The genus *Pseudopaludicola* comprises 18 species of small frogs that are associated to open areas around tropical forests and open formations (e.g., Chaco, Pampas, Cerrado, and Caatinga) across east of Andes, from Venezuela to northern Argentina (Frost, 2015). Most species of this genus are morphologically similar or undistinguishable and are diagnosed mainly through differences on their advertisement calls (Carvalho, 2012; Roberto et al., 2013; Magalhães et al., 2014). Such conservative morphology may hamper the assessment of species conservation status and distribution due to imprecise identifications and/or taxonomic confusions. For instance, *P. canga* was first considered “Vulnerable” (according to IUCN 2001 conservation criteria) because it was endemic from an area highly impacted by iron exploitation in state of Pará (Giaretta and Kokubum, 2003). Later, *P. canga* was considered as “Least Concern” because was recorded in other areas in Pará, and also in the states of Maranhão and Mato Grosso (Pansonato et al., 2012). Hence, it is likely that other recently described species may also suffer from data paucity on their distribution, making the development of adequate strategies for their management and conservation problematic.

*Pseudopaludicola pocoto* Magalhães, Loebmann, Kokubum, Haddad & Garda, 2014 is a recently described species from municipality of Santa Quitéria, state of Ceará, Brazil. It was also recorded in the states of Rio Grande do Norte, Paraíba and Pernambuco, northeastern Brazil and is mainly associated with the

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**Figure 1.** Distribution map of *Pseudopaludicola pocoto* in Brazil. Acronyms of the Brazilian states showed in the map: Alagoas (AL), Ceará (CE), Bahia (BA), Minas Gerais (MG), Paraíba (PB), Pernambuco (PE), Piauí (PI), Rio Grande do Norte (RN), and Sergipe (SE).
Caatinga Biome (Magalhães et al., 2014). Herein, we present a new record of *P. pocoto* extending its distribution to Atlantic Forest Biome.

We collected two adult males of *Pseudopaludicola pocoto* on January 2014, at Sítio Santa Luzia, municipality of Carlos Chagas, state of Minas Gerais, Brazil (17.8280° S, 40.9252° W, 159 m a. s. l.; WGS84). We recorded the advertisement call of these two individuals and compared it to the calls provided in the original description, because it is the most distinctive character of the species (Magalhães et al., 2014) to ensure the correct identification. We analyzed advertisement calls (15 notes per recording) in Raven Pro 1.4 and constructed audio spectrograms with the following parameters: fast Fourier transform (FFT) window width = 256, frame = 100, and overlap = 75. We followed the same methodology for calls descriptions adopted by Magalhães et al. (2014). Voucher specimens and sound files were deposited at Museu de Zoologia (MZFS), Divisão de Anfíbios e Répteis, Universidade Estadual de Feira de Santana, under the following registration number: DAR4301 (SVL = 15mm) and DAR4302 (SVL = 14 mm).

The two males were observed calling on the ground at night (from 18:00 to 23:00) around small bushes located in an open flooded area (known as “Charcos”) within the studied site, which is located within the Atlantic Forest Biome boundaries (Fig. 1). We observed several other individuals calling around this area, but only these two individuals were recorded. The call of our recorded individuals is characterized by sequences of pulsed notes, each note formed by sets of three nonconcatenated pulses (Fig. 2). The call also presents frequency modulation and increases from the first to the last pulse within each note, matching the diagnosis of *P. pocoto* (Magalhães et al., 2014).

We further confirm the identification of our two individuals as *P. pocoto* because we did not detect differences between the calls from our studied population and previously known populations. In fact, all acoustic variables overlap or are within the range known for the species, except for the dominant frequency, which is slightly lower than previously known (see Table 1). However, such differences can be attributed to body size because our collected individuals are slightly larger than the specimens recorded in the original description of the species (see Magalhães et al., 2014). It is expected that larger specimens call at lower pitches (Gingras et al., 2013). Our findings extend the range of call dominant frequency previously known for this species. Furthermore, no other *Pseudopaludicola* species that is mainly diagnosed based on its calls emit notes with both

![Figure 2](image-url)
long note duration and interpulse interval (see Magalhães et al., 2014 and references therein), providing additional evidence that our collected individuals can be correctly identified as *P. pocoto*.

This record is the first for state of Minas Gerais and extends *P. pocoto* distribution to Atlantic Forest Biome, around 1,400 km straight southward from the type locality and 1,050 km from the nearest population in the municipality of Betânia, state of Pernambuco (see Fig. 1). *Pseudopaludicola pocoto* was previously known to occur only in sites under influence of Caatinga biome or ecotone sites (Magalhães et al., 2014). This species likely occurs in the large gap existing between the states of Pernambuco and Minas Gerais, considering that most of this area is under influence of the Caatinga Biome (Fig. 1), with which *P. pocoto* is mostly associated (Magalhães et al., 2014). For instance, other frog species initially described within the Caatinga Domain were posteriorly recorded in other areas along this biome and noticed to occur in open areas located in Atlantic Forest or Cerrado sites such as *Corythomantis greeningi* Boulenger, 1896 (Godinho et al., 2013), *Physalaemus cicada* Bokermann, 1966 (Lisboa and Haddad, 2009), *Pleuromeda diploister* (Peters, 1870) (Andrade and Vaz-Silva, 2012), and *Leptodactylus caatingae* Heyer and Juncá, 2003 (Heyer and Juncá, 2003; Vieira et al., 2012), and *Pleurodema diplolister* Bokermann, 1966 (Lisboa and Haddad, 2009), and noticed to occur in open areas located in Atlantic Forest or Cerrado sites such as *Corythomantis greeningi* Boulenger, 1896 (Godinho et al., 2013), *Physalaemus cicada* Bokermann, 1966 (Lisboa and Haddad, 2009), *Pleuromeda diploister* (Peters, 1870) (Andrade and Vaz-Silva, 2012), and *Leptodactylus caatingae* Heyer and Juncá, 2003 (Heyer and Juncá, 2003; Vieira et al., 2006). Still, further studies are needed to acknowledge whether other populations occur within this large gap or whether this species exhibits a disjoint distribution.

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### Table 1. Advertisement call parameters of *Pseudopaludicola pocoto* recorded in this study and provided in the species original description. Values presented by the mean ± standard deviation followed by the range in parentheses.

<table>
<thead>
<tr>
<th>Acoustic variables</th>
<th><em>P. pocoto</em> (this work)</th>
<th><em>P. pocoto</em> (Magalhães et al., 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note duration (ms)</td>
<td>265 ± 32 (205–323)</td>
<td>238 ± 31 (126–290)</td>
</tr>
<tr>
<td>Intermediate interval (ms)</td>
<td>251 ± 61 (196–447)</td>
<td>220 ± 59 (136–507)</td>
</tr>
<tr>
<td>Pulse duration (ms)</td>
<td>6 ± 1 (3–8)</td>
<td>5 ± 1 (3–8)</td>
</tr>
<tr>
<td>Interpulse interval (ms)</td>
<td>122 ± 34 (54–205)</td>
<td>111 ± 21 (43–166)</td>
</tr>
<tr>
<td>Pulse rate (pulses/second)</td>
<td>11 ± 2 (8–15)</td>
<td>13 ± 2 (10–18)</td>
</tr>
<tr>
<td>Dominant frequency (Hz)</td>
<td>5001 ± 90 (4823–5168)</td>
<td>5636 ± 300 (5168–6374)</td>
</tr>
</tbody>
</table>

**References**


Accepted by Fabio Hepp