

## Notas / Notes

### Signs of life: rediscovery of *Erythrolamprus andinus* (Dixon, 1983) (Serpentes: Dipsadidae) in Bolivia

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#### ABSTRACT

One hundred years after J. Steinbach's collection of *Erythrolamprus andinus* (Dixon, 1983), we report here the rediscovery of *E. andinus* at the type locality of Incachaca, Cochabamba, Bolivia. For the first time, comments on colouring in life are provided, as well as the first colour images for this species. Considering the rarity of this snake due to the few records since its description, we recommend a global conservation status of Critically Endangered for *E. andinus*.

**Keywords:** Cochabamba, type locality, Xenodontini, Squamata, Reptilia, Conservation.

#### RESUMEN

**Señales de vida: Redescubrimiento de *Erythrolamprus andinus* (Dixon, 1983) (Serpentes: Dipsadidae) en Bolivia.**

Cien años después de la colecta de J. Steinbach de *Erythrolamprus andinus* (Dixon, 1983), reportamos el redescubrimiento de *E. andinus* en la localidad tipo de Incachaca, Cochabamba, Bolivia. Por primera vez, se proporcionan comentarios sobre la coloración en vida, como también las primeras imágenes a color para la especie. Considerando la rareza de esta serpiente debido a los pocos registros desde su descripción, recomendamos un estado de conservación global de En Peligro Crítico para *E. andinus*.

**Palabras clave:** Cochabamba, localidad tipo, Xenodontini, Squamata, Reptilia, Conservación.

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The tribe Xenodontini Bonaparte, 1845 (Serpentes: Dipsadidae) contains five genera of snakes: *Baliodyras* Zaher & Prudente, 2020, *Erythrolamprus* Boie, 1862, *Eutrachelophis* Myers & Cadle, 2014, *Lygophis* Fitzinger, 1843, and *Xenodon* Boie, 1826 (Zaher &

Prudente, 2020; Entiauspe-Neto *et al.*, 2021; Uetz *et al.*, 2021). The genus *Erythrolamprus* is one of the most taxonomically diverse and unstable groups of snakes, with 55 species currently recognised from Central and South America (Wallach *et al.*, 2014;

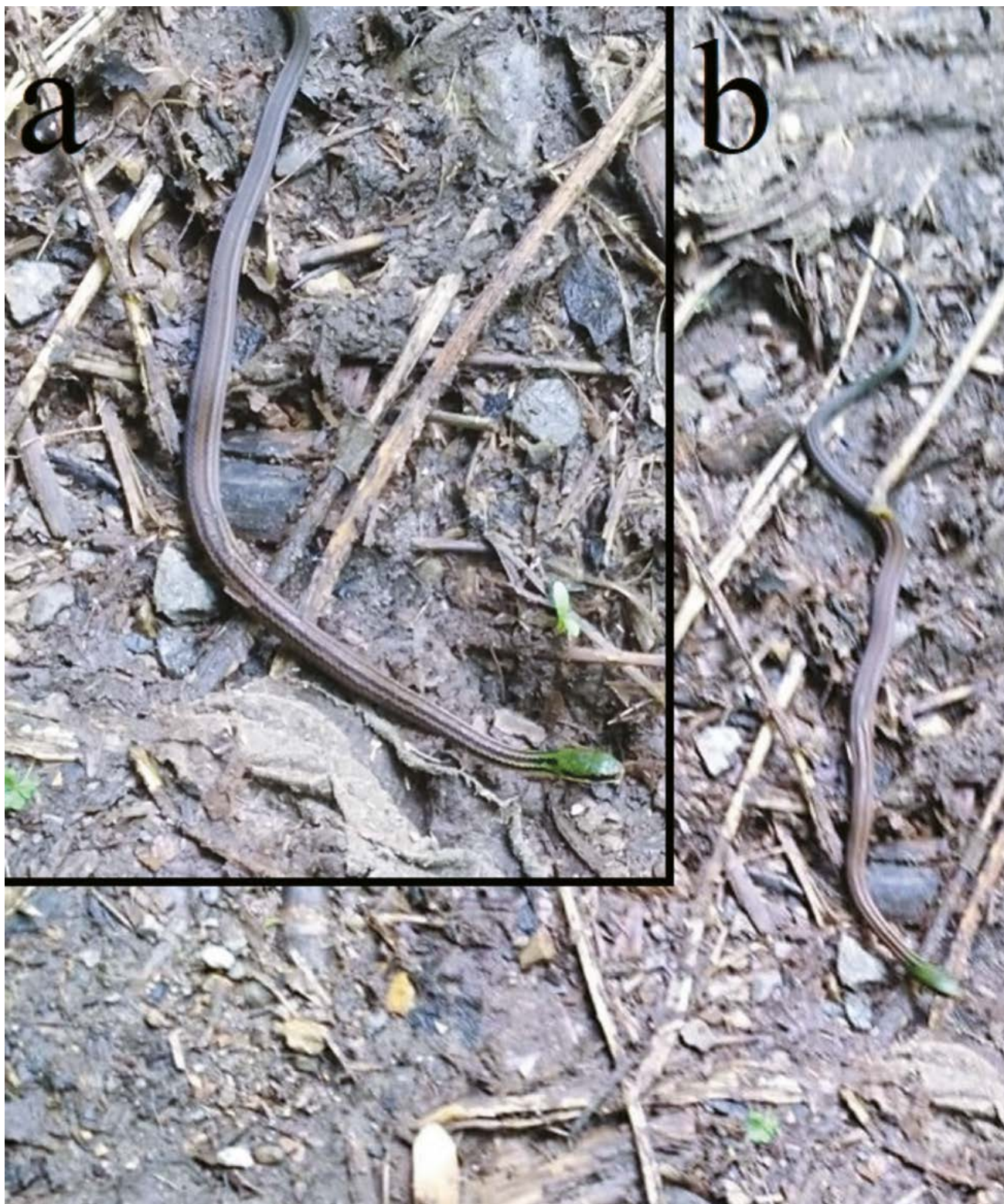


Fig. 1.– Individual of *Erythrolamprus andinus* recorded in Incachaca (type locality), Cochabamba, Bolivia: (a) dorsal view of the head and the body; (b) general view. (Photographs AO).

Fig. 1.– Espécimen de *Erythrolamprus andinus* registrado en Incachaca (localidad tipo), Cochabamba, Bolivia: (a) vista dorsal de la cabeza y del cuerpo; (b) vista general. (Fotografías AO).

Ascenso *et al.*, 2019; Nogueira *et al.*, 2019; Entiausp-Neto *et al.*, 2021; Uetz *et al.*, 2021).

In Bolivia, the genus *Erythrolamprus* is represented by 16 species: *E. aesculapii* (Linnaeus, 1758), *E. albertguentheri* (Peracca, 1897), *E. almadensis* (Wagler, 1824), *E. andinus* (Dixon, 1983), *E. breviceps* (Cope, 1860), *E. ceii* (Dixon, 1991), *E. dorsocorallinus* (Esqueda, Natera, La Marca & Ilija-Fistar 2007), *E. jaegeri* (Günther, 1858), *E. macrosomus* (Amaral, 1935), *E. miliaris* (Linnaeus, 1758), *E. poecilogyrus* (Wied-Neuwied, 1825), *E. reginae* (Linnaeus, 1758), *E. sagittifer* (Jan, 1863), *E. taeniogaster* (Jan, 1863), *E. taeniurus* (Tschudi, 1845) and *E. typhlus* (Linnaeus, 1758) (Leynaud & Bucher, 1999; Wallach *et al.*, 2014; Ascenso *et al.*, 2019; Nogueira *et al.*, 2019; Reichle, 2019; Uetz *et al.*, 2021). However, very few aspects of the biology and distribution of these species are known (Cortez-Fernández, 2009).

*Erythrolamprus andinus* is only known from two localities: the type locality in Incachaca, Cochabamba,

Bolivia (Dixon, 1983) and Wayrapata, department of Cusco, Peru (Alonso *et al.*, 2001). However, to our knowledge, no description of the external morphological characters of living individuals or images of recorded specimens are known (Dixon, 1983, 1989; Alonso *et al.*, 2001; Wallach *et al.*, 2014; Aguayo *et al.*, 2016; Uetz *et al.*, 2021). The types described by Dixon (1983) were collected by J. Steinbach in 1921. After J. Steinbach's collection, no other specimens attributable to this species have been recorded in Bolivia.

One hundred years after the only known Bolivian specimens were collected by Steinbach, during a field trip carried out by the park rangers on May 4<sup>th</sup> 2021, a topotype specimen of *Erythrolamprus andinus* (Fig. 1) was found active during day time, at 11:42 hours, adjacent to a mature secondary montane (Yungas) forest in Incachaca (17°14'10.4" S; 65°48'50.8" W, 2169 m above sea level) (Fig. 2), Carrasco National Park, Cochabamba, Bolivia. The individual registered exhibited characters shown by the specimens in the

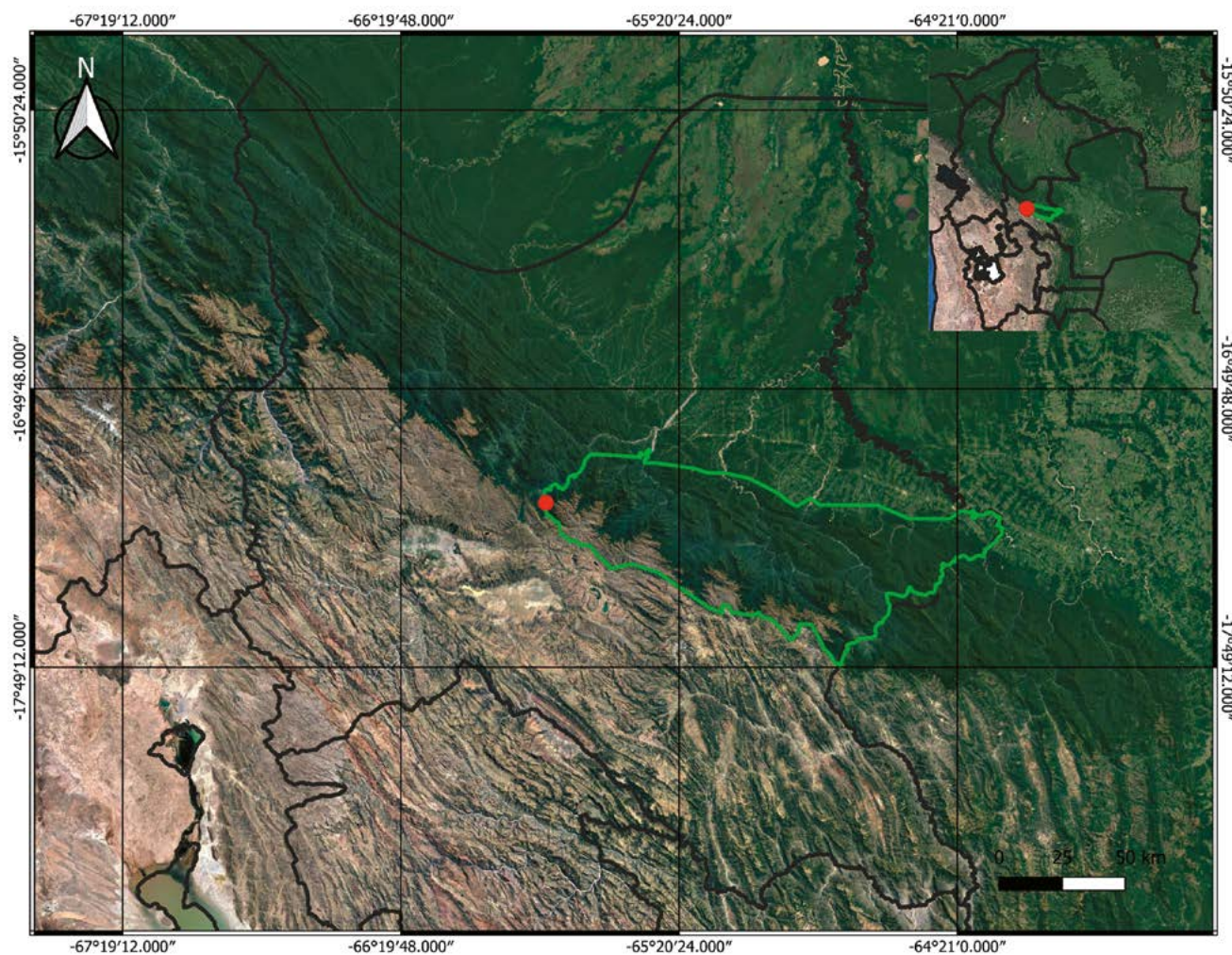


Fig. 2.— Geographical distribution of *Erythrolamprus andinus* in Bolivia. Red circle: new record at the type locality; green line area: Carrasco National Park.

Fig. 2.— Distribución geográfica de *Erythrolamprus andinus* en Bolivia. Círculo rojo: nuevo registro en la localidad tipo; área con línea verde: Parque Nacional Carrasco.

type series of *E. andinus*: (1) moderate body length (SVL 300 mm); (2) dorsum of the head olive green; (3) broad black stripe across the eye and the last supralabial; (4) midbody colour pattern consisting of black vertebral and paravertebral lines along the body and tail (pattern “D” of Dixon’s 1983: 131, fig. 6); (5) combination of 15 dorsal scales; (6) 8 supralabials and 8 infralabials; and (7) 2 preoculars and 2 postoculars. The dorsum was brown, becoming darker from the middle of the body towards the tail, and the vertebral and paravertebral lines were black (Fig. 1).

Due to the rarity of this species, which is considered Endangered in Bolivia (Cortez-Fernández, 2009), the specimen was not collected. The photographic record provided herein represents the first picture of a living individual of this species (Fig. 1).

**CONSERVATION STATUS.** In Bolivia, *Erythrolamprus andinus* is only known from its type locality and, previous to the new record provided herein, only the type series was known. As a consequence, population data for this species are lacking. It is currently listed as Endangered in the Red Book of Endangered Species of Bolivia (Cortez-Fernández, 2009) and as Data Deficient in the IUCN Red List (Aguayo *et al.*, 2016). The surroundings of the type locality are largely characterised by severe forest fragmentation due to agriculture and cleared pastures, which continue to expand in the vicinity of the area (O. Quinteros-Muñoz, pers. obs.). We recommend that the conservation status of *E. andinus* be reclassified from Data Deficient to Critically Endangered, based on criterion B2ab (ii,iii) (IUCN, 2012).

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### References

- Aguayo, R., J. Aparicio, D. Embert, L. Gonzales-Álvarez, A. Muñoz, C. Torres & Suárez, J., 2016. *Erythrolamprus andinus*. *The IUCN Red List of Threatened Species 2016*. Available from <https://www.iucnredlist.org/es/species/50951560/50951579> (accessed 10 Oct. 2021).
- Alonso, L.E., A. Alonso, T.S. Schulenberg & Dallmeier, F., 2001. *Biological and social assessments of the Cordillera de Vilcabamba, Perú*. Conservation International, Washington, DC.
- Ascenso, A.C., J.C.L. Costa. & Prudente, A.L.C., 2019. Taxonomic revision of the *Erythrolamprus reginae* species group, with description of a new species from Guiana Shield (Serpentes: Xenodontinae). *Zootaxa*, 4586: 65–97. <https://doi.org/10.11646/zootaxa.4586.1.3>
- Cortez-Fernández, C., 2009. *Liophis andinus*. In: Aguirre, L.F., Aguayo-Vedia, R., Balderrama, J., Cortez-Fernández, C. & Tarifa, T. (Eds.), *Libro rojo de la fauna silvestre de vertebrados de Bolivia*. 2009. [MMAA] Ministerio de Medio Ambiente y Agua, La Paz, Bolivia, pp. 257–258.
- Dixon, J.R., 1983. Systematics of *Liophis reginae* and *L. williamsi* (Serpentes, Colubridae), with a description of a new species. *Annals of Carnegie Museum*, 52: 113–138.
- Dixon, J.R., 1989. A key and checklist to the genus *Liophis* with country lists and maps. *Smithsonian Herpetological Information*, 79: 1-43. <https://doi.org/10.5479/si.23317515.79.1>
- Entiauspe-Neto, O.M., A.D. Abegg, C. Koch, L.P. Nuñez, W.D.S. Azevedo, L.J. Moraes, A. Tiutenko, T.S. Bialves. & Loebmann, D., 2021. A new species of *Erythrolamprus* (Serpentes: Dipsadidae: Xenodontini) from the savannas of northern South America. *Salamandra*, 57: 196–218.
- Leynaud, G.C. & Bucher, E.H., 1999. La fauna de serpientes del Chaco Sudamericano: diversidad, distribución geográfica y estado de conservación. *Academia Nacional de Ciencias, Miscelanea*, 98:1–46.
- Nogueira, C.C., A.J.S. Argôlo, V. Arzamendia, J.A. Azevedo, F.E. Barbo, R.S. Bérnils, B.E. Bolochio, M. Borges-Martins, M. Brasil-Godinho, H. Braz, M.A. Buononato & Cisneros-Heredia, D.F., 2019. Atlas of Brazilian snakes: verified point-locality maps to mitigate the Wallacean shortfall in a megadiverse snake fauna. *South American Journal of Herpetology*, 14 (Special Issue 1):1–274. <https://doi.org/10.2994/SAJH-D-19-00120.1>
- Reichle, S., 2019. Serpientes de Bolivia. Centro de Ecología y Difusión Simon I. Patiño. *Revista Bolivia Ecológica*, 87, 36 pp.
- Uetz, P., P. Freed, R. Aguilar & Hošek, J., (eds.) 2021. *The Reptile Database*, <http://www.reptile-database.org> (accessed 10 October 2021)
- IUCN, 2012. *Categorías y Criterios de la Lista Roja de la IUCN: Versión 3.1*. Segunda edición. Gland, Suiza y Cambridge, Reino Unido: IUCN. vi + 34 pp. Originally published as IUCN Red List Categories and Criteria: Version 3.1. Second edition. (Gland, Switzerland and Cambridge, UK: IUCN, 2012).
- Wallach, V., L. Kenneth & Boundy, J., 2014. *Snakes of the World: A Catalogue of Living and Extinct Species*. [type catalogue] Taylor and Francis. CRC Press. Florida. USA.
- Zaher, H. & Prudente, A.L.C., 2020. The enigmatic Amazonian genus *Eutrachelophis*: morphological evidence and description of new taxa (Serpentes: Dipsadidae: Xenodontini). *Amphibia-Reptilia*, 41: 215–231. <https://doi.org/10.1163/15685381-20191279>