

## SHORT COMMUNICATION

# Geographic distribution of *Scinax onca* (Anura: Hylidae) and the first record of its occurrence in Peru

Germán Chávez

Centro de Ornitología y Biodiversidad (CORBIDI), Santiago de Surco, Lima, Peru. Email: [vampflack@yahoo.com](mailto:vampflack@yahoo.com).

**Keywords:** anuran, Brazil, new record, treefrog, South America.

**Palavras-chave:** América do Sul, anuro, Brasil, novo registro, perereca.

During the last decade, 16 new taxa of neotropical snouted treefrogs of the genus *Scinax* Wagler, 1830 have been described (Moravec *et al.* 2009, Pugliese *et al.* 2009, Nunes and Pombal 2010, 2011, Nunes *et al.* 2010, 2012, Brusquetti *et al.* 2014, Sturaro and Peloso 2014, Araujo-Vieira *et al.* 2015, 2016, Juncá *et al.* 2015, Conte *et al.* 2016, Ferrão *et al.* 2017, 2018, Acosta-Galvis 2018, Ron *et al.* 2018). The total of 72 species in *Scinax* confirms its status as one of the most diverse among treefrogs (Ferrão *et al.* 2018, Frost 2018). Only one of the recently described species, *Scinax iquitum* Moravec, Tuanama, Pérez-Peña, and Lehr, 2009, occurs in Peruvian territory.

*Scinax onca* Ferrão, Moravec, Fraga, Pinheiro de Almeida, Kaefer, and Lima, 2017 is one of the most recently described species, and its distribution is restricted to a few small areas in the states of Amazonas and Rondônia in Brazil (Ferrão *et al.* 2017). Ferrão *et al.* (2017)

suggested that given the coloration and morphological characters provided by Melo-Sampaio and Souza (2015) and Machado *et al.* (2015), earlier Brazilian records for *Scinax iquitum* (species closely related to *S. onca*) in the state of Acre should be assigned to *S. onca*. However, in the absence of appropriate genetic confirmation, the distribution of *S. onca* has been restricted to the interfluvium between the Purus and Madeira rivers.

In a field survey conducted in the Amazon Basin of northern Peru, I found a specimen of *Scinax onca*; this is the first confirmed record of this species in Peru. The frog was anesthetized and euthanized with a topical solution of 10% Benzocaine; it fixed in a 10% formaldehyde solution and stored in 70% ethanol. Measurements were taken to the nearest 0.1 mm with digital calipers under a dissecting microscope. Consistent with Ferrão *et al.* (2017) and Duellman and Wiens (1993), the following morphometric variables were recorded: snout-vent length (SVL), head length (HL), head width (HW), interorbital distance (IOD), upper eyelid width (UEW), eye diameter (ED), tympanum diameter (TD), hand length (HAL), thigh length

Received 24 April 2018

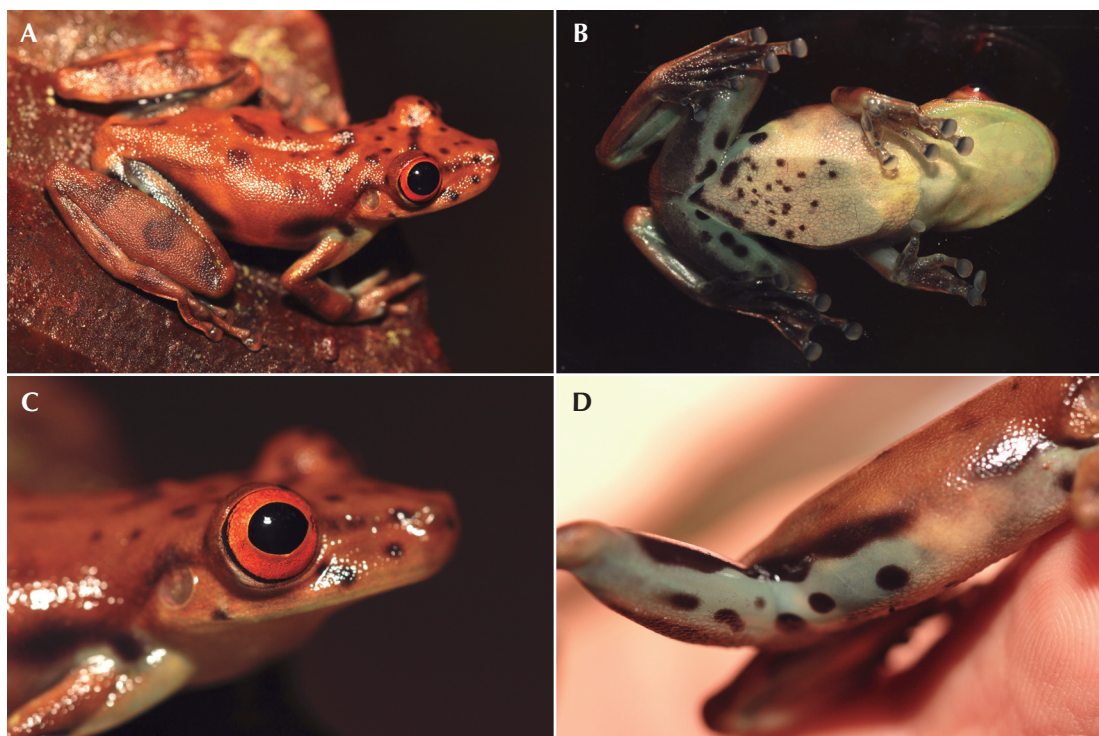
Accepted 08 October 2018

Distributed December 2018

(THL), tibia length (TL), tarsus length (TSL), and foot length (FL). These data were compared to measurements of male *S. onca* taken from Ferrão *et al.* (2017) and morphological characters of *S. iquitorum* found in Moravec *et al.* (2009). The single frog was collected under the permit # 319-2012-AG-DGFFS-DGEFFS issued by the Ministerio de Agricultura de Peru, and the record is described herein.

The male *Scinax onca* (CORBIDI 12335, Figure 1) was collected on 01 October 2012, 2 km NE Nueva Reforma Native Community, Requena Province, Loreto, Peru, in the Tapiche River Basin; the Tapiche River is a tributary of the Ucayali River in the Amazon Basin. The frog was perched on vegetation 1.5 m above the ground, near a stream, in a Terra Firme forest (05°14'55.9" S, 73°47'42.1" W; 116 m a.s.l.). The vegetation in the area is dominated by large

trees except in disturbed areas. The understory is not dense, and the trunks of trees usually are covered by lichens and epiphytes. The ground is heavily covered by leaf litter to a depth of 5–10 cm, and ferns and some terrestrial bromeliads up to 50 cm high emerge from the forest floor. The morphology and coloration of the specimen are consistent with the description given by Ferrão *et al.* (2017) and it has the following characteristics: bright orange iris; snout truncate in dorsal view; conspicuous dark brown spots on dorsum; light brown flanks with dark spots; white black spotted groin; long bones of hind limbs white, The latter differentiates *S. onca* from its congeners and especially *S. iquitorum* (the closest related species), which has dark brown dots concentrated on head, as well as in areas of the scapular and sacral blotches; bright yellow flanks with numerous distinct, round



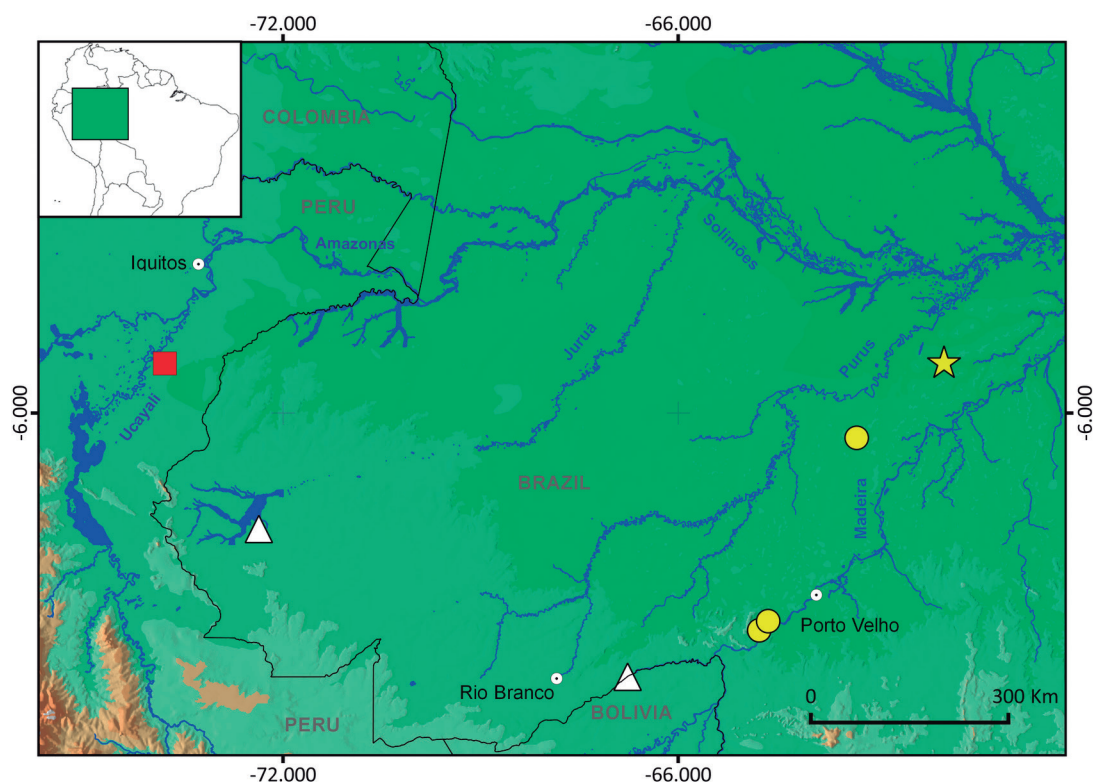
**Figure 1.** *Scinax onca* (CORBIDI 12335) collected at Nueva Reforma Native Community, Loreto, Perú. (A) Dorsal view, (B) ventral view, (C) detail of the right eye, and (D) detail of the right groin.

black spots; and green hind-limb bones. The color pattern of CORBIDI 12335 corresponds with the variation showed by individuals from interfluvium between the Middle Purus and Madeira rivers as is given on the original description of *Scinax onca* (Ferrão *et al.* 2017).

The locality record reported here for *Scinax onca* in Peru is 1273 km airline NW of the previous most northern locality and 1058 km airline NW of the previous most western locality recorded for the species in Brazil (Figure 2). In addition, the morphometric data for this specimen are consistent with those of the type series (both of the middle and southern interfluvial populations of the Purus and Madeira rivers). However, the proportional values are lower than

those of the southern interfluvial population of *S. onca*, and this population has had the lowest values of these variables known to date (Table 1). Thus, there seems to be substantial interpopulational variability, which warrants further study of this species.

The record of *Scinax onca* in the state of Acre in Brazil should be confirmed (Figure 2); if it is correct, then the species is widely distributed in the western Amazon Basin. Moreover, *S. onca* probably occurs north of the Purus and Juruá rivers, but further field surveys are necessary to document this. Last, the new record extends the range of the species more than 1000 airline kilometers. The forest is highly fragmented owing to the cattle activity in the country




**Figure 2.** Map showing localities from which *Scinax onca* is recorded. Yellow star: holotype; yellow circles: paratypes; white triangle: unconfirmed records (Machado *et al.* 2015, Melo-Sampaio and Souza 2015, Ferrão *et al.* 2017); red square: new record.

**Table 1.** Morphological measurements in mm of populations of *Scinax onca*: NR = new record from Tapiche river (Peru), MPMI = Middle Purus-Madeira Interfluvio (Brazil), SPMI = Southern Purus-Madeira Interfluvio (Brazil). For populations with more than a single specimen ( $N$  = number of individuals) mean followed by standard deviation are given in parentheses.

Character	NR ( $N = 1$ )	MPMI ( $N = 7$ )	SPMI ( $N = 6$ )
SVL	34.1	32 $\pm$ 1.1 (31.3–34.3)	33.6 $\pm$ 0.7 (32.6–34.5)
HL	12.1	12.1 $\pm$ 0.3 (11.8–12.6)	12.3 $\pm$ 0.3 (12–12.7)
HW	11.1	11.3 $\pm$ 0.4 (10.9–11.9)	11.8 $\pm$ 0.3 (11.4–12.1)
ED	3.3	3.7 $\pm$ 0.3 (3.5–4.2)	3.6 $\pm$ 0.2 (3.3–3.9)
TD	1.6	2.1 $\pm$ 0.2 (1.9–2.4)	2.2 $\pm$ 0.1 (2–2.4)
UEW	2.9	3.1 $\pm$ 0.2 (2.7–3.2)	3.2 $\pm$ 0.2 (2.9–3.4)
IOD	3.4	3.3 $\pm$ 0.2 (3.1–3.7)	3.2 $\pm$ 0.2 (3–3.4)
HAL	9.5	9.5 $\pm$ 0.5 (9.1–10.4)	9.2 $\pm$ 0.2 (8.9–9.5)
FL	13.7	13.7 $\pm$ 0.4 (13.4–14.4)	13.4 $\pm$ 0.4 (12.9–14.1)
TL	17.2	17 $\pm$ 0.5 (16.3–17.6)	17 $\pm$ 0.4 (16.5–17.7)
THL	14.9	15.9 $\pm$ 0.6 (14.8–16.5)	15.8 $\pm$ 0.7 (14.7–16.9)
TAL	9.9	9 $\pm$ 0.3 (8.6–9.6)	9 $\pm$ 0.3 (8.7–9.3)
HL/SVL	0.35	0.38 $\pm$ 0.01 (0.37–0.39)	0.37 $\pm$ 0.01 (0.36–0.38)
HW/SVL	0.32	0.35 $\pm$ 0.01 (0.35–0.37)	0.35 $\pm$ 0.01 (0.34–0.37)
ED/SVL	0.09	0.12 $\pm$ 0.01 (0.11–0.13)	0.11 $\pm$ 0.01 (0.10–0.12)
TD/SVL	0.04	0.06 $\pm$ 0.01 (0.06–0.07)	0.06 $\pm$ 0.01 (0.06–0.07)
UEW/SVL	0.08	0.10 $\pm$ 0.01 (0.09–0.10)	0.10 $\pm$ 0.01 (0.09–0.10)
IOD/SVL	0.09	0.10 $\pm$ 0.01 (0.10–0.11)	0.09 $\pm$ 0.01 (0.09–0.10)
HAL/SVL	0.27	0.30 $\pm$ 0.01 (0.29–0.31)	0.27 $\pm$ 0.01 (0.27–0.28)
FL/SVL	0.4	0.43 $\pm$ 0.01 (0.42–0.45)	0.40 $\pm$ 0.01 (0.38–0.41)
TL/SVL	0.5	0.53 $\pm$ 0.01 (0.51–0.55)	0.51 $\pm$ 0.01 (0.49–0.51)
THL/SVL	0.43	0.50 $\pm$ 0.02 (0.47–0.52)	0.47 $\pm$ 0.01 (0.45–0.49)

separating the new and old localities. However, the conservation status of *S. onca* cannot be assessed without more in-depth studies of its known populations, as well as surveys for the occurrence of the species in areas between them.

**Acknowledgments.**—Special thanks to Miquéias Ferrão, Linda Trueb and an anonymous reviewer for their valuable comments that improved this

manuscript. I am grateful to the Smithsonian Center of Conservation, Education and Sustainability, and especially to Reynaldo Linares-Palomino for the trust placed in my work. I am also indebted to my friend Diego Vasquez for his invaluable help in the fieldwork, as well as in the laboratory. Last, I thank the Ministerio de Agricultura de Peru for provision of all necessary permits to carry out the fieldwork. 

## References

- Acosta-Galvis, A. R. 2018. Una nueva rana de huesos verdes del género *Scinax* (Anura: Hylidae) asociada a los bosques subandinos de la cuenca del río Magdalena, Colombia. *Biota Colombiana* 19: 131–159.
- Araújo-Vieira, K., R. A. Brandão, and D. C. C. Faria. 2015. A new species of rock-dwelling *Scinax* Wagler (Anura: Hylidae) from Chapada dos Veadeiros, central Brazil. *Zootaxa* 3915: 52–66.
- Araújo-Vieira, K., P. H. Valdujo, and J. Faivovich. 2016. A new species of *Scinax* Wagler (Anura: Hylidae) from Mato Grosso, Brazil. *Zootaxa* 4061: 261–273.
- Brusquetti, F., M. Jansen, C. L. Barrio-Amorós, M. V. Segalla, and C. F. B. Haddad. 2014. Taxonomic review of *Scinax fuscomarginatus* (Lutz, 1925) and related species (Anura: Hylidae). *Zoological Journal of the Linnean Society* 171: 783–821.
- Conte, C. E., K. Araújo-Vieira, L. B. Crivellari, and B. V. M. Berneck. 2016. A new species of *Scinax* Wagler (Anura: Hylidae) from Paraná, southern Brazil. *Zootaxa* 4193: 245–265.
- Duellman, W. E., and J. J. Wiens. 1993. Hylid frogs of the genus *Scinax* Wagler, 1830, in Amazonian Ecuador and Peru. *Occasional Papers of the Museum of Natural History University of Kansas* 153: 1–57.
- Ferrão M., J. Moravec, R. Fraga, A. P. Almeida, I. L. Kaefer, and A. P. Lima. 2017. A new species of *Scinax* from the Purus-Madeira interfluvium, Brazilian Amazonia (Anura, Hylidae). *ZooKeys* 706: 137–162.
- Ferrão M., R. Fraga, J. Moravec, I. L. Kaefer, and A. P. Lima. 2018. A new species of Amazonian snouted treefrog (Hylidae: *Scinax*) with description of a novel species-habitat association for an aquatic breeding frog. *PeerJ* 6: e4321.
- Frost, D. R. (ed.). 2018. Amphibian Species of the World: an Online Reference. Version 6.0 (23 February 2018). Electronic Database accessible at <http://research.amnh.org/herpetology/amphibia/index.html>. American Museum of Natural History, New York, USA. Captured on 29 August, 2018.
- Juncá F. A., M. F. Napoli, I. Nunes, E. de A. Mercês, and R. O. de Abreu. 2015. A new species of the *Scinax ruber* clade (Anura, Hylidae) from the Espinhaço Range, northeastern Brazil. *Herpetologica* 71: 299–309.
- Machado D. C., R. A. Machado, D. Paiva, and J. Moravec. 2015. First record of *Scinax iquitum* Moravec, Tuanama, Pérez-Peña & Lehr, 2009, from Brazil. *Herpetozoa* 27: 189–190.
- Melo-Sampaio P. R., and M. Souza. 2015. New and noteworthy distributional records of treefrogs (Anura) from southwestern Amazonia. *Check List* 11: 1–7.
- Moravec J., I. A. Tuanama, P. E. Pérez-Peña, and E. Lehr. 2009. A new species of *Scinax* (Anura: Hylidae) from the area of Iquitos, Amazonian Peru. *South American Journal of Herpetology* 4: 9–16.
- Nunes I. and J. P. Pombal Jr. 2010. A new *Scinax* Wagler (Amphibia, Anura, Hylidae) from the Atlantic Rain forest remains of southern state of Bahia, north-eastern Brazil. *Amphibia-Reptilia* 31: 347–353.
- Nunes I. and J. P. Pombal Jr. 2011. A new snouted treefrog of the speciose genus *Scinax* Wagler (Anura, Hylidae) from northeastern Brazil. *Herpetologica* 67: 80–88.
- Nunes I., R. R. Carvalho Jr., and E. G. Pereira. 2010. A new species of *Scinax* Wagler (Anura: Hylidae) from Cerrado of Brazil. *Zootaxa* 2514: 24–34.
- Nunes I., A. Kwet, and J. P. Pombal Jr. 2012. Taxonomic revision of the *Scinax alter* species complex (Anura: Hylidae). *Copeia* 2012: 554–569.
- Pugliese A., D. Baêta, and J. P. Pombal Jr. 2009. A new species of *Scinax* (Anura: Hylidae) from rocky montane fields in southeastern and central Brazil. *Zootaxa* 2269: 53–64.
- Ron S. S., W. E. Duellman, M. A. Caminer, and D. Pazmiño. 2018. Advertisement calls and DNA sequences reveal a new species of *Scinax* (Anura: Hylidae) on the Pacific lowlands of Ecuador. *PLoS ONE* 13: e0203169.
- Sturaro M. J. and P. L. V. Peloso. 2014. A new species of *Scinax* Wagler, 1830 (Anura: Hylidae) from the middle Amazon River basin, Brazil. *Papéis Avulsos de Zoologia* 54: 9–23.

Editor: Vanessa Kruth Verdade