

# First record of *Adelastes hylonomos* Zweifel, 1986 (Amphibia, Anura, Microhylidae) outside the type locality, with notes on the advertisement call

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**ABSTRACT:** *Adelastes hylonomos* is known only for the type locality in Venezuela. We report the first record of this species in Brazil, from the state of Amazonas. This record extends its distribution range in more than 200 km. Additionally, we provide information on the advertisement call from the Brazilian population.

DOI: 10.15560/10.5.1226

*Adelastes* is a monotypic genus with *Adelastes hylonomos* Zweifel, 1986 being its sole representative. The species is known only from the type locality, in the foothills of Cerro Neblina, near the Rio Baria (00°49'50"N, 66°09'40" W), in Venezuela, at 140 m a.s.l. (Zweifel 1986; Frost 2014). Ever since the original description, no other reports of the species are available in the literature. Many aspects on its biology, including tadpole morphology, natural history and reproductive strategies are still unknown. *Adelastes* is supposed to be most closely related to Neotropical microhylids genera *Arcovomer*, *Chiasmocleis*, *Hamptophryne*, and *Syncope* (Zweifel, 1986). However, recent studies with phylogeny of microhylid frogs do not include *Adelastes hylonomos* in their analysis, and the species was not assigned to any subfamily pending resolution of its phylogeny (Van der Meijden *et al.* 2007; de

Sá *et al.* 2012). Pyron and Wiens (2011) assigned *Adelastes* to Gastrophryninae, despite not sampling this species.

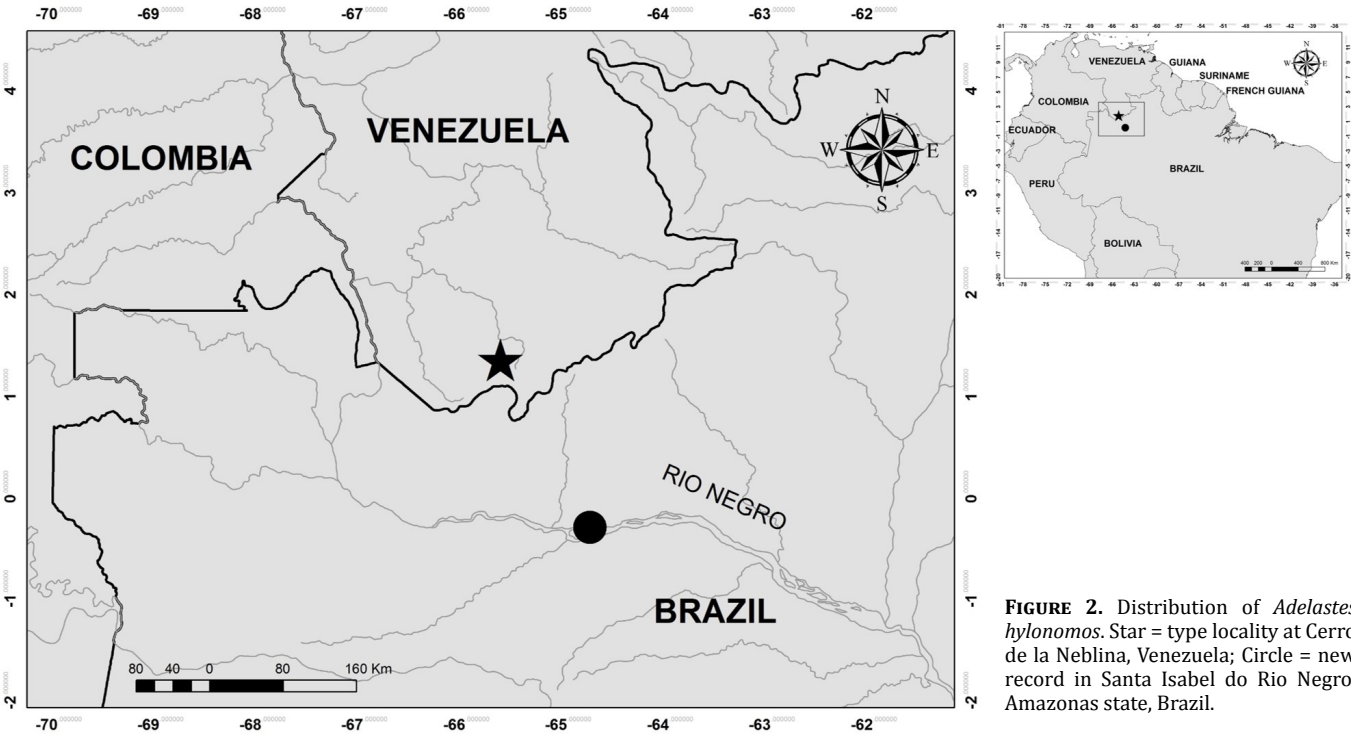
Here, we report the first record of *Adelastes hylonomos* outside the type locality from a population found in Brazil. We collected two males of *A. hylonomos* (Figure 1), during nocturnal visual survey in “terra firme forest” (a non-flooded tropical forest). Both specimens were collected in the same place, but in different days: one on 29 March 2012 (INPA-H 32510; snout–vent length 22.29 mm) and other on 24 February 2013 (CZPB-UFAM 658; snout–vent length 20.67 mm). Specimens were found near to margins of a pond, in the interior of the forest, calling hidden in the leaf litter, in the proximity of Rio Darahá (Darahá River), a tributary of the Rio Negro (Negro River) municipality of Santa Isabel do Rio Negro, state of Amazonas, northern Brazil (0°23'57.58" S, 064°47'12.98" W; Figure 2). This new record extends its distribution range approximately 204 km to southeast from the type locality.

Advertisement calls were recorded from one male with a Marantz PMD 670 recorder and a Sennheiser ME66 external microphone. We used Raven Pro software, version 1.4 (The Cornell Lab of Ornithology, available from <http://www.birds.cornell.edu/raven>) for bioacoustics analysis.

The following values of the vocalization are presented as minimum-maximum (average  $\pm$  Standard Deviation). The advertisement call is composed by 15–21 notes (18.5 notes  $\pm$  1.6,  $n = 4$  calls) (Figure 3A–C), with call length varying from 2.8 to 3.4 s (2.9 s  $\pm$  0.27). The note is short trilled, between 0.02–0.03 s (0.03 s  $\pm$  0.001) and is repeated at irregular intervals of 6.1–6.9 notes per second (6.39 s  $\pm$  0.21). Dominant frequency is 2250–2737.5 Hz (2383.29  $\pm$  166.77 Hz) at temperatures between 25.5–26°C. The acoustics parameters found in this study are similar to described by Zweifel (1986).



**FIGURE 1.** *Adelastes hylonomos* (INPA-H 32510, male) from Santa Isabel do Rio Negro, Amazonas state, Brazil. (Photo: M. Gordo).



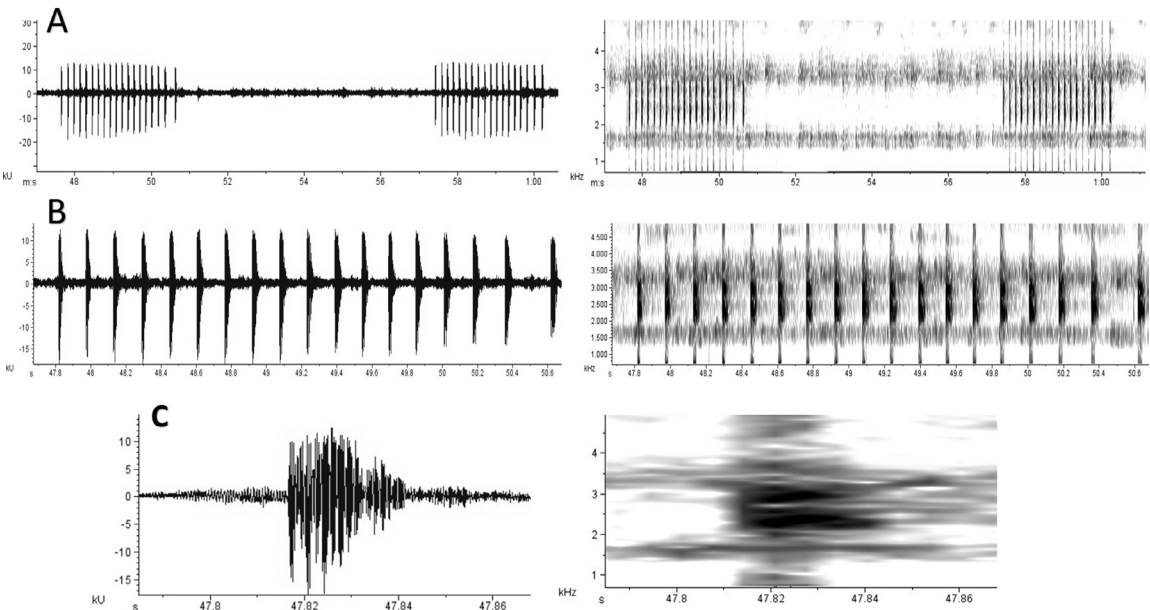
**FIGURE 2.** Distribution of *Adelastes hylonomos*. Star = type locality at Cerro de la Neblina, Venezuela; Circle = new record in Santa Isabel do Rio Negro, Amazonas state, Brazil.

The individuals found presented the following characteristics: dorsum uniform dark brown, venter paler, normal complement of four fingers and five toes, all well developed and without webbing or fringes, moderately small, adult males 20.67–22.29 mm SVL (24–29 mm in Zweifel 1986; Table 1). Specimens were deposited in the Coleção de Anfíbios e Répteis of the Instituto Nacional de Pesquisas da Amazônia (INPA-H), and Coleção Zoológica Paulo Bührnheim of the Universidade Federal do Amazonas (CZPB-UFAM), both in Amazonas state, Brazil.

**ACKNOWLEDGEMENTS:** We thank Izeni Pires Farias and Tomas Hrbek, coordinators of the BIOPHAM Project of the Programa SISBIOTA-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

**TABLE 1.** Measurements, in millimeters, of two the males of *Adelastes hylonomos* collected in Santa Isabel do Rio Negro, Amazonas state, Brazil (INPA-H 32510 and CZPB-UFAM 658) and comparison with the holotype (also male). Measurements of the holotype and landmarks used follow Zweifel (1986).

MEASUREMENTS (mm)	INPA-H 32510	CZPB-UFAM 658	HOLOTYPE
Snout-vent length	22.29	20.67	28.9
Head width	6.88	7.44	8.8
Head length	6.83	6.66	8.1
Tibia length	8.64	8.09	10.0
Eye diameter	1.90	1.68	2.15
Eye-nostril distance	2.07	1.91	2.3
Internarial distance	1.80	1.90	2.25
Hand length	4.84	4.50	5.7
Foot length	9.73	9.47	11.0



**FIGURE 3.** Advertisement call of *Adelastes hylonomos* (INPA-H 32510). A: Oscillogram and spectrogram of two calls. B: Oscillogram and spectrogram of one call. C: Oscillogram and spectrogram of one note.

(Edital FAPEAM/SISBIOTA) for financial support; Ocírio Pereira, Sebastião Sales, and Júlio do Vale for field work assistance; Instituto Chico Mendes de Conservação da Biodiversidade for collection permits (# 11323); to FAPEAM for a scholarship to VTC and CNPq (384218/2013-0 DTI-C) for a scholarship to APA and a Research Productivity grant to MM.

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RECEIVED: May 2014

ACCEPTED: August 2014

PUBLISHED ONLINE: October 2014

EDITORIAL RESPONSIBILITY: Natan Maciel