

## Appendix

Specimens of *Sphenomorphus* from Milne Bay Province, Papua New Guinea examined from BPBM.

*Sphenomorphus granulatus* ( $n = 14$ ) Cloudy Mountains, along Upaelisafupi Stream, April 2002: BPBM 15617, 15618, 15620-15625; Owen Stanley Mountains, Mt. Pekopekowana, Wailahabahaba Creek, May 2002: 15628, Fergusson Island, Oya Tabu, August 2002: BPBM 16007, 16010; Fergusson Island, Oya Waka, September BPBM 2002: 16013-16015.

*Sphenomorphus jobiensis* ( $n = 36$ ) Cloudy Mountains, along Upaelisafupi Stream, April 2002: BPBM 15645, 16909-16911, 19006, 19009-19014; May 2002: BPBM 15650-15652, Fergusson Island, August 2002: BPBM 16017, 16020, 16022; Fergusson Island, Oya Waka, September 2002: BPBM 16025; Fergusson Island, Oya

Tabu, August 2002: BPBM 19016, 19017; September 2002: BPBM 19019; Siyomu Village, February 2003: BPBM 19025-19027, 16906, 16907, 16918, 16920-16922; Bunisi Village, February 2003: BPBM 16905, 16914-16916, 16923; Gasu Village, February 2003: BPBM 16917.

*Sphenomorphus minutus* ( $n = 18$ ) Cloudy Mountains, along Upaelisafupi stream, April BPBM 2002: 15655, 15657; Fergusson Island, Oya Tabu August 2002: BPBM 16031-16036; Fergusson Island, Ova Tabu, August 2002: 16037; Fergusson Island, August 2002, BPBM 16038; Fergusson Island, Oya Waka, September 2002: BPBM 16039; Normanby Island, Samoa, September 2002: BPBM 16040; Misima Island, January 2003: BPBM 16840-16842; Normanby Island, Saidowai, January 2003: BPBM 16843, 16844; Sudest Island, SW slope Mt. Rio, April 2004: BPBM 20057.



## Ecogeographical notes on a rare species of false coral snake, *Oxyrhopus dolius* Duméril, Bibron & Duméril, 1854

LUIS FELIPE ESQUEDA<sup>1,5</sup>, MARCO NATERA-MUMA<sup>2</sup>, SANTOS BAZÓ<sup>3</sup>  
and ENRIQUE LA MARCA<sup>4</sup>

<sup>1,5</sup> Investigador Asociado, Laboratorio de Biogeografía, Escuela de Geografía, Facultad de Ciencias Forestales y Ambientales, Universidad de Los Andes, Mérida 5101, Venezuela.  
luisfesqueda@gmail.com [corresponding author]

<sup>2</sup> Museo de Vertebrados, Centro de Estudios del Llano, Universidad Rómulo Gallegos. Apartado 205, San Juan de Los Morros 2301, estado Guárico, Venezuela. mnateram@yahoo.com

<sup>3</sup> Investigador Asociado, Laboratorio de Biogeografía, Escuela de Geografía, Facultad de Ciencias Forestales y Ambientales, Universidad de Los Andes, Mérida 5101, Venezuela.  
cocodriloeextremo@hotmail.com

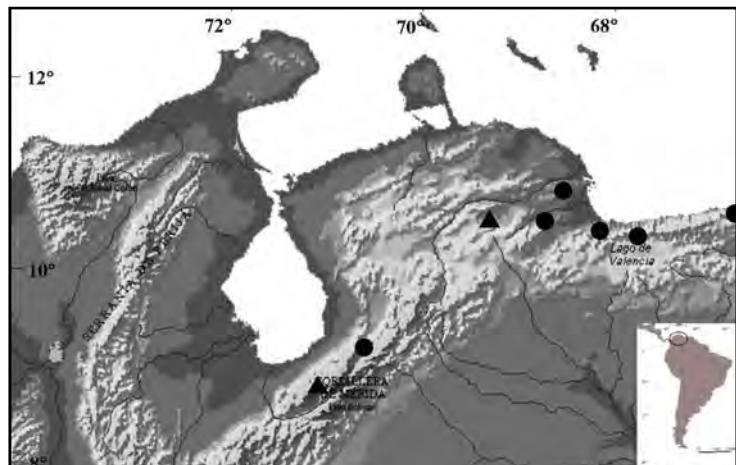
<sup>4</sup> Laboratorio de Biogeografía, Escuela de Geografía, Facultad de Ciencias Forestales y Ambientales. Universidad de Los Andes, Mérida 5101, Venezuela. enrique.lamarca@gmail.com

PREVIOUSLY known as *Oxyrhopus venezuelanus* Shreve, 1947, this snake is a colubrid species belonging to the subfamily Xenodontinae, originally described on the basis of a single specimen from the population 'El Paují', Acosta municipality, Falcón State, Venezuela. A recent revision revealed that this name is a junior synonym of *Oxyrhopus dolius* Duméril, Bibron & Duméril, 1854 (Zaher & Caramaschi, 2000); however, these authors did not specify the type locality of the species, which will be necessary to ascertain in the future, although Brazil is assumed

to be the locality. The taxon is known from the Aragua, Carabo, Miranda, Vargas and Yaracuy States, and Capital District (Roze, 1966; Peters & Orejas-Miranda, 1970; Manzanilla *et al.*, 1996; Kornacker, 1999; Rivas, 2002). Until the present time, its known distribution was restricted exclusively to the premontane forest, between 10–500 m asl, in the Coastal Range and Serranía of San Luis, respectively. The species was reported for first time in the Venezuelan Andes, specifically in the region of Escuque, Trujillo State, by Esqueda *et al.* (2007:92). Seven

additional specimens previously catalogued confirm its presence in the Mérida, Lara and Trujillo states, as follows: EBRG 4383, coming from El Guape, Crespo municipality, Lara State, 10°17'N, 69°08'W, approx., 715 m; CVULA 3150, La Azulita, 2000 m, Andrés Bello municipality, Mérida State; CVULA 2426, 9 Km SW Quebrada Azul (road La Azulita), 1000 m asl; CVULA 3661, La Azulita, Cuchilla de San Rafael, 1400 m asl; ULABG 2952, La Azulita, 915 m asl; ULABG 6827, Candelitas, road Escueque, Escueque municipality, Trujillo State; ULABG 5694, between Escueque and Las Palmas, 1436 m, Escueque municipality, Trujillo State (Figure 1).

Unlike the Andean populations, where the species occur at higher elevations in environments corresponding to cloud forests and montane semicaducifolious forest, snakes from northern Venezuela occur at lower elevations. This taxon is ecologically sympatric with other false coral snakes that exhibits a mimetic coloration (batesian mimicry), such as *Erythrolamprus bizona* Jan, 1863, *Erythrolamprus pseudocorallus* Roze, 1959, *Oxyrhopus petola* (Linnaeus, 1758) and *Lampropeltis triangulum andesiana* Williams, 1978 (Roze, 1966, 1996; Barrios & Navarrete, 1999; Esqueda & La Marca 1999; Mijares-Urrutia & Arends, 2000; Navarrete & Rodríguez, 2003; Campbell & Lamar, 2004; La Marca & Soriano, 2004; Lotzkat, 2006). Nonetheless, *Oxyrhopus doliatus* is easily distinguished from its congeners by having a color pattern with bands clearly arranged in two designs (Figure 2). The anterior third of the body has black bands wider than white bands, similar to the pattern exhibited by *Micrurus mipartitus* (Duméril, Bibron & Duméril, 1854). The remaining portion of the body has red bands wider than black bands, these limited to both sides by narrow white bands,



**Figure 1.** Distribution ranges of *Oxyrhopus doliatus* Duméril, Bibron & Duméril, 1854. Black circles are literature records (Roze 1966, Rivas 2002, Esqueda *et al.*, 2007) and black triangles are examined museum records (EBRG and CVULA).

similar to that exhibited by *Micrurus dumerilii* (Jan, 1858). Both of these venomous species are sympatric with *O. doliatus* throughout its distributional range.

This is the third species of false coral snake known to occur at elevations above 1800 m asl; only *E. pseudocorallus* and *L. triangulum andesiana* reach similar altitudes (Roze, 1966; La Marca & Soriano, 2004; Navarrete & Rodríguez, 2003). As other auhtors have already indicated

**Figure 2.** *Oxyrhopus doliatus* Duméril, Bibron & Duméril, 1854, from Lara State, Venezuela (EBRG 3150). © Marco Natera.



(Manzanilla *et al.*, 1996; Mijares-Urrutia & Arends, 2000), the species is uncommon. Actually our Andean environments are being subjected to strong impacts from human activities, principally on forested ecosystems. In consideration of its apparent scarcity, mimetic coloration, and the threats that exist to its habitats, we recommend including this species on the red list of Venezuela as an endangered species.

### ACKNOWLEDGEMENTS

Our thanks to Amelia Díaz de Pascual (Colección de Vertebrados, Universidad de Los Andes), Francisco Bisbal and Ramón Rivero (Estación Biológica Rancho Grande), for allow LFE and MNM to examine the specimens under their care. Ramón Santos, Jaime Péfaur for their assistance in field as collectors. Carlos Navas recommended valuable improvements to the paper. Finally, we thank to Abraham Mijares Urrutia and Fernando Rojas Runjaic for comments on the manuscript.

### REFERENCES

- Barrios, C & Navarrete, L. F. (1999). Geographic distribution of *Lampropeltis triangulum andesiana*, Mérida, Venezuela. *Herpetol. Rev.* **30**, 174–175.
- Campbell J.A. & Lamar, W. W (2004). *The Venomous Reptiles of the Western Hemisphere*. Comstock Publishing Associates, Cornell University Press, Ithaca and London. 870 pp.
- Esqueda, L. F. & La Marca, E. (1999). New reptilian species records from the Cordillera de Mérida, Andes of Venezuela. *Herpetol. Rev.* **30**, 238–240.
- Kornacker, P. M. (1999). Checklist and Key to the Snakes of Venezuela. Lista Sistemática y Clave para las Serpientes de Venezuela. PaKo-Verlag ed. Rheinbach, Germany. 270 pp.
- Esqueda, L., La Marca, E. & Bazó, S. (2007) (“2005”). Un nuevo colúbrido semifosorial del género *Atractus* (Dipsadinae) de la vertiente lacustre de los Andes de Venezuela. *Herpetotropicos* **2**, 87–93.
- La Marca, E. & Soriano, P. J. (2004). *Reptiles de Los Andes de Venezuela*. Fundación Polar, Conservación Internacional, CODEPRE-ULA, Fundacite-Mérida, BIOGEOS, Mérida, Venezuela. 173 pp.
- Lotzkat, S. (2006). Taxonomie und Zoogeographie der Herpetofauna der Nirgua-Massivs, Venezuela. Diplomarbert im Fachberich Biowissenschaften der Johann Wolfgang Goethe-Universitat. Frankfur am Main. 160 p.
- Manzanilla, J., Fernández-Badillo, A. & Visbal, R. (1996). Fauna del Parque Nacional Henry Pittier, Venezuela. Composición y distribución de los reptiles. *Acta Cient. Venezol.* **46**, 1–19.
- Mijares-Urrutia, A. & Arends R., A. (2000). Herpetofauna of Estado Falcón northwestern Venezuela: a checklist with geographical and ecological data. Smithsonian Herpetological Information Service 123. 30 pp.
- Navarrete, L.F. & Rodríguez-Acosta, A. (2003). Notes on the natural history of the milknake *Lampropeltis triangulum andesiana* Williams, 1978 in Venezuela. *Carib. J. Sci.* **39**, 235–236.
- Peters, J. A. & Orejas-Miranda, B. (1970). Catalogue of the Neotropical Squamata. Part I: Snake. *U.S. Natl. Mus. Bull.* **297**, 1–247.
- Rivas, F. G. (2002). Geographic distribution *Oxyrhopus doliatus*. *Herpetol. Rev.* **33**, 150.
- Roze, J. A. (1966). *La Taxonomía y Zoogeografía de Los Ofidios de Venezuela*. Univ. Central de Venezuela, edit. Biblioteca. Caracas. 362 pp.
- Roze, J. A. 1996. *Coral Snakes of the Americas: Biology, Identification and Venoms*. Malabar, Florida: Krieger Publ. Co. 328 pp.
- Zaher, H. & Caramaschi, U. (2000). Synonymization of *Oxyrhopus venezuelanus* Shreve, 1947, with *Oxyrhopus doliatus*, Duméril, Bibron & Duméril, 1854, and revalidation of *Oxyrhopus erdisii* (Barbour, 1913) (Serpentes, Colubridae). *Dumerilia* **4**, 113–122.