

*Hypsiboas maculateralis*  
CAMINER & RON, 2014,  
new to Brazil

Amphibian populations are in serious worldwide decline (BLAUSTEIN & WAKE 1990; PECHMANN & WILBUR 1994). In remote areas of all the Amazonian countries where even many of the known species still remain to be recorded, the absence of inventories adversely affects the knowledge of the species richness (CALDWELL 1996; AZEVEDO-RAMOS & GALLATI 2002) and thus the conservation status of regions and amphibian species.

The *Hypsiboas fasciatus* (GÜNTHER, 1858) – *Hypsiboas calcaratus* (TROSCHEL, 1848) species complex (FUNK et al. 2012) was formerly recognized to comprise two species widely distributed in the Amazonian region. Through an intensive taxonomic revision using the methods of “integrative taxonomy”, CAMINER & RON (2014) detected four more unknown species within this complex. One of these is *Hypsiboas maculateralis* CAMINER & RON, 2014, which inhabits primary and secondary forests and can be found in both floodplain and terra firme (unflooded) Amazonian lowland forests (CAMINER & RON 2014). Currently, *H. maculateralis* is only known from the Provinces of Napo, Orellana, Pastaza and Sucumbios in Ecuador and Madre de Dios in Peru (CAMINER & RON 2014; FROST 2016). Subsequent to the original description, no additional literature records have been published, and thus many aspects on this frog’s biology and geographical distribution remain unknown.

Herein the authors report the first record of this species in Brazil (Fig. 1). Nine adult specimens (three females and six males) of *H. maculateralis* were collected during nocturnal visual surveys, between 19:00 to 22:00 h. The individuals were hidden in dense vegetation near the margins of a stream in the forest. The specimens were found on the right (1°50’46.1”S, 069°01’46.3”W) and left banks (1°43’7.7”S, 69°7’42.1”) of the Japurá River, municipality of Japurá, State of Amazonas, Brazil (Fig. 2) at the end of the rainy season, between September 1–21, 2014.

Table 1: Morphological dimensions (mm) of six males (INPA-H 34680-34685) and three females (INPA-H 34679, 34686 and 34687) of *Hypsiboas maculateralis* CAMINER & RON, 2014, collected on the right bank of the upper Japurá River, State of Amazonas, Brazil. Values are means  $\pm$  standard deviation, and range in parentheses.

Parameter	Males (N = 6)	Females (N = 3)
Snout-vent length	38.8 $\pm$ 0.7 (37.6-39.5)	53.1 $\pm$ 2.7 (49.4-54.6)
Head width	11.2 $\pm$ 0.4 (10.8-8.7)	15.3 $\pm$ 0.6 (14.5-15.4)
Head length	13.9 $\pm$ 2.6 (12.4-19.3)	18.6 $\pm$ 0.9 (17.6-19.45)
Snout length	5.6 $\pm$ 2.6 (4.3-5.9)	8.14 $\pm$ 0.2 (7.9-8.2)
Interorbital distance	4.0 $\pm$ 0.3 (3.7-4.5)	5.19 $\pm$ 0.4 (4.7-5.6)
Eyelid width	3.5 $\pm$ 0.2 (3.0-4.1)	4.19 $\pm$ 0.2 (4.0-4.3)
Eye diameter	4.1 $\pm$ 0.4 (3.2-4.7)	4.53 $\pm$ 0.1 (4.5-4.7)
Internasal distance	2.6 $\pm$ 0.1 (2.3-2.7)	3.1 $\pm$ 0.2 (3.0-3.5)
Upper arm length	9.8 $\pm$ 0.9 (8.4-10.9)	13.9 $\pm$ 0.6 (13.1-14.3)
Hand length	10.6 $\pm$ 0.5 (9.6-10.1)	13.8 $\pm$ 0.7 (13.4-14.9)
Thigh length	22.0 $\pm$ 1.0 (20.8-23.1)	32.4 $\pm$ 0.3 (31.9-32.5)
Tibial length	21.3 $\pm$ 3.4 (14.6-22.9)	29.2 $\pm$ 5.6 (20.2-30.5)
Tarsal length	15.0 $\pm$ 3.7 (13.8-23.2)	20.6 $\pm$ 0.4 (20.5-21.3)
Length of metatarsus plus toes	13.4 $\pm$ 0.3 (12.8-13.6)	18.2 $\pm$ 1.0 (17.8-19.7)

Measurements (Table 1) were taken with a digital caliper following DUELLMAN (1973). Vouchers were deposited in the Coleção de Anfíbios e Répteis of the Instituto Nacional de Pesquisas da Amazônia (males: INPA-H 34680-34685; females: INPA-H 34679, 34686 and 34687).

The collected specimens had the following characteristics: mean snout-vent-length (SVL) 38.8 mm in adult males and 53.1 mm in adult females (36.0 and 45.1 mm, respectively in CAMINER & RON 2014); dorsum pale yellowish, ventral coloration creamy, flanks white, hidden surfaces of thighs blue with dark blotches, and the iris yellowish or cream with faint yellow to orange on its upper quarter. These morphological characters matched those reported by CAMINER & RON (2014) in the original description; additionally, one of the authors who had described the species (Santiago RON, pers. comm.) confirmed that these specimens are morphologically identical to *Hypsiboas maculateralis*. This new record extends the known range of *H. maculateralis* approximately 900 km east from the Ecuadorian type locality into Brazil.

In the Brazilian territory, 1,026 amphibian species were registered (SEGALLA et al. 2016), however, it is known that its amphibian diversity is highly underestimated (FOUQUET et al. 2007) and conservation measures are ineffective without reliable baseline data

on species identity and distribution. In that this new record increases the number of amphibian species known from the State of Amazonas and Brazil, it adds to the knowledge of amphibian distribution and diversity.

**ACKNOWLEDGMENTS:** The authors thank Izeni Pires Farias and Tomas Hrbek, coordinators of the BIOPHAM (Biodiversidade de Peixes, Herpetofauna, Aves e Mamíferos da Amazônia) Project, Programa SISBIOTA (Sistema de Informação da Biodiversidade da Amazônia) - Brasil; Ministério da Ciência, Tecnologia e Inovação/Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq (# 563348/2010) and Fundação de Amparo à Pesquisa do Estado do Amazonas - FAPEAM (Edital FAPEAM/SISBIOTA) for financial support; Santiago Ron (Pontificia Universidad Católica de Ecuador-PUCE) for providing help with taxonomic identification; Instituto Chico Mendes de Conservação da Biodiversidade for collection permits (# 11323); and CNPq for a Research Productivity grant to M. Menin and R. W. Ávila.

**REFERENCES:** AZEVEDO-RAMOS, C. & GALLATI, U. (2002): Patterns of amphibian diversity in Brazilian Amazonia: conservation implications.- *Biological Conservation*, Barking; 103: 103-111. BLAUSTEIN, A. R. & WAKE, D. B. (1990): Declining amphibian populations: a global phenomenon? - *Trends in Ecology and Evolution*, Amsterdam; 5: 203-204. CALDWELL, J. (1996): Diversity of Amazonian anurans: The role of systematics and phylogeny in identifying macroecological and evolutionary patterns; pp. 73-88. In: GIBSON, A. C. (Ed.): *Neotropical biodiversity and conservation*. Los Angeles (Occasional Publications of Mildred E. Mathias Botanical Garden, University of California; Volume 1). CAMINER, M. & RON, S. R. (2014): Systematics of treefrogs of the *Hypsiboas calcaratus* and *Hypsiboas fasciatus* species complex (Anura, Hylidae) with the description of four new species.- *ZooKeys*, Sofia, Washington; 68 (370): 1-68.

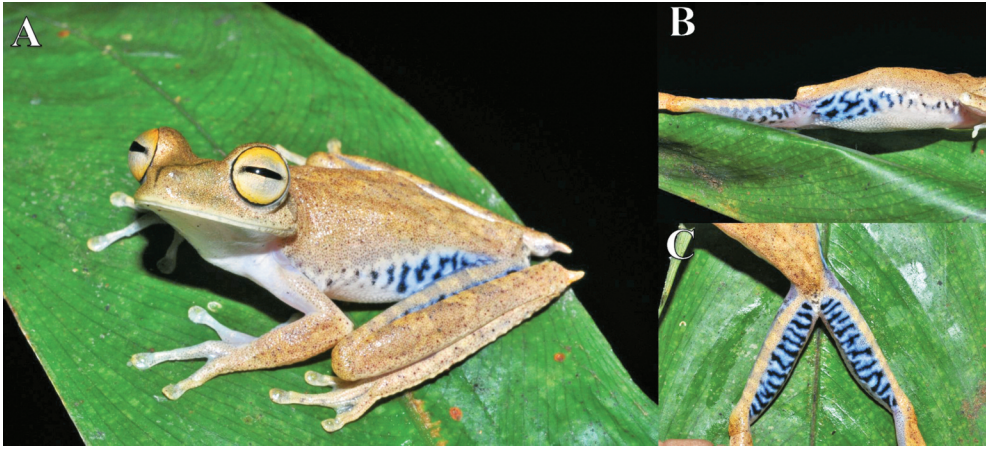


Fig. 1: *Hypsiboas maculateralis* CAMINER & RON, 2014, from the right bank of the Japurá River, State of Amazonas, Brazil. A - dorsolateral view; B - hidden surface of thighs; C - thighs (note the blue coloration with dark blotches). Photos by Vinicius Carvalho and Marcelo Gordo.

DUELLMAN, W. E. (1973): Frogs of the *Hyla geographica* group.- Copeia, Washington; 1973: 515-533. FOUQUET, A. & GILLES, A. & VENCES, M. & MARTY, C. & BLANC, M. & GEMMELL, N. J. (2007): Underestimation of species richness in Neotropical frogs revealed by mtDNA analyses.- PLoS one (Public Library of Sci-

ence, electronic resource), Lawrence; 2: e1109. [doi: 10.1371/journal.pone.0001109]. FROST, D. R. (2016): Amphibian species of the world: an online reference. Version 6.0. WWW document available at < <http://research.amnh.org/herpetology/amphibia/index.html> > [last accessed: 29 March, 2016]. FUNK, W. C. & CAMI-

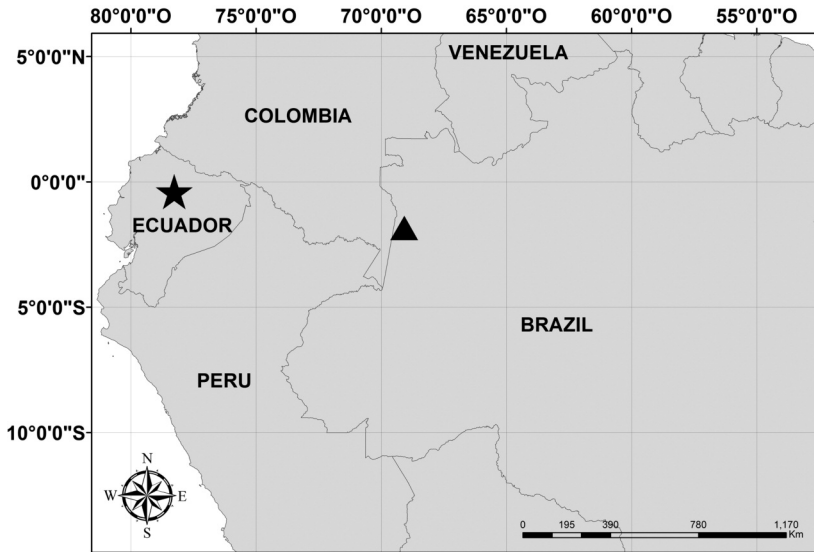


Fig. 2: Known distribution of *Hypsiboas maculateralis* CAMINER & RON, 2014. Star - Type locality at Comunidad Santa Rosa, Napo Province, Ecuador; Triangle - New record at the upper Japurá River, State of Amazonas, Brazil.

NER, M. & RON, S. R. (2012): High levels of cryptic species diversity uncovered in Amazonian frogs.- Proceedings of the Royal Society, London; (B) 279: 1806-1814. PECHMANN, J. H. & WILBUR, H. M. (1994): Putting declining amphibian populations into perspective: natural fluctuations and human impacts.- Herpetologica, Lawrence; 50: 65-84. SEGALLA, M. V. & CARA-MASCHI, U. & CRUZ, C. A. G. & GRANT, T. & HADDAD, C. F. B. & LANGONE, J. A. & GARCIA, P. C. A. (2016): Brazilian amphibians: List of species.- Herpetologia Brasileira, São Paulo; 3 (2): 37-48.

KEY WORDS: Amphibia: Anura: Hylidae: *Hypsiboas maculateralis*; morphology, new country record, Japurá River, State of Amazonas, Brazil, Neotropics

SUBMITTED: July 5, 2016

AUTHORS: Rommel R. ROJAS (Corresponding author < rojaszamora@gmail.com >)<sup>1, 2)</sup> & Vinícius T. DE CARVALHO<sup>2, 3)</sup> & Robson W. ÁVILA<sup>4)</sup> & Alexandre PINHEIRO DE ALMEIDA<sup>2, 5)</sup> & Elciomar Araujo DE OLIVEIRA<sup>1)</sup> & Marcelo MENIN<sup>5, 6)</sup> & Marcelo GORDO<sup>5, 6)</sup>

<sup>1)</sup> Programa de Pós-graduação em Genética, Conservação e Biologia Evolutiva, Instituto Nacional de Pesquisas da Amazônia, Av. André Araújo 2936, CEP 69067-375, Manaus, Brazil;

<sup>2)</sup> Laboratório de Evolução e Genética Animal, Departamento de Genética, Instituto de Ciências Biológicas, Universidade Federal do Amazonas, Av. General Rodrigo Octávio Jordão Ramos 6200, CEP 69077-000, Manaus, AM, Brazil;

<sup>3)</sup> Programa de Pós-Graduação em Biodiversidade e Biotecnologia, Instituto de Ciências Biológicas, Universidade Federal do Amazonas, Av. General Rodrigo Otávio Jordão Ramos, 6200, CEP 69077-000, Manaus, AM, Brazil;

<sup>4)</sup> Departamento de Ciências Biológicas, Centro de Ciências Biológicas e da Saúde, Universidade Regional do Cariri, Campus do Pimenta, Rua Cel. Antônio Luiz 1161, Bairro do Pimenta, CEP 63105-100, Crato, CE, Brazil;

<sup>5)</sup> Programa de Pós-Graduação em Zoologia, Instituto de Ciências Biológicas, Universidade Federal do Amazonas, Av. General Rodrigo Octávio Jordão Ramos, 6200, CEP 69077-000, Manaus, AM, Brazil;

<sup>6)</sup> Departamento de Biologia, Instituto de Ciências Biológicas, Universidade Federal do Amazonas, Av. General Rodrigo Octávio Jordão Ramos, 6200, CEP 69077-000, Manaus, AM, Brazil.

# ZOBODAT - [www.zobodat.at](http://www.zobodat.at)

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Herpetozoa](#)

Jahr/Year: 2017

Band/Volume: [30\\_1\\_2](#)

Autor(en)/Author(s): Rojas Rommel R., Carvalho Vinicius T. de, Avila Robson W., Almeida Alexandre Pinheiro de, Oliveira Elicomar Araujo de, Menin Macelo, Gordo Marcelo

Artikel/Article: [Hypsiboas maculaterialis CAMINER & RON, 2014, new to Brazil 108-111](#)