

Short Communication

First report of *Panstrongylus lignarius* (Walker, 1873) (Hemiptera: Reduviidae: Triatominae) in the State of Acre, Brazil

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Abstract

Introduction: This communication reports the first occurrence of *Panstrongylus lignarius* in the State of Acre, Brazil. **Methods:** A specimen of *P. lignarius* was collected from a residence in a rural area of the municipality of Rio Branco, Acre, Western Amazon. **Results:** This new report of *P. lignarius* extends the distribution of this species to eight Brazilian states, and also increases the number of species of Triatominae described from the state of Acre from nine to ten. **Conclusions:** The occurrence of *P. lignarius* deserves attention, since this species has the potential for domiciliation and transmitting *Trypanosoma cruzi*.

Keywords: Triatominae. *Panstrongylus*. Western Amazon.

The subfamily Triatominae currently comprises 153 species (151 recent and 2 fossil species)^{1,2}, with *Panstrongylus* being the third most abundant triatomine genus, with 15 species described so far³. The insects in this genus have wide distributions in Central and South America, where they have several different habitats and behaviors, including some specimens having reportedly been found in human dwellings⁴.

The occurrence of the species *Panstrongylus lignarius* (Walker, 1873) has only been recorded in South America in the

following countries: Ecuador, Peru, Guyana, French Guiana, Suriname, Venezuela, and Brazil⁵. In Brazil, *P. lignarius* has already been described from the states of Amazonas, Maranhão, Pará, Tocantins^{5,6}, Mato Grosso⁴, Amapá⁷, and Rondônia⁸, all of which belong to the Legal Amazon region. This distribution is expanded by the present study, which describes the first report of the occurrence of *P. lignarius* in the state of Acre, Brazil.

In October 2017, four triatomines were collected in a dwelling in a rural area of the municipality of Rio Branco, Acre, Brazil (Latitude 10°01'29"S, Longitude 67°30'44"W), three of which were *Rhodnius robustus* Larrousse, 1927, and one of which was *P. lignarius*.

The triatomines were collected by the residents of the dwelling themselves in a room of the residence, which presents mixed structural characteristics in that it is constructed

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from wood (**Figure 1A**) and masonry “still without plaster” (**Figure 1B**). In the room, the walls are timbered and have cracks (**Figure 1C**), representing suitable refuges for these insects. Around the house, stacked bricks (**Figure 1D**) and tiles (**Figure 1E**) were observed, in addition to an abandoned shack (**Figure 1F**). The residence is located near a pasture and a small fragment of secondary forest (**Figure 1G**) located approximately 150 m away from the house. *Attalea* sp. palms also occur in its vicinity (**Figure 1H**). A new survey was carried out in the residence, but no other triatomines were found.

The triatomines were sent to the Laboratory of Tropical Medicine (LABMEDT) at the Federal University of Acre (UFAC), where the identification of the species was carried out based on external morphological characteristics, as described by Galvão⁵ and Lent & Wygodzinsky⁹. When the specimen of *P. lignarius* arrived at LABMEDT, it was already dead and dried out, and so it was not feasible to test it for the presence of trypanosomatids. Therefore, this is the first and only individual of this species found until the present moment in the state of Acre.

P. lignarius (**Figure 2**) shows generally light brown to yellowish dorsal and dark brown or black ventral coloration^{8,9}, and has a partially black scutellum with a longitudinal mid-yellow stripe, a posterior scutellum process with a slight basal hump, and a pronotum with sublateral and tibial tubercles with small sub-basal yellow spots⁴.

In Peru, the country neighboring the state of Acre, a morphotype of *P. herreri* Wygodzinsky, 1948 (a likely synonym of *P. lignarius*, as suggested by Marcilla et al.¹⁰) is found, which is the species with the highest registered domiciliary there and is thus considered the species of the second most epidemiological importance for *T. cruzi* transmission^{4,8}.

This new report of *P. lignarius* extends the geographic distribution of this species to eight Brazilian states (**Figure 3**), while also increasing the number of triatomine species described from the state of Acre from nine¹¹ to ten, comprising the following: five species of the genus *Rhodnius* (*R. robustus*, *R. pictipes* Stal 1872, *R. montenegrensis* Rosa et al. 2012, *R. stali* Lent, Jurberg & Galvão, 1993, and *R. neglectus* Lent, 1954^{12,13}), one of the genus *Eratyrus* (*E. mucronatus* Stal, 1859¹⁴), one of the genus *Triatoma* (*T. sordida* Stål, 1859¹⁵), and now three of the genus *Panstrongylus* (*P. geniculatus* Latreille, 1811⁶, *P. megistus* Burmeister, 1835¹¹, and *P. lignarius*).

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)], under permanent license No. 52260-1.

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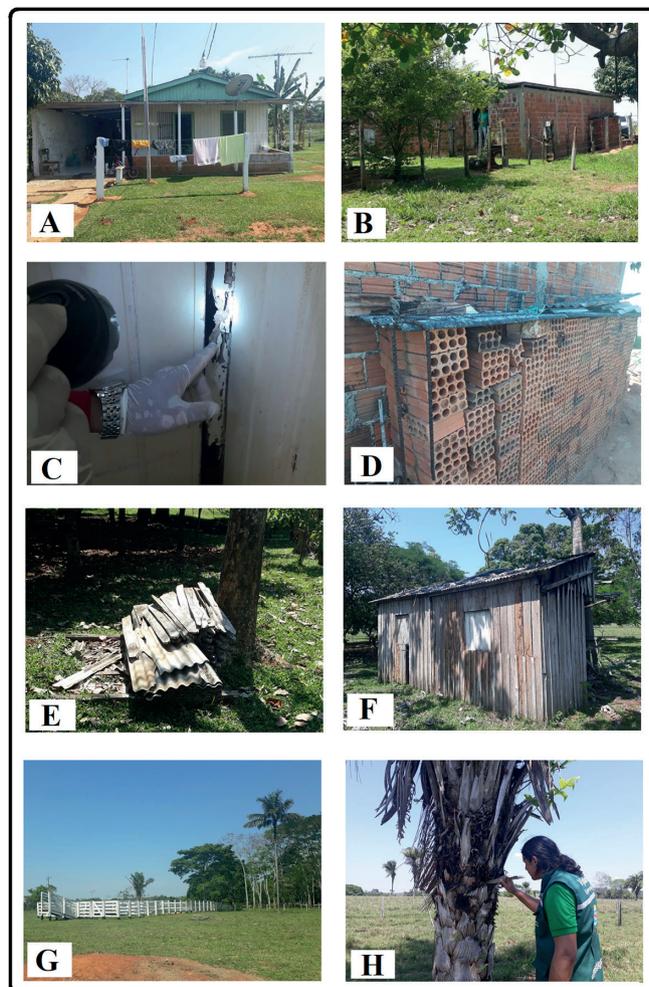


FIGURE 1: (A) Residence where the triatomine specimens were captured. (B) External part of the masonry of the residence, without plaster. (C) Interior of the room with timber-framed walls with cracks. (D) Bricks stowed outside the residence. (E) Stacked tiles. (F) Abandoned shack. (G) Pasture environment and small fragment of secondary forest near the residence. (H) *Attalea* sp. palm tree near the residence.

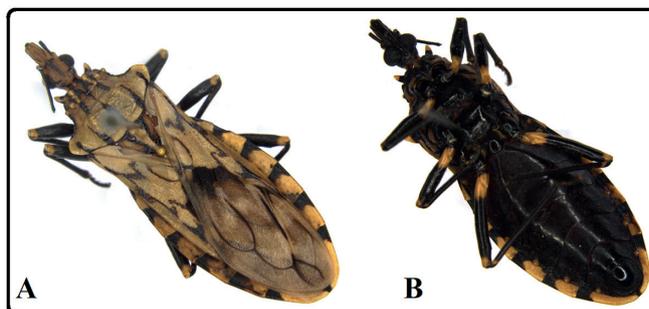


FIGURE 2: *Panstrongylus lignarius*. (A) Dorsal view. (B) Ventral view.

Conflict of Interest: The authors declare that there is no conflict of interest.

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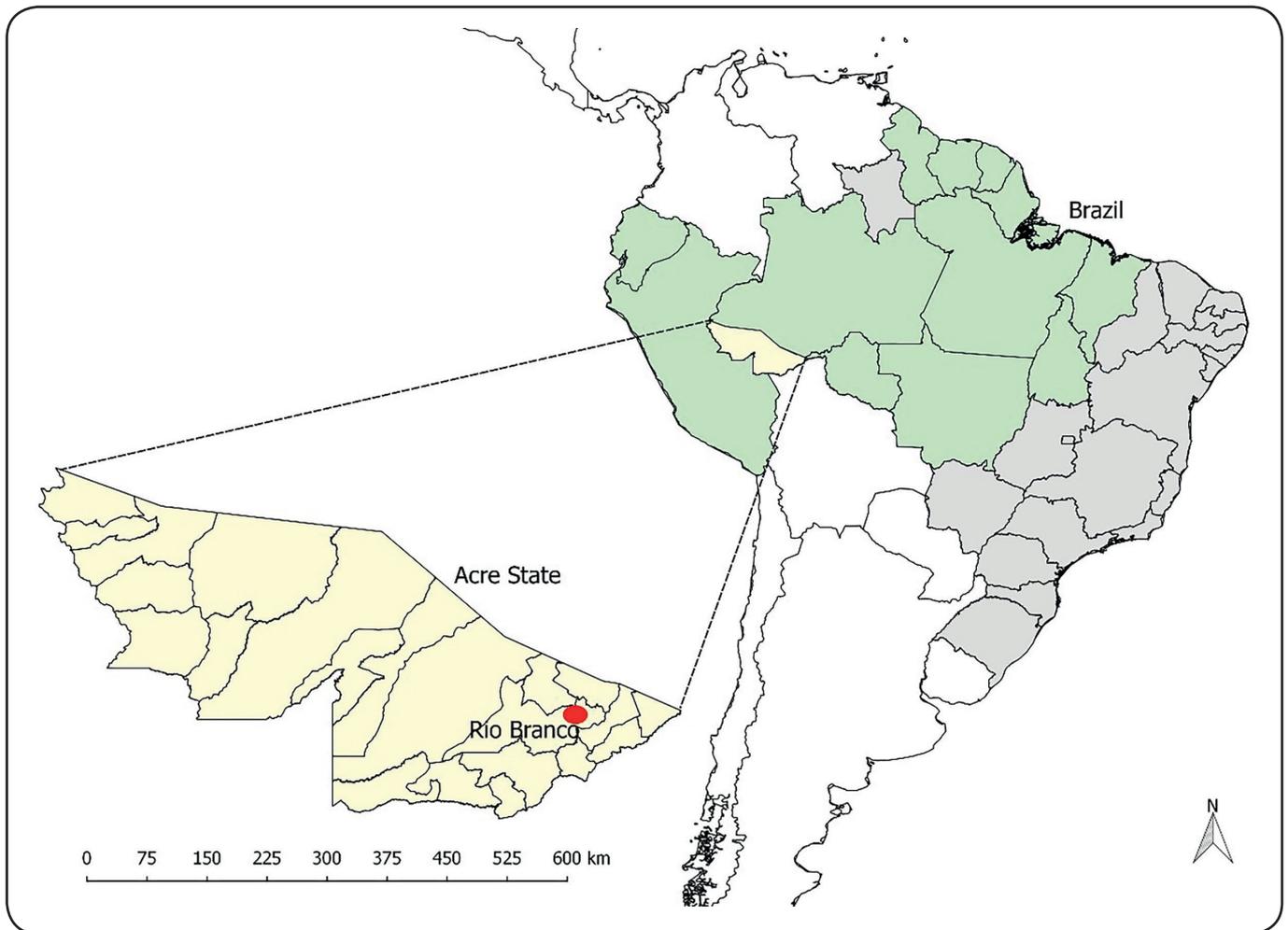


FIGURE 3: Geographic distribution of the species *P. lignarius* in South America, and location of the new report of this species in this study.

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