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New records of *Amblyomma goeldii* (Acari: Ixodidae) and description of the nymphal stage

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Abstract

Since its original description from the Amazonian region, the tick species *Amblyomma goeldii* Neumann, 1899 has been misidentified with *Amblyomma rotundatum* Koch, 1844 in different countries of the Neotropical region. Because of this, some authors have considered that the only confirmed records of *A. goeldii* were from French Guyana. Herein, we reviewed all specimens of *A. goeldii* that have been deposited at two tick collections in Brazil. In addition, we describe the nymphal stage of *A. goeldii* for the first time. A total of 10 unpublished records of the adult stage of *A. goeldii* are recorded from the Amazonian region of Brazil, confirming the occurrence of *A. goeldii* in this country. Except for one record on the snake *Boa constrictor* Linnaeus, all records of *A. goeldii* reported in the present study were from anteaters (Pilosa: Myrmecophagidae). Our results, in conjunction with previous literature records, indicate that anteaters and large snakes are important hosts for the adult stage of *A. goeldii*. The nymph of *A. goeldii* is morphologically similar to the nymphs of *Amblyomma romitii* Tonelli-Rondelli, 1939, *Amblyomma dissimile* Koch, 1844, and *A. rotundatum*. We present a modification of a previously published taxonomic key of *Amblyomma* nymphs from Brazil, in order to perform taxonomic identification of the nymph of *A. goeldii* based on external morphology. The geographical distribution of *A. goeldii* appears to be restricted to the Amazonian region. There were no previous host records for the immature stages of *A. goeldii*, thus it is expected that the present nymphal description will facilitate further works on the ecology of this poorly studied tick species.

Key words: tick, nymph, description, identification key, Brazil

Introduction

The tick genus *Amblyomma* (Acari: Ixodidae) is currently represented in Brazil by 31 established species (Martins *et al.* 2010; Nava *et al.* 2014; Krawczak *et al.* 2015). The species *Amblyomma goeldii* Neumann, 1899 was described based on 6 males and 1 female collected on an anteater (*Myrmecophaga tetradactyla* Linnaeus)

dissimile can be done following the modification of step 16 of the taxonomic key of Martins *et al.* (2010), as proposed in the present study. The nymph of *A. rotundatum* differs from *A. goeldii* by the presence of a small internal spur on coxa II of the former, which is absent in *A. goeldii*; furthermore, the scutum of *A. rotundatum* consists of punctations concentrated in the lateral fields, in contrast to deep punctations evenly distributed in the scutum of *A. goeldii*.

As reported many decades ago (Aragão 1936), the geographical distribution of *A. goeldii* appears to be restricted to the Amazonian region. The host range of *A. goeldii* adults (Mammalia: Pilosa; and Squamata: Boidae) is rather unusual; however, adults of another Neotropical species, *A. fuscum*, is also known to use either mammals (mostly Cingulata) or Squamata as hosts (Barros-Battesti *et al.* 2005). Similarly, adults of the Afrotropical species *Amblyomma sparsum* Neumann, 1899 is commonly found on reptiles or mammals within its distribution range (Cumming 1998). Because there has been no host record for *A. goeldii* immature stages, it is expected that the present nymphal description will facilitate further works on the ecology of this poorly studied tick species.

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