



Description of the advertisement call of *Rhinella mirandaribeiroi* (Gallardo, 1965) (Anura: Bufonidae)

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Currently, the *Rhinella granulosa* species group is composed by 13 species of toads (*R. azarai* (Gallardo); *R. bergi* (Céspedes); *R. bernardoi* Sanabria *et al.*; *R. centralis* (Narvaes & Rodrigues); *R. dorbignyi* (Duméril & Bibron); *R. fernandezae* (Gallardo); *R. granulosa* (Spix); *R. humboldti* (Gallardo); *R. major* (Müller & Helmich); *R. nattereri* (Bokermann); *R. merianae* (Gallardo); *R. mirandaribeiroi* (Gallardo); *R. pygmaea* (Myers & Carvalho) that are distributed in South America and Panama (Narvaes & Rodrigues 2009; Sanabria *et al.* 2010). The advertisement calls have so far been described for the following species in the *R. granulosa* group *R. azarai*, *R. bergi*, *R. centralis*, *R. dorbignyi*, *R. fernandezae*, *R. granulosa*, *R. major*, *R. merianae* (São-Pedro *et al.* 2011; Guerra *et al.* 2011). Herein, we describe the advertisement call of *R. mirandaribeiroi* from Cerrado Biome, Central Brazil.

We studied *Rhinella mirandaribeiroi* at Estação Ecológica (ESEC) Serra Geral do Tocantins (11°15'25"S, 46°56'42"W), Tocantins and Bahia states, Central Brazil. Two males were recorded in November 2010, using a Marantz PMD 222 recorder coupled with a Sennheiser ME66 microphone. The vocalizations were edited at sampling frequency of 11 kHz, using 16 bit resolution with a PC-Pentium computer and analyzed with Cool Edit 96 software. Frequency information was obtained through Fast Fourier Transformation (FFT) (width, 1024 points). The sonograms and oscillograms were created in: (a) overlap (75%), and (b) Window (Flat Top) with use of the software Avisoft-SASLab Lite®.

Call description followed Gerhardt (1998). Call duration (s), note number, note duration (ms), pulse number, pulse duration (ms), dominant frequency (Hz), time interval between calls (s) and repetition rate (calls/min) were measured. Vouchers were deposited in the Coleção Zoológica da Universidade Federal de Goiás (ZUFG 6241–42). The advertisement call (Figure 1) is a long trill with average duration of 5.34 ± 0.815 s (range = 4.23 – 6.43 s; N = 10 calls). The calls were emitted in irregular time intervals that varied between 2.5 to 25.5 s ($X = 7.56 \pm 6.72$ s; N = 10 calls). The average of notes per call was 146.3 ± 31.28 (range = 110 – 194; N = 10 calls), with duration ranging between 29 to 38 ms ($X = 33 \pm 3$ ms; N = 30 notes). Each note is composed by four pulses with average duration of 8 ± 0.9 ms (range = 7.3 – 9.8 ms; N = 90 pulses). The dominant frequency varied between 2,306 to 2,538 Hz ($X = 2,462.8 \pm 67.11$ Hz; N = 10 calls) and the repetition rate was 3.75 (N = 2 males) per minute.

Among the species of the *R. granulosa* group, the average duration of calls of *R. mirandaribeiroi* is similar to those emitted by *R. major* = 5.1 s (Guerra *et al.* 2011) and *R. merianae* = 5.4 s (Guerra *et al.* 2011). It is shorter than those of *R. azarai* = 19.3 s (Guerra *et al.* 2011), *R. bergi* = 15 s (Guerra *et al.* 2011), *R. dorbignyi* = 8.3 s (Guerra *et al.* 2011) and *R. fernandezae* = 8.1 s (Guerra *et al.* 2011). The mean of notes per call is shorter than those observed in *R. azarai* = 264.4 notes (Guerra *et al.* 2011), *R. dorbignyi* = 291.7 notes (Guerra *et al.* 2011), *R. fernandezae* = 313.4 notes (Guerra *et al.* 2011) and *R. merianae* = 231 notes (Guerra *et al.* 2011). Similar to advertisement calls of *R. centralis*, *R. granulosa* and *R. merianae* (Guerra *et al.* 2011; São-Pedro *et al.* 2011), the notes emitted by *R. mirandaribeiroi* consist of four pulses.

The dominant frequency of advertisement calls of *R. mirandaribeiroi* is similar to those of *R. azarai* = 2,499.3 Hz (Guerra *et al.* 2011), but lower than those of *R. bergi* = 3,828.8 Hz (Guerra *et al.* 2011), *R. centralis* = 2,541.4 Hz (Guerra *et al.* 2011), *R. major* = 2,725.8 Hz (Guerra *et al.* 2011) and *R. granulosa* = 2,906.36 Hz (São-Pedro *et al.* 2011). Similar to *R. granulosa* (São-Pedro *et al.* 2011) the individuals of *R. mirandaribeiroi* emitted calls in irregular time intervals. Furthermore, the amplitude of call increases gradually and ends abruptly as in *R. centralis*, *R. dorbignyi*, *R. fernandezae*, *R. granulosa* and *R. merianae* (see oscillograms in Guerra *et al.* (2011) and São-Pedro *et al.* (2011)).