

Parasitismo de *Amblyomma rotundatum* (Koch) (Acari: Ixodidae) em *Bufo marinus* (Linnaeus) (Anura: Bufonidae), em Mossoró, Rio Grande do Norte, Brasil

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Abstract. Parasitism of *Amblyomma rotundatum* (Koch) (Acari: Ixodidae) on *Bufo marinus* (Linnaeus) (Anura: Bufonidae), in Rio Grande do Norte, Brazil. Engorged females of *Amblyomma rotundatum* were found in natural conditions infesting cane toad (*Bufo marinus*) in the city of Mossoró, State of the Rio Grande do Norte, Brazil. The identification of the ticks was through morphologic characteristics. This is the first report of this tick species on toads in the State of the Rio Grande do Norte.

Key words: *Amblyomma rotundatum*, ticks, Ixodidae, cane toad, Bufonidae

Resumo. Carrapatos ingurgitados da espécie *Amblyomma rotundatum* foram encontrados em condições naturais infestando sapo cururu (*Bufo marinus*) no município de Mossoró, Estado do Rio Grande do Norte, Brasil. Os carrapatos foram identificados através das características morfológicas. Este é o primeiro registro dessa espécie parasitando sapos no Estado do Rio Grande do Norte.

Palavras-chave: *Amblyomma rotundatum*, carrapatos, Ixodidae, sapo cururu, Bufonidae

INTRODUCTION

Amblyomma genus has around 33 species registered in Brasil parasitizing birds, mammals, reptiles and amphibians (Brum & Costa 2003). The *Amblyomma rotundatum* species (Koch), known as toad's tick, infests a variety of amphibians and reptiles (Onofrio *et al.* 2002), for which they are extremely pathogenic, and even in low level infestations may cause the host's death by means of their toxins (Bastianetto *et al.* 2002). *A. rotundatum* was seldom observed parasitizing hot blood animals (Guimarães *et al.* 2001).

Assumed to be exclusively a parthenogenetic species (Guimarães *et al.* 2001), *A. rotundatum* had its biology studied by Aragão (1912) and by Oba & Schumaker

(1983) in specimens originated from Brazil. However, there was a recent record, in the state of Rondônia, regarding an *A. rotundatum* male parasitizing a *Tropidurus* sp. (Squamata: Tropiduridae) reptile, in natural conditions, by Labruna *et al.* (2005), and other two prior records in a laboratory colony in the United States (Keirans & Oliver 1993). In Brazil, this tick has its distribution confirmed in the state of Pará, Amazonas, Amapá, Mato Grosso, Mato Grosso do Sul, Goiás, Maranhão, Ceará, Pernambuco, Minas Gerais, São Paulo, Rio de Janeiro, Paraná, Santa Catarina and Rio Grande do Sul, in toads, snakes, tortoises, Schneider's Dwarf Caimans and iguanas (Evans *et al.* 2000, Onofrio *et al.* 2002, Brum & Costa 2003). In Rio Grande do Norte, there is only one record of *A. rotundatum*, but

parasitizing *Boa constrictor* (Labruna *et al.* 2007).

The *Bufo marinus* (Linnaeus), typical representative of Bufonidae, known as cururu toad, is a giant among amphibians and eats invertebrates and vertebrates, being common in Brazilian fauna. It is usually associated with bufotoxin intoxication cases. In Brazil, it is abundant in all regions. It lives in a variety of environments including beach areas, primary forests, areas with secondary vegetal formation and urban environments (Sarrazin *et al.* 2002). This work aimed to register the occurrence of tick's infestation in *B. marinus* toads at the city of Mossoró (RN), evaluating its deaths by means of such infestation.

MATERIAL AND METHODS

From January to April 2007, cururu toads (*Bufo marinus*) specimens were captured in natural conditions on the streets in Mossoró city, semi-arid region of Rio Grande do Norte. The chase was restricted to night time, considering the terrestrial and nocturnal habits of *B. marinus* species, at night they were easily found. The toads were submitted to a scrupulous inspection to detect and collect parasitic ticks, after that they were released at the environment. Ticks were identified to species using current taxonomic keys (Aragão & Fonseca, 1961; Guimarães *et al.*, 200; Onofrio *et al.*, 2006). Tick's parasitism rates were evaluated with the following parameters: infestation prevalence = number of parasitized toads / total number of toads examined x 100; average infestation intensity = total number of collected ticks / number of infested toads (Bush *et al.*, 1997). Ticks' specimens collected for this work purpose were deposited in the tick collection "Coleção Nacional de Carrapatos" (CNC) in the Veterinary Medicine and Zootechny Faculty of the University of São Paulo (USP), as well on the Animal Parasitology Laboratory of the Rural Federal University of the Semi-Arid (UFERSA).

RESULTS AND DISCUSSION

On total, it was captured 101 specimens of *Bufo marinus* toads and examined for ticks presence (Fig. 1). It was collected 14 specimens, all of them

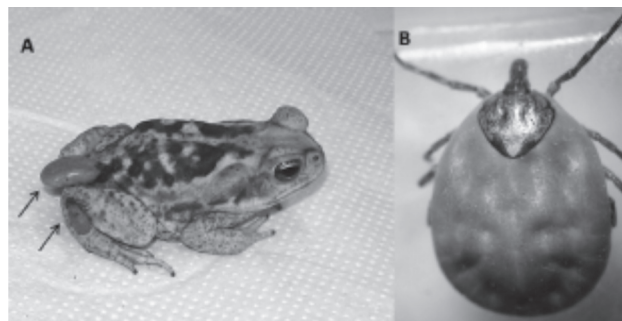


Figure 1. A: *Bufo marinus* specimens naturally infested by *Amblyomma rotundatum*; B: Specimen collected from the host.

identified as *Amblyomma rotundatum* (nine females, two nymphs and three larvae). Females was identified through the following morphological aspects: subrectangular basis capituli, hypostome with dental formula 3/3, legs I-IV with two short and round spurs, ornamented shield, well distinctive marginal grooves and festoons. There is no taxonomic key for immature *Amblyomma* in Brazil. Still, immature collected ticks were identified to species using current taxonomic keys (Keirans & Durden, 1998; Barbieri *et al.*, 2007). considered as belonging to *A. rotundatum* species for convenience, due to the absence of other species of *Amblyomma* found at the toads habitat in the present study. In this case, the natural infestation prevalence of *A. rotundatum* was five (4.95%) in the captured toads and the average infestation intensity was 2.8 ticks by host, these findings were similar to Lampo & Bayliss (1996) for *B. marinus* infested by *Amblyomma dissimile*, which intensity average was 2.48 ticks by toad.

The occurrence of *A. rotundatum* parasitizing bufonidae and reptiles is well known, however this is the first time to register the occurrence of this species parasitizing *B. marinus* toads in the semi-arid conditions of the state of Rio Grande do Norte. *Amblyomma rotundatum* infestations were observed in *Bufo ictericus* (Spix) with high prevalence of 19.2% in the city of Corupá, Santa Catarina state by Woehl (2002).

CONCLUSION

It was found the *Amblyomma rotundatum* tick species infesting *Bufo marinus* toads in the

conditions of the semi-arid at Rio Grande do Norte state, Brazil.

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