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LECTOTYPE DESIGNATION AND REDESCRIPTION OF THE GYMNOPHTHALMID LIZARD *RIAMA COLUMBIANA* (ANDERSSON, 1914) WITH NOTES ON THE TYPE LOCALITY

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ABSTRACT

The poorly known Riama columbiana, Andean gymnophthalmid lizard from Colombia, is redescribed on the basis of syntypes and additional material. A lectotype is designated, its likely provenience is discussed, and its distribution and natural history are given.

KEYWORDS: Andes; Colombia; Gymnophthalmidae; South America; Squamata; Taxonomy.

INTRODUCTION

Significant advances have recently been made in the systematics of the lizard family Gymnophthalmidae and the tribe Cercosaurini (Pellegriano *et al.*, 2001; Castoe *et al.*, 2004). Doan (2003) performed a morphology-based phylogenetic analysis of all known species of the Andean *Proctoporus* Tschudi and found the genus to be monophyletic. Subsequently, Castoe *et al.* (2004) analyzed molecular evidence and found that *Neusticurus* Duméril & Bibron and *Proctoporus* were polyphyletic, the latter being divided into at least two distantly related clades. Doan & Castoe (2005) proposed a monophyletic taxonomy in which they divided the species of *Proctoporus sensu lato* into three monophyletic genera: *Proctoporus sensu stricto* from Peru and Bolivia, *Riama* Gray from central Peru, Ecuador, Colombia, Venezuela and the islands of Trinidad and Tobago, and *Petracola* Doan & Castoe from central and northern Peru.

However, progress in Cercosaurini systematics is still hindered in part by the inadequacy of alpha

taxonomy of *Riama* (and related genera), resulting in an underestimation of species diversity and the variation within each. The genus *Riama* includes 25 recognized species that occur throughout the Andes of central Peru, Ecuador, Colombia, Venezuela, the Cordillera de la Costa of Venezuela and Trinidad and Tobago (Doan & Castoe, 2005; Rivas *et al.*, 2005). Currently, in Colombia the genus is represented by four species, three of which are endemic (*R. columbiana*, *R. laevis* and *R. striata*) and one that occurs on the border with Ecuador (*R. simotera*).

Anderson's (1914) description of *Riama columbiana* is brief and is based on four specimens from "Colombia"; therefore, there has been confusion in the identification of this species leading to some errors in the literature. In addition, *R. columbiana* remains rare in collections and has only been mentioned in passing since its short original description. In light of the confusion surrounding the identity of this species and its relevance to the diagnosis of a number of species of Colombian *Riama*, I provide a detailed redescription of *R. columbiana* based on 16 specimens (including the type series), designate a lectotype, discuss

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its likely provenience, and describe its distribution and some aspects of natural history.

MATERIAL AND METHODS

Snout-vent length (SVL) was measured with digital caliper (0.05 mm accuracy and rounded to the nearest 0.1 mm). The diagnosis and the description follow the format of Kizirian (1996) in order to facilitate comparisons with other species of *Riama*. I examined comparative material of all described and one undescribed species of *Riama* from Colombia and 15 taxa from Ecuador, Venezuela and Trinidad & Tobago (specimens examined are listed in Appendix). In addition, some comparative data were taken from species descriptions in Uzzell (1958), Kizirian (1996), Doan & Schargel (2003), Köhler & Lehr (2004) and Rivas *et al.* (2005). Bilateral variation is reported as: left/right. Sex was determined by noting the presence of hemipenes. The following institutional abbreviations are used herein: NRM [also NHRM, Frost (2009)] (Naturhistoriska Riksmuseet, Stockholm, Sweden – Swedish Museum of Natural History), ICN (Instituto de Ciencias Naturales – Universidad Nacional de Colombia, Bogotá, Colombia), IAvH (Instituto de Investigación de los Recursos Biológicos Alexander von Humboldt, Villa de Leiva, Colombia), MHUA (Museo de Historia Natural Universidad de Antioquia, Medellín, Colombia), MHNUC (Museo de Historia Natural Universidad de Caldas, Manizales, Colombia), QCAZ (Museo de Zoología, Pontificia Universidad Católica del Ecuador, Quito, Ecuador), AMNH (American Museum of Natural History, New York, USA), KU (University of Kansas, Museum of Natural History, Lawrence, USA), USNM (National Museum of Natural History, Washington, D.C., USA), MCZ (Museum of Comparative Zoology, Harvard University, Cambridge, USA), FMNH (Field Museum, Chicago, USA), UMMZ (University of Michigan, Museum of Zoology, Ann Arbor, USA) and CHEC (Central Hidroeléctrica de Caldas, Colombia).

RESULTS

Designation of Lectotype

Andersson (1914) described *Proctoporus columbianus* based on four specimens in the Swedish Museum of Natural History, two males and two females, none of which was referenced with a specific collection

number. The syntypes were originally catalogued together as NRM 1631, and were later separated under NRM 1631, NRM 1633, NRM 1634 and NRM 6168. NRM 6168 is badly damaged and is currently broken in several parts: the head in two parts, the body in two parts, and the two mani are detached. The neck of the female NRM 1634 is damaged. The male NRM 1631 and the female NRM 1633 are well preserved, with the exception of the loss of pigmentation on the right side of the head of NRM 1631. Of the two undamaged specimens, only the male NRM 1631 can be positively associated with Andersson's (1914) description. In this specimen, the left hind limb has nine femoral pores, while the right hind limb has 10. This corresponds with both Andersson's drawing in fig. 1C, which shows a male left hind limb with nine femoral pores, and his description, which reports "femoral pores nine or ten". The female syntypes lack femoral pores and the description lacks any details to distinguish them, and the remaining specimen is too badly damaged to be associated with the description. As such, I designate the male NRM 1631 as lectotype. A description of the lectotype is given below.

Species account

Riama columbiana (Andersson, 1914)

Figs. 1-4

Proctoporus columbianus Andersson, 1914:3-6 [Original description. Syntypes from "Colombia", Collected by P. Nisser]

Riama columbiana (Andersson): Doan & Castoe, 2005:409 [first use of combination]

Lectotype – NRM 1631, an adult male collected approximately 1825-1832 by Pedro Nisser. Fig. 1.

Type locality – Colombia, probably in Municipio de Sonsón, Departamento de Antioquia. The locality reported by Andersson was simply "Colombia". Slightly more information is found on the jar label at NRM, which states "probably from the Rio Magdalena area". The syntypes were collected by Pedro Nisser, probably between 1825 and 1832. He was a Swedish miner that arrived in Colombia in 1825; he married Maria Martínez de Nisser, a famous woman of the post-independence revolution in Colombia, for which there is a vast historical literature about her and her husband (*e.g.* Wassen, 1969 among others). Pedro Nisser lived in the south of Antioquia Department, Sonsón Municipality, where he occasionally collected

specimens of fauna that were sent or taken to the NRM. Although he did not always live in Sonsón, his works in Colombia were at the southern area of Antioquia department, which, together with records of distribution of specimens of *Riama columbiana* recently collected, leads me to believe that the syntypes were collected in the area.

Paralectotypes – NRM 1633-34 and NRM 6168, two females and a badly damaged specimen (respectively) collected with the lectotype.

Referred material (Numbers in parentheses correspond to the localities in the map of the Fig. 3) – ICN 11302, a male collected on March 2007 by Luis Felipe Barreira at (1) finca La Cristalina, vereda La Cristalina, municipio de Neira, departamento de Caldas, Colombia, 2300 m, approximately 05°10'24.2"N, 75°26'53"W; ICN 11295-98 (a female, a juvenile male, a female

and a male respectively), a series collected on 19 February 2008 by Taran Grant at (2) Bosques de la CHEC, predio La Mesa, vereda Montaña, municipio de Villa María, departamento de Caldas, Colombia, 2640 m, approximately 4°57.864'N, 75°25.967'W; ICN 11299-01 (a male, a juvenile female and a juvenile male respectively), a series collected on August-October 2006 by Susana Velásquez and José Cirel Lopez at (3) Bosques de la CHEC, predio La Mesa, vereda Montaña, municipio de Villa María, departamento de Caldas, Colombia, 2600 m, approximately 04°58'6"N, 75°26'11"W; MHNUC 0088, a female collected on 6 May 2007 by Julian Andres Rojas at (4) vereda Montaña, municipio de Villa María, departamento de Caldas, Colombia, 2450 m; IAvH-R 5194, a female collected by A. Pulido at (5) Parque Municipal Campo Alegre, municipio de Santa Rosa de Cabal, departamento de Risaralda, Colombia; IAvH-R 4941, a female collected at (6) Santuario de



FIGURE 1: A) Dorsal and B) ventral view of the lectotype (NRM 1631 [SVL: 73.4 mm]) of *Riama columbiana*. Photos: Santiago J. Sánchez-Pacheco.

Fauna y Flora Otun Quimbaya, departamento de Risaralda, Colombia, approximately 4°43'N, 75°34'W; ICN 6479, a female collected on 31 May 1981 by J.D. Lynch (7) between the haciendas El Brillante and San Julian, vereda San Julian, municipio de Calarcá, departamento de Quindío, Colombia, 2100 m.

Diagnosis – *Riama columbiana* possesses the following characteristics: (1) frontonasal distinctly longer to distinctly shorter than frontal (in adults usually shorter than frontal); (2) prefrontal scales absent; (3) nasoloreal suture usually complete (= loreal present), rarely incomplete; (4) supraoculars four, 2, 2+3, 2+4, or 2+3+4 in contact with ciliaries (one specimen has only the fourth in contact with ciliaries on the right side); (5) superciliary series incomplete (1, 2, 4, 1+1, 1+2, 2+1, 2+2, 3+1 or 3+2); (6) supralabial-subocular fusion absent; (7) postoculars usually three, rarely two; (8) postparietals 2-4, usually three; (9) supratympanic temporals three; (10) genials two or three, usually three; (11) dorsal scales rectangular, juxtaposed, with a low, rounded keel (smooth on the neck); (12) longitudinal dorsal scale rows in males 25-32, in females 23-33; (13) transverse dorsal scale rows in males 42-46, in females 41-49; (14) ventral scales smooth, in 22-23 transverse scale rows; (15) lateral scale rows 3-5, usually three; (16) femoral pores per hind limb in males 10 (the lectotype has nine on the left hind limb), in females 0-2, usually zero; scales between femoral pores in males 5-6, in females 4-6; (17) subdigital scales on Toe I 4-6; (18) limbs not overlapping when adpressed against body in adults; (19) anterior cloacal plate scales two and posterior five; (20) dorsum brown; dorsolateral stripes absent; lateral ocelli present in males, usually absent in females; ventral scales with dark, centrally positioned, linearly arranged spots.

Riama columbiana can be distinguished from all known Colombian congeners and *R. simotera* (from Colombian-Ecuadorian border) by the high number of transverse dorsal scale rows (41-49 vs. 33-39 in *R. striata*, 34-41 in *R. laevis* and 34-39 in *R. simotera*) and the texture of the dorsal scales (keeled vs. strongly striated in *R. striata*, and smooth in *R. laevis* and *R. simotera* [at least anteriorly]). Additionally, it can be distinguished by the following traits (condition for *R. columbiana* in parentheses): *R. striata*: suture nasoloreal usually absent [= loreal absent] (usually complete [= loreal present]) and superciliary series complete (incomplete). *R. laevis*: superciliary series complete (incomplete). *R. simotera*: nasoloreal suture absent or incomplete [= loreal absent] (usually

complete [= loreal present]), femoral pores in males 6 or 7 (9-10), in females 5-7 (0-2) and scales between femoral pores in males usually two (5-6).

All Ecuadorian and Peruvian *Riama*: *R. balneator*, *R. cashcaensis*, *R. labionis*, *R. petrorum*, *R. unicolor* and *R. vespertina*: nasoloreal suture absent [= loreal absent] (usually complete [= loreal present]); *R. colomaromani*: nasoloreal suture absent or incomplete [= loreal absent] (usually complete [= loreal present]); *R. anatoros*: nasoloreal suture absent or incomplete, rarely complete (usually complete), superciliary series usually complete (incomplete); *R. orcesi*: nasoloreal suture usually absent [= loreal absent] (usually complete [= loreal present]), femoral pores per leg in males 10-14 (9-10); *R. raneysi*: supraoculars two or three, usually three (four); *R. hyposticta*: femoral pores per leg in males 4-6 (9-10); *R. oculata*: femoral pores per leg in males 6-7 (9-10); *R. meleagris*: femoral pores per leg in females nine (0-2); *R. vieta*: dorsal scales rugose (keeled); *R. stigmatoral*: transverse dorsal scale rows 36-41 (41-49), postoculars two (usually three), scales between femoral pores in males 0-2 (5-6); *R. laudabnae*: supraoculars three (four), supralabial-subocular fusion present (absent). All congeners from Venezuela and Trinidad and Tobago: *R. rhodogaster*: differentiated lateral scale rows absent (present), scales between femoral pores in males absent (5-6), in females one (4-6); *R. inanis*: transverse dorsal scale rows 29-33 (41-49), transverse ventral scale rows 14-18 (22-23) and femoral pores per hind limb in males 11-12 (9-10), in females 7-8 (0-2); *R. luctuosa*, *R. shrevei* and *R. achlyens*: limbs overlapping when adpressed against body in adults (not overlapping).

Description of lectotype – SVL 73.4 mm, tail broken; right side of head in nasal area partially damaged; translucent epidermal layer that covers dorsal surface of scales on head lost; rostral scale wider than long, higher than adjacent supralabials, in contact with frontonasal, nasals, and first supralabials posteriorly; frontonasal longer than wide, widest posteriorly, in contact with nasals and loreal laterally, anteriormost supraoculars posterolaterally, and frontal posteriorly, slightly longer (3.4 mm) than frontal (3.3 mm), not in contact with anteriormost superciliary posterolaterally; nasal longer than wide, nostril approximately in center of scale, in contact with first and second supralabial; loreal pentagonal, shortest suture with second supralabial, in contact with frontonasal dorsally, second supralabials ventrally, anteriormost superciliary posterodorsally and frenocular posterovertrally; prefrontals absent; frontal longer than wide, anterior suture nearly straight, lateral sutures slightly concave,

posterior suture angular with point directed posteriorly, not in contact with anteriormost superciliary anterolaterally, in contact with first and second supraoculars laterally, frontoparietals posteriorly; frontoparietals pentagonal in contact with second and third supraoculars anterolaterally, parietals and interparietal posteriorly; supraoculars four, second in contact with ciliaries; superciliaries 1+2, anterior superciliary lies between loreal, first and second supraoculars, and anteriormost ciliaries; major palpebral disc divided, unpigmented; frenocular quadrangular, in contact with loreal anteriorly and second and third supralabials ventrally; circumorbital scales between posteriormost supraocular and frenocular six; postoculars three; interparietal hexagonal, longer than wide, distinctly widest and somewhat rounded posteriorly, in contact with parietals laterally, postparietals posteriorly; parietals in contact with third and fourth supraocular anterolaterally, temporal scales laterally, postparietals posteriorly; postparietals two, in broad contact; anterior temporals polygonal; supratympanic temporals three; supralabials six; infralabials five; mental wider than long, in contact with first infralabials and postmental posteriorly; postmental single, hexagonal, in contact with first and second infralabials; genials irregularly shaped; scales rows between genials and collar fold (along midventral line) 11; medialmost gular scale rows not distinctly enlarged; posteriormost gular row enfolded posteriorly, concealing some scale rows; lateral neck scales quarish or rounded.

Dorsal scales rectangular (most have lost the translucent epidermal layer), longer than wide, juxtaposed, in 42 transverse rows; some middorsal scales irregularly arranged; longitudinal dorsal scales rows at fifth transverse ventral scale row 17, at 10th transverse ventral scale row 25, at 15th transverse ventral scale row 25; lateral scale rows at fifth transverse ventral scale row 10/11, at 10th transverse ventral scale row three, at 15th transverse ventral scale row three; lateral scales on body near insertion of forelimb small to granular; ventrals smooth; complete transverse ventral scale rows 23; longitudinal ventral scale rows at midbody 11; anterior cloacal plate scales two; posterior cloacal plate scales five; tail broken at 29th subcaudal; scales on tail rectangular and juxtaposed; dorsal, dorsolateral, and ventrolateral tail scales smooth; midventral subcaudals smooth, wider than adjacent scales, square.

Limbs pentadactyl; digits clawed; dorsal brachial scales polygonal, of varying sizes, juxtaposed; midbrachial anterodorsal scale at least twice as large as adjacent scales, overlapping adjacent distal scale;

anteroventral, ventral, and posteroventral brachial scales roundish, juxtaposed; antebrachial scales polygonal, of various sizes; medial antebrachial small, rounded diamonds or ovals, subimbricate; dorsal manus scales polygonal, subimbricate; palmar scales small, oval; dorsal scales on fingers smooth, quadrangular, covering dorsal half of digit, overhanging subdigital scales, 3/2 on I, four on II, six on III, six on IV, four on V; subdigital scales 3/4 on I, five on II, eight on III, nine on IV, 6/5 on V; anterior thigh scales polygonal, 2-3 times larger than adjacent scales, becoming smaller ventrally, proximally; anterodorsal thigh scales polygonal, subimbricate; posterior thigh scales small, oval to granular, in nearly regular vertical rows; femoral pores 9/10; scales between medialmost femoral pores six; anterior and anteromedial crus scales polygonal, subimbricate, mid-crus scale at least twice as large as adjacent scales; lateral posterolateral, and posteromedial crus scales smaller than anterior scales, subimbricate; dorsal pes scales polygonal, subimbricate; scales on dorsal surface of digits single, quadrangular, smooth, overhanging subdigital scales, three on I, five on II, eight on III, 11/10 on IV, seven on V; subdigital scales single or double, five on I, 7/8 on II, 10/9 on III, 14 on IV, 10 on V.

Coloration of the types – In preservative (70% ethanol), see Andersson's (1914:4-5) original description.

Coloration in life Fig. 2 – Based on field notes of Taran Grant for ICN 11295-98: Dorsum and flanks dark brown; flanks with tiny white spots surrounded by black blotches to form diffuse ocelli in some specimens. Ventral scales centrally dark brown, peripherally white or pale orange. Iris orange. Smallest individual (ICN 11296, SVL 40.29 mm) is brightest orange ventrally, appears to be lost ontogenetically. Smallest specimen also has pattern of dark brown and black (more black on flanks).

Variation – SVL of largest male 77.3 mm, largest female 71.6 mm. The paralectotypes and referred specimens are similar to the lectotype with the following noteworthy exceptions: type series and ICN 11300 are the only specimens with frontonasal scale that is not in contact with anteriormost superciliary posterolaterally; frontonasal scale in contact with anteriormost superciliary posterolaterally in 11 specimens (ICN 11295-99, ICN 11301-02, ICN 6479, IAvH 4941, IAvH 5194, and MHNUC 0088); nasoloreal suture incomplete in ICN 11298 and incomplete/complete in ICN 6479; loreal separated from supralabials by frenocular and nasal in ICN 6479; in two

specimens (ICN 11297 and MHNUC 0088) the anterior suture of the frontal scale is concave; ICN 11295 and ICN 11298 have frontoparietals in contact only with third supraocular anterolaterally, ICN 11300 and ICN 11297 have this condition on the right side only.

Supraoculars in contact with ciliaries, the second (NRM 6168, NRM 1634, MHNUC 0088, and on the left side of ICN 11295) or the second and the fourth (ICN 11298, NRM 1633, ICN 11295 and ICN 11297 on the left side, ICN 11296 and ICN 11301 on the right side) or the second and the third

(ICN 11299 and ICN 11302; NRM 1633 and ICN 11300 on the right side) or the second, the third and the fourth (ICN 6479, ICN 11296, ICN 11300 and ICN 11301 on the left side). ICN 11297 has the fourth supraocular in contact with ciliaries on the right side). Superciliary series incomplete (one in ICN 6479; two on the left side of ICN 11296 and ICN 11300; four on the right side of ICN 11297; 1+1 in NRM 1633, ICN 11299 and ICN 11302, and on the left side of NRM 6168; 1+2 in NRM 1634, on the right side of NRM 6168, and on the left side of MHNUC 0088, ICN 11295 and ICN 11301; 2+1 on the left side of ICN 11297, and on the right side of ICN

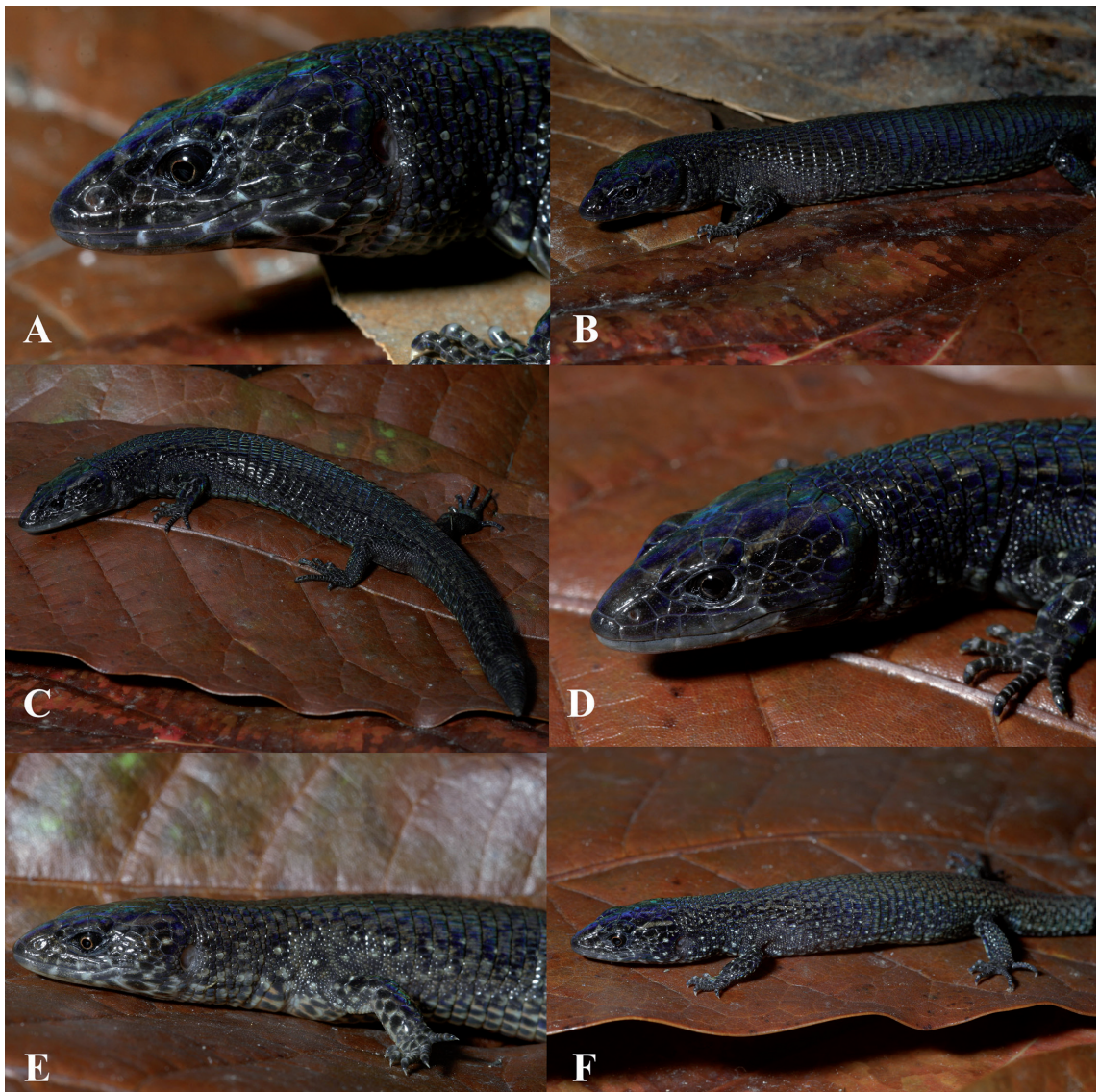


FIGURE 2: *Riama columbiana* in life. Two females (A, B: ICN 11295 [SVL: 69.2 mm] and C, D: ICN 11297 [SVL: 70.5 mm]), a subadult male (E: ICN 11298 [SVL: 57.4 mm]), and a juvenile male (F: ICN 11296 [SVL: 41.1 mm]). Photos: Taran Grant.

11300; 2+2 on the right side of MHNUC 0088, ICN 11295 and ICN 11296; 3+1 in ICN 11298; 3+2 on the right side of ICN 11301).

Femoral pore number is the most sexually dimorphic trait, with males having 9-10 on each leg, whereas females have from 0-2. Most of the females without femoral pores; however, the female MHNUC 0088 (femoral pores 2/1-1) has one proximal femoral pore and one distal femoral pore on the right leg (there is a hiatus), on the left leg there are two proximal femoral pores. The female ICN 11300 has one distal femoral pore per leg.

NRM 1634 and NRM 6168 have five supralabial scales on the right side; ICN 11302, IAvH 4941 and IAvH 5194 have seven supralabials and ICN 11298 has four infralabials; postoculars two in IAvH 5194; circumorbital scales between posteriormost supraocular and frenocular seven in ICN 11298; type series are the only specimens with two postparietals, the referred specimens (except ICN 11297) have three postparietals; ICN 11297 has four. Paralectotypes and ICN 11299, ICN 11302 and IAvH 5194 have two genials, and MHNUC 0088, ICN 6479, ICN 11295-98, ICN 11300-01 and IAvH 4941 have three genials. In ICN 11299 the genial count is two because a small median scales occludes midventral contact of a third pair of large scales on the chin.

Longitudinal dorsal scale rows at fifth transverse ventral scale row 15 in NRM 1633, at 10th transverse ventral scale row 23 in NRM 1633, at 15th transverse ventral scale row 23 in NRM 1633 and 20 in NRM 1634; transverse dorsal scale rows 43 in NRM 1634; transverse ventral scale rows 22 in NRM 1633 and NRM 1634; lateral scale rows at 10th transverse ventral scale row five in NRM 1633 and three on the left side of NRM 1634, at 15th transverse ventral scale row five in NRM 1633 and six in NRM 1634. Subdigital scales on toe I four in NRM 1633.

Distribution Fig. 3 – *Riama columbiana* occurs at moderate elevations (between 2100 m and 2640 m) on the western slope of the Cordillera Central, Colombian Andes, in the departments of Caldas, Risaralda and Quindío, and probably Antioquia (see comments on the type locality).

Habitat and ecology Fig. 4 – ICN 11299-01 were found buried, alone in an open area of pasture surrounded by secondary forest and reforested areas. ICN 11295-98 were also found buried (in topsoil 6 to 10 inches underground), one of them concealed beneath a rock. MHNUC 0088 was found under a log on the forest fragment edge delimited by pastures.

ICN 11302 was collected using pitfall traps in the interior of a gallery forest.

Remarks – Andersson (1914:3) described the texture of the dorsal scales of *Riama columbiana* as smooth,

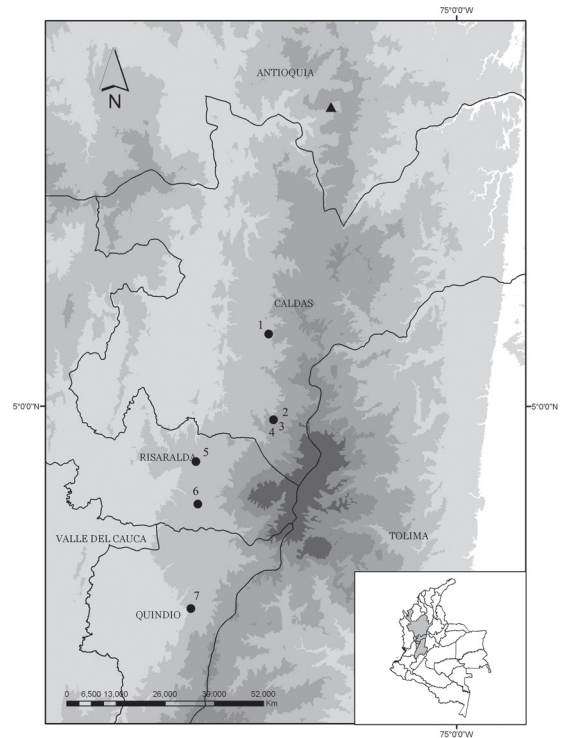


FIGURE 3: Distribution of *Riama columbiana*. Map with collection localities (black circles) for *R. columbiana*. Numbers correspond to the localities referenced in Referred material. Triangle = Approximated type locality, in Municipio de Sonsón, Departamento de Antioquia.



FIGURE 4: Forests of the CHEC on the western slopes of the Cordillera Central of the Colombian Andes in Caldas Department. ICN 11295-01 were found in grassland adjacent to the cloud forest. Photo: Susana Velásquez.

which was repeated by all subsequent workers. Nevertheless, careful examination of the type series and more recently collected material shows that the dorsal scales are actually keeled. I believe Andersson's (1914) erroneous description may be due to the lectotype having lost the translucent epidermal layer of the scales, giving them a smooth appearance. Further, in this species and other keeled species of *Riama*, keels are clearly visible only if the ethanol is permitted to evaporate from the scales and the angle of light is adjusted.

Andersson's (1914) incorrect characterization of *Riama colombiana* has had important consequences in the *Riama* systematics. Kizirian & Coloma (1991), Kizirian (1995, 1996) and Doan & Schargel (2003) understandably considered the specimens KU 169946-48, from Tenerife, Valle del Cauca, Colombia, to be *R. colombiana*, and they derived species diagnoses from those specimens. Similarly, Doan (2003) and Doan & Castoe (2005) used these same specimens to represent *R. colombiana* in her phylogenetic analysis of *Proctoporus sensu lato*, and to allocate this species within *Riama* respectively. However, I reviewed the Tenerife's series and these specimens certainly represent a different species. This is further supported by the difference in the number of femoral pores in males: 3-5 versus 9-10 in *R. colombiana*, the condition of the supralabial-subocular fusion: present versus absent in *R. colombiana*, and the number of transverse dorsal scale rows: 37-38 versus 41-49 in *R. colombiana* among others traits. Likewise, Castoe *et al.* (2004) did not analyze sequences of *R. colombiana* in their molecular-based phylogeny of gymnophthalmid lizards; as such, the phylogenetic placement of *R. colombiana* remains unknown and therefore the species treated here is allocated within *Riama* because its characteristics agree with those of the genus as provided by Doan & Castoe (2005). The placement of this species within *Riama* may be assessed in a future phylogenetic analysis.

Uzzell (1958) considered the specimens AMNH 38821 and AMNH 38822 from Ecuador as closely resemble species to *Riama colombiana* and, as it was said by Kizirian (1996), he put emphasis on the differences between these specimens and *R. colombiana*. Peters (1967) and Peters & Donoso-Barros (1970) mistakenly reported *R. colombiana* in Ecuador, due to a misunderstanding on Uzzell's (1958) comments. Kizirian (1996) included them in the referred material of *R. anataloros* original description. Finally, Presch (1978) described the hemipenes of KU 133518 under the name *Proctoporus columbianus*; however, as was stated by Kizirian & Coloma (1991), this specimen corresponds to *Riama striata*.

RESUMEN

Con base en los sintipos y material adicional se redescrive Riama colombiana, un lagarto gymnophthalmido de los andes colombianos poco conocido. Un lectotipo es designado y su probable proveniencia discutida. Además, se presentan datos sobre la distribución y la historia natural de la especie.

PALABRAS-CLAVE: Andes; Colombia; Gymnophthalmidae; Squamata; Suramérica; Taxonomía.

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APPENDIX

Specimens Examined

Riama achlyens: VENEZUELA: Estado de Aragua: Rancho Grande (AMNH 137260, 137267-69, 137271-76, 137278-82, 137297).

Riama anatoloros: ECUADOR: Provincia de Napo: La Bonita (USNM 229706-45); Napo-Pastaza [= Provincia de Napo], Abitagua (AMNH 38821-22).

Riama cashcaensis: ECUADOR: Provincia de Bolívar: Guaranda, 2640 m (KU 135019-21 Paratypes); 4.0 km E Guanujo, 2870 m (QCAZ 877 Paratype).

Riama colomaromani: ECUADOR: Provincia de Pichincha: 19.8 km W Chillo Gallo, ca Quito-Chiriboga road (KU 221737 Paratype); Provincia de Carchi: 26.9-27.3 km from Maldonado on Road to Tulcan (KU 217209); 58 km E Tulcán, 2900 m (QCAZ 4250-4252).

Riama columbiana: COLOMBIA: Probably Departamento de Antioquia: municipio de Sonsón (NRM 1631 Lectotype, NRM 1633, 1634, 6168 Paralectotypes); Departamento de Caldas: municipio de Villa Maria, vereda Montano, 2450 m (MHNUC 0088), predio La Mesa, Bosques de la CHEC, 2640 m (ICN 11295-98), 2600 m (ICN 11299-01); municipio de Neira, vereda La Cristalina, finca La Cristalina, 2300 m (ICN 11302); Departamento de Quindío: entre haciendas El Brillante y San Julian, vereda San Julian, municipio de Calarcá, 2100 m (ICN 6479); Departamento de Risaralda: Santuario de Fauna y Flora Otun Quimbaya (IAvH-R 4941); Parque Municipal Campo Alegre, municipio de Santa Rosa de Cabal (IAvH-R 5194).

Riama laevis: COLOMBIA: Departamento del Valle del Cauca: Municipio de Cumbre, 2000 m [3°34'8"N, 76°35'19"W] (IAvH-R 4916); Departamento de Risaralda: Municipio de Santuario, Quebrada de San Rafael, 2820 m (IAvH 3967); río San Rafael, Municipio de Tatamá, 2250 m (IAvH 5197-98); quebrada Risaralda, vereda Planos de San Rafael, Parque Municipal San Rafael, municipio de Santuario (IAvH 5199, 5200).

Riama luctuosa: VENEZUELA: Estado de Aragua: Rancho Grande (AMNH 137270, 137277, MCZ 100410, USNM 196336); Parque Nacional Henry Pittier, Rancho Grande (USNM 259170).

Riama meleagris: ECUADOR: Provincia de Tungurahua: Baños (FMNH 28037-42, 28049 [six specimens]); In error: El Oro: Machala (USNM 196264-65).

Riama oculata: ECUADOR: Provincia de Pichincha: Nanegal (USNM 229640); 3 km E of Nanegal Chico (USNM 229642); Provincia de Cotopaxi: San Francisco de las Pampas (UMMZ 188630).

Riama orcesi: ECUADOR: Provincia de Napo: 12 km W (via road) Baeza (AMNH 124044 Paratype); 31 km N Jondachi, 2190 m (QCAZ 2829, 2835).

Riama petrorum: ECUADOR: Provincia de Morona Santiago: trail between Sevilla de Oro and Mendez on E slopes of the mountains between Cerro Negro and Pailas (tambos) (USNM 196266 Paratype); San Vicente, slightly S of W of Limon and 35 km E Gualeceo by road (USNM 196268).

Riama raneyi: ECUADOR: Provincia de Napo: 3.3 km ESE Cuyuja, 170 m (KU 142903 Paratype); Provincia de Sucumbíos: near Santa Barbara (MCZ 175160-62); immediate environs of Santa Barbara (USNM 229750); 2 km E of Santa Barbara (USNM 229749); 3 km SW Santa Barbara at bridge (covered) over river (USNM 229748). 32 km E Julio Andrade on road to Santa Barbara, 2610 m (QCAZ 2827); Provincia de Carchi: Santa Bárbara, Santa Bárbara-Guanderal, 2980 m (QCAZ 1379).

Riama shrevei: TRINIDAD & TOBAGO: Horne [Mountains] Tucuche (MCZ 62506-07, 160065-66); El Teluche (MCZ 100466-68).

Riama simotera: ECUADOR: Provincia de Carchi: Vía al Carmelo, 3300 m (ICN 9826); Via Tulcan-Tufiño, 3160 m (ICN 9836); 15.3 km W Tulcan on road to Tufiño, 3080 m (QCAZ 915, 918).

Riama sp.: COLOMBIA: Departamento de Valle del Cauca: 7 km NE Tenerife, 2850 m (KU 169946-169948).

Riama stigmatoral: ECUADOR: Provincia de Azuay: Sevilla de Oro (USNM 229644); Provincia de Morona Santiago: Pailas, a tambo on trail between Sevilla de Oro and Mendez, on E or NE facing slope (USNM 229647-48 Paratypes); between tambos called Cerro Negro and Pailas on trail Sevilla de Oro and Mendez (USNM 229643 Paratype); between Pailas and Mirador, on trail between Sevilla de Oro and Mendez (USNM 229645 Paratype); San Juan Bosco, a posada on trail between Limon (General Plaza) and Gualeceo, slightly S of W of Limon (USNM 229649); El Cruzado, a posada on trail between Limon (General Plaza) and Gualeceo, slightly S of W of Limon (ca. 0.5 hour up trail from San Juan Bosco) (USNM 229650); San Jose (AMNH 38820); No data (AMNH 32778).

Riama striata: COLOMBIA: Departamento de Santander: Municipio de Charalá, Parque Natural Virolin, Rio Cañaverales, 1830 m (ICN 9783). Departamento de Cundinamarca: Bogotá D.C., antiguas instalaciones INDERENA, 2600 m (IAvH-R 3130, IAvH-R 4163, IAvH-R 4262); Parque Nacional Natural Chingaza, Sector de Chuza (IAvH-R 3892). Departamento de Boyacá: Municipio de Villa de Leiva, Santuario de Fauna y Flora Iguaque (MHUA 10576-77).

Riama unicolor: ECUADOR: Provincia de Carchi: Montufar Atal-Vinculo, 2700 m (UMMZ 105895-97); Provincia de Imbabura: Lago de Cuicocha (MCZ 154515-16, 154628); Provincia de Pichincha: Quito (MCZ 22154, 164616, 164662, 164665-68, 164670); Pasochoa Volcano Forest, 40 km SE Quito, 2800-2880 m (MCZ 175052-53); Machachi (QCAZ 758); Not located: Chillo (MCZ 21070); Not located: (QCAZ 6122).

Riama vespertina: ECUADOR: Provincia de Loja: [Pampa] Chitoque, between San Bartolo and Pinas (AMNH 22130, Holotype).

Riama vieta: ECUADOR: Guayas, km 85 on Duran-Tambo road (USNM 142601).