

First record of *Pristimantis rufioculis* (DUELLMAN & PRAMUK, 1999), from Ecuador

The genus *Pristimantis* JIMÉNEZ DE LA ESPADA, 1870, is the most diverse clade of Neotropical, direct-developing frogs containing about 6.7 % of the 7778 described species of amphibians of the world (FROST 2017). Ecuador is home to 201 species of this genus, 112 of which are endemic to the country (RON et al. 2017). Nonetheless, the knowledge on Ecuadorian *Pristimantis* species is still limited, with several species undescribed, unreported, or little known within many explored and unexplored areas (ORTEGA-ANDRADE 2010; ORTEGA-ANDRADE et al. 2015; BRITO et al. 2017a). For example, the southeastern Amazon, Andean slopes and the Cordillera del Condor have extensively been studied in the last ten years (ALMENDARIZ et al. 2014; VALENCIA et al. 2017), and 16 new anuran species were discovered, eleven of which correspond to *Pristimantis* species (e.g., CISNEROS-HEREDIA & MORALES 2008; CISNEROS-HEREDIA et al. 2009; TERÁN-VÁLDEZ & GUAYASAMÍN 2010; JUNGFER 2011; ALMENDARIZ et al. 2012, 2014; BRITO et al. 2014, 2016, 2017 a, 2017b). However, several of these new geographical

records or even new species remained under permanent review or unnamed until clarification of their taxonomic status (ALMENDARIZ et al. 2014). The present note documents the first record of *Pristimantis rufioculis* (DUELLMAN & PRAMUK, 1999) from Ecuador.

A male specimen of *P. rufioculis* was collected on May 21, 2017, at the locality Campanilla (04°03'27" S, 78°47'31" W; 1,747 m a.s.l.), San Carlos, Province of Zamora Chinchipe, on the eastern Andean slopes (Fig. 1) and housed at the Museo de Anfibios y Reptiles, Fundación Herpetológica Gustavo Orcés, Quito, Ecuador (FHGO 12582). The new locality is the third known for the species, and represents an extension of its known geographic range by ca. 75 km SSW from the nearest reported locality. It is an adult male of 18.3 mm SVL identified as *P. rufioculis* by having the following characters as described by DUELLMAN & PRAMUK (1999): "(1) skin of dorsum smooth, that on venter areolate, discoidal fold present, dorsolateral folds absent; (2) tympanic membrane smooth, tympanic annulus visible beneath skin, its length 30 % length of eye; (3) snout moderately long, rounded in dorsal view and in profile; (4) upper eyelid lacking tubercles, narrower than interorbital distance; cranial crests absent; (5) vomerine odontophores elongately ovoid; (6) male lacking vocal slits and nuptial pads; (7) Finger I shorter than II; discs on outer fingers expanded; (8) fingers lacking lateral fringes; (9) ulnar tubercles absent; (10) heel and tarsus lacking tubercles; (11) inner metatarsal tubercle oval, three times the size of the outer metatarsal tubercle; supernumerary plantar tubercles minute; (12) toes bearing narrow lateral fringes; webbing absent; Toe V longer than III; (13) dorsum tan; venter cream suffused with brown; throat brown with cream flecks."

The coloration in life was similar to the pattern of males described by DUELLMAN & LEHR (2009): "...the dorsum is olive with a grayish white snout and tan elbows and heels. The groin and anterior surfaces of the thighs are mottled yellow and dull red, and venter is yellow with brown mottling. The iris is red..." Some minor variation was observed on the Ecuadorian specimen: (1) pale brown blotch on dorsum;

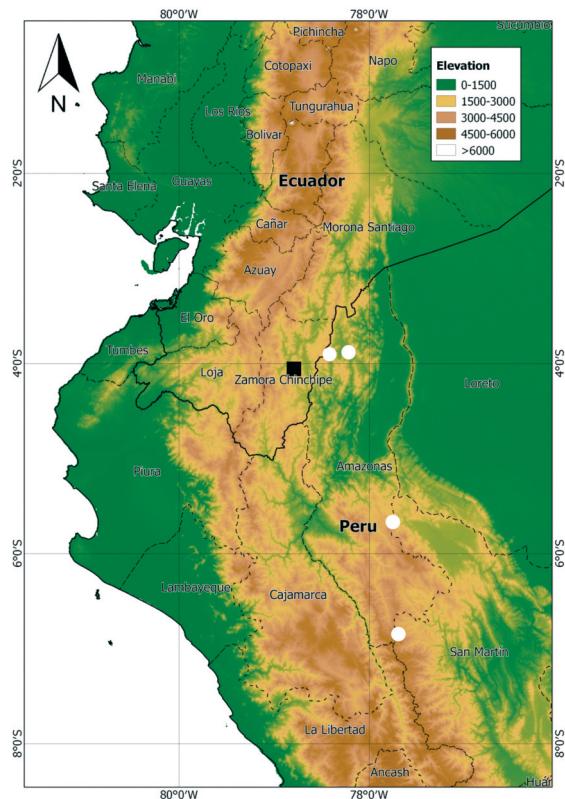


Fig. 1: Records of *Pristimantis rufioculis* (DUELLMAN & PRAMUK, 1999), in Ecuador (black square) and Perú (white dots).

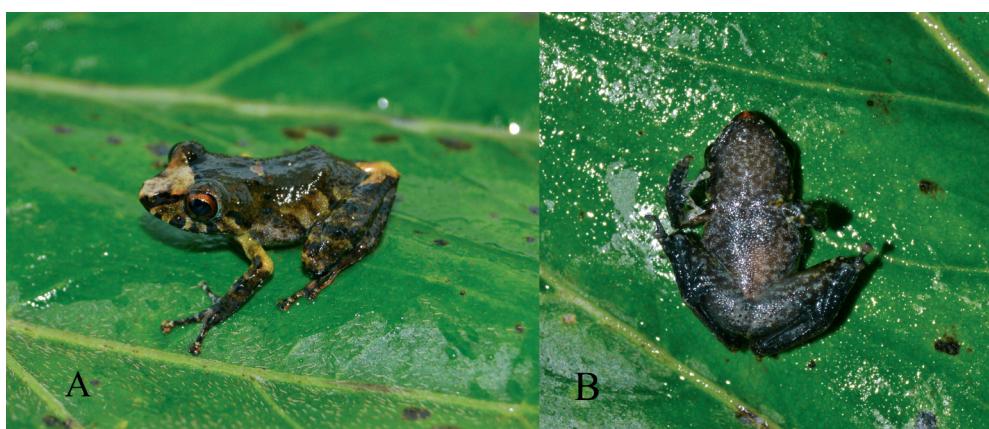


Fig. 2: Male adult of *Pristimantis rufioculis* (FHGO 12582) from Ecuador; SVL: 18.3 mm.
A - dorsolateral view, B - ventral view.

(2) labial bars strongly defined; (3) throat strongly mottled with brown; (4) interorbital stripe slightly defined (Fig. 2).

The Ecuadorian specimen was found by the first author at 20:49 h in a secondary evergreen low montane forest of the eastern Andean slopes (MINISTERIO DEL AMBIENTE ECUADOR 2013) where it was perched on a leaf, 0.7 m above the ground. At the new locality, *P. rufioculis* was sympatric with other three species of the genus, *P. condor* (LYNCH & DUELLMAN, 1980), *P. prolatus* (LYNCH & DUELLMAN, 1980) and *P. trachyblepharis* (BOULENGER, 1918).

Pristimantis rufioculis was described on the basis of two specimens, a subadult female (holotype), and an adult male (paratype) from Abra Pardo de Miguel, Departamento San Martín in the northern part of the Cordillera Central, and six additional referred specimens from Río Comainas, Provincia Condorcanqui, Departamento Amazonas, on the eastern slopes of the Cordillera del Condor, both localities in northern Perú, at elevations between 1.138 to 2.870 m (DUELLMAN & PRAMUK 1999; DUELLMAN & LEHR 2009). The Peruvian specimens were found in humid upper montane and humid montane forests, perching on low vegetation up to one meter high (DUELLMAN & LEHR 2009). No other information is available for *P. rufioculis*.

Pristimantis rufioculis is listed as Data Deficient (DD) under IUCN criteria in Perú (RODRIGUEZ et al. 2014) which equally applies to Ecuador. The only specimen collected was found in a remnant of secondary forest where a gold mining company is operating. Gold and copper mining adversely affect the habitat of amphibians due to intensive logging that destroys several ecosystems. Also, irreversible and negative impact has been observed on the water bodies (rivers, streams, marshes and seasonal ponds), due to the increase in suspended solids during mining operations, producing a rapid and dramatic decline of amphibian populations (VALENCIA et al. 2017).

ACKNOWLEDGMENTS: The authors are grateful to María Elena Barragán-Paladines and K. Garzón-Tello (FHGO) for allowing access to collections under their care, to Francisco Valladares for laboratory assistance, to Sebastian Eguiguren for designing the distribution map, to Pablo Medrano for useful com-

ments that significantly improved the manuscript. The research authorization (Nº 04-17-IC-FLO-FAU-B-DPAMS/MAE) was issued by the Ministerio del Ambiente, Ecuador.

- REFERENCES: ALMENDÁRIZ, A. & SIMMONS, J. E. & BRITO, J. & VACA-GUERRERO, J. (2014): Overview of the herpetofauna of the unexplored Cordillera del Cóndor of Ecuador.- Amphibian & Reptile Conservation, Modesto; 8 (1): 45-64. ALMENDÁRIZ, A. & RON, S. R. & BRITO, J. (2012): Una nueva especie de rana venenosa de altura del género *Excidobates* (Dendrobatoidae: Dendrobatidae) de la Cordillera del Cóndor.- Papéis Avulsos de Zoologia, São Paulo; 52 (32): 387-399. ALMENDÁRIZ, A. & BRITO, J. & BATALLAS, D. & RON, S. R. (2014): Nueva especie de rana arbórea del género *Hyloscirtus* (Amphibia; Hylidae) de la Cordillera del Cóndor.- Papéis Avulsos de Zoologia, São Paulo; 54 (4): 33-49. ALMENDÁRIZ, A. & BRITO, J. & BATALLAS, D. & VACA, J. & RON, S. (2017): Una especie nueva de rana del género *Chiasmocleis* (Microhylidae: Gastrophrynninae) de la Cordillera del Cóndor, Ecuador.- Papéis Avulsos de Zoologia, São Paulo; 57 (10): 119-136. BRITO, J. & BATALLAS, D. & VELALCAZAR, D. (2014): Nueva especie de rana terrestre del género *Pristimantis* (Amphibia: Craugastoridae), meseta de la Cordillera de Condor.- Papéis Avulsos de Zoologia, São Paulo; 54 (30): 435-446. BRITO, J. & ALMENDÁRIZ, A. & BATALLAS, D. & RON, S. R. (2017b): Nueva especie de rana bromélícola del género *Pristimantis* (Amphibia: Craugastoridae), meseta de la Cordillera del Cóndor, Ecuador.- Papéis Avulsos de Zoologia, São Paulo; 57 (15): 435-446. BRITO, J. & BATALLAS, D. & YÁNEZ-MUÑOZ, M. H. (2017a): Ranas terrestres *Pristimantis* de los bosques montanos del río Upano, Ecuador: lista anotada, patrones de diversidad y descripción de cuatro especies nuevas.- Neotropical Biodiversity, Quito; 3 (1): 125-156. BRITO, J. & OJALA-BARBOUR, R. & BATALLAS, D. & ALMENDÁRIZ, A. (2016): A new species of *Pristimantis* (Amphibia: Strabomantidae) from the cloud forest of Sangay National Park, Ecuador.- Journal of Herpetology, Houston, etc.; 50 (2): 337-344. CISNEROS-HEREDIA, D.F. & MORALES-MITE, M. (2008): A new species of glassfrog from the elfin forests of the cordillera del Cóndor, southeastern Ecuador (Anura: Centrolenidae).- Herpetozoa, Wien; 21 (1/2): 49-56. CISNEROS-HEREDIA, D. & ARMIJOS-OJEDA, D. & VALAREZO, K. (2009): First country record of *Pristimantis metabates* (DUELLMAN AND PRAMUK) and distribution extension of *Pristimantis skydmainos* (FLORES AND RODRÍGUEZ) in eastern Ecuador (Amphibia, Anura, Strabomantidae).- Herpetology Notes, Braunschweig; 2: 185-188. DUELLMAN, E. D. & LEHR, E. (2009): Terrestrial breeding frogs (Strabomantidae) in Peru. Berlin (Ulrich Manthey), pp. 386. DUELLMAN, W. E. & PRAMUK, J. B. (1999): Frogs of the genus *Eleutherodactylus* (Anura: Leptodactylidae) in the Andes of northern Peru.- Scientific Papers / Museum of Natural History / University of Kansas, Lawrence; 13: 1-78. FROST, D. R. (2017): Amphibian species of the world: an online reference. Version 6.0. Available at <<http://research.amnh.org/herpetology/amphibia/index.html>> [last accessed: 20 June, 2017]. JIMÉNEZ DE LA ESPADA, M. (1870): Algunos datos nuevos ó curiosos acerca de la fauna del Alto Amazonas.- Boletín-Revista de la Universidad de Madrid, Madrid; 2 (11): 683-695. JUNGFER, K. H. (2011): A new tree frog of the genus

Osteocephalus from high altitudes in the Cordillera del Cóndor, Ecuador (Amphibia: Anura: Hylidae).- The Herpetological Journal, London; 21 (4): 247-253. MINISTERIO DEL AMBIENTE DEL ECUADOR (2013): Sistema de clasificación de los ecosistemas del Ecuador continental. Quito (Subsecretaría de Patrimonio Natural), pp. 136. ORTEGA-ANDRADE, M. H. (2010): Diversidad de la herpetofauna en la Centro Amazonia de Ecuador.- M. Sc. Dissertation. Instituto de Ecología, A. C. Xalapa, pp. 150. ORTEGA-ANDRADE, M. H. & ROJAS-SOTO, O. R. & VALENCIA, J. H. & ESPINOZA DE LOS MONTEROS, A. & MORRONE, J. J. & RON, S. R. & CANNATELLA, D. C. (2015): Insights from integrative systematics reveal cryptic diversity in *Pristimantis* frogs (Anura: Craugastoridae) from the Upper Amazon Basin.- PLOS ONE [electronic resource], Lawrence; 10 (11): 1-43. RODRÍGUEZ, L. & MARTÍNEZ, J. L. & ARIZABAL, W. & JUNGFER, K. H. (2004): *Pristimantis rufoculus*. The IUCN Red List of Threatened Species 2004: e.T56932A11556634. WWW resource available at < <http://dx.doi.org/10.2305/IUCN.UK.2004.RLTS.T56932A11556634.en> >, [last accessed: 20 June, 2017]. RON, S. R. & YANEZ-MUÑOZ, M. H. & MERINO-VITERI, A. & ORTIZ, D. A. & NICOLALDE, D. A. (2017): AmphibiaWebEcuador. Versión 2017.0. Museo de Zoología, Pontificia Universidad Católica del Ecuador. WWW resource available at < <http://zoologia.puce.edu.ec/Vertebrados/anfibios> >, [last accessed: 17 July, 2017]. TERÁN-VALDEZ, A. & GUAYAZAMIN, J. M. (2010): The smallest terrestrial vertebrate of Ecuador: A new frog of the genus *Pristimantis* (Amphibia: Strabomantidae) from the Cordillera del Cóndor.- Zootaxa, Auckland; 2447: 53-68. VALENCIA, J. H. & DUEÑAS, M. R. & SZÉKELY, P. & BATALLAS, D. & PULLQUITÍN, F. & RON, S. R. (2017): A new species of direct-developing frog of the genus *Pristimantis* (Anura: Terrarana: Craugastoridae) from Cordillera del Cóndor, Ecuador, with comments on threats to the anuran fauna of the region.- Zootaxa, Auckland; 4353: 447-466.

KEY WORDS: Amphibia: Anura: Craugastoridae; *Pristimantis rufoculus*, Ecuador, Andes, distribution, threats, new country record

SUBMITTED: September 12, 2017

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Zeitschrift/Journal: [Herpetozoa](#)

Jahr/Year: 2018

Band/Volume: [31_1_2](#)

Autor(en)/Author(s): Tipantiza-Tuguminago Luis, Auqui Edison, Duenas Manuel R., Valencia Jorge H.

Artikel/Article: [First record of Pristimantis rufiocolis \(DUELLMAN& PRAMUK, 1999\), from Ecuador 119-122](#)