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***Stenocercus bolivarensis* Castro & Ayala 1982 (Squamata: Tropicoduridae): a distribution extension in Quindío (Colombia), three decades after its discovery**

Stenocercus bolivarensis Castro & Ayala 1982 (Squamata: Tropicoduridae): extensión de su distribución en el departamento de Quindío (Colombia), después de tres décadas de su descubrimiento

Jhonattan Vanegas-Guerrero, Carlos A. Londoño-Guarnizo y Diego A. Gómez-Hoyos

Abstract

The Bolivar Whorltail Iguana, *Stenocercus bolivarensis*, is only known in museum collections from six specimens collected in 1982 at its type locality “around Bolivar municipality in the department of Cauca, Colombia”. After three decades of no records in other localities, herein we report a new record of the Bolivar Whorltail Iguana from Quindío department (Armenia municipality), also representing a significant distribution extension of 285 km North from previous records and represents a latitudinal extension of 2.5°. The newly introduced record of *S. bolivarensis* apparently belongs to an established population. Finally, we discuss the conservation implications of this rediscovery.

Key words. Andes. Geographic distribution. Range extension. Threatened lizard. Vulnerable.

Resumen

El lagarto collarajo de Bolívar, *Stenocercus bolivarensis*, sólo se conoce de seis especímenes de museos, colectados en 1982 en su localidad tipo “alrededor del municipio de Bolívar en el departamento del Cauca, Colombia”. Después de tres décadas sin registros en otras localidades, se reporta en este documento un nuevo registro del lagarto collarajo de Bolívar para el departamento del Quindío (municipio de Armenia), que también constituye una extensión significativa en su distribución de 285 km al norte de los registros previos y representa una extensión latitudinal de 2,5 °. El nuevo registro de *S. bolivarensis* proviene de una población aparentemente establecida. Finalmente, se discute sobre las implicaciones para la conservación de este redescubrimiento.

Palabras clave. Andes. Distribución geográfica. Extensión de la distribución. Lagarto amenazado. Vulnerable.

The genus *Stenocercus* comprises 61 species distributed from the Northern Andes and adjacent lowlands of Colombia and Venezuela, to Central Argentina, between 0 and 4000 m a.s.l. (Torres-Carvajal 2007). In Colombia, *Stenocercus* genus is represented by seven species: *S. erythrogaster* (Hallowell 1856) distributed across the Caribbean region (including Sierra Nevada de Santa Marta);

S. santander (Torres-Carvajal 2007), *S. lache* (Corredor 1983), and *S. trachycephalus* (Duméril 1851) occurring at the Eastern Cordillera; *S. angel* (Torres-Carvajal 2000), *S. iridescens* (Günther 1859), and *S. bolivarensis* (Castro & Ayala 1982) distributed across the southern portion of the Central Andes in Colombia. Few records of *Stenocercus* are known from central Colombia, being the central range of the

Central Cordillera a distributional gap for all species documented in Colombia (Torres-Carvajal 2009).

Stenocercus bolivarensis Castro & Ayala, 1982 (Figure 1) is only known from six specimens collected at its type locality in Bolivar municipality, department of Cauca (Figure 2), between 1100 and 1800 m a.s.l., although it had been erroneously reported by Torres-Carvajal (2007) between 2900 and 3250 m. Among *Stenocercus* species occurring on the Central Cordillera, *S. bolivarensis* exhibits the highest distributional range (Castro & Ayala 1982, Torres-Carvajal 2007, 2009).

After three decades (31 years) of no other records, herein we report the first record of *S. bolivarensis* (Figure 1) collected in University of Quindío campus (04°33'16.6" N, 075°39'35.4" W, 1485 m a.s.l.), in the department of Quindío, municipality of Armenia (Figure 2). A single male specimen was collected and deposited in the Herpetological Collection of the University of Quindío (Herpetos-UQ) (Herpetos-UQ 0282, snout-vent length = 81 mm, tail length = 92 mm) (Figure 3), in February 19th, 2013. Furthermore, three uncollected individuals were observed in the same locality at a distance of 1.6 m within bark cracks



Figure 1. Uncollected specimen of *Stenocercus bolivarensis* at the campus of the University of Quindío, Armenia, Quindío, Colombia. Photo: Jhonattan Vanegas-Guerrero.

of a *Bauhinia variegata* (Magnoliopsida: Fabaceae) specimen, used as burrows by the lizards. The new record extends the latitudinal range of this species approximately 285 km North from its type locality (Figure 2).

It differs from the other Colombian *Stenocercus* by the presence of granular scales on the lateral surface of the neck and juxtaposed scales on the anterior surface of the thigh and the anterior portion of the gular region. *Stenocercus bolivarensis* can also be distinguished from other species of the genus, by two caudal whorls for each autotomic segment and caudal scales are mucronated. Whorltail Iguanas are characterized by a longitudinal row of enlarged vertebral scales; body lateral scales are strongly keeled and imbricated. Whorltail Iguanas present a prehumeral skin fold that covers part of the black of the necklace, and an extra fold in the gular region (Castro & Ayala 1982, Torres-Carvajal 2007).

This report contributes to the knowledge of the geographic distribution of *Stenocercus* in Colombia with important implications for the conservation status for this species. First, the elevation where the species has been recorded ranges from 1.100 to 1.800 m a.s.l. in the western slope of the Central Andes of Colombia. Furthermore, the large distance between the previously known collecting localities and this new one suggests that intermediate populations may exist, thus a greater sampling effort in the Colombian Andean cordilleras should be conducted.

Moreover, the extension of the range of *S. bolivarensis* has implications for systems that evaluate the conservation status of this species where the distribution range is one of the criteria, such as the IUCN red list. Before this report, the distribution range size of *S. bolivarensis* calculated from the two previously known populations was 16,8 km²; this new record increases the range size to 1.152,5 km², assuming a connection between the three known localities and using a minimum convex polygon. Therefore, we propose to list this species under the IUCN category of Vulnerable (VU) B1ab (iii) since the potential distribution is smaller than 20.000 km², it is found in less than ten localities and there is a progressive forest loss for the period 2000–2013 (Hansen *et al.* 2013) within its range (IUCN S. P. S. 2014).

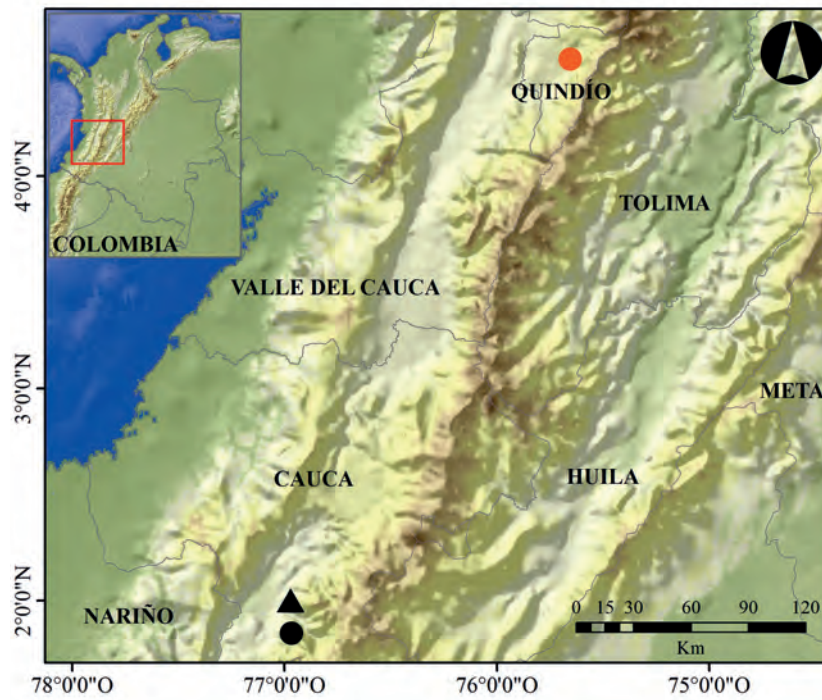


Figure 2. *Stenocercus bolivarensis* distribution. The black triangle (type locality) and circle represent the known distribution of *S. bolivarensis*; red circle shows the new record.

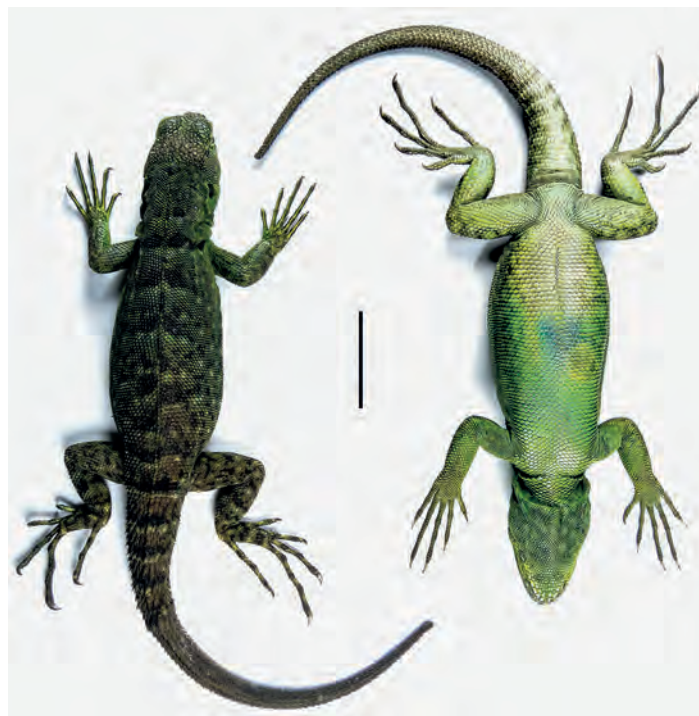


Figure 3. Individual stored at Herpetological Collection of the University of Quindío (Herpetos-UQ 0282; male, snout-vent length = 81 mm, tail length = 92 mm). Scale bar = 2 cm. Photo: Jhonattan Vanegas-Guerrero.

Finally, the current distribution is not included in any protected area at the regional or national levels (Vásquez y Serrano 2009), therefore conservation measures are advisable to reduce the extinction risk faced by this species.

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