

Redescription of the rare South American worm lizard *Amphisbaena rozei* (Squamata: Amphisbaenidae)

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Abstract. *Amphisbaena rozei* is endemic to the Caura River basin in Venezuela, and known only from the holotype and one paratype. Its original description is very brief, lacking relevant information used by taxonomists today. Additionally, *A. rozei* appears to be similar to *A. spurrelli*, a species from northwestern Colombia and southern Panama. We present a redescription of *A. rozei* based on the examination of the type specimens and compare this taxon to the other known South American amphisbaenids, especially *A. spurrelli*. We conclude *A. rozei* is a valid name, and the species is diagnosed mainly by the presence of four precloacal pores, a lateral sulcus, 205–209 body annuli, 20 caudal annuli, 15–16 dorsal and 14 ventral segments on a midbody annulus, and dorsal surface of tail covered by strong tubercles.

Keywords: Amazonia, Amphisbaenia, Reptilia, taxonomy, Venezuela.

Introduction

Venezuela has a rich reptile fauna. The last checklist reported 370 species for the country (Rivas et al., 2012), and this number has already increased to 440 (Uetz and Hošek, 2017). Besides species richness, Venezuela harbours a high taxonomic (and hence phylogenetic) diversity of reptiles, with three Orders, 32 Families and over 120 Genera (Rojas-Runjaic, pers. obs.). The enigmatic worm lizards (Amphisbaenia), however, have few representatives among Venezuelan reptiles. Of over 90 species in South

America (Uetz and Hošek, 2017), only five are recorded for the country (Rivas et al., 2012): *Amphisbaena alba* Linnaeus, 1758, *A. fuliginosa* Linnaeus, 1758, *A. gracilis* Strauch, 1881, *A. rozei* Lancini, 1963, and *Mesobaena huebneri* Mertens, 1925.

Amphisbaena alba and *A. fuliginosa* (sensu Vanzolini, 2002a) are wide ranging taxa found in many regions of Venezuela (Rivas et al., 2012); *Mesobaena huebneri*, which also occurs in Colombia, is known in Venezuela only from the Amazonia region (Gans, 1971; Rivas et al., 2012). The other two species are country endemics: *A. gracilis* is found in the floodplain of the upper Orinoco and its delta, while *A. rozei* is known only from a single locality in the Guayana region (Rivas et al., 2012; Señaris, 2001).

Amphisbaena rozei was described based on two specimens from the region of the Chájura River, a tributary of the Erebato River (Lancini, 1963) – misspelled ‘Chajurá’ (Lancini, 1963) or ‘Chipura’ (Vanzolini, 2002b; Gans, 2005). One of the main characteristics of *A. rozei* is the presence of strongly tuberculate segments on the dorsal surface of the whole tail; this feature is shared only with *A. spurrelli* Boulenger, 1915 from western Colombia and Panama (Gans,

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1962), but both species have never been compared (Gans, 1967, 2005). A few years after the description of *A. rozei*, Donoso-Barros (1968) decided to treat it as a synonym of *A. spurrelli* without any comments, which was later questioned (González-Sponga and Gans, 1971).

Besides the absence of any study comparing it to *Amphisbaena spurrelli*, the name *A. rozei* continued to be used (Gans and Mathers, 1977; Hoogmoed and Avila-Pires, 1991) – but see La Marca (1997) for a case where the name *A. spurrelli* was adopted instead of *A. rozei*. Both species names have also been erroneously cited in some checklists of the Venezuelan herpetofauna (Péfaur, 1992; Péfaur and Rivero, 2000).

Since its description (Lancini, 1963) no other specimen of *Amphisbaena rozei* was reported, nor any attempt was made to provide additional information on the poorly described type specimens. Therefore, in this article we present a redescription of *A. rozei* based on the examination of the holotype and paratype, and compare it with known South American amphisbaenids, especially *A. spurrelli*.

Materials and methods

The holotype and paratype of *Amphisbaena rozei*, housed at the Museo de Ciencias Naturales de Caracas, Venezuela (MCNC), were examined and photographed. For comparisons with other species we used information from original descriptions or redescriptions (e.g., Gans and Mathers, 1977; Vanzolini, 2002b; Hoogmoed et al., 2009; Gomes and Maciel, 2012; Perez, Ribeiro and Borges-Martins, 2012; Roberto, Brito and Ávila, 2013; Costa et al., 2015; Ribeiro et al., 2016) and examination of specimens in collections (Appendix 1). Detailed data on *A. spurrelli* are based on photographs of the two syntypes provided by the staff of the British Museum, photos of specimen MCZ 39784 (available at <http://mczbase.mcz.harvard.edu/name/Amphisbaena%20spurrelli>), together with the original description (Boulenger, 1915) and redescription (Gans, 1962) of the species. Nomenclature for head scales follow Gans and Alexander (1962). Measurements were taken with a ruler and a caliper to the nearest 1.0 mm and 0.01 mm, respectively. Since specimens of *A. rozei* are stiff, sex determination is based on the original description (Lancini, 1963) to avoid any damage to specimens.

Results

Amphisbaena rozei Lancini, 1963: 1

Holotype. MCNC 178, adult female, collected in 1953 by Isaías Rodriguez (figs 1A and 2).

Type-locality. Venezuela: estado Bolívar: cabeceras del Caño Majagua, Río Chájura, afluente del Río Erebato (headwaters of Majagua forest stream, Chájura River, tributary of the Erebato River), 05°07'07"N, 65°02'18"W.

Paratype. MCNC 13, adult male, same data as the holotype (figs 1B and 3).

Diagnosis. *Amphisbaena rozei* is diagnosed by the following combination of characters: (1) head round, not compressed or depressed; (2) length of frontal > prefrontal > nasal sutures; (3) four precloacal pores without a median hiatus; (4) lateral sulcus present, dorsal and ventral sulci absent; (5) 205–209 body annuli; (6) three lateral annuli; (7) 20 caudal annuli; (8) autotomy constriction on 6th caudal annulus or not visible; (9) tail round in cross-section, with similar width along its length; (10) dorsal surface of tail with strongly tuberculate segments; (11) tail tip with a slight lateral compression, but not forming a vertical keel; (12) 15–16 dorsal and 14 ventral segments on a mid-body annulus; (13) three supralabials and one postsupralabial; (14) three infralabials; (15) a pair of enlarged pentagonal parietals; (16) one postocular; (17) one temporal; (18) one row of postgenitals with three scales; (19) postmalar row present; (20) dorsum and venter uniformly cream in preservative.

Comparison with other species. The round head easily distinguishes *Amphisbaena rozei* from all species of *Leposternon* and *A. anomala* (head shovel-shaped), *A. acrobeles*, *A. bilabiata*, *A. kingii*, and *Mesobaena* spp. (head keel-shaped). Those taxa will not be included in comparisons below.

Figure 1. *Amphisbaena rozei*. (A) Adult female (Holotype MCNC 178). (B) Adult male (Paratype MCNC 13). Scale bars, 10 mm. Photos: J.C. Señaris.



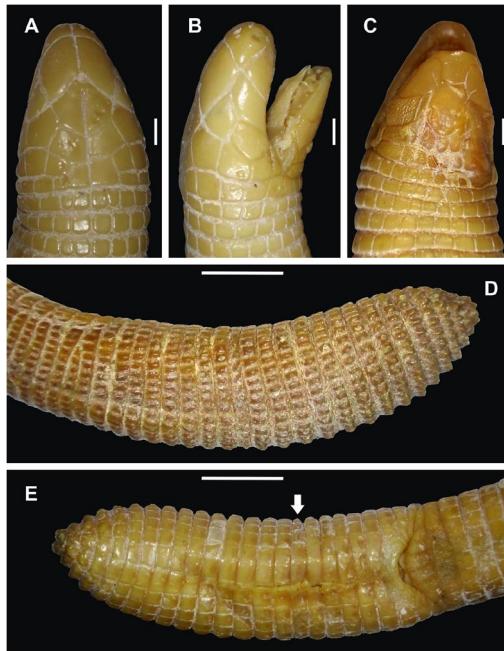


Figure 2. Holotype female MCNC 178 of *Amphisbaena rozei*. Dorsal (A), lateral (B) and ventral (C) views of the head. Dorsal (D) and ventral (E) views of tail. White arrow indicates the autotomy constriction. Scale bars, 1 mm in A–C and 5 mm in D–E. Photos: J.C. Señaris.

Among the South American round-headed amphisbaenians, the presence of four precloacal pores in both males and females differs *A. rozei* from (number of pores inside parentheses) *A. maranhensis* (0), *A. dubia* and *A. hiata* (0 in females, 2 in males), *A. absaberi*, *A. anaemariae*, *A. brevis*, *A. caiari*, *A. carli*, *A. crisae*, *A. filiformis*, *A. leeseri*, *A. miringoera*, *A. mitchelli*, *A. neglecta*, *A. persephone*, *A. roberti*, and *A. silvestrii* (2), *A. metallurga* (2–3), *A. mertensii* (5–8), *A. pretrei* (5–9), *A. ignatiana*, *A. kraoh*, *A. littoralis*, *A. saxosa*, and *A. stejnegeri* (6), *A. fuliginosa* (6–10), and *A. leucocephala* (10–13).

In *Amphisbaena rozei* the dorsal segments of the tail are strongly tuberculate, a character found only in *A. spurrelli*; in *A. bahiana*, *A. roberti*, *A. trachura*, and *A. uroxena* only the tail tip has tubercles, and it has a round shape (*A. trachura*), a sharp vertical keel (*A. bahiana* and *A. roberti*) or a diagonal shape (*A. uroxena*).

The presence of 15–16 dorsal and 14 ventral segments distinguish *Amphisbaena rozei* from

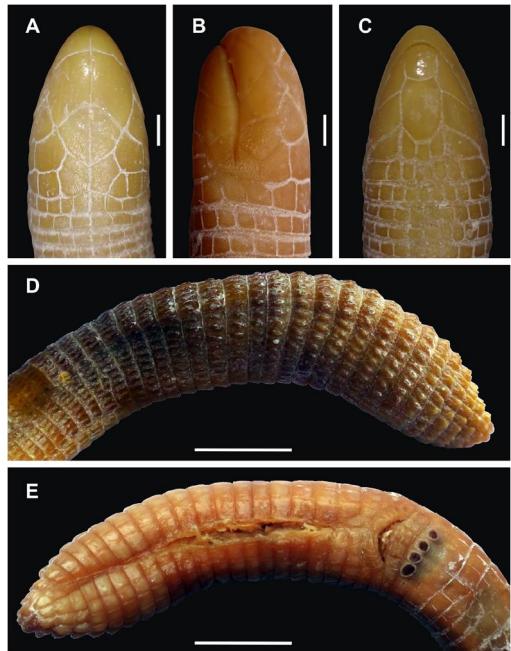


Figure 3. Paratype male MCNC 13 of *Amphisbaena rozei*. Dorsal (A), lateral (B) and ventral (C) views of the head. Dorsal (D) and ventral (E) views of tail. Scale bars, 1 mm in A–C and 5 mm in D–E. Photos: J.C. Señaris.

(dorsal/ventral) *A. nigricauda* (9–11/13–16), *A. maranhensis*, *A. talisiae*, and *A. sanctaeritae* (10/14), *A. crisae* (10/10), *A. caiari* (10/12–14), *A. silvestrii* (10–12/10–14), *A. hogei* (10–13/14–18), *A. slevini* (10–14/10–11), *A. heathi* (11–12/18–20), *A. tragorrhectes* (12/12), *A. miringoera* (12/12–15), *A. neglecta* (12–14/12), *A. albocingulata* and *A. carvalhoi* (12–14/16–18), *A. borelli* (14–18/16–20), *A. mertensii* (14–26/16–25), *A. trachura* (14–21/16–24), *A. ignatiana* (16/20–22), *A. medemi* (16/18), *A. myersi* (16/16), *A. hiata* (16–17/18–22), *A. ridleyi* (16–18/20–28), *A. spurrelli* (16–18/16–18), *A. townsendi* (16–18/22–28), *A. absaberi* (16–19/17–20), *A. occidentalis* (16–20/24–28), *A. stejnegeri* (17–19/16–20), *A. cegei* (17–22/17–23), *A. brevis* (18/14), *A. hastata* (18/16), *A. polygrammica* (18/26), *A. bedai* (18–20/16–18), *A. leucocephala* (17–22/20–23), *A. brasiliiana* (18–21/18–22), *A. saxosa* (18–24/16–21), *A. vermicularis* (18–26/18–25), *A. plumbea* (18–27/20–30), *A. littoralis* (20–22/21–24), *A. pre-*

trei (20–27/20–28), *A. fuliginosa* (20–28/20–28), *A. angustifrons* (20–31/21–36), *A. carli* (21–23/21–23), *A. arda* (23/23), *A. bolivica* (27–38/26–36), *A. kraoh* (28/24), *A. camura* (28–42/29–46), and *A. alba* (30–42/35–46).

The presence of 205–209 body annuli distinguishes *Amphisbaena rozei* from *A. anaemariae*, *A. arenaria*, *A. brevis*, *A. cegei*, *A. crisae*, *A. darwini*, *A. hogeui*, *A. metallurga*, *A. neglecta*, *A. ridleyi*, *A. silvestrii*, and *A. tragocephalus* (fewer than 200 body annuli), from *A. absaberi*, *A. arda*, *A. borelli*, *A. caiari*, *A. carli*, *A. carvalhoi*, *A. cunhai*, *A. gracilis*, *A. ibijara*, *A. leeseri*, *A. leucocephala*, *A. lumbricalis*, *A. medemi*, *A. miringoera*, *A. myersi*, *A. persephone*, *A. pretrei*, *A. roberti*, *A. spurrelli*, *A. stejnegeri*, and *A. talisiae* (more than 215 body annuli), from *A. bedai*, *A. cuiabana*, *A. hastata*, *A. ignatiana*, *A. kraoh*, *A. littoralis*, *A. frontalis*, *A. occidentalis*, *A. polygrammica*, *A. sanctaeritae*, *A. saxosa*, *A. steindachneri*, and *A. townsendi* (more than 250 body annuli), and from *A. filiformis*, *A. maranhensis*, and *A. supernumeraria* (more than 300 body annuli).

Seven species cannot be readily distinguished from *A. rozei* based on the number of precloacal pores, body annuli, dorsal and ventral segments. These are: *A. heterozonata*, *A. mensae*, *A. munoai*, *A. pericensis*, *A. prunicolor*, *A. slateri*, and *A. vanzolinii*. As cited above, none of those species present tuberculate tail segments. Furthermore, the following characters are useful to distinguish *A. rozei* from them: presence of a postmalar row (absent in *A. pericensis*, and *A. vanzolinii*); 20 caudal annuli (13–18 in *A. heterozonata*; 25–29 in *A. mensae*; 28–36 in *A. vanzolinii*); one row of postgenitals (two in *A. heterozonata*, *A. munoai*, and *A. pericensis*); large parietal shields (rarely enlarged in *A. heterozonata*); uniform cream to pale-brown coloration (uniform dark-brown [almost black] with a white tail tip in *A. slateri*; purplish-brown in *A. prunicolor* [pale-brown in fixative]; dark-brown dorsum in *A. heterozonata*); 196–252 mm SVL (maximum SVL 170 mm in *A. munoai*).

Description of the holotype. A small female amphisbaenian (snout-vent length 196 mm; caudal length 18.8 mm); head short (7.5 mm, 3.8% of snout-vent length), rounded, not compressed or depressed, and not distinct from the neck (fig. 2A); rostrum rounded, projecting beyond the jaw. Rostral triangular, not visible in dorsal view, in contact with nasals laterally and first supralabial lateroposteriorly. A pair of quadrangular nasals (middorsal suture 1.24 mm [16.5% head length]), in broad contact with rostral anteriorly, first and second supralabials, and prefrontals posteriorly. Nostrils placed in the antero-inferior portion of nasals. A pair of parallelogram-shaped prefrontals (middorsal suture 2.03 mm [27.06% head length]), in contact with nasals anteriorly, first and second supralabials laterally, ocular lateroposteriorly, and frontals posteriorly. A pair of triangular frontals (middorsal suture 2.75 mm [36.7% head length]), in point contact with oculars laterally, wide contact with prefrontals anteriorly, postoculars lateroposteriorly, and parietals posteriorly. A pair of pentagonal parietal shields, wider than long (middorsal suture 1.01 mm [13.47% head length]), in broad contact with postocular lateroanteriorly, frontal anteriorly, and body segments posteriorly. A diamond-shaped ocular shield, in broad contact with second and third supralabials ventrally, prefrontal and frontal (point contact) dorsally, postocular and temporal posteriorly. Eye barely visible (fig. 2B). Temporal trapezoidal, contacting ocular anteriorly, postocular dorsally, third supralabial ventroanteriorly, postsupralabial ventrally, and first body annulus posteriorly.

Three supralabials, first triangular, longer than high, lower but longer than other supralabials, contacting rostral and nasal anteriorly, and second supralabial posteriorly. Second supralabial pentagonal, higher than the others, in broad contact with the prefrontal and ocular dorsally, third supralabial posteriorly, and point contact with nasal anteriorly. Third supralabial pentagonal, higher than long, narrower than

the other supralabials, in broad contact with postsupralabial and temporal posteriorly, second supralabial anteriorly and ocular dorsally (fig. 2B).

Mental shield anvil-shaped, contacts the postmental posteriorly and first infralabials laterally. Postmental nearly octogonal, concave anteriorly and convex posteriorly, contacting mental anteriorly, first and second infralabials laterally, malars lateroposteriorly, and postgenials posteriorly (fig. 2C). One row with three postgenials, in contact with postmental anteriorly, malars laterally, and the postmalar row posteriorly. Postmalar row with seven shields.

Three infralabials, first trapezoid and longest, the second parallelogram-shaped, third rectangular, the smallest and longer than high. First infralabial contacting mental anteriorly, postmental laterally, and second infralabial posteriorly; second infralabial contacts postmental laterally, malar and third infralabial posteriorly; third infralabial contacts the first body annulus posteriorly, malar and postmalar laterally, and second infralabial anteriorly.

The first body annulus dorsally includes parietals plus four scales on each side; ventrally it includes the segments posterior to the postmalar row. There are 209 body annuli, with 16 dorsal and 14 ventral quadrangular midbody segments (midventral segments about $1.5 \times$ wider than long); three lateral annuli and 20 caudal annuli, with autotomy constriction in the 6th caudal annulus. Dorsal and ventral sulci absent; lateral sulcus visible from the 25th body annulus to cloacal region. Four small precloacal pores without a median hiatus; six precloacal and 14 postcloacal scales. Dorsal surface of tail with strongly tuberculate segments; tail tip slightly compressed laterally, tuberculate (fig. 2D–E).

Dorsum cream light-brown, darker posteriorly; venter cream coloured. The holotype is stiff and broken at midbody (fig. 1A). Head damaged by a cut after the oral commissure (fig. 2B), probably due to a past unfortunate attempt to open the specimen's mouth. This led

the third infralabial to be cut in half horizontally.

Variation. The paratype (fig. 1B), a male (Lancini, 1963), has 205 body annuli; 15 dorsal and 14 ventral segments; its caudal autotomy constriction is not visible (fig. 3D–E), and the precloacal pores (fig. 3E) are much larger than those of the female holotype. There are eight postmalars, and the mental is more square-shaped than anvil-shaped; parietals are longer than wide (wider than long in the holotype). This specimen is also stiff and broken at the final portion of the body.

Differences from the original description. The three-page article by Lancini (1963) describes in a very succinct way *Amphisbaena rozei*. The tubercles on body segments are not perceptible, probably by the poor conditions of the specimens; however, tubercles on tail dorsum are still clearly evident. The fourth supralabial cited by Lancini (1963) is a postsupralabial (sensu Gans and Alexander, 1962). Lancini (1963) also describes the paratype as having 23 caudal annuli, but we counted 20 (plus three laterals). He also did not inform the number of dorsal and ventral segments, but cites 32 total segments at a midbody annulus for the holotype, and 30 for the paratype. We counted 30 (16 dorsal and 14 ventral) and 29 (15 dorsal and 14 ventral) segments in a midbody annulus of the holotype and paratype, respectively. Segment numbers do not vary in annuli adjacent to midbody. Finally, Lancini (1963) described the holotype as having a light-brown head, body with a darker shade of brown and a cream venter (Lancini, 1963). After more than 50 years, the dorsum of the holotype is cream to light-brown anteriorly, darker posteriorly. The venter continues cream coloured.

Geographic distribution. *Amphisbaena rozei* is known only for its type locality at the headwaters of Caño Majagua (ca. 580 m a.s.l.). This is located at the eastern versant of Sierra De Maigualida and is part of the Caura River basin in the Venezuelan Guayana Shield (fig. 4).

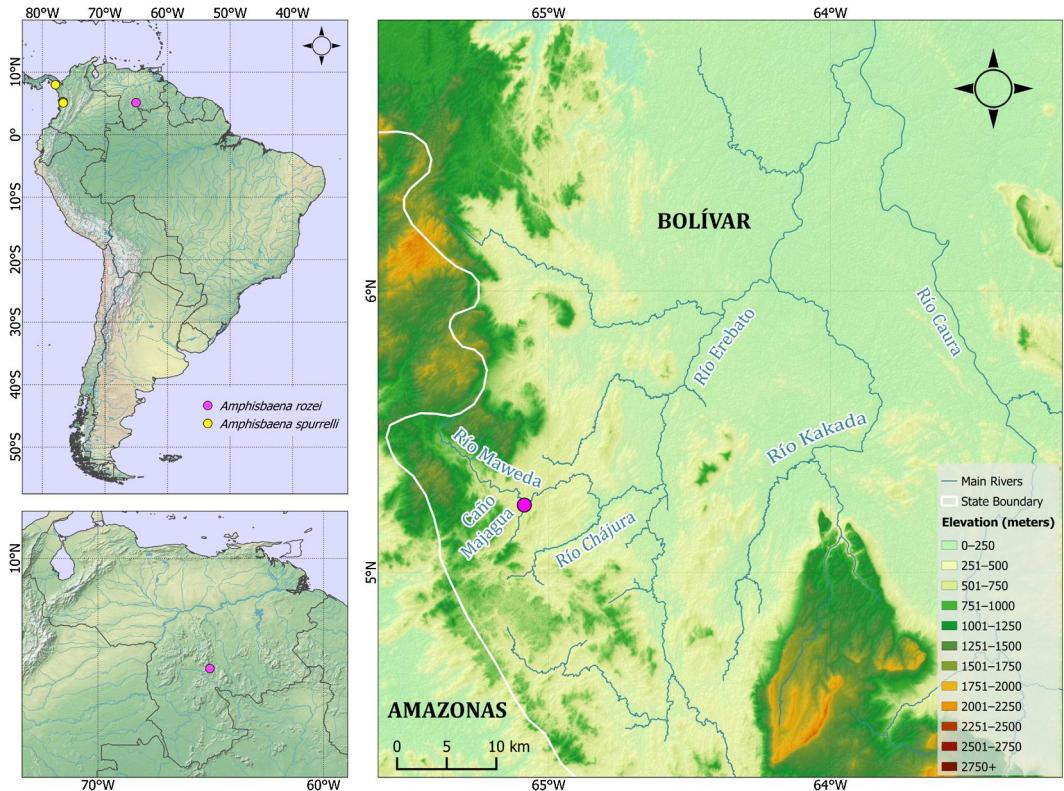


Figure 4. Geographic distribution of *Amphisbaena rozei* and the morphologically similar *A. spurrelli* in South America (upper left); relative location of the type locality of *A. rozei* in Venezuela (lower left); and, detail of the Caura River basin at southern Venezuela, showing the type locality, some relevant rivers and relief of the watershed (right).

Discussion

Amphisbaena rozei is endemic to the Caura River basin. The Caura River is the second most important tributary of the Orinoco River (Vargas and Rangel, 1996), and its basin is one of the most pristine hydrographic watersheds of the tropics (Rosales and Huber, 1996). Despite being a poorly studied area, the Caura basin hosts 30% of the terrestrial vertebrate species recorded for Venezuela, and more than 51% of the Guayanian species (Bevilacqua and Ochoa, 2001).

The geographic coordinates of the type-locality of *Amphisbaena rozei* were not informed by Lancini (1963). According to Vanzolini (2002b) the Caño Majagua lies at 05°30'N, 64°40'W. This locality, however, is in the middle Erebato River, close to the Yudi River and 58 km NE to what we believe is

the type-locality. There is also a ‘Caño Majagua’ tributary of the Ventuari River in the Manapiare valley, state of Amazonas (05°21'N, 65°45'44.40'W), about 80 km NW of the type-locality of *Amphisbaena rozei* (Hitchcock, Phelps and Galavis, 1947; Zent and Zent, 2012).

Some authors (e.g., Stefano, 2008; Schneider and Zizka, 2012) have referred to a so-called ‘Río Majagua’ (05°07'07"N, 65°02'18"W) which is a tributary of the Erebato River and close to the village known as Majawaña. The village is on the left margin of the Maweda River, a tributary of the left margin of the Chájura, which flows to the Erebato River. The ‘Río Majagua’ is a water course on the opposite side of Majawaña village, at the right margin of the Maweda River (fig. 4). This is the type-locality of *Amphisbaena rozei*.

Lancini (1963) described *Amphisbaena rozei* without any specific comparisons with other species. He only stated that *A. rozei* differed from all other *Amphisbaena* by having tuberculate quadrangular body segments, which becomes even more evident after midbody. This character, however, cannot be observed in the poorly-preserved holotype and paratype, except for the very end of the body and dorsal surface of tail. In their key to American Amphisbaenia, Gans and Mathers (1977) distinguish *A. rozei* from *A. spurrelli* in step 57. According to them, *A. rozei* presents a postmental shield of same size or smaller than the mental shield, while *A. spurrelli* has a postmental larger, both in length and area, than the mental. However, examination of the type specimens of *A. rozei* shows a postmental of the same width but much longer than the mental.

Amphisbaena rozei and *A. spurrelli* are in fact very similar in external morphology. They differ slightly in the number of body annuli (205–209 in *A. rozei* and 218–222 in *A. spurrelli*), and ventral segments (14 in *A. rozei* and 16 in *A. spurrelli*). An interesting character is the relative size of the first and second infralabials. In *A. spurrelli* the second infralabial is the largest; in *A. rozei* the first infralabial has an obtuse angle extending it posteriorly, which makes it longer than the second in the mouth-line.

Besides many similarities and few characters distinguishing *Amphisbaena rozei* from *A. spurrelli*, it is important to note that both species are separated by a distribution gap of about 1300 km in straight line (fig. 4). Therefore, at this moment we see no reason for keeping *A. rozei* under the synonymy of *A. spurrelli* and recognize them as valid species.

Acknowledgements. We are grateful to Charles Brewer Carías and Eglee Zent for their aid to solve the issue of the location of Caño Majagua; to Patrick Campbell (NHM, UK) for gently sending photographs of the syntypes of *A. spurrelli*; to Daniel Loebmann (CHFURG), Pedro Nunes (CHUFPE), Giselle Cotta (FUNED), Giuseppe Puerto (IB-SPCR), José Ignacio Herrera and Hyram Moreno (MCNC), Luciana Nascimento (MCN-R), Paulo Passos (MNRJ),

Natan Maciel (UFG), Paulo Manzani (ZUEC), Diego Santana and Thomaz Sinani (ZUFMS), for access to specimens under their care; to the associate editor, an anonymous reviewer, and Pedro Pinna for comments and suggestions, and Adriano Maciel for valuable discussions. HCC is supported by a DSc scholarship from Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES); FJMR is supported by a DSc scholarship from Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq); HZ thanks Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) for grant support 2011/50206-9. PCAG thanks CNPq for research productivity fellowship.

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Submitted: July 6, 2017. Final revision received: October 23, 2017. Accepted: October 27, 2017.

Associate Editor: Miguel Carretero.

Appendix 1. Specimens examined

Abbreviations

CHFURG: Coleção Herpetológica, Universidade Federal do Rio Grande, Brazil; CHUPE: Coleção Herpetológica, Universidade Federal de Pernambuco, Brazil; FUNED: Fundação Ezequiel Dias, Brazil; IBSPCR: Instituto Butantan, Coleção de Répteis, Brazil; MCNC: Museo de Ciencias Naturales de Caracas, Venezuela; MCN-R, Museu de Ciências Naturais (Reptiles), Pontifícia Universidade Católica de Minas Gerais, Brazil; MHNL: Museo de Historia Natural La Salle, Venezuela; MNRJ: Museu Nacional, Universidade Federal do Rio de Janeiro, Brazil; MZUSP: Museu de Zoologia, Universidade de São Paulo, Brazil; UFG: Universidade Federal de Goiás; UFMG: Universidade Federal de Minas Gerais, Brazil; ZUEC: Universidade Estadual de Campinas, Brazil; ZUFMS: Universidade Federal do Mato Grosso do Sul, Brazil.

Specimens

Amphisbaena anaemariae: BRAZIL: GOIÁS: Goiatuba, PCH Mota (UFMG 2879, 2896); TOCANTINS: Lajeado e Miracema, UHE Luís Eduardo Magalhães (UFG 341, 343, 356, 373, 374376, 379, 381). *Amphisbaena anomala*: BRAZIL: CEARÁ: Ubajara (ZUEC 3412); TOCANTINS: Babaçulândia, UHE Estreito (MZUSP 10231-10233); Palmeiras do Tocantins, UHE Estreito (MZUSP 102023). *Amphisbaena arda*: BRAZIL: BAHIA: Ibiraba,

Mocambo do Vento (MZUSP 91638 [holotype]). *Amphisbaena arenaria*: BRAZIL: BAHIA: Raso da Catriona (MZUSP 65817 [holotype]). *Amphisbaena brasiliiana*: BRAZIL: MATO GROSSO: UHE Teles Pires (MZUSP 105496). *Amphisbaena carli*: BRAZIL: BAHIA: São Desidério (MCN-R 6132). *Amphisbaena cunhai*: BRAZIL: RONDÔNIA: Porto Velho, UHE Jirau (MZUSP 102109). *Amphisbaena darwini*: BRAZIL: RIO GRANDE DO SUL: Rio Grande, ESEC Taim (CHFURG 1072, 1462, 1528, 1551); Fazenda Votorantin (CHFURG 39); Parque Marinha (CHFURG 1446); Senandes (CHFURG 2541). *Amphisbaena dubia*: BRAZIL: SÃO PAULO: Campos do Jordão, Parque Estadual de Campos do Jordão (ZUEC 1507); Caieiras (MZUSP 105625). *Amphisbaena frontalis*: BRAZIL: BAHIA: Ibiraba (MZUSP 68505). *Amphisbaena fuliginosa wiedi*: BRAZIL: MINAS GERAIS: UHE Queimado (MCN-R 4611). *Amphisbaena gracilis*: VENEZUELA: ANZOÁTEGUI: Laguna de Mamo (Mamo Lagoon) (MHNLS 8756); DELTA AMACURO: *Mauritia flexuosa* flooded forest close to the connection between the Capure and Pedernales Rivers (MHNLS 13798). *Amphisbaena heterozonata*: ARGENTINA: CÓRDOBA: Pampa de Achala (MZUSP 82358, 82359). *Amphisbaena hogei*: BRAZIL: SÃO PAULO: Sete Barras, Parque Estadual Intervales (ZUEC 2507); Ribeirão Grande, Fazenda Intermontes (ZUEC 3052). *Amphisbaena ibijara*: BRAZIL: MARANHÃO: Urbano Santos, Fazenda Santo Amaro (MZUSP 91989 [holotype]). *Amphisbaena kingii*: BRAZIL: RIO GRANDE DO SUL: São Leopoldo (MZUSP 12240). *Amphisbaena leeseri*: BRAZIL: MATO GROSSO DO SUL: Aquidauana (MZUSP 82539, 82541; ZUFMS 2209, 2215, 2216); Corumbá, Maciço Urucum, Complexo de Extração de Minério MMX (ZUFMS 976); Rio Verde de Mato Grosso, APA Rio Cênico Rotas Monçoeiras (ZUFMS 967). *Amphisbaena lumbricalis*: BRAZIL: ALAGOAS: Canapi (MCN-R 5665). *Amphisbaena mensae*: BRAZIL: DISTRITO FEDERAL: Brasília (MZUSP 47709); Brasília, Área Alfa (MZUSP 88126, 88660); Tabatinga (MZUSP 49352). GOIÁS: Serra da Mesa (MZUSP 87761, 88863); UHE Serra da Mesa, sector 2, left margin (MZUSP 83231 [holotype]). *Amphisbaena mertensi*: BRAZIL: MINAS GERAIS: Araxá (MCN-R 6164, 6182, 6183, 6187, 6188). *Amphisbaena*

metallurga: BRAZIL: MINAS GERAIS: Conceição do Mato Dentro (FUNED 2943 [holotype], 2940–2942, 2944, 2945, 2947–2949, 2951–2960, UFMG 2080, 2081 [paratypes]). *Amphisbaena munoi*: BRAZIL: RIO GRANDE DO SUL: Dom Feliciano (ZUFMS 52); Porto Alegre (ZUFMS 51). *Amphisbaena persephone*: BRAZIL: BAHIA: Jaborandi, Fazenda Jatobá (MNRJ 23589 [paratype]). *Amphisbaena pretrei*: BRAZIL: MINAS GERAIS: Grão Mogol (MNRJ 25127); PERNAMBUCO: Abreu e Lima, Caetés 1 (CHUFPE 171); PARAÍBA: Campina Grande, São José da Mata (IBSPCR 917). *Amphisbaena ridleyi*: BRAZIL: PERNAMBUCO: Fernando de Noronha (ZUEC 3321). *Amphisbaena roberti*: BRAZIL: MATO GROSSO DO SUL: Três Lagos, Fazenda Barra da Moeda (ZUEC 3497); SÃO PAULO: Campinas, Barão Geraldo (ZUEC 1256; 2069); Campinas, UNICAMP (ZUEC 1111); Itapetininga (UFMG 19); Rio Claro (ZUFMS 43). *Amphisbaena rozei*: VENEZUELA: BOLÍVAR: Headwaters of the Majagua River, tributary of Chajurá River (MCNC 13 [paratype], 178 [holotype]). *Amphisbaena sanctaeritae*: BRAZIL: SÃO PAULO: Santa Rita do Passa Quatro (MZUSP 36719 [holotype]). *Amphisbaena saxosa*: BRAZIL: TOCANTINS: UHE Peixe Angical, E margin, sector 2 (MZUSP 96643). *Amphisbaena silvestrii*: BRAZIL: MATO GROSSO: Porto Velho, Rio Tapirapés (MZUSP 9757). *Amphisbaena steindachneri*: BRAZIL: MATO GROSSO: Vila Bela da Santíssima Trindade (MCN-R 4312); RONDÔNIA: Chupinguaia, Boa Esperança, Módulo 2 (MCN-R 5844, 5845, 5838, 5839). *Amphisbaena supernumeraria*: BRAZIL: PERNAMBUCO: Parque Nacional do Catimbau (MZUSP 98101 [holotype]). *Amphisbaena talisiae*: BRAZIL: MATO GROSSO: Serra da Pitomba (MZUSP 78808 [holotype]). *Amphisbaena trachura*: BRAZIL: SANTA CATARINA: Balneário Arroio do Silva (ZUEC 3017); Itajaí, PARNA Serra de Itajaí (UFMG 2663). *Amphisbaena tragorrhectes*: BRAZIL: PARÁ: Oriximiná (MZUSP 17518 [holotype]). *Amphisbaena uroxena*: BRAZIL: Bahia: Mucugê, Fazenda Caraibas (MZUSP 96825, 96826). *Amphisbaena vermicularis*: BRAZIL: Bahia: Salvador (MZUSP 6446); Minas Gerais: Pandeiros River (MZUSP 6622, 6575). *Mesobaena rhachicephala*: BRAZIL: PARÁ: Oriximiná, FLONA Saracá-Taquera (MNRJ 15325 [paratype]).