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Taxonomy of the Threadsnakes of the tribe Epictini (Squamata: Serpentes: Leptotyphlopidae) in Colombia

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Abstract

Threadsnakes of the tribe Epictini are endemic to the New World, occurring from the United States to Argentina, mostly in the Neotropical region. Currently, the taxonomic status of most species is unclear and there has been no previous attempt of a comprehensive taxonomic revision of Neotropical taxa. Taxonomy of the group is a difficult task due to the paucity of geographic samples, general homogeneous morphology and brevity of species descriptions. Therefore, the only way to address the taxonomic status of existing names is through detailed characterization of the types and the search for additional material of the poorly known species. In this study, we evaluated the taxonomic status of the Colombian threadsnakes and report on geographical variation of meristic, morphometric, colour pattern, and hemipenis characters. On the basis of available samples we recognize the following species in Colombia: *Epictia goudotii*, *E. magnamaculata*, *E. signata*, *Rena nicefori*, *Tricheilostoma brevissimum*, *T. dugandi*, *T. joshuai* and *T. macrolepis*. We discuss the systematic position of *Rena nicefori* and propose its allocation in the genus *Tricheilostoma* based on a unique combination of morphological characters. Furthermore, we provide a key to the representatives of the tribe Epictini in Colombia.

Key words: *Tricheilostoma brevissimum*, *Tricheilostoma dugandi*, *Tricheilostoma joshuai*, *Tricheilostoma macrolepis*, *Epictia goudotii*, *Epictia magnamaculata*, *Epictia signata*, *Rena nicefori*

Introduction

The fossorial snake genus *Leptotyphlops*, as traditionally understood, comprised 114 species distributed over America, Africa and southwestern Asia (McDiarmid *et al.* 1999; Passos *et al.* 2006; Boundy & Wallach 2008; Pinto & Curcio *in press*). Recently, Adalsteinsson *et al.* (2009) performed a comprehensive molecular phylogeny of the family Leptotyphlopidae, recognizing two main lineages: the subfamily Epictinae distributed mostly in the Neotropical region (tribe Epictini) and Equatorial Africa (tribe Rhinoleptini), and Leptotyphlopinae occurring throughout Africa (north and south of the Sahara Desert), the Arabian Peninsula, and southwestern Asia (Adalsteinsson *et al.* 2009).

Members of the tribe Epictini comprise six genera and 56 currently recognized species (sensu Adalsteinsson *et al*. 2009), distributed in the New World from southern United States to Argentina (Adalsteinsson *et al*. 2009). Among these taxa, three genera and seven species are usually recognized for Colombia (see McDiarmid *et al.* 1999), despite disagreements in the literature with respect to previous records of *Epictia albifrons* (Pérez-Santos & Moreno 1988; McDiarmid *et. al* 1999). Based exclusively on voucher specimens, the following taxa are known from Colombia: *Epictia goudotii* (Duméril & Bibron, 1844), *Tricheilostoma macrolepis* (Peters, 1858), *E. magnamaculata* (Taylor, 1939), *T. brevissimum* (Dunn, 1944), *T. dugandi* (Dunn, 1944), *T. joshuai* (Dunn, 1944), and *Rena nicefori* (Dunn, 1946).

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The threadsnake taxonomy is a difficult task due to the paucity of geographic samples, general homogeneous morphology and inadequacy of many species description. Most of the previous divergence on the identifications of leptotyphlopids was a result of the brevity of the original species descriptions (usually the only available source of data), and sparse knowledge of geographical and sexual variation for each taxon. Besides, museum series of threadsnakes are generally scarce, apparently reflecting the difficulty to obtain specimens due to their secretive habits (Curcio *et al*. 2002). Despite the increasing fieldwork efforts in recent years in South America, disclosing that some species are common in some areas (Passos *et al*. 2005; references therein), the taxonomic status of Colombian leptotyphlopids remains poorly evaluated. For that reason, most of the available samples of the genus are usually unidentified or misidentified in the collections.

A detailed characterization of the available types and the search for misidentified material in collections is the most suitable approach to address the taxonomic status of existing names. Herein we provide detailed redescriptions and accurate illustrations of the types of *Epictia goudotii*, *Rena nicefori*, *Tricheilostoma brevissimum*, *T. dugandi*, and *T. joshuai*. In addition, we report new data on geographical variation of meristic and morphometric characters, as well as colour pattern for all taxa occurring in Colombia. Finally, we discuss the systematic position of *Rena nicefori* (sensu Adalsteinsson *et al.* 2009) and propose its allocation to the genus *Tricheilostoma* based on a unique combination of morphological characters.

Historical Résumé. A comprehensive synonymy list of the genus is provided by Hahn (1980) and augmented by McDiarmid *et al*. (1999). Consequently, this source summarizes only the most relevant taxonomic chances regarding the Colombian threadsnakes.

Duméril and Bibron (1844) described *Stenostoma goudotii* based on a specimen from Magdalena River Valley without specific locality. Peters (1858) described *Stenostoma macrolepis* based on three specimens from Caracas and Puerto Cabello on the coast of Venezuela. Boulenger (1884) described *Stenostoma affinis* based on a single specimen from Tachira, without specific locality data, in the Andes of Venezuela. Boulenger (1893) recognized two species of *Glauconia* (= *Leptotyphlops*) in Colombia, *G. albifrons* and *G. goudotii*. Amaral (1929) placed the genera *Glauconia* and *Stenostoma* in the synonymy of *Leptotyphlops*, and reported *L. macrolepis* for the first time in Colombia. Taylor (1940) described *Leptotyphlops magnamaculatus* from Isla Utila in the archipelago of Honduras. Dunn (1944), in the revision of Colombian Typhlopidae and Leptotyphlopidae, recognized four species in Colombia, two of them representing new forms (*L. dugandi* and *L. joshuai*). Dunn (1944) provided data on seven new specimens of *L. goudotii* from Magdalena River Valley and Cordilleras Central and Oriental and reported twelve individuals of *L. macrolepis* from Cordilleras Central and Oriental. Dunn (1944) described *L. dugandi* based on two specimens from the Caribbean coast and *L. joshuai* from eight specimens from Cauca River Valley between Cordilleras Occidental and Central of Colombia. Dunn (1946) described *L. nicefori* based on a single specimen from municipality of Mogotes, Cordillera Oriental, and provided some morphometric and meristic variation from four additional Colombian leptotyphlopids. Dunn and Saxe (1950) reported fourteen individuals of *Leptotyphlops magnamaculatus* collected at San Andrés archipelago in the Caribbean coast of Colombia. Dunn and Saxe (1950) ranked Taylor's species as subspecies of *L. albifrons*, and considered *L. goudotii* also as the subespecific level (=*L. a. magnamaculatus* and *L. a. goudotii*, respectively). Roze (1952), in a revision of Venezuelan typhlopids and leptotyphlopids, described *L. albifrons margaritae* from São Francisco de Macanao, Isla Margarita, Venezuela, and argued that this new form was slender than *L. a. goudotti*. Shreve (1964) described *L. brevissimus* based on two specimens, one from Caquetá in the Amazon lowlands, and the other from Sonsón, in the Magdalena Valley versant of Cordillera Central. Orejas-Miranda (1967) described and designed the lectotype of *L. macrolepis*, restricting the type locality to Puerto Cabello, Venezuela and reported an additional specimen of *L. macrolepis* from Colombia. Peters and Orejas-Miranda (1970) did not recognize *L. albifrons* as proper from the Colombian fauna, considering *L. magnamaculatus* as a subspecies of *L. goudotii* and *L. albifrons margaritae* as a synonym of the later species. Nonetheless, Pérez-Santos and Moreno (1988) recorded *L. albifrons* from Caribbean coast to western Andes in Central and Occidental Cordilleras of Colombia, as well as in the islands of San Andrés and Providencia. McDiarmid *et al.* (1999) cited the following *Leptotyphlops* as native of Colombian fauna: *L. brevissimum*, *L. dugandi*, *L. goudotii goudotii*, *L. g. magnamaculatus*, *L. joshuai*, *L. nicefori*, and *L. macrolepis*. Recently, Adalsteinsson *et al.* (2009) provided a molecular phylogeny of the family Leptotyphlopidae and recognized the Colombian blind species as belonging to three genera (*Epictia*, *Rena*, and *Tricheilostoma*). Finally, Franco and Pinto (2010) considered *E. albifrons* as a *nomem dubium* and resurrected *E. tenella* for populations occurring east Amazon Rainforest, not considering Colombia in the distribution of this taxon.

Material and methods

Specimens examined are housed in the following collections: Instituto Butantan (IBSP), São Paulo, Brazil; Museo de la Universidad de La Salle (MLS), Bogotá, Colombia; Instituto de Ciencias Naturales (ICN), Bogotá, Colombia; Museo de Historia Natural Colegio San José (MHNCSJ), Medellín, Colombia; Museo Herpetológico Universidad de Antioquia (MHUA), Medellín, Colombia; Museum of Comparative Zoology (MCZ), Massachusetts, USA; Museum of Vertebrate Zoology (MVZ), Berkeley, USA; Museum of Zoology of the University of Michigan (UMMZ), Ann Arbor, USA; Smithsonian Institution (USNM), Washington D.C., USA; Museum für Naturkunde, Leibniz Institute for Research on Evolution and Biodiversity at the Humboldt University Berlin (ZMB), Berlin, Germany. Specimens examined are listed in Appendix I and literature data and/or records in Appendix II.

Descriptions and comparisons are mostly based on shape, meristic and morphometric characters of external morphology. Terminology for cephalic shields, scale features and measurements follows Passos *et al.* (2006) and Broadley and Wallach (2007). Measurements were taken with a dial caliper to the nearest 0.1 mm, except for total length (TL) and tail length (TAL), which it were taken with a flexible ruler to the nearest 1.0 mm. Variation will be expressed by the range, providing the mean values followed by the standard deviation in parentheses. Sex was determined by hemipenis observation through a ventral incision on the base of the tail.

The following variables were taken for each specimen: middorsal scale counts (rostral and terminal spine excluded); midventral scales (mental scale, cloacal shield and subcaudals excluded); subcaudal scales (terminal spine excluded); dorsal scale rows around the middle of the tail; total length (TL); tail length (TAL); midbody diameter (MB); midtail diameter (MT); head length (HL); head width (HW); relative eye diameter (ocular width in the eye level/eye diameter); presence or absence of scale fusions on the tail until terminal spine (= fused caudals *sensu* Pinto & Curcio *in press*); relative rostral width (maximum rostral width in dorsal view/width of the head in the interocular level *sensu* Broadley & Wallach 2007).

Analysis of variance (ANOVA) was employed to verify the possibility of sexual dimorphism. Assumptions of univariate normality and homoscedasticity were evaluated using the tests of Kolmogorov-Smirnov and the Levene, respectively (Zar 1999). When variables violated such assumptions we performed non-parametric tests like Mann-Whitney (Zar 1999). All statistical inference was performed in STATISTICA 6.0 for Windows (Statsoft 2001).

Species accounts

Tricheilostoma brevissimum (Shreve 1964)

Figs. 1, 2

Leptotyphlops brevissima Shreve 1964, Breviora, 211:1.
Leptotyphlops brevissimus—Orejas-Miranda 1967, Atas do Simpósio sobre a Biota Amazônica, 5:421–442.
Leptotyphlops brevissimus—Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:168.
Leptotyphlops brevissimus—Hahn 1980, Das Tierreich, 101:9.
Leptotyphlops brevissimus—McDiarmid, Campbell & Touré 1999, Snakes Species of the World, 1:24.
Leptotyphlops brevissimus—Passos, Caramaschi & Pinto 2006, Amphibia-Reptilia, 27:349.
Tricheilostoma brevissimum—Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al*. 2009, Zootaxa, 2244:11.

Holotype. MLS 1311, collected by Brother Nicéforo Maria on February 10, 1951, from municipality of Florencia (01° 37'N, 075° 37'W; ca. 560 m), department of Caquetá, Colombia.

Paratype. MCZ 38950, collected by Brother Nicéforo Maria in 1925, from municipality of Sonsón (05º43'N, 75º19'W; ca. 2240 m), department of Antioquia, Colombia. The paratype was taken from the stomach of *Micrurus mipartitus* (MCZ 21988), so the head is partially destroyed.

Diagnosis. *Tricheilostoma brevissimum* is distinguished from all congeners by the following combination of characters: snout truncate in dorsal view; rounded in lateral view; supraocular present; rostral scale subtriangular in dorsal view; ocular subhexagonal with rounded shape at the eye level; supraocular longer than frontal scale; temporal distinct; fused caudals present; nostril posterior to nasal suture; three supralabials (2+1); four infralabials; 152–162 middorsal scales; 141–152 midventral scales; 12–14 subcaudals; 10 scales around the middle of tail; seven dorsal scale rows uniformly brown, and seven ventral series pale brown.

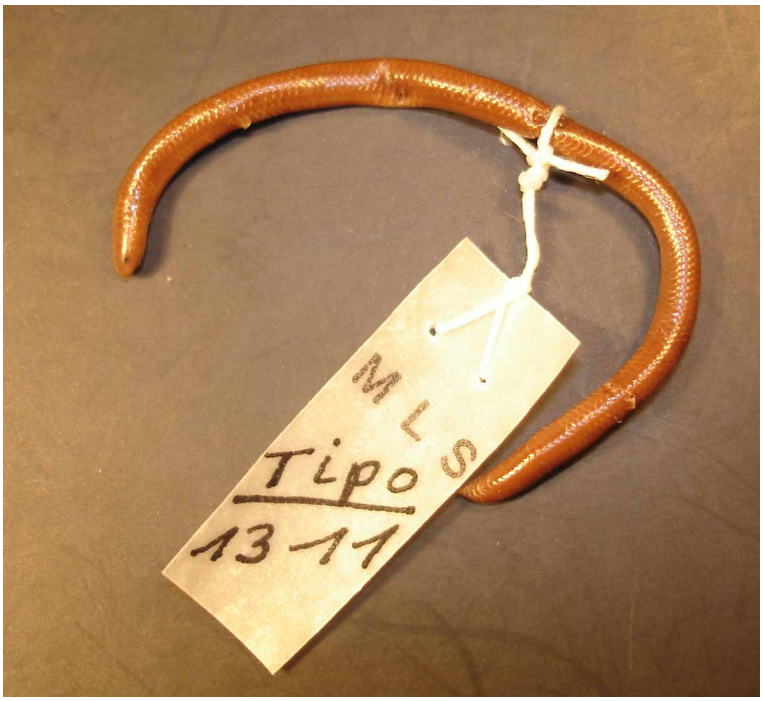

FIGURE 1. General view of the holotype of *Tricheilostoma brevissimum* (MLS 1311).

Redescription of the holotype. Juvenile male, 66 mm TL, 5 mm TAL; 1.6 mm MB; 13.2 TL/TAL; 41.3 TL/MB; 3.1 mm HL, 1.8 mm HW; head slightly depressed; body subcylindrical, slightly enlarged on the head and slightly tapered caudally near of tail.

Head subcylindrical, almost twice as long as wide, cervical constriction indistinct; snout truncate in dorsal and ventral views, rounded in lateral view; rostral straight in frontal and ventral views, dorsal apex triangular, reaching a transverse imaginary line between anterior margins of ocular scales; rostral contacting supranasal and infranasal laterally and frontal dorsally; nasal completely divided horizontally by an oblique suture crossing nostril and descending posteriorly near to first supralabial; nostril roughly elliptic, obliquely oriented and placed posteriorly in the nasal suture; supranasal about twice as high as long, bordering rostral anteriorly, infranasal inferiorly, first and second supralabials and ocular scale posteriorly, and frontal and supraocular scales dorsally; supranasal longer than upper border of infranasal scale; infranasal about twice as high as long; infranasal and second supralabial with similar size; upper lip border formed by rostral, infranasal, two anterior supralabials, ocular, and posterior supralabial; temporal scale distinct from dorsal scales of lateral rows; three supralabials, first two anterior to ocular and one posterior (2+1); first supralabial higher than long, not reaching nostril and eye level; second supralabial twice as high as long, higher than first supralabial, crossing level of nostril and reaching eye level; third supralabial trapezoidal, longer than high, not reaching eye level, its posterior margin in broad contact with temporal; ocular enlarged, with rounded shape in the eye level, twice high as long, contacting posterior margins of supranasal and second supralabial anteriorly, parietal and third supralabial posteriorly, and supraocular dorsally, with its dorsal apex straight; eye distinct, concentrated in the central area of the expanded upper part of ocular; supraocular about twice as long as wide, subtly longer and smaller than frontal, placed between ocular and frontal, contacting supranasal anteriorly, frontal, postfrontal and ocular laterally, and parietal posteriorly; midsaggital head scales (frontal, postfrontal, interparietal and interoccipital) subequal in size, hexagonal in dorsal view, non imbricate; frontal wider than long, contacting rostral, supranasal, supraocular and postfrontal; postfrontal wider than long, contacting frontal, supraocular, parietals and interparietal; interparietal wider than long, contacting postfrontal, parietals, occipitals and interoccipital; interoccipital wider than long, contacting interparietal, occipitals and the first dorsal scale of the vertebral row; parietal and occipital subequal, irregularly hexagonal; parietal almost twice as wide as long, lower margin contacting upper border of third supralabial, posterior margin contacting respective temporal, occipital and interparietal, anterior border in broad contact with ocular, supraocular and postfrontal; occipital almost twice as wide as long, its lower limit attaining the level of the upper margin of third supralabial,

FIGURE 2. Dorsal (A), lateral (B), and ventral (C) views of head of the paratype of *Tricheilostoma brevissimum* (MCZ 38950).

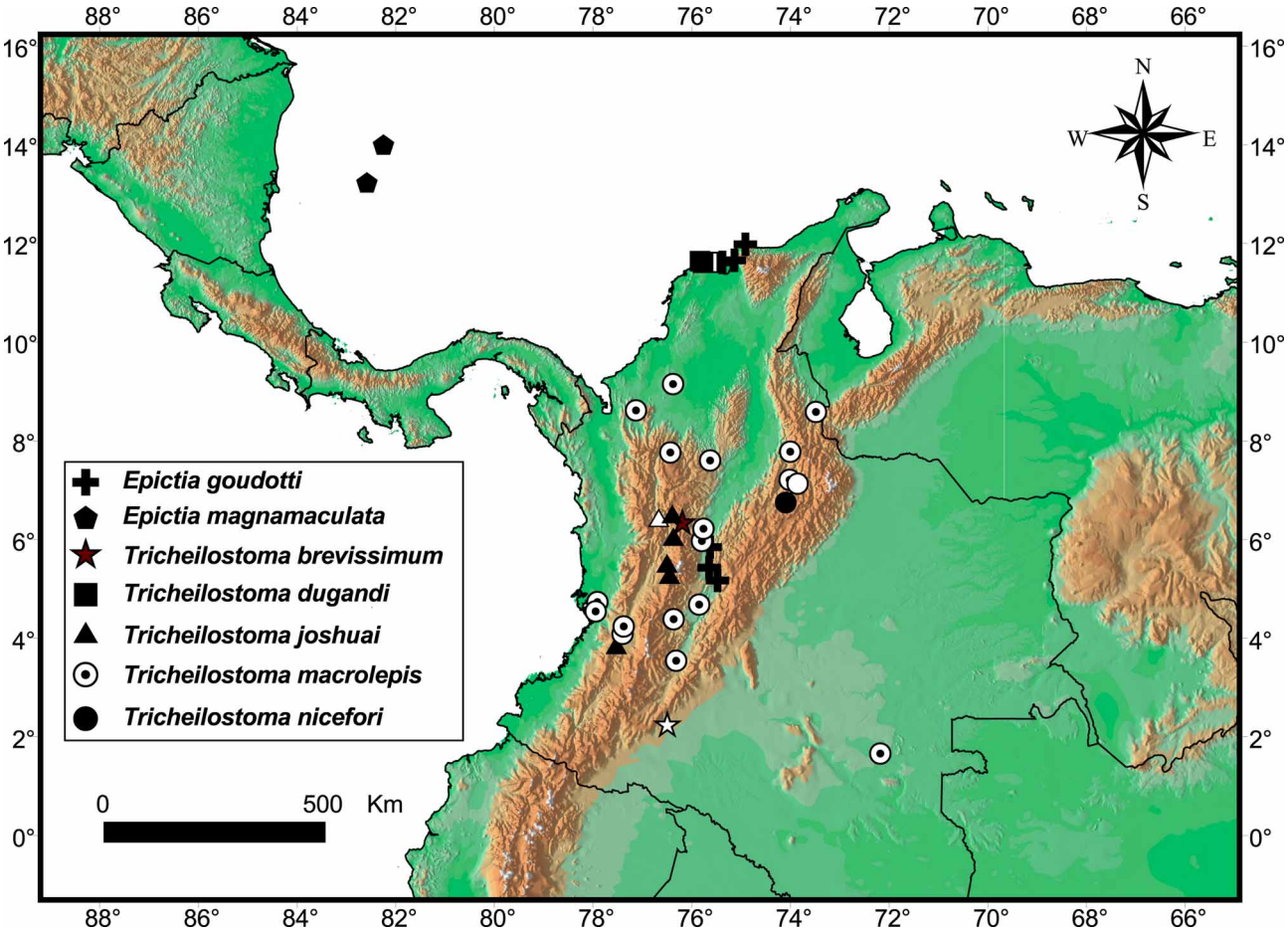

FIGURE 3. Geographic distribution of species of the tribe Epictini in Colombia. Type localities correspond to white symbols.

separated from latter by temporal; symphysial trapezoidal, anterior and posterior borders respectively straight and slightly convex, four times wider than long; four infralabials on both sides (six according to Shreve 1964); first three infralabials similar in size, slightly higher than long; fourth infralabial distinctively longer than first three scales, almost three times longer than high, as long as third supralabial. Dorsal scales homogeneous, cycloid, smooth, weekly imbricate, and almost twice as wide as long; 152 middorsal scales; 141 midventral scales; 14 scale rows around midbody, reducing to 10 rows in the middle of the tail; cloacal shield semicircular, almost twice as wide as long; 12 subcaudals (13 according to Shreve 1964); fused caudals present; terminal spine large, conical, longer than wide.

Colour of the holotype in preservative. Its colour has considerably faded after preservation. Seven dorsal scale rows uniformly pale brown and seven ventral scale rows beige; lower margins of scales forming the upper lip border beige; cloacal shield pale brown, slightly paler than dorsal coloration; terminal spine not pigmented.

Variation. Middorsal scales 152–162 ($\bar{x}$ = 158.7 ± 5.8, *n* = 3); midventral scales 141–152 ($\bar{x}$ = 148.0 ± 6.1, *n* = 3); subcaudal scales 12–14 ($\bar{x}$ = 13.0 ± 1.0, *n* = 3); TL 66–139 mm ($\bar{x}$ = 102.0 ± 36.5, *n* = 3); TL/TAL ratio 12.6–13.2 ($\bar{x}$ = 12.9 ± 0.3, *n* = 3); TAL 7.6–7.9% of TL ($\bar{x}$ = 7.8 ± 0.0, *n* = 3); TL/MB ratio 30.3–41.3 ($\bar{x}$ = 34.8 ± 5.7, *n* = 3); TAL/MT ratio 2.8–3.3 (*n* = 2); relative eye diameter 1.7–2.5 (*n* = 2); rostral width 0.4 (*n* = 2).

Distribution. Florencia (01º37'N, 75º37'W) in the east versant of Cordillera Oriental and Sonsón (05°43'33"N 74°43'46"W) in the east versant of Cordillera Central of Colombia (Fig. 3).

Remarks. Shreve (1964) distinguished *Leptotyphlops brevissimus* from *L. anthracinus* and *L. macrolepis* by the lower middorsal and subcaudal scale counts and venter light brown (vs. black in *L. anthracinus* or brown with distinct ventral scales white bordered in *L. macrolepis*). Shreve (1964) also compared *L. brevissimus* with *L. dugandi*, which according to him have similar middorsal scale counts, but differing the first by lower number of subcaudals, dorsum uniformly dark brown and venter light brown (vs. dorsum stripped, uniformly white ventrally,

and with anterior portion of head white in *L. dugandi*). Shreve (1964) pointed out that *L. anthracinus* was close related to *L. brevissimus*, and suggested both species may be only subspecifically distinct. Orejas-Miranda (1967) argued that criteria used by Shreve (1964) to recognize *L. brevissimus* was puzzled, since there is a specimen of *L. anthracinus* (FMNH 34353) with 172 middorsal scales close to the known range of *L. brevissimus*. However, we re-examined this specimen and found that middorsal scales in fact are 187 instead of 172 as previously reported by Orejas-Miranda (1967), and besides the additional differences between these taxa (see above), the number of middorsal scales still differs between the two taxa. The paratype presented 162 middorsal scales instead of 164 according to Shreve 1964.

Tricheilostoma joshuai (Dunn 1944)

Figs. 4, 5

Leptotyphlops joshuai Dunn 1944, Caldasia 3:53.
Leptotyphlops joshuai—Bailey 1946, Occasional Papers of the Museum of Zoology the University of Michigan, 492:4.
Leptotyphlops joshuai—Dunn 1946, Caldasia, 4:122.
Leptotyphlops joshuai—Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:170.
Leptotyphlops joshuai—Hahn 1980, Das Tierreich, 101:19.
Leptotyphlops joshuai—McDiarmid, Campbell & Touré 1999, Snakes Species of the World, 1:33–34.
Leptotyphlops joshuai—Passos, Caramaschi & Pinto 2006, Amphibia-Reptilia, 27:349.
Tricheilostoma joshuai—Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al*. 2009, Zootaxa, 2244:11.

Holotype. MLS 13, from municipality of Jericó (05° 47' N, 075° 47' W; ca. 1967 m), department of Antioquia, Colombia (see remarks).

Paratypes: MLS 11, MLS 2646–2647 from municipality of Jericó, department of Antioquia. MLS 12 from "Río Cauca", department of Antioquia. MLS 14 lacking specific locality, department of Antioquia. MLS 15 from Villamaría (05° 62' N, 075° 31' W; ca. 1840 m), department of Caldas, Colombia.

Diagnosis. *Tricheilostoma joshuai* is distinguished from all congeners by the following combination of characters: snout rounded in dorsal view, truncate in lateral view; supraocular present; rostral triangular in dorsal view; ocular subhexagonal, with rounded shape in the eye level; temporal distinct; fused caudals; eye in anterior portion of expanded area of ocular scale; three supralabials (2+1); four infralabials; 174–193 middorsal scales in males and 184–199 in females; 169–181 midventral scales in males and 172–187 in females; 13–17 subcaudals in males and 13–15 in females; 12 scales around the middle of tail; seven dark brown dorsal scale rows with pale brown edge, venter and labial scales cream.

Redescription of the holotype. Adult female, 259 mm TL, 16 mm TAL; 8.3 mm MB; 16.2 TL/TAL; 31.2 TL/MB; 4.9 mm HL; 3.0 mm relative eye diameter; 0.3 mm relative rostral width; head slightly depressed; body subcylindrical, slightly enlarged on head and slightly tapered caudally near the tail.

Head subcylindrical, almost twice as long as wide; cervical constriction barely distinct; snout slightly truncate in dorsal and ventral views, slightly obtuse in lateral view; rostral straight in frontal and ventral views, dorsal apex triangular, reaching an imaginary transverse line between anterior margins of ocular scales; rostral contacting supranasal and infranasal laterally and frontal dorsally; nasal completely divided horizontally by oblique suture crossing nostril; nostril roughly elliptic, obliquely oriented and placed in the middle of the nasal suture; supranasal about twice as high as long, bordering rostral anteriorly, infranasal inferiorly, first supralabial and ocular posteriorly, and frontal and supraocular dorsally; supranasal as long as upper border of infranasal scale; infranasal about twice as high as long; upper lip border formed by rostral, infranasal, two anterior supralabials, ocular and posterior supralabial scales; temporal scale distinct from dorsal scales of lateral rows; three supralabials (five according to Dunn 1944), two anterior and one posterior to ocular (2+1); first supralabial small, not reaching level of nostril and eye; second supralabial about twice as high as long, exceeding nostril and the lower portion of eye level; third supralabial with trapezoidal shape, lower than second one, slightly longer than high, reaching eye level, its posterior margin in broad contact with temporal; ocular enlarged, subhexagonal, rounded in the eye level, twice as high as long, contacting the posterior margins of supranasal and second supralabial anteriorly, parietal and third supralabial posteriorly, and supraocular dorsally, its dorsal apex straight; eye distinct (0.6 mm), placed in the anterior area of the expanded upper part of ocular, displaced above the nostril level; supraocular three times longer than wide, subtly longer and slender than frontal scale, contacting supranasal anteriorly, frontal, postfrontal and

ocular scales laterally, and parietal posteriorly; midsaggital head scales (postfrontal, interparietal and interoccipital) subequal in size, hexagonal in dorsal view, weakly imbricate; frontal not enlarged, smaller than other midsaggital scales, as wide as long, contacting rostral and supranasals anteriorly, supraoculars laterally, and postfrontal posteriorly; postfrontal as wide as long, contacting frontal, supraoculars, parietals and interparietal; interparietal wider than long, contacting postfrontal, parietals, occipitals, and interoccipital; interoccipital contacting interparietal, occipitals, and the first dorsal scale of the vertebral row; parietal and occipital similar in shape, irregularly pentagonal; parietal twice as wide as long, lower margin contacting the upper border of third supralabial, posterior margin contacting temporal, occipital and interparietal, anterior border in broad contact with ocular, supraocular and postfrontal; occipital twice as wide as long, its lower limit not attaining the level of the upper margin of third supralabial, though separated of the latter by temporal; symphysial trapezoidal, anterior and posterior borders respectively straight and slightly convex, three times as wide as long; four infralabials behind symphysial on both sides; first three infralabials subequal, slightly higher than long; fourth longer than other infralabials, approximately as long as second one; dorsal scales homogeneous, cycloid, smooth, slightly imbricate, and almost two times as wide as long; 195 (191 according to Dunn 1944) middorsal scales; 181 midventral scales; 14 scale rows around midbody, reducing to 12 rows in the middle of the tail; cloacal shield short and semicircular, wider than long; 15 subcaudals; caudals fused; terminal spine short, conical, with stout base, longer than wide.

FIGURE 4. General view of the paratype of *Tricheilostoma joshuai* (MLS 11).

Colour of the holotype in preservative: Seven dorsal scale rows uniformly dark brown and seven ventral scale rows cream; head dorsally paler than dorsal scales of body, with some brown pigmentation concentrated on centre portion of cephalic scales; paler colour extending from rostral to interoccipital; lower margins of scales forming the creamish upper lip border; cloacal shield pale brown, slightly darker than general ventral coloration; terminal spine not pigmented.

Sexual dimorphism: Females were significantly longer ($F_{(1,13)} = 11.8$; $p < 0.01$) and showed a higher TL/TAL ratio ($F_{(1, 13)} = 7.1$; $p < 0.05$) than males. However, males have significantly more subcaudal scales ($F_{(1,13)} = 11.2$; $p < 0.01$) and largest tail $F_{(1, 13)} = 8.1$; $p < 0.01$) than females.

Variation: Middorsal scales 174–193 ($\bar{x} = 187.4 \pm 5.2$, $n = 10$) in males and 184–199 ($\bar{x} = 193.8 \pm 6.7$, $n = 4$) in females; midventral scales 169–181 ($\bar{x} = 173.9 \pm 4.2$, $n = 8$) in males and 172–187 ($\bar{x} = 180.0 \pm 7.6$, $n = 3$) in females; subcaudal scales 13–17 in males ($\bar{x} = 16.0 \pm 1.2$, $n = 10$) and 13–15 ($\bar{x} = 13.8 \pm 1.1$, $n = 5$) in females; TL 90–218 mm ($\bar{x} = 149.3 \pm 49.5$, $n = 10$) in males and 163–300 mm ($\bar{x} = 246.2 \pm 55.6$, $n = 5$) in females; TL/TAL ratio 10.8–17.0 ($\bar{x} = 13.1 \pm 1.9$, $n = 10$) in males and 13.6–24.6 ($\bar{x} = 17.3 \pm 4.3$, $n = 5$) in females; TAL 5.9–9.3% of TL in males ($\bar{x} = 7.8 \pm 0.0$, $n = 10$) and 4.1–7.4% in females ($\bar{x} = 6.0 \pm 0.0$, $n = 5$); TL/MB ratio 37.8–50.0 ($\bar{x} = 42.3 \pm 4.2$, $n = 10$) in males and 34.0–55.2 ($\bar{x} = 43.9 \pm 9.4$, $n = 5$) in females; TAL/MT ratio 2.8–3.6 ($n = 2$) in males and 2.9–3.5 ($\bar{x} = 3.2 \pm 0.3$, $n = 3$) in females; relative eye diameter 0.3–0.4 ($n = 2$) in males and 0.4–0.5 ($\bar{x} = 0.5 \pm 0.0$, $n = 3$) in females; rostral width 2.4–3.7 ($n = 2$) in males and 2.1–2.3 ($\bar{x} = 2.2 \pm 0.1$, $n = 3$) in females.

FIGURE 5. Dorsal (A), lateral (B), and ventral (C) views of head of the *Tricheilostoma joshuai* (MVZ 68688).

Distribution. Cauca valley between the Cordilleras Occidental and Central of Colombia, from Jericó (05º47'39"N, 75º47'23"W), department of Antioquia south to San Antonio (03º13'N, 76º39'W), department of Valle del Cauca; between altitudes of 1600 up to 2200 m (Fig. 3).

Remarks. Dunn (1944) described *Leptotyphlops joshuai* on the basis of seven specimens from the Cauca Valley. However, the author did not provide the institutional number for all specimens in the type series. Although La Salle types actually are kept together in a separate cabinet from remaining collection, the specimen currently labelled as holotype did not match with morphometric and meristic data given in the original description. As most of the bottles and labels in the La Salle collection were replaced after the fire accident in 1948 (frequently without the maintenance of the original species label), many types were mixed with specimens from the main collection or lost (P. Passos pers. obs.). Besides, the specimen separated in the type's cabinet (MLS 11) was not labelled as such, while other leptotyphlopid types were properly labelled (e.g., *L. brevissimus* and *L. nicefori*). In this context, we here propose the recognition of MLS 13 as the holotype based on the similarity of morphometric and meristic data with the original description.

Tricheilostoma nicefori (Dunn 1946)—new combination

Figs. 6, 7

Leptotyphlops nicefori Dunn 1946, Caldasia, 4:121.
Leptotyphlops nicefori—Orejas-Miranda 1967, Atas do Simpósio sobre a Biota Amazonica, 5:421–442.
Leptotyphlops nicefori—Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:171.
Leptotyphlops nicefori—Hahn 1980, Das Tierreich, 101:22.
Leptotyphlops nicefori—McDiarmid, Campbell & Touré 1999, Snakes Species of the World, 1:39.
Rena nicefori —Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al*. 2009, Zootaxa, 2244:11.

Holotype. MLS 17, from municipality of Mogotes (06º 29'N, 072º 58'W; ca. 1824 m), department of Santander, Colombia.

Diagnosis. *Tricheilostoma nicefori* is distinguished from all congeners by the combination of the following characters: snout rounded in dorsal and lateral views; supraocular present; ocular subhexagonal, dorsal apex straight and anterior border rounded in the eye level; first supralabial not reaching nostril level; two supralabials (1+1); three infralabials; fused caudals; temporal scale indistinct; rostral triangular in dorsal view; 167–168 middorsal scales; 153 midventral scales; 13–16 subcaudal scales; 10 scales around the middle of tail; dorsum with seven dorsal scale rows uniformly brown, contrasting to the beige covering the seven scale rows of the belly.

Redescription of the holotype. Juvenile male, 90 mm TL, 7 mm TAL; 2.1 mm MB; 12.9 TL/TAL; 42.9 TL/MB; 3.9 mm HL, 2.4 mm HW; head slightly depressed; body subcylindrical, not enlarged on the head and slightly tapered caudally near the tail.

Head subcylindrical, almost twice as long as wide, slightly depressed, cervical constriction indistinct; snout rounded in dorsal and lateral views; rostral straight in frontal and ventral views, dorsal apex triangular, crossing the transverse imaginary line between anterior margins of ocular scales; rostral contacting supranasal and infranasal laterally and frontal dorsally; nasal completely divided horizontally by oblique suture crossing nostril; nostril roughly elliptic, obliquely oriented and placed in the middle of the nasal suture; supranasal about twice as high as long, bordering rostral anteriorly, infranasal inferiorly, first supralabial and ocular posteriorly, and frontal and supraocular dorsally; infranasal twice as high as long; upper lip border formed by rostral, infranasal, anterior supralabial, ocular, and posterior supralabial scales; temporal scale indistinct from the dorsal scales of lateral rows; two supralabials, entirely separated by ocular (1+1); first supralabial slightly higher than long, not reaching the level of nostril and eye; second supralabial slightly longer than high, its posterior margin in broad contact with temporal, not reaching eye level; ocular enlarged, subhexagonal, rounded in the eye level, twice as high as long, contacting the posterior margins of supranasal and first supralabial anteriorly, parietal and second supralabial posteriorly, and supraocular dorsally, its dorsal apex straight; eye distinct, situated in the middle area of the expanded upper part of ocular, displaced above the level of nostril; supraocular twice as long as wide, subtly longer than frontal scale, contacting supranasal anteriorly, frontal, postfrontal and ocular laterally, and parietal posteriorly; midsaggital head scales (frontal, postfrontal, interparietal and interoccipital) similar in size, hexagonal in dorsal view, weakly imbricate; frontal barely wider than long, contacting rostral, supranasals, supraoculars and

postfrontal; postfrontal slightly wider than long, contacting frontal, supraoculars, parietals and interparietal; interparietal wider than long, contacting postfrontal, parietals, occipitals, and interoccipital; interoccipital slightly wider than long, contacting interparietal, occipitals, and the first dorsal scale of the vertebral row; parietal and occipital similar in shape, irregularly pentagonal; parietal almost twice as wide as long, lower margin contacting the upper border of second supralabial, posterior margin contacting respective temporal, occipital and interparietal, postfrontal laterally, anterior border in broad contact with ocular and supraocular; occipital twice as wide as long, its lower limit not attaining the level of the upper margin of second supralabial; symphysial trapezoidal, four times wider than long, anterior and posterior borders straight and slightly convex, respectively; three infralabials behind symphysial on both sides; third infralabial twice as long as high, longer than others, as wide as second supralabial; dorsal scales homogeneous, cycloid, smooth, weekly imbricate, slightly wider than long; 167 (170 according to Dunn 1946) middorsal scales; 153 midventral scales; 14 scale rows around midbody, reducing to 10 scale rows in the middle of tail; cloacal shield rounded, twice as wide as long; 16 subcaudals (14 according to Dunn,1946); fused caudals; terminal spine conical, with stout base, longer than wide.

Colour of the holotype in preservative. Seven dorsal scale rows uniformly brown and seven remaining scale rows beige; lower margins of scales forming the upper lip border and infralabials cream; cloacal shield beige, darker than venter coloration; terminal spine follows the dorsal pattern.

Hemipenis: Left organ partially everted with chalice shape and strait base; protected area has no evident ornamentation.

FIGURE 6. General view of *Tricheilostoma nicefori* (MLS 17).

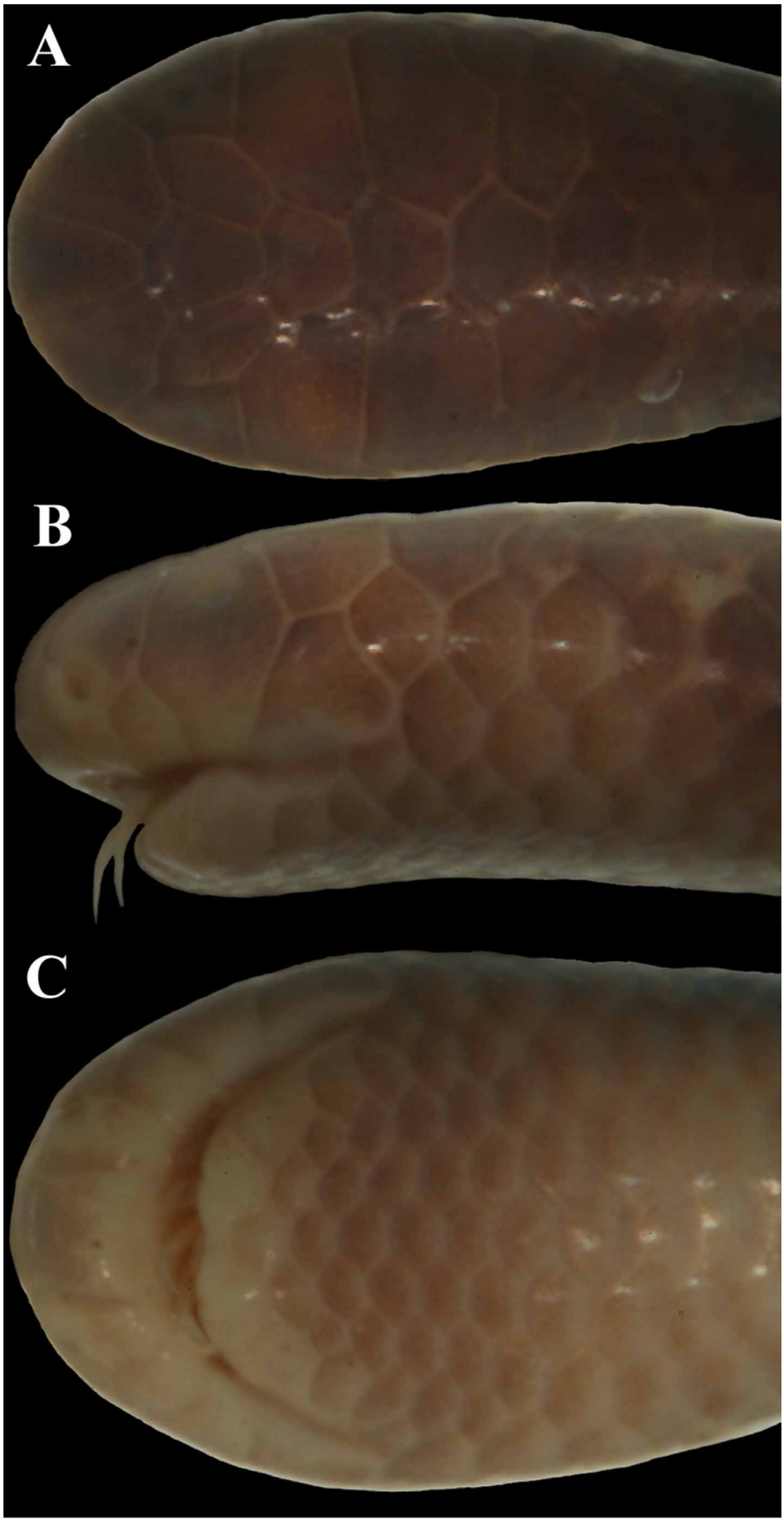

FIGURE 7. Dorsal (A), lateral (B), and ventral (C) views of head of the *Tricheilostoma nicefori* (ICN 5727).

Variation. Middorsal scales 167–168 (*n* = 2); subcaudal scales 13–16 (*n* = 2); TL 90–147 mm (*n* = 3); TL/TAL ratio 12.9–14.7 (*n* = 2); TAL 6.8–7.8% of TL (*n* = 2).

Distribution. East versant of Cordillera Oriental from Mogotes (06º 29'N, 072º 58'W; ca. 1824 m) and Cañaverales (06º06'N, 73º13'W; ca. 1750 m), department of Santander, Colombia (Fig. 3).

Remarks. Dunn (1946), based on morphological features (e.g., low middorsal scales) and distribution range suggested that *Leptotyphlops nicefori* was closely related to some species of the Leptotyphlopids occurring in Colombia (*L. dugandi*, *L. joshuai* and *L. macrolepis*) and Ecuador (*L. anthracinus*). Nonetheless, Dunn (1946) pointed out that *L. nicefori* differs from all of them by having just one supralabial before the ocular scale. He also affirmed that this supralabial pattern could have significant systematic importance, placing *L. nicefori* as an allied of the species having a higher middorsal scale counts. Orejas-Miranda (1967) suggested *L. nicefori* was possibly related to *L dulcis*, *L. dimidiatus*, and *L. affinis* on the basis of the number of supralabials. Moreover, Orejas-Miranda (1967) commented that the taxon was known only from the brief original description, which lacks illustrations of the holotype. For that reason, Orejas-Miranda (1967) pointed out *L. nicefori* could be close related to species lacking supraocular scale, such as *L. humilis*, *L. septemstriatus*, *L. borrichianus*, *L. cupinensis* and *L. brasiliensis*. Orejas-Miranda (1967) also considered the holotype of *L. nicefori* as missing. Peters and Orejas-Miranda (1970) allocated *L. nicefori* in the "*Leptotyphlops albifrons*" species group. However, the characters used by Peters and Orejas-Miranda (1970) to diagnose "*Leptotyphlops dulcis*" from the "*Leptotyphlops albifrons*" group are variable, not distinguishing any group unambiguously (Pinto & Curcio *in press*). Passos *et al.* (2006) and Pinto and Curcio (*in press*) proposed some additional characters of external and internal morphology that can support the "*Leptotyphlops dulcis*" group, such as: midsaggital cephalic scales with moderate size, rostral scale subtriangular in dorsal view, presence of fused caudals, subhexagonal ocular scale with rounded shape at the eye level, enlarged terminal spine, longer than wide, and narrow basal and robust terminal portions of the hemipenial body.

Adalsteinsson *et al.* (2009) allocated the "*Leptotyphlops dulcis*" group in two genera (*Rena* and *Tricheilostoma*), and the "*Leptotyphlops albifrons*" group into *Epictia* and *Rena*. According to Adalsteinsson *et al.* (2009), *Rena nicefori* was close to *R. affinis*, *R. dimidiata*, *R. unguirostris* and North and Central America species, based on small size of supraocular scales, white venter, two supralabials and higher number of middorsal scales. However, the diagnostic characters used by the authors for the genus *Rena* are ambiguous, since the white venter does not occur in *R. nicefori* and *R. affinis* (R.R. Pinto pers. obs.). Furthermore, the higher number (on average) of middorsal scales diagnosing them from *Tricheilostoma* (according to the authors) was not cited on their Table 2, suggesting to us that this is not a relevant character in the generic level recognition. Therefore, herein we transfer *R. nicefori* to the genus *Tricheilostoma* based on the characters proposed above and detailed in Pinto and Curcio (*in press*), and we emphasize the needs of corroboration of these genera also through morphological synapomorphies.

Tricheilostoma dugandi Dunn 1944

Figs. 8, 9

Leptotyphlops dugandi Dunn 1944, Caldasia, 3:52–53.
Leptotyphlops dugandi—Bailey 1946, Occasional Papers of the Museum of Zoology in the University of Michigan, 492:4.
Leptotyphlops dugandi—Dunn 1946, Caldasia, 4:122.
Leptotyphlops dugandi—Shreve 1964, Breviora, 211:4.
Leptotyphlops dugandi—Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:169.
Leptotyphlops dugandi—Hahn 1980, Das Tierreich, 101:12.
Leptotyphlops dugandi—McDiarmid, Campbell & Touré 1999, Snake Species of the World, 1:28.
Leptotyphlops dugandi—Passos, Caramaschi & Pinto 2006, Amphibia-Reptilia, 27:349.
Tricheilostoma dugandi —Hedges, Adalsteinsson & Branch in Adalsteisson *et al.* 2009, Zootaxa, 2244:11.

Holotype. A non catalogued male specimen originally housed in the Colegio Biffi, from municipality of Juanmina (= Juan Mina; 10º57'N, 74º53'W; ca. 30 m), department of Atlántico, Colombia. Specimen not localized, probably lost (see remarks).

Paratype. A non catalogued female specimen originally housed in the Colegio Biffi, from municipality of Barranquilla (10°57'N, 074°47'W; ca. 30 m), department of Atlántico, Colombia.

Diagnosis. *Tricheilostoma dugandi* is distinguished from all congeners by the following combination of characters: snout truncated in dorsal and ventral views, and rounded in lateral view; supraocular present; ocular

subhexagonal, dorsal apex straight and anterior border slightly rounded in the eye level; three supralabials (2+1); four infralabials; fused caudals present; temporal scale indistinct; rostral semicircular in dorsal view; 171–184 middorsal scales; 158–172 midventral scales; subcaudal scales 10–13; 10 scales around the middle of tail; dorsum brown with dark brown copper in the centre and median portion of dorsal scales, forming seven longitudinal lines from occipital scales to terminal spine; seven remaining ventrolateral scale rows whitish cream.

FIGURE 8. Dorsal (A) and ventral (B) views of the topotype of *Tricheilostoma dugandi* (MCZ 58785).

Redescription of the topotype [MCZ 58785]. Juvenile female, 143 mm TL, 7 mm TAL; 4.1 mm MB; 3.0 mm MT; 20.4 TL/TAL; 35.2 TL/MB; 5.7 mm HL, 3.1 mm HW; 1.5 mm relative eye diameter; 0.4 mm relative rostral width; head slightly depressed; body subcylindrical, slightly enlarged on the head and slightly tapered caudally near of tail.

Head subcylindrical, distinguishable from neck, almost twice as long as wide; snout truncated in dorsal and ventral views, and rounded in lateral view; rostral straight in frontal and ventral views, dorsal apex semicircular, not reaching a transverse imaginary line between anterior margins of ocular scales; rostral contacting supranasal and infranasal laterally and frontal dorsally; nasal completely divided horizontally by oblique suture crossing nostril; nostril roughly elliptic, obliquely oriented and placed in the middle of the nasal suture; supranasal almost twice as high as long, bordering rostral anteriorly, infranasal inferiorly, two anterior supralabials, and ocular posteriorly, and frontal dorsally; supranasal as long as upper border of infranasal scale; infranasal as high as long; upper lip border formed by rostral, infranasal, first two supralabials, ocular, and posterior supralabial; temporal scale indistinct from dorsal scale of lateral rows; three supralabials (2+1); first supralabial twice as higher than long, not reaching nostril and eye levels; second supralabial about three times higher than long, crossing nostril level and lower portion of eye; third supralabial trapezoidal lower than second, slightly longer than high, reaching

eye level, its posterior margin in broad contact with temporal; ocular enlarged, subhexagonal, slightly rounded in eye level, almost twice as high as long, contacting posterior margins of supranasal and first supralabial anteriorly, parietal and third supralabial posteriorly, and supraocular dorsally, its dorsal apex straight; eye distinct (0.6 mm), situated at upper part of ocular, displaced above nostril; supraocular longer than wide, subtly longer than frontal scale, contacting supranasal anteriorly, frontal, postfrontal, ocular laterally, and parietal posteriorly; midsaggital head scales (frontal, postfrontal, interparietal, and interoccipital) similar in size, subcircular in dorsal view, weakly imbricate; frontal short, almost twice as wide as long, contacting rostral, supranasals, supraocular, and postfrontal; postfrontal slightly wider than long, contacting frontal, supraoculars, parietals, and interparietal; interparietal wider than long, contacting postfrontal, parietals, occipitals, and interoccipital; interoccipital slightly wider than long, contacting interparietal, occipitals, and the first dorsal scale of vertebral row; parietal and occipital similar in shape, irregularly pentagonal; parietal almost twice as wide as long, lower margin contacting the upper border of third supralabial, posterior margin contacting temporal, occipital, and interparietal; anterior border in broad contact with ocular, supraocular, and postfrontal; occipital almost twice as wide as long, its lower edge attaining level of upper margin of third supralabial; symphysial trapezoidal, almost three times wider than long, anterior and posterior borders straight and slightly convex, respectively; four infralabials behind symphysial; first three infralabials subequal, somewhat higher than long; fourth infralabial longer than others, twice as long as high; dorsal scales homogeneous, cycloid, smooth, weekly imbricate, and wider than long; 182 middorsal scales; 172 midventral scales; 14 scale rows around midbody, reducing to 10 rows at middle of tail; cloacal shield short and semicircular, almost twice as wide as long; 10 subcaudals; caudals fused; terminal spine short, conical, with stout base, slightly wider than long.

Colour of the topotype in preservative. Seven dorsal scale rows brown with dark copper in the centre and median portion of each scales, forming seven longitudinal lines from occipitals to terminal spine; seven ventral scale rows whitish cream; head uniformly brown; frontal margin of snout near postfrontal dorsally and ocular laterally whitish cream; cloacal shield whitish cream; terminal spine dark brown.

Sexual dimorphism. Females have higher middorsal scales than males ($U = 0.0$; $P < 0.05$), although males have more subcaudal scales than females ($U = 0.0$; $P < 0.05$).

Variation: Middorsal scales 181–184 ($\bar{x} = 182 \pm 1.3$, $n = 5$) in females, 171–174 ($\bar{x} = 172.3 \pm 1.5$, $n = 3$) in males; midventral scales 158–160 ($n = 2$) in females, 172 in males; subcaudal scales 9–10 ($\bar{x} = 10 \pm 0.4$, $n = 5$) in females, 12–13 ($\bar{x} = 12.3 \pm 0.6$, $n = 3$) in males; TL 143–257 mm ($\bar{x} = 182 \pm 45.4$, $n = 5$) in females, 84–174 mm ($\bar{x} = 137.7 \pm 47.4$, $n = 3$) in males; TL/TAL ratio 18.4–30.0 ($\bar{x} = 22.2 \pm 3.7$, $n = 5$) in females, 15.5–19.3 ($\bar{x} = 17.2 \pm 2.0$, $n = 3$) in males; TAL 3.3–5.5% of TL ($\bar{x} = 4.5\% \pm 0.0$, $n = 5$) in females, 5.2–6.5% of TL ($\bar{x} = 5.9 \pm 0.0$, $n = 3$) in males; TL/MB ratio 27.0–37.5 ($\bar{x} = 33.5 \pm 3.8$, $n = 5$) in females, 33.7–52.5 ($\bar{x} = 40.4 \pm 10.6$, $n = 3$) in males; TAL/MT ratio 2.4 ($n = 1$) in females; relative eye diameter 1.5 ($n = 1$) in females; relative rostral width 0.4 ($n = 1$) in females.

Distribution. Caribbean coast of Colombia near sea level, from Juan Mina to Barranquilla (Fig. 3).

Remarks. Dunn (1944) proposed *Leptotyphlops dugandi* through brief description based on two specimens from the Caribbean coast of Colombia. Both were housed at Colegio Biffi in the city of Barranquilla, a small collection made by the efforts of fathers from La Salle order. Although many researchers unsuccessful tried to exam this collection in the past at least part of it was apparently lost during transportation to a new building (J. Lynch pers. comm.). Given the apparent loss of the types, conservative nature of the general colour pattern, and large overlap of meristic and morphometric characters in the genus (the only data provided by Dunn 1944), the designation of a neotype may be desirable.

According to ICZN (1999) the designation of a neotype is allowed when a name-bearing type is necessary to define the nominal taxon objectively (art. 75.1, ICZN 1999). On the basis of voucher species the only leptotyphlopid that occur sympatrically with *T. dugandi* in the Atlantic coast of Colombia is *E. goudotii*. However, both species differ greatly in the number of middorsal scale rows (171–184 in *T. dugandi* vs. 227–260 in *E. goudotii*) precluding the neotype designation at this time. However, we redescribed specimens of *T. dugandi* from Barranquilla, which we consider as topotypes. These data can provide additional support to the diagnosis of the species and characterization, facilitating future comparisons and/or identifications.

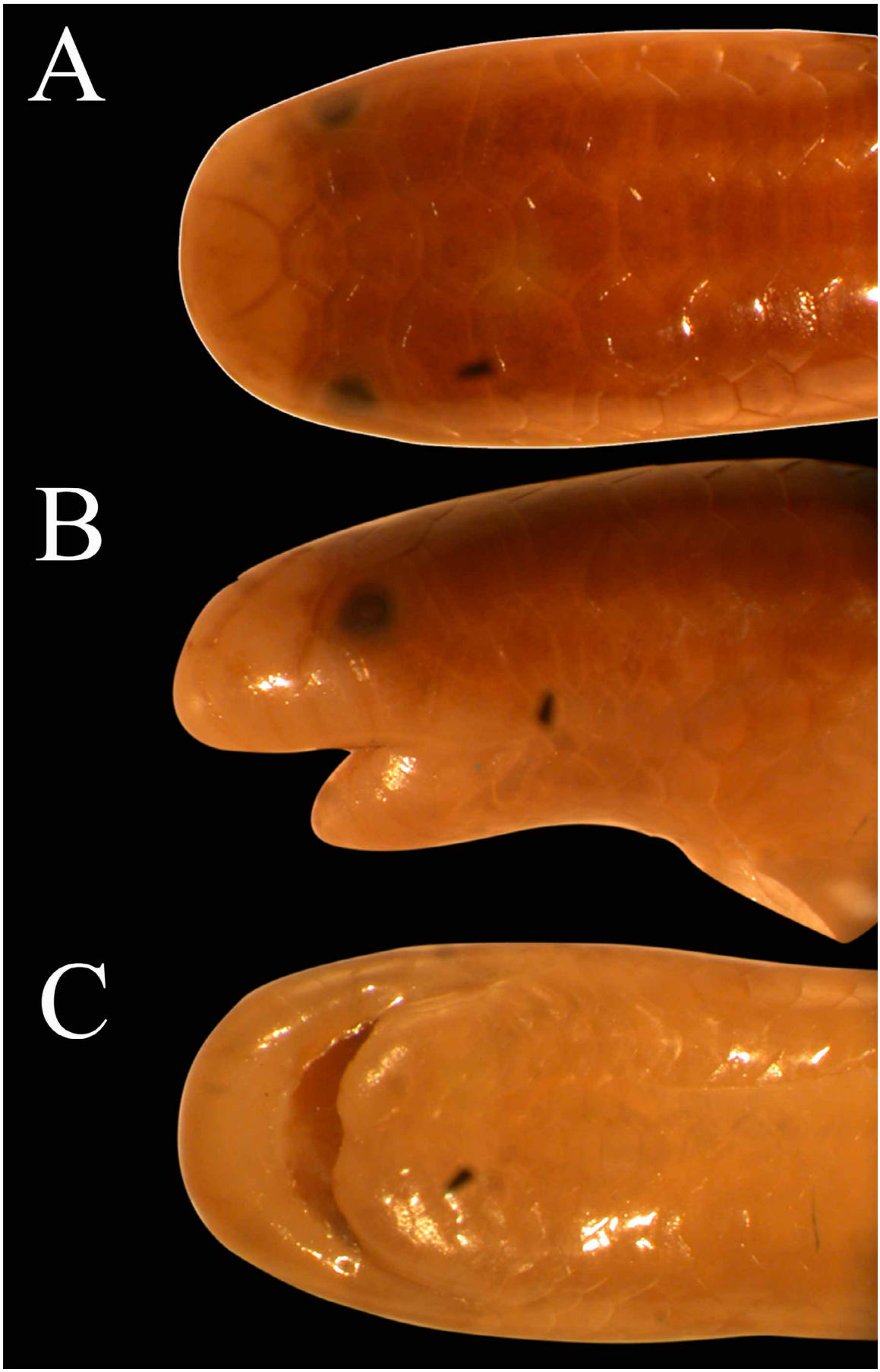

FIGURE 9. Dorsal (A), lateral (B) and ventral (C) views of head of the *Tricheilostoma dugandi* (MCZ 58785).

***Tricheilostoma macrolepis* (Peters 1858)**
Figs. 10, 11

Stenostoma macrolepis Peters 1858 [dated 1857], Mittheilungen. Monatsberichte der Preussischen Akademie der Wissenschaften zu Berlin, 1857:402.
Stenostoma [*Tricheilostoma*] *macrolepis*—Jan 1861, Archivio Per La Zoologia, L'Anatomia e La Fisiologia, Genova, 1:190–191.
Stenostoma [*Tricheilostoma*] *macrolepis*—Jan & Sordelli 1861, Icnographie generale des Ophidiens, I, livr. 2: pr. V, fig. 10.
Glauconia macrolepis—Boulenger 1893, Catalogue of the Snakes in the British Museum, 1:69 (fig. 2).
Leptotyphlops macrolepis—Ruthven 1922, Miscellaneous Publications Museum of Zoology University of Michigan, 8:64.
Leptotyphlops macrolepis—Taylor 1940 [dated 1939], University of Kansas Science Bulletin, 26(15):539.
Leptotyphlops macrolepis—Dunn 1944, Caldasia, 3:51–52.
Leptotyphlops macrolepis—Bailey 1946, Occasional Papers of the Museum of Zoology University of Michigan, 492:4.
Leptotyphlops macrolepis—Dunn 1946, Caldasia, 4:122.
Leptotyphlops macrolepis—Roze 1952, Memoria de La Sociedad de Ciencias Naturales La Salle, 12:153.
Leptotyphlops macrolepis—Amaral 1954, Memórias do Instituto Butantan, 26:76.
Leptotyphlops macrolepis—Amaral 1954, Memórias do Instituto Butantan, 26:203–205.
Stenostoma macrolepis—Loveridge 1957, Bulletin of the Museum of Comparative Zoology, 117:246. Type species designation: *Tricheilostoma*, genus.
Leptotyphlops macrolepis—Shreve 1964, Breviora, 211:4.
Leptotyphlops ihlei Brongersma 1933—Orejas-Miranda 1966, Comunicaciones Zoologicas del Museo de Historia Natural de Montevideo, 9:2–3.
Leptotyphlops macrolepis—Roze 1966, La Taxonomia y Zoogeografia de los Ofidios en Venezuela, 43–44.
Leptotyphlops macrolepis—Orejas-Miranda 1967, Atas do Simpósio sobre a Biota Amazonica, 5:430–432.
Leptotyphlops macrolepis—Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:170.
Leptotyphlops macrolepis—Hoogmoed 1977, Zoologische Mededelingen, Leiden, 51:110–11.
Leptotyphlops macrolepis—Hahn 1979, Catalogue of American Amphibians and Reptiles, 230:3.
Leptotyphlops macrolepis—Gasc & Rodrigues 1980, Bulletin du Museum d'Histoire Naturelle de Paris, 2:567.
Leptotyphlops macrolepis—Hahn 1980, Das Tierreich, 101:20.
Leptotyphlops macrolepis—Lancini 1986, Serpientes de Venezuela:170–171.
Leptotyphlops macrolepis—Perez-Santos & Moreno 1988, Museo Regionale di Scienze Nataturali, Torino, 6:420.
Leptotyphlops macrolepis—Starace 1998, Guide des serpents et amphisbènes de Guyane, 77.
Leptotyphlops macrolepis—McDiarmid, Campbell & Touré 1999, Snake Species of the World, 1:35.
Stenostoma macrolepis—Bauer, Wallach and Günther 2002, Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut, 78:160.
Leptotyphlops macrolepis Passos, Caramaschi & Pinto 2005, Boletim do Museu Nacional, Nova Série, Zoologia, 520:5.
Leptotyphlops macrolepis—Passos, Caramaschi & Pinto 2006, Amphibia-Reptilia, 27:349.
Tricheilostoma macrolepis—Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al*. 2009, Zootaxa, 2244:11.

Lectotype: ZMB 1434 (Fig. 10), from Puerto Cabello (10° 25' N, 068° 10' W, sea level), state of Carabobo, Venezuela.

Paralectotypes: ZMB 5294, from Puerto Cabello, state of Carabobo, Venezuela; ZMB 5722, from "S. Amerika" (= South America).

Diagnosis. *Tricheilostoma macrolepis* is distinguished from all congeners by the following combination of characters: snout truncate in dorsal and ventral view, rounded in lateral view; supraocular present; ocular subhexagonal with rounded shape at the eye level; enlarged eyes occuping most ocular width; rostral subtriangular in dorsal view not reaching ocular level; frontal longer than other midsaggital head scales; temporal distict; three supralabials (2+1); four infralabials; 211–243 middorsal scales in females and 218–243 in males; 217–225 midventral scales in females and 204–221 in males; 18–24 subcaudal scales in males and 16–21 in females; fused caudals present; 10 scales around the middle of tail; dorsum uniformly dark brown to black on seven dorsal scale rows, contrasting with the pale brown to brown covering the centre of scales on the seven lateroventral rows.

Colour of the lectotype in preservative: Seven dorsal scale rows uniformly dark brown and seven lateroventral scale rows brown on center of each scale, with beige border marking the limit of scales; colour of head and lower margins of scales follows body pattern; cloacal shield and terminal spine dark brown.

Colour in life: Similar, but more intense to colour pattern in preservative (Fig. 11).

Sexual dimorphism: Males have more subcaudal scales than females ($F_{(1,12)} = 8.0$; $p < 0.01$). No sexual dimorphism were found in middorsal scales ($F_{(1, 12)} = 0.7$; $p = 0.4$) and in midventral scales ($F_{(1, 5)} = 2.2$, $p = 0.2$).

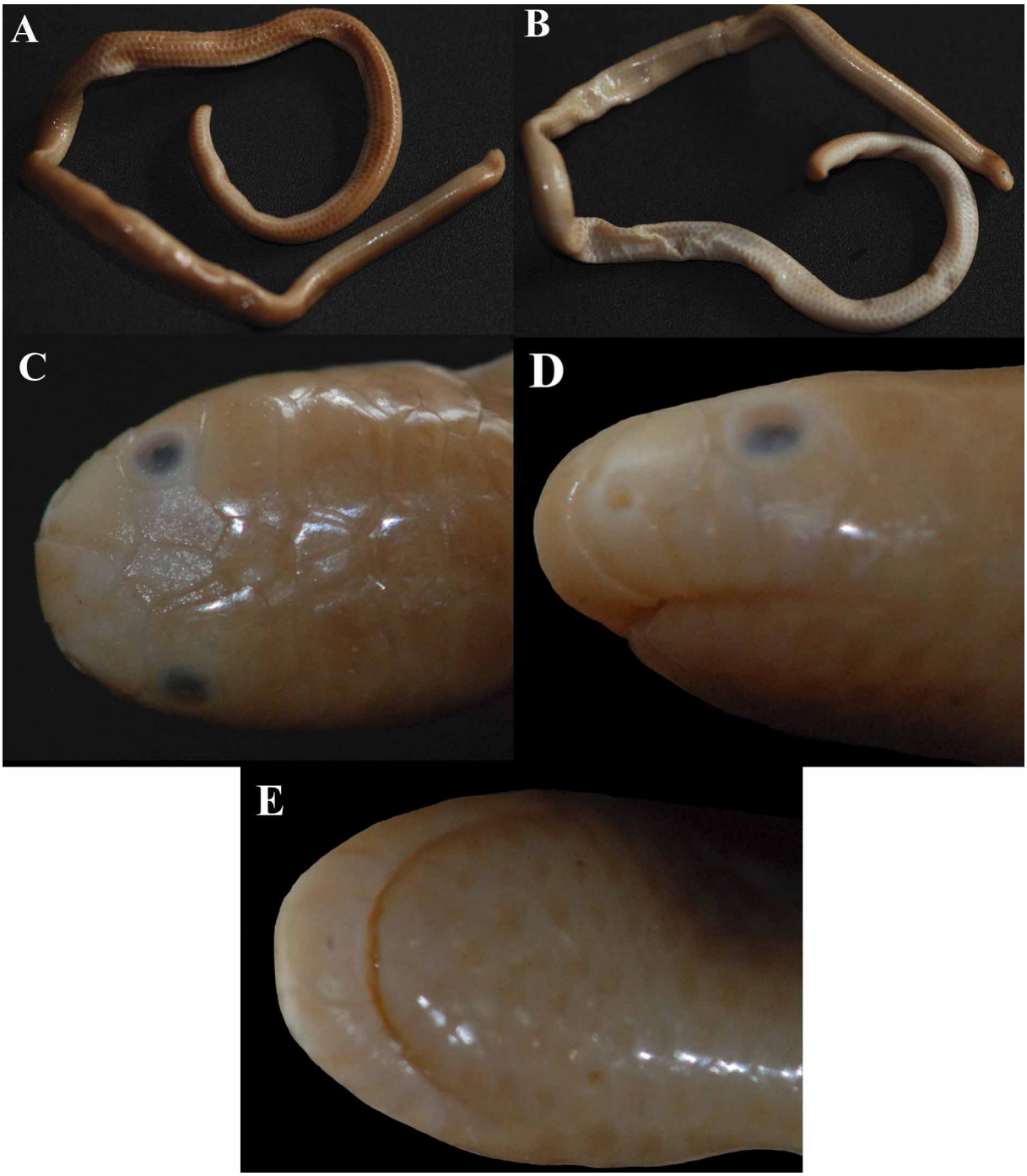

FIGURE 10. Dorsal (A) and ventral (B) views of body and dorsal (C), lateral (D), and ventral (E) views of head of the lectotype of *Tricheilostoma macrolepis* (ZMB 1434).

Variation: Middorsal scales 211–243 ($\bar{x}$ = 225.8 ± 12.2, *n* = 5) in females and 218–243 ($\bar{x}$ = 230.3 ± 8.8, *n* = 9) in males; midventral scales 217–225 (*n* = 2) in females and 204–221 ($\bar{x}$ = 212.2 ± 7.4, *n* = 5) in males; subcaudal scales 18–24 in males ($\bar{x}$ = 21.8 ± 2.1, *n* = 9) and 16–21 ($\bar{x}$ = 18.6 ± 1.8, *n* = 5) in females; TL 126–322 mm ($\bar{x}$ = 226.2 ± 85.9, *n* = 5) in females and 126–297 mm ($\bar{x}$ = 217.6 ± 60.0, *n* = 9) in males; TL/TAL ratio 10.5–14.9 ($\bar{x}$ = 12.1 ± 1.6, *n* = 9) in males and 12.4–15.8 ($\bar{x}$ = 13.9 ± 1.7, *n* = 5) in females; TAL 6.7–9.5% of TL in males ($\bar{x}$ = 8.4 ± 0.0, *n* = 9) and 6.3–8.1% in females ($\bar{x}$ = 7.3 ± 0.0, *n* = 5); TL/MB ratio 40.9–65.6 ($\bar{x}$ = 49.0 ± 9.8, *n* = 5) in males and 40.7–52.5 ($\bar{x}$ = 47.7 ± 6.2, *n* = 3) in females; TAL/MT ratio 5.2–6.2 ($\bar{x}$ = 5.5 ± 0.4, *n* = 4) in males and 3.8–5.3 (*n* = 2) in females; relative eye diameter 1.4–2.0 ($\bar{x}$ = 1.7 ± 0.3, *n* = 3) in males and 1.4–1.9 (*n* = 2) in females; rostral width 0.4 ($\bar{x}$ = 0.4 ± 0.0, *n* = 4) in males and 0.3–0.4 (*n* = 2) in females.

Distribution. In Colombia, *Tricheilostoma macrolepis* has a trans-Andean pattern of distribution, occurring along the three Cordilleras and also on Pacific to Amazon lowlands (Fig. 3).

Remarks. We must address a taxonomic issue relevant to the leptotyphlopids. Loveridge (1957) assigned *Stenostoma macrolepis* as the type species of the *Tricheilostoma* Jan, but, as pointed out by McDiarmid *et al.* (1999), he overlooked the first use of the name *Tricheilostoma* in a figure legend of Jan (*in* Jan and Sordelli, 1860), in association with the African species *Stenostoma* (*Tricheilostoma*) *bicolor* and *Stenostoma* (*Tricheilostoma*) *gracile*, later species placed as synonym of *Glauconia bicolor* (= *Tricheilostoma bicolor*) by Boulenger (1893). Adalsteinsson *et al.* (2009) followed Loveridge (1957) and revalidate *Tricheilostoma* referring to *macrolepis* group and described the genus *Guinea* to the *bicolor* group. Despite the overlooked designation of *Stenostoma macrolepis* to *Tricheilostoma* type species by Loveridge (1957), the ICZN (1999, Art. 70.2, p. 74) indicates that if it is found that an earlier type species has been overlooked, the overlooked fixation is to be accepted and later fixations are invalid. Based on these arguments, we maintain the Loveridge (1957) type species designation.

FIGURE 11. Dorsal (A) and lateral (B) views of the *Tricheilostoma macrolepis* (MHUA 14509) in life from Capitan, Briceño, departament of Antioquia.

Epictia goudotii (Duméril & Bibron 1844)

Fig. 12

Stenostoma goudotii Duméril & Bibron 1844, Erpetologie Générale ou Histoire Naturelle Complete des Reptiles, 6:330.
Stenostoma fallax Peters 1858 [dated 1857] *in* Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:169–170.
Stenostoma goudoti—Jan 1861, Archivio Per La Zoologia, L'Anatomia e La Fisiologia, Genova, 1:188.
Stenostoma goudottii—Cope 1876 [dated 1875], Journal of the Academy of Natural Sciences of Philadelphia, 8(2):129.
Glauconia goudotii—Boulenger 1893, Catalogue of the Snakes in the British Museum, 1: 64.
Leptotyphlops goudotii—Amaral 1930 [dated 1929], Memórias do Instituto Butantan, 4: 139
Leptotyphlops goudoti—Taylor 1940 [dated 1939], University of Kansas Science Bulletin, 26(15):540.
Leptotyphlops goudotii—Dunn 1944, Caldasia, 3:53.
Leptotyphlops goudoti—Dunn 1946, Caldasia, 4:122.
Leptotyphlops albifrons margaritae Roze 1952, Memoria de La Sociedad de Ciencias Naturales La Salle, 12:154.
Leptotyphlops albifrons margaritae—Roze 1966, La Taxonomia y Zoogeografia de los Ofidios en Venezuela, 42–43.
Leptotyphlops goudotii goudotii—Peters & Orejas-Miranda 1970, Bulletin of the United States National Museum, 297:169–170.
Leptotyphlops goudoti—Hahn 1979, Catalogue of American Amphibians and Reptiles, 230:3.
Leptotyphlops goudotii goudotii—Hahn 1980, Das Tierreich, 101:14–15.
Leptotyphlops goudotti goudotti—Lancini 1986, Serpientes de Venezuela:170.
Leptotyphlops goudotii goudotii—Perez-Santos & Moreno 1988, Museo Regionale di Scienze Nataturali, 6:419.
Leptotyphlops goudotii—McDiarmid, Campbell & Touré 1999, Snake Species of the World, 1:30–32.
Epictia goudotii—Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al.* 2009, Zootaxa, 2244:11.

Holotype. MNHN 1068 (Fig. 11), from "la vallée de la Magdeleine" (= Magdalena river valley), Colombia.

Diagnosis. *Epictia goudotii* is distinguished from all congeners by the following combination of characters: snout truncate in dorsal and ventral view, rounded slightly acuminate in lateral view; supraocular present, not in

contact with first supralabial; supraocular abruptly longer than frontal; rostral scale triangular in dorsal view; first supralabial very short and not reaching eye level; ocular hexagonal with straight shape at the eye level; base of ocular scale expanded; temporal indistinct; fused caudals absent; interoccipital indistinct from dorsal scales; two supralabials (1+1); four infralabials; 227–260 middorsal scales; 213–234 midventral scales; 12–16 subcaudal scales; 10 scales around the middle of tail; rostral white pigmented as apical spine or brownish as head coloration; seven dorsal scale rows with dark brown to brown center and lighter border forming longitudinal zig-zag lines; seven ventral scale rows uniformly brown.

Redescription of the holotype. Adult male, 151 mm TL, 6 mm TAL; 2.6 mm MB; 25.2 TL/TAL; 58.1 TL/MB; 4.2 mm HL, 2.0 mm HW; head slightly depressed; body subcylindrical, slightly enlarged on the head and slightly tapered caudally near the tail.

Head subcylindrical, twice as long as wide, cervical constriction indistinct; snout truncate in dorsal and ventral views, rounded slightly acuminate in lateral view; rostral straight in frontal and ventral views, dorsal apex triangular, crossing a transverse imaginary line between anterior margins of ocular scales; rostral contacting supranasal and infranasal laterally and frontal dorsally; nasal completely divided horizontally by an oblique suture crossing nostril and descending posteriorly near first supralabial; nostril roughly elliptic, obliquely oriented and placed in the middle of the nasal suture; supranasal about twice as high as long, bordering rostral anteriorly, infranasal inferiorly, first supralabial and ocular scale posteriorly, and frontal and supraocular scales dorsally; supranasal longer than upper border of infranasal scale; infranasal higher than long; infranasal longer than first supralabial; upper lip border formed by rostral, infranasal, anterior supralabial, ocular, and posterior supralabial; temporal scale indistinct from dorsal scales of lateral rows; two supralabials, one anterior to ocular and one posterior (1+1); first supralabial twice as high as long, reaching nostril level and not reaching eye level; second supralabial slightly higher than long, higher than first supralabial, crossing nostril and eye level; ocular hexagonal, enlarged at base of scale, with straight shape in the expanded area in eye level, higher than long, contacting posterior margins of supranasal and first supralabial anteriorly, parietal and second supralabial posteriorly, and supraocular dorsally, with its dorsal apex straight; eye very distinct, concentrated in the anterior area of the expanded upper part of ocular; supraocular longer than wide, not contacting the first supralabial, abruptly longer than frontal, placed between ocular and frontal, contacting supranasal anteriorly, frontal, postfrontal and ocular laterally, and parietal posteriorly; midsaggital head scales (frontal, postfrontal, and interparietal) subequal in size, hexagonal in dorsal view, non imbricate; frontal wider than long, contacting rostral, supranasal, supraocular and postfrontal; postfrontal wider than long, contacting frontal, supraocular, parietals and interparietal; interparietal wider than long, contacting postfrontal, parietals, occipitals and interoccipital; interoccipital almost twice as wide as long, not distinct from other dorsal scales, contacting interparietal, occipitals and the first dorsal scale of the vertebral row; parietal and occipital subequal, irregularly hexagonal; parietal about twice as wide as long, lower margin contacting upper border of second supralabial, posterior margin contacting respective temporal, occipital and interparietal, anterior border in broad contact with ocular, supraocular and postfrontal; occipital almost three times wider than long, its lower limit attaining the level of the upper margin of second supralabial, separated from latter by temporal; symphysial trapezoidal, anterior and posterior borders respectively straight and slightly convex, about five times wider than long; four infralabials on both sides; first three infralabials similar in size, slightly higher than long; fourth infralabial distinctively longer than first three scales, almost twice as long as high, as long as second supralabial. Dorsal scales homogeneous, subhexagonal, smooth, weekly imbricate, and wider than long; 254 middorsal scales; 243 midventral scales; 14 scales rows around midbody, reducing to 10 rows in the middle of the tail; cloacal shield semicircular, almost three times wider than long; 12 subcaudals; fused caudals absent; terminal spine large, conical, wider than long.

Colour of the holotype in preservative: Seven dorsal scale rows dark brown to brown in centre of each scale with pale border forming longitudinal zig-zag lines; seven lateroventral scale rows uniformly brown; lower margins of scales forming the upper lip lighter than dorsal pattern; rostral scale with same pattern as head coloration; cloacal shield brown; terminal spine and last caudal scales white.

Variation: Middorsal scales 227–260 ($\bar{x}$ = 238.1 ± 10.9, n = 7); midventral scales 213–234 ($\bar{x}$ = 221.0 ± 8.2, n = 5); subcaudal scales 12–16 ($\bar{x}$ = 15.1 ± 1.5, n = 7); TL 83–135 mm ($\bar{x}$ = 112.0 ± 17.2, n = 7); TL/TAL ratio 15.1–23.0 ($\bar{x}$ = 19.4 ± 2.5, n = 7); TAL 4.4–6.6% of TL ($\bar{x}$ = 5.2 ± 0.0, n = 7); TL/MB ratio 52.9–63.6 ($\bar{x}$ = 58.2 ± 4.8, n = 5); TAL/MT ratio 2.9–3.9 ($\bar{x}$ = 3.5 ± 0.4, n = 5); relative eye diameter 1.6–3.1 ($\bar{x}$ = 2.1 ± 0.6, n = 5); rostral width 0.4–0.6 ($\bar{x}$ = 0.5 ± 0.1, n = 5).

FIGURE 12. Dorsal (A), lateral (B), and ventral (C) views of head of the holotype of *Epictia goudotii* (MNHN 1068).

Distribution. In Colombia, *Epictia goudotii* occurs on Atlantic coast near Caribbean Sea, Magdalena River Valley and west versant of Cordillera Oriental, from PNN Isla de Salamanca (10º58'N 74º30'W) northeast to Cienaga (11º00'34"N 74º15'15"W) and southeast to Ambalema (04º47'N 74º46'W); from sea level up to about 600 m (Fig. 3).

Remarks. Duméril and Bribon (1844) described *Stenostoma goudotii* based on a single specimen from "la vallée de la Magdeleine" (= Magdalena river valley). Dunn and Saxe (1950) rejected the characters proposed by Taylor (1940) to distinct *L. goudotii* and *L. magnamaculata*. As such, they considered *L. goudotii* and *L. magnamaculata* as subspecies of *Leptotyphlops albifrons* (= *L. a. goudotii* and *L. a. magnamaculatus*). Roze (1952) described *Leptotyphlops albifrons margaritae* from São Francisco de Macanao, Isla Margarita, Venezuela and distinguished this new taxon from the former species by its robust body compared to the slender *L. a. goudotii*. Peters and Orejas-Miranda (1970) recognized some previously described species (*L. phenops*, *L. magnamaculata* and *L. ater*) as subspecies of *Leptotyphlops goudotii*, and placed *L. bakewelli* in the synonymy of *L. goudotii phenops* whereas considered *L. albifrons margaritae* as a synonym of *L. goudotii goudotii*. Pérez-Santos and Moreno (1988) recorded *L. albifrons* to Atlantic coast and Cordilleras Central and Oriental of Colombia. Those records probably represent *E. goudotii* specimens. Adalsteinsson *et al.* (2009) recognized *E. goudotii magnamaculata* and *E. goudotii goudotii* as full species, since *E. goudotii magnamaculata* (*sensu* Adalsteinsson *et al.* 2009) is closely related to *E. columbi* than to *E. goudotii goudotti*. Although, there is a tissue sample identified as *E. goudotii goudotii* by the authors from Mexico, it species is distributed from Panama to Colombia (Peters & Orejas-Miranda 1970). In this sense, we suspect that terminal used by Adalsteinsson *et al.* (2009) to *E. g. goudotii* was *E. goudotii phenops* (Cope, 1876), a subspecies distributed from Mexico to Nicaragua (Peters & Orejas-Miranda 1970). Therefore, we propose the use of *Epictia phenops* in the specific rank according to the results of Adalsteinsson *et al.* (2009), and that status of *E. g. goudotii* could be maintained until further evidence on their relationship became available.

***Epictia magnamaculata* (Taylor 1940)**

Fig. 13

Leptotyphlops magnamaculata Taylor 1940 [dated 1939], University of Kansas Science Bulletin, 26(15):540.
Leptotyphlops albifrons magnamaculata—Dunn & Saxe 1950, Proceedings of the Academy of Natural Sciences of Philadelphia, 102:159–161.
Leptotyphlops goudotii magnamaculatus—Peters & Orejas-Miranda 1970, Bulletin of the United States of National Museum, 297:169–170.
Leptotyphlops phenops—Wilson & Hahn 1973, Bulletin of the Florida State Museum, 17(2):120.
Leptotyphlops goudotii magnamaculatus—Hahn 1980, Das Tierreich, 101:15.
Leptotyphlops goudotii magnamaculatus—McDiarmid, Campbell & Touré 1999, Snake Species of the World, 1:30–32.
Epictia magnamaculata—Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al.* 2009, Zootaxa, 2244:11.

Holotype. USNM 54760, collected by F.J. Dyer in April 9, 1916, from Útila Island (16º 06'N, 086º 55'W), Honduras.

Diagnosis. *Epictia magnamaculata* is distinguished from all congeners by the following combination of characters: snout slightly truncate in dorsal and ventral view, rounded in lateral view; supraocular present, not in contact with first supralabial; first supralabial longer, reaching eye level; rostral scale subtriangular in dorsal view; ocular hexagonal with straight shape at the eye level; supraocular longer than frontal scale; temporal indistinct; fused caudals absent; two supralabials (1+1); four infralabials; 245–262 middorsal scales; 237–246 midventral scales; 15–18 subcaudal scales; 10 scales around the middle of tail; seven dorsal scale rows dark brown in the centre of scales with paler border forming longitudinal zig-zag lines; seven lateroventral scale rows brown in the centre of scales with border lighter forming soft zig-zag lines; gular region paler than venter.

Variation. Middorsal scales 245–262 ($\bar{x}$ = 252.6 ± 4.9, *n* = 12); midventral scales 237–246 ($\bar{x}$ = 240.3 ± 4.0, *n* = 4); subcaudal scales 15–18 ($\bar{x}$ = 16.8 ± 1.1, *n* = 13); TL 98–195 mm ($\bar{x}$ = 154.5 ± 28.3, *n* = 12); TL/TAL ratio 14.1–21.0 ($\bar{x}$ = 16.9 ± 1.8, *n* = 12); TAL 4.8–7.1% of TL ($\bar{x}$ = 6.0 ± 0.0, *n* = 12); TL/MB ratio 52.7–61.5 ($\bar{x}$ = 57.9 ± 3.7, *n* = 4); TAL/MT ratio 2.8–4.0 ($\bar{x}$ = 3.5 ± 0.6, *n* = 4); relative eye diameter 1.3–2.5 ($\bar{x}$ = 1.9 ± 0.5, *n* = 4); rostral width 0.4–0.5 ($\bar{x}$ = 0.4 ± 0.0, *n* = 4).

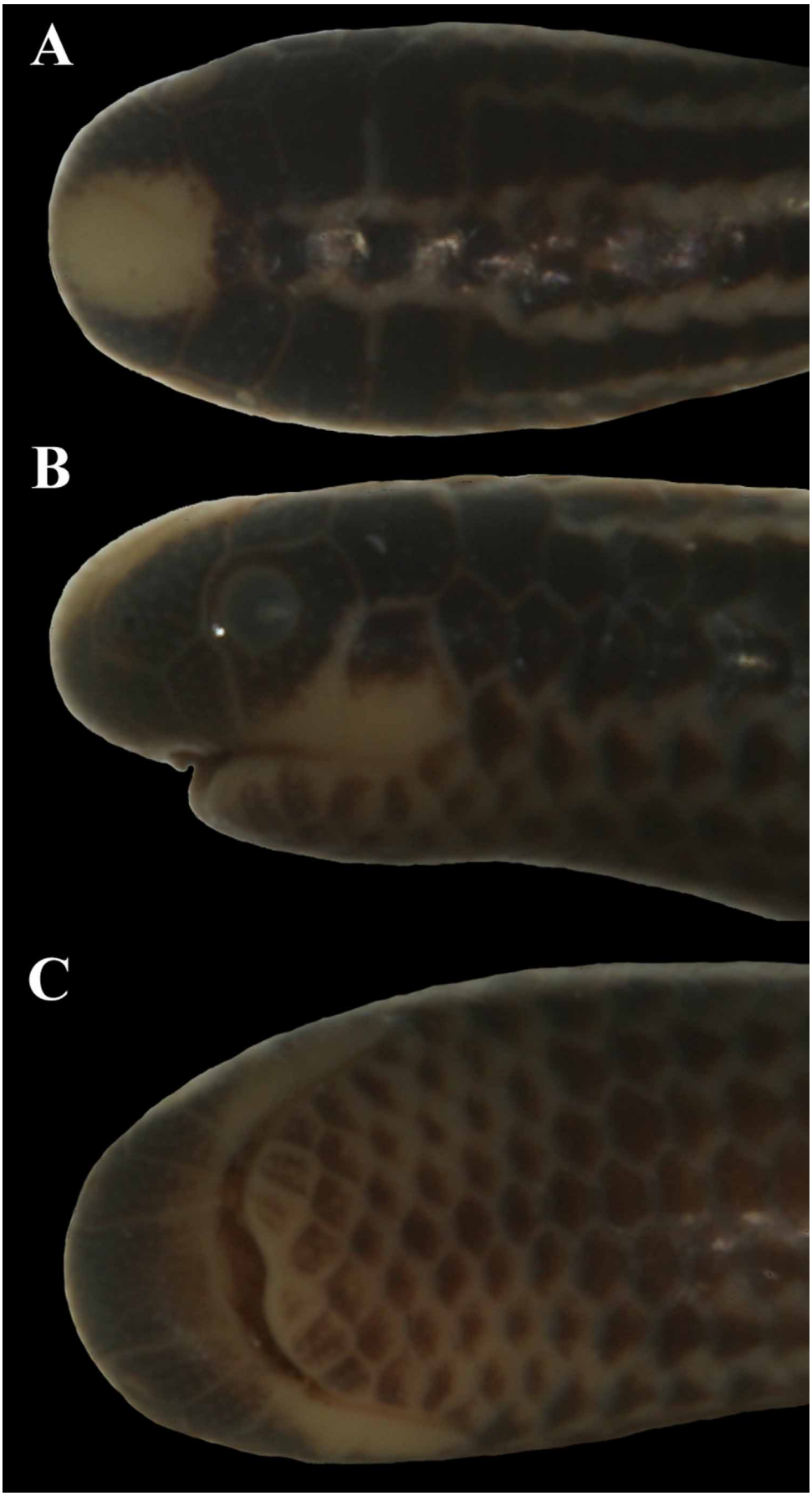

FIGURE 13. Dorsal (A), lateral (B) and ventral (C) views of head of the *Epictia magnamaculata* (ICN 2629).

Distribution. In Colombia, known form the Archipelago of San Andrés, Providencia y Santa Catalina in the Providencia (13º20'56"N 81º22'29") and San Andrés (12º35'N 81º42'W) islands (Fig. 3).

Epictia signata (Jan 1861)

Fig. 14

Stenostoma signatum Jan 1861, Archivio Per La Zoologia, L'Anatomia e La Fisiologia, Genova, 1:188.
Stenostoma signatum—Jan & Sordelli 1861, Icnographie generale des Ophidiens, vol. I, livr. 2, fig. 3.
Glauconia signata—Boulenger 1893, Catalogue of the Snakes in the British Museum, 1:64.
Leptotyphlops amazonicus—Hahn 1979, Herpetologica 33:58.
Leptotyphlops amazonicus—Peters & Orejas-Miranda 1970, Bulletin of the United States of National Museum, 297:173.
Leptotyphlops amazonicus—Hahn 1980, Das Tierreich, 101:7.
Leptotyphlops signatus—Hahn 1980, Das Tierreich, 101:26.
Leptotyphlops signatus—McDiarmid, Campbell & Touré 1999, Snake Species of the World, 1:43.
Epictia signata—Hedges, Adalsteinsson & Branch *in* Adalsteisson *et al*. 2009, Zootaxa, 2244:1–50.

Holotype. MNHN 3235 from "patrie inconnue" (= unknown country).

Diagnosis. *Epictia signata* is distinguished from all congeners by the following combination of characters: snout truncate in dorsal and ventral views, rounded in lateral view; supraocular present, not in contact with first supralabial; rostral scale triangular in dorsal view; ocular subhexagonal with straight shape at the eye level; supraocular longer than frontal scale; temporal indistinct; fused caudals absent; eyes concentrated in the middle area of the expanded upper part of ocular; two supralabials (1+1); four infralabials; 208–282 middorsal scales; 261–214 midventral scales; 14–17 subcaudal scales; 10 scales around the middle of tail; seven dorsal scale rows uniformly brown, and seven lateroventral series light brown; rostral, last subcaudals, and terminal spine white coloured.

Distribution. The single specimen found along collections examination has no specific data other than "Colombia".

Remarks. *Stenostoma signatum* was described by Jan (1861) through a specimen of unknown provenance. Later the holotype was illustrated by Jan and Sordelli (1861). Hahn (1979), based on the data from Jan (1861), pointed out that this specimen was purchased by the Muséum National d'histoire Naturalle of Paris in 1858 and originally labelled as "Madagascar?". Because there are no Leptotyphlopid record's to Madagascar, Hahn (1979) argued that the label was in error. *Leptotyphlops amazonicus* was described by Orejas-Miranda (1969) based on five specimens from southeastern Venezuela and one without specific provenance, possibly from Amazon Rainforest of Ecuador. Orejas-Miranda (1969) cited that the paratype (ANSP 3290) from Ecuadorian Amazon was from the Orton collection. However Cope (1876; 1877) did not mention any specimen of *Leptotyphlops* from Ecuador and Peru collected by the Orton expedition. The Orton expedition was divided in two parts, one ascending the Orinoco River and the other one through the Amazon basin. Thus, it seems that this specimen was collected by the first part while in Venezuela and not by the second in the Amazon (Cisneros-Heredia 2008).

Hahn (1979) examined the supposed holotype of *Stenostoma signatum* (MNHN 3235), comparing it with the type series of *Leptotyphlops amazonicus*. According to Hahn (1979), the holotype of *S. signatum* is comparable with the *L. amazonicus* type series in all meristic and morphometic characters and, therefore, he relegated *L. amazonicus* to the synonymy of the first, restricting the type locality to northern region of Amazonia.

Despite few known specimens and uncertain distribution there are characteristics figured by Jan and Sordelli (1861) and Hahn (1979) that apparently diagnose *E. signata* from sympatric congeners (e.g., uniformly brown dorsum except for snout and last subcaudal scale white pigmented combined with higher number of middorsal scales and elongate first supralabial). On the basis of such characteristics we identified the specimen IBSP 7204 as *E. signata*, which is first specimen recorded from Colombia and the eighth known of the species.

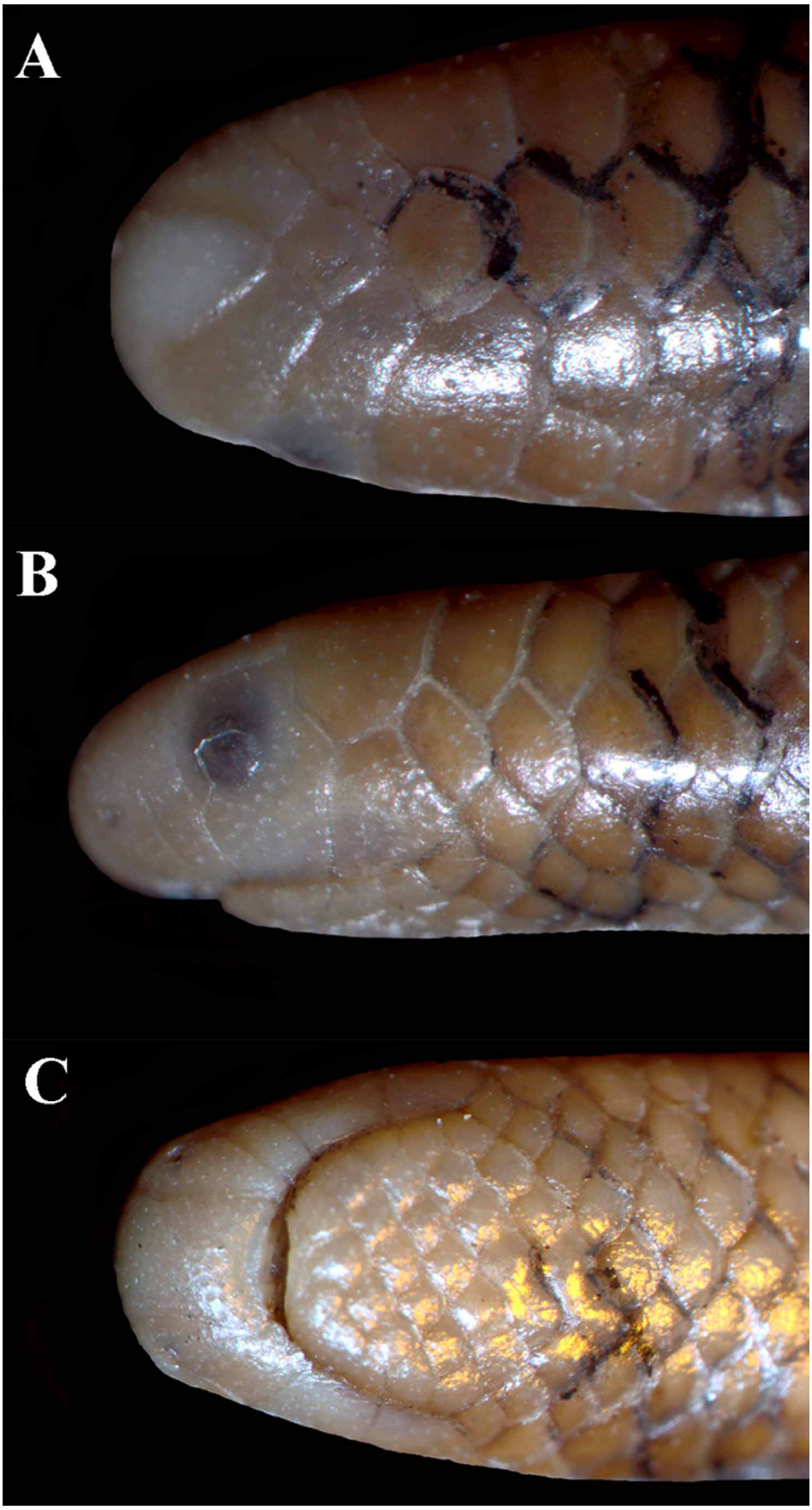

FIGURE 14. Dorsal (A), lateral (B), and ventral (C) views of head of the *Epictia signata* (IBSP 7204).

Key to species of the tribe Epictini in Colombia

1. Three infralabial scales ..... *Tricheilostoma nicefori*
- Four infralabial scales 2
2. 12 rows in the middle of the tail ..... *Tricheilostoma joshuai*
- 10 rows in the middle of the tail 3
3. Uniform dorsum without longitudinal stripped pattern 4
- Dorsum with longitudinal stripped pattern 5
4. White spots on tail and rostral scale ..... *Epictia signata*
- No spots on tail and rostral 6
5. Two supralabial scales (1+1) 7
- Three supralabial scales (2+1) ..... *Tricheilostoma dugandi*
6. Middorsal scales lower than 170 ..... *Tricheilostoma brevissimum*
- Middorsal scales upper than 210 ..... *Tricheilostoma macrolepis*
7. First supralabial short, not reaching eye level ..... *Epictia goudotii*
- First supralabial reaching eye level ..... *Epictia magnamaculata*

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APPENDIX 1. Specimens examined.

***Epictia goudotii*:** COLOMBIA: Magdalena, Dept.: Valley of Río Magdalena (MNHN 1068—holotype), Cienaga (USNM 144173), Parque Nacional Isla de Salamanca (ICN 7127), PNN Tayrona, Santa Marta (ICN 6196); Cundinamarca, Dept.: Apulo (MLS 18); Tolima, Dept.: Ambalema (MLS 19), Honda (MLS 20); without specific locality (MLS 21).

***Epictia magnamaculata*:** COLOMBIA: no specific locality (ICN 2730–34); Arquipielago de San Andrés, Providencia y Santa Catalina: Isla de Providencia (ICN 2629–31, ICN 11172, MLS 1972); Isla de San Andrés (MLS 2038–40).

***Epictia signata*:** COLOMBIA: without specific locality (IBSP 7204). ECUADOR: Gualaquiza, Est.: Morono-Santiago (USNM 232404).

***Tricheilostoma brevissimum*:** COLOMBIA: Antioquia, Dept.: Sonsón (MCZ 38950 - paratype); Caquetá, Dept.: Florencia (MLS 1311 - holotype, MLS 3).

***Tricheilostoma dugandi*:** COLOMBIA: Atlántico, Dept.: Barranquilla (MCZ 58785, MLS 2337, MLS 1992, ICN 2025–28).

***Tricheilostoma joshuai*:** COLOMBIA: Antioquia, Dept.: without specific locality (MLS 14 - paratype), Jericó (MLS 13 - holotype, MLS 11, MLS 2646–47 - paratypes, UMMZ 84093, IBSP 7206, IBSP 7223, IBSP 8919, MHNCSJ 266), Cauca river (MLS 12 - paratype), San Juan river (IBSP 9188); Risaralda, Dept.: Santa Rosa de Cabal (MLS 2048); Valle Del Cauca, Dept.: San Antonio (MVZ 68688); Caldas, Dept.: Villamaria (MLS 15 - paratype), Salamina (MLS 1857); Quindío, Dept.: Salento (MLS s/n).

***Tricheilostoma nicefori*:** COLOMBIA: Santander, Dept.: Charalá (ICN 5727), Mogotes (MLS 17 - holotype).

***Tricheilostoma macrolepis*:** without specific locality (ZMB 5722 - paralectotype). COLOMBIA: Antioquia: Capitan, Briceño (MHUA 14509), Santa Isabel, Remedios (MHUA 14059); Caldas: Victoria (MHUA 14598), Norcasia, El Valle (MHUA 14615); Chocó: without specific locality (MCZ 39705); Córdoba: Pueblo Nuevo (ICN 11337), Urrá (ICN 7677); Huila: Palermo (MLS 2261); Norte de Santander: Ocaña (MLS 16), Zulia (MLS 4); Santander: Bucaramanga (ICN 7299, MLS 1991), Sangil (IBS 8588); Tolima: Chaparral (MLS 10, MLS 1900), Guamo (MLS 1); Valle del Cauca: Buenaventura (USNM 154031), Calima river, 10 Km N El Pailón (USNM 267261), near Cali, 1km W Yumbo (MCZ 140118), Cali (USNM 151738); Vaupés: Estación Biológica Caparú (ICN 8142–43). VENEZUELA: Carabobo, St.: Puerto Cabello (ZMB 1434 - lectotype, 5294 - paralectotype).

APPENDIX 2. Data and records from literature.

***Epictia signata*.** Unknown locality (MNHN 3235 - holotype). VENEZUELA: Amazonas Federal, Est.: Esmeralda (AMNH 36663, AMNH 36665), Bolívar, Est.: Auyantepui (AMNH 61033), based on Hahn (1979).

***Tricheilostoma dugandi*.** COLOMBIA: Atlántico, Dept.: Barranquilla (CBB unumbered - paratype), Juanmina (CBB - unumbered holotype), based on Dunn (1944).