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Acoustic characteristics of the advertisement and territorial calls of *Phyllodytes tuberculosus* Bokermann, 1966 (Amphibia: Anura: Hylidae)

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The treefrog genus *Phyllodytes* Wagler includes 11 species distributed throughout eastern Brazil (Frost 2011), mostly in the Atlantic Forest biome. Hylids of the genus *Phyllodytes* are bromeligen (sensu Peixoto 1995) and vocalizations of only four species have been described until now (Lima *et al.* 2008). Here we describe for the first time the acoustic characteristics of the advertisement and territorial calls of *P. tuberculosus* Bokermann (Fig. 1A) from its type locality.

Data collection. We found calling males of *Phyllodytes tuberculosus* on the leaves of terrestrial bromeliads distributed along rocky outcrops at the Morro do Brocotó, Municipality of Maracás, State of Bahia, Brazil (13°20'48.9''S, 40°25'24.1''W, 997 m a.s.l.). On November 24th and 25th 2009, we recorded three males using a SONY WM-D6 DAT recorder and a SONY ECM-MS907 microphone, at a distance of approximately 50 cm; mean air temperature 20.9–21.3°C (digital thermometer, 0.1ºC precision). Recording files were deposited at the Sound Library of the Universidade Estadual de Feira de Santana (SUEFS) and voucher specimens of *P. tuberculosus* at the Museu de Zoologia da Universidade Estadual de Feira de Santana (MZFS) and at the Museu de Zoologia da Universidade Federal da Bahia (UFBA), both in the State of Bahia, Brazil.

We digitalized the vocalization records with sampling frequency of 44.1 kHz and sample size of 16 bits. Advertisement calls were analyzed using Canary 1.2.4 software. Audio spectrograms were made using Fast Fourier Transform length (FFT) of 1024 points. The following descriptions are based on the advertisement calls of three males (MZFS 3658/SUEFS 20.05, UFBA 9640/SUEFS 20.06 and unvouchered male/SUEFS 20.07). Male MZFS 3658 only emitted advertisement calls while other two males (UFBA 9640 and unvouchered male) emitted advertisement and territorial calls.

Advertisement call. Call (Fig. 1B, C, D) composed by 14–23 pulsed notes ($\bar{x}$=18.60±3.36, n=5), call note rate 3 notes/s ($\bar{x}$=2.81±0.21, n=5), call duration 4.65–9.35 s ($\bar{x}$=6.72±1.73, n=5), note duration 0.068–0.246 s ($\bar{x}$=0.167±0.047, n=91 notes), internote intervals 0.067–0.357 ms ($\bar{x}$=0.214±0.048, n=84), pulses/note 13–34 ($\bar{x}$=24.55±4.36, n=40 notes), pulses/s 114.97–224.07 ($\bar{x}$=169.14±28.11, n=40 notes), call dominant frequency 2.15–3.27 kHz ($\bar{x}$=2.57±0.49, n=5) and dominant frequency of notes 1.68–3.27 kHz ($\bar{x}$=2.46±0.45, n=91) (fig. 1B).

Territorial call. Call (Fig. 1E, F, G) composed by 6–19 notes ($\bar{x}$=12.12±4.79, n=9 calls), call note rate 3 notes/s ($\bar{x}$=3.09±0.41, n=9 calls), call duration 1.53–7.09 s ($\bar{x}$=4.12±2.02 s, n=9 calls) and call dominant frequency 3.06–3.66 kHz ($\bar{x}$=3.37±0.20, n=9 calls). There are three types of notes (notes A, B and C, Fig. 1F, G), emitted in the following sequence (n = 9 calls): 1–3 notes type A ($\bar{x}$=1.67±0.87), followed by a single note type B and 3–17 notes type C ($\bar{x}$=9.67±4.6). Note type A with one pulse, duration 0.019–0.031 s ($\bar{x}$=0.024±0.003, n=14 notes) and dominant frequency 2.58–3.79 kHz ($\bar{x}$=3.49±0.35, n=14 notes). Note type B with 44–61 pulses ($\bar{x}$= 52.33±6.47, n=6 notes), pulses/s 188.15–277.27 ($\bar{x}$=227.71±38.16, n=6 notes), note duration 0.197–0.289 s ($\bar{x}$=0.234±0.031, n=9 notes) and dominant frequency 3.10–3.83 kHz ($\bar{x}$=3.47±0.23, n=9). Note type C with 12–37 pulses ($\bar{x}$=25.33±5.63, n=52 notes), pulses/s 183.87–259.04 ($\bar{x}$= 178.84±26.64, n=52 notes), note duration 0.075–0.225 s ($\bar{x}$=0.164±0.035, n=87 notes) and dominant frequency 2.37–3.92 kHz ($\bar{x}$=3.19±0.28, n=87 notes). Only the territorial call of *P. melanomystax* have been described (Nunes *et al.* 2007) and it mainly differs from that of *P. tuberculosus* in type and number of notes, which is composed by only one pulsed note in *P. melanomystax* and with duration of 0.19–0.26 s.

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