



# Amphibia, Anura, Hylidae, *Cruziohyla craspedopus* (Funkhouser, 1957): distribution extension and first record from the state of Pará, Brazil

**Youszef Oliveira da Cunha Bitar<sup>1\*</sup>, Kleiton Rodolfo Alves Silva<sup>2</sup>, Heriberto Figueira da Silva Filho<sup>1</sup> and Leandra Cardoso Pinheiro<sup>1</sup>**

<sup>1</sup> Programa de Pós-Graduação em Zoologia, Universidade Federal do Pará em convênio com o Museu Paraense Emílio Goeldi, Rua Augusto Correia, nº 1 Bairro Guamá, 66.075-110, Belém, PA, Brazil

<sup>2</sup> Instituto de Ciências Biológicas, Universidade Federal do Pará, Rua Augusto Correia, nº 1 Bairro Guamá, 66.075-110, Belém, PA, Brazil

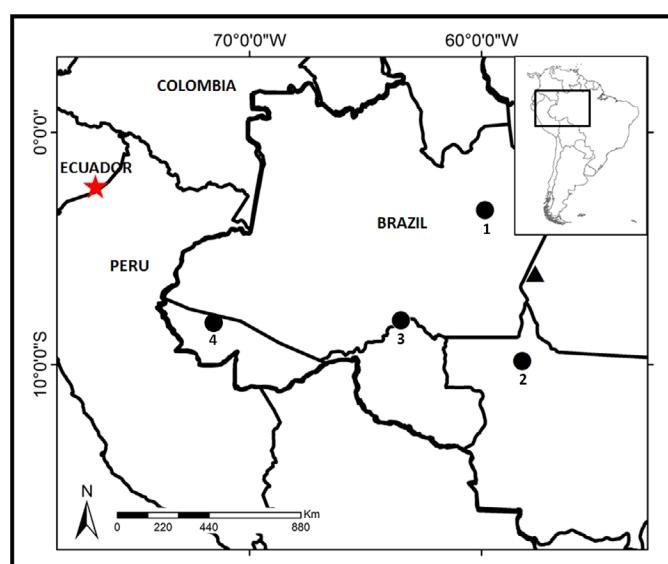
\* Corresponding author. E-mail: [youszef@yahoo.com.br](mailto:youszef@yahoo.com.br)

**Abstract:** Here we report the first record of *Cruziohyla craspedopus* from Pará, Brazil, showing the presence of this species also in eastern Amazon. The new record is based on a juvenile specimen collected in the left side margin of the Tapajós River, in a well-preserved upland forest area.

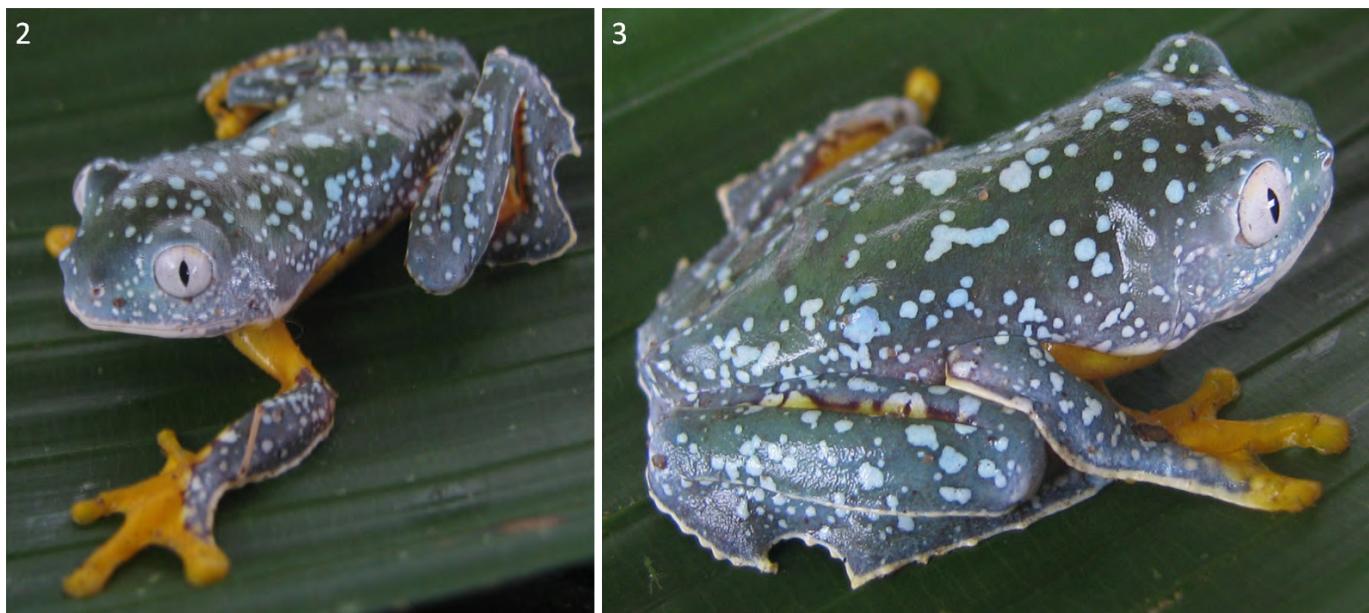
**Key words:** Amazonia, Amazon Leaf Frog, Fringed Leaf Frog, Jacareacanga, range extension

The Amazonian species *Cruziohyla craspedopus* is recorded from areas in Colombia, Ecuador, Peru and western Brazil (Hoogmoed and Cadle 1991; Lima et al. 2003; Faivovich et al. 2005; Meneghelli et al. 2011; Rodrigues et al. 2011; Frost 2014; Venancio et al. 2014). Within the Brazilian Amazon, specimens have been found in the states of Amazonas (Lima et al. 2003), Mato Grosso (Rodrigues et al. 2011), Acre (Venancio et al. 2014) and Rondônia (Meneghelli et al. 2011). The species was described by Funkhouser (1957) as *Agalychnis craspedopus*, based on two specimens from Chicherota, Rio Bobonaza, Napo-Pastaza Province, Ecuador ( $02^{\circ}22' S$ ,  $076^{\circ}38' W$ ; 450 m above sea level). Most of the species characteristics are based on the adult color pattern, although Hoogmoed and Cadle (1991) described the live juvenile coloration as similar to that of adults with only a few differences. Juveniles also hold the cryptic green dorsum with grayish spots resembling lichens. Morphological patterns usually include conspicuous dermal fringes on lips and outer edge of forearm, even more evident on the outer edge of tarsus (Funkhouser 1957; Hoogmoed and Cadle 1991; Rodriguez and Duellman 1994; Meneghelli et al. 2011; Rodrigues et al. 2011).

On 18 April 2013, we collected one juvenile specimen in Jacareacanga, on the left side margin of the Tapajós River ( $06^{\circ}05'18.7'' S$ ,  $057^{\circ}40'59.3'' W$ ) (Figure 1), in a well-preserved upland forest. The specimen was collected during a night of active survey on a palm leaf at 1.5 m from the ground, 5 km from the Tapajós River margin and far from any other permanent watercourse (at least 1 km). We deposited the specimen in the zoological collection of the Universidade Federal do Pará—Herpetofauna (#HUFPA 0300). The permit numbers for specimens collecting are: ICMBio (authorization #04/2012, process



**Figure 1.** Known distribution records of *Cruziohyla craspedopus* in Brazil. Black dots indicate the previous known localities in Brazil (1: Amazonas; 2: Mato Grosso; 3: Rondônia; 4: Acre); the triangle indicates the new locality herein reported (Municipality of Jacareacanga, left margin of Tapajós River, Pará state, Brazil); the red star shows the type locality (Chicherota, Rio Bobonaza, Ecuador).



**Figures 2–3.** *Cruziophyla craspedopus* from Jacareacanga, Pará state, Brazil, (2) showing coloration of a live juvenile specimen in frontal and (3) lateral view. Note green dorsal coloration with grayish spots (slightly lighter than in adults), lacking webbing on the fingers and dermal fringes. Photos by H.F.S. Filho.

#02070.000547/2012-59) and IBAMA (authorization #158/2012, process #02001.003642/2009-22).

We found one single juvenile specimen (Figures 2 and 3) showing green dorsum with grayish spots resembling lichens and conspicuous dermal fringes on lips and outer edge of forearm, as previously described for adults (Funkhouser 1957; Hoogmoed and Cadle 1991; Rodriguez and Duellman 1994; Meneghelli et al. 2011; Rodrigues et al. 2011).

This is the first record of the species from the state of Pará, expanding the geographical range of *Cruziophyla craspedopus* at least in 2,142 km southeast of the type locality in Ecuador. Also extends the distribution 387.8 km from Manaus, the nearest distribution ( $03^{\circ}21'16.8''$  S,  $059^{\circ}51'37.9''$  W; Lima et al. 2003); 1,533 km from Tarauacá, Acre ( $07^{\circ}58'41.3''$  S,  $071^{\circ}27'06.1''$  W; Venancio et al. 2014); 678.6 km from Rondônia ( $08^{\circ}06'23.4''$  S,  $063^{\circ}28'59.9''$  W; Meneghelli et al. 2011), and 424 km from Mato Grosso ( $09^{\circ}51'16.9''$  S,  $058^{\circ}14'57.7''$  W; Rodrigues et al. 2011), being the easternmost among the known localities in Brazil. The fragmented distribution records of *C. craspedopus*, and also the low density of specimens reported here and in previous studies (e.g., Hoogmoed and Cadle 1991; Rodriguez and Duellman 1994; Block et al. 2003; Meneghelli et al. 2011; Rodrigues et al. 2011), suggest that the real distributional range of the species is poorly known. More studies are needed to elucidate the conservation status of the species, currently classified as Least Concern by the 2010 IUCN Red List of Threatened Species (IUCN 2004).

## ACKNOWLEDGEMENTS

We are grateful to CNPq and FAPESPA for Ph.D. grants to Bitar, Y.O.C.; Pinheiro, L.C. and Filho, H.F.S.

Thanks to Thiago Barbosa and Bruno Prudente by support with the map confection.

## LITERATURE CITED

- Block, J.E., S.L. Unser, J.K. Mooney and E.R. Wild. 2003. *Agalychnis craspedopus* (Amazon Leaf Frog). Reproduction. Herpetological Review 34(2): 134–135.
- Faivovich, J., C.E.B. Haddad, P.C.A. Garcia, D.R. Frost, J.A. Campbell and W.C. Wheeler. 2005. Systematic review of the frog family Hylidae, with special reference to Hylinea: phylogenetic analysis and taxonomic revision. Bulletin American Museum of Natural History 294: 1–113. doi: [10.1206/0003-0090\(2005\)294\[0001:SRO TFF\]2.0.CO;2](https://doi.org/10.1206/0003-0090(2005)294[0001:SRO TFF]2.0.CO;2)
- Frost, D.R. 2014. Amphibian species of the world: an online reference. Version 6.0. New York: American Museum of Natural History. Accessed at <http://research.amnh.org/herpetology/amphibia/index.html>, 27 November 2014.
- Funkhouser, A. 1957. A review of the Neotropical tree-frogs of the genus *Phylomedusa*. Occasional Papers of the Natural History Museum of Stanford University 5: 1–90.
- Hoogmoed, M.S. and J.E. Cadle. 1991. Natural history and distribution of *Agalychnis craspedopus* (Funkhouser, 1957) (Amphibia: Anura: Hylidae). Zoologische Mededelingen 65(8): 129–142. <http://www.repository.naturalis.nl/document/149532>
- IUCN. 2004. IUCN Red List of Threatened Species. Version 2009.2. Accessed at <http://www.iucnredlist.org>, 11 February 2014.
- Lima, A.P., V.M.L. Guida and W. Hodl. 2003. *Agalychnis craspedopus*: Brazil: Amazonas. Herpetological Review 34(4): 379 2003.
- Meneghelli, D., M.R. Messias and P.R. Melo-Sampaio. 2011. Amphibia, Anura, Hylidae, *Cruziophyla craspedopus* (Funkhouser, 1957): distribution extension in southwestern Amazonia, state of Rondônia, Brazil. Check List 7(6): 811–812. <http://www.checklist.org.br/getpdf?NGDo18-11>
- Rodriguez, L.O. and W.E. Duellman. 1994. Guide to the frogs of the Iquitos region, Amazonian Peru. The University of Kansas Natural History Museum Special Publication 22: 1–80.
- Rodrigues, D.J., M.M. Lima, and R.A. Kawashita-Ribeiro. 2011. Amphibia, Anura, Hylidae, *Cruziophyla craspedopus* (Funkhouser, 1957): distribution extension, new state record and distribution map in Brazil. Check List 7(2): 149–150. <http://www.checklist.org.br/getpdf?NGDo18-11>

[org.br/getpdf?NGDo63-10](http://org.br/getpdf?NGDo63-10)

Venâncio, N.M., Moura, A.L.B., Brito, T.F., Melo, T.M. and M.B. Souza. 2014. First record of *Cruziophyla craspedopus* (Anura: Hylidae) for the state of Acre, with an updated distribution map. Herpetology Notes 7: 479–480. [http://www.herpetologynotes.seh-herpetology.org/Volume7\\_PDFs/Mendes\\_HerpetologyNotes\\_volume7\\_pp479-480.pdf](http://www.herpetologynotes.seh-herpetology.org/Volume7_PDFs/Mendes_HerpetologyNotes_volume7_pp479-480.pdf)

**Authors' contribution statement:** YOCB and LCP wrote the text, YOCB, LCP, KRAS and HFSF collected the field and museum data (other specimens deposited from different localities).

**Received:** December 2014

**Accepted:** January 2015

**Editorial responsibility:** Natan Medeiros Maciel