

New species of Cerambycinae and Lamiinae (Cerambycidae, Coleoptera) from Mexico

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ABSTRACT

Four new species of longhorn beetles (Cerambycidae, Coleoptera) from Mexico are described herein. Three are in the subfamily Cerambycinae: *Aphysotes santossilvai*, sp. nov., from Veracruz (new country record for the genus), *Methia martinsi*, sp. nov., from Oaxaca, and *Corynellus lutescens*, sp. nov., from Veracruz. The fourth is in the subfamily Lamiinae: *Zikanita monnei*, sp. nov., from Chiapas (also a new country record for the genus). All four species are illustrated with dorsal, ventral, lateral, and frontal views.

INTRODUCTION

The Mexican cerambycid fauna has been studied by numerous insect taxonomists since Bates (1880–1885) and despite the time and continuous effort of many specialists, new taxa continue to be described year after year. The four new species described in this paper belong to the tribes Anaglyptini (genus *Aphysotes* Bates, 1885), Methiini (genus *Methia* Newman, 1842), Pteroplatini (genus *Corynellus* Bates, 1885) and Acanthoderini (genus *Zikanita* Lane, 1943). All were found in the National Insect Collection, the Entomological Collection of the Estación de Biología los Tuxtlas (both part of the Universidad Nacional Autónoma de México), or the Colegio de Postgraduados Insect Collection. *Aphysotes* is a monotypic genus described by Bates (1885), with *Aphysotes tubericollis* as the type species. It is recorded from Central America with a disjunct and doubtful Brazilian record (Monné, 1993, Monné, 2018). *Methia* is an American genus that includes 49 species, with most distributed in United States (17 species) and Mexico (14 species)

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and the rest from South America and the West Indies (18 species). The Mexican species were summarized by Chemsak and Linsley (1964a), who later described additional species from Mexico (1964b, 1971). *Corynellus* currently contains five species, one recorded from Mexico, two from Central America, one from both Central and South America and one only from South America (Monné, 2018). The type species, *Corynellus mimulus* Bates, 1885, was designated by Monné (2012) and described from an unknown locality in Mexico. A review of the genus found in North and Central America, including a key to species, was published by Linsley (1961). More recently, Swift (2008) described an additional species and provided a key to the then five species. *Zikanita* includes five South American species collectively recorded from Brazil, Peru, Ecuador, and Bolivia (Tavakilian and Chevillotte, 2019, Nascimento et al., 2019). The genus was reviewed by Machado and Monné (2011), who provided additional diagnostic characters for *Zikanita* and a key to the four species known at that time. Recently, Nascimento et al., 2019, described another species and detailed the differences between this genus and *Cosmotomidius* Melzer, 1931.

MATERIAL AND METHODS

Photographs were taken with a Zeiss microscope with a Plan lens NeoFluar 2, 1 × 10.25 FWD 56. Measurements are given in mm and taken using an ocular micrometer 1.0× in the stereo Zeiss stereo Discovery microscope V8 FW. Specimens from the following collections were examined and the following abbreviations are used throughout the paper:

- AMNH American Museum of Natural History, New York, New York
 CAS California Academy of Sciences, San Francisco, California
 CNIN Colección Nacional de Insectos, Instituto de Biología, UNAM, Ciudad de Mexico, Mexico (Santiago Zaragoza)
 EBCC Colección Entomológica de la Estación de Biología Chamela, Instituto de Biología, Universidad Nacional Autónoma de México, Chamela, Jalisco, Mexico (Felipe A. Noguera)
 LGBC Larry G. Bezark Collection, Sacramento, California (Larry G. Bezark)
 MZSP Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil
 NMNH National Museum of Natural History, Smithsonian Institution, Washington, DC
 UNAM Universidad Nacional Autónoma de México

SYSTEMATICS

Aphysotes santosilvai, sp. nov.

Figure 1

DESCRIPTION: Holotype female. Length 12.8 mm; width: 3 mm. Form moderately sized, elongate, subcylindrical. Integument dark brown, lighter brown on legs and last eight antennomeres; clothed with recumbent white, ochraceous and dark brown pubes-

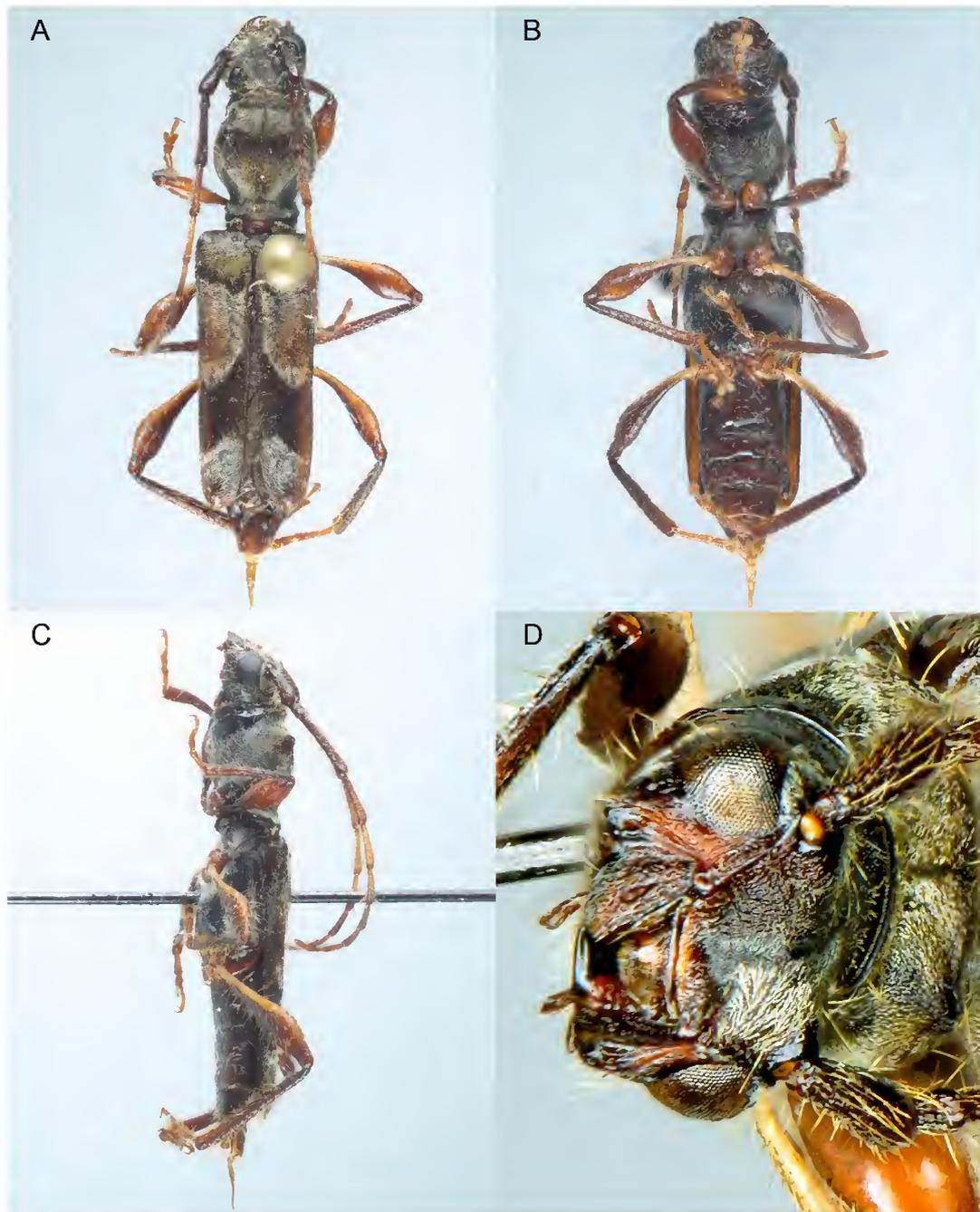


FIGURE 1: *Aphysotes santossilvai*, sp. nov., holotype female. A, dorsal view; B, ventral view; C, lateral view; D, head, frontal view.

cence. **Head:** Front trapezoidal, narrower toward base, sides elevated and carinate; clypeus depressed medially and separated from the front by a oblique furrow, deeper at sides, with median line extending from clypeus to vertex; depressed longitudinally between antennal tubercles and vertex; eyes with lower lobes $1.6\times$ longer than genae, upper lobes same width as base of scape and separated by $3.4\times$ its width; pubescence whitish, moderately dense, not obscuring integument; antennae $0.8\times$ body length; antennal formula (proportion) based on length of third segment: scape = 0.55, II = 0.22, IV = 0.66, V = 0.61, VI = 0.5, VII = 0.38, VIII = 0.36, IX = 0.33, X = 0.3, XI = 0.3; antennomeres clothed with erect, long brown setae, denser on basal segments, becoming scarce toward apical segments and semi-erect, short pale pubescence from antennomere VI to XI. **Thorax:** Pronotum $1.2\times$ as long as broad; base $1.05\times$ wider than apex; sides widely rounded at middle, base strongly constricted and apex slightly constricted; apex and base depressed transversally; disc strongly convex, with midline evident, depressed on basal half; with a low obtuse tubercle each side of midline at base of apical half and slightly prominent callus behind each tubercle; punctures very small, contiguous, dense, giving integument an areolate appearance, except slightly bigger and deeper setiferous punctures; disc with a middle transverse band of dark brown pubescence, which crosses the tubers and extends to both sides; backward and contiguous to the band, a middle area of golden pubescence, which extends to the basal depression and is wider anteriorly, an oblique fascia on each side of bright whitish pubescence; rest of pronotum with whitish, less dense pubescence and gold hairs interspersed. Prosternum with apical half glabrous, smooth, and with blunt transverse fold extending from one side to the other, basal half with fine, dense punctation, giving integument an areolate appearance, and whitish pubescence not obscuring integument; procoxal process very narrow, curved, with apex expanded, forming horizontal subrectangular plate; procoxal cavities closed behind by moderately broad, smooth, glabrous ridge extending nearly to stridulatory plate of mesonotum; mesosternum with whitish pubescence and mesocoxal process narrow, $0.2\times$ width of coxa; metasternum convex, inclined anteriorly, almost glabrous, smooth at base and the rest superficially punctured, with whitish pubescence anteriorly and laterally. Scutellum subrectangular, convex, with sides depressed medially, angles of apex moderately prominent, pale brown with margins dark brown, clothed with whitish pubescence. **Elytra:** $2.2\times$ as long as wide; nearly parallel sided, feebly impressed at middle; apices rounded; with three areas of whitish pubescence: a narrow band contiguous to base, elongate semicircular fasciae extending from behind humeri to elytral half, medially nearly reaching sutural margin and becoming narrower posteriorly; apical fourth with appressed pubescence, front margin oblique on each side; golden pubescent between basal band and semicircular fasciae; area between semicircular fasciae and apical fourth dark brown pubescent with widely dispersed erect setae. **Abdomen:** with scattered setae; last sternite with apices rounded and middle feebly emarginate. **Legs:** with femora clavate, profemora enlarged nearly from base with pedicel of meso- and metafemora almost as long as clavate portion, clothed with erect, sparse, long setae; tibial setae more abundant and longer than femoral setae, protibiae curved with meso- and metatibiae straight.

TYPE MATERIAL: Holotype female, MEXICO: Veracruz: Municipio de San Andrés Tuxtla, Estación Biológica de los Tuxtlas, 480 m, El Vigía, 1.VII.1986, P. Sinaca, CNIN 06180.

DIAGNOSIS: This species can be distinguished from *A. tuberculis* Bates, 1885, by the pronotal shape and the pubescent pattern of elytra. In *A. santossilvai* the anterior pronotal depression slopes gradually from the tubercles toward the apex and is deeper at the middle and superficial toward the sides, making the sides of the pronotum more widely rounded. In *A. tuberculis*, the anterior pronotal depression slopes abruptly from the tubercles to its lower part, covering the entire apical quarter; from the middle to the sides it is equally deep, making the sides of the pronotum more rounded. In *A. santossilvai* the whitish semicircular median fascia on the elytra is elongate, not reaching the sutural margin, it becomes narrow posteriorly; appressed pubescence on the apical fourth with front margin oblique on each side. In *A. tuberculis*, the semicircular median fascia is short but reaches the elytral suture, forming an X, and the appressed pubescence on the apical fourth has its front margin curved.

ETYMOLOGY: We dedicate this species to Antonio Santos Silva (MZSP) in recognition of his helpful demeanor and his many contributions to our knowledge of the Neotropical Cerambycidae.

Methia martinsi, sp. nov.

Figure 2

DESCRIPTION: Holotype male. Length 10 mm; width: 2.2 mm. Form elongate, slender, with black integument, except legs and apical margins of abdominal segments pale brown with orange calluses on each side of median line of the pronotum; head, pronotum and venter covered with erect, bright pale yellow setae, darker on elytra and antennae. **Head:** Front 2.3× wider than long, transversally slightly convex; clypeus triangular, with apex rounded and base transversally depressed; area between antennal bases less depressed but more so that coronal-frontal suture (from clypeus to vertex); antennal tubercles prominent, with apex black with a blunt projection on internal margin; eyes with dorsal and ventral lobes connected posteriorly by a line, widely separated below and by 1.3× width of scape above; ventral lobes small, moderately prominent, 2.8× longer than genae; dorsal lobes narrow, 0.6× as wide than scape; genae with rounded apex; upper interocular space with moderately deep circular depression; surface rough and areolate in appearance, with small, contiguous punctures; clothed with erect, moderately dense pale yellow setae, not obscuring integument; antennae filiform, 1.5× longer than body, integument rugose, more so on scape but becoming superficial toward apical segments, clothed with erect, short, setae; antennal formula (proportion) based on third antennomere: scape = 0.6, 2 = 0.06, IV = 1.3, V 0 1.3, VI = 1.2, VII 0 1.1, VIII = 1, IX = 1, X = 0.9, XI = 0.86; scape subconical, moderately thickened, slightly curved; rest of segments slender; apex of last segment rounded. **Thorax:** Pronotum 1.3× wider than long, sides arcuate, slightly wider at base than apex, constricted at base; base and apex depressed, basal depression sinuous, extending from one side to the other and apical depression extending only to disc; disc with prominent callus on each side of midline, reniform, nearly extending from apical depression to basal

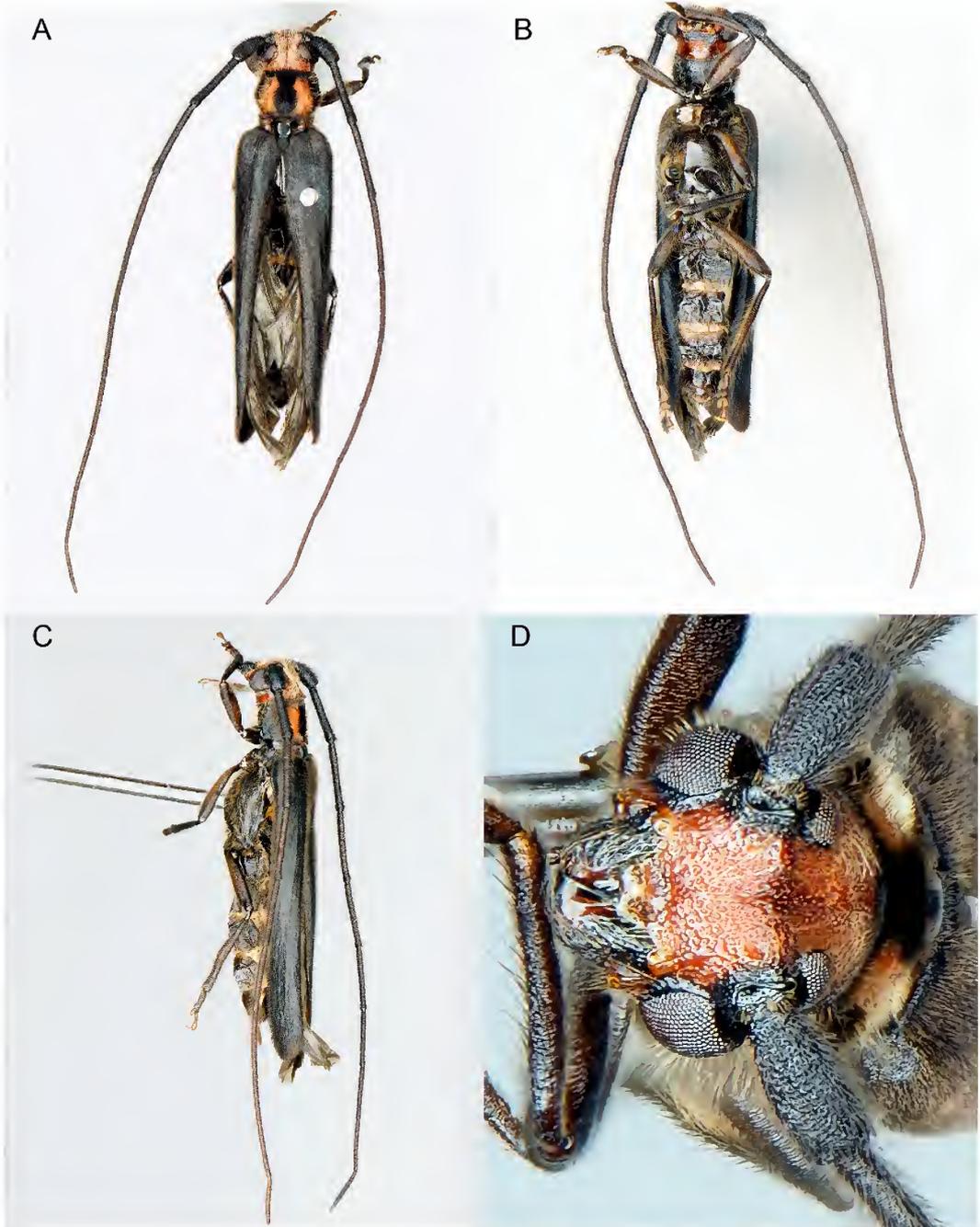


FIGURE 2: *Methia martinsi*, sp. nov., holotype male. A, dorsal view; B, ventral view; C, lateral view; D, head, frontal view.

margin with last third divided by basal depression; calluses with integument areolate-rugose and rest of disk superficially rugose; with erect pale yellow setae on calluses, blacker and denser on rest of pronotum. Prosternum depressed transversally, with superficial transverse furrows, margin curved basally, last fifth elevated perpendicularly forming a right angle basally with scattered erect setae; procoxae widely open behind lacking a prosternal process and strongly angled on sides; mesosternum very short, anteriorly declivous, completely hidden by procoxae, without mesocoxal process; metasternum narrower toward apex, anteriorly declivous, with inconspicuous median line, surface with small, sparse punctures medially and superficially rugose on sides and apex with long, moderately dense setae; metepisternum strongly tapering from apex to base, with internal margin curved, and transversely rugose. Scutellum with apex rounded, longitudinally depressed, covered with semierect setae. **Elytra:** 3.4× longer than wide, sides straight with apex rounded; integument scabrous, without clearly defined punctures and erect setae dense, homogeneously distributed, but not obscuring integument. **Legs:** Short; femora and tibiae transversely corrugated, clothed homogeneously with moderately dense, erect setae; femora widest medially; meso- and metatibiae almost straight, protibiae bent with distinct oblique sinus. **Abdomen:** segments subequal in length, almost glabrous with long widely dispersed setae; last segment with apex widely emarginate.

TYPE MATERIAL: Holotype male (EBCC), MEXICO: Oaxaca: Municipio de Cosolapa: San Juan Evangelista Analco, Ixtlán, Vicente F. Vázquez, infesting young plant of *Litsea glaucescens* Kunth (Lauraceae), infested plant recollected VII.2015, adult emerged IX.2015.

DIAGNOSIS: This species is easily distinguished from the rest of the known species of *Methia* by its black integument, pale brown legs and apical margins of abdominal segments and orange pronotal calluses.

ETYMOLOGY: We dedicate this species to the late Ubirajara R. Martins in recognition of his unparalleled lifetime of contributions to the taxonomic knowledge of Neotropical Cerambycidae.

Corynellus lutescens, sp. nov.

Figure 3

DESCRIPTION: Holotype female. Length 8.8 mm; width: 3.2 mm. Integument shining, with head, pronotum and elytra brownish orange, antennal insertions, basal segments of antennae, one longitudinal and elongate macula on each side of pronotum and small spot medially, adjacent to base of pronotum black, apical segments of antennae, venter and legs light brown. **Head:** Front subquadrate, almost glabrous, with small contiguous-confluent punctation; clypeus inclined and slightly depressed transversally on union with front; middle suture extending from clypeus to interantennal area; vertex with erect, scattered setae, not obscuring integument; eyes with lower lobes 1.5× longer than genae, upper lobes 0.5× width of scape base and separated by 0.7× length of scape; antennal tubercles internally prominent, obtuse; antennae 0.7× length of body; antennal formula (proportion) based on third antennomere: scape = 1.1, II = 0.13, IV = 0.77, V = 0.88, VI = 0.66, VII = 0.63, VIII = 0.5, IX = 0.5, X = 0.44, XI = 0.44; first

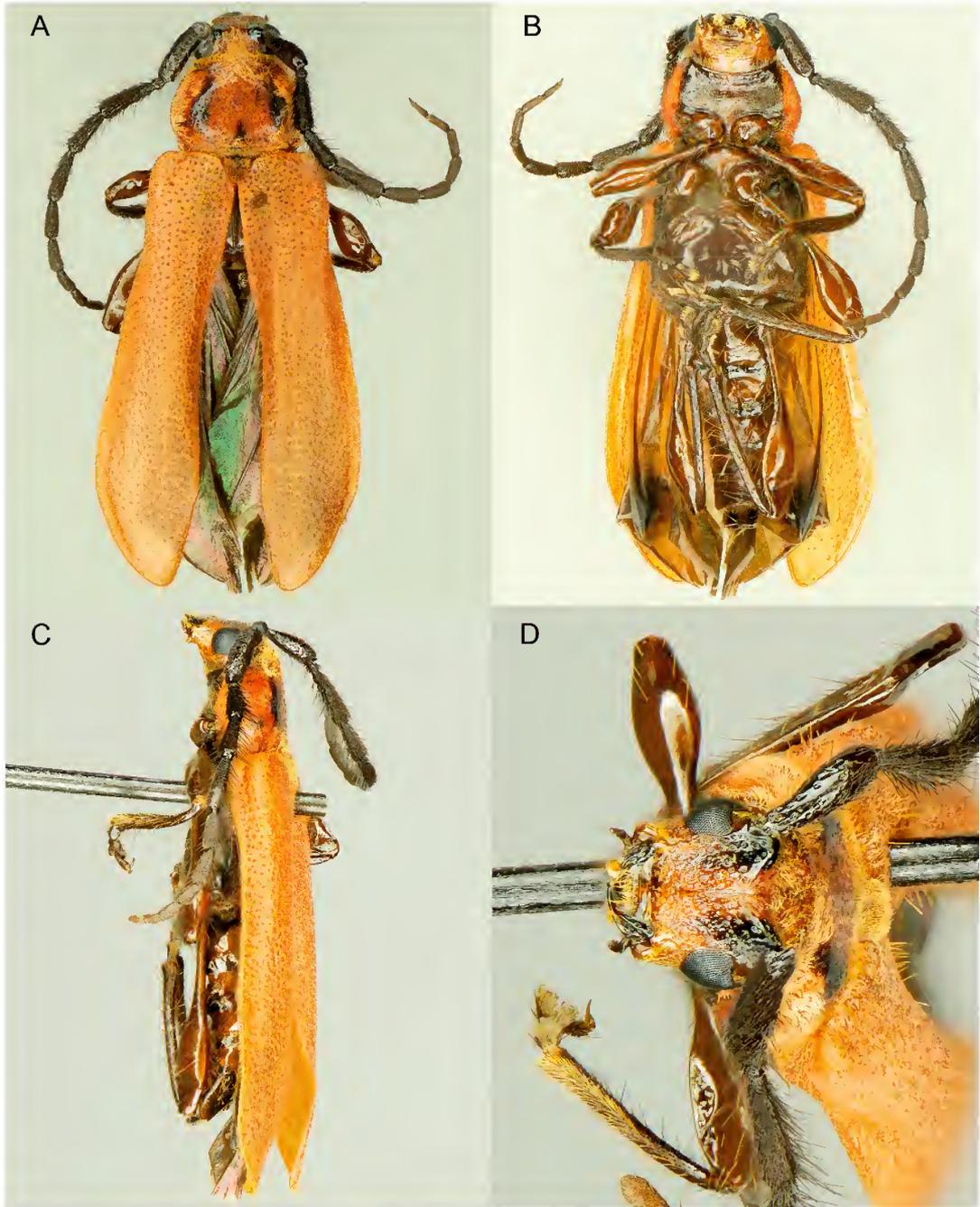


FIGURE 3: *Corynellus lutescens*, sp. nov., holotype female. A, dorsal view; B, ventral view; C, lateral view; D, head, frontal view.

six antennomeres cylindrical, slightly thicker toward apex, antennomeres VII–XI slightly expanded and flattened laterally, with external apex extending posteriorly, antennomere XI with apex rounded, antennomeres I–V clothed with black, erect setae, longer and more abundant on internal margin, remaining antennomeres with short, semi-prostrate grey setae, not obscuring integument. **Thorax:** Pronotum 1.4× wider than long, sides broadly rounded, slightly wider basally; base 1.3× wider than apex; basal and apical margin straight; disc flat, with small, longitudinal, oblong protuberances on each side and another small, feeble protuberance adjacent to base on midline, with small, distinct punctures, separated from each other by one or two times their diameter, with short, dense, bright gold pubescence at sides of base and apex. Prosternum transversally depressed, superficially striate, with scattered elongate punctures and short, sparse pubescence; procoxal process narrow, apex rounded; procoxae widely open behind and strongly angulate laterally; mesosternum short, sparsely pubescent, mesocoxal process narrow, 0.25× width of mesocoxae, apex rounded, with median notch; metasternum glabrous except scant pubescence on sides. Scutellum apex rounded, longitudinally depressed, with erect, dense pubescence, obscuring integument. **Elytra:** 2.5× longer than wide; sides gradually expanded toward apex from behind humeri to apical fifth, then curved inward; feebly bicostate, with one costa medially extending distally from near base to last quarter and another closer to suture and extending from base to distal third; with small punctures, basally deep but apically becoming more superficial, separated by one or two times their diameter; clothed by short, fine pubescence and erect, sparse, scattered setae. **Legs:** Short, femora clavate with intermediate and posterior femora pedunculate; meso- and metafemora 1.5× longer than profemora, with clavate portion almost half as long as femora, in profemora, clavate portion two thirds length of femora; protibiae and metatibiae curved, mesotibiae straight; femora with erect, sparse golden setae, tibiae with setae darker and more abundant, apical half of protibiae thickly covered by setae; tarsi with pad. **Abdomen:** tapering distally, glabrous except for erect, long, scattered golden setae; last sternite with apex widely truncate, fimbriate apical margin.

TYPE MATERIAL: Holotype female (CNIN): MEXICO: Veracruz: Municipio de San Andrés Tuxtla, Estación de Biología de Los Tuxtlas, 160 m, 30.IV.1985, A. Ibarra. Paratype female (LGBC): MEXICO: Veracruz: Municipio de San Andrés Tuxtla, UNAM Field Station Los Tuxtlas, 35 km NE Catemaco, 23–24.IV.1991, F.T. Hovore.

DIAGNOSIS: This species resembles *C. mimulus*, from which it may be separated by the sides of the pronotum being broadly rounded and the elytra superficially bi-costate and punctate. In *C. mimulus*, the sides of the pronotum in apical half are almost straight and abruptly rounded in the basal half, the elytra lack costae but are deeply punctate. This species is distinguished from *C. cinnabarinus* Chemsak and Linsley, 1979, another species with reddish-orange integument, by the pronotum with sides less rounded and the apical third of disc without a depression. In addition, both the pronotum and elytra are sparsely pubescent; in *C. cinnabarinus*, the sides of the pronotum are strongly rounded and the disc has a single depression in apical third extending from the sides to the midline and the pubescence of the pronotum and elytra is dense.

ETYMOLOGY: This species name refers to the brownish-orange color of its body.

Zikanita monnei, sp. nov.

Figure 4

DESCRIPTION: Holotype female. Length 14.5 mm; width: 5.3 mm. Moderate size, form robust, almost parallel sided. Integument with head, disk of pronotum, elytral base, an irregular oblique band occupying third quarter and extending from elytral margin to lateral margin narrowing posteriorly and a small area near elytral slope medially piceous, rest of body reddish brown; clothed with dark brown and bright beige pubescence, dense, short prostrate, and long erect white setae dispersed on head, antennae, pronotum, elytra, legs, and abdomen. **Head:** Front wider than long, slightly convex; median suture extending from clypeus to vertex, slightly depressed; interantennal space and first half of vertex depressed longitudinally; eyes with lower lobes twice length of genae, upper lobes as wide as base of scape and separated from each other by twice their width; antennae exceeding apex of elytra from middle of ninth segment, antennal formula (proportion) based on length of third segment: scape = 0.91, II = 0.14, IV = 0.97, V = 0.74, VI = 0.65, VII = 0.6, VIII = 0.57, IX = 0.51, X = 0.45, XI = 0.45, antennomeres clothed with short, fine, beige pubescence, more scarce ventrally, with line of erect, sparse white setae on lower margin, except scape where setae are evenly distributed. **Thorax:** Pronotum 1.5× wider than long; base and apex similar in width; sides medially with prominent acute tubercle, apex directed posteriorly; base with transverse depression extending from base of each lateral tubercle to the other; disc with prominent obtuse conical tubercle on each side; with series of deep punctures surrounding inner base of each tubercle and extending obliquely nearly to apex, a lesser amount each side of midline near basal depression and at base of lateral tubercle, near basal margin; prostrate pubescence, dense, dark brown on disc, forming a sub-reniform macula on each side, with area between tubercles, sides, base and apex with sparse beige pubescence and disc laterally margined with beige dense pubescence that forms two oblique lines that extend from the base of the lateral tubercles to the apex and the base respectively; apex of lateral tubercles bald. Prosternum covered with beige pubescence, not obscuring the integument; procoxal process slightly less than half as wide as procoxae; mesosternum strongly declivous anteriorly, mesocoxal process convex and very slightly elevated at middle, with apex truncated, notched medially, and with outer angles projected laterally; metathorax clothed with dense pubescence, except sides of the midline. Scutellum longitudinally depressed, with apex rounded and dense beige pubescence along margins. **Elytra:** 2× as long as wide; almost parallel-sided from base to apical third where it curves inward toward apex; apex strongly emarginate, with long spine on outer angles and apex of inner angles rounded; basal fifth of each elytron with an elevated carina or cristae, slightly angled in the first third, from where it gradually begins to lean back, not flattened at top, with long, erect, dark setae on top; base with deep punctures, separated from each other by distance typically greater than their diameter, becoming more superficial toward apex; dense, dark brown pubescence in basal fifth, followed by beige pubescence extending distally to apex, pubescence shorter and less dense in piceous areas and not obscuring integument. Legs clothed with beige dense pubescence, with long, erect setae interspersed on femora and tibiae. **Abdomen:** with fine beige pubescence,

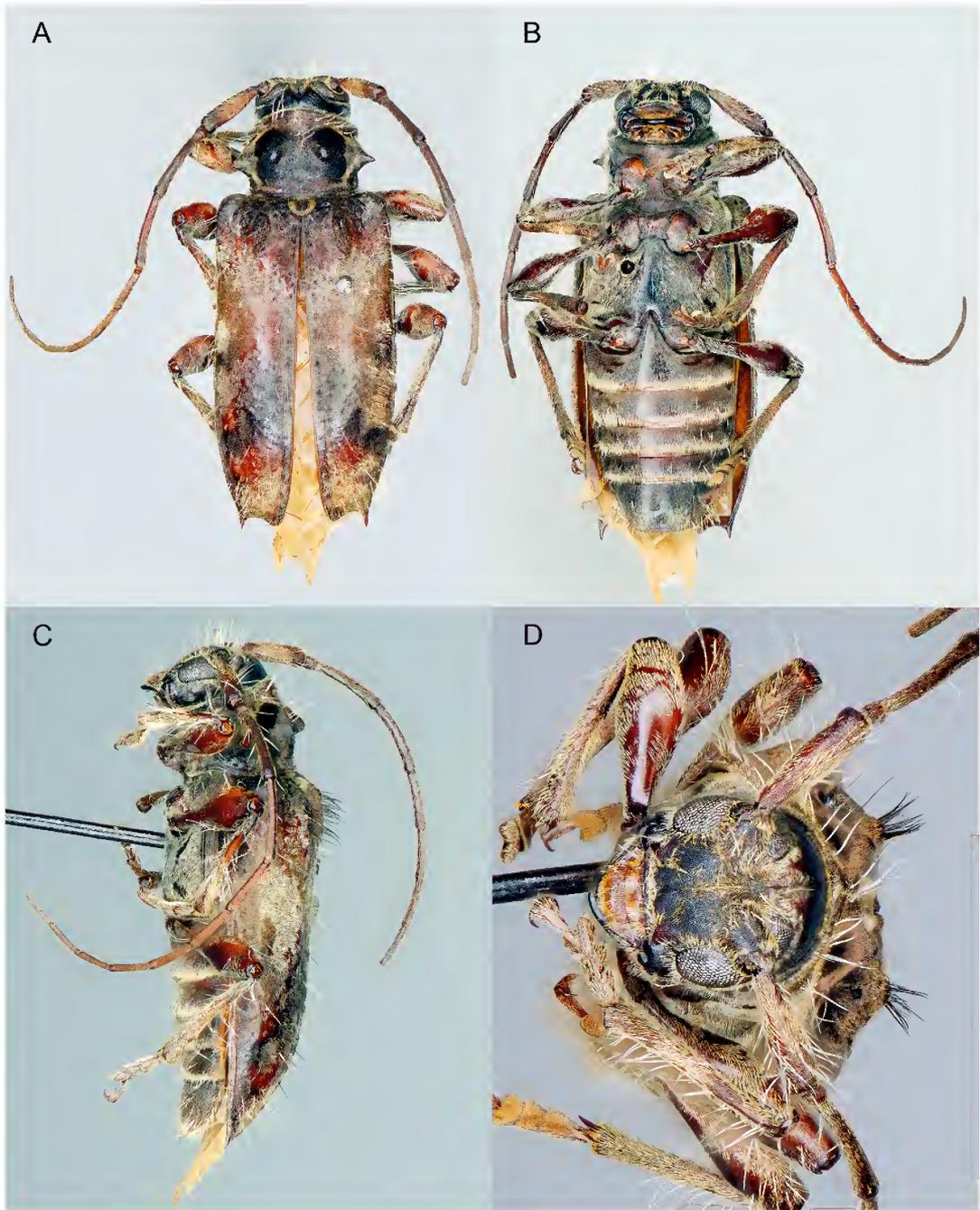


FIGURE 4: *Zikanita monnei*, sp. nov., holotype female. A, dorsal view; B, ventral view; C, lateral view; D, head, frontal view.

with margins of segments 1-4 fringed with whitish dense pubescence and long setae scattered along the last fourth segments; last abdominal segment with a medium triangular depression, deep at the apex and becoming more superficial to the middle part, from where it continues to the base as a black glabrous line, with apex widely rounded and slightly emarginated in the middle.

TYPE MATERIAL: Holotype female (CNIN), MEXICO: Chiapas: Municipio de Ocosingo, Chajul, Reserva Montes Azules, 28.IV–5.V.1986, F. Arias, R. Barba, and L. Cervantes.

DIAGNOSIS: This species is distinguished from *Z. perpulchra* Lane and *Z. plumbea* Machado and Monné by the non-tuberculated mesocoxal process, unlike those two species that have a well-defined tubercle. From *Z. diversicornis* Nascimento, Santos-Silva and Barclay, it differs by presenting the tubercles of the pronotum considerably higher and by the central depression of the fifth abdominal segment extending to the middle part. In *Z. diversicornis* the tubercles of the disc are lower and the central depression of the fifth abdominal segment extends from the apex to the base. It differs from *Z. biocellata* (Tippmann) and *Z. argenteofasciata* (Tippmann), by the strongly sinuate apex of elytra and the slightly emarginate apex of the last abdominal segment, both of which are almost straight in the former species.

DISTRIBUTION: This is the first North American record of *Zikanita*, which had previously been recorded only in South America (Bolivia, Brazil, Ecuador, and Peru: Machado and Monné, 2011, Nascimento et al., 2019).

ETYMOLOGY: We dedicate this species to Miguel A. Monné in recognition of his lifetime of producing notable contributions to our knowledge of the Neotropical Cerambycidae.

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