



A new frog of the genus *Pristimantis* (Amphibia: Strabomantidae) from the high Andes of Southeastern Ecuador, discovered using morphological and molecular data

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Abstract

We describe a new small sized (SVL in females ≤ 25.7 mm; in males, ≤ 20.1 mm) *Pristimantis*, associated with bamboo-dominated forests in the Reserva Mazar, Andes of Southeastern Ecuador, at elevations between 2876–2989 m. This species is assigned to the *P. orestes* group, from whose members it differs by the absence of tubercles on heel and outer edge of tarsus, lacking a discoidal fold, presence of slightly expanded finger and toe pads, and bright yellow blotches on groin, axilla and anterior surfaces of thigh. The advertisement call of the new species consists of a series of short, indistinctly pulsed notes, and has a dominant frequency of 2.50–2.56 kHz. A molecular phylogeny based on a fragment of the mitochondrial gene 12S shows that the new species is sister to a clade formed by *Pristimantis simonbolivari* and an undescribed *Pristimantis*.

Key words: Cañar, new species, *Pristimantis orestes* group, Reserva Mazar

Resumen

Se describe una nueva especie de *Pristimantis* de tamaño pequeño (LRC en hembras ≤ 25.7 mm; en machos, ≤ 20.1 mm) asociada a bosques dominados por bambú en la Reserva Mazar, Andes del sureste de Ecuador, a elevaciones de 2876–2989 m. Asignamos esta especie al grupo *P. orestes*, de cuyos miembros difiere por la ausencia de tubérculos en el talón y porción externa del tarso, ausencia de pliegue discoidal, presencia de discos ligeramente expandidos en los dedos de las manos y los pies, y manchas amarillo brillante en la ingle, axila y superficie anterior del muslo. El canto de la nueva especie consiste de una serie de notas pulsadas, con una frecuencia dominante de 2.50–2.56 kHz. Una filogenia molecular inferida a partir de un fragmento del gen mitochondrial 12S muestra que la especie nueva es hermana a un clado formado por *Pristimantis simonbolivari* y una especie no descrita de *Pristimantis*.

Palabras claves: Cañar, Especie nueva, Grupo *Pristimantis orestes*, Reserva Mazar

Introduction

With 437 described species, no other frog genus in the world is as species-rich as *Pristimantis* (AmphibiaWeb 2011). Although this spectacularly diverse group of anurans is distributed throughout southern Central America and northern South America, its diversity elsewhere is not nearly as rich as in the Andes of Colombia, Ecuador, and Peru (Heinicke *et al.* 2007; Hedges *et al.* 2008).

The high diversity of *Pristimantis* in relation to closely related genera (e.g., *Oreobates*, *Phrynopus*) is not well-understood, but several factors, including high mutation rates, access to novel niches through its reproductive mode (i.e., direct development), phenotypic traits, the effect of mountain gradients, and susceptibility to barriers that do