



## A new species of iguanid lizard, genus *Stenocercus* (Squamata, Iguania), from the Central Andes in Peru

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### Abstract

We describe a new species of *Stenocercus* from the montane forest of the right margin of the Marañón river in the northern portion of the Central Andes in northern Peru (Amazonas and La Libertad departments), at elevations ranging from 2300 to 3035 m. *Stenocercus omari* **sp. nov.** differs from other *Stenocercus* species, with the exception of *S. amydrorhytus*, *S. chrysopygus*, *S. cupreus*, *S. johaberfellneri*, *S. latebrosus*, *S. melanopygus*, *S. modestus*, *S. ornatissimus*, *S. orientalis*, and *S. stigmus*, by having granular scales on the posterior surfaces of thighs, a conspicuous antehumeral fold and by lacking a vertebral crest. However, *Stenocercus omari* **sp. nov.** is easily distinguished from the aforementioned species, except *S. orientalis*, by the presence of prominently keeled dorsal head scales. The new species differs from *S. orientalis* by lacking a prominent oblique neck fold and by having a distinct deep postfemoral mite pocket.

**Key words:** Amazonas department, Central Andes, clutch size, Marañón river, La Libertad department

### Resumen

Describimos una nueva especie de *Stenocercus* del bosque montano de la margen derecha del río Marañón, en la porción norte de los Andes Centrales, al norte del Perú (departamentos de Amazonas y La Libertad), a elevaciones entre 2300 y 3035 m. *Stenocercus omari* **sp. nov.** se diferencia de otras especies de *Stenocercus*, excepto *S. amydrorhytus*, *S. chrysopygus*, *S. cupreus*, *S. johaberfellneri*, *S. latebrosus*, *S. melanopygus*, *S. modestus*, *S. ornatissimus*, *S. orientalis*, y *S. stigmus*, por tener escamas granulares en la superficie posterior de los muslos, un pliegue antehumeral conspicuo y por la ausencia de cresta vertebral. Sin embargo, *Stenocercus omari* **sp. nov.** se diferencia fácilmente de las especies anteriormente mencionadas, excepto *S. orientalis*, por presentar las escamas dorsales de la cabeza prominentemente quilladas. La nueva especie se diferencia de *S. orientalis* por la ausencia de un pliegue prominente en el cuello y por presentar un bolsillo acárido postfemoral profundo.

**Palabra clave:** Andes Centrales, departamento de Amazonas, departamento de La Libertad, río Marañón, tamaño de nidada

### Introduction

According to Mittermeier *et al.* (1997), Peru is among the most megadiverse countries in the world. Peruvian diversity is related to the complex topography of the Andes, which cover almost one-third of Peruvian territory (Peñaherrera del Aguila 1989; Lehr 2002) and range north to south through the entire country, with an average height of 4000 m above sea level. This mountain range greatly influences the climate of most of Peru resulting in a wide variety of vegetation formations, including deserts, scrubs, dry forests, puna grasslands, humid montane forests, cloud forests, and humid lowland forests (Brack 1986; Duellman & Pramuk 1999).

Each of these habitats possesses numerous challenges to its inhabiting fauna, resulting in the development of different living strategies and subsequently in the genesis of the megadiversity that is currently present in Peru (Brack & Mendiola 2004).

Research on amphibians and reptiles in Peru has increased significantly in recent years. However, the increasing number of new species descriptions over the past few decades evidences that the Peruvian herpetofauna is still not entirely recorded (e.g., Dixon & Huey 1970; Fritts 1972; Cadle 1991; Duellman & Pramuk 1999; Duellman 2004).

Many surveys have been undertaken in the Amazonian rainforest, while the complex physiography of the Andes has probably limited herpetological research in many potentially diverse regions (Gentry 1992; Duellman & Pramuk 1999; Lehr 2002). Some of these regions have not been explored at all in the past (Lehr 2002; Campbell & Lamar 2004).

To contribute to the knowledge of the Andean herpetofauna the authors conducted several field trips to different parts of the Peruvian Andes over the past years. As a result, several new species have been described (e.g. Koch *et al.* 2006; 2011; 2013; 2015; Venegas *et al.* 2008) including two lizards of the genus *Stenocercus* (Venegas *et al.* 2013; 2014). Herein we describe a third new species of the genus, which was collected from several localities in the northern Peruvian Andes.

## Material and methods

Two collecting trips were conducted at two localities in Amazonas department (Chachapoyas and Luya provinces) in June 2007 and September 2012, respectively. In April 2009 additional fieldwork was conducted at one locality in La Libertad department (Bolivar province) at the western slope of the northern portion of the Cordillera Central along the Marañón river valley. Lizards were captured by hand; coordinates (presented in degrees, minutes and seconds) and altitude were taken with a GPS (Garmin, WGS84).

All collected specimens were preserved in 10% formalin and stored in 70 % ethanol. Type specimens are deposited in the herpetological collection of the Centro de Ornitología y Biodiversidad (CORBIDI) in Lima, Peru and the Zoologisches Forschungsmuseum Alexander Koenig (ZFMK), Bonn, Germany. Measurements of snout–vent length (SVL) and tail length (TL) were taken with a ruler and recorded to the nearest 1 mm. All other measurements were made with digital calipers and recorded to the nearest 0.1 mm. Sex was determined by dissection or by noting the presence of hemipenes. Data on scutellation of all species of *Stenocercus* compared herein was taken from Torres-Carvajal (2007a) and Köhler & Lehr (2015). Reviewed specimens for comparison purposes are listed in Appendix I. Osteological characters were examined by dissection of three female paratypes (CORBIDI 00570, 00579, and 11962) and one male paratype (CORBIDI 00574). We follow the terminology of Cadle (1991) and Torres-Carvajal (2000, 2004a, 2007a) for characters included in the description. The volume of oviductal eggs was calculated by the formula for a prolate spheroid  $V = 4/3\pi \cdot (\text{length}/2) \cdot (\text{width}/2)^2$ .

## Results

The taxonomic conclusions of this study are based on the observation of morphological features and color pattern. We consider this information as species delimitation criteria following the general lineage or unified species concept (de Queiroz 1998; 2007).

### *Stenocercus omari* sp. nov.

Figs. 1–5, Table 1.

**Holotype.** CORBIDI 00577, an adult male from Abra Chanchillo (06°47'07.00" S, 77°56'32.50" W), 2786 m, Chachapoyas province, Amazonas department, Peru, collected by P. J. Venegas on 17 June 2007.

**Paratypes.** Peru: Amazonas department: Chachapoyas province: CORBIDI 00569–70, 00578–80, adult females, and CORBIDI 00571–76, adult males, collected with the holotype; Luya province: CORBIDI 11961,

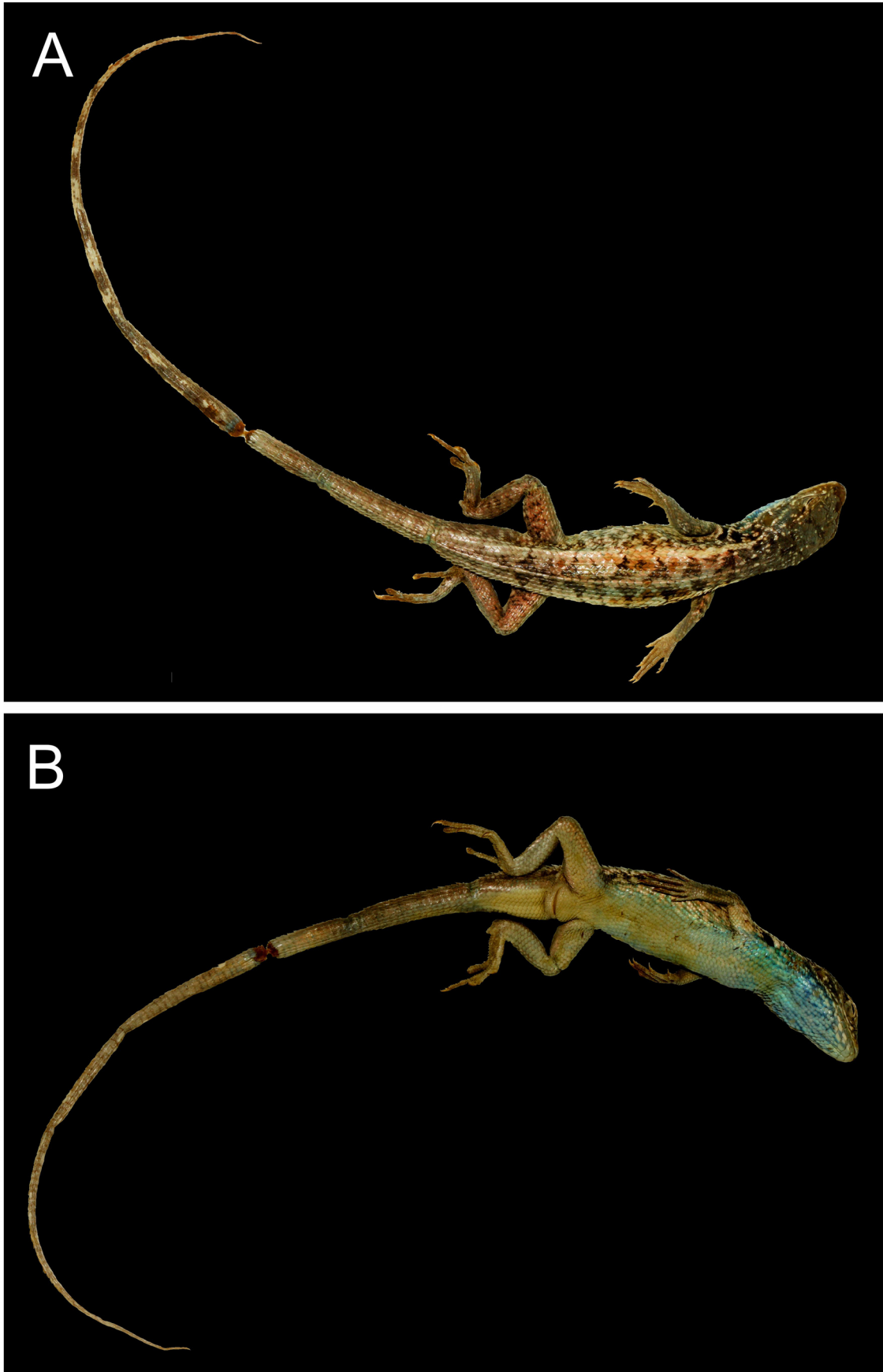
adult male, and CORBIDI 11962, adult female, from Pircopampa (06°19'32.17" S, 78°13'1.99" W), 2378 m, collected by K. García-Burneo on 23 September 2012; La Libertad department: Bolivar province: CORBIDI 05793–94, sub adult female and adult male, respectively, and ZFMK 90835 adult female from Bolivar (07°10'00.00" S, 77°42'46.50" W), 2772–3035 m, collected by A. García-Bravo and C. Koch on 21 April 2009.

**Diagnosis.** *Stenocercus omari* is distinguished from other species in the genus, except for *S. amydrorhytus*, *S. chrysopygus*, *S. cupreus*, *S. johaberfellneri*, *S. latebrosus*, *S. melanopygus*, *S. modestus*, *S. ornatissimus*, *S. orientalis*, and *S. stigmosus* by having granular scales on the posterior surfaces of thighs, a conspicuous antehumeral fold and by lacking a vertebral crest. *Stenocercus omari* is easily distinguished from the aforementioned species, except for *S. orientalis*, by the presence of prominently keeled dorsal head scales. The new species differs from *S. orientalis* in lacking a prominent oblique neck fold with a mite pocket under it, a distinctive character in *S. orientalis*, and also present in *S. latebrosus* and *S. ornatissimus*. Another important difference between the new species and *S. orientalis* is the presence of a longitudinal neck fold in the former, absent in *S. orientalis*; such fold is also present in *S. melanopygus* and *S. stigmosus*; however, unlike the new species described herein, both species have smooth or slightly keeled dorsal head scales. Additionally, the new species has a distinct deep postfemoral mite pocket with a posteroventrally oriented slit-like opening, whereas *S. orientalis* has one or more vertical folds instead (Fig. 4).

The new species can be distinguished from *S. orientalis* in the field by color pattern. Adult males of *S. omari* have distinct dark triangular marks longitudinally arranged on each side of the vertebral line (Fig. 1A, 3A, 5A) and *S. orientalis* usually has a tabby dorsal pattern (Fig. 5D) that in some individuals is indistinct. Although males of both species share a yellow ventral coloration, males of the new species have a blue throat with dark flecks, whereas males of *S. orientalis* have a yellow throat with or without dark flecks and a bluish center in some specimens (Fig. 5E). Adult females of *S. omari* and *S. orientalis* are similar in coloration pattern; however, females of *S. omari* have dorsolateral and ventrolateral light stripes on each side of the neck and females of *S. orientalis* have only one dorsolateral light stripe on each side of the neck (Fig. 5F).

**Characterization.** (1) Maximum SVL in males 68 mm (N =8); (2) maximum SVL in females 69 mm (N =7); (3) vertebrales 36–47; (4) paravertebrales 38–52; (5) scales around midbody 42–54; (6) supraoculars 4–7; (7) internasals 4; (8) postrostrals 2–4; (9) loreals 2–5; (10) gulars 13–25; (11) lamellae on Finger IV 18–21; (12) lamellae on Toe IV 18–29; (13) posthumeral pocket present as one vertical fold; (14) postfemoral mite pocket present as a distinct deep pocket with a posteroventrally oriented slit-like opening [Type 2 of Torres-Carvajal (2007a)]; (15) parietal eye not visible; (16) occipital scales small, keeled, subimbricate; (17) projecting angulate temporal absent; (18) supraoculars subequal in size; (19) scales in frontonasal region subimbricate, keeled; (20) short preauricular fringe present; (21) antehumeral and longitudinal neck folds present; (22) lateral nuchals half the size of dorsal nuchals; (23) posterior gulars in adults smooth, imbricate; (24) lateral scales slightly smaller than dorsal body scales; (25) vertebral crest absent; (26) dorsolateral crests absent; (27) ventrals in adults broad, lanceolate, smooth, imbricate; (28) scales on posterior surfaces of thighs granular; (29) prefemoral fold absent; (30) inguinal groove absent; (31) preanals not projecting; (32) tail not compressed laterally in adult males; (33) tail length 53–70 % of total length; (34) caudal whorls per autotomic segment three; (35) caudals not spinose; (36) dark stripe extending anterodorsally from subocular region to supraciliaries absent; (37) gular region of adult females pigmented with or without dark spots; (38) gular region of adult males pigmented with dark spots; (39) black blotch on ventral surface of neck in adult males absent; (40) thin black or dark brown midventral line absent; (41) black patch on ventral surface of thighs absent; (42) dorsal ground color brown with darker triangular marks longitudinally arranged on each side of vertebral line in females and males; (43) two xiphisternal and two postxiphisternal pairs of inscriptional ribs, the two postxiphisternal pairs of ribs short and not in contact midventrally (Pattern 1C of Torres-Carvajal, 2004a).

**Description of the holotype.** Male (Figs. 1–3); SVL 66 mm; TL 157 mm; maximum head width 10.3 mm; head length 15.3 mm; head height 9.2 mm; occipitals, parietals, interparietals, and postparietals small, keeled, imbricate; parietal eye not visible; supraoculars in six rows, keeled, imbricate, subequal in size; canthals two; anterior most canthal in contact with the nasal; scales on frontonasal region slightly imbricate and keeled; internasals four; postrostrals four, two most lateral wider than long on each side, medial postrostrals as long as wide; supralabials five; infralabials six; loreals three; lorilabials in one row; preocular one, in contact with posterior canthal; lateral temporals keeled, imbricate; gulars in 22 rows between tympanic openings; all gulars smooth, imbricate, apical pit absent; second infralabial not in contact with second and third sublabials; mental in contact



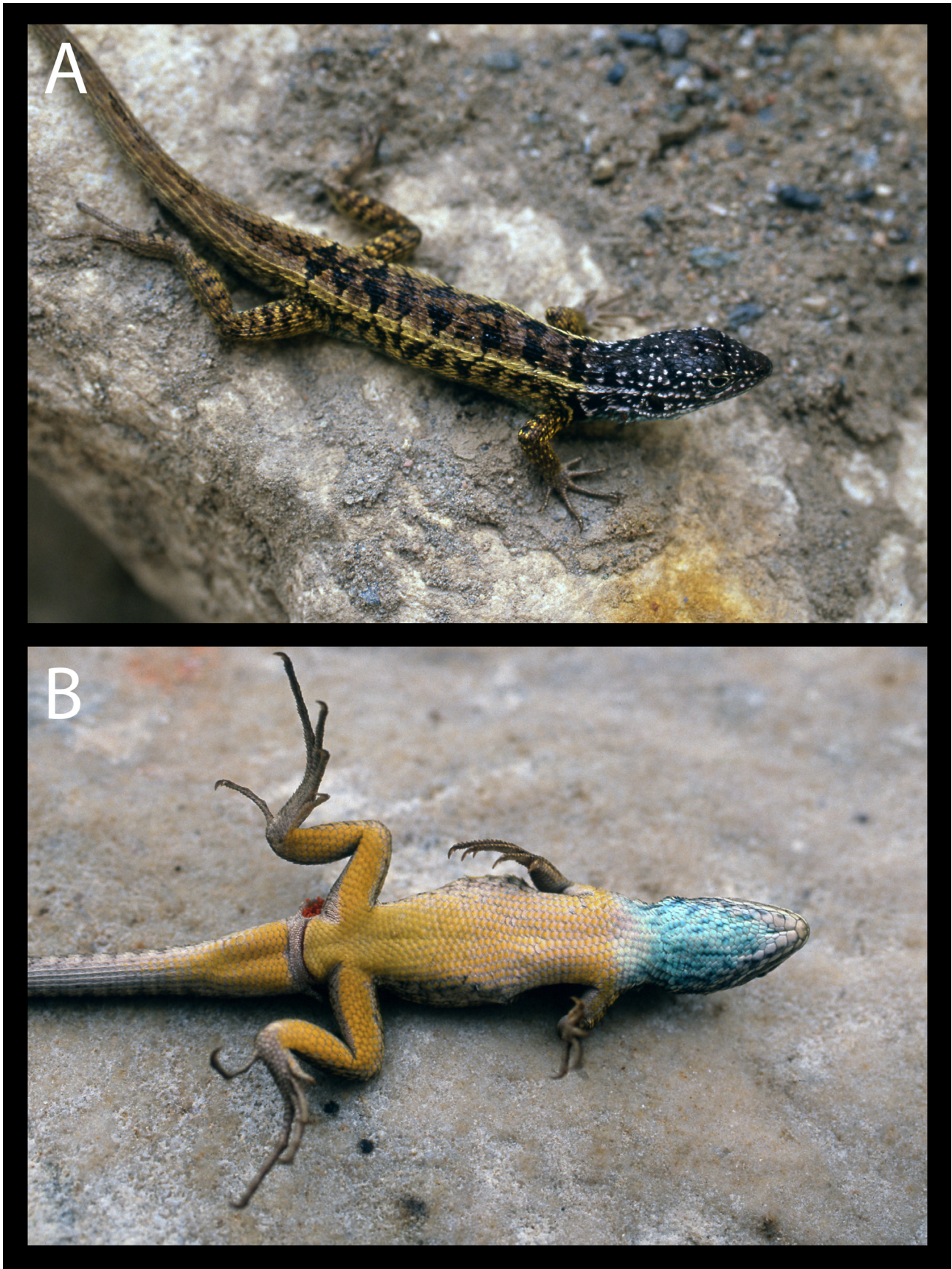
**FIGURE 1.** *Stenocercus omari* sp. nov., holotype CORBIDI 00577, male, 66 mm SVL. Dorsal (A) and ventral (B) views. Photographs by P.J. Venegas.





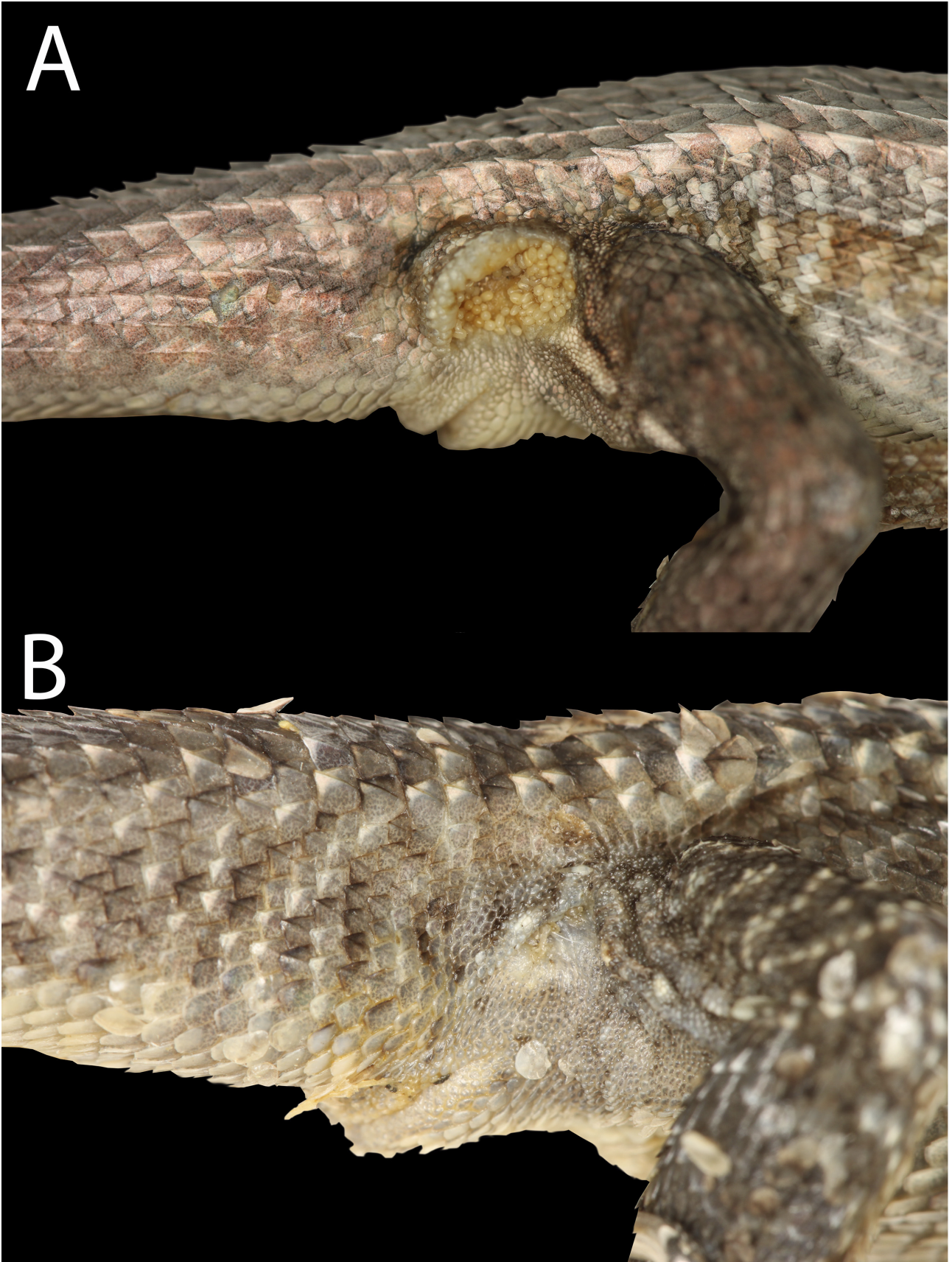
**FIGURE 2.** Dorsal (A), lateral (B), and ventral (C) views of the head of *Stenocercus omari* sp. nov. holotype, CORBIDI 00577, male. Scale bar = 3 mm. Photographs by P.J. Venegas.





**FIGURE 3.** (A) Dorsolateral and (B) ventral views of the holotype of *Stenocercus omari* sp. nov. (CORBIDI 00577) in life. Photographs by P.J. Venegas.





**FIGURE 4.** The condition of the right postfemoral mite pocket in *Stenocercus omari* sp. nov. (CORBIDI 00575) (A) and *S. orientalis* (CORBIDI 00471) (B).





**FIGURE 5.** Two species of *Stenocercus* from Peru: (A) adult male of *S. omari* **sp. nov.** (CORBIDI 00573); (B) adult female of *S. omari* **sp. nov.** (CORBIDI 00570); (C) subadult female *S. omari* **sp. nov.** (CORBIDI 00580); (D) adult male of *S. orientalis* (CORBIDI 00471); (E) ventral view of an adult male of *S. omari* **sp. nov.** (CORBIDI 00575) (top) and an adult male of *S. orientalis* (CORBIDI 00583) (bottom); (F) lateral view of an adult female of *S. omari* **sp. nov.** (CORBIDI 00570) (top), and an adult female of *S. orientalis* (CORBIDI 00582) (bottom). Photographs by P.J. Venegas.

with first pair of infralabials; lateral and dorsal scales of body and neck keeled, imbricate, mucronate; lateral scales slightly smaller than dorsal body scales; scales around midbody 44; vertebrals same size as dorsals, 39 scales on vertebral row, prominent serrate vertebral crest absent; paravertebrals 45; ventrals broad, lanceolate, smooth, imbricate; preauricular fringe short, composed of three enlarged scales, all same size; antegular, gular, postauricular, oblique and supraauricular neck folds absent; longitudinal and antehumeral neck folds present; limb



scales keeled, imbricate; ventral scales of hind limbs smooth and upper arms keeled; lamellae on Finger IV 18; lamellae on Toe IV 18; tail not compressed laterally; caudals keeled, imbricate, mucronate; basal subcaudals smooth, imbricate; tail length 2.4 times SVL; posthumeral pocket present as one vertical fold; postfemoral mite pocket present as a distinct deep pocket with a posteroventrally oriented slit-like opening [Type 2 of Torres-Carvajal (2007a)]; postfemoral region composed of imbricate, smooth scales that become smaller towards insertion of hind limb.

**Color in life.** Head and neck dark brown (almost black) with white flecks. A black vertical blotch on the antehumeral fold and a black rounded blotch on the side of the neck. Dorsum brown with dark brown triangular marks longitudinally arranged on each side of the vertebral line, and flanks yellowish cream with dark brown bands. Forelimbs dark brown with yellow flecks and hind limbs brownish yellow with dark brown transverse bands. Tail brown with dark brown marks along it. Ventrally, throat and chest sky blue with dark blue marks on the throat; ventral surface of thighs, cloacal region, and base of tail dark yellow.

**Color in ethanol 70%.** Head brown, white flecks turned cream. Dorsal background color of body and base of tail brownish cream with dark brown triangular marks (but lighter than in life). Sides of neck brownish cream with brown, instead of black, blotches. Flanks brownish cream flecked by brown and light cream scales, and ventrolateral region sky blue. Limbs brown with dark marks and distal portion of tail brown with light transverse bands. Ventrally the yellow surfaces turned cream.

**TABLE 1.** Sexual variation in scutellation and measurements (mm) of *Stenocercus omari* sp. nov. Range followed by mean  $\pm$  standard deviation is given for quantitative characters if applicable.

CHARACTERS	<i>Stenocercus omari</i> sp. nov.	
	Males <i>N</i> = 8	Females <i>N</i> = 9
Scales around midbody	43–48 45.25 $\pm$ 1.98	42–54 48.25 $\pm$ 3.92 n=8
Vertebrales	37–42 38.75 $\pm$ 1.75	36–47 41.75 $\pm$ 4.27 n=8
Paravertebrales	40–45 42.88 $\pm$ 2.03	38–52 44.75 $\pm$ 4.33 n=8
Gulars	13–22 20.13 $\pm$ 3	13–25 20.33 $\pm$ 4.39
Supraoculars	5–6 5.75 $\pm$ 0.46	4–7 5.78 $\pm$ 0.97
Internasals	4	4
Subdigitals Finger IV	18–20 18.88 $\pm$ 1	18–21 19.11 $\pm$ 1.05
Subdigitals Toe IV	18–28 26.63 $\pm$ 3.5	26–29 27.63 $\pm$ 1.06 n=8
Tail length/Total length	0.53–0.7 0.65 $\pm$ 0.08 n=4	0.56–0.7 0.67 $\pm$ 0.06 n=5
Maximum SVL	68	69

**Variation.** Some measurements and scutellation characters of *Stenocercus omari* are presented in Table 1. Second infralabial not in contact with third sublabial in 93.8% of specimens, and first pair of postmentals in contact medially in all specimens. All male paratypes are similar to the holotype, varying only in the tone of ventral coloration; although the adult male specimen from Bolivar (CORBIDI 05794) lacks the black blotch on the sides of neck. Adult females have a cinnamon or dark brown dorsum with distinct or faint darker triangular marks

longitudinally arranged on each side of the vertebral line; sides of the head and flanks brown (darker than the dorsum); supralabials white or cream, continuous with a white or cream dorsolateral stripe along the neck, becoming pale brown along the dorsum; a white or cream stripe along the edge of the jaw continues as a white ventrolateral stripe along the neck, becoming dirty cream on the flanks; flanks with or without vertical bands; dorsal surface of tail with or without transverse bands. Ventral surface dirty cream or white with or without dark flecks on the throat. Sexual dimorphism is evident in adult individuals. Females can be easily recognized by lacking white flecks on the dorsal surface of head and neck, and by having dark brown flanks (yellowish in males), and a dirty cream or white ventral coloration (throat sky blue, chest and belly yellow in males).

**Distribution and natural history observations.** *Stenocercus omari* is known from three localities along the western slope of the northern portion of the Cordillera Central at the Marañón river basin in the departments of Amazonas and La Libertad, at elevations of 2300–3035 m. According to Brack (1986) the distribution of *S. omari* lies inside the ecoregion of the Serranía esteparia and according to Olson *et al.* (2001) this species is distributed in the Peruvian Yungas ecoregion. The habitat at the type locality is a steep area located on the right side of the Marañón river with the presence of corn plantations, cattle pasture and some scattered patches of montane forest along the slope. *Stenocercus omari* was very common along the sides of the Leimebamba-Balsas road, a steep band covered by herbaceous vegetation with big boulders and scattered bushes. All collected individuals were found active in daylight (between 11:00 and 15:00) basking on rocks, fallen tree trunks and at the base of bushes. A gravid female (CORBIDI 00570) with SVL 65 mm collected on June contained eight yolked follicles, four in each ovary. Another gravid female (CORBIDI 11962) with SVL 69 mm collected on September contained seven well developed eggs four in the left oviduct and three in the right one, eggs ranged from 13.96–15.15 mm in length, 7.56–8.87 mm in width, and 422.33–613.98 mm<sup>3</sup> in volume.

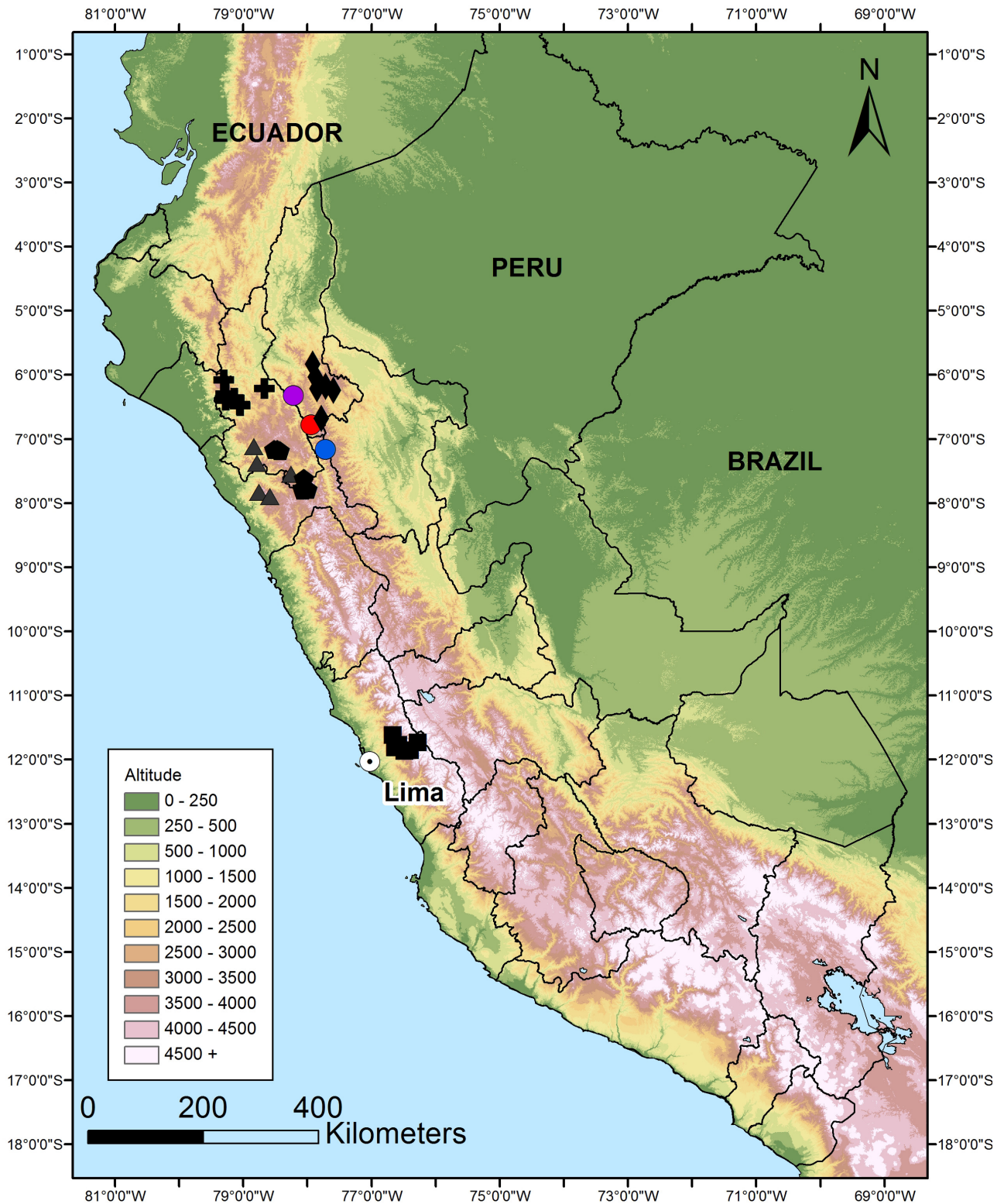
**Etymology.** The specific epithet *omari* is a noun in the genitive case and is a patronym for our appreciated friend, the Ecuadorian herpetologist Omar Torres-Carvajal, who has published important contributions to the taxonomy and systematics of Neotropical lizards, especially of the genus *Stenocercus*.

## Discussion

Due to the morphological similarity (e.g., granular scales on the posterior surface of the thighs, conspicuous antehumeral fold, dorsal and lateral scales similar in size, and absence of a vertebral crest) and geographic proximity of *Stenocercus omari* with *S. chrysopygus*, *S. latebrosus*, *S. melanopygus*, *S. modestus*, *S. stigmatosus*, and specially *S. orientalis*, we assigned tentatively this new taxon to the supraspecific clade Saccodeira, according to the phylogenetic classification of Torres-Carvajal *et al.* (2006) and Torres-Carvajal (2007b). The supraspecific clade Saccodeira is stemming from the most recent common ancestor of *S. latebrosus*, *S. melanopygus*, *S. orientalis*, *S. ornatissimus*, and *S. stigmatosus*, and is nested within the supraspecific clade Scelotrema together with the supraspecific clades Microphractus and Microphractoides (Torres-Carvajal *et al.* 2006). Species of the clade Saccodeira are endemic to Peru and are segregated at Central Andes from northern to central Peru (see Torres-Carvajal 2007b). Other species from the same region that could also be assigned to this clade are the recently described *S. amydrorhytus* and *S. johaberfellneri*. However, the inclusion of these species in Saccodeira needs to be confirmed with a robust phylogeny.

With the description of *S. omari*, the number of *Stenocercus* species reported for Peru increases to 41 according to Uetz & Hošek (2016). Most species of *Stenocercus* in Peru have restricted distributions and occupy narrow altitudinal ranges, within a country of diverse terrains and complex geography. This suggests that the diversity of the genus remains underestimated; with several undescribed species in museum collections and unexplored regions, waiting to be described, as well as several species complexes to be resolved.

Little data exists on the reproductive biology of the genus *Stenocercus*. Clutch size is known for less than half of the species. Two eggs have been reported in most species to date, except *Stenocercus humeralis* for which four eggs were recorded, *S. chrysopygus* with six eggs, *S. melanopygus* with seven eggs, and *S. azureum* and *S. doellojuradoi*, both some of the most austral species in the genus, with a clutch size of six eggs (Torres-Carvajal 2000; Torres-Carvajal 2004b; Torres-Carvajal 2007a; Pelegrin & Bucher 2010). Our record of one female of *S. omari* with seven well developed oviductal eggs is to date, along with the records of *S. melanopygus* and *S. chrysopygus*, one of the largest clutch size reported for the genus, all three species belong to the clade Saccodeira. Probably large clutch size is characteristic of this clade of *Stenocercus*.



**FIGURE 6.** Distribution map of six species of *Stenocercus* from Peru. *omari* sp. nov. (circles), *S. latebrosus* (triangles), *S. melanopygus* (pentagons), *S. orientalis* (diamonds), *S. ornatissimus* (squares), and *S. stigmatosus* (crosses). Specific localities for *S. omari* sp. nov.: Pircopampa (purple circle), Abra Chanchillo (type locality) (red circle), Bolivar (blue circle).

Neck folds and posthumeral pockets are important characters for taxonomy in *Stenocercus* (Cadle 1991; Torres-Carvajal 2000; 2007a). However, neck and ventrolateral folds can be modified and difficult to distinguish after fixation of specimens. Usually an excess in the injection of 10% formalin intraperitoneally can completely

dispose the presence of ventrolateral folds. Besides, injection of formalin deeply in the chest or neck also alters the natural form and height of neck folds, mainly the postauricular, oblique, antegular, and rictal folds. Venegas *et al.* (2013) determined that antegular fold were absent in the holotype of *S. chinchaoensis*; however, this was an artifact of fixation (See Fig. 2 in Venegas *et al.* 2013); the presence of the antegular fold was confirmed from photographs in life. In the fixed type specimens of *S. omari* the posthumeral pockets were difficult to distinguish, especially in specimens that were more inflated by formalin. This is mainly because posthumeral pockets in *Stenocercus omari* are present as one vertical fold that can be stretched with the injection of formalin intraperitoneally. We suggest that notes of the characters related to dermal folds and posthumeral pockets should be taken in the field or an extensive series of pictures of each individual should be taken with a digital camera. Additionally, we recommend a careful injection of formalin to avoid inflating specimens. A bit of formalin well distributed in the belly (intraperitoneally) should be enough to preserve a *Stenocercus* lizards, whereas injection of formalin in the neck should be completely avoided.

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#### APPENDIX I. Specimens examined.

- Stenocercus latebrosus*: PERU: *Cajamarca*: Contumazá: Bosque de Cachil (07°23'S, 78°47'W), 2500 m, MHNSM 16744 (holotype).
- Stenocercus melanopygus*: PERU: *Cajamarca*: Cajamarca: Cataratas de Llacanora (7°11'09.70"S, 78°25'29.37"), 2705 m, CORBIDI 08633–37.
- Stenocercus orientalis*: PERU: *Amazonas*: Bongara: El Arenal (06°02'03.70"S, 77°52'22.90"W), 2385 m, CORBIDI 00468–79; Chachapoyas: Molinopampa (06°14'23.80"S, 77°35'35.00"W), 2520 m, CORBIDI 10892; Leimebamba (06°42'26.57"S, 77°48'08.97"W), 2195 m, CORBIDI 00581–91.
- Stenocercus ornatissimus*: PERU: *Lima*: Huarochirí: Cañón de Santa Eulalia, Bellavista (11°48'32.62"S, 76°37'45.36"W), 1652 m: CORBIDI 05004–07, CORBIDI 05009–12.
- Stenocercus stigmosus*: PERU: *Lambayeque*: Ferreñafe: Cañaris (06°04'57.25"S, 79°17'56.66"W), 3145 m, CORBIDI 04359–63; *Cajamarca*: Chota: Distrito La Granja: Quebrada La Iraca (06°22'09.90"S, 79°08'04.61"W), 2213 m, CORBIDI 01694; Chota: Ucan (06°18'18"S, 79°16'2"W), 2200 m, CORBIDI 02090, 02093, 02098; Miracosta (06°24'07.95"S, 79°16'14.52"W), 3030 m, CORBIDI 02103.