



***Amblyomma aureolatum* (Pallas, 1772) (Acari: Ixodidae) parasitizing margay cat (*Leopardus wiedii*) (Schinz, 1821), in Uruguaiana, Rio Grande do Sul, Brazil**

Diego Moscarelli Pinto¹, Cintia Lidiane Guidotti Aguiar¹, Pablo Villarreal Villarreal¹, Marcelo Becker², Nicolas Conter Tavares³ and Natália Soares Martins^{1*}

¹Departamento de Medicina Veterinária Preventiva, Faculdade de Veterinária, Universidade Federal de Pelotas, Campus Universitário, s/n., 96010-900, Capão do Leão, Pelotas, Rio Grande do Sul, Brazil. ²Programa de Pós-graduação em Saúde Animal, Instituto de Pesquisas Veterinárias Desidério Finamor, Fundação Estadual de Pesquisa Agropecuária, Eldorado do Sul, Rio Grande do Sul, Brazil. ³Programa de Pós-graduação em Zootecnia, Departamento de Zootecnia, Faculdade de Agronomia Eliseu Maciel, Universidade Federal de Pelotas, Pelotas, Rio Grande do Sul, Brazil. *Author for correspondence. E-mail: nataliasmartins@outlook.com

ABSTRACT. Ticks are parasites of wild animals, affecting diverse and several species. The present study reveals the presence of *Amblyomma aureolatum* parasitizing the margay cat (*Leopardus wiedii*) in the city of Uruguaiana. This is the first report of the presence of this tick specie in this city, situated in west (29° 45' 18" S 57° 05' 16" W) of the state of Rio Grande do Sul, Brazil, indicating a wide host diversity.

Keywords: tick, wild animals, Ixodidae.

***Amblyomma aureolatum* (Pallas, 1772) (Acari: Ixodidae) parasitando gato-maracajá (*Leopardus wiedii*) (Schinz, 1821), em Uruguaiana, Rio Grande do Sul, Brasil**

RESUMO. Carrapatos podem ser parasitos de animais selvagens, afetando diversas espécies. O presente trabalho relata a presença de *Amblyomma aureolatum* parasitando o gato-maracajá (*Leopardus wiedii*) na região de Uruguaiana, esse é o primeiro relato da presença desta espécie de ixodídeo nesta cidade (29° 45' 18" S 57° 05' 16" W), situada na região oeste do estado do Rio Grande do Sul, Brasil, indicando que diversos hospedeiros silvestres podem ser acometidos pelo parasito.

Palavras-chave: carrapato, animais selvagens, Ixodidae.

Introduction

Ticks are arthropods which display a parasite life habit. The feeding of blood and lymph of vertebrates animals is necessary. It is noteworthy that these kinds of parasites can play a role as vectors of a wide range of pathogens, such as protozoa, bacteria and virus, causing diseases in human and animals (Dantas-Torres, Chomel, & Otranto, 2012; Colwell, Dantas-Torres, & Otranto, 2011). They are primarily ectoparasites of wild animals, and the majority of the terrestrial vertebrates are targets of their attack (Brito, Silva Netto, Oliveira, & Barbieri, 2006).

The genus *Amblyomma* spp. belongs to the Ixodidae family, which includes approximately 106 tick species in the world, from which, 33 can be found in Brazil, parasitizing birds, mammals, reptiles and amphibians (Lavina et al., 2011). *Amblyomma aureolatum* distribution is limited to the Neotropical region. Adult forms are frequently found infesting carnivores, while birds and rodents

are commonly hosts of immature instars (Evans, Martins, & Guglielmone, 2000; Guglielmone et al., 2003; Lavina et al., 2011).

Several studies described the presence of *A. aureolatum* in wild felines in the states of Paraná and São Paulo, Brazil (Aragão & Fonseca, 1961; Labruna et al., 2005), further reporting an increase in the number of cases by this tick specie in the south region of Brazil (Pinter, Dias, Gennari, & Labruna, 2004). Meanwhile Martins et al. (2010) revealed the presence of *A. aureolatum* parasitizing the margay cat (*Leopardus wiedii*) in the Metropolitan region of Porto Alegre in the state of Rio Grande do Sul. *Leopardus wiedii*, popularly known as the margay cat, possess a wide distribution in Brazil, with the exception of the state of Ceará and the south region of the state of Rio Grande do Sul (Tortato, Oliveira, Almeida, & Beisiegel, 2013). Their population is declining, especially due to the agriculture expansion, which reduces their natural habitat. Deaths on the road also represent a great threat, occurring more often in the south and southeast

regions, as well as the transmission of diseases by domestic carnivores (Tortato et al., 2013). *Leopardus wiedii* is considered endangered in the following states of Brazil: Paraná, Rio Grande do Sul and Rio de Janeiro (Bergallo, Rocha, Van Sluys, Geise, & Alves, 2000; Fontana, Bencke, & Reis, 2003, Mikich & Bérnills, 2004).

The aim of this paper is to report the parasitism of *Amblyomma aureolatum* in the margay cat (*Leopardus wiedii*) in Uruguaiana, Rio Grande do Sul, Brazil.

Material and methods

One margay cat was found dead; possibly killed on the road, at the margins of the BR-472 road, in the city of Uruguaiana (29° 45' 18" S 57° 05' 16" W), situated in the state of Rio Grande do Sul, Brazil. The animal was taken by the Battalion Military Police and submitted to the Pathology Veterinary laboratory at the *Universidade Federal do Pampa* (UNIPAMPA), where the necropsy was realized. The tick identification was performed based on the identification key of Aragão and Fonseca (1961), actualized by Onofrio, Venzal, Pinter, and Szabó (2006).

In the animal external examination, ectoparasites were visualized and submitted to the UNIPAMPA Laboratory of Parasitology for further evaluation.

After the first analysis, the genus classification of the collected ticks was performed, and for the specie identification the parasites were sent to the Laboratory of Parasitology at the *Universidade Federal de Pelotas* (UFPeL), where the dichotomous key of Barros-Battesti, Arzua, and Bechara (2006) was used for the identification.

The collection and transportation of the corpse was authorized by the Sisbio/ICMBio competent organ.

Results and discussion

The tick was identified as *Amblyomma aureolatum* after morphologic evaluation. This specie possesses predominant yellow-gold coloration, a light brown dorsal shield and an incomplete marginal groove reaching the second festoon (Figure 1).

In the tick's ventral region, different diverse characteristics were found (Figure 2), such as in leg I, where it was possible to identify two long, sub equal and contiguous spurs with the external spur ending in straight tip, allowing to differentiate from the *A. ovale*, which possess the external spur slightly curved in the end. In the leg IV it was found the presence of simple spur (Lavina et al., 2011).



Figure 1. Dorsal view of the male of *Amblyomma aureolatum* found in *Leopardus wiedii*. Predominant yellow-gold light brown dorsal shield and incomplete marginal groove.



Figure 2. Ventral view of the male of *Amblyomma aureolatum* found in *Leopardus wiedii*, leg I highlighted with two long, sub equal and contiguous spurs, with the external spur ending in straight tip.

In the state of Rio Grande do Sul, Brazil, there are studies of identification of the Ixodidae family in canines, where diverse species of *Amblyomma* spp. were found, especially in those canines raised in rural areas (Freire, 1972). It is important to highlight that *A. aureolatum* was found parasitizing the margay cat in a rural region, where a high canine and feline population is present, suggesting that wild animals are a dissemination source in this region.

The increased number of reports of the presence of *A. aureolatum* parasitizing animals in the state of Rio Grande do Sul, Brazil, deserves attention, because of the economic impact due to blood spoliation and transmission of pathogens in both human and domestic animals (Abel, Pedrozo, & Bueno, 2006), intensified by the high proximity between wild and domestic animals, which increases the risks of dissemination of zoonotic diseases caused by parasites (Muller et al., 2005).

Conclusion

This is the first report of *Amblyomma aureolatum* parasitizing the margay cat (*Leopardus wiedii*) in west of the state of Rio Grande do Sul, Brazil. It is important to develop new studies about this subject, to increase the wild animal's parasitology literature area.

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