the Brazilian Pantanal region[2,9]. However, the discovery in poultry nests, such as those of *G. gallus*, generates a concern due both to the proximity of these animals to humans, especially species that have a high frequency of infection by *T. cruzi*[10], and the findings of the present study, because the two specimens collected tested positive for trypanosomatids, although no molecular analysis was performed to confirm the species.

Three adult specimens of *T. sordida* (**Figure 2**), two males and one female, were located in the entomological collection of the Department of Entomology of the State Department of Health, Acre, but they had been mistakenly identified as Triatoma matogrossensis. According to the Department's registry, these specimens were collected and delivered by residents living in the periurban region of the municipality of Rio Branco, Acre, from the Calafate neighborhood, but with no exact description of the locality or date of collection.

The presence of another species of triatomine occurring in Acre increases the total number of species in the state from six to seven, and the number of genera from three to four. The new record also increases the geographic distribution of *T. sordida*, since it has been described for the states of Bahia, Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Minas Gerais, Paraná, Pernambuco, Piauí, Rio Grande do Sul, Santa Catarina, São Paulo, and Tocantins[3,10].

Although *T. sordida* is not reported to occur in the states neighboring Acre (Rondônia and Amazonas), this species does occur in Bolívia[11], a country neighboring Acre. A study carried out in Velasco Province in the north of the Department of Santa Cruz, Bolívia, showed that 58% of the residences were occupied by *T. sordida*, 21.4% of which were infected by *T. Cruzi*[12]. This domiciliation behavior has also been observed in other regions of the Department of Santa Cruz, La Paz, and the Bolivian Chaco region[13,14].

This new report for Acre is worrying, because *T. sordida* is considered the most frequently captured species in peridomiciliary environments in Brazil[10]. When evaluating the rate at which *T. sordida* is infected by *T. cruzi*, it has been observed that this species and *Triatoma infestans*, *Triatoma brasiliensis*, *Triatoma pseudomaculata*, and *Panstrongylus megistus* are the five species with the highest participation in home transmission of American trypanosomiasis[10,15]. Vigilance services must remain active in order to prevent the wider dispersion of *T. sordida* in western Amazonia, given the spread of Chagas disease in this region.

Ethical considerations

The specimens were collected with permission from the Brazilian Institute of Environment and Renewable Natural Resources [*Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* (IBAMA)]; permanent license Nr. 52260-1.

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Conflict of interests

The authors declare that there is no conflict of interest.

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