

# New tick records in Rondônia, Western Brazilian Amazon

Novos relatos de carrapatos em Rondônia, Amazônia ocidental brasileira

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## Abstract

In the present study, we provide new tick records from Vilhena Municipality, in the Southeast of the State of Rondônia, Northern Brazil. Ticks collected from a capybara, *Hydrochoerus hydrochaeris* (Linnaeus), were identified as *Amblyomma romitii* Tonelli-Rondelli (1 female), and *Amblyomma* sp. (1 larva). Ticks collected from a harpy eagle, *Harpia harpyja* (Linnaeus), were identified as *Amblyomma cajennense* (Fabricius) (16 nymphs) and *Haemaphysalis juxtakochi* Cooley (1 nymph). Ticks collected from a yellow-footed tortoise, *Chelonoidis denticulada* (Linnaeus), were identified as *Amblyomma rotundatum* Koch (10 females, 2 nymphs), and *Amblyomma* sp. (2 larvae). The present record of *A. romitii* is the first in the State of Rondônia, and represents the southernmost record for this tick species, indicating that its distribution area is much larger than currently recognized. Although both *A. cajennense* and *H. juxtakochi* have been reported parasitizing various bird species, we provide the first tick records on a harpy eagle. *A. rotundatum* is widespread in the State of Rondônia, and has been previously reported on the yellow-footed tortoise. The present records increase the tick fauna of Rondônia to 26 species.

**Keywords:** *Amblyomma*, *Haemaphysalis*, *Harpia*, capybara, tortoise.

## Resumo

O presente estudo relata novos achados de carrapatos provenientes do Município de Vilhena, Sudeste do Estado de Rondônia, na região Norte do Brasil. Carrapatos colhidos de uma capivara, *Hydrochoerus hydrochaeris* (Linnaeus), foram identificados como *Amblyomma romitii* Tonelli-Rondelli (1 fêmea) e *Amblyomma* sp. (1 larva). Carrapatos colhidos de uma águia harpia, *Harpia harpyja* (Linnaeus), foram identificados como *Amblyomma cajennense* (Fabricius) (16 ninfas) e *Haemaphysalis juxtakochi* Cooley (1 ninfa). Carrapatos colhidos de um jabuti, *Chelonoidis denticulada* (Linnaeus), foram identificados como *Amblyomma rotundatum* Koch (10 fêmeas, 2 ninfas) e *Amblyomma* sp. (2 larvas). O presente achado de *A. romitii* é o primeiro no Estado de Rondônia, representando o achado mais meridional desta espécie de carrapato, indicando que sua distribuição geográfica é mais ampla do que se supunha. Embora *A. cajennense* e *H. juxtakochi* têm sido relatados parasitando várias espécies de aves, o presente relato em harpia é o primeiro registro de carrapatos nesta espécie de hospedeiro. *A. rotundatum* ocorre amplamente no Estado de Rondônia e tem sido previamente relatado parasitando jabutis. Estes registros ampliam a fauna de carrapatos de Rondônia para 26 espécies.

**Palavras-chave:** *Amblyomma*, *Haemaphysalis*, *Harpia*, capivara, jabuti.

The tick fauna of the world is currently represented by 879 valid tick species into the families Ixodidae (692 species), Argasidae (186), and Nuttalliellidae (1 specie) (NAVA et al., 2009). In Brazil, an updated checklist reported 61 species in nine genera, being 44 Ixodidae species and 17 Argasidae

species (DANTAS-TORRES et al., 2009). An extensive study (LABRUNA et al., 2005) reported 7,441 Ixodidae specimens collected from 2000 to 2005 in different parts of the State of Rondônia, Western Amazon, Brazil. These Ixodidae ticks encompassed 22 different species of the genera *Amblyomma* (16 species), *Ixodes* (2), *Haemaphysalis* (1), *Dermacentor* (1), and *Rhipicephalus* (2). In this later genus, the species *Rhipicephalus* (*Boophilus*) *microplus* was reported as *Boophilus microplus*. Regarding Argasidae ticks, recent studies reported for the first time three tick species in the State of Rondônia, two *Antricola* and one *Carios* species (LABRUNA et al., 2008). Therefore, the current tick

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fauna of Rondônia is composed by 25 species, which represent 41% of the Brazilian tick fauna. This number is remarkable if one considers that Rondônia represents only 2.8% of the Brazilian land area.

In the present study, we provide new tick records for the State of Rondônia. All ticks were collected from hosts hit by car in the BR364 road within the Vilhena Municipality (12° 72' S and 60° 26' W), in the Southeast of the State. These hosts encompassed one capybara, *Hydrochoerus hydrochaeris* (Linnaeus), examined in 8 April 2009; one harpy eagle, *Harpia harpyja* (Linnaeus), examined in 15 September 2009; and one yellow-footed tortoise, *Chelonoidis denticulada* (Linnaeus), examined in January 2009. The ticks were collected and immediately preserved in 70% ethanol. Taxonomic identifications were performed following Barros-Battesti et al. (2006) for adult and larval ticks, Cooley (1946) and Kohls (1960) for a *Haemaphysalis* nymph, and Martins et al. (2010) for *Amblyomma* nymphs.

Ticks collected from capybara were identified as *Amblyomma romitii* Tonelli-Rondelli (1 female), and *Amblyomma* sp. (1 larva). Ticks collected from harpy eagle were identified as *Amblyomma cajennense* (Fabricius) (16 nymphs), and *Haemaphysalis juxtakochi* Cooley (1 nymph). Ticks collected from yellow-footed tortoise were identified as *Amblyomma rotundatum* Koch (10 females, 2 nymphs), and *Amblyomma* sp. (2 larvae). These ticks have been deposited in the tick collection "Coleção Nacional de Carrapatos" (CNC) of the Faculdade de Medicina Veterinária e Zootecnia of the University of São Paulo (accession numbers CNC-1534-1536).

The taxon *A. romitii* was recently revalidated and redescribed (BARROS-BATTESTI et al., 2007). Its current distribution encompasses the Guyanas (French, British, and Surinam), Venezuela, and the State of Para (Eastern Brazilian Amazon), where it typically feeds on capybaras (JONES et al., 1972; BARROS-BATTESTI et al., 2007). The present record is the first in the State of Rondônia, and represents the southernmost record for *A. romitii*, indicating that its distribution area is much larger than currently recognized. According to Barros-Battesti et al. (2007), the most remarkable morphological features of the *A. romitii* female are the presence of dense white pilosity on alloscutum, eyes bulging laterally beyond the contour of the scutum, hypostome dentition varying from 4/4 to 6/6, and large spiracular plates with festooned margins. The *A. romitii* collected in the present study had all these features. Its dense white pilosity on alloscutum and a hypostome dentition 5/5 are illustrated in Figure 1.

To the best of our knowledge, our tick record on a harpy eagle represents the first on this rare bird species. Both *A. cajennense* and *H. juxtakochi* have been reported parasitizing various other bird species (BELDOMENICO et al., 2003; VENZAL et al., 2005; LABRUNA et al., 2007; OGRZEWALSKA et al., 2009; 2010). The species *A. rotundatum* is widespread in the State of Rondônia and other Brazilian States, where it feeds primarily on toads and snakes (LABRUNA et al., 2005; BARROS-BATTESTI et al., 2006; DANTAS-TORRES et al., 2008); however, this tick has been previously reported on the yellow-footed tortoise (DANTAS-TORRES et al., 2010). Finally, the present records increase the tick fauna of Rondônia to 26 species.



**Figure 1.** *Amblyomma romitii* female. a) Dorsal view. Note dense white pilosity on alloscutum. b) Hypostome. Note dentition 5/5.

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