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Advertisement call of *Zachaenus carvalhoi* Izecksohn, 1982 (Anura: Cycloramphidae) from southeastern Brazil

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Anuran advertisement calls are species-specific and widely used as a taxonomic tool (e.g., Heyer *et al*. 1996; Pombal *et al*. 2011; Taucce *et al*. 2012). Nevertheless, in many taxa the vocalizations have not yet been formally described, as in *Zachaenus* Cope, 1866 (Anura; Cycloramphidae). This genus is endemic to the Brazilian Atlantic Rainforest (Verdade *et al*. 2009) and currently comprises two species: *Zachaenus parvulus* (Girard 1853) and *Z. carvalhoi* Izecksohn, 1982. Herein we describe the advertisement call of the data deficient (Peixoto & Silvano 2004) *Z. carvalhoi*, providing for the first time information on the vocalization of the genus.

Recordings took place during a rainy night on November 8th 2012, at Parque Estadual da Serra do Brigadeiro (PESB), District of Careço, Municipality of Ervália, State of Minas Gerais, Southeastern Brazil (20°51'S, 42°30'W; 1300m asl; air temperature 21.5°C). During field work we recorded three males using an Olympus DM-420 digital recorder with an internal microphone. The recordings were then analyzed using Raven Pro 1.4 at a sampling frequency of 44.1 kHz and 16-bit resolution. The oscillogram and spectrogram were produced using the following parameters: FFT width=256, Overlap=0.81 and Hann window type. Description and terminology of calls follow Duellman and Trueb (1994). One recorded male was collected as voucher and deposited in the herpetological collection of the Museu de Zoologia João Moojen, Departamento de Biologia Animal, Universidade Federal de Viçosa, State of Minas Gerais, Brazil (MZUFV 12921; SVL 28.6 mm).

The call series of *Zachaenus carvalhoi* (Fig. 1) consists of 1–10 multipulsed calls (x=4.0; sd=2.5; n=18 call series from three males), lasting 238–4152 ms (x=1817; sd=1476; n=18), 1.4–3.0 calls/sec (x=2.0; sd=0.34; n=14 call series), call duration of 200–406 ms (x=263; sd=58; n=29), 12–36 pulses per call (x=21.0; sd=6.0; n=29 calls), 55.8–122.0 pulses/sec (x=82.1; sd=17.6; n=29 calls) and dominant frequency of 2067.2–2584.0 Hz (x=2382.0; sd=159.9; n=29 calls). Calls have pulses arranged in 3–6 groups of pulses (x=4.8; sd=0.8; n=29 calls), being the last group the longest and also differing from the others by its descendent amplitude modulation (Fig. 1).

Zachaenus carvalhoi, whose type locality is Santa Teresa, State of Espírito Santo (Izecksohn 1982), has already been reported from district of Careço (Motta *et al*. 2010) and a second locality at PESB (Moura *et al*. 2012). Although Izecksohn (1982), Verdade *et al*. 2009 and Motta *et al*. 2010 also observed *Z. carvalhoi* during call emission, they did not formally describe its vocalization. Our results are congruent with previous data regarding probable breeding in October/November, especially during (or right after) rainfall. Our recording took place during a rainy night and at least 50 other males could be heard.

The present study is in memoriam of Professor Eugênio Izecksohn, who described *Zachaenus carvalhoi* and unfortunately passed away in the beginning of the year. We are grateful to: Prof. Paulo C. A. Garcia for granting access to Raven 1.4 beta; the Fundação de Amparo à Pesquisas de Minas Gerais - FAPEMIG for the fellowship granted to CSG (176618) and JVAL (RDP-00053-10); to Anne Baldisseri for the english review. Specimens were collected under permit IBAMA 33456-1, and IEF 029/12.

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