

Amphibia, Anura, Strabomantidae, *Pristimantis palmeri* Boulenger, 1912: Distribution extension for the Central Cordillera, Colombia

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ABSTRACT: We report a new locality record for *Pristimantis palmeri*, an endemic species to Colombia associated to forest and weeds in open areas of Choco, Risaralda, Quindío, Valle del Cauca, and Cauca (900 – 2,400 m.a.s.l.). This report expands its geographical distribution in 177 km toward south and suggests the existence of a discontinuous distribution in the western slope of the Central Cordillera of Colombia.

Pristimantis palmeri was named on the basis of two immature females by Boulenger (1912) and redescribed by Lynch (1996). The species is endemic of Colombia, distributed in the departments of Choco, Risaralda, Valle del Cauca and Cauca on the Occidental Cordillera, as well as in the department of Quindío on the western slope of the Cordillera Central, between 900 and 2,400 m above sea level (Lynch 1998). It is an inhabitant of primary and secondary forest, as well as shrubs in open areas (Ramirez-Pinilla *et al.* 2004). Adults are nocturnal and can be found on vegetation above ground (Lynch 1996).

Pristimantis palmeri is a small frog (Figure 1) that belongs to the *Pristimantis unistrigatus* species group, not a natural group (Hedges *et al.* 2008). The main diagnostic characters of the species are: Maximum SVL in males 20.3 mm and in females 28.0 mm; skin of dorsum smooth except for four warts that look like small round spots; tympanum concealed beneath skin, its diameter 1/3-1/2 of eye length; snout, subacuminate in dorsal view and rounded in lateral profile; upper eyelids bear one to three small tubercles each; males with vocal slits; the dorsum pale gray with pale brown markings; in life the posterior surfaces of thighs, upper arms, groin, and concealed shank pale yellow (Lynch 1996).

During a herpetological inventory carried out between October 02-04 2009 in Vereda Morales, municipality of Caloto, Department of Cauca, Colombia (02°59'49.1" N, 76°24'25.2" W, 1,300 m elevation, western slope of the Cordillera Central) (Figure 2), specimens of *P. palmeri* were collected using the technique of Visual Encounter Survey (VES) constrained by time. Specimens were found in crops near to riparian forest, sharing habitat with *Colostethus fraterdanieli* (Silverstone, 1971) and *Pristimantis cf. achatinus* (Boulenger, 1898). Moreover, *Leptodactylus fragilis* (Brocchi, 1877), *Leptodactylus colombiensis*

(Heyer, 1994) and *Dendropsophus columbianus* (Boettger, 1892) were also collected in a nearby open area used as pasture. The former species has been previously reported by Mendez *et al.* (2009).

We report the southernmost record of *P. palmeri* for the Colombian Cordillera Central (western slope), expanding its distribution, about 177 km. Our record is based on the identification of three specimens: two males (SVL = 19.6-19.8 mm) and one female (SVL = 26.8 mm). Vouchers are deposited in the collection of Docencia, Zoology section at the Universidad del Valle, Cali Colombia (CD 1723-1725).

Our new record suggests that *P. palmeri* has a discontinuous distribution in the western slope of the Central Cordillera with a geographical gap in the Department of Valle del Cauca (Ramirez-Pinilla *et al.* 2004). However, this gap probably reflects insufficient sampling effort.



FIGURE 1. Specimen of *Pristimantis palmeri* from Vereda Morales, Municipality of Caloto, Cauca. Photo by Wilmar Bolívar-G.

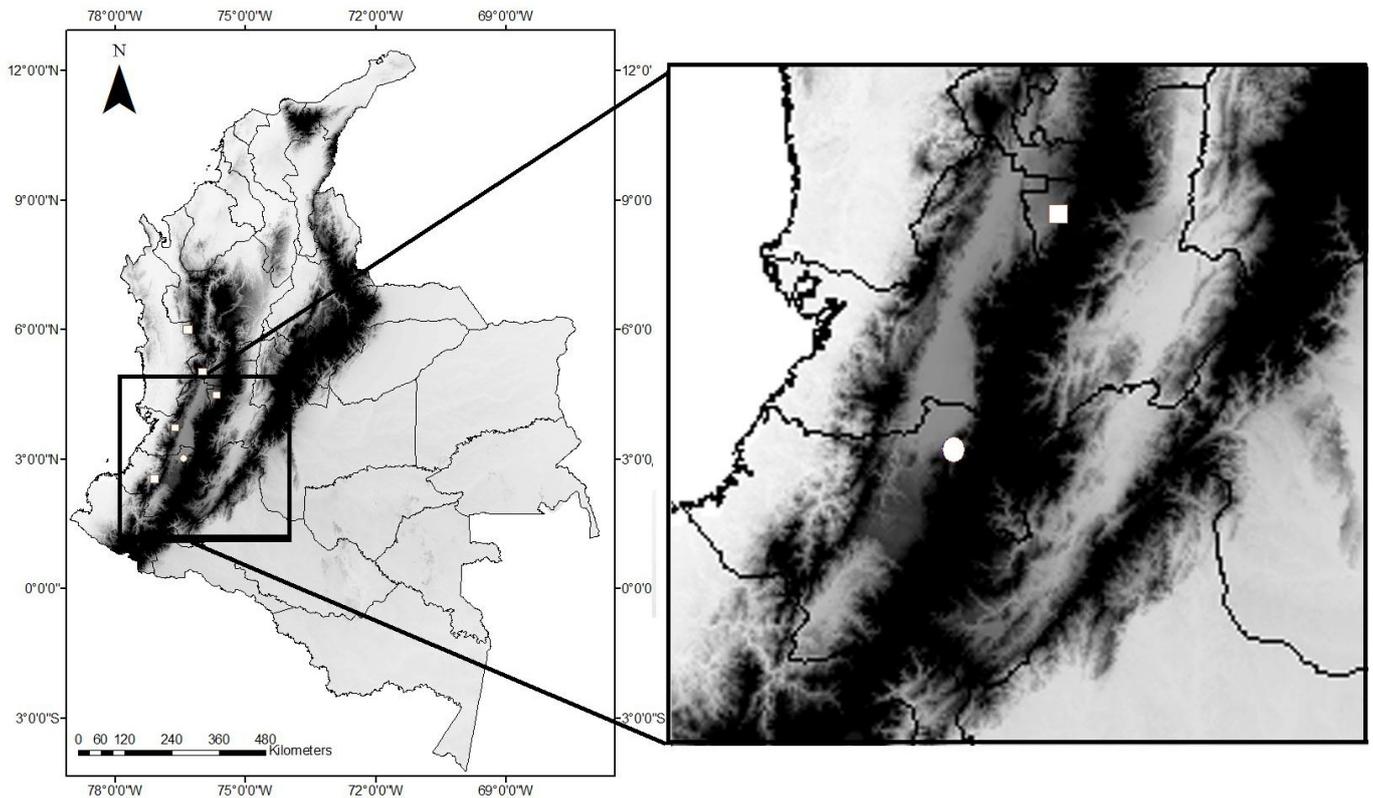


FIGURE 2. Map of Colombia showing the distribution of *Pristimantis palmeri*. Historical locations (white squares) and the new locality (white dot). Enlarged area shows the new locality (white dot) in Vereda Morales, Municipality of Caloto and its closer locality (white square) in the Central Cordillera.

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LITERATURE CITED

Hedges, S.B., W.E. Duellman and M.P. Heinicke. 2008. New World direct-developing frogs (Anura: Terrarana): Molecular phylogeny, classification, biogeography, and conservation. *Zootaxa* 1737: 1-182.

Lynch, J.D. 1996. New frogs of the genus *Eleutherodactylus* (Family Leptodactylidae) from the San Antonio region of the Colombian Cordillera Occidental. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 20(77): 331-345.

Lynch, J.D., P.M. Ruiz-Carranza and M.C. Ardila-Robayo. 1997. Biogeographic patterns of Colombian frogs and toads. *Revista de la Academia Colombiana de Ciencias* 21(80): 237-248.

Lynch, J.D. 1998. New species of *Eleutherodactylus* from the cordillera Occidental of western Colombia with a synopsis of the distributions of species in western Colombia. *Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales* 22(82):117-148.

Mendez-Narváez, J., J.J. Ospina-Sarria and W. Bolívar-G. 2009. Amphibia, Anura, Leptodactylidae, *Leptodactylus fragilis*: Distribution extension, Colombia. *Check List* 5(3): 460-462.

Ramirez-Pinilla, M.P., M. Osorno-Muñoz, J.V. Rueda, A. Amézquita and M.C. Ardila-Robayo. 2004. *Pristimantis palmeri*. In International Union for Conservation of Nature. *IUCN Red List of Threatened Species*. Electronic database accessible at <http://www.iucnredlist.org>. Captured on 14 January 2010.

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