Zootaxa 3716 (4): 583–591
www.mapress.com/zootaxa/
Copyright © 2013 Magnolia Press

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3716.4.6
http://zoobank.org/urn:lsid:zoobank.org:pub:95EAEF15-6A23-449E-94A0-8A9A7B72904B

A new and possibly critically endangered species of casque-headed tree frog *Aparasphenodon* Miranda-Ribeiro, 1920 (Anura, Hylidae) from southeastern Brazil

CLODOALDO LOPES DE ASSIS[1,4,5], DIEGO JOSÉ SANTANA[2], FABIANO AGUIAR DA SILVA[1,4], FERNANDO MARQUES QUINTELA[3] & RENATO NEVES FEIO[4]

[1]*Associação Regional de Proteção Ambiental (ARPA-Zona da Mata), Praça Manuel Inácio Peixoto, 96, Centro, CEP 36773–084, Cataguases, MG, Brasil*
[2]*Universidade Federal da Paraíba, Departamento de Sistemática e Ecologia, Centro de Ciências Exatas e da Natureza, CEP 58051–900, João Pessoa, PB, Brasil*
[3]*Universidade Federal do Rio Grande do Sul, Programa de Pós-Graduação em Biologia Animal, Av. Bento Gonçalves 9500, Agronomia, CEP 91501–970, Porto Alegre, RS, Brasil*
[4]*Universidade Federal de Viçosa, Departamento de Biologia Animal, Museu de Zoologia João Moojen, 36570–000 Viçosa, Minas Gerais, Brasil*
[5]*Corresponding author. E-mail: clodoassis@yahoo.com.br*

Abstract

A new species of casque-headed tree frog of the genus *Aparasphenodon* is described from the municipality of Cataguases (21º20'S, 42º45'W; 288 m a.s.l.) in the Atlantic Rain Forest of Minas Gerais State, southeastern Brazil. *Aparasphenodon pomba* sp. nov. is characterized by medium size (males, snout-vent length, SVL 51.6–60.5 mm; females, SVL 58.7–62.1 mm); snout almost round in dorsal view; dorsum and limbs with cream-colored reticulation on dark-brown background; spots on ventral surface cream-colored; lips white; cream-colored dorsolateral stripe originating on the snout, crossing the upper eyelid and extending posteriorly to the axilla level; and red iris.

Key words: Amphibia, *Aparasphenodon pomba* **sp. nov.**, Southeastern Brazil, Atlantic Rain Forest, taxonomy

Introduction

The genus *Aparasphenodon* was established in 1920 by Alípio de Miranda-Ribeiro, based on a specimen of *A. brunoi* from southeastern Brazil (Carvalho 1941). This genus is characterized mainly by having the skull larger than broad; snout narrow and acuminate in dorsal view; canthal ridges distinct and concave anteriorly; bone configuration of dermal covering surface constituted by a reticulated web of low-relief grooves and a radial ridge pattern (Trueb 1970). However, so far its only putative synapomorphy is the presence of a prenasal bone (Trueb 1970; Faivovich *et al*. 2005).

Aparasphenodon currently includes four species, distributed from northern South America to southern Brazil (Pimenta *et al.* 2009; Frost 2011; Mollo Neto & Teixeira Jr. 2012). *Aparasphenodon venezolanus* (Mertens, 1950) occurs in northern Brazil, southwestern Venezuela and eastern Colombia; and *A. arapapa* Pimenta, Napoli & Haddad, 2009, *A. bokermanni* Pombal, 1993, and *A. brunoi* Miranda-Ribeiro, 1920 inhabit the Atlantic Rain Forest in eastern Brazil. All the species have restricted distributions except for *A. brunoi*, which ranges from southern Bahia State to São Paulo State, and has its most inland record in Minas Gerais State, in the Doce River basin (Argôlo 2000; Frost 2011; Mollo Neto & Teixeira Jr. 2012). Herein, we describe a fifth species of *Aparasphenodon* from Minas Gerais.

Accepted by S. Castroviejo-Fisher: 3 Sept. 2013; published: 25 Sept. 2013

Material and methods

We studied specimens from the collections of Museu de Zoologia João Moojen, Universidade Federal de Viçosa, Minas Gerais, Brazil (MZUFV); Museu Nacional, Rio de neiro, Rio de neiro, Brazil (MNRJ); Museu de História Natural Professor Adão José Cardoso, Universidade Estadual de Campinas, São Paulo, Brazil (ZUEC); Museu de Zoologia da Universidade Estadual de Santa Cruz, Bahia, Brazil (MZUESC); and Instituto Nacional de Pesquisas da Amazônia, Amazonas, Brazil (INPA). Appendix 1 lists specimens examined. Information on *A. venezolanus* was obtained from Paolillo & Cerda (1981) and photographed specimens. Specimens of the new species are stored in the herpetological collections of MZUFV and MNRJ. Sex was determined by the by the examination of secondary sexual traits (presence of a vocal sac and vocal slits), besides, we considered adults, individuals which reach more than 50% of SVL of the biggest measured specimen (Prado & Pombal 2008). Bony structures of the skull were observed in a diaphanized specimen according to Souza (2002). Measurements follow Napoli (2005) and are in millimeters (mm): SVL (snout–vent length); HL (head length); HW (head width); ED (eye diameter); UEW (upper eyelid width); END (eye to nostril distance); IND (internarial distance); TD (tympanum diameter); IOD (interorbital distance); NSD (nostril to tip of snout distance); THL (thigh length); TL (tibia length); FL (foot length); 3FD (third finger disk diameter), and 4TD (fourth toe disk diameter). Webbing formula follows Savage and Heyer (1967) as modified by Myers and Duellman (1982).

Results

***Aparasphenodon pomba* sp. nov.**
(Figs 1–4)

Holotype. MZUFV 10438 (Figs 1–3), adult male, collected at Sítio Boa Sorte (21º20'S, 42º45'W; 288 m a.s.l.), locality Sinimbú, municipality of Cataguases, Minas Gerais. Collected by Clodoaldo L. Assis and A.G. Corrêa, 2 October 2008.

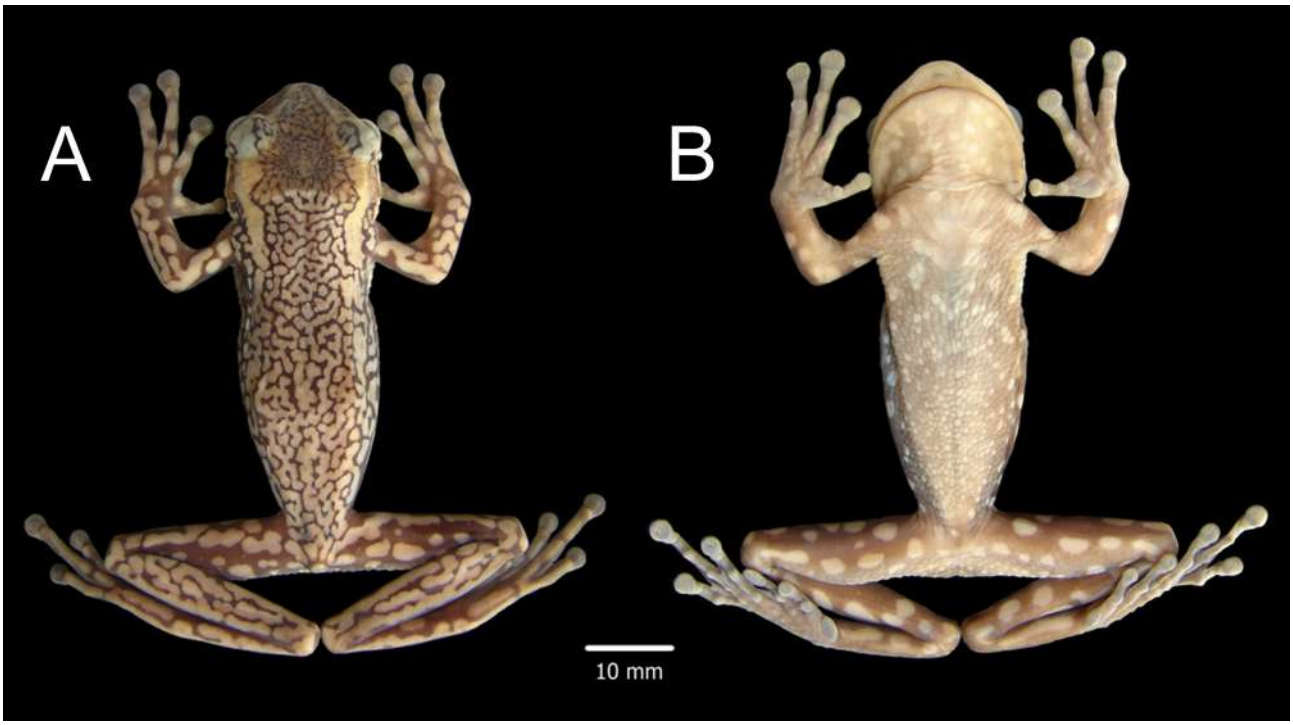

FIGURE 1. *Aparasphenodon pomba* **sp. nov.**, holotype (MZUFV 10438; SVL 60.5 mm). (A) Dorsal and (B) ventral views.

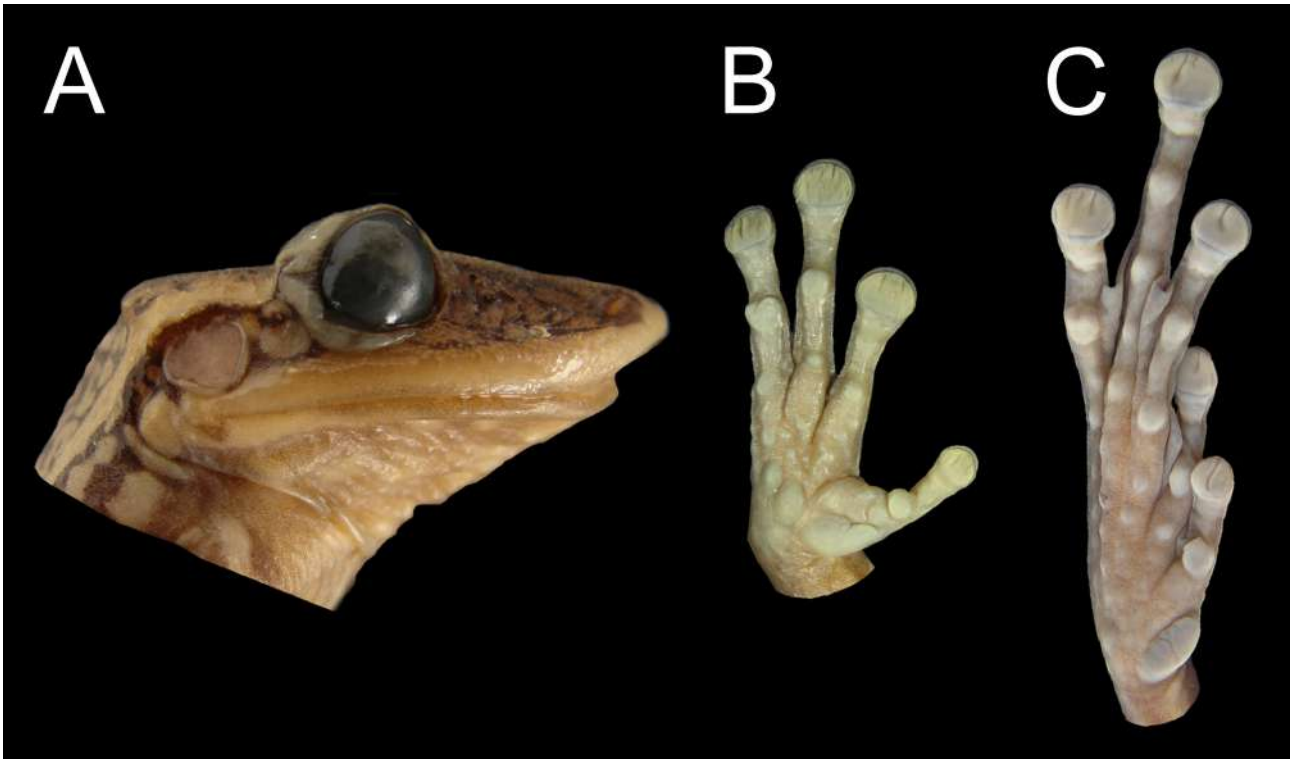

FIGURE 2. *Aparasphenodon pomba* **sp. nov.**, holotype (MZUFV 10438; SVL 60.5 mm). (A) Lateral view of the head, (B) hand, and (C) foot.

Paratopotypes. All collected in the type locality by C.L. Assis, unless otherwise stated. MNRJ 82596 (adult female; 19 October 2010; col. F.A. Silva), MZUFV 11517–518 (adult females; 1 August 2011), MZUFV 11519 (adult male; 1 August 2011), MZUFV 11520 (adult male; 5 October 2011); MZUFV 13320 (adult male; 30 October 2011); MZUFV 12126 (adult female; 14 December 2011; diaphanized); MNRJ 82597 (adult male; 19 nuary 2012); MZUFV 12728 (adult male; 27 October 2012); MZUFV 12987 (adult female; 1 December 2012; diaphanized); MZUFV 12988 (adult male; 1 December 2012; diaphanized).

Diagnosis. The characters that have been used as possible synapomorphies for the genus *Aparasphenodon* do not withstand detailed analysis, as thoroughly discussed by Pimenta *et al*. (2009). Therefore, considering the morphological and morphometric aspects, in addition to the geographical distribution of the genus, we consider our allocation of the new species to *Aparasphenodon* as merely tentative.

The species is characterized by: (1) medium size (males SVL 51.6–60.5 mm, n = 4; females SVL 58.7–62.1 mm, n = 4; Table 1); (2) head longer than broad; (3) iris red; (4) snout almost rounded in dorsal view and acute in profile; (5) dorsum and limbs with cream-colored reticulation on dark-brown background; (6) lips white; (7) presence of a cream-colored dorsolateral stripe originating on snout, extending to upper eyelid and posteriorly to level of axilla; (8) dorsal surface of skull tightly co-ossified; (9) absence of hand webbing; (10) large toe disc, almost rounded; (11) single subgular vocal sac; (12) ventral surface of thighs and arms brown, sparsely granulated; (13) gular region and venter light gray, moderately granulated and with cream-colored spots; (14) sum of thigh and tibia lengths 89–91 % of snout-vent length.

Description of holotype. Medium in size (SVL 60.5 mm). Head slightly longer than wide (HW/HL 0.95). Snout almost rounded in dorsal view, acute in lateral view. Canthus rostralis slightly elevated, almost straight. Loreal region slightly concave. Eyes large (ED/TD 1.6), directed anteriorly. Tympanum round and 1.7 times smaller than eye diameter. Supra-tympanic fold barely distinct, partially covering the tympanum and extending from posterior eyelid margin to posterior margin of tympanic ring. Nostrils in dorsolateral position. Internarial region slightly grooved, laterally delimited by two small bony crests. Skin of dorsal surface of head tightly co-ossified. Posterior region of head straight. Coanae elliptical. Series of vomerine teeth arranged in two oblique clusters, posteromedial between the choanae, with posterior edges turned to choanae posterior margins and anterior edges turned to the midpoint between them. Fourteen to 16 vomerine teeth on each side. Tongue large, covering

almost entire buccal floor. Forearm robust, arm slender. Subarticular tubercles of first, second, and third fingers round, subarticular tubercle of fourth finger bifid; supernumerary tubercles present; palmar tubercles developed, elongated. Fingers without webbing; disks large, almost rounded. Medium-sized legs, considering thigh and tibia lengths. Sum of thigh and tibia lengths 91.9% of SVL. Nuptial pads absent. Calcar absent; internal metatarsal tubercle large, elongated; external metatarsal tubercle small; subarticular tubercles round; supernumerary tubercles distinct; toe webbing formula **I** 2^{+}–2 **II** $1^{1/3}$–$2^{2/3}$ **III** $1^{1/2}$–$2^{2/3}$ **IV** $2^{2/3}$–$1^{1/3}$ **V**. Pectoral fold absent. Skin smooth dorsally and granular ventrally; ventral surface of thighs and arms slightly granular.

TABLE 1. Range, mean and standard deviation (SD) of the measurements (mm) of *Aparasphenodon pomba* **sp. nov.**

Character	Males (n = 4)			Females (n = 4)		
	Range	Mean	SD	Range	Mean	SD
SVL	51.6–60.5	56.8	4.05	58.7–62.1	61.1	1.65
HL	16.2–19.6	18.4	1.48	19.0–20.7	20.2	0.77
HW	15.4–18.6	16.9	1.32	17.2–20.2	18.9	1.24
ED	4.8–5.6	5.0	0.44	5.1–6.2	5.6	0.44
UEW	3.2–4.6	3.9	0.65	4.1–4.4	4.3	0.16
IOD	5.2–7.4	6.7	1.06	6.7–8.0	7.6	0.6
IND	3.9–4.6	4.2	0.35	4.0–5.1	4.7	0.53
TD	2.8–3.5	3.1	0.29	3.1–4.1	3.7	0.42
END	6.1–7.0	6.7	0.46	7.2–8.2	7.8	0.47
NSD	2.1–2.9	2.5	0.36	2.5–3.1	2.7	0.26
3FD	2.0–3.1	2.4	0.46	2.5–3.0	2.7	0.22
THL	21.9–27.0	24.1	2.11	24.2–27.6	26.2	1.44
TL	24.3–28. 6	26.2	1. 8	25.9–29.4	28.3	1.57
FL	33.8–39.3	35.6	2.56	37.1–41.6	39.7	2.06
4TD	2.0–2.8	2.2	0.39	2.5–3.0	2.8	0.18

Measurements of holotype. SVL 60.5, HL 19.6, HW 18.6, ED 5.6, UEW 4.3, END 7.0, IND 4.6, TD 3.5, IOD 7.4, NSD 2.9, THL 27.0, TL 28. 6, FL 39.3, 3FD 3.1, 4TD 2.8.

Color in life. Dorsum and limbs with cream-colored reticulation on a dark-brown background (Fig. 4A); dorsolateral cream-colored stripe extends from snout, across upper eyelid and reaching the axilla. Ventral surface light brown with cream-colored spots. Iris red.

Color in preservative. Color in preservative similar to color in life. The cream-colored spots become duller, although with no change in the hue; the dark-brown background becomes duller and slightly lighter; and the venter darkens, following the same color pattern of the ventral surface for the thighs and arms.

Variation. All specimens from the type series agree in morphology and color. The dorsolateral stripe may extend farther posteriorly on the dorsum. The light and dark ventral spots vary in number and intensity. The males and females have the same color pattern. Sexual dimorphism is evident only in the size: the males are larger than the females (Table 1).

Comparisons with other species. *Aparasphenodon pomba* **sp. nov.** is readily distinguished from *A. brunoi* by its slightly elevated canthus rostralis (prominent and elevated in *A. brunoi*), loreal region slightly concave (loreal region deep and concave in *A. brunoi*), absence of a prenasal bone (prenasal bone present in *A. brunoi*), and iris bright red (iris brown, tending to dark red in *A. brunoi*). *Aparasphenodon pomba* **sp. nov.** is distinguished from *A. arapapa* by the reticulate dorsal color pattern (uniform color pattern in *A. arapapa*), loreal region slightly concave (loreal region flattened in *A. arapapa*), medium-sized legs, sum of thigh and tibia lengths 89–91 % of snout-vent length (short legs in *A. arapapa*, sum of thigh and tibia lengths 78–82 % of snout-vent length), and nostrils in lateral position (nostrils dorsolateral in *A. arapapa*). *Aparasphenodon pomba* **sp. nov.** is distinguished from *A. bokermanni* by its reticulate dorsal color pattern (uniform color pattern in *A. bokermanni*), medium size (large size

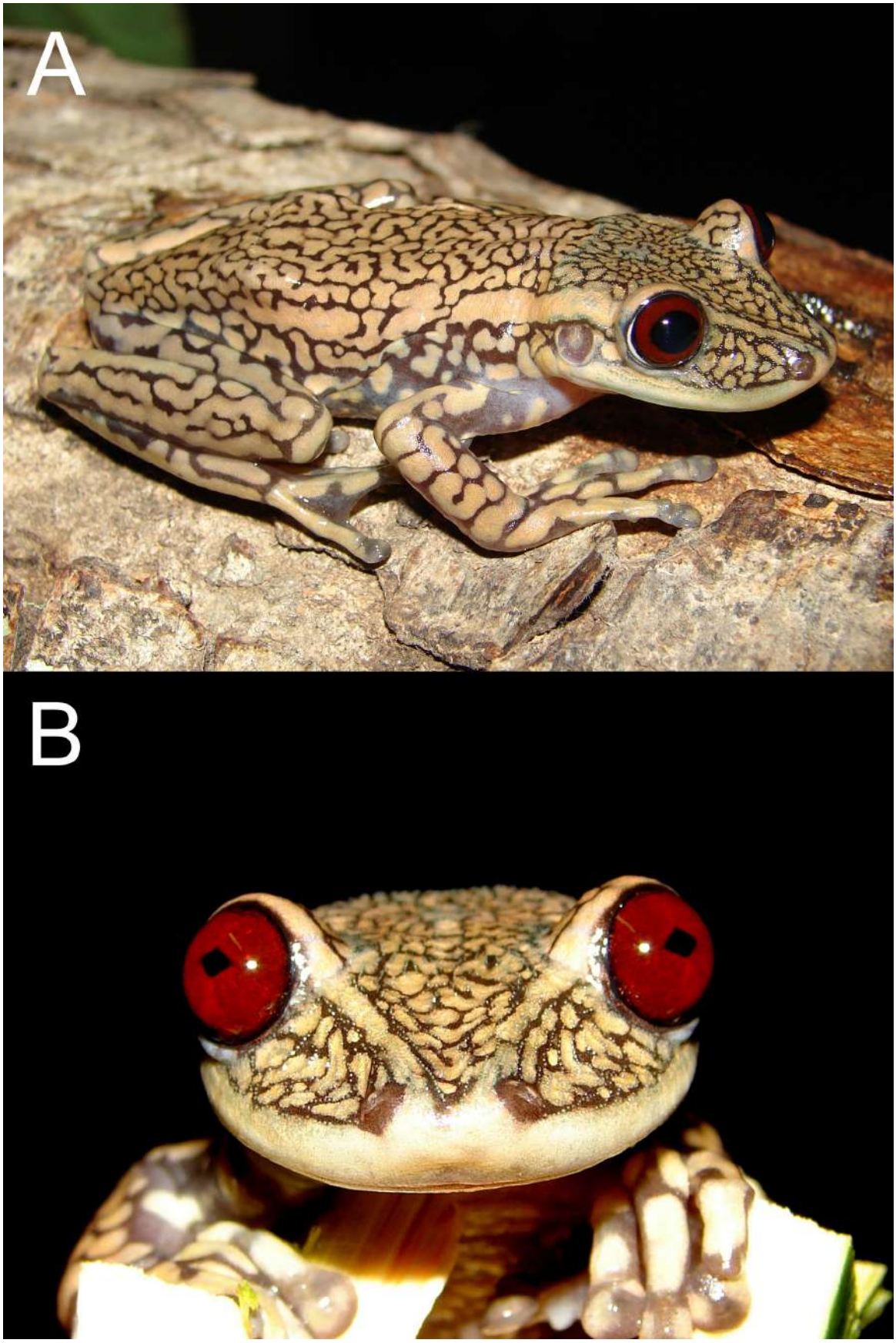

FIGURE 3. *Aparasphenodon pomba* **sp. nov.**, holotype (MZUFV 10438; SVL 60.5 mm) in life, from Sítio Boa Sorte, Municipality of Cataguases, Minas Gerais, Brazil.

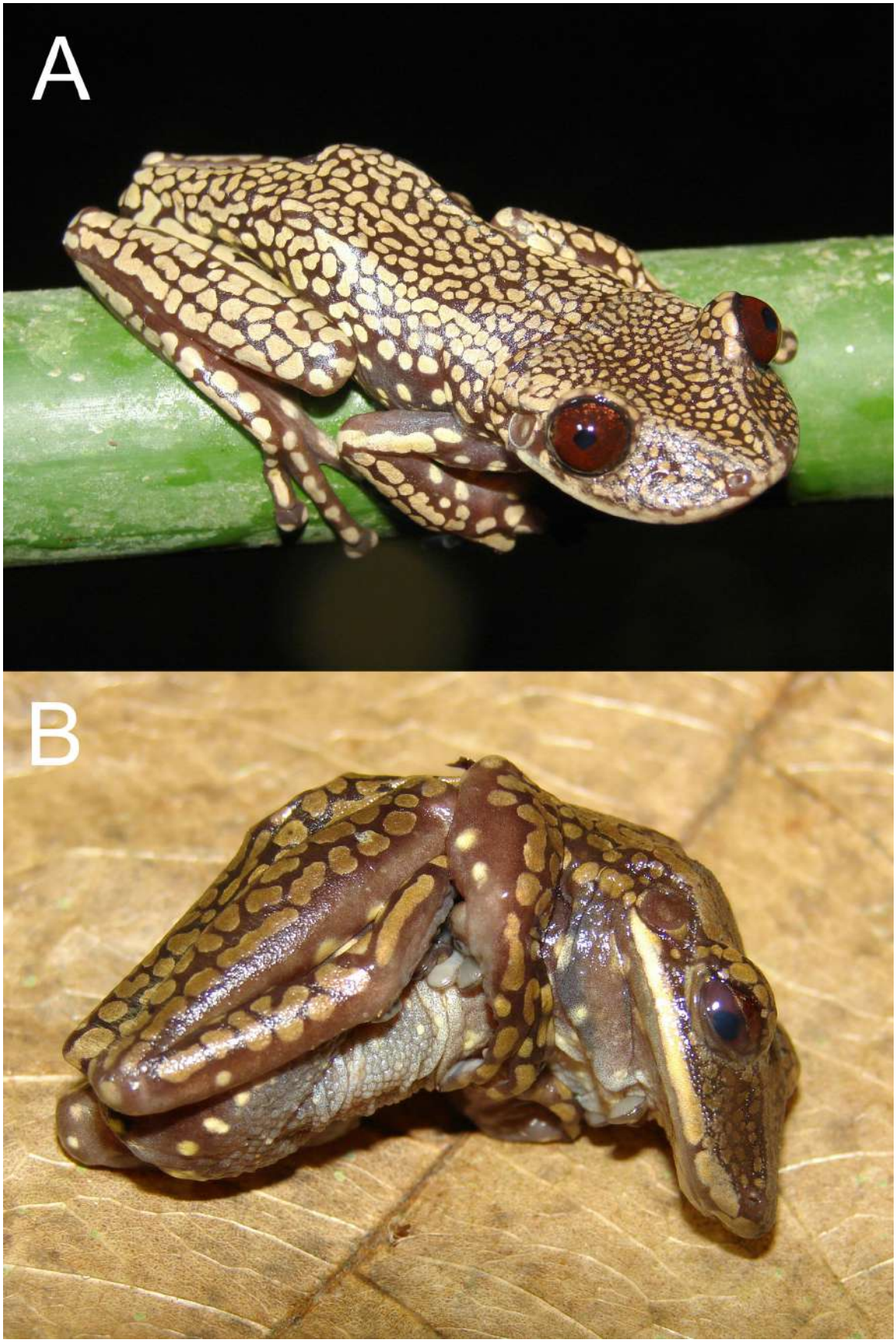

FIGURE 4. *Aparasphenodon pomba* **sp. nov.** (A) paratopotype (MZUFV 11520; SVL 51.6 mm) adult male and (B) paratopotype (MZUFV 12126; SVL 58.7 mm) adult female.

in *A. bokermanni*, SVL 71-81 mm), subarticular palmar tubercle of Finger IV bifid (subarticular palmar tubercles rounded in all fingers in *A. bokermanni*), canthus rostralis slightly elevated and almost straight (canthus rostralis prominent in *A. bokermanni*), supra-tympanic fold barely distinct, extending from the posterior margin of the eyelid to the posterior region of the tympanic ring (supra-tympanic fold thick, distinct and extending from the posterior eyelid margin to the arm insertion in *A. bokermanni*) and red iris (dark-brown iris in *A. bokermanni*). *Aparasphenodon pomba* sp. nov. is distinguished from *A. venezolanus* by having the snout almost rounded in dorsal view and acute in profile (snout pointed in dorsal view and rounded in profile in *A. venezolanus*), canthus rostralis slightly elevated and almost straight (canthus rostralis distinct and concave in *A. venezolanus*), third subarticular tubercle rounded (third subarticular tubercle bifid in *A. venezolanus*), dorsal surface of thigh with cream-colored reticulate pattern on dark-brown background (dorsal surface of thigh with four dark-brown transverse stripes in *A. venezolanus*), ventral surface with cream-colored spots (color uniform in *A. venezolanus*), single subgular vocal sac (paired lateral vocal sacs in *A. venezolanus*) and red iris (iris grayish with dark vermiculation in *A. venezolanus*).

Geographic distribution. Known only from the type locality, in the Municipality of Cataguases, State of Minas Gerais, southeastern Brazil (Fig. 5).

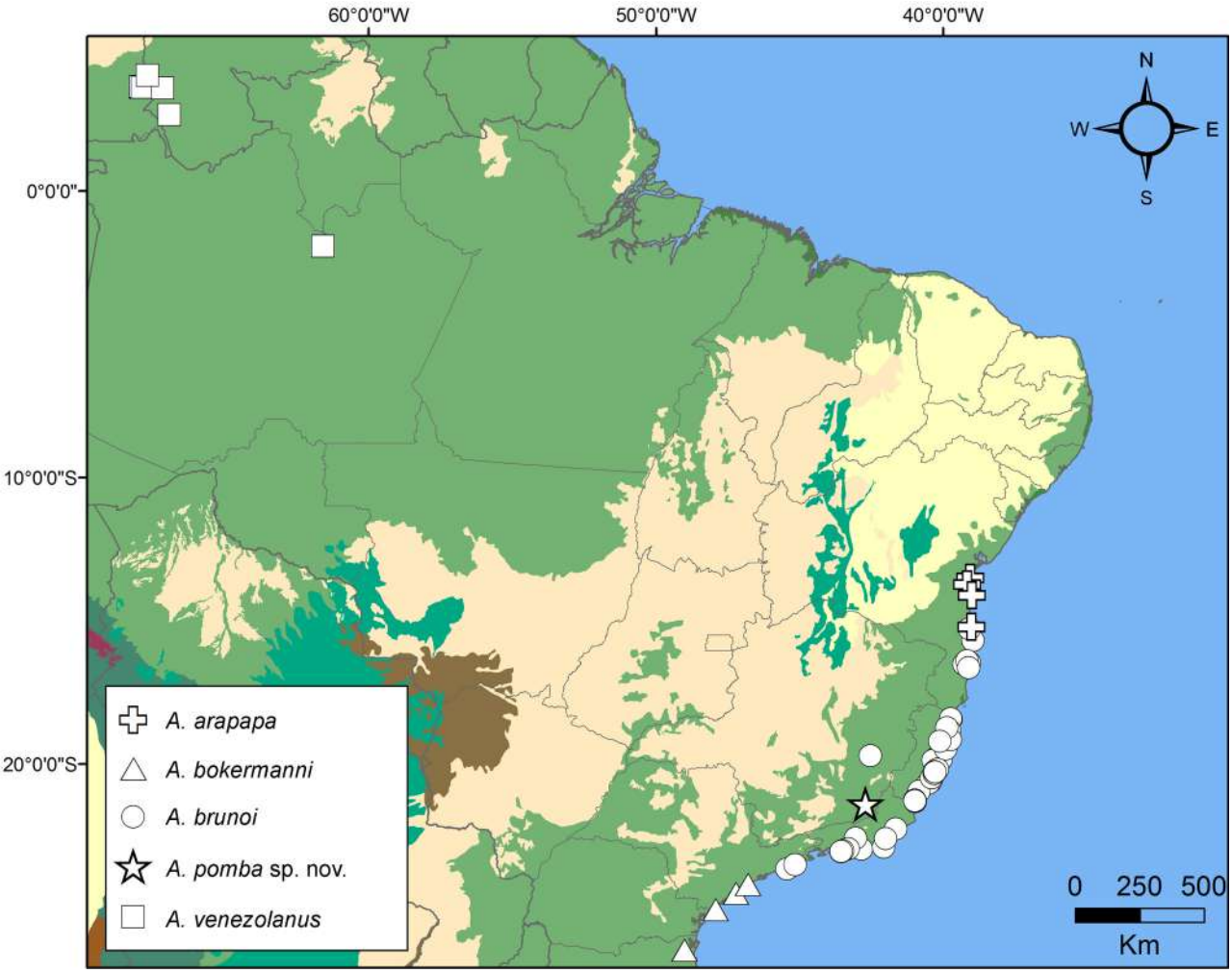

FIGURE 5. Map of distribution of the genus *Aparasphenodon* in South America (modified from Mollo-Neto & Teixeira-Jr, 2013).

Natural history. The holotype was collected during the day inside a bamboo culm (*Bambusa vulgaris*) that had a small slit. All paratypes were found active during the night, during or after rains, occupying the same bamboo grove, at heights from 0.8 to 5.0 m. *Bambusa vulgaris* is native to Asia (Lima Neto 2010); the bamboo grove where the type series was collected has been in the area for about 70 years and its origin is unknown. *Aparasphenodon pomba* closes its eyes and contracts its body when manipulated (Fig. 4B). The new species occurs in sympatry with

other three hylid species, *Hypsiboas faber*, *Scinax eurydice*, and *Scinax* sp. (gr. *catharinae*). We did not find *A. pomba* males in calling activity.

Habitat. *Aparasphenodon pomba* was found in a locality named Sítio Boa Sorte (21º20'20"S, 42º45'43"W; 288 m a.s.l.), which comprises an area of 135.52 hectares located on the border of the municipalities of Cataguases and Dona Euzébia, in the "Zona da Mata of Minas Gerais. This area is within an Atlantic Rain Forest fragment characterized as Submontane Seasonal Semideciduous Forest (Veloso *et al.* 1991). This region is currently highly fragmented, with mainly pastureland between forest remnants.

The forest fragment lies within the Pomba River sub-basin of the Paraíba do Sul River basin. The mean annual rainfall in the region is around 1200 mm, with a rainy season from October to March and a dry season from April to September. The predominant climate is Aw (tropical hot and humid) in the Köppen classification, with an annual mean temperature of 24.5ºC.

Remarks. The environment of the only known locality of *Aparasphenodon pomba* covers only a small area, and its known range is less than 10 km^2 (actually only 1.36 km^2). There are no protected areas close to the *A. pomba* type locality (Sítio Boa Sorte), a forest fragment that is highly impacted by human activities because of its proximity to the urban area of the municipality of Cataguases. The Atlantic Forest of southeastern Brazil is the most intensively studied region in the country, and since the 1990s areas close to the type locality of this new species have been repeatedly surveyed for amphibians. Apparently, *A. pomba* is at critical risk of becoming extinct within a very short period of time, as its presumed range is not included in any conservation unit and is entirely within privately owned land.

However, the finding of the new species only in a specific climatic conditions and associated with a bamboo grove environment also suggests subsampling in previous studies conducted in the Atlantic Forest in southeastern Brazil. Based on the criteria and categories of the IUCN Red List (Version 3.1, 2007), these data justify the assignment of *A. pomba* both the Critically Endangered category (CR) as in the Data Deficient category (DD).

Etymology. The specific name of the new species, a noun in apposition, refers to its discovery in an Atlantic Rain Forest fragment near the Pomba River, Cataguases, Minas Gerais.

Acknowledgments

We are grateful to Felipe Toledo (ZUEC), Ulisses Caramaschi, José P. Pombal Jr., Carlos Alberto Gonçalves Cruz (MNRJ), and Mirco Solé (MZUESC) for allowing us to study specimens under their care. To Vinícius de Avelar São Pedro for the initial suggestion that this might be a new taxon. To Igor Kaefer (INPA) for his kindness in photographing specimens of *Aparasphenodon venezolanus*, and to Hélio Ricardo da Silva and Ivan Nunes for comments on the manuscript. To Ana Paula S. Gonçalves for helping to identify the bamboo species; André Garcia Corrêa, Paulo Marcelo Bianque, Maycon do Carmo Ribeiro, Viviane Monteiro Mendonça, and Rafael Rodrigues Sampaio for their help in fieldwork; Mr. José Geraldo Soares for his friendship and hospitality at the Sítio Boa Sorte; Fausto A.P. Menta and 5º Pelotão Especial da PM de Meio Ambiente for their incentive and logistical support. To Antonio Bianchi, William C. Ramos, and net W. Reid for English revision. The authors also thank ARPA-Zona da Mata and Brookfield Renewable Energy Partners for financial support; and the ICMBio for granting the collection license (process number 26008-1). To Ulisses Caramaschi and Julián Faivovich for reviewing the manuscript. The authors thank CAPES for the award of Doctoral and Master's scholarships. RNF thanks for CNPq for the productivity fellowship conceded.

References

Argôlo, A.J.S. (2000) Geographic distribution. *Aparasphenodon brunoi*. *Herpetological Review*, 31, 108.

Carvalho, A.L. (1941) Notas sobre os gêneros *Corythomantis* Boulenger e *Aparasphenodon* Miranda Ribeiro – Amphibia, Anura, Hylidae. *Papéis Avulsos do Departamento de Zoologia*, 1, 101–110.

Faivovich, J., Haddad, C.F.B., Garcia, P.C.A., Frost, D.R., Campbell, J.A. & Wheeler, W.C. (2005) Systematic review of the frog family Hylidae, with special reference to Hylinae: phylogenetic analysis and taxonomic revision. *Bulletin of the American Museum of Natural History*, 294, 1–240.
http://dx.doi.org/10.1206/0003-0090(2005)294[0001:srotff]2.0.co;2

Frost, D.R. (2011) Amphibian Species of the World: an Online Reference. Version 5.5 (31 January, 2011). New York, American Museum of Natural History. Electronic Database. Available from: http://research.amnh.org/herpetology/amphibia/index.php (Accessed 2 Jan. 2012)

IUCN (2012) The IUCN Red List of Threatened Species. Version 2012.1. Available from: http://www.iucnredlist.org (Accessed 19 Jun. 2012)

Lima-Neto, M.C., Bezerra-Neto, E., Barreto, L.P. & Silva, J.A.A. (2010) Exportação de macronutrientes em cultivos comerciais de bambu no tabuleiro costeiro do Estado da Paraíba. *Revista Árvore*, 34, 251–257. http://dx.doi.org/10.1590/s0100-67622010000200007

Mertens, D. (1950) Ein neuer Laubfrosch aus Venezuela. *Senckenbergiana Biologica*, 31, 1–2.

Miranda-Ribeiro, A. (1920) *Triprion*, *Diaglena*, *Corythomantis*, etc. uma subsecção de Hylidae, com duas espécies novas. *Revista do Museu Paulista*, 12, 83–88.

Mollo Neto, A. & Teixeira, M. Jr. (2012) Checklist of the genus *Aparasphenodon* Miranda-Ribeiro, 1920 (Anura: Hylidae): Distribution map, and new record from São Paulo state, Brazil. *Check List*, 8, 1303–1307.

Myers, C.W. & Duellman, W.E. (1982) A new species of *Hyla* from Cerro Colorado, and other tree frog records and geographical notes from western Panama. *American Museum Novitates*, 2752, 1–32.

Napoli, M.F. (2005) A new species allied to *Hyla circumdata* (Anura: Hylidae) from Serra da Mantiqueira, southeastern Brazil. *Herpetologica*, 61, 63–69. http://dx.doi.org/10.1655/03-41

Paolillo, O.A. & Cerda, J. (1981) Nuevos hallazgos de *Aparasphenodon venezolanus* (Mertens) (Salientia, Hylidae) en el Territorio Federal Amazonas, Venezuela, con anotaciones sobre su biologa. *Memoria de la Sociedad de Ciencias Naturales La Salle*, 41, 77–95.

Pimenta, B.V.S., Napoli, M.F. & Haddad, C.F.B. (2009) New species of casque-headed tree frog, genus *Aparasphenodon* Miranda-Ribeiro (Amphibia: Anura: Hylidae), from the Atlantic Rainforest of southern Bahia, Brazil. *Zootaxa*, 2123, 46–54.

Pombal, Jr., J.P. (1993) New Species of *Aparasphenodon* (Anura: Hylidae) from Southeastern Brazil. *Copeia*, 1993, 1088–1091. http://dx.doi.org/10.2307/1447088

Prado, G.M. & Pombal, J.P. Jr. (2008) Espécies de *Proceratophrys* Miranda-Ribeiro, 1920 com apêndices palpebrais (Anura; Cycloramphidae). *Arquivos de Zoologia,* 39, 1–85.

Savage, J.M. & Heyer, W.R. (1967) Variation and distribution in the tree-frog genus *Phyllomedusa* in Costa Rica, Central America. *Beiträge zur Neotropischen Fauna*, 5, 111–131. http://dx.doi.org/10.1080/01650526709360400

Souza, A.M.R. (2002) Diafanização. *In*: Auricchio, P. & Salomão, M.G. *Técnicas de coleta e preparação de vertebrados para fins científicos e didáticos*. 2nd. ed. Terra Brasilis, São Paulo, pp. 219–226.

Trueb, L. (1970) Evolutionary relationships of casque-headed tree frogs with co-ossified skulls (family Hylidae). *University of Kansas Publications*, *Museum of Natural History*, 18, 549–716.

Veloso, H.P., Rangel-Filho, A.L.R. & Lima, J.C.A. (1991) *Classificação da vegetação brasileira, adaptada a um sistema universal.* Fundação Instituto Brasileiro de Geografia e Estatística-IBGE, Rio de neiro, 123 pp.

APPENDIX 1. Comparative specimens examined.

***Aparasphenodon brunoi*.** BRAZIL: Espírito Santo: Linhares Forest Reserve, Municipality of Sooretama (ZUEC 11402, 2759–2760, 3724–3725, 8167); Municipality of Presidente Kennedy (MZUFV 11102–11103). Minas Gerais: Rio Doce State Park, Municipality of Marliéria (MZUFV 713–714, 723, 1551–1552, 1769, 2630, 2761–2762, 3351–3352, 3398, 4638–4639). Rio de neiro: Restinga de Iquipar, Municipality of São João da Barra (MZUFV 9134). Bahia: Descobrimento National Park, Municipality of Prado (MZUESC 7821); Pau Brasil National Park, Municipality of Porto Seguro (MZUESC 7865); Cidade Nova District, Municipality of Ilhéus (MZUESC 8052); Municipality of Caravelas (MZUESC 9839).

***Aparasphenodon venezolanus*.** BRAZIL: Amazonas: ú National Park (INPA 10938). Roraima: Jufari River, Municipality of Caracara (INPA 22150–22152).

***Aparasphenodon bokermanni*.** BRAZIL: São Paulo: Juréia-Itatins Ecological Station, Municipality of Iguape (ZUEC 6604, holotype); Ilha do Cardoso, Municipality of Cananéia (ZUEC 11575).

***Aparasphenodon arapapa*.** BRAZIL: Bahia: Acuípe, Municipality of Ilhéus (ZUEC 16613, 16645–16646); Boa União Private Natural Heritage Reserve, Municipality of Ilhéus (MZUESC 9097); Nova Angélica Private Natural Heritage Reserve, Municipality of Una (MZUESC 9098).