

# First country record of *Pristimantis metabates* (Duellman and Pramuk) and distribution extension of *Pristimantis skydmainos* (Flores and Rodríguez) in eastern Ecuador (Amphibia, Anura, Strabomantidae)

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**Abstract.** We report the first country record of *Pristimantis metabates* (Duellman and Pramuk) from Ecuador (previously known just from its type-locality in north-eastern Peru) and the second known Ecuadorian locality of *Pristimantis skydmainos* (Flores and Rodríguez) based on voucher specimens collected on Lowland Evergreen Amazonian forests of the province of Zamora-Chinchipe, south-eastern Ecuador.

**Keywords.** Strabomantidae, *Pristimantis metabates*, *Pristimantis skydmainos*, geographic range, Ecuador.

The herpetofauna of southern Ecuador has been poorly studied, many areas remain unexplored and several species unreported or undescribed (Cisneros-Heredia and McDiarmid, 2006; Lehr and Coloma, 2008). Recent expeditions conducted by the Departamento de Zoología of the Universidad Nacional de Loja—LOUNAZ in the eastern Andean slopes of the province of Zamora-Chinchipe resulted in the collection of novel species for the country. Herein, we are glad to present the first record of *Pristimantis metabates* from Ecuador and a distribution extension for *Pristimantis skydmainos*.

All specimens were collected at the Centro de Estudios y Desarrollo para la Amazonía (CEDAMAZ), a reserve managed by Universidad Nacional de Loja. It is located at the region of “El Padmi”, ca. 68 km from the city of Zamora and 128 km from the city of Loja (by road that leads to Gualaquiza), province of Zamora-Chinchipe,

Republic of Ecuador (03.733° S, -78.6° W, 775–1150 m a.s.l.). CEDAMAZ protects 103.5 hectares of Lowland and Foothill Evergreen forests (Fig. 1) with a mean annual precipitation of about 2000 mm. All specimens are deposited in the herpetological collection of the Departamento de Zoología, Universidad Nacional de Loja (LOUNAZ), province of Loja, Ecuador.

*Pristimantis metabates* (Duellman and Pramuk) was recently described based on two specimens collected at the River Marañon Valley, department of Amazonas, Peru (Duellman and Pramuk, 1999). Six specimens of *P. metabates* were collected at CEDAMAZ at elevations



**Figure 1.** Riverine habitat at the Centro de Estudios y Desarrollo para la Amazonía (CEDAMAZ), Universidad Nacional de Loja, province of Zamora-Chinchipe, Republic of Ecuador.

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**Figure 2.** *Pristimantis metabates* (LOUNAZ-PAD022) from the Centro de Estudios y Desarrollo para la Amazonía (CEDAMAZ), Universidad Nacional de Loja, province of Zamora-Chinchipe, Republic of Ecuador.



**Figure 3.** Map of Ecuador showing the location of the new locality of *Pristimantis metabates* and *P. skydmainos* herein reported: Centro de Estudios y Desarrollo para la Amazonía (CEDAMAZ), province of Zamora-Chinchipe, Republic of Ecuador (black dot).

between 815 and 860 m a.s.l. Specimen LOUNAZ-PAD022 was collected on 17 April 2009; LOUNAZ-PAD036, PAD038, and PAD039 on 05 May 2009; and LOUNAZ-PAD050–51 on 08 May 2009 (Fig. 2). This new locality (Fig. 3) is the second known for the species (formerly known just from its type locality in Peru), the first record for Ecuador, and an extension of ca. 489 km NW from the type locality (Duellman and Pramuk, 1999).

The type locality of *Pristimantis metabates* was reported as being covered by Thorn forests, but the Ecuadorian locality herein reported is covered by Foothill Evergreen forests. *Pristimantis ockendeni sensu lato* and *P. percnopterus* are also known from xeric forests nearby the type locality of *P. metabates* and from evergreen or montane forests towards the north (Duellman and Pramuk, 1999). The specimens of *Pristimantis metabates* discovered by us were collected at night under stones or dead logs on sandy point bars of streams inside ravines. They were excellent rapid-swimmers, usually jumping into the water after being disturbed. Similar behaviour has been observed in *Pristimantis malkini* (D.F. Cisneros-Heredia, pers. obs.); a species sharing with *P. metabates* the presence



**Figure 4.** *Pristimantis skydmainos* (LOUNAZ-PAD077) from the Centro de Estudios y Desarrollo para la Amazonia (CEDAMAZ), Universidad Nacional de Loja, province of Zamora-Chinchipec, Republic of Ecuador.

of webbing among the toes, thus suggesting that these two species are probably semi-aquatic. All specimens exhibit all diagnostic features of *P. metabates*, including the presence of basal webbing, a tubercular dorsum lacking a fin-like mid-dorsal tubercle, snout rounded in dorsal and lateral views, inner edge of tarsus bearing a distinct fold distally, dorsum brown with dark X-mark, and posterior surfaces of thighs brown with small cream flecks. In addition, we found the presence of one axilar and one inguinal large wart on each side, not mentioned on the original description and present on all specimens. The original description of this species was based on males only, and no females have been reported so far. Two females discovered by us (LOUNAZ-PAD022 and PAD051) are chromatic and structurally similar to males, but differ by the absence of nuptial pads and by larger sizes (snout-vent length: 48.1 and 51.4 mm vs. 28.4–31.4 mm in males).

*Pristimantis skydmainos* (Flores and Rodríguez) has been reported at several localities on the Amazonian lowlands and Andean foothills of Ecuador, Peru, Bolivia, and Brazil (Flores and Rodríguez, 1997; Padial et al., 2004; Rodríguez et al., 2004; Padial and De la Riva, 2005; Cisneros-Heredia, 2006). Seven specimens of *P. skydmainos* were collected at CEDAMAZ at elevations

between 740 and 950 m. Specimens LOUNAZ-PAD007, PAD010, and PAD015–16 were collected on 14–15 April 2009, and LOUNAZ-PAD068, PAD077, and PAD080 on 09–10 May 2009 (Fig. 4). This new locality (Fig. 3) corresponds to the second known for the species in Ecuador (previously known from just one locality on the Amazonian lowlands—Tiptutini Biodiversity Station, province of Orellana; Cisneros-Heredia 2006), it represents a range extension of ca. 418 km SW-ward from the previous known Ecuadorian locality, and fills the gap between the Amazonian Ecuadorian populations and the northern Peruvian populations.

Most specimens of *P. skydmainos* were collected at night, active on leaves of bushes at a ravine or inside the forest, and on the leaf litter of the forest and grasslands. One specimen was collected by day hidden amidst leaf litter. All specimens exhibit all diagnostic features of *P. skydmainos*, including the granular skin texture of posterior and lateral margins of the belly, a fin-like middorsal tubercle on a bold black spot, a pair of dorsolateral ridges, and an interocular fold (low in most specimens). Three female specimens have snout-vent lengths of 31.9–43.6 mm, and males of 24.6–29.8 mm.

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