



Erythrolamprus dorsocorallinus (Esqueda, Natera, La Marca & Ilija-Fistar, 2005) (Squamata: Dipsadidae): range extension, new country record, and comments on color pattern

Cord Blake Eversole^{1*}, Randy Powell², Dennis Lizarro³ and Reinaldo Cholima Bravo³

1 Caesar Kleberg Wildlife Research Institute, Texas A&M University - Kingsville, 1150 Engineering Ave., MSC 218, Kingsville, Texas 78363, USA

2 Department of Biological and Health Sciences, Texas A&M University - Kingsville, 700 University Ave., MSC 158, Kingsville, Texas 78363, USA

3 Centro de Investigación de Recursos Acuáticos (C.I.R.A.), Universidad Autónoma del Beni "José Ballivián", Trinidad, Bolivia

* Corresponding author. E-mail: cord.eversole@students.tamuk.edu

Abstract: We present a new country record and significant range extension of *Erythrolamprus dorsocorallinus* from Bolivia. Locality data on this species is lacking and this account significantly contributes to the knowledge its distributional status throughout South America.

Key words: Beni; Bolivia; primary rainforest; Neotropics; Totaizal indigenous community

The genus *Liophis* is poorly known in many aspects, but widespread throughout South America (Dixon 1980; Fernandes et al. 2002; Esqueda et al. 2005; Araújo et al. 2012). Recently, Esqueda et al. (2005) described *Liophis dorsocorallinus* as a new species which was formerly thought to be a variation of *Liophis reginae* (Dixon 1983). This species was subsequently reclassified as *Erythrolamprus dorsocorallinus* by Graziotin et al. (2012). Since the description of this species by Esqueda et al. (2005), there have been several reports of range extensions and locality data (Bernarde et al. 2011; Franca and Venâncio 2010; Araújo et al. 2012). Due to the novelty of this species in the scientific literature and the lack of information on the genus *Liophis*, little is known about the distribution, life history, and general ecology of *E. dorsocorallinus*.

For identification purposes, our specimens were compared to the information published in the original species description by Esqueda et al. (2005). Identification was determined based on scale counts, coloration, and markings taken from the original description, photographs, and comparison scale count data (Esqueda et al. 2005; Bernarde et al. 2011; da Silva Araújo et al. 2012).

To our knowledge there have been only ten confirmed specimens of *E. dorsocorallinus* reported and deposited into natural history collections (Esqueda et al. 2005; Bernarde et al. 2011; Araújo et al. 2012). Although not confirmed, it is speculated that the specimen from southern Amazonas, Brazil collected by Franca and Venâncio (2010) is *E. dorsocorallinus* (Bernarde et al. 2011; Araújo et al. 2012). It is likely that more specimens of *E. dorsocorallinus* exist in museum collections; however, they have probably been identified as *Liophis* spp. (most likely *L. reginae*) because of the novelty of this species' description.

Herein, we describe two specimens of *E. dorsocorallinus* from the department of Beni, Bolivia that represent a range extension and a new country record of the species. Both specimens were collected and deposited into the herpetology collection of Centro de Investigación de Recursos Acuáticos (CIRA). The first specimen (CIRA-118; ♀; snout to vent length: 44.5 cm; tail length: 8.4 cm; geographic coordinates: -14.94921, -66.28796; datum WGS84; Figure 1; Table 1) was collected on 24 June 2014 at approximately 1830 h during a herpetofaunal survey of the Reserva de Biósfera Estación Biológica del Beni (Departamento del Beni, Provincia de Yacuma; Figure 2). This individual was found dead along a trail in primary rainforest 8.7 km southeast of the indigenous community of Totaizal. The second specimen (CIRA-254; ♀; Snout to vent length: 42.3 cm; tail length: 14.9 cm; live weight: 30 g; geographic coordinates: -14.87809, -66.33106; datum WGS84; Figure 1; Table 1) was collected on 24 June 2015 at approximately 1230 h during the annual herpetofaunal survey of the Reserva de Biósfera Estación Biológica del Beni (Figure 2). This individual



Figure 1. *Erythrolamprus dorsocorallinus* collected during a herpetofaunal survey of the Reserva de Biósfera Estación Biológica del Beni (Departamento del Beni, Provincia de Yacuma). **A.** Dorsal view of 2015 specimen (CIRA-254). **B.** Ventral view of 2015 specimen. **C.** Dorsal view of 2014 specimen (CIRA-118). **D.** Ventral view of 2014 live specimen.

Table 1. Scales counts of *Erythrolamprus dorsocorallinus* specimens collected from the Reserva de Biósfera Estación Biológica del Beni, Bolivia. Missing values indicate unavailable data.

Character	CIRA-118	CIRA-254	Esqueda et al. 2005
Supralabials	–	8 (4, 5)	8 (4, 5)
Infralabials	–	9	8–9 (6)
Preoculars	–	1	1–2
Postoculars	2	2	2
Temporals	–	1+2	1+2
Ventrals	147	149	147–153 M; 151 H
Subcaudals	34 *incomplete	79	69–80 M; 69 H
Dorsals	17–17–15	17–17–15	–
Snout to vent length	44.5 cm	42.3 cm	35.5–47.4 cm
Tail length	8.4 cm	14.9 cm	13.0–17.4 cm

was incidentally found active during the daytime hours in a shallow wetland 0.33 km northeast of the entrance into the community of Totaizal. The habitat surrounding this wetland area was primary rainforest.

These records of *E. dorsocorallinus* represent the southernmost boundary of what is currently known of

the species' range in South America. This report extends the range of *E. dorsocorallinus* 580 km from the previous southernmost report (Araújo et al. 2012) and 2,540 km from the location from which the species was described (Esqueda et al. 2005). This is also the first report of *E. dorsocorallinus* from Bolivia. Future research and

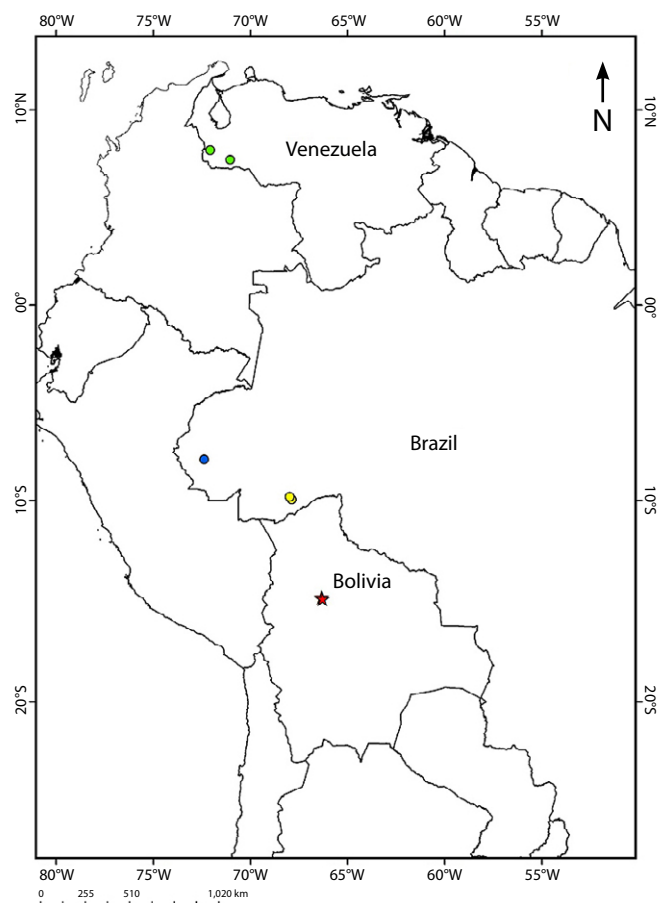


Figure 2. Distribution of known *Erythrolamprus dorsocorallinus* specimens (green circle: Esqueda et al. 2005; blue circle: Bernarde et al. 2011; yellow circles: Araújo et al. 2012) including new records from Bolivia presented in this study (red star).

reporting is needed to fully document and understand the species' range in its entirety.

The dorsal coloration of *E. dorsocorallinus*, as described by Esqueda et al. (2005) and Araújo et al. (2012), is defined as reddish with black scale tips (see live color photographs of *E. dorsocorallinus* in Bernarde et al. 2011 and da Silva Araújo et al. 2012) with no mention of any blue coloration. In addition, Dixon's key and checklist of the genus (Dixon 1989) and the review of *L. reginae* (Dixon 1983) do not include any comment of blue scale coloration. Our live-captured Bolivian specimen (CIRA-254) displayed a striking blue dorsal coloration on the posterior region of the head and nape area and from the mid dorsal region of the body to the tail (Figure 3). Moreover, the anterior dorsal region of the body was vivid yellow with black scale tips. However, upon preservation many of these colors faded to a dull gray, while the yellow coloration faded to a gray/tan. This color pattern form would indicate some degree of geographic variability and most undoubtedly generate confusion within this relatively new taxon. Clearly more



Figure 3. Photo showing blue coloration of *Liophis dorsocorallinus* on a specimen (freshly euthanized; CIRA-254) collected during a herpetofaunal survey of the Reserva de Biosfera Estación Biológica del Beni (Departamento del Beni, Provincia de Yacuma). This unique characteristic has not been previously described for the species.

specimens are needed for better comprehension on the variation observed for the species and to delimit its geographic boundaries.

ACKNOWLEDGEMENTS

We thank El Museo Ictícola, Centro de Investigación de Recursos Acuáticos, and Universidad Autónoma del Beni "José Ballivián" for logistical support. We also thank Servicio Nacional de Áreas Protegidas and Reserva de la Biosfera Estación Biológica del Beni for access to our study area.

LITERATURE CITED

- Araújo, J.S., M.B. de Souza, T. de Andrade Farias, D.P. da Silva, N.M. Venâncio, J.M.L. Maciel and P.R. Melo-Sampaio. 2012. *Liophis dorsocorallinus* Esqueda, Natera, La Marca and Ilija-Fistar, 2005 (Squamata: Dipsadidae): distribution extension in Southwestern Amazonia, state of Acre, Brazil. Check List 8(3): 518–519. doi: [10.15560/8.3.518](https://doi.org/10.15560/8.3.518)
- Bernarde, P.S., R.A. Machado and L.C.B. Turci. 2011. Herpetofauna da área do Igarapé Esperança na Reserva Extrativista Riozinho da Liberdade, Acre – Brasil. Biota Neotropica 11(3): 117–144. doi: [10.1590/S1676-06032011000300010](https://doi.org/10.1590/S1676-06032011000300010)
- Dixon, J.R. 1983. Systematics of *Liophis reginae* and *L. williamsi* (Serpentes, Colubridae), with a description of a new species. Annals of the Carnegie Museum 52: 113–138.
- Dixon, J.R. 1989. A key and checklist to the Neotropical snake genus *Liophis* with country list and maps. Smithsonian Herpetological Information Service 79: 1–28. doi: [10.5479/si.23317515.79.1](https://doi.org/10.5479/si.23317515.79.1)
- Esqueda, L.F., M. Natera, E.L. Marca and M. Ilija-Fistar. 2005. Nueva especie de serpiente (Reptilia: Colubridae: *Liophis*) de un bosque tropical relictual en el estado Barinas, Venezuela. Herpetotropicos 2: 95–103.
- Fernandes, D.S., V.J. Germano, R. Fernandes and F. L. Franco. 2002. Taxonomic status and geographic distribution of the lowland species of *Liophis cobella* group with comments on the species from the Venezuelan Tepuis (Serpentes, Colubridae). Boletim do

- Museu Nacional Nova Série Zoologia 481: 1–14.
- Franca, F.G.R., N.M. Venancio. 2010. Reptiles and amphibians of a poorly known region in southeastern Amazonia. *Biotemas* 23: 71–84.
- Grazziotin, F.G., H. Zaher, R. W. Murphy, G. Scrocchi, M.A. Benavides and Y. Ping. 2012. Molecular phylogeny of the New World dipsidae (Serpentes: Colubroidea): a reappraisal. *Cladistics* 28(5): 437–459. doi: [10.1111/j.1096-0031.2012.00393.x](https://doi.org/10.1111/j.1096-0031.2012.00393.x)

Author contributions: CBE, RLP, DL, and RCB all collected the data. RLP identified the specimens. CBE and RLP wrote the text.

Received: 27 October 2015

Accepted: 27 May 2016

Academic editor: Raúl Maneyro