

# New records and distribution of the Toady leaf frog *Phyllomedusa atelopoides* (Anura, Hylidae)

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**Abstract.** The genus *Phyllomedusa* contains 32 species widespread in the Neotropics. Many species have a broad range, but *Phyllomedusa atelopoides* is apparently an exception. We found *Phyllomedusa atelopoides* in the state of Amazonas, Brazil. Herein, based on museum and literature records, we also provide new records of the species for Peru, an updated distribution map, and discussion of its range.

**Keywords.** Amphibia, Phyllomedusinae, Brazil, Peru, range extension

## Introduction

The genus *Phyllomedusa* contains 32 species distributed from Panama, through northern Argentina and Uruguay (Caramaschi and Cruz, 2002; Frost, 2008). Among Amazonian species, many are widely distributed, and all have a green dorsum in life and are mainly arboreal (Duellman, 1974; Duellman, Cadle and Cannatella, 1988; Rodríguez and Duellman, 1994). One remarkable exception is *Phyllomedusa atelopoides* (Figs. 1-3), which is terrestrial and has a purplish brown dorsum (Duellman, 2005; Duellman et al., 1988; Block, Mooney and Wild, 2002).

*Phyllomedusa atelopoides* was described from two localities in the Departamento Madre de Dios, Peru (Duellman et al., 1988). Rodríguez and Duellman (1994) reported the species from the Iquitos region, in Departamento de Loreto, northern Peru, and Cocroft, Morales and McDiarmid (2001) recorded it at Tambopata, Departamento de Madre de Dios, Peru (Fig. 4). Azevedo-Ramos and Galatti (2002) and Souza (2003) reported the species for the state of Acre, Brazil. De la Riva et al. (2000) and Köhler (2000) noted that the species was expected to occur in Amazonian Bolivia, but no specimens were known from that country, even though the Global Amphibian Assessment (GAA) included Bolivia in an estimated range map (IUCN, Conservation International and NatureServe, 2008).

## Materials and Methods

On 14 August 2008, during the sampling expedition at the Base Operacional Geólogo Pedro de Moura (BOGPM), located at the Urucu Petrol Basin, Municipality of Coari, state of Amazonas, Brazil (4°52'31" S and 65°15'05" W; Fig. 4) an adult specimen of *Phyllomedusa atelopoides* was collected (collectors: G.F. Maschio, F.S. Rodrigues and R. Rodrigues) (Figs. 2, 3). The frog was sitting on the leaf litter in primary forest at about 21:30 h. This specimen is deposited at Museu Paraense Emílio Goeldi, Belém, Pará, Brazil (MPEG 26381).

Morphologically, the specimen from the Urucu Basin agrees with the original description, and is readily identifiable by its large tympanum (66.7% of the diameter of the eye; Fig. 3B), first subarticular tubercle on toe IV large (Fig. 3D), hind limbs relatively short, dorsum purplish brown with scattered metallic green flecks (Fig. 2A), and absence of color pattern on the anterior surfaces of the thighs. Measurements (in mm) are: snout-vent length (41.0), head length (15.8), head width (15.1), interorbital distance (5.9), eye diameter (4.2), tympanum diameter (2.8), thigh length (17.4), tibia length (16.1), and foot length (12.6).

We surveyed 23 herpetological collections for additional records of *P. atelopoides*. The institutions browsed were: **Brazil:** Amphibian collection Célio F. B. Haddad, Rio Claro, São Paulo (CFBH); Instituto Nacional de Pesquisas da Amazônia, Manaus,

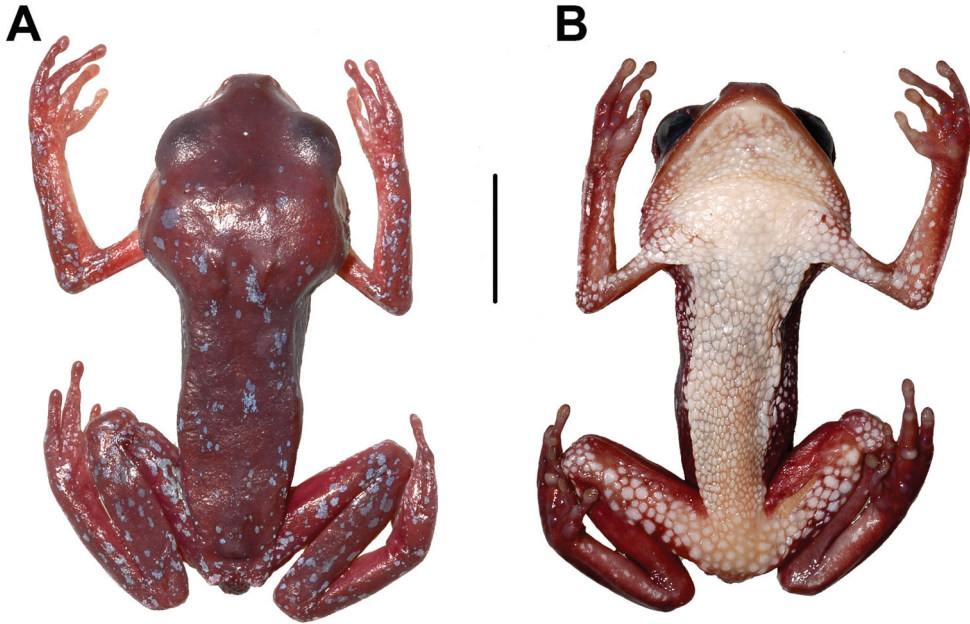


**Figure 1.** *Phyllomedusa atelopoides*, in life, from Cusco Amazónico, Madre de Dios, Peru (KU 215382, female, SVL = 40.1 mm). Photo: W.E. Duellman.

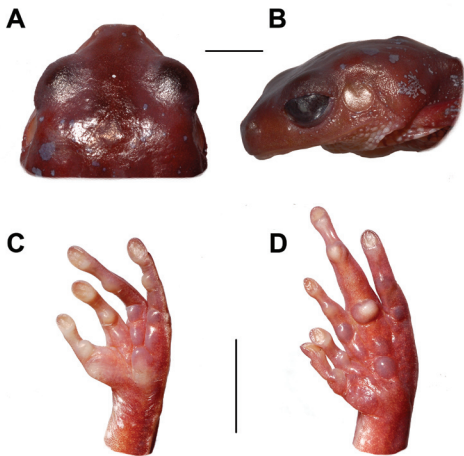
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**Figure 2.** *Phyllomedusa atelopoides* from Urucu, Amazonas, Brazil (MPEG 26381). (A) Dorsal and (B) ventral views. Bar= 10.0 mm.



**Figure 3.** *Phyllomedusa atelopoides* from Urucu, Amazonas, Brazil (MPEG 26381). (A) Dorsal and (B) lateral views of head, and ventral views of (C) right hand and (D) feet. Bar= 5.0 mm.

Amazonas (INPA); Museu Paraense Emílio Goeldi, Belém, Pará (MPEG); **Ecuador:** Museo Ecuatoriano de Ciencias Naturales, Quito (MECN); **Paraguay:** Museo Nacional de Historia Natural, Asunción (MNHNP); **Peru:** Museo de Historia Natural Universidad Nacional Mayor de San Marcos, Lima (MUSM); **USA:** American Museum of Natural History, New York, New York (AMNH); Auburn University Museum, Auburn, Alabama (AUM); California Academy of Sciences, San Francisco, California (CAS); Carnegie Museum, Pittsburgh, Pennsylvania (CM); Cornell University, Ithaca, New York (CU); Dallas Museum of

Natural History, Dallas, Texas (DMNH); Field Museum of Natural History, Chicago, Illinois (FMNH); University of Kansas, Museum of Natural History, Lawrence, Kansas (KU); Los Angeles County Museum of Natural History, Los Angeles, California (LACM); Louisiana State University Museum of Zoology, Baton Rouge, Louisiana (LSUMZ); Museum of Comparative Zoology, Cambridge, Massachusetts (MCZ); University of California at Berkeley, Museum of Vertebrate Zoology, Berkeley, California (MVZ); Sam Noble, Oklahoma Museum of Natural History, Oklahoma (OMNH); Texas A&M University, Texas Cooperative Wildlife Collection, College Station, Texas (TCWC); University of Michigan Museum of Zoology Ann Arbor, Michigan (UMMZ); National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM); University of Texas at Arlington, Merriam Museum, Arlington, Texas (UTA).

## Results and Discussion

The search located 34 specimens in three collections: 12 in the Smithsonian Institution, National Museum of Natural History (USNM), 21 in the University of Kansas, Natural History Museum (KU) and one in the Museo de Historia Natural Universidad Nacional Mayor de San Marcos (MUSM).

All specimens in the USNM are from the Departamento de Madre de Dios, Peru, and two of these are paratypes (Duellman *et al.*, 1988). However, three additional localities not mentioned by Duellman *et al.* (1988) were found (Fig. 4): Tambopata Reserve, Explorer's Inn, ca. 30 km (airline) SSW of Puerto Maldonado; Pakitza, Manu National Park, ca. 57 km (airline) NW of mouth

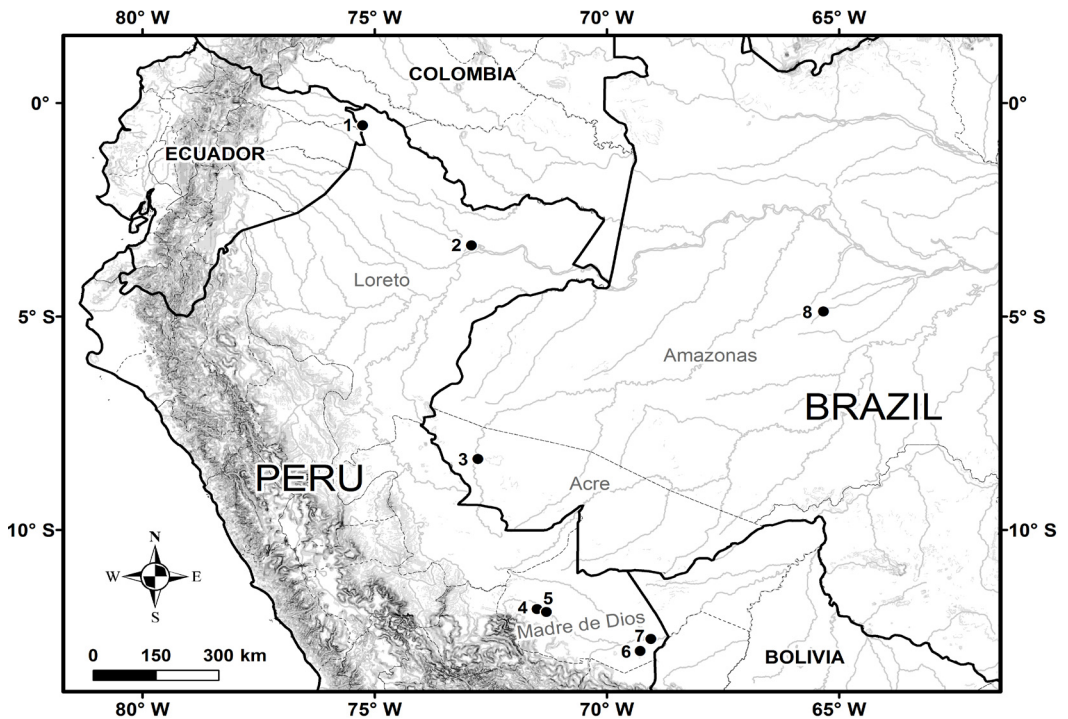
of Rio Manu, on Rio Manu; and Rio Manu, ca. 80 km (airline) NW of mouth of Rio Manu, Manu National Park. Twenty specimens in the KU collection are from the type-locality (the holotype, nine paratypes and 10 additional specimens), and one important additional record (KU 220331) from Quebrada Grande, junction of the Rio Sucusari and Rio Napo, Departamento de Loreto, Peru (Fig. 4).

According to Steve Gotte and Ariadne Angulo (pers. comm.), a single specimen collected at Rio Lagarto Cocha, Aguas Negras, Departamento de Loreto, Peru most likely will be catalogued in the Museu de Historia Natural, Universidad Nacional Mayor de San Marcos, but the specimen is not yet in the institution's catalog (César Aguilar, pers. comm.). The record from Aguas Negras extends the distribution ~1500 km northwest from the type locality and ~405 km northwest from Quebrada Grande (approximate airline distances). However an additional specimen from Rio Las Piedras, Departamento Madre de Dios, was found in that institution (MUSM 22362). The specimen from Amazonas, Brazil (Fig. 4) extends its range in ~940 km

northeastern from the type locality (approximate airline distance) into the central Amazonia of Brazil.

Given the distribution presented by us, it is likely that *Phyllomedusa atelopoides* has a much wider distribution than previously thought. It is also likely that the species occurs in Ecuador and Colombia, given that the northernmost records of the species are close to the borders of those two countries (Fig. 4).

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**Figure 4.** Locality records for *Phyllomedusa atelopoides*. (1) Aguas Negras, Rio Lagarto Cocha, Departamento Loreto, Peru; (2) Quebrada Grande, junction of Rio Sucusari and Rio Napo, Departamento Loreto, Peru; (3) Porto Walter, Rio Juruá, state of Acre, Brazil; (4) Pakitzta, Departamento Madre de Dios, Peru; (5) Reserva Nacional Manu, Madre de Dios, Peru; (6) Tambopata, Departamento Madre de Dios, Peru; (7) Cusco Amazónico, Departamento Madre de Dios, Peru; (8) Urucu, Municipality of Coari, state of Amazonas, Brazil.

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