

A new species of *Phyllomedusa* (Anura: Hylidae: Phyllomedusinae) from northwestern Venezuela

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Abstract

A new species of the *Phyllomedusa tarsius* group (Anura: Hylidae: Phyllomedusinae) from northwestern Venezuela can be differentiated from other species in the group by its small size, white and pink bars on the concealed surfaces of legs, and distinctive mating call; it is known only from xeric areas in the vicinity of Serranía de San Luis, Estado Falcón, Venezuela. The call is described, and some natural history data is also provided. The *Phyllomedusa tarsius* group includes five species and is defined by morphological characters (with one putative synapomorphy).

Key words: Anura, Hylidae, *Phyllomedusa*, new species, *P. tarsius* group, Falcón state, Venezuela

Resumen

Se describe una nueva especie del grupo *Phyllomedusa tarsius* (Anura: Hylidae: Phyllomedusinae) del estado Falcón, noroeste de Venezuela. La nueva especie se diferencia del resto de especies en el grupo *Phyllomedusa tarsius* por su tamaño pequeño, por presentar barras o manchas blancas sobre fondo rosado en las superficies ocultas de las extremidades inferiores y por su canto; habita zonas xéricas. Se describe el canto, mencionándose aspectos de su historia natural. Se redefine el grupo *P. tarsius* en base a caracteres morfológicos (se identifica una posible sinapomorfía). El grupo incluye cinco especies.

Introduction

In Venezuela eight species of monkey frogs of the genus *Phyllomedusa* are known (Barrio-Amorós 1998, 2004; Infante *et al.* 2006): *Phyllomedusa bicolor* (Boddaert, 1772); *P. hypochondrialis* (Daudin, 1802), *P. medinae* Funkhouser, 1962 (currently in *Hylomantis*, see Faivovich *et al.* 2005); *P. tarsius* (Cope, 1868); *P. tomopterna* (Cope, 1868); *P. trinitatis* Mertens, 1926; *P. vaillanti* Boulenger, 1882, and *P. venusta* Duellman and Trueb

1967. Only *Hylomantis medinai* is endemic to the country, known from cloud forests in the Cordillera de la Costa. The other species have extensive ranges occupying two (*P. trinitatis*) or more (the rest) countries.

Phyllomedusa bicolor, *P. vaillanti* and *P. hypochondrialis* are the most widespread species of *Phyllomedusa* in the South American continent, the first two ranging from Peru and Bolivia through the Amazonia to the Guianas, and the last one occurring in savannas and dry forests from the Venezuelan Llanos to the Argentinian Chaco (Frost 1985, 2004).

Some phenetic groups of *Phyllomedusa* have been diagnosed: the *buckleyi* group (Cannatella 1980), the *burmeisteri* group (Pombal and Hadad 1992), the *hypochondrialis* group (Frost 1985), the *perinesos* group (Cannatella 1982); some Brazilian species have been allocated to other genera like *Hylomantis*, *Phasmahyla* and *Phrynomedusa* (Gonçalves Da Cruz 1990). Faivovich et al (2005) reallocated many species in these genera, and created a new genus, *Cruziophyla*, for *Agalychnys calcarifer* and *A. craspedopus*. A series of morphologically similar species of *Phyllomedusa* have never been assigned to a phenetic group, but De la Riva (1999) placed *Phyllomedusa boliviana*, *P. camba*, *P. coelestis*, *P. tarsius*, *P. trinitatis* and *P. venusta* together, herein designated as the *Phyllomedusa tarsius* group.

During a review of specimens of the *Phyllomedusa tarsius* group of Venezuela, we determined that some specimens assigned to *P. trinitatis* were different in size and pattern. Visits to some localities from where the specimens came also revealed that the call was distinctive.

We describe these specimens herein as a new species.

Material and methods

All measurements were taken in mm with a caliper accurate to 0.1 mm. Sex was determined by dissection. Abbreviations for measurements are: SVL: snout-vent length; TL: tibia length; FeL: femur length; HW: head width; HeL: head length; InD: internarial distance; UEW: upper eyelid width; IOD: inter orbital distance; EN: anterior edge of eye to nostril; ED: eye diameter; TD: tympanum diameter; FD: disc width of Finger III; 4TD: disc width of Toe IV; ETS: distance between the anterior edge of the eye to the tip of snout; ETD: eye-tympanum distance; 1FiL: length of Finger I from the interior edge of the thenar tubercle to the tip of the Finger disc; 2FiL: length of Finger II, from the junction of Finger I and III to the tip of finger disc. Calls were recorded with a Sony TCM-353V tape recorder and microphone Sony F-V5, and analyzed with the program Cool Edit Pro 1.2 for Windows. Call recordings are deposited in the collection of Fundación AndígenA with field number FA 37–40. Comparisons with species not examined (*P. coelestis*, *P. boliviana* and *P. camba*) were taken from Duellman and Mendelson III (1995), Cannatella (1983), and De la Riva (1999). Specimens used in the description and examined for comparisons are deposited in CVULA (Colección de Vertebrados, Universidad de los Andes, Mérida,

Venezuela); EBRG (Museo de la Estación Biológica Rancho Grande, Maracay, Venezuela); ICN (Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogotá, Colombia); MBLUZ-A (Museo de Biología, La Universidad del Zulia, Maracaibo, Venezuela); MBUCV (Museo de Biología, Universidad Central de Venezuela, Caracas); and MHNLS (Museo de Historia Natural La Salle, Caracas, Venezuela).

***Phyllomedusa neildi* sp. nov.**

(Fig. 1, 2)

Holotype: MBUCV 6684, adult male, from the vicinity of Murucusa, Municipio Petit (11° 02' N, 69° 35' W), 550 masl, spurs of Sierra de San Luís, Estado Falcón, Venezuela, collected by C. Morón in August 1994.

Paratypes: CVULA 6500, 6502, adult males; CVULA 6501, 6503, adult females; EBRG 4754–5, adult males; MBUCV 6685–6, adult males (6685 cleared and stained). All with the same data as the holotype.

Referred material: MHNLS 1503 Estado Falcón: Curimagua, distrito Petit.

Etymology: The specific name is a patronym for Andrew Neild, lepidopterologist associated with the Natural History Museum of London (UK) in recognition of his productive work in Venezuela (Neild 1996).

Diagnosis: A member of the genus *Phyllomedusa sensu stricto* (Gonçalves da Cruz 1990; Faivovich *et al.* 2005) and of the *Phyllomedusa tarsius* group (defined below), with the following combination of characters: (1) moderate size (\bar{x} = 59.8 in males; \bar{x} = 73.3 in females); (2) snout of males strongly sloping in lateral profile, rounded to truncate in females; (3) Finger I longer than, and opposable to FII; (4) parotoid glands not apparent; (5) dentigerous processes of vomers present; (6) calcars and dermal appendages absent; (7) palpebral membrane not reticulated; (8) iris golden with black reticulations in life; (9) dorsal coloration green; concealed surfaces of hind limbs pink with white transverse bars or spots.

Comparison with other species: Compared with other species in the *Phyllomedusa tarsius* group, *P. neildi* is similar to *P. trinitatis*, *P. tarsius* and *P. venusta*, but can be easily distinguished by its significantly smaller size; SVL in *Phyllomedusa trinitatis* (Fig 3) males is from 70 to 81 mm (\bar{x} = 76.3); in females is from 90 to 95.5 (\bar{x} = 92 mm) [own data]; SVL in *Phyllomedusa tarsius* (Fig 4) ranges in males from 81 to 90 mm (\bar{x} = 84.1 mm); in females from 99.1 to 111.8 mm (\bar{x} = 104.0 mm) (Duellman 1974); SVL in *Phyllomedusa venusta* ranges in males from 69 to 86.3 mm (\bar{x} = 77.4 mm); the mean in females is 97.7 mm (Duellman and Trueb 1967, and own data combined). On the other hand, *P. neildi* has the concealed surfaces of the hind limbs coloured with white transverse bars or spots on a pink background (absent or very ill defined in other species). *Phyllomedusa venusta* has long and prominent parotoid glands (absent or not well developed in *P. neildi*). Males of *P. coelestis*, a rare species in the upper Amazon of Peru

and Ecuador, are similar in size to those of *P. neildi* (53.3–64.8 mm; Duellman and Mendelson III 1995), but *P. neildi* also differs from *P. coelestis* in coloration of the flanks and concealed surfaces of hind limbs. *Phyllomedusa boliviana* and *P. camba* from the south western Amazon Basin lack a golden iris with black reticulation and have conspicuous parotoid glands.

Description of the type series: *Phyllomedusa* of moderate size (males 55.2–63.8, \bar{x} 59.8; females 70.5–76, \bar{x} 73.2). Head (Fig. 5B) longer than wide; top of head flat; snout short, oval in males, rounded in females in dorsal view; sloping in males, and rounded to truncate in females in lateral profile; canthus rostralis rounded; loreal region slightly concave; lips thin, not flared; nostrils not protuberant, directed laterally; internarial region flat; eyes protuberant; palpebral membrane transparent; parotoid glands indistinct; supratympanic fold apparent only in females, barely developed; tympanum vertically oval, distinct, except dorsally, hidden by supratympanic fold. Tongue enormous, round or cordiform, $\frac{1}{2}$ to $\frac{2}{3}$ free distally; maxillary teeth present; dentigerous processes of vomers small, transverse between choanae, separated by a distance equal to $\frac{2}{3}$ of one process; each bearing 2–6 teeth (usually 4–6); vocal slits absent; vocal sac single, medial, not distinct.

Axillary membranes absent; arms slender, forearms moderately robust in males; ulnar fold indistinct; indistinct row of protuberances, in some specimens; relative length of fingers I<II<IV<III; finger discs approximately $\frac{2}{3}$ of TD; palmar tubercle small, round, flat, indistinct; thenar tubercle oval, protuberant, double size of palmar tubercle; subarticular tubercles round, conical; supernumerary tubercles round, slightly overlapping to conical, variable in number; webbing absent between fingers (Fig. 6A).



FIGURE 1. *Phyllomedusa neildi* sp. nov. male in life (specimen not collected) from type locality.



FIGURE 2. *Phyllomedusa neildi* sp. nov. male from the type locality, from below.

Hind limbs slender, moderately long, without calcars or other dermal ornaments; anterior edge of tibia with a row of nearly indistinct tubercles, white; interior tarsal fold indistinct; exterior tarsal fold indistinct; relative length of toes $II < III < I < V < IV$; discs on toes equal to or slightly smaller than discs on fingers; inner metatarsal tubercle oval, flat; outer metatarsal tubercle absent or indistinct; subarticular tubercles round, conical; supernumerary tubercles round, conical; webbing absent between toes (Fig. 6B).

Cloacal opening directed posteroventrally, at upper level of thighs, not ornamented. Skin on dorsal surfaces of head, body and limbs smooth with small white warts scattered irregularly on dorsum, dorsal parts of flanks (Fig. 5A) and posterior surfaces of thighs; skin on venter, flanks and ventral surfaces of hind limbs slightly tuberculate.

Coloration: In life, dorsal surfaces of head, body and limbs green (Fig 1); flanks changing from green dorsally to pale brown ventrally through diffuse series of flat white warts; throat and chest greyish brown; belly and ventral surfaces of limbs yellowish brown; irregular white spot, approximately at juncture of each forelimb, in some individuals extending from anterior part of chest to posterior part of throat, bordered or not by smaller white spots; large, round white spots on ventral surface of each thigh proximal to cloaca; (Fig 2); concealed surfaces of hind limbs pink with white bars or spots (Fig 1); inner surfaces of forearm and Fingers II and III pink with white bars; white line on outer edge of forearm, extending to end of Finger IV, serves to separate the dorsal green

coloration of the upper surface of the forearm from ventral gray surfaces; a similar tarsal line, not always well defined. The iris is golden with black reticulations.

In preservative, the dorsum is pale blue; the venter is gray, and the belly whitish; concealed surfaces of hind limbs change to grayish pink.

Measurements of Holotype: SVL: 60.2; TL: 28.2; FL: 19.9; HeL: 22; HW: 20; ED: 5.7; TD: 3; IOD: 6; UEW: 6; 1FiL: 8.5; 2FiL: 10; FD: 2; 4TD: 2; InD: 5.

Variation: The pattern on the concealed surfaces of the hind limbs varies from white transverse bars to white spots on a pink background. The subarticular tubercles on the hands and feet are rounded or conical, but they always are protuberant. The shape, number and disposition of the white spots on the chest and ventral surfaces of the thighs also are variable. The variation in measurements is given in Table 1.

TABLE 1. Measurements (in mm) of the type series of *Phyllomedusa neildi* sp. nov. SD (= Standard Deviation).

	Males (n = 6)		Females (n = 2)	
	Range	Mean \pm SD	Range	Mean \pm SD
SVL	55.2-63.8	59.8 \pm 3.58	70.5-76	73.2 \pm 3.89
TL	26-30	27.8 \pm 1.55	32-34	33 \pm 1.41
FeL	16.8-20.5	19.2 \pm 1.35	22.6-22.8	22.7 \pm 0.14
HeL	19-22	20.7 \pm 1.11	23.6-24	23.8 \pm 0.28
HW	18.8-20.6	19.6 \pm 0.70	24.2-24	24.1 \pm 0.14
ED	5-5.9	5.4 \pm 0.43	5.9-7.8	6.8 \pm 1.34
TD	3-3.4	3.1 \pm 0.16	3.8-4	3.9 \pm 0.14
IOD	5.8-7	6.4 \pm 0.59	8	8 \pm 0
UEW	5-6.1	5.6 \pm 0.42	6-6.2	6.1 \pm 0.14
1FiL	6.5-9	7.6 \pm 1.16	8.5-10	9.2 \pm 1.06
2FiL	7.2-10.1	8.9 \pm 1.05	10.2-11.6	10.9 \pm 0.99
FD	1.8-2	1.9 \pm 0.08	2-2.5	2.2 \pm 0.35
4TD	1.3-2	1.8 \pm 0.27	2-2.2	2.1 \pm 0.14
InD	4-5	4.6 \pm 0.37	5.5-5.5	5.5 \pm 0

Distribution and habitat: In addition to the type locality, one specimen assigned to *Phyllomedusa neildi* (MHNLS 1503) comes from Curimagua, distrito Petit, in the Sierra de San Luis. Thus, *P. neildi* is known definitely only from xeric localities on a spur of the Sierra de San Luis, at an elevation of 550 m. The dominant vegetation consists of low trees (to 8 m) called locally "cujíes", spiny bushes, and cacti, composing a dry semi-deciduous dwarf forest (bosque muy seco tropical "bms-T" of Holdridge 1967). This species may be endemic to the low, dry lands of the Sierra de San Luis and vicinity, but it also could be more widespread through similar habitats in northwestern Venezuela in the states of

Falcón, Lara, Yaracuy and Zulia.

Previously, all known species of what is going to be the *Phyllomedusa tarsius* group (defined below) were reported to occur from lowland rainforest to cloud forest (bmh-T to bmh-P of Holdridge 1967), which are the habitats of *P. tarsius* and *P. trinitatis* in Venezuela, although the latter can be also found in deciduous forest (bs-P). *Phyllomedusa venusta* is known from rainforest in Darién, Panamá (Duellman and Trueb, 1967) and northern Colombia to the middle Magdalena Valley, although it inhabits also some localities with a drier climate in Atlántico and Luriza (John D. Lynch, pers. com.). *Phyllomedusa coelestis* occurs in rainforests in the upper Amazon in Peru and Ecuador.



FIGURE 3. *Phyllomedusa trinitatis* male, from Guatopo National Park, estado Guárico (specimen not collected).

Natural History: At the type locality, on 22 August 2001, several egg clutches were observed. These were like those described by Kenny (1966) for *Phyllomedusa trinitatis* in Trinidad. One clutch was encased on the upper surface of a single leaf, about 12 cm wide. Other nests were encased in two or more leaves. Two nests contained 255 and 282 white eggs, surrounded by transparent jelly capsules. Adult males called from bushes at heights of 1.5 m to trees to > 4 m, around ponds. Amplectant pairs were observed in vegetation at various heights above water, but never in the water, as Langone *et al.* (1985) observed for *P. iheringi*. The same night, while in some lagoons many adults were in reproductive activity, in other pools only a few males were calling sporadically. Other species of anurans typical of savannas and xeric habitats of northern South America that were found in the pond where *P. neildi* was breeding include *Chaunus marinus*, *C. granulosis* complex, *Dendropsophus microcephalus*, *D. minutus*, *Hypsiboas crepitans*, *Scinax* “x-

signatus", *Engystomops pustulosus*, *Pleurodema brachyops*, and *Leptodactylus insularum*.



FIGURE 4. *Phyllomedusa tarsius* from Reserva Forestal de Caparo, estado Barinas (specimen in CVULA).

Vocalization: Three types of notes can be recognized. In the audiospectrogram (Fig 7), each call corresponds to a different individual, but all were recorded at the same time (21:30h) from a single position (air temperature 22°C). The first (Fig 7A) consist of a single note of 104 ms of length and 707 Hz of dominant frequency (fundamental frequency of 168 Hz). The second (Fig 7B) is a series of eight notes of 871 ms, with a dominant frequency of 736 Hz (fundamental 140 Hz). The third (Fig 7C) was the most common (that night) and consists of two notes, one principal with a duration of 164 ms and a dominant frequency of 843 Hz, (fundamental 252 Hz), and a secondary of 104 ms. The length of the complete sequence is 302 ms. Rivero & Esteves (1969) showed an audiospectrogram of the call of *Phyllomedusa trinitatis*, but they did not described it. In their spectrogram, there is a principal note, followed by five secondary notes; as can be extrapolated, the dominant frequency is approximately at 800 Hz, while the fundamental is at 500 Hz; the duration of the sequence is of 1.1 sec. *Phyllomedusa neildi* can emit up to fifteen consecutive secondary notes. Kenny (1966) described a distress call for *P. trinitatis* that was not heard in *P. neildi*. Calls of the *Phyllomedusa tarsius* group species have been never well analyzed. We cannot conclude any important difference among them. The call of *P. camba* (out of the *P. tarsius* group in this paper) has also a dominant frequency of 860 Hz.

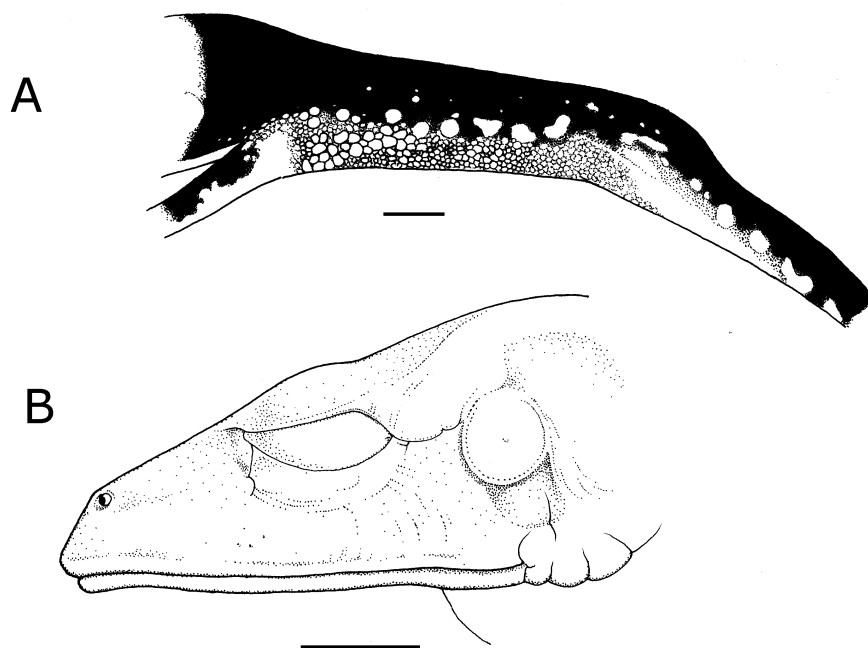


FIGURE 5. *Phyllomedusa neildi* sp. nov. Right flank (A) and lateral view of the head (B) of EBRG 4754. Scale equal to 5 mm.

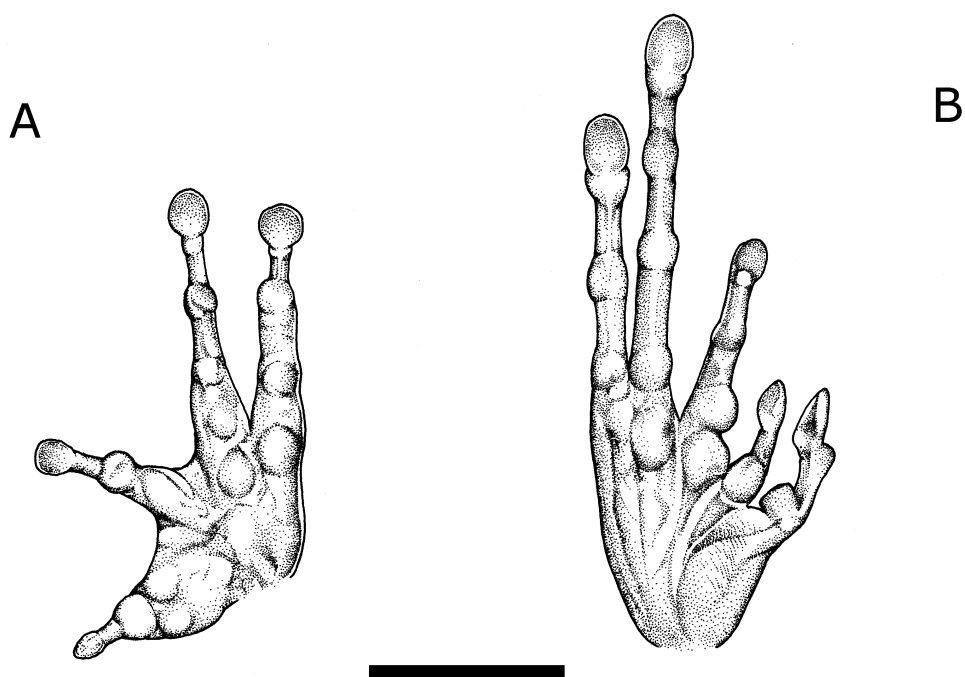


FIGURE 6. *Phyllomedusa neildi* sp. nov. View of the left hand (A) and right sole (B) of EBRG 4754. Scale equal to 5 mm.

Systematics

Phyllomedusa tarsius group

De la Riva (1999) comments on the poorly defined *tarsius* group, which to him consisted in the following species: *Phyllomedusa boliviana*, *P. camba*, *P. coelestis*, *P. tarsius*, *P. trinitatis* and *P. venusta*. Faivovich *et al.* (2005) only tested (based on 5100 base pairs from four mitochondrial and five nuclear genes) *P. tarsius* of the group. Creating a new Hylidae taxonomy, they included *P. sauvagii* in the same group with *P. tarsius*, *P. boliviana* and *P. camba*. However, *P. boliviana* and *P. camba* (which are definitely very similar to each other) differs considerably from *P. coelestis*, *P. tarsius*, *P. trinitatis* and *P. venusta*, especially in appearance of the eye (see below), and *P. sauvagii* is clearly not assignable to this group (it is one of the most distinctive *Phyllomedusa*, and probably it deserves its own species group, Cannatella 1980; De la Riva 1999).



FIGURE 7. Audiospectrogram of the recorded call of *Phyllomedusa neildi* sp. nov. A. Simple note. B. Series of notes. C. Double note. The horizontal bar corresponds to time in seconds, separated by decimals of seconds. The vertical axis is the frequency in Hz.

I propose the following definition of the *P. tarsius* group (osteological and larval characters not considered: the larvae of *P. coelestis*, *P. neildi*, and *P. venusta* are unknown): moderate to large phyllomedusines with sexual dimorphism in size (males from 53.3 to 97 mm -smallest measurement corresponding to *P. coelestis*, the biggest to *P. tarsius* from Ecuador-; females from 63 to 111.8 mm—smallest measurement corresponding to *P. neildi*, the biggest to *P. tarsius*-): (1) Foot and hands without webbing; (2) parotoid glands indistinct (in *P. neildi*, *P. tarsius* from Venezuela and some *P. trinitatis*), moderately developed (*P. coelestis*, *P. trinitatis*) to well developed (some *P. tarsius* and *P. venusta*); (3) dorsal skin smooth with fine and scattered small tubercles (*P. neildi*, *P. trinitatis*), pustules (*P. venusta*), shagreen (*P. tarsius*), or posteriorly tuberculate (*P. coelestis*); (4) males with vocal slits (*P. coelestis*) or without (*P. neildi*, *P. tarsius*, *P. trinitatis*); (5) Toe I longer than II; (6) iris golden, orange or reddish, with black fine reticulations (*P. coelestis*, *P. neildi*, *P. tarsius*, *P. trinitatis*, *P. venusta*); (7) vomerine processes present.

I propose to exclude *P. boliviana* and *P. camba* (included in the group by De la Riva 1999) and *P. sauvagii* (included in the group by Faivovich *et al.* 2005) because they do not

share the most striking character (herein considered as a synapomorphy) of the group, the golden iris with black reticulations.

Discussion

Our knowledge about the distribution of Phyllomedusinae in Venezuela is summarized by Barrio-Amorós (1998, 2004). *Phyllomedusa trinitatis* is widely distributed along the north of the country, in the states of Sucre, Monagas, north of Bolívar and Guárico, Vargas, Distrito Federal, Miranda, Aragua, Carabobo, Yaracuy and eastern Falcón, which last seems to be the occidental limit of the species. It is not known if *P. trinitatis* occurs in sympatry with *P. neildi*, although the possibility exists. A locality for *P. trinitatis* reported by Yústiz (1996) for Lara state (SW of Falcón) and cited by Barrio-Amorós (1998) needs to be confirmed, because it could refer to *P. tarsius* as well as *P. neildi*. Unfortunately, the collection where the specimen was housed (UCLA, Barquisimeto, Venezuela) suffered a flooding and that material is lost. *Phyllomedusa tarsius* is to date known in two localities of the Andean foothills, in the states of Barinas and Portuguesa (La Marca 1996; Markezich 1998), and although it was mentioned for Bolívar state by Duellman and Trueb (1986), those specimens prove to be *P. trinitatis* (own data, in progress). However, the *P. tarsius* from the Venezuelan Andean piedmont differs considerably from those from western Amazonia, and could belong to another, undescribed, species. *Phyllomedusa neildi* is the first species of the genus in Venezuela to inhabit xeric habitat.

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Appendix I: Specimens examined

Phyllomedusa bicolor: **Venezuela: Estado Amazonas:** Alto río Cuao: EBRG 1863–4. Las Pavas, vía Puerto Ayacucho a Gavilán: EBRG 1275 and MBUCV 904. Salto Nieves, río Cataniapo: EBRG 1295–7. **Estado Bolívar:** Reserva Forestal de Imataca: EBRG 2459–61.

Phyllomedusa hypochondrialis: **Venezuela: Estado Bolívar:** Reserva Forestal de Imataca: EBRG 2455–58.

Hylomantis medinae: **Venezuela: Estado Aragua:** Rancho Grande, Parque Nacional Henri Pittier: EBRG 36–40, 281–3.

Phyllomedusa neildi: **Venezuela, Estado Falcón:** vicinity of Murucusa, Municipio Petit, (11° 02' N, 69° 35' W), 550 masl, spurs of Sierra de San Luís (MBUCV 6684: holotype); CVULA 6500, 6502, CVULA 6501, 6503, EBRG 4754–5, MBUCV 6685–6 (paratypes); Curimagua, distrito Petit: MHNLS 1503.

Phyllomedusa tarsi: **Venezuela: Estado Barinas:** Reserva Forestal de Caparo: CVULA 5542–44.

Phyllomedusa trinitatis: **Venezuela: Estado Bolívar:** Reserva Forestal de Imataca: EBRG 2461. **Estado Carabobo:** Embalse río Morón: EBRG 2327. **Estado Falcón:** Quebrada Arena, 6 km W Sanare: EBRG 2960, 3333. **Estado Guárico:** Guatopo: EBRG 3357, 3368. **Estado Monagas:** Campamento MARNR río Guarapiche: EBRG 2357. **Estado Sucre:** Hacienda Solís, Península de Paria: EBRG 2560. **Estado Vargas:** Carayaca, 840 m: MBUCV 623. **Estado Yaracuy:** Hacienda El Jaguar, 15 km NNW Aroa: EBRG 2795.

Phyllomedusa tomopterna: **Venezuela: Estado Amazonas:** Yanomami village Mavaca, río Mavaca: EBRG 2938. Valle en Serranía de Unturán: MHNLS 13982. **Estado Bolívar:** Reserva Forestal de Imataca: EBRG 2267.

Phyllomedusa vaillanti: **Colombia: Meta:** Serranía de la Macarena: ICN 02970.

Phyllomedusa venusta: **Colombia: Antioquia:** Municipio Valdivia, 1250 m: ICN 09258–60, 09262. Municipio Puerto Triunfo, Corregimiento Las Mercedes, 500 m: ICN 37542. Córdoba: Represa Urrá: ICN 41312. Municipio Tierralta, quebrada La Mina, 120 m: ICN 39226, 43418. Boyacá: Puerto Boyacá, Quebrada La Cristalina: MC (serie de campo de María Cristina Ardila-Robayo) 8312. **Venezuela: Estado Zulia:** La Orchila, Wayuu indigenous village, 11°37' N-71°53' W, Municipio Mara, 230 m, Sierra de Perijá piedmont: MBLUZ A-185, 218, 259, 280.