Physalaemus nattereri (Cuyaba dwarf frog): Parasitism

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The genus Amblyomma Koch, 1844 is currently represented by 30 valid tick species in Brazil, and at least seven are known from the Brazilian Savanna (Szabó et al., 2007), parasitising amphibians, reptiles, birds, and mammals (Dantas-Torres et al., 2009). Among these tick species, A. dissimile Koch, 1844 and A. rotundatum Koch, 1844 are the most commonly found in Amphibia and Reptilia groups (Onofrio et al., 2006; Guglielmone & Nava, 2010). A. rotundatum is a neotropical tick with a wide distribution that has been reported from Argentina to Mexico (Luz & Faccini, 2013). It is also established in the United States of America where it was accidentally introduced, in South Florida, parasitising Rhinella marina (Oliver et al., 1993). In Brazil, this tick species was reported from Amazonas to Rio Grande do Sul (Luz & Faccini, 2013), parasitising species of Rhinella anuran group. Parasitism by A. rotundatum is common on species of bufonids, and some cases have been reported from other anurans, for example Discoglossus pictus, Pipa pipa, Pelophylax esculentus and Spea bombifrons (Guglielmone & Nava, 2010). Awareness of new cases may help to understand parasite-host relationships. Here we report the parasitism of an adult female Physalaemus nattereri by a nymph of A. rotundatum in Cerrado, the Brazilian Savanna.

On December 20, 2013, we captured 17 individuals of P. nattereri in a temporary pond (16º35'54.8"S 48º52'43.7"W) in a pasture area in the municipality of Bonfinópolis, Goiás, central Brazil. Visual assessment of the frogs revealed that one specimen (female, SVL = 47.87 mm, weight = 11.47 g) was parasitised by a nymph A. rotundatum, which was found in the upper ventral region on the left thigh (Fig. 1). The female frog was found in amplexus with a co-specific male. The tick was removed from the body of the host using anatomical forceps and was fixed in 70% ethanol. It was identified following a dichotomic key (Martins et al., 2010) at the Instituto de Patologia Tropical e Saúde Pública (IPTSP), Universidade Federal de Goiás (UFG). This voucher specimen is deposited in the zoological collection of the Universidade Federal de Goiás, Goiânia, Brazil (ZUFG 8493).

Guglielmone & Nava (2010) listed records of parasitism by A. rotundatum on 13 anuran hosts: Anaxyrus terrestris, D. pictus, P. esculentus, Pelophryne peltocephala, P. pipa, Rhinella arenarum, R. crucifer, R. granulosa, R. icterica, R. marina, R. schneideri, Rhinella sp., S. bombifrons. In Brazil, the records are restricted to species of bufonids: R. granulosa, R. icterica, R. jimí, R. marina, R. schneideri, Rhinella sp. (see revision Luz & Faccini, 2013). Therefore, our report appears to be the first record of A. rotundatum parasitising P. nattereri, a leptodactyliidea frog. The relationships between ectoparasites and anuran hosts are still unclear (Antonucci et al., 2011; Luz & Faccini, 2013). Although, this report concerns only a single observation it represents a new case, at a Cerrado Savanna, of a tick parasitising anuran species belonging to the Physalaemus group. This presents possibilities for study of parasite-host interactions involving anuran fauna in Cerrado.

Figure 1. Nymph of A. rotundatum tick (white arrow) on adult female P. nattereri.
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