

# GEOGRAPHIC DISTRIBUTION OF *LIMNOPHYS SULCATUS*, *RHINELLA CASTANEOTICA* AND *SCINAX CRUENTOMMUS* (AMPHIBIA: ANURA) FOR COLOMBIA

By

César Malambo-L<sup>1</sup> & Mario A. Madrid-Ordóñez<sup>2</sup>

## Resumen

**Malambo-L, C & M. A. Madrid-Ordóñez:** Geographic distribution of *Limnophys sulcatus*, *Rhinella castaneotica* AND *Scinax cruentommus* (Amphibia: Anura) for Colombia. Rev. Acad. Colomb. Cienc. **32**(123): 285-289, 2008. ISSN 0370-3908.

Se amplía la distribución geográfica de tres anuros poco conocidos para Colombia, *Limnophys sulcatus*, *Rhinella castaneotica* y *Scinax cruentommus* y es el registro más noroeste para las especies.

**Palabras clave:** distribución geográfica, *Limnophys sulcatus*, *Rhinella castaneotica*, *Scinax cruentomma*, Caquetá-Colombia.

## Abstract

Wide the geographical distribution of three anuros little known for Colombia, *Limnophys sulcatus*, *Rhinella castaneotica* and *Scinax cruentommus* and it is the most northern record for the species.

**Key words:** geographic distribution, *Eleutherodactylus sulcatus*, *Rhinella castaneotica*, *Scinax cruentomma*, Caquetá-Colombia.

<sup>1</sup> Grupo de Investigación Fauna Silvestre, Museo de Historia Natural, Semillero de Investigación en Biodiversidad amazónica (SIBA) Universidad de la Amazonia, Florencia-Caquetá. Correo electrónico: malambidae@gmail.com

<sup>2</sup> Grupo de Investigación Fauna Silvestre, Semillero de Investigaciones en fauna silvestre ANKORE, Museo de Historia Natural, Universidad de la Amazonia, Florencia-Caquetá. Correo electrónico: madrid@tucan.uniamazonia.edu.co

## Introduction

The herpetofauna of the Amazonian lowlands was thought of as well known historically. Even though, **Lynch** (2005) from a study in Leticia, Amazonas department of Colombia, demonstrated how far we are from knowing the true amphibian diversity in the Amazon forests and suggests, that those forests are much more complex than what is actually believed; therefore, it is possible that other localities in the western Amazon basin might be as or richer than Leticia, but inventoried with less effective methodologies.

Eastern Caquetá, from the Montañita municipality up to the Alto Gabinete, has 56 inventoried species, with 55 anurans and one species of the order Caudata (**Suárez-Mayorga**, 2000). Even though, in recent field work a lot more species have been found in the region, indicating how the area needs to be inventoried with much more intensity. In this study we offer new records for three anuran species extending their distribution areas known in Colombia, being their northern most records.

## Materials and methods

Examined specimens are listed in the Appendix. Abbreviations used for the two herpetological collections housing the materials are ICN: Instituto de Ciencias Naturales, Universidad Nacional de Colombia, sede Bogotá and UAM: Museo de Historia Natural de la Universidad de la Amazonia. Abbreviations used are SVL (snout-vent length).

For the taxonomic basis, was followed the classification proposed by Heinicke *et al.* (2007) for the family Brachycephalidae, Frost *et al.* (2006) for Bufonidae y Faivovich *et al.* (2005) for Hylidae.

### *Limnophys sulcatus* (Cope, 1984)

COLOMBIA: **Caquetá**, Municipio de Florencia, Corregimiento Puerto Arango, Vereda Balcanes (N 1° 25' 27", O 75° 30' 58.1"), twenty-two kilometers (22Km) Southeast of the city of Florencia (UAM 378). The specimen is a juvenile male with SVL 30.5mm, collected on 15 November 1998 by Fernando Ortiz. This specimen found inside secondary forest.

*Limnophys sulcatus* is distributed in cloud forests of Colombia and Ecuador as well as in lower elevations in the western Amazon basin (Brazil, Colombia, Ecuador, and

Peru) and eastern Ecuador and Peru at elevations below 1100m (**Lynch**, 1997). The second report was done in Colombia in the departments of Vaupés and Amazonas (**Lynch**, 1997, 2005).

We make an additional report of the species in Colombia and extend its distribution 339 km north of its northernmost register (Fig. 1A).

### *Rhinella castaneotica* (Caldwell, 1971)

COLOMBIA: **Caquetá**, Municipio de Florencia, Corregimiento Puerto Arango, Vereda Balcanes (N 1° 25' 27", W 75° 30' 58.1"), twenty-two kilometers (22Km) southeast of the city of Florencia (UAM 271). The specimen is an adult male with SVL 29.6mm, The specimen is collected on 15 November 1998 by Fernando Ortiz. It was found inside secondary forest.

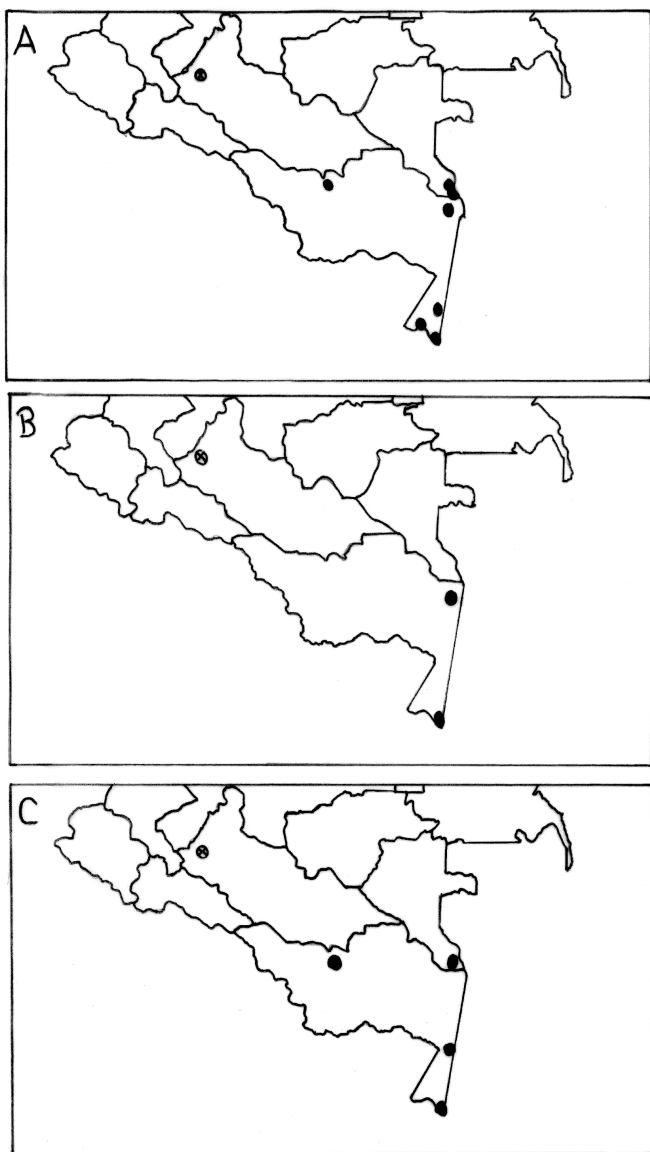
**Caldwell** (1991) described this species from State of Para, Brazil. However, this species occurs in Amazonian Colombia, eastern Perú, and the departamento Pando, Amazonian Bolivian (**Azevedo-Ramos et al** 2004; **Frost**, 2007). **Lynch** (2005) found this species in Leticia.

This report represents the second report for the species and the northern most record in Colombia, extending its range ca. 389km in airline from its northernmost record. (Fig. 1B) As well as **Lynch** (2005) reported, *Limnophys sulcatus* and *Rhinella castaneotica* are sympatric species in our study area.

### *Scinax cruentommus* (Duellman, 1972)

COLOMBIA: **Caquetá**, Municipio de Florencia, Corregimiento Santo Domingo, Vereda El Venado, Granja Macagual (1°37'N, 75°36'W), (UAM 668). The specimen is an adult female with SVL 24.4mm, found in secondary forest on the road edge on the upper side of a leaf of *Heliconia* ca. 1m above the floor. The individual was collected on 25 March 2007 by Yudi Gómez, Mario A. Madrid and Cesar Malambo.

*Scinax cruentommus* is widely distributed through the Amazon Basin (**Duellman & Wiens**, 1993; **Frost**, 2007; **Angulo et al**, 2004). We report the third record of *Scinax cruentommus* from Colombia, which was previously known from Vaupés (**Ruiz-Carranza et al.** 1996; **Acosta-Gálvis**, 2000; **Nieto**, 2000) and Leticia (**Lynch**, 2005). This record represents the northern most record for Colombia, extending its range ca. 389km in airline from the northernmost record (Fig. 1C).



**Figure 1.** Geographic distribution of the species reports (A) *Limnophys sulcatus*. (B) *Rhinella castaneotica*. (C) *Scinax cruentommus* ⊗ New record ● Records in literature (Lynch, 1997, 2005; Ruiz-Carranza *et al.* 1996; Acosta-Galvis, 2000; Nieto, 2000).

## Discussion

Some anuran species with few previous reports in Colombian Amazon have the same distributional pattern as *L. sulcatus*, *R. castaneotica* and *S. cruentommus*. Lynch (2008) reported recently the distribution of *Osteocephalus planiceps* in Colombia, with the same pattern: “Leticia-Caquetá-Vaupés”. *Dendropsophus miyatai*, which was

previously known only from the forests near Leticia, Amazonas, was recently found in the municipality of Solano, Caquetá (Malambo *et al.*, in press). This is demonstrating once again that most of the localities in the upper Amazon basin might show a similar diversity than the one found in Leticia, Amazonas.

Information about the herpetofauna of Florencia’s lowland vicinities is scarce, and most data is not published, being available only some published information by Suárez-Mayorga (2000). This is due to the lack of serious inventory work done in lowland rain forests, not only of this region but of the rest of the Colombian Amazon, which is not possible to develop because of public order problems.

This report will help increase the knowledge of the Amazon foothills’ amphibian fauna, in order to develop conservation plans and strategies and to demonstrate that this foothills need an evaluation with much more intensity, to find undescribed species and test our ignorance about the fauna, which we are far from filling.

## Acknowledgments

We are grateful to Alexander Velasquez, Cesar Estrada and Fernando Ortiz, for their support to the herpetological surveys of the Granjas Balcanes and Macagual; to Yudi Gomez and the local people for field companionship and assistance; to John D. Lynch specialist in amphibians for the revision and correction of the specimens; to Sandy Arroyo, David Sanchez and John Jairo Mueses-Cisneros for very useful comments on the manuscript.

## Literature cited

- Acosta-Galvis, A. R. 2000. Ranas, Salamandras y Caecilias (Tetrapoda: Amphibia) de Colombia. *Biota Colombiana* 1: 289-319.
- Angulo, A, C. Azevedo-Ramos, L.A. Coloma, S. Ron, 2004b. *Scinax cruentommus*. Electronic database accessible at IUCN, Conservation International, and NatureServe. 2006. Global Amphibian Assessment. <www.globalamphibians.org>. Accessed 23 June 2007.
- Azevedo-Ramos, C, J. V. Rueda, S. Reichle 2004. Electronic database accessible at IUCN, Conservation International, and NatureServe. 2006. Global Amphibian Assessment. <www.globalamphibians.org>. Accessed 23 June 2007.
- Caldwell, J.P. 1991. A new species of toad in the genus *Bufo* from Pará, Brazil, with an unusual breeding site. *Papéis Avulsos de Zoologia*. 37(26): 389-400.
- Duellman, W.E. and J. J. Wiens, 1993. Hylid frogs of the genus *Scinax* Wagler, 1830, in Amazonian Ecuador and Peru. *Occasional Papers of the Museum of Natural History of the University of Kansas*. 153: 1-57.

- Faivovich, J., C. F. B. Haddad, P. C. A. García, D. R. Frost, y J. A. Campbell.** 2005. Systematic review of the frog family Hylidae, with special reference to Hylinae: phylogenetic analysis and taxonomic revision. *Bulletin of the American Museum of Natural History* 294:1-240.
- Frost, D. R., T. Grant, J. Faivovich, R. H. Bain, A. Haas, C. F. B. Haddad, R. O. De Sa, A. Channing, M. Wilkinson, S. C. Donnellan, C. J. Raxworthy, J. A. Campbell, B. L. Blotto, P. Moler, R. C. Drewes, R. A. Nussbaum, J. D. Lynch, D. M. Green, y W. C. Wheeler.** 2006. The amphibian tree of life. *Bulletin of the American Museum of Natural History* 297: 8-370.
- Frost, D. R., 2007.** Amphibian Species of the World: an online reference. Version 5.0 Electronic database accessible at <http://research.amnh.org/herpetology/amphibia/index.html>. American Museum of Natural History, New York. USA. Accessed 19 June 2007.
- Heinicke, M. P., W. E. Duellman, and S. B. Hedges.** 2007. Major Caribbean and Central American frog faunas originated by ancient oceanic dispersal. *Proc. Natl. Acad. Sci. (USA)*: 104:10092-10097.
- Lynch, J. D.** 1997. Intrageneric relationships of mainland *Electherodactylus* II. A review of the *Electherodactylus sulcatus* group. *Rev. Acad. Colomb. Cienc. Ex. Fis. Nat.* **21**(80): 353-372.
- Lynch, J. D.** 2005. Discovery of the richest frog fauna in the world- An exploration of the forests to the North of Leticia. *Rev. Acad. Colomb. Cienc. Ex. Fis. Nat.* **29**(113): 581-588.
- Lynch, J. D.** 2008. *Osteocephalus planiceps* Cope (Amphibia: Hylidae): Its distribution in Colombia and significance. *Rev. Acad. Colomb. Cienc. Ex. Fis. Nat.* **32**(122).
- Malambo, C., M. A. Madrid-Ordoñez, A. Velasquez-Valencia, J.A. Zapata-Ortiz, and D. C. Aristizabal-Valbuena (In press).** Geographic distributional: *Dendropsophus miyatai*. *Herpetological Review*.
- Nieto, M. J. 2000 (1999).** Estudio preliminar de las especies del género *Scinax* (Amphibia: Anura: Hylidae) en Colombia. *Rev. Acad. Colomb. Cienc. Ex. Fis. Nat.* **23** (suplemento especial): 339-346.
- Ruiz-Carranza, P. M., M. C. Ardila-Robayo, and J. D. Lynch,** 1996. Lista actualizada de la fauna Amphibia de Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales.* **20**(77): 365-415.
- Suárez-Mayorga, A. M.** 2000 (1999). Lista preliminar de la fauna anfibia presente en el transepto la Montañita-Alto de Gabinete, Caquetá, Colombia. *Rev. Acad. Colomb. Cienc.* **23**: 395-405.

Recibido el 15 de agosto de 2007

Aceptado para su publicación el 7 de julio de 2008

**Appendix (Expecimens Examined)**

***Limnophys sulcatus***. COLOMBIA, **Amazonas**: Leticia; 2Km SW Comunidad Monifue Amana Josie, 80m (ICN50397), 28 December 2001 by J. D. Lynch (field series JDL 23391); 9km limits with Brasil, 85m (ICN47290), November 2001 by O. V. Castaño & estudiante (field series GR2 #115); Río Pureta, 88m (ICN50175), 3 January 2004 by R. Mesa (field series JDL 24154); Tarapacá 11Km, 95m ((ICN50174), 1 November 2002 by students (field series JDL 23951); (ICN50176-7), 20 February 2003 by J. J. Mueses (field series JDL 25355, VmR 4129)); La Pedrera, Comunidad Tamanitagua, 240m (ICN36461-62), 11 November 1994 by M. C. Ardila *et al.* (field series MC 7800-1); 50Km N de La Chorrera sobre el Igará-Parana, 195m (ICN3462), August 1977 By V. Corredor & J. Morales. **Caquetá**: Florencia; Vereda Balcanes, 255M (UAM 378), 15 November 1998 by F. Ortiz (field series FIOS 024). **Vaupés**: Serranía Taraira, Biological Station Caparu, 240m (ICN 33662), July 28 to September 10 1993 by Ian Stephen; Lago Taraira, Biological Station Mosiro Itajuara, 120m (ICN 52992), 22 May 2004 by J. Cortes-Duque (field series JCD 020).

***Rhinella castaneotica***. BRASIL, **Tabatinga**: Qda. Potoa, 80m (ICN51598), 3 January 2003 by J. D. Lynch & J. M. Rengifo (field series JDL 24139). COLOMBIA, **Amazonas**: Leticia: Río Puré, 100m (ICN46802-25) (ICN46827-37) 21 December 1999 by J.D. Lynch; 1.5Km NE Comunidad Monifue Amana Josie, 80m (ICN51593) 3 January 2002 by J.D. Lynch & R. Mesa (field series JDL 23406); 18.5Km Via Leticia – Tarapacá, Finca Agua Claras, 89m (ICN51594) 9 January 2002 by A. Suárez (field series JDL 23467), (ICN51595) 9 January 2002 by J.D. Lynch (field series JDL 23470); Comunidad Jitoma, 90m (ICN51596-7) 27 October 2002 by students (field series JDL 23797, JDL 23795); Comunidad 11Km, 95m (ICN 51599-601) (51603) 13 January 2003 by J.D. Lynch *et al.*; 13.8km vía a Tarapacá, 100m (ICN 51602) 13 January 2003 by A. Duarte & A. Téllez; 10Km vía a Tarapacá, 84m (ICN 51604-19) 31 October to November 6 2003 by M. C. Ardila & Students. **Caquetá**: Florencia: Vereda Balcanes, 255m (UAM 217), 15 November 1998 by F. Ortiz (field series FIOS 001).

***Scinax cruentommus***. COLOMBIA, **Amazonas**: Leticia: Comunidad Monifue Amana Josie 2Km SW, Amana Josie, 80m (ICN50708), 18 January 2002 by J.D. Lynch (field series JDL 23629); Comunidad Jitoma, 90M (ICN50709-11), 27 October 2002 by Students; Comunidad Monilla Amena 10Km, 91m (ICN50719-27), 22 January to 30 January 2003 by J.D. Lynch; Casa Rodolfo Mesa, 88m (ICN50728), 1 February 2003 by J. J. Mueses (field series JDL 50728); Comunidad 11Km, 95m (ICN5014-16), 27 October 2003 by Students, (ICN50729-51) 1 February 2003 by J. J. Mueses; Cananguche 10Km, 90m (ICN50752), 26 February 2003 by R. Mesa (field series JDL 25392); Qda. Yahwarcaca, 67m (ICN50718), 22 January 2003 by J.J. Nueses & A. Téllez (field series JDL 24439); La Pedrera, 96m (ICN36610), November 1994 by M. C. Ardila *et al.* (field series MC 7819); La Chorrera, 195m (ICN02044, ICN02048), May 1975 by J. M. Idropo; Tarapacá 4Km, 76m (ICN46439-40), 14 April 2001 by A. Suarez (field series JDL 23013-14); 11Km, 95m (ICN50712), 31 October 2002 by J. D. Lynch (field series JDL 23909), (ICN50713) 1 November 2002 by A. Tellez (field series JDL 23964), (ICN50753) 6 March 2003 by A. Tellez (field series JDL 25407), (ICN50754) 20 February 2003 by D. Sanchez & J. D. Lynch (field series JDL 25555). **Caquetá**: Florencia: Vereda Venado, 276m (UAM 668), 25 March 2007 by Y. C. Gómez, C. Malambo & M. A. Madrid (field series CML 182). **Vaupés**: Taraira, 155m (ICN 36614) 23 November 1994 by M. C. Ardila *et al.* (field series MC 7925).