

New record of *Corythomantis greeningi* Boulenger, 1896 (Amphibia, Hylidae) in the Cerrado domain, state of Tocantins, Central Brazil

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Corythomantis greeningi is a hylid frog distributed along xeric and subhumid regions of northeastern Brazil, usually associated with the Caatinga domain (Jared et al., 1999). However, recent studies have shown a larger distribution for the species in the Caatinga and Cerrado (Valdujo et al., 2011; Pombal et al., 2012; Godinho et al., 2013) (Table 1; Figure 1). This casque-headed frog is a medium-sized hylid, with a pronounced ossification in the head and high intraspecific variation in skin coloration (Andrade and Abe, 1997; Jared et al., 2005). Herein, we report a new record of *Corythomantis greeningi* in the Cerrado and provide its distribution map based on published data and the new record (Figure 1).

On 20 February 2013, during an anuran survey at the district of Taquaruçu, Palmas municipality, Tocantins state, central Brazil, we collected an individual of *Corythomantis greeningi* (Figure 2) that was perched on a palm tree leaf within a gallery forest, at 21:00 h, near the Roncadeira waterfall (Figure 3; 10°17'47"S, 48°07'42"W; 635m a.s.l.) The voucher specimen is housed at the Herpetological Collection of the Universidade Federal de Mato Grosso do Sul (ZUFMS 3448; collection permits ICMBio 26157-7).

In Tocantins state, *Corythomantis greeningi* was known only from the Estação Ecológica Serra Geral do Tocantins (EESGT) (Valdujo et al., 2011), in the Jalapão region, a marginal Cerrado area with influence of the

Caatinga. This new record extends the distribution of *Corythomantis greeningi* around 160 km western from the EESGT, which means approximately 400 km from the edge of the Caatinga domain (Figure 1). Although *Corythomantis greeningi* has already been registered in the Cerrado, this record shows a wider distribution into this formation, not only marginally as previously suggested (Valdujo et al., 2012). This is the most western record of *Corythomantis greeningi*.

Quaternary climatic oscillations have modeled the distribution of South American open vegetation formations (Caatinga, Cerrado and Chaco) (Werneck, 2011) and influenced the distribution of several taxonomic groups of animals within this gradient, such as birds (Silva, 1995, 1997), squamate reptiles (Werneck and Colli, 2006; Nogueira et al., 2011), mammals (Carmignotto et al., 2012) and amphibians (Valdujo et al., 2013), with current disjoint distributions and relict populations. Nuclear populations of *Corythomantis greeningi* in the Cerrado could be a relict distribution from past events. However, we emphasize the need for a better sampling effort in the northern portion of the Cerrado, which may fill this gap and reveal different geographic distribution patterns for other anuran species.

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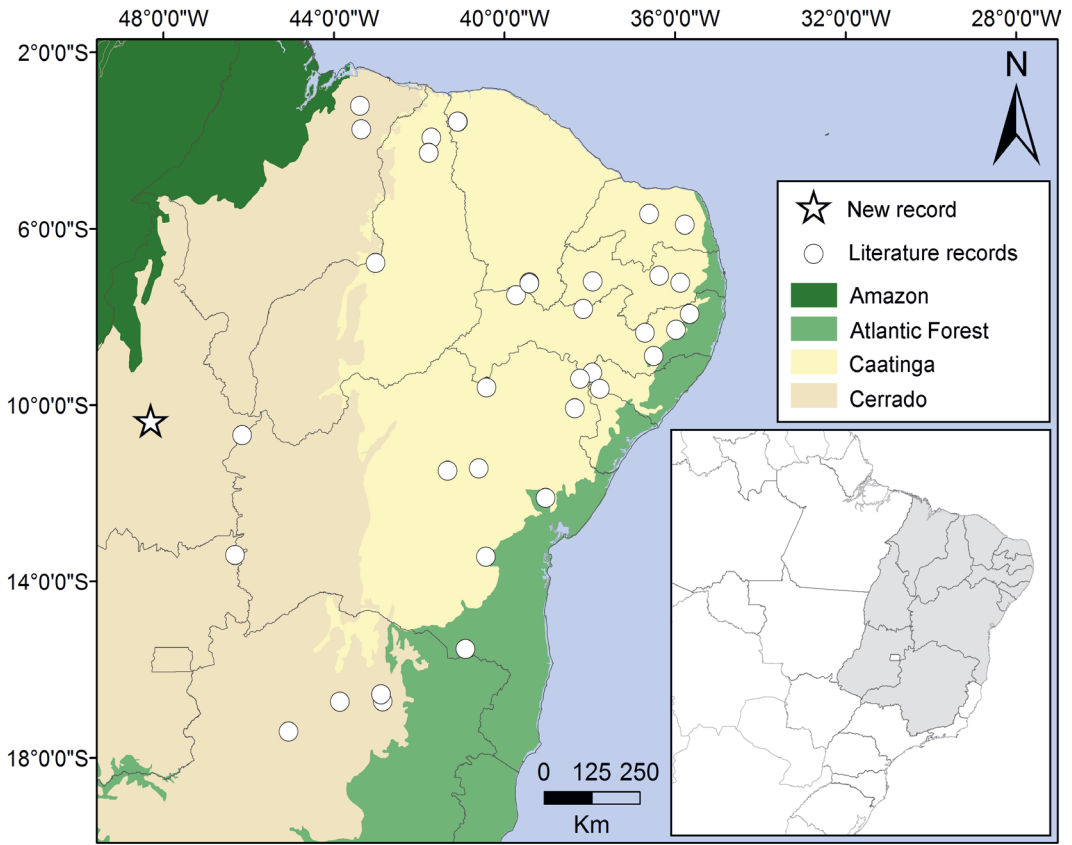


Figure 1. Distribution map of *Corythomantis greeningi* showing known localities based on the literature (open circles) and the new record in Palmas, Tocantins state, central Brazil (star).



Figure 2. An individual of *Corythomantis greeningi* (ZUFMS 3448, CRC 39.00 mm) from the Taquaruçu district, Palmas municipality, Tocantins state, central Brazil. Photo credit: Mauro Celso Hoffmann.



Figure 3. Area of the Roncadeira waterfall, Palmas, Tocantins state, where the individual of *Corythomantis greeningi* was collected. Photo credit: Mauro Celso Hoffmann.

Table 1. Localities with confirmed records of *Corythomantis greeningi* in Brazil.

| Locality | State | Latitude | Longitude | Reference |
|-------------------------------|---------------------|------------|------------|----------------------------|
| Água Branca | Alagoas | -9.261944 | -37.937778 | Pombal et al. (2012) |
| Piranhas | Alagoas | -9.623333 | -37.756667 | Kasahara et al. (2003) |
| Feira de Santana | Bahia | -12.100000 | -39.030000 | Juncá et al. (2008) |
| Jeremoabo | Bahia | -10.068333 | -38.346944 | Pombal et al. (2012) |
| Morro do Chapéu | Bahia | -11.483056 | -41.333056 | Juncá et al. (2008) |
| Paulo Afonso | Bahia | -9.398056 | -38.221389 | Pombal et al. (2012) |
| Encruzilhada | Bahia | -15.530000 | -40.912222 | Sazima and Cardoso (1980) |
| Maracás | Bahia | -13.435278 | -40.432222 | Pombal et al. (2012) |
| Carnaíba do Sertão | Bahia | -9.595833 | -40.419167 | Pombal et al. (2012) |
| Miguel Calmon | Bahia | -11.429722 | -40.603056 | Pombal et al. (2012) |
| Crato | Ceará | -7.215278 | -39.410278 | Pombal et al. (2012) |
| Viçosa do Ceará | Ceará | -3.561944 | -41.091944 | Godinho et al. (2013) |
| Viçosa do Ceará | Ceará | -3.566667 | -41.091389 | Pombal et al. (2012) |
| Crato | Ceará | -7.234167 | -39.409167 | Godinho et al. (2013) |
| São Domingos | Goiás | -13.399722 | -46.321667 | Pombal et al. (2012) |
| Chapadinha | Maranhão | -3.738611 | -43.360278 | Sazima and Cardoso (1980) |
| Urbano Santos | Maranhão | -3.206389 | -43.387778 | Pombal et al. (2012) |
| Buritizinho | Minas Gerais | -17.403611 | -45.060000 | Godinho et al. (2013) |
| Cristália | Minas Gerais | -16.715833 | -42.856944 | Feio and Caramaschi (1995) |
| Montes Claros | Minas Gerais | -16.728056 | -43.857778 | Godinho et al. (2013) |
| Grão Mogol | Minas Gerais | -16.559167 | -42.889444 | Godinho et al. (2013) |
| Campina Grande | Paraíba | -7.221944 | -35.873056 | Pombal et al. (2012) |
| Piancó | Paraíba | -7.192778 | -37.928611 | Pombal et al. (2012) |
| São João do Cariri | Paraíba | -7.366389 | -36.516389 | Vieira et al. (2007) |
| Soledade | Paraíba | -7.058056 | -36.366667 | Pombal et al. (2012) |
| Garanhuns | Pernambuco | -8.882222 | -36.496389 | Pombal et al. (2012) |
| Caruaru | Pernambuco | -8.284444 | -35.969722 | Pombal et al. (2012) |
| Exu | Pernambuco | -7.503611 | -39.723611 | Pombal et al. (2012) |
| Pesqueira | Pernambuco | -8.357778 | -36.697778 | Carvalho (1941) |
| Salgadinho | Pernambuco | -7.926667 | -35.650278 | Carvalho (1941) |
| Santa Cruz da Baixa Verde | Pernambuco | -7.813333 | -38.147500 | Silva et al. (2010) |
| Piracuruca | Piauí | -3.928056 | -41.709167 | Sazima and Cardoso (1980) |
| Piripiri | Piauí | -4.273889 | -41.776667 | Godinho et al. (2013) |
| Parque Nacional Sete Cidades | Piauí | -4.273056 | -41.776667 | Pombal et al. (2012) |
| Floriano | Piauí | -6.771667 | -43.023889 | Pombal et al. (2012) |
| Angicos | Rio Grande do Norte | -5.661667 | -36.605000 | Jared et al. (2005) |
| São Paulo do Potengi | Rio Grande do Norte | -5.899167 | -35.764167 | Pombal et al. (2012) |
| Estação Ecológica Serra Geral | Tocantins | -10.680000 | -46.150556 | Valdujo et al. (2011) |
| Taquaruçu district | Tocantins | -10.339223 | -48.302834 | Present work |

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