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Short Note

Climbing behaviour of terrestrial bufonids in the genus *Rhinella*

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INTRODUCTION

One of the most effective ways to prevent predation is to avoid direct contact with the predator, because it does not require energy expenditure for agonistic encounters and/or extra production of defensive substances, prevents injuries and, ultimately, mortality (Madison et al., 2009). In anurans, the behaviour of climbing and resting on the vegetation at night may be to avoid predators (Granda-Rodriguez et al., 2008). Studies on anti-predatory behaviour in anurans are mostly focused on the use of colour and morphological characteristics and, data on specific behaviour are rare and scattered in the literature (Toledo et al., 2011). Furthermore, many behaviours still lack specific names, hindering their recognition and description (Toledo, 2007). This paper reports on climbing behaviour observed in terrestrial bufonids of the genus *Rhinella*.

METHODS

Observations were conducted at São Nicolau Farm (09°49'09.9" S, 58°15'31.1" W) and Cristalino State Park (9° 32' 47" S, 55° 47' 38" W), located in Cotriguaçu and Novo Mundo, respectively, both in the state of Mato Grosso, Brazil. Individuals were visualized and their behaviour described during eight field trips conducted from December 2010 to November 2012. Five observations of arboreal behaviour were made, all at night between 19:00 and 23:00 hours. The toads were photographed and their height above the ground recorded. To rule out that individuals were in search of food, we looked for possible sources of food in the micro-habitat where individuals were found.

RESULTS AND DISCUSSION

Four individuals of the species *Rhinella margaritifera* and one individual of *R. castaneotica* were recorded above ground level, on vegetation (Fig. 1). The first individual was spotted on a low tree, near a water course, 130 cm above the ground (Fig. 1A). The second was seen 32 cm above the ground on a root (Fig. 1B). The third was observed on a palm (*Attalea* sp.) 75 cm above the ground (Fig. 1C) and the fourth was seen on a clump of *Olyra latifolia*, 45 cm above the ground (Fig. 1D). The individual of *R. castaneotica* rested on a palm (*Attalea* sp.), 102 cm above ground level (Fig. 1E). No food sources, such as termites or ants, were detected near the individuals sighted above ground level but this does not exclude opportunistic predation on passing flying insects.

The traditionally arboreal anuran species (e.g. hylids) have specialized structures on their fingertips (adhesive discs), which provide

Figure 1. Individuals of the bufonids *R. margaritifera* (A, B, C, D) and *R. castaneotica* (E) observed on vegetation above ground level, state of Mato Grosso, Brazil.

adhesion climbing (Hanna & Barnes, 1991). But these *Rhinella* species are terrestrial and have no obvious morphological adaptations that favour climbing (Gosá, 2008). According to Lindquist et al. (2007) and Granda-Rodriguez et al. (2008) terrestrial bufonids may select arboreal resting sites to avoid predators. In addition, the tactile perception of an approaching predator, generated by the movement of the vegetation, would be an additional benefit to resting on saplings and shrubs (Linquisind et al., 2007) and palm trees (this study).

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