



SHORT COMMUNICATION

New records, range extension and call description for the stream-breeding frog *Hyloscirtus lascinius* (Rivero, 1970) in Venezuela

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Abstract.—The stream-breeding frog *Hyloscirtus lascinius* is known from a few localities on the Eastern versant of the Cordillera Oriental of Colombia and Tamá massif in Colombia and Venezuela. It has also been reported from Cordillera de Mérida in Venezuela but without precise localities or voucher specimens. Herein we report *H. lascinius* from the Sierra de Perijá in Venezuela, and provide four locality records in Cordillera de Mérida. The record of Perijá extends the known species' distribution ca. 213 km NW from the northernmost locality previously recorded. We also describe the advertisement call of this species for the first time, and provide some notes on its natural history.

Keywords. Amphibia, Anura, Biogeography, Bioacoustics, Sierra de Perijá, Andes

Citation: Rojas-Runjaic FJM, Infante-Rivero EE, and Barrio-Amorós CL 2016. New records, range extension and call description for the stream-breeding frog *Hyloscirtus lascinius* (Rivero, 1970) in Venezuela. *Amphibian & Reptile Conservation* 10(1) [Special Section]: 34–39 (e130).

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Received: 27 April 2016; **Accepted:** 07 November 2016; **Published:** 19 December 2016

The hylid genus *Hyloscirtus* Peters, 1882 was resurrected by Faivovich et al. (2005) to accommodate all the stream-breeding frogs previously included in the *Hyla armata*, *H. bogotensis*, and *H. larinyopygion* species groups. This genus was supported by 56 molecular synapomorphies and by having wide dermal fringes on fingers and toes (the only putative morphological synapomorphy). Recently, Duellman et al. (2016) described *Colomascirtus* for the clade formed by the *H. armatus* and *H. larinyopygion* species groups, restricting *Hyloscirtus* to the *H. bogotensis* species group.

Hyloscirtus as currently defined (Duellman et al. 2016), contains 17 species (Guayasamin et al. 2015) and is distributed from Costa Rica and Panama in Central America, through the Andes of Colombia, Venezuela, Ecuador, Peru, and Bolivia in South America (Frost 2016). In Venezuela, only three species of *Hyloscirtus* are currently known: *H. jahni* (Rivero, 1961), *H. lascinius* (Rivero, 1970), and *H. platydactylus* (Boulenger, 1905).

Hyloscirtus lascinius was originally described by Rivero (1970) as a member of *Hyla* Laurenti, 1768 (as *Hyla lascinia*). Its relationships with other stream-breeding frogs were earlier presumed by Rivero (1970), Goin (*in* Rivero 1970) and Duellman (1972), but only after two decades was this recognized as part of the *Hyla bogotensis* group (Ruiz-Carranza and Ardila-Robayo 1991; Duellman et al. 1997). Faivovich *et al.* (2005) transferred it to *Hyloscirtus* based only on morphological evidence. However, molecular corroboration of his taxonomic position was presented more recently by Wiens et al. (2010), Pyron and Wiens (2011), Faivovich et al. (2013), Almendariz et al. (2014), Guayasamin et al. (2015), and Duellman et al. (2016).

Hyloscirtus lascinius is distributed on the eastern versant of the Andean Cordillera Oriental and Tamá massif in Colombia at Norte de Santander department, between 1,730–1,960 m asl (Ruiz-Carranza et al. 1996; Bernal and Lynch 2008; Sánchez 2010), and in the Venezuelan

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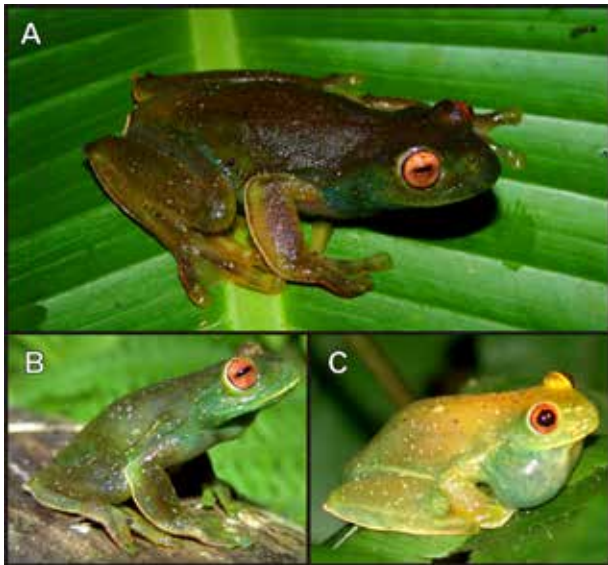


Fig. 1. *Hyloscirtus lascinius* from Venezuela. (A) Campamento Guacharaca, Sierra de Perijá, Zulia state; (B) Near La Macana, Mérida state; (C) Quebrada La Rana, Mérida state. Photos: F.J.M. Rojas-Runjaic (A) and C.L. Barrio-Amorós (B and C).

portion of Tamá, Táchira state, between 1,250–1,700 m asl (Rivero 1970; Mijares-Urrutia 1992). La Marca et al. (2004) and Barrio-Amorós (2004) mentioned its presence on the western versant of Cordillera de Mérida, in Mérida state, but without referring any precise locality or voucher specimens.

Herein, we report the first records of *Hyloscirtus lascinius* for Zulia state, northwestern Venezuela, and formally documented its presence in several localities of Mérida state, based on museum specimens deposited at Museo de Historia Natural La Salle, Caracas, Venezuela (MHNLS), and uncollected specimens photographed by CLBA. Also we describe for the first time the call of this species. Call description is based on a 73 s digital recording of the advertisement call of a single male at Quebrada La Rana, in Santa Cruz de Mora, Mérida state, Venezuela, on 13 August 2006. Air temperature was 17 °C. Calls were analyzed using Raven Pro 1.3 (Bioacoustics Research Program 2008).

Specimens from Zulia state (Fig. 1A) were found during a survey of the inventory of amphibian and reptiles of the Venezuelan side of Sierra de Perijá, conducted by Museo de Historia Natural La Salle (MHNLS). They are five adult males (MHNLS 19163–19165, 19237–19238; SVL: 41.6–44.0 mm) collected at Campamento Guacharaca, Caño Tétari Kopejoacha, Río Negro upper basin, Machiques de Perijá municipality, Sierra de Perijá (10°04'22"N, 72°51'16"W, 1,661 m; Fig. 2) on 21–27 May 2009. The creek where the specimens were collected (Fig. 3A) was surrounded by a primary ombrofilous submontane/montane evergreen forest (Huber and Alarcón 1988), with abundant ferns, Heliconiaceae, Araceae, and Cyclanthaceae plants. All specimens were found between 20:00–22:00 h, calling from branches of

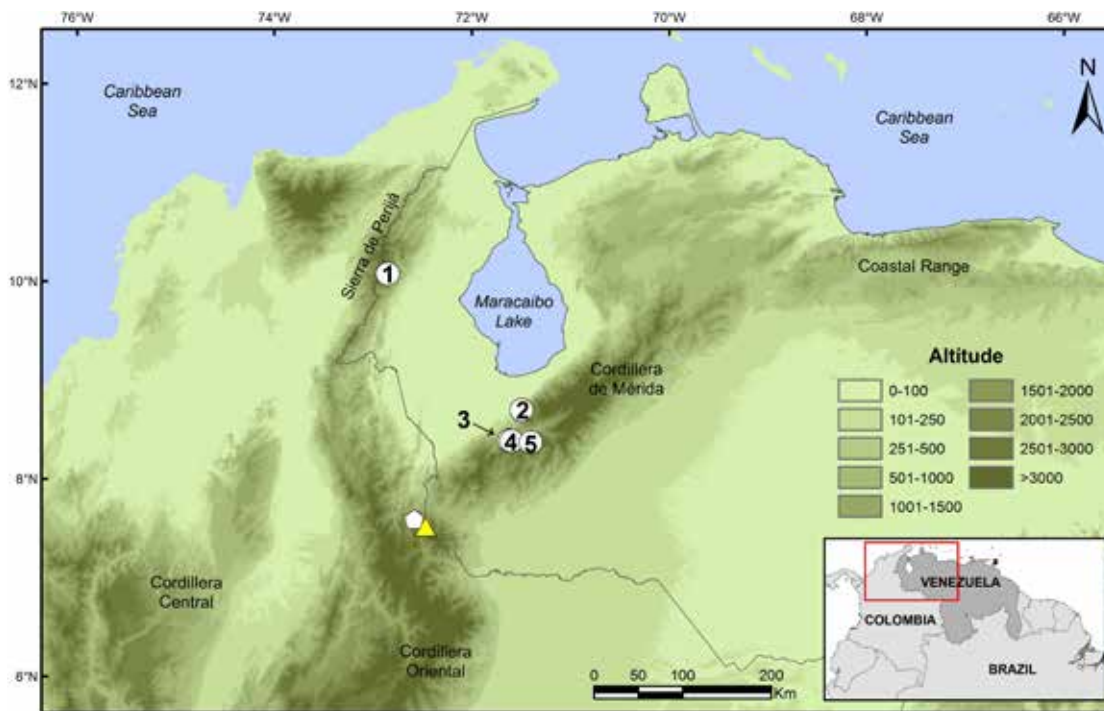


Fig. 2. Distribution of *Hyloscirtus lascinius* in Venezuela and Colombia. 1: Campamento Guacharaca, Sierra de Perijá, Zulia state, Venezuela. 2: San Luis, Mérida state, Venezuela. 3: Road Santa Cruz de Mora-La Macana, Mérida state, Venezuela. 4: Quebrada Ovalles, Mérida state, Venezuela. 5: Quebrada De La Rana, Mérida state, Venezuela. **Yellow triangle:** Tabor, Tamá massif, Táchira state, Venezuela (type locality); **White pentagon:** Chinácota, Norte de Santander department, Colombia (Sánchez 2010); The record of headwaters of Río Táchira, Norte de Santander, Colombia (Ruiz-Carranza et al. 1996) and additional localities between Delicias and Tabor (Rivero 1970) are included in the yellow triangle that indicates the type locality.



Fig. 3. Habitat of *Hyloscirtus lascinius* at Campamento Guacharaca, Sierra de Perijá, Zulia state (A). Males calling from a branch; (B) and from a rocky wall; (C) at the edge of the creek in Campamento Guacharaca. Photos: F.J.M. Rojas-Runjaic.

bushes (Fig. 3B) or rocky walls (Fig. 3C) on the sides of the creek and between 50–300 cm above ground.

When captured the frogs released a strong citrus smell. At this locality *Hyloscirtus lascinius* was sympatric with *Hyloscirtus* sp., *Cryptobatrachus remotus* Infante-Rivero, Rojas-Runjaic and Barrio-Amorós, 2009, *Centrolene daidaleum* (Ruiz-Carranza and Lynch, 1991), *Centrolene notostictum* Ruiz-Carranza and Lynch, 1991, *Hyalinobatrachium pallidum* (Rivero, 1985),

Pristimantis rivasi Barrio-Amorós, Rojas-Runjaic, and Barros, 2010, and *Pristimantis* sp.

This new record of *Hyloscirtus lascinius* for the Venezuelan Sierra de Perijá in Zulia state (Fig. 2) extend the species' distribution by ca. 276 km north (straight-line) from Chinacota, Norte de Santander, Colombia, the northeasternmost locality previously documented (Sánchez 2010), and ca. 213 km NW (straight-line) from San Luis, Mérida state, Venezuela, the northernmost locality known in the Cordillera de Mérida (locality record also in this work).

Four more localities are reported herein (Fig. 2), all from Cordillera de Mérida, to confirm previous statements (Barrio-Amorós 2004; La Marca et al., 2004). These are: 1) San Luis, La Azulita Andrés Bello municipality, Mérida state (08°41'27"N, 71°29'44"W; ca. 1,614 m; CLBA personal observation); 2) creek on the road Santa Cruz de Mora-La Macana, Pinto Salinas municipality, Mérida state (08°23'13"N, 71°37'35"W, 1,130 m; photographic record; Fig. 1B); 3) Quebrada Ovalles, above La Macana, Pinto Salinas municipality, Mérida state (08°22'56"N, 71°35'51"W, 1,478 m; MHNLS 17913); and 4) Quebrada de la Rana, Pinto Salinas municipality, Mérida state (08°22'N, 71°24'W, ca. 1,200 m; photographic record; Fig. 1C). In San Luis, *Hyloscirtus lascinius* is sympatric with *Scinax manriquei* Barrio-Amorós, Orellana and Chacón-Ortiz, 2004, *Dendropsophus* aff. *minutus* (Peters, 1872) and *Espadarana andina* (Rivero, 1968). At the creek between Santa Cruz de Mora and La Macana with *Flectonotus pygmaeus* (Boettger, 1893), and *Tachiramantis lentiginosus* (Rivero, 1984); and at Quebrada de la Rana with *Hyalinobatrachium pallidum*, and *Pristimantis* cf. *vanadise* (La Marca, 1984).

Based on all localities previously documented (Rivero 1970; Mijares-Urrutia 1992; Ruiz-Carranza et al. 1996; Bernal and Lynch 2008; Sánchez 2010) and the referred in this note, the species' altitudinal range is extended to

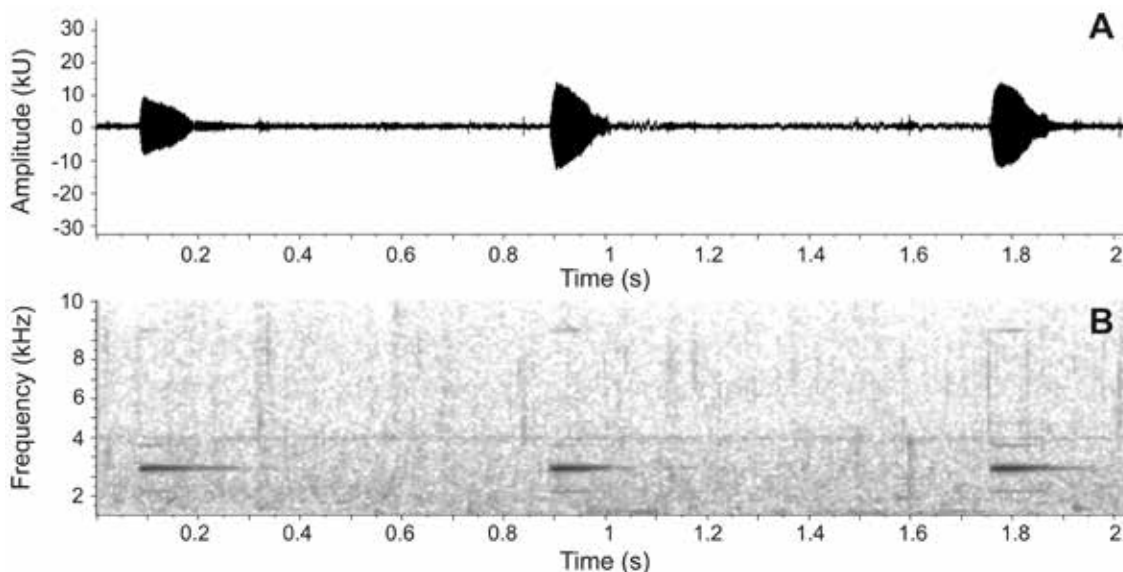


Fig. 4. Oscillogram (A) and spectrogram (B) of the advertisement call of *Hyloscirtus lascinius*.

ca. 1,130–1,960 m.

The advertisement call of *Hyloscirtus lascinius* is a single tonal note, emitted as single and sporadically (6 of 22 notes), or in groups of two (one group; 2 of 22 notes), three (two groups; 6 of 22 notes) or four notes (two groups; 8 of 22 notes) (Fig. 4). These notes (calls) sound as metallic whistles. Note duration is 91–164 ms (123 ± 16.2 ; $n = 19$), with a note interval (only among notes emitted in groups) of 700–1,075 ms (888.1 ± 121.9 ; $n = 10$). Fundamental frequency is at 1.077–1.227 kHz (1.160 ± 0.040 ; $n = 17$) and the dominant frequency (=peak frequency) is at 2.132–2.369 kHz (2.330 ± 0.074 ; $n = 19$), with modulation frequency throughout the calls.

The Sierra de Perijá, and extension of the Andean Cordillera Oriental and natural border between northeastern Colombia and northwestern Venezuela, remains poorly explored and its anuran fauna is still not well known. However, the finding of *Hyloscirtus lascinius* in this mountain system, as well other amphibian discoveries documented in the last decade (Infante-Rivero et al. 2006a, b, 2009; Castroviejo-Fisher et al. 2007; Barrio-Amorós et al. 2008, 2010; Rojas-Runjaic et al. 2010, 2011, 2012) show that this region harbors a diverse amphibian fauna closely related to the amphibian faunas of the Andean Cordillera Oriental and Cordillera de Mérida. We predict that new expeditions to Perijá will result in the discovery of numerous additional species. These future findings will improve the knowledge of the amphibian diversity of the Sierra de Perijá, and its biogeographical affinities with neighboring bioregions.

Hyloscirtus lascinius was classified as Least Concern (LC) in the IUCN Red List of Threatened Species because, although its extent of occurrence was estimated less than 5,000 km², it is considered an adaptable species, and does not appear to be in decline (La Marca et al. 2004). At the western versant of the Cordillera de Mérida, the localities where we documented this species are currently being modified for agricultural purposes, and the habitat is declining in extent and quality, by which these populations may be being affected. However, the new locality in the Venezuelan Sierra de Perijá is within Parque Nacional Sierra de Perijá and significantly increase its species' distribution, indicating that it has an extent of occurrence much wider than previously known and that, at least the populations of Perijá are apparently protected. Thus, we consider that the conservation status of LC is adequate for *H. lascinius*.

Acknowledgements.—We thank Julio César Madrid, Johnny Romero, Andrés Orellana, Carlos Gottberg, and Erik Arrieta (†) for field assistance. To Amelia Diaz de Pascual and Moisés Escalona for the data provided on the CVULA specimens. To Ygrein Roos for the assistance in the verification of the identity of some specimens of MHNLS. Also to Juan Manuel Guayasamin and J. Celsa Señaris for their comments on an early version of the

manuscript. FRR acknowledge the funding provided by Banco Federal through the project FED-MHNLS-09 “Inventario de las especies de anfibios y reptiles de la vertiente venezolana de la Sierra de Perijá, estado Zulia,” under the mark of “Ley Orgánica de Ciencia, Tecnología e Innovación.” Currently, FRR is supported by a Ph.D. scholarship from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq). Permit for collecting (#4750: period 2008–2009) was issued to FRR by the Venezuelan Ministerio del Poder Popular para el Ambiente. The expedition to the Río Negro basin in the Parque Nacional Sierra de Perijá, was benefited with permit of the Instituto Nacional de Parques (PAA-215-2008) also issued to FRR.

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