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The advertisement call of *Adelophryne maranguapensis* (Anura, Eleutherodactylidae)

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We describe the advertisement call of *A. maranguapensis* an endangered species endemic to Serra de Maranguape, Ceará, northeastern Brazil (Cassiano-Lima et al., 2011). The monophyletic genus *Adelophryne* includes eight nominal species and a number of unnamed species of small frogs with direct development, which occur in Amazon, Atlantic Forest, and humid forested mountains of Northeast Brazil (Fouquet et al. 2012). Only the advertisement calls of *A. adiaistola*, *A. gutturosa*, *A. patamona*, and *A. mucronatus* have been so far described (see MacCulloch et al., 2008; Lourenço-de-Moraes et al., 2012).

On March 5th, 2012, we recorded four males *A. maranguapensis* in the litter, between 09:00 a.m. and 11:00 a.m. (air temp. 23°C) at a place called Riacho Beija-Flor (03°53'44.3"S, 38°43'18.8"W, 890 m alt.), at Serra de Maranguape range. One male *A. maranguapensis* was deposited in Coleção Herpetológica da Universidade Federal do Ceará (CHUFC A 6551). The sounds were recorded at 1 m distance with digital recorder Edirol R-09. For description of the calls, we adopted the parameters previously used by MacCulloch et al. (2008) for other *Adelophryne* species: call duration, inter-call interval, number of notes, note period, note repetition rate, inter-note interval, number of pulses, dominant harmonic and dominant frequency. Digital recordings were sampled at 44100 Hz and 16 bit resolution and saved in uncompressed wave format. We analyzed calls in software SoundRuler, version 0.9.6.0 (Gridi-Papp, 2004) and constructed audio spectrograms with the following parameters: FFT window width = 256, Frame = 100, Overlap = 75, and flap top filter. Numerical parameters are as follows: range followed by mean ± standard deviation in parentheses; 5 calls analyzed.

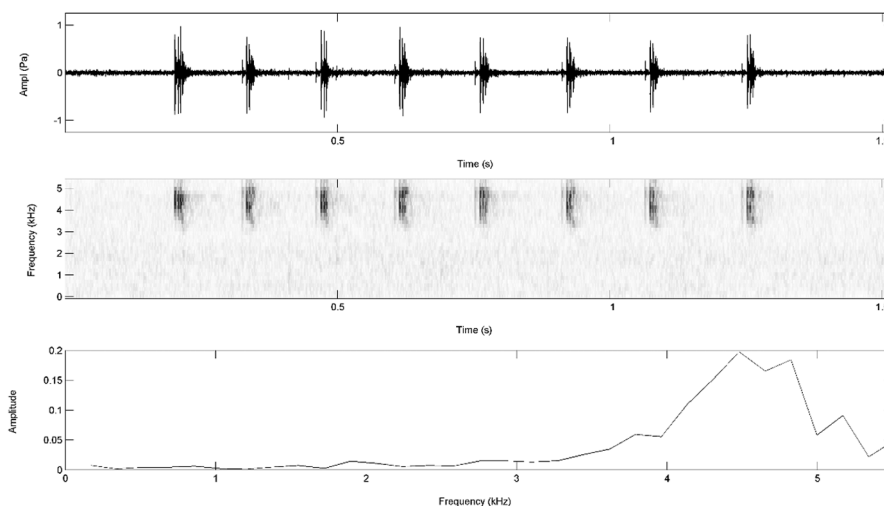


FIGURE 1. Advertisement call of *Adelophryne maranguapensis*, recorded at Maranguape mountain range, Ceará, northeastern Brazil: (A) oscillogram, (B) audiospectrogram and (C) power spectrum (air temp. 23°C).

The advertisement call (n=5; Figure 1) consists of 5–8 multi-pulse notes (6 ± 1.3), note duration 0.663–1.075 s (0.798 ± 0.159 s) with a dominant frequency ranging from 4483.64 to 4830.67 Hz (4824.36 ± 187.23 Hz). The interval between notes was 0.092–0.484 s (0.129 ± 0.087 s), with a repetition rate of 6.45–5.55 notes/s (7.49 ± 0.47). Each note

was formed by 3–6 pulses (4 ± 0.588) with a duration of 0.016–0.059 s (0.025 ± 0.014 s) and the emission of 71.3–310.6 pulses/s (168.1 ± 62.2). Note distribution and structure of the advertisement call of *A. maranguapensis* are closer to the values obtained for *A. gutturosa* (see MacCulloch et al., 2008), except for the fact that MacCulloch et al. (2008) considered notes of *A. gutturosa* advertisement call as harmonics. However we consider those harmonics as side-band artifacts generated by the pulsatile nature of the call (see Vielliard 1993). This interpretation is similar to that presented for the description of advertisement call of *A. mucronatus* (Lourenço-de-Moraes et al. 2012).

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