



## Correspondence

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### The advertisement call of *Elachistocleis helianneae* Caramaschi, 2010 (Anura: Microhylidae)

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The genus *Elachistocleis* Parker, 1927 currently comprises 13 species, not considering *E. ovalis* (Schneider, 1799) (see Caramaschi 2010). This genus occurs in Central America and most of South America, from Panama to Argentina, including Venezuela, Bolivia, Colombia, Guyana, Surinam, French Guiana, Paraguay, Uruguay, and Brazil (Frost 2011; Nunes-de-Almeida & Toledo 2012). *Elachistocleis helianneae* Caramaschi, 2010 was described from Humaitá, state of Amazonas, and occurs in northern Brazil, in the states of Amazonas, Pará and Rondônia, and in Bolivia, in the departments of Beni and Santa Cruz (Caramaschi 2010).

**Data Collection.** In the present study we describe the advertisement call of *Elachistocleis helianneae* from the calls of one male (SLV 28.57mm) recorded on February 20th, 2011, at 20:45, in the municipality of Porto Velho (8°49' S, 63°53' W; ca. 77m a.s.l.), state of Rondônia, Brazil. At the moment of recording the air temperature was 24°C and the specimen vocalized near an urban area, partially submerged in a temporary pond, sustained by emergent vegetation. The recording was obtained with a Sony ICD-B120 digital recorder with an internal microphone. We analyzed five consecutive calls with Raven Pro 1.4 for Windows (Cornell Lab of Ornithology), configured with 16-bit resolution and 44 kHz of frequency sampling. Audio spectrograms were constructed with the following parameters: FFT window width = 256, Frame = 100, Overlap = 75, and flat top filter. Quantitative parameters were expressed as range followed by mean ± standard deviation between parentheses. The terminology utilized for call description follows Heyer *et al.* (1990). The voucher specimen was deposited at the Coleção Herpetológica/Anfíbios da Universidade Federal de Juiz de Fora (CAUFJF 1190).

**Results.** The call of *Elachistocleis helianneae* (Fig. 1) consists of a multipulsed note with a duration of 1.3–2.0s ( $\bar{x}$  = 1.8s ± 0.3), with a pulse number of 156–245 pulses/call ( $\bar{x}$  = 219 pulses/call ± 36.3), and a pulse rate of 115.6–121.2 pulses/s ( $\bar{x}$  = 119.2 pulses/s ± 2.3). The call has a dominant frequency of 4134–4651 Hz ( $\bar{x}$  = 4410 Hz ± 231).

**Comparisons with other species.** Of the 13 known *Elachistocleis* species, the advertisement call was described for only seven species (Table 1). The call of *Elachistocleis helianneae* is shorter than the call of *E. cf. bicolor* (analyzed by Reichle 1996), *E. bambameuboi*, *E. cesarii*, *E. muiraquitã*, *E. piauiensis*, *E. skotogaster* and *E. erythrogaster* and longer than the call of *E. cf. bicolor* (analyzed by De la Riva *et al.* 1996). The number of pulses per second is less than in *E. bambameuboi*, *E. muiraquitã* and *E. skotogaster* similar to that of *E. erythrogaster* and greater than in *E. cf. bicolor*. The dominant frequency of the call is shorter than *E. cf. bicolor* and *E. piauiensis*, and longer than *E. bambameuboi*, *E. cesarii*, *E. muiraquitã*, *E. skotogaster* and *E. erythrogaster*.

Heyer (1971) suggested that typical microhylid calls are composed of several pulses per note over a rather broad frequency range. However, this pattern is not a constant for all microhylids (see Nelson 1973; Frost *et al.* 2006; Santana *et al.* 2012). *E. helianneae* and all other species of this genus agree with the pattern suggested by Heyer (1971).

Anuran advertisement calls are species-specific (Gerhardt & Davis 1988), and the acoustic analysis of these calls is an important characteristic for taxonomy and is thus useful in the distinction of the species (Duellman & Trueb 1986). According to Nunes-de-Almeida & Toledo 2012, the advertisement call is an important and conservative character for diagnostic within *Elachistocleis*. Other diagnostic characters currently adopted for these frogs can vary intraspecifically, highlighting the importance of the call in this genus. This study helps to fill an important gap of information within the *Elachistocleis* genus. However there are species that do not have the advertisement call described. These descriptions will be essential to support future discussions.