

Geographic range extension of the Toad Leaf Frog *Phyllomedusa atelopoides* Duellman, Cadle and Cannatella, 1988 (Anura, Hylidae)

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The genus *Phyllomedusa* Wagler, 1830 currently houses 30 species of treefrogs, distributed in Panama, the Pacific slopes of Colombia, and South America east of the Andes, including Trinidad, southward to northern Argentina and Uruguay (Frost, 2013). Most species of the genus are primarily arboreal (Duellman, Cadle and Cannatella, 1998; Rodríguez and Duellman, 1994), although some of them have been found more often on the ground, as the purplish colored *Phyllomedusa atelopoides*. It is a small Phyllomedusinae whose known geographic range is based on nine confirmed localities in Peru and Brazil (Rodríguez and Duellman, 1994; Duellman, Cadle and Cannatella, 1998; Cocroft, Morales and McDiarmid, 2001; Souza, 2009; Peloso et al., 2009; Bernarde, Machado and Turci, 2011). Although the species apparently occurs in relatively high densities in the Peruvian Amazon (Duellman, Cadle and Cannatella, 1988), it has been rarely reported in Brazil. In this study we expand the known range of *P. atelopoides*, introducing two new punctual records in the Madeira-Purus interfluve, Brazilian Amazon. The Madeira-Purus interfluve is covered by a mosaic formed by flooded and non-flooded forest, and patches of *campinarana* (white sand forest), with many streams

that overflow during flooding of the rivers (December to June).

We found two *P. atelopoides* during nocturnal visual search for reptiles and amphibians, in 5 km² permanent sample modules in the Madeira-Purus interfluve, state of Amazonas, Brazil. The first record (SVL 49.1 mm, female, INPA-H 20857, Fig. 1B) was made on 22 July 2008, on the ground of primary forest (04°59'35" S, 61°34'25" W, 60 m above sea level). The second record (SVL 38.4 mm, male, INPA-H 31961, Fig. 1A) was made on 23 January 2013, on the edge of a puddle in primary forest (06°11'5" S, 62°37'24" W, 70 m above sea level). Specimens identification were checked by Marcelo Gordo, and showed diagnostic characters as purplish brown back with scattered metallic green flecks, subarticular tubercles large and prominent, and phalanges and metatarsals short and robust, especially of fourth toe (Fig. 1D). The body color varied slightly between specimens, the male had more green spots on the back and limbs (Fig. 1A, B). Females have been found having few green spots on the body (see Duellman, Cadle and Cannatella, 1988; Peloso et al., 2009), but we do not know if there is sexual dimorphism in body color. The ventral color was very similar between the two specimens (Fig. 1C). Our records (Fig. 2) extend the geographic range of *P. atelopoides* in about 410 km (straight line) towards east from the easternmost locality in the known range (Coari, Amazonas), and in about 1,200 km (straight line) from the type locality (Reserva Cuzco Amazónico, Departamento Madre de Dios, Peru). We also found two arboreal species of *Phyllomedusa* in the same area – *Phyllomedusa vaillantii* Boulenger, 1882 and *Phyllomedusa tomopterna* (Cope, 1868).

Despite that 25 years have elapsed from its description, there are only five localities of *P. atelopoides* in the Brazilian Amazon, and the majority of those records are based on single individuals. We sampled amphibians

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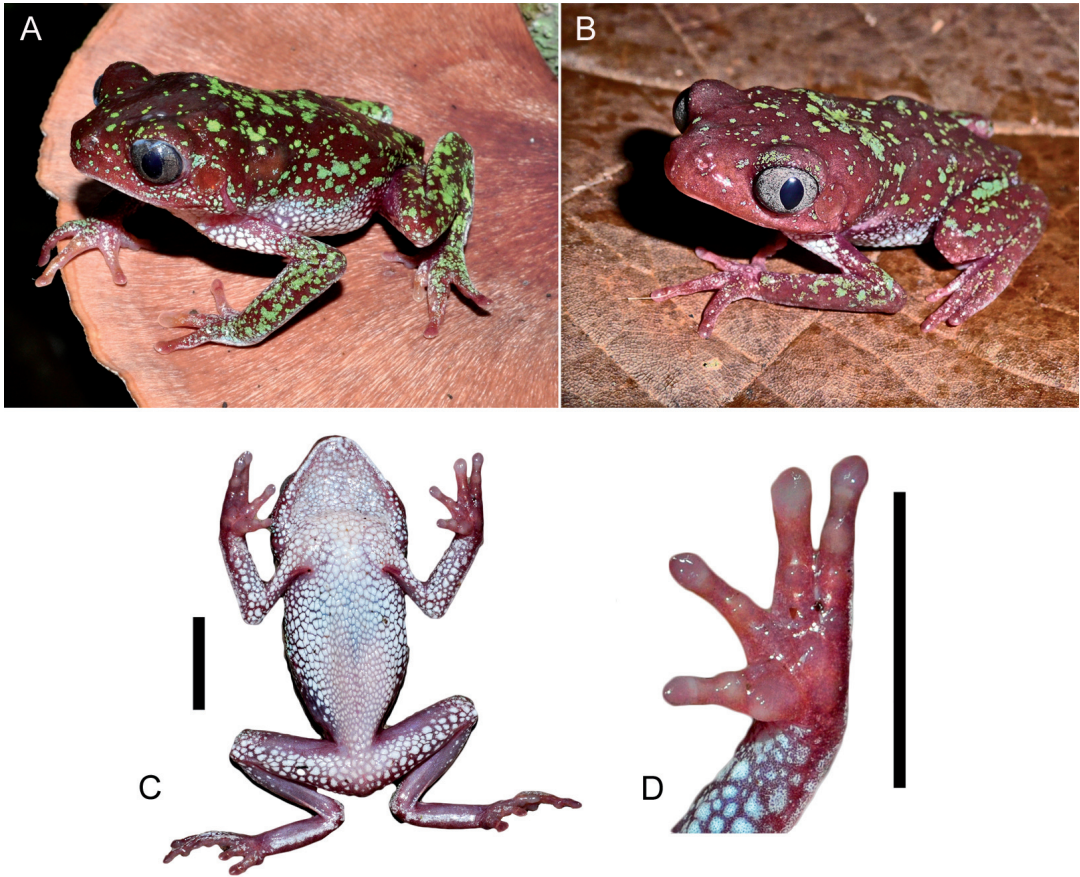


Figure 1. *Phyllomedusa atelopoides* from Madeira-Purus interfluve, Amazonas, Brazil. A: dorsolateral view of adult male (SVL 38.4 mm, INPA-H 31961); B: dorsolateral view of adult female (SVL 49.1 mm, INPA-H 20857); C: ventral view of adult male and D: hand of adult male (INPA-H 31961). Bars = 10 mm.

in the Madeira-Purus interfluve in 18 permanent plots (5 km²), distributed along about 800 km. Although we have spent more than 1,500 hours of visual searching, we found only two individuals, over 300 km apart from each other. More than 30 individuals were found near the type-locality in the Peruvian Amazon (*e.g.* Madre de Dios and Loreto), and three individuals were found in the same locality in the extreme west of Brazilian Amazon (Bernarde, Machado and Turci, 2011). Punctual records have shown that *P. atelopoides* is widely distributed throughout the Amazon basin, but regional patterns of distribution are unknown. Apparently the species occurs in low densities on the east side of its geographic range, but currently we are unable to quantify the influence of detectability on estimates of density.

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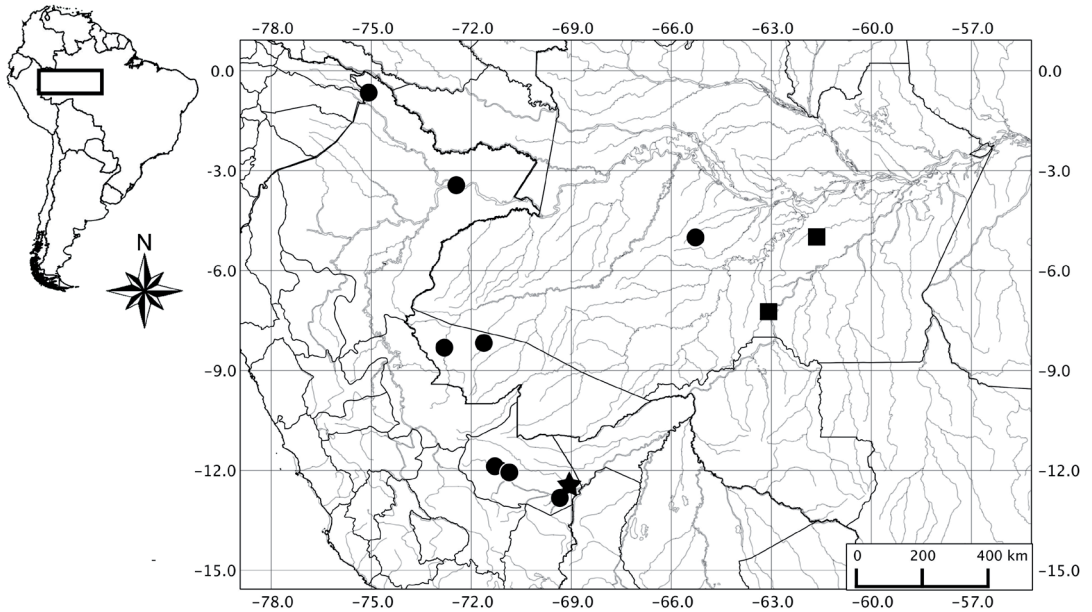


Figure 2. Geographical distribution of *Phyllomedusa atelopoides*. Star = type locality; circles = data from literature; squares = new records.

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