

# Reptilia, Squamata, Iguanidae, *Stenocercus humeralis* Gunther, 1859: First country record, Peru

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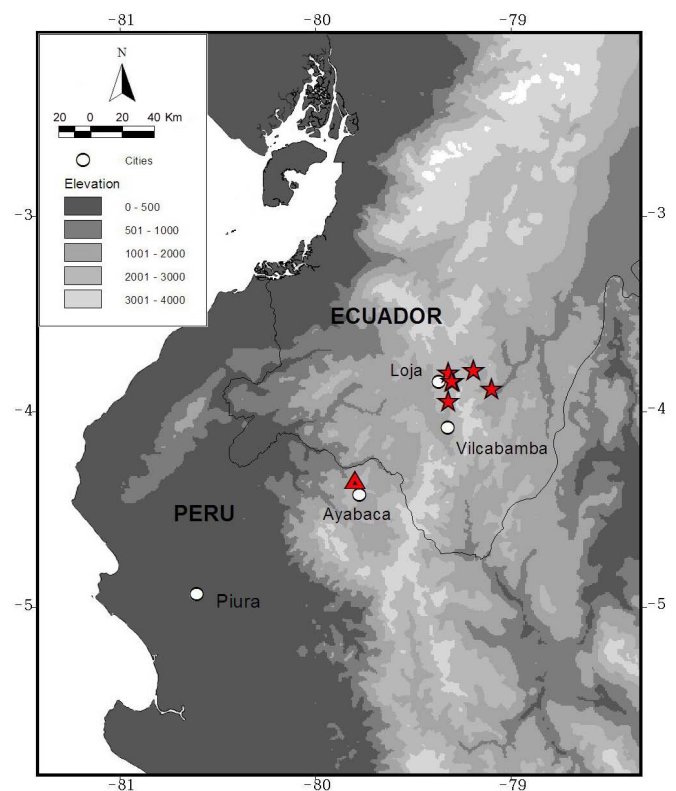
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**ABSTRACT:** The current work provides the first country record of *Stenocercus humeralis* in Peru. This new record extends the known species' distribution ca. 78.5 km SW from the southernmost record at 12.2 km south of Loja (on road to Vilcabamba), Ecuador

The iguanian lizard genus *Stenocercus* Duméril and Bibron, 1837 is one of the most geographically and ecologically widespread reptile taxon in South America (Torres-Carvajal 2007a). It includes 61 species that occur at elevations between 0 and 4,000 m in the Andes and adjacent lowland areas from northern Venezuela to central Argentina, including some species in the Atlantic lowlands of southern Brazil and central Argentina, and in northeastern Brazil (Torres-Carvajal 2007a). The species of *Stenocercus* occupy a variety of habitats such as dry and humid lowland tropical forests, montane forests, Cerrado, puna, and páramo (Torres-Carvajal 2007a). The genus is most diverse in Peru, with 33 species, which represents more than half of the currently known species (Torres-Carvajal 2007b). Recent surveys carried out in the cloud forests of northwestern Peru have resulted in the first country record of *Stenocercus humeralis* Gunther, 1859, which we report herein.

Seven adult individuals of *Stenocercus humeralis* (CORBIDI 00934-40) were collected in a recent survey at Cerro Yantuma, near Bosque de Cuyas, Ayabaca (04°36'10.7" S, 79°42'47.7" W, 2,462 m; Figure 1), province of Ayabaca, region of Piura, Peru, on 09 May 2008, by P. J. Venegas and D. Vasquez. The specimens (five males, CORBIDI 00935-38, 00940; two females, CORBIDI 00934, 00939) agree with the description of the species presented by Torres-Carvajal (2000) by having: granular scales on the posterior surface of thighs, enlarged vertebrae, three caudal whorls per autotomic segment, a medially complete antegular fold, non-spinose caudal scales, males lacking a black transverse band on the ventral surface of neck, posthumeral mite pocket conformed by one or more vertical folds or ridges (type 1, following Torres-Carvajal 2007a), postfemoral mite pocket conformed by a distinct pocket with variable depth with a vertical or posteroventrally oriented slit-like opening (type 2, following Torres-Carvajal 2007a), and do not show important variation in scales number (except for

the vertebral range) and size (Table 1). Due to the lower number of vertebral scales in the Peruvian specimens, we performed statistical tests (*t*-test and *F*-test) using Minitab 15 (Table 1), comparing the Peruvian and Ecuadorian populations. No analyses showed significant variation (*t*-test,  $P > 0.1$ ) and we interpret scale number differences as geographical variation rather than evidence for distinct taxa.



**FIGURE 1.** Map of southern Ecuador and northern Peru showing the general distribution of *Stenocercus humeralis* in the area. Red stars are previously known localities (Torres-Carvajal 2007a) and the red triangle corresponds to the new Peruvian locality reported herein.

**TABLE 1.** Summary of morphological characters and measurements (mm) of *Stenocercus humeralis* from Peru and Ecuador. For each quantitative character, F-value, t-value, and corresponding P-values are given. Range (first line) and mean  $\pm$  standard deviation or range (second line) is given for quantitative characters. Data of the *Stenocercus humeralis* from Ecuador was taken of Torres-Carvajal (2007a).

CHARACTER	PERU (n=7)	ECUADOR (n=44)	F-VALUE (p)	t-VALUE (p)
Scales around midbody	85-107	98-125	0.66 (0.87)	-0.89 (0.47)
	97.14 $\pm$ 8.11	110.05 $\pm$ 6.68		
Vertebrales	69-89	81-112	0.42 (0.73)	-0.95 (0.44)
	79.14 $\pm$ 7.86	92.21 $\pm$ 6.82		
Paravertebrals	107-124	106-148	0.16 (0.49)	-0.51 (0.70)
	115.57 $\pm$ 6.29	128.23 $\pm$ 8.69		
Gulars	43-61	41-68	0.44 (0.75)	-0.15 (0.89)
	52.14 $\pm$ 6.41	48.84 $\pm$ 4.31		
Supraoculars	9-13	6-9	1.78 (0.82)	1.4 (0.30)
	10.286 $\pm$ 1.380	7		
Internasals	4	3-4		
	4	4		
Subdigitals finger IV	24-31	24-33	0.6 (0.84)	-0.18 (0.88)
	27.14 $\pm$ 2.116	29.43 $\pm$ 2.10		
Subdigitals toe IV	30-42	28-41	0.85 (0.95)	0.17 (0.88)
	31.85 $\pm$ 1.574	37.02 $\pm$ 2.43		
Tail lenght/total lenght	0.53-0.67	0.62-0.68	5.44 (0.52)	-0.66 (0.58)
	0.634 $\pm$ 0.0486	0.66 $\pm$ 0.01		
Maximun SVL in males	93	112		
Maximun SVL in females	90	108		

Peruvian specimens also agree with the life coloration described by Torres-Carvajal (2000) in having a yellowish green dorsum with scattered black flecks or yellow spots that form transverse rows (Figure 2 and 3), black antehumeral collar (Figure 3 and 4), and pale yellow venter. An adult male (CORBIDI 00940) presented a conspicuous gray head with white spots on the neck (Figure 3).

*Stenocercus humeralis* was considered as restricted to the interandean valleys of the Catamayo (Pacific drainage) and Zamora rivers (Atlantic drainage), at elevations between 2,000-3,000 m, province of Loja, southern Ecuador (Torres-Carvajal 2000; 2007a; 2007b).



**FIGURE 2.** Dorsolateral view of adult female of *Stenocercus humeralis* (CORBIDI 00939) collected at Cerro Yantuma, Ayabaca, Peru. Photo by P.J. Venegas.



**FIGURE 3.** Dorsolateral view of juvenile male of *Stenocercus humeralis* (CORBIDI 00936) collected at Cerro Yantuma, Ayabaca, Peru. Photo by P.J. Venegas.

This new record extends the known species' distribution ca. 78.5 km SW from the southernmost record at 12.2 km south of Loja (Malacatos River Valley on road to Vilcabamba; Torres-Carvajal 2007a) (Figure 4). *Stenocercus humeralis* was not reported by Carrillo and Icochea (1995) or Lehr (2002) in their lists of reptiles from Peru.

All specimens of *S. humeralis* were collected in the morning basking on trunks and rocks near to a steep trail on the side of Cerro Yantuma. The slopes of Cerro Yantuma are covered with cloud forest, secondary growth, and pasture clearings for cattle. A couple of *S. humeralis* were found mating on a rock. The male fastened the female biting her behind the head and when they were disturbed the male dragged the female into a groove.



**FIGURE 4.** Dorsolateral view of adult male of *Stenocercus humeralis* (CORBIDI 00940) collected at Cerro Yantuma, Ayabaca, Peru. Photo by P. J. Venegas.

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**LITERATURE CITED**

- Carrillo, N. and J. Icochea. 1995. Lista taxonómica preliminar de los reptiles vivientes del Perú. *Publicaciones del Museo de Historia Natural UNMSM (A)* 49: 1-27.
- Lehr, E. 2002. *Amphibien und reptilien in Peru: die herpetofauna entlang des 10. Breitengrades von Peru: arterfassung, taxonomie, ökologische bemerkungen und biogeographische beziehungen*. Münster: Natur und Tier Verlag (NTV Wissenschaft). 208 p.
- Torres-Carvajal, O. 2000. Ecuadorian lizards of the genus *Stenocercus* (Squamata: Tropiduridae). *Scientific Papers University of Kansas Museum of Natural History* 15:1-38.
- Torres-Carvajal, O. 2007a. A taxonomic revision of South American *Stenocercus* (Squamata: Iguania) lizards. *Herpetological Monographs* 21: 76-178.
- Torres-Carvajal, O. 2007b. Phylogeny and biogeography of a large radiation of Andean lizards (Iguania, *Stenocercus*). *Zoologica Scripta* 36(4): 311-326.

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