

## Article

## First report of *Amblyomma boeroi* Nava, Mangold, Mastropaolo, Venzal, Oscherov and Guglielmone (Acari: Ixodidae) from the Chacoan peccary, *Catagonus wagneri* (Artiodactyla: Tayassuidae), in Paraguay

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### Abstract

All stages of the hard tick *Amblyomma boeroi* Nava, Mangold, Mastropaolo, Venzal, Oscherov and Guglielmone were found for the first time on two carcasses of the Chacoan peccary, *Catagonus wagneri*, in Paraguay, one from a site located 100 km west of Mariscal Estigarribia (S 21°29', W 61°22'), and the other from Destacamento Teniente Martínez (S 20°55', W 59°50'), Boquerón Department.

**Key words:** *Amblyomma boeroi*, *Catagonus wagneri*, 16S rDNA, Paraguay

### Introduction

The Chacoan peccary, *Catagonus wagneri*, is an endangered species (Appendix I, CITES) that was described from sub-fossil material in northern Argentina (Rusconi 1930). This mammal was believed to be extinct until it was reported still surviving in Paraguay (Wetzel *et al.* 1975). It inhabits xerophytic thorn forests in western Paraguay, northwestern Argentina and eastern Bolivia (Mayer & Wetzel 1986). Within this area, *C. wagneri* is sympatric with the other members of the family Tayassuidae, namely the white-lipped peccary (*Tayassu pecari*) and the collared peccary (*Tayassu tajacu*). The tick *Amblyomma boeroi* Nava, Mangold, Mastropaolo, Venzal, Oscherov and Guglielmone is a newly described species that to date has been found on *C. wagneri* only in a restricted area of Argentine dry Chaco (Nava *et al.* 2009).

### Materials and methods

In June of 2011, two females, two males, five nymphs and one larva of *A. boeroi* were found on a *C. wagneri* carcass at a site 100 km west of Mariscal Estigarribia (S 21°29', W 61°22'), Boquerón Department, Paraguay. All tick specimens were determined utilizing the original description of Nava *et al.* (2009). Twenty-one nymphs of the same species were collected on another *C. wagneri* carcass

at Destacamento Teniente Martínez (S 20°55', W 59°50'), also in Boquerón Department. Additionally, a sequence of ca. 420 bp of the mitochondrial 16S rDNA gene was obtained from one female in order to confirm the morphological determination. DNA extraction and polymerase chain reaction (PCR) were performed as described by Mangold *et al.* (1998). The 16S rDNA sequence was edited and aligned using the BioEdit Sequence Alignment Editor (Hall 1999) with the CLUSTAL W program (Thompson *et al.* 1994), and it was compared with the 16S rDNA sequences of *A. boeroi* available in GenBank. All tick specimens were accessioned (INTA 2185, INTA 2186) and deposited in the collection of the Instituto Nacional de Tecnología Agropecuaria, Estación Experimental Agropecuaria Rafaela, Santa Fe, Argentina.

## Results and discussion

The diagnostic characters of males of *A. boeroi* are the scutal ornamentation, orbited eyes, 2/2 dental formula, shape of the spur of coxa IV, and absence of a post-anal groove. Females of *A. boeroi* are distinguished from other *Amblyomma* spp. by the combination of 2/2 dental formula, orbited eyes, the pattern of the notal setae, and, again, the absence of a post-anal groove (Nava *et al.* 2009). The 16S rDNA sequence of *A. boeroi* from Paraguay (GenBank accession number: JN828797) was identical to those from Argentina (GenBank accession numbers: FJ464416, FJ464417, FJ464418, FJ464419). Our finding of specimens of *A. boeroi* parasitizing *C. wagneri* in Paraguay constitutes the first record of this tick species from that country.

Most of our knowledge concerning *C. wagneri* stems from studies conducted at Fortín Toledo (S 22° 21', W 60°20'), where a captive breeding program (the Taguá Project) has been in place since 1986 (Byrd *et al.* 1988, Yahnke *et al.* 1997). Although many of the tick records from *C. wagneri* in Paraguay are from Fortín Toledo (Nava *et al.* 2007), *A. boeroi* has not previously been collected at that locality. Future studies should determine whether the distribution of this tick is confined to a narrower area than that of its preferred host. Also, it will be important to investigate the health impacts, if any, of *A. boeroi* on *C. wagneri*.

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