

85°03'48" W, 283 m a.s.l.), Jinotega Department, Nicaragua (Figure 1). Another adult specimen (female, 700 mm SVL, Figure 2d) of *U. guentheri*, however, was found on 21 July 2011 at Santo Domingo (12°15'39" N, 85°05'50" W, 375 m a.s.l.), Chontales Department, Nicaragua (Figure 1). Both specimens were found by Milton Salazar S., with the latter deposited in the herpetological collection of the Museum of Vertebrate Zoology at Berkeley (catalog number MVZ-267439). These specimens extend the distribution of this species to central (200 km) and northern (400 km) areas of the country, since the species was previously reported unambiguously from only one southeastern locality (Cerro El Gigante, Río San Juan Department, see Khöler, 2001).

This report contributes to confirm the presence and expand the distribution of secretive species such those of the genus *Urotheca*; for which only a handful of specimens are available (HerpNet, 2011), increasing both the number of reptile species and individuals collected in Nicaragua. Recent efforts to explore different areas of the country (Sunyer Mac Lennan, 2009; Barquero et al., 2010) have been adding to the number of species of herpetofauna, although many sites remain poorly or completely unexplored. Therefore, more exploration is still required to complete a species list for the country; very basic information that can be used by conservationists and decision-makers.

ACKNOWLEDGEMENTS

We are grateful to Deyling Brenes and Fidel Martínez from Fundación del Río for their help in the field. We also appreciate the logistic help provided by Antonio Ruiz (Fundación del Río) and Ricardo Rueda & Indiana Coronado (Project MOMA). We thank the curators of the Museum of Vertebrate Zoology at Berkeley and the Smithsonian National Museum of Natural History for accepting specimens and pictures respectively.

REFERENCES

Barquero, M.D., Salazar-Saavedra, M., Sandoval, L., Brenes, D., Martínez, F., & Figueroa, A. (2010). Composition and species richness of herpetofauna in two isolated regions of southern

- Nicaragua. *Herpetol. Notes* 3: 341-352.
- HerpNet. (2011). *HerpNet data portal*. <http://www.herpnet.org>. Last accessed 5 February 2012.
- Khöler, G. (2001). *Anfibios y Reptiles de Nicaragua*. Offenbach: Herpeton.
- McCranie, J.R., Townsend, J.H., & Wilson, L.D. (2003). Three snakes new to the herpetofauna of Honduras. *Herpetol. Rev.* 34: 391-392.
- Ruiz Pérez, G.A., & Buitrago Vannini, F. (2003). *Guía Ilustrada de la Herpetofauna de Nicaragua*. Managua: ARAUCARIA-MARENA-AECI.
- Savage, J.M. (2002). *The Amphibians and Reptiles of Costa Rica: A Herpetofauna between two Continents between two Seas*. Chicago: The University of Chicago Press.
- Sunyer Mac Lennan, J. (2009). *Taxonomy, zoogeography, and conservation of the herpetofauna of Nicaragua*. Doctoral dissertation. Frankfurt: Goethe University Frankfurt am Main.

Distributional range of the poorly known *Liolaemus tacnae* (Shreve 1941)

JAIME TRONCOSO-PALACIOS¹ and
RICHARD ETHERIDGE²

¹*Programa de Fisiología y Biofísica, Facultad de Medicina, Universidad de Chile, Casilla 70005, Santiago, Chile.*

²*Research Associate, Division of Vertebrate Zoology (Herpetology), American Museum of Natural History; and Professor Emeritus, Department of Biology, San Diego State University, San Diego, CA 92187-0057, USA.*

¹Corresponding author E-mail:
jtrancosopalacios@gmail.com

Liolaemus is a large genus of lizards, subdivided into two subgenera: *Liolaemus* (sensu stricto) and *Eulaemus* (Laurent, 1983), each of which has been divided into several groups. *L. tacnae* Shreve 1941 was described based on three specimens

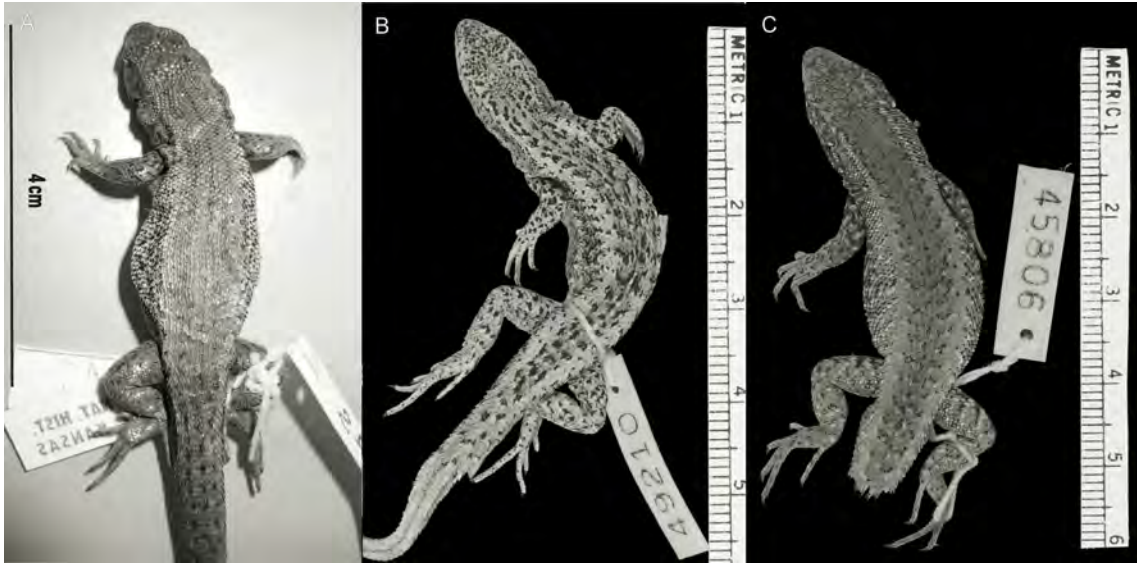


Figure 1. Dorsal view of specimens: a) *Liolaemus* sp. female (SDSU-1924 from Chapiquiña); b) The only known female of *L. tacnae* (MCZ R-49210 from Cujajone); c) *L. tacnae* male (holotype, MCZ R-45806 from Toquepala).

(MCZ R-45806, R-45807 and R-45808; three males) from Toquepala Mine, Tacna department (Perú). This species belongs to the subgenus *Liolaemus* and the group *alticolor-bibronii* (Lobo et al., 2010). Thereafter, Lobo & Espinoza (2004) indicated the existence of two more specimens (MCZ R-49210 (male) and R-49211 (female)) from Cujajone Mine, Moquegua department (20 km to NW from Toquepala, Perú). However, in a recent review of the Chilean species of *Liolaemus*, Pincheira-Donoso & Núñez (2005) included *L. tacnae* that had been recorded earlier from Chile by Lobo & Espinoza (1999), which was an important distributional expansion (160 km).

The record of *L. tacnae* reported from Chile by Lobo & Espinoza (1999) was based on a female specimen (SDSU 1924) labeled “Chapiquiña, 4.080 m, 3 km east of Portezuelo, Tarapacá, unknown collector.” However, after examining the type series of *L. tacnae*, the authors stated that “a recent examination of the type series of the *L. tacnae* (MCZ 45806–08) indicates that the *L. tacnae* examined in our previous study (SDSU-1924) is not referable to this species” (Lobo & Espinoza, 2004). Nevertheless, Pincheira-Donoso & Núñez (2005) included *L. tacnae* as a Chilean species, based on the same specimen (SDSU-1924), and

provide a redescription. Later, this species was also listed for Chile by Pincheira-Donoso et al., (2008).

We examined the female specimen SDSU-1924 and photographs in several views from known specimens of *L. tacnae*, including the holotype (with the exception of the MCZ R-45808). Also, we include data for scale counts around midbody and neck for *L. tacnae* from the literature (Lobo & Espinoza, 2004). The same scale count data were taken for the SDSU-1924 specimen from Lobo & Espinoza (1999) and confirmed in the laboratory.



Figure 2. Distributional map. Pentagon: *L. tacnae* (Moquegua & Toquepala). Square: *L. alticolor* (present in Putre, Parinacota & Caquena (Donoso-Barros, 1966)). Triangle: *Liolaemus* sp. SDSU-1924 (Chapiquiña). Circle: *L. puna* (present in Chiapa (Lobo & Espinoza, 2004)). The main cities are indicated.

We conclude that there is insufficient evidence to support the identification of SDSU-1924 from Chile as *L. tacnae*, because: 1) The female SDSU-1924 (Figure 1a) differs in its dorsal color pattern compared to the only known female specimen of *L. tacnae* (MCZ R-49210, Figure 1b), since MCZ R-49210 has spotted dorsolateral stripes, a spotted head and the absence of a vertebral field lighter than the paravertebral field, 2) the dorsal body scales of *L. tacnae* terminate more sharply than those of SDSU-1924, and 3) both species differ in counts of the scales around midbody (58 in SDSU-1924, but 44-47 in *L. tacnae*) and the neck scales (41 in SDSU-1924, but 28-34 in *L. tacnae*).

Moreover, *L. tacnae* has been collected at the Toquepala Mine and the Cuajone Mine, both from Perú. Toquepala Mine is approximately 160 km (straight line) from Chapiquiña (Chile). However, Pincheira-Donoso & Núñez (2005) mistakenly listed the type locality of *L. tacnae*, as “Tacna, Perú”, which is approximately 80 km from Chapiquiña (straight line). In the section “material estudiado” the authors mention the SDSU-1924 specimen as collected in Chapiquiña, but in the legend of the photograph is mentioned as collected in Perú.

The SDSU-1924 specimen exhibits a combination of characters that do not coincide with those found in the other known species of the *alticolor-bibronii* group that occur near Chapiquiña (Figure 2). In fact, *Liolaemus* sp. (SDSU-1924) has a greater number of midbody scales (58) compared with *L. alticolor* (39-51) (Quinteros, 2012) and *L. puna* (43-54) (Lobo & Espinoza, 2004). Additionally, *Liolaemus* sp. (SDSU-1924) differs from *L. alticolor* and *L. puna*, due to the absence of paravertebral dark stripe (females of *L. alticolor* and *L. puna* have paravertebral dark stripes).

With respect to the pattern of coloration, Lobo & Espinoza (2004) and Quinteros (2012) indicate that *L. tacnae* does not have a vertebral line nor dorsolateral stripes. However, examination of digital photographs of the specimens shows that dorsolateral stripes may be present (spotted or immaculate) or absent. The vertebral line may be fragmented (Figure 1c) or inconspicuous. The coloration of the throat and belly is melanistic in the male. In the female, the throat is spotted and the

coloration of the belly is grey.

In conclusion, we find no evidence to support the existence of *L. tacnae* in Chile and it must be considered endemic to Perú. Specimen SDSU-1924 differs from all known species of the *alticolor-bibronii* group that occur near Chapiquiña, and for the present must be designated as *Liolaemus* sp. Further research and collection of more specimens is needed to clarify the identity of the populations of *Liolaemus* sp. from Chapiquiña.

ACKNOWLEDGEMENTS

Thanks to J. Rosado and J. Woodward from Museum of Comparative Zoology, Harvard University, for sending photographs of the *L. tacnae* specimens. To S. Quinteros for review of the manuscript. To M. Penna, C. Garín and A. Labra for their support. The map was made with the free software gvSIG.

REFERENCES

- Donoso-Barros, R. (1966). *Reptiles de Chile*. Santiago: Ediciones de la Universidad de Chile. Cxlv + 458.
- Laurent, R.F. (1983). Contribución al conocimiento de la estructura taxonómica del género *Liolaemus* Wiegmann (Iguanidae). *Boletín de la Asociación Herpetológica Argentina* 1: 15–18.
- Lobo, F. & Espinoza, R.E. (1999). Two new cryptic species of *Liolaemus* (Iguania: Tropiduridae) from northwestern Argentina: resolution of the purported reproductive bimodality of *Liolaemus alticolor*. *Copeia* 1999 (1): 122–140.
- Lobo, F. & Espinoza, R.E. (2004). Two new *Liolaemus* from the Puna region of Argentina and Chile: Further resolution of proported reproductive bimodality in *Liolaemus alticolor* (Iguania: Liolaemidae). *Copeia* 2004 (4): 850–867.
- Lobo, F., Espinoza, R.E. & Quinteros, S. (2010). A critical review and systematic discussion of recent classification proposals for liolaemid lizards. *Zootaxa* 2549: 1–30.
- Pincheira-Donoso, D. & Núñez, H. (2005). Las especies chilenas del género *Liolaemus* (Iguanidae Tropiduridae, Liolaeminae). Taxonomía, sistemática y evolución. *Publicación Ocasional del Museo*

Nacional de Historia Natural (Chile) 59: 7–486.

Pincheira-Donoso, D., Scolaro, J.A., Sura, P. (2008). A monographic catalogue on the systematics and phylogeny of the South American iguanian lizard family Liolaemidae (Squamata, Iguania). *Zootaxa* 1800: 1–85.

Quinteros, S. (2012). Taxonomy of the

Liolaemus alticolor-bibronii group (Iguania: Liolaemidae), with descriptions of two new species. *Herpetologica* 68 (1): 100–120.

Shreve, B. (1941). Notes on Ecuadorian and Peruvian reptiles and amphibians with description of new forms. *Proceedings of the New England Zoological Club* 18, 71–83.

NATURAL HISTORY NOTES

PHYLLOMEDUSA IHERINGII: EGG PREDATION. *Phyllomedusa iheringii* Boulenger (1885) is a tree frog that occurs in the Pampa biome of Uruguay and state of Rio Grande do Sul, Brazil (Langone et al., 1985; Frost, 2011). The reproductive period of this anuran species extends from October to December (Achaval & Olmos, 2007). *P. iheringii* uses vegetation to vocalize and to spawn. Eggs of this species hatch into exotrophic tadpoles that drop into lentic water (mode 24 sensu Haddad & Prado, 2005).

Two events of clutch predation of *P. iheringii* were observed. In the first event (15 December 2011), the snake *Liophis jaegeri* Günther (1858) (Colubridae) was recorded consuming the clutch in a swamp edge in Santa Maria municipality, Rio Grande do Sul, Brazil (29°43'15.68"S, 53°43'35.58"O, 92 m). The clutch was deposited at 120 cm height, on leaves of *Eupatorium imulaefolium* (Asteraceae) in the water-body edge. The observation occurred during the night period (at 20:00 h) and there were no adult individuals of *P. iheringii* around the clutch. The snake was wrapped in the vegetation and was eating the clutch with its head into the leaf nest containing the eggs (Figure 1). With observer arrival the snake escaped into the water. We did not find any more clutches on the same vegetation. On the next day (16 December 2011), the snake was found in the same place at about 20:30h, coiled on exactly the same plant.

Clutch predation of *Phyllomedusa* spp. by snakes were reported for *Leptodeira annulata* and *Liophis miliaris* (Castanho, 1996; Martins & Oliveira, 1998). *Liophis jaegeri* occurs in southern Brazil and is associated with flooded environments



Figure 1. *L. jaegeri* eating the clutch of *P. iheringii*. The head of the snake is into the leaf nest containing the eggs, at 120 cm height, in a swamp edge in Santa Maria municipality, RS, Brazil.



Figure 2. Ants (*Camponotus* sp.) attacking eggs of *P. iheringii* in the leaf nest. The nest was in an herbaceous plant, at the margin of a pool, municipality of São Sepé, Rio Grande do Sul, Brazil.