

New records of *Atractus ronnie* (Serpentes, Colubridae) in relictual forests from the state of Ceará, Brazil, and comments on meristic and morphometric data

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Resumo

Novos registros de *Atractus ronnie* (Reptilia, Serpentes, Colubridae) em florestas relictuais do estado do Ceará e comentários sobre dados merísticos e morfométricos. *Atractus ronnie* foi recentemente descrita para Serra de Baturité, uma área montanhosa de enclave de floresta relictual na Caatinga semi-árida, estado do Ceará, nordeste do Brasil. Apresentamos aqui novos registros de *A. ronnie* em duas novas áreas de floresta relictual e apresentamos dados adicionais de variação de sua folídose. Os resultados apresentados aqui reforçam a necessidade de inventários sistemáticos em florestas relictuais do Ceará, uma vez o conhecimento sobre a herpetofauna das florestas relictuais permanece pobremente conhecido.

Unitermos: *Atractus ronnie*, Colubridae, nordeste do Brasil, florestas relictuais, estado do Ceará

Abstract

Atractus ronnie was recently described from Serra de Baturité, a mountainous relictual forest enclave in the semiarid Caatinga, state of Ceará, northeastern Brazil. Here we report new records of *A. ronnie* in two other areas of relictual forests and provide additional data on pholidosic variation. The results presented herein reinforce the need for systematic inventory surveys in the relictual forests of Ceará, since the herpetofauna remains poorly known.

Key words: *Atractus ronnie*, Colubridae, northeastern Brazil, relictual forests, Ceará state

The genus *Atractus* currently comprises about 100 species of semi-fossorial or fossorial snakes (Fernandes et al., 2000; Passos et al., 2005) widely distributed in South and Central America, occurring from southern Panama to Argentina (Giraudo and Scrocchi, 2000; Myers, 2003). A total of 29 species of *Atractus* are recognized for Brazil (SBH, 2008), with only *Atractus guentheri* (Wucherer, 1861), *Atractus maculatus* Günther, 1858, *Atractus potschi* Fernandes, 1995, and the recently described *Atractus ronnie* Passos, Fernandes & Borges-Nojosa, 2007 occurring in northeastern Brazil (Fernandes, 1995; Fernandes, 1996; Passos et al., 2007).

Atractus ronnie (Figure 1) has recently been described on the basis of individuals from Serra de Baturité (Baturité hills), a mountainous humid forest in the semiarid Caatinga domain, state of Ceará, Brazil (Passos et al., 2007). Here we report two new records of *A. ronnie* in the state of Ceará and provide additional data on the pholidosic variation of this taxon.

The first record was a single specimen from the Plateau of Ibiapaba, municipality of Tianguá ($03^{\circ}43'7.02''S$, $40^{\circ}55'53.71''W$, 871m above sea level). The second record consisted of specimens from the Plateau of Araripe, municipality of Crato ($07^{\circ}15'19''S$, $39^{\circ}28'12''W$, at 729m above sea level). Voucher specimens were deposited at the Laboratory of Zoology, Universidade Regional do Cariri (LZ-URCA 460-465; 489-491) and Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ 17326).

Both areas are relictual forests and represent exceptionally humid habitat islands within the semiarid Caatinga Domain (*sensu* Ab'Saber, 1977). Localized orographic rains and fog condensation favor the persistence of these relictual forests, and they experience significantly milder temperatures and increased levels of rainfall compared to the surrounding Caatinga lowlands (Vanzolini, 1981; Andrade-Lima, 1982; Carnaval and Bates, 2007). The main difference between both areas is the location of the relictual forest. This happens because the chemical



FIGURE 1: General view of the adult female of *Atractus ronnie* in life collected in the municipality of Tianguá, Plateau of Ibiapaba. Picture by Daniel Loebmann.

morphogenesis which contributes to the formation of the humid forest occurs on the tops and slopes of the hills on the Plateau of Ibiapaba, while on the Plateau of Araripe this phenomenon occurs only on the slopes of the hills (Fernandes, 1990).

Meristic data from the collected specimens agree in most aspects with the original description, although it is possible to identify certain differences (Table 1). The maximum snout vent lengths attained by specimens, especially among females, were greater (223mm in males; 391mm in females) than those seen among individuals from Serra de Baturité (220mm in males; 312mm in females). Although the ventral color pattern is uniformly creamish white in most of the specimens analyzed, as depicted in the original description, the largest specimen had small dark brown spots concentrated in the distal half of its body.

Scale counts also revealed certain differences. Ventral scales varied from 146 to 163 among females ($n = 7$), and from 129 to 132 among males ($n = 3$), against 154-160 among females and 134-144 among males in the original description. Subcaudals were

very similar to the original description, although one female had 16 subcaudals, one less than the minimum observed in the population of Serra de Baturité.

Although some of the meristic data differ from the original description we believe these must be interpreted as intraspecific variations rather than to consider these populations as a distinct taxon.

The presence of *A. ronnie* in other areas of relictual forest in Ceará demonstrates that the species is not restricted to Serra de Baturité. The new records presented here extend the species distribution by ca. 230km east and ca. 350km south from the type locality, the municipality of Pacoti, state of Ceará (Figure 2).

These results provide additional evidence for the need of systematic inventory surveys in order to study the diversity of the herpetofauna of the relictual forests of Ceará state, since new distribution records and new taxa continue to be published in recent years (e.g. Loebmann et al., 2007; Passos et al., 2007; Loebmann, 2008a; 2008b; 2008c; Ribeiro et al., 2008).

TABLE 1: Measurements and scale counts from all individuals of *Atractus ronnie* examined in this study. PAHF = Plateau of Araripe (humid forest); PIHF = Plateau of Ibiapaba (humid forest); SVL = Snout Vent Length; CL = Caudal Length; VSN = Ventral Scale Number; SSN = Subcaudal Scale Number.

Local	Sex	SVL (mm)	CL (mm)	VSN	SSN	Sample method	Voucher number
PAHF	Male	223	30	132	22	Pitfall	LZ-URCA 465
PAHF	Male	204	28	129	23	Pitfall	LZ-URCA 462
PAHF	Male	203	27	132	24	Pitfall	LZ-URCA 463
PAHF	Female	284	29	151	20	Pitfall	LZ-URCA 464
PAHF	Female	247	26	152	20	Pitfall	LZ-URCA 460
PAHF	Female	247	25	146	17	Pitfall	LZ-URCA 489
PAHF	Female	241	21	149	19	Pitfall	LZ-URCA 491
PAHF	Female	234	20	149	16	Pitfall	LZ-URCA 490
PAHF	Female	217	19	146	18	Pitfall	LZ-URCA 461
PIHF	Female	391	33	163	23	Visual search	MNRJ 17326

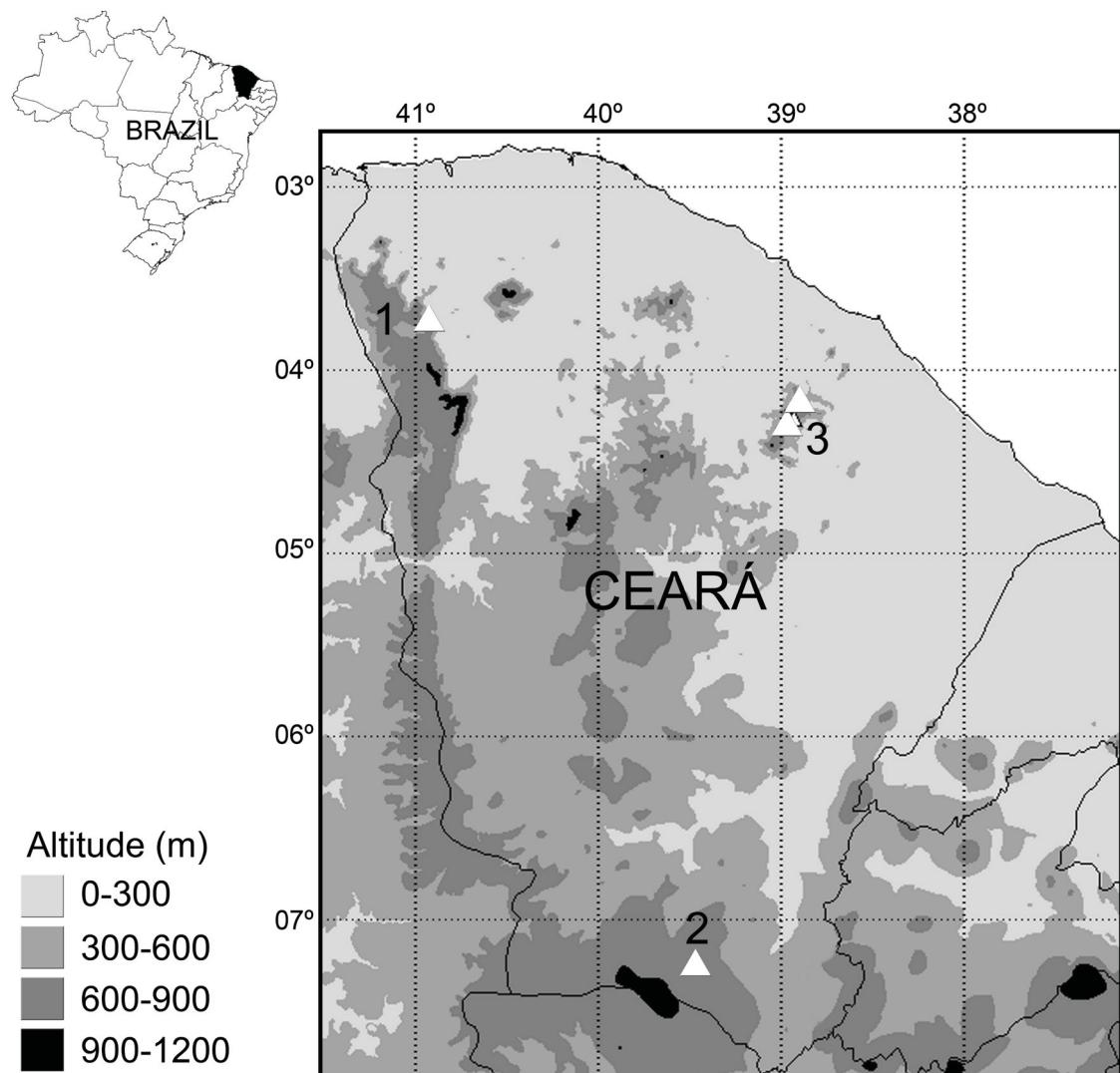


FIGURE 2: Geographic distribution of *Atractus ronnie* (white triangles). 1 – Plateau of Ibiapaba; 2 – Plateau of Araripe; 3 – Serra de Baturité.

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