

Description of two new species of *Xenocona* Gilmour (Coleoptera, Cerambycidae, Lamiinae) from Ecuador

Josef Vlasak¹ & Antonio Santos-Silva²

¹ Independent researcher. Schwenksville, PA, U.S.A.

ORCID: <https://orcid.org/0000-0001-7514-0305>. E-mail: josef_vlasak@merck.com

² Universidade de São Paulo (USP), Museu de Zoologia (MZUSP). São Paulo, SP, Brasil.

ORCID: <https://orcid.org/0000-0001-7128-1418>. E-mail: toncriss@uol.com.br

Abstract. *Xenocona* Gilmour, 1960 (Acanthocinini) includes seven species distributed through Central America and northern South America. Here we describe two new species from Ecuador: *X. audureaui* (differing from other species of the genus by the presence of large dark macula on dorsal surface of the basal $\frac{2}{3}$ of the elytra combined with the absence of narrow white pubescent lines on other areas of the elytra) and *X. uniformis* (differing from the other species of the genus by the spiniform outer elytral angle).

Keywords. Neotropical region; South America; Taxonomy.

INTRODUCTION

Gilmour (1960) described *Xenocona* to include *X. pulchra* Gilmour, 1960. Later, Gilmour (1962) described *Alcathousites* to include *A. chaclacayoi* Gilmour, 1962. Monné (2004) synonymized *A. chaclacayoi* with *A. asperipennis* (Fairmaire & Germain, 1859), and Nascimento & Botero (2019) synonymized *Alcathousites* with *Xenocona*, with consequent transference of *Alcathousites senticosus* Monné & Martins, 1976, *A. superstes* (Erichson, 1847), and *A. asperipennis* (Fairmaire & Germain, 1859), and transferred *Lophopoeum forsteri* Tippmann, 1960 to *Xenocona*. Currently, *Xenocona* includes seven species distributed through Central America and northern South America (Monné, 2022; Tavakilian & Chevillotte, 2022).

As we did not examine species of *X. forsteri* (Tippmann, 1960), *X. pulchra* Gilmour, 1960, *X. senticosus* (Monné & Martins, 1976), *X. superstes* (Erichson, 1847), and have doubts about the identity of the specimens identified as *S. penicillata*, it is not possible to provide a reliable key to species of the genus.

MATERIAL AND METHODS

Photographs of were taken by the second author with a Canon EOS Rebel T3i DSLR camera, Canon MP-E 65 mm f/2.8 1-5X macro lens, con-

trolled by Zerene Stacker AutoMontage software; measurements were taken in "mm" using measuring ocular Hensoldt/Wetzlar – Mess 10 in the Leica MZ6 stereomicroscope, also used in the study of the specimens.

The terminology used herein for morphological structures follows Lawrence *et al.* (2010).

The collection acronyms used in the text are as follows:

JVCO – Josef Vlasak collection, Pennsylvania, USA;

MZSP – Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil.

RESULTS

Acanthocinini Blanchard, 1845

Xenocona audureaui sp. nov. (Fig. 1)

Diagnosis: This species is most easily recognized by the presence of large dark macula on dorsal surface of the basal $\frac{2}{3}$ of the elytra combined with the absence of narrow white pubescent lines on other areas of the elytra.

Description: Holotype female: Head capsule brown, except dark brown area behind eyes; wide

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central area of anteclypeus and labrum dark yellowish brown, and dark brown sides; posterior half of mandibles yellowish brown on outer surface, except blackish margins, dark reddish brown on remaining basal $\frac{2}{3}$, blackish on apical third; scape yellowish brown, except brownish base and brownish transverse band on posterior sixth, not reaching ventral surface; pedicel yellowish brown, except large brown macula on dorsal posterior area; antennomeres III-V yellowish brown, except brown macula near base on dorsal surface, and dark brown area close to apex, but not covering apex, especially on IV-V, more reddish brown ventrally, slightly lighter dorsally on IV-V; antennomere VI yellowish basally and apically, with wide brown macula on basal third, not reaching ventral surface, wide brown ring after middle, slightly lighter ventrally, yellowish brown with minute brownish spots interspersed on wide central area; antennomere VII brown on wide central area, slightly lighter ventrally, yellowish basally and apically; antennomeres VIII-XI with large brown maculae dorsally and on part of lateral surfaces, gradually lighter toward XI. Pronotum and sides of prothorax brown, except dark brown anterior and posterior areas of pronotum; prosternum dark brown laterally, dark reddish brown centrally; prosternal process dark orangish brown; ventral surface of meso- and metathorax mostly dark brown, with irregular reddish-brown areas centrally, except mesoventral process mostly reddish brown. Elytra with large dark brown macula dorsally, from base to posterior third, slightly lighter basally, gradually narrowed toward middle, then diamond-shaped toward its apex, except green basal area between centrobasal crest and humerus; with large dark brown band laterally, starting basally close to epipleural margin, distinctly inclined upward on apex of basal quarter, reaching sides of dorsal surface on basal third, then following slightly obliquely toward posterior quarter (distinctly fragmented after middle of elytra); remaining surface greenish, with abundant brownish spots interspersed after middle, except dark yellowish-brown humeral area. Femora yellowish brown, except narrow brownish band on posterior third of femoral club, not reaching ventral surface. Tibiae with brown macula on basal fifth, not reaching ventral surface, and wide dark-brown ring on posterior third, almost absent ventrally on meso- and metatibiae; remaining surface light yellowish brown. Basal $\frac{2}{3}$ of tarsomeres I yellowish-brown, and apical third dark brown; tarsomeres II dark yellowish-brown on basal half, dark brown on posterior half; tarsomeres III-IV dark brown; tarsomeres V dark orangish brown on basal $\frac{2}{3}$, gradually dark brown on posterior third; claws dark orangish brown, except black apex. Abdominal ventrites orangish brown, with large, irregular brownish areas interspersed, except on posterior $\frac{1}{3}$ of V.

Head: Frons minutely, abundantly punctate; with abundant yellowish-white pubescence partially obscuring integument, slightly yellower centrally toward vertex; with one long, erect brownish seta close to each eye. Area between antennal tubercles and upper eye lobes with slightly depressed, glabrous, smooth diamond-shaped

area centrally; remaining surface of vertex with abundant yellowish pubescence almost obscuring integument, sparser on each side of area close to prothorax except glabrous median groove; with a few short, erect yellowish setae close to eyes. Area behind upper eye lobes with dense yellow pubescence, slightly lighter close to vertex and lower eye lobe. Area behind lower eye lobes with yellowish pubescence close to eye superiorly, sparser toward prothorax, with narrow yellowish pubescent band close to eye on wide central area, yellow pubescence close to eye inferiorly, glabrous on remaining surface. Genae finely striate ventrally, minutely punctate toward clypeus; with yellowish-white pubescence not obscuring integument, except glabrous apex. Wide central area of postclypeus with abundant yellowish-white pubescence partially obscuring integument, bristly close to anteclypeus, with a few long, erect yellowish-white setae interspersed laterally, and very long, erect brownish seta on each side; sides of postclypeus glabrous. Labrum with yellowish-white pubescence not obscuring integument on posterior half, absent close to clypeus, almost absent on anterior half, except sparse, short yellowish-brown setae on anterior margin. Gulamentum mostly glabrous, coarsely, transversely rugose, except depressed, finely, sparsely punctate, with short, sparse yellowish-brown setae anterior area. Distance between upper eye lobes 0.21 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.57 times distance between outer margins of eyes. Antennae 2.0 times elytral length, reaching elytral apex at middle of antennomere VI. Scape almost reaching level of posterior margin of scutellum; with abundant yellowish-white pubescence not obscuring integument, slightly more distinct apically. Pedicel with abundant whitish pubescence not obscuring integument, except yellowish-brown pubescence on dark dorsal area. Antennomeres III-V with dense white pubescence basally and apically, abundant yellowish-white pubescence on wide central area, except sparser, yellowish-brown pubescence on dark areas. Antennomere VI with dense white pubescence basally and apically, yellowish-brown on dark areas, yellowish white on remaining surface. Antennomeres VII-XI with dense white pubescence, except sparser, more yellowish-white pubescence on dark area. Antennal formula (ratio) based on length of antennomere III: scape = 1.00; pedicel = 0.13; IV = 0.79; V = 0.54; VI = 0.47; VII = 0.39; VIII = 0.39; IX = 0.38; X = 0.33; XI = 0.36.

Thorax: Prothorax distinctly wider than long; sides with large, conical tubercle centrally, with apex slightly directed upward. Pronotum with large, elevated, tubercle on each side of anterior half, with subtruncate apex, and large, less elevated central tubercle with rounded apex on center of posterior half; coarsely, somewhat abundantly punctate anteriorly and posteriorly, punctures finer, shallower, distinctly sparser on wide central area; with abundant yellowish-white pubescence not obscuring integument close to anterior and posterior margins and between anterolateral tubercles, pale yellow, abundant, not obscuring integument on remaining surface, except



Figure 1. *Xenocona audureaui* sp. nov., holotype female: (A) Dorsal habitus; (B) Ventral habitus; (C) Lateral habitus; (D) Head, frontal view; (E) Centrobasal crest of the elytra.

glabrous apex of tubercles, and two brownish pubescent maculae on each side of central tubercle, innermost distinctly wider; with a few long, erect dark brown setae on sides of posterior region. Sides of prothorax with abundant yellowish-white pubescence not obscuring integument. Prosternum with dense whitish pubescence laterally, slightly sparser centrally. Prosternal process with yellowish-white pubescence not obscuring integument on anterior half, whiter, slightly longer and more abundant on posterior half; narrowest area 0.3 times procoxal width. Ventral surface of meso- and metathorax with dense white pubescence, except yellowish pubescence on sides of mesoventrite, glabrous area close to base of mesoventral process, and slightly sparser on wide central area of metaventrite; metaventrite with a few long, erect yellowish setae centrally; mesoventral process widely concave on apical margin, and apex 0.64 times mesocoxal width. Scutellum with wide yellowish-brown pubescent band centrally, from base to apex, almost glabrous laterally. **Elytra:** Centrobasal crest distinctly elevated, subtruncate, with dense, thick black setae dorsally; with slightly distinct longitudinal carina from apex of centrobasal crest to near posterior third, with minute, sparse tubercles on it; slightly oblique longitudinal carina with sparse, moderately abundant and elevated tubercles from near humerus to near posterior third, more elevated, ending abruptly apically; sides of anterior half forming slightly distinct humeral carina, irregularly tuberculate; coarsely, abundantly punctate on basal half, punctures gradually finer, sparser toward apex; basal sixth with small, sparse tubercles throughout; with abundant yellow pubescence not obscuring integument on sides of basal sixth; with abundant yellowish-white pubescence not obscuring integument on large dorsal dark brown macula; with mostly dark brown pubescence on lateral dark brown macula; with abundant pale-yellow pubescence not obscuring integument on remaining surface, except dense white pubescent maculae laterally, largest on dorsal side of middle, small white pubescent maculae close to narrowest area of large dark brown dorsal macula, and small white pubescent maculae close to suture on posterior third; apex obliquely subtruncate. **Legs:** Femora with abundant white pubescence not obscuring integument, except brownish pubescence on dark area. Tibiae with abundant yellowish-white pubescence not obscuring integument, except white pubescence apically, bristly, yellowish pubescence on ventral surface of meso- and metatibiae, mostly brownish pubescence on dark areas, and thick, erect, abundant dark brown setae on area of dorsal sulcus of mesotibiae. Tarsi with white pubescence not obscuring integument on light areas, dark brown on dark areas; metatarsomere I 1.3 times II-III together.

Abdomen: Ventrites with abundant white pubescence not obscuring integument, slightly sparser centrally on 1-4, distinctly sparser on posterior half of 5, absent on central apex of 1, wide apical center of 2-4, and longitudinal anterocentral area of 5; ventrite 5 subconical, about the same length as previous two together; apex of ven-

trite 5 subtruncate, emarginated centrally. Last tergite triangular-shaped, surpassing elytral apex.

Dimensions in mm: Total length, 10.90; prothoracic length, 1.80; anterior prothoracic width close to head, 2.00; anterior prothoracic width close to lateral tubercle, 2.65; posterior prothoracic width, 2.60; maximum prothoracic width, 3.10; humeral width, 4.25; elytral length, 8.10.

Type material: Holotype female from ECUADOR, *Napo*: Cosanga, 1,900 m, 13.VI.2021, J. Vlasak leg. (MZSP, formerly JVCO).

Etymology: We are pleased to name this species in honor of our colleague and friend Alain Audureau in recognition of his contribution to the study of Cerambycidae.

Remarks: *Xenocona audureaui* sp. nov. is similar to *X. asperipennis* (Fairmaire & Germain, 1859) (Fig. 3), but differs as follows: by the distinctly different elytral pubescence and integument color pattern, especially by the presence of large, dark brown macula on dorsal surface of the basal $\frac{2}{3}$ (absent in *X. asperipennis*), and centrobasal crest of the elytra distinctly longer and more elevated (Fig. 1E) (shorter and less elevated in *X. asperipennis* (Fig. 3B)). It differs from *X. senticosa* (Monné & Martins, 1976) (see photographs on Bezark, 2022), known only by males, especially by the elytra with different pubescent pattern, and with wide yellowish-brown areas (absent in *X. senticosa*).

***Xenocona uniformis* sp. nov.** (Fig. 2)

Diagnosis: This species is easily separated from the other species of the genus by the distinctly spiniform outer elytral angle.

Description: Holotype male (Fig. 2A-G): Integument mostly dark brown; apex of palpomeres, anteclypeus, labrum, margins of abdominal intercoxal process, and apex of abdominal ventrites 1-2 dark reddish brown. Sides of posterior quarter of elytra orangish brown, this area not reaching apex.

Head: Frons minutely, abundantly punctate; with dense yellowish-brown pubescence obscuring integument, pubescence slightly darker on large, somewhat V-shaped area, from anterior third to antennal tubercles; with one long, erect brown seta close to each eye. Area between antennal tubercles and upper eye lobes with dense yellowish-brown pubescence obscuring integument; remaining surface of vertex with yellowish-brown pubescence slightly less dense and darker than between upper eye lobes, except glabrous area close to prothorax. Area behind upper eye lobes with dense yellowish-brown pubescence obscuring integument close to eye, except subtriangular area with sparser brownish pubescence close to inferior area of eye; area close to

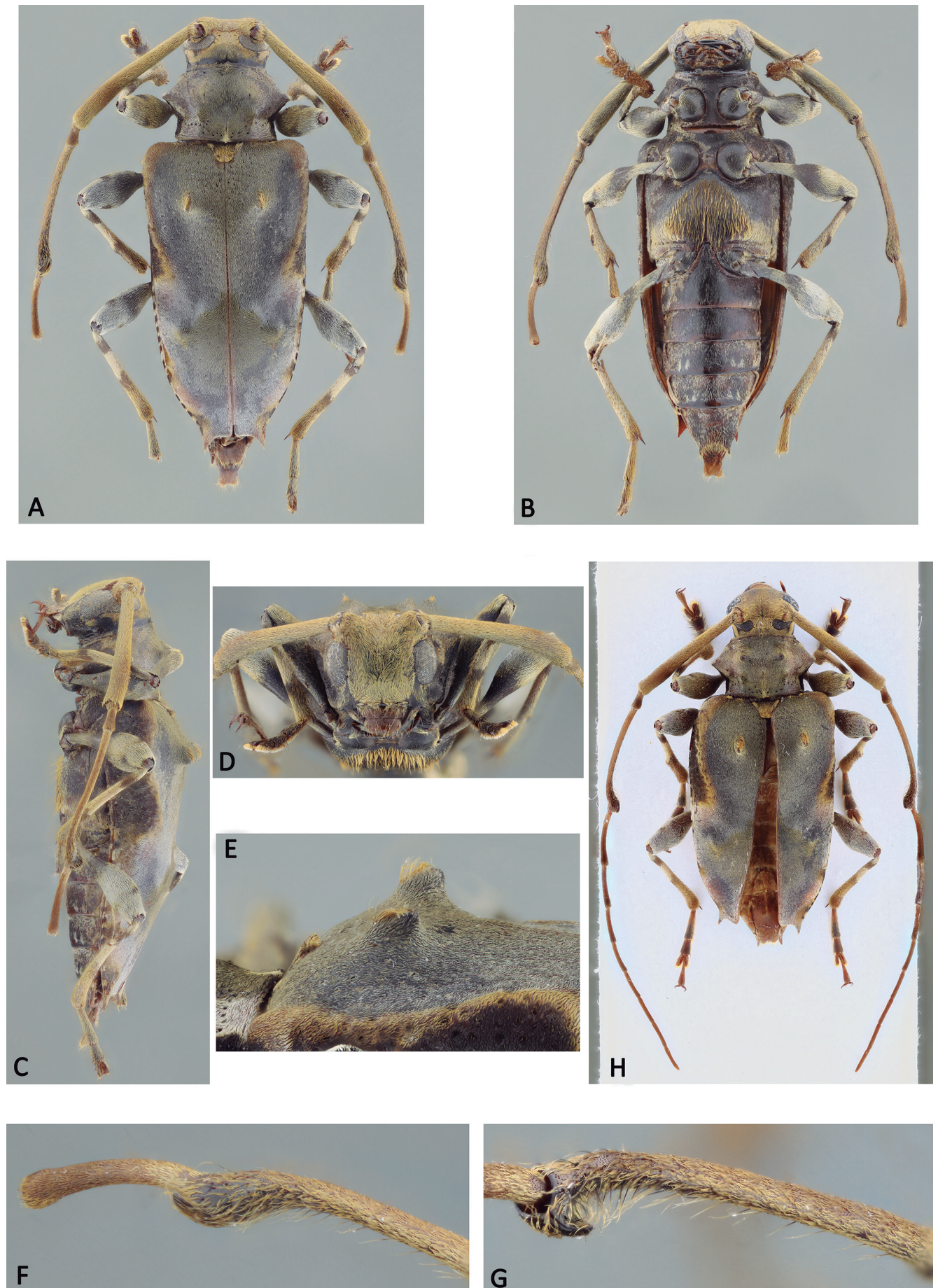


Figure 2. *Xenocona uniformis* sp. nov. (A-G) Holotype male: (A) Dorsal habitus; (B) Ventral habitus; (C) Lateral habitus; (D) Head, frontal view; (E) Centrobasal crest of the elytra; (F) Apex of antennomere III, ventral view; (G) Apex of antennomere III, dorsal view. (H) Paratype male, dorsal habitus.

prothorax glabrous. Area behind lower eye lobes with dense yellowish-brown pubescence close to eye, except glabrous small area slightly after middle; area close to prothorax glabrous. Antennal tubercles with dense yellowish-brown pubescence. Genae minutely, abundantly punctate toward ventral surface, minutely sparsely punctate toward clypeus, except smooth apex; with yellowish-brown pubescence not obscuring integument, except glabrous apex and area close to eye and clypeus. Wide central area of postclypeus with dense yellowish-brown pubescence, absent centrally, bristly close to anteclypeus; with long, erect setae of same color interspersed, and very long, erect seta on each side, brown basally, gradually yellowish toward apex. Sides of postclypeus glabrous. Labrum with yellowish-white pubescence not obscuring integument on wide central area of posterior $\frac{2}{3}$, with dense yellowish-brown pubescence laterally, glabrous on anterior third, except fringe of yellowish-brown setae on anterior margin; central third with long, erect yellowish-brown setae interspersed throughout, and long, erect setae laterally, dark brown basally, gradually yellowish toward apex. Gulamentum somewhat rugose, glabrous, except narrow anterior area with sparse yellowish-brown pubescence. Distance between upper eye lobes 0.25 times distance between outer margins of eyes; in frontal view, distance between lower eye lobes 0.58 times distance between outer margins of eyes. Antennae (from base of scape to apex of antennomere IV) 1.2 times elytral length, reaching posterior sixth of elytra. Scape distinctly surpassing scutellum; with dense yellowish-brown pubescence, slightly darker on sides and ventral surface from after middle to posterior sixth. Pedicel with dense yellowish-brown pubescence basally, dark yellowish-brown on remaining surface, and a few long, erect yellowish-brown setae near apex of ventral surface. Antennomere III with dense yellowish-brown pubescence on $\frac{2}{3}$, slightly sparser, longer, and bristly on posterior third; with long, erect, sparse yellowish-brown

setae ventrally; inner apex (Fig. 2F-G) with large hook-shaped projection. Antennomere IV with dense pale-yellow pubescence on basal quarter and apically, dark yellowish-brown on remaining surface. Antennal formula (ratio) based on length of antennomere III: scape = 1.07; pedicel = 0.14; IV = 0.49.

Thorax: Prothorax distinctly wider than long; sides with large, conical tubercle centrally, with apex directed upward. Pronotum with large, elevated, conical tubercle on each side of anterior half, and somewhat large, slightly elevated central tubercle on posterior half; coarsely, sparsely punctate near anterior margin, coarsely, somewhat abundantly punctate on posterior quarter; remaining surface impunctate; wide central area with abundant yellowish-brown pubescence partially obscuring integument, slightly denser and yellower on sides of anterolateral tubercles, except short pale-yellow pubescent macula centrally close to anterior margin, and short pale-yellow pubescent macula centrally close to posterior margin, this latter denser than the former, and wide, oblique greenish-brown pubescent macula posteriorly, starting on each side of posterior pale-yellow macula; sides of anterior third with abundant yellowish pubescence partially obscuring integument; sides of posterior $\frac{2}{3}$ mostly with abundant grayish-white pubescence partially obscuring integument, sparser on dorsal surface of lateral tubercles of prothorax, except yellowish pubescence close to inferior margin of lateral tubercle of prothorax, and minute dark-brown pubescence laterally behind lateral tubercles of prothorax. Sides of prothorax mostly with abundant yellowish pubescence not obscuring integument, except dense yellowish-brown pubescence anteriorly close to pronotum, and area with sparse brownish pubescence posteriorly, from lateral tubercle to posterior margin. Prosternum with abundant yellowish-white pubescence partially obscuring integument laterally, minute, sparser, grayish-white on remaining surface. Prosternal process



Figure 3. *Xenocona asperipennis* (Fairmaire & Germain, 1859), female from Chile (Tarapacá): (A) Dorsal habitus; (B) Centrobasal crest; (C) Ventral habitus.

with pubescence as on central area of prosternum; narrowest area 0.29 times procoxal width. Side of mesoventrite, mesanepisternum, and mesepimeron with dense yellowish-brown pubescence partially obscuring integument; remaining surface of mesoventrite with minute, sparse grayish-white pubescence. Mesoventral process with minute, very sparse grayish-white pubescence; apex strongly V-shape notched; narrowest area 0.42 times mesocoxal width. Metanepisternum with grayish-white pubescence not obscuring integument on anterior $\frac{2}{3}$, and dense yellowish-brown pubescence on posterior third. Metaventrite with abundant grayish-white pubescence on sides of anterior $\frac{2}{3}$, dense pale-yellow pubescence on sides of posterior third, and central area with subtriangular area with dense, somewhat long, bristly, dense yellowish-brown pubescence. Scutellum with dense yellowish-brown pubescence, except pale-yellow pubescence on basal sides. **Elytra:** Centrobasal crest distinctly elevated, apex oblique toward anterior margin on anterior $\frac{2}{3}$, subtruncate on posterior third, with dense tuft of yellowish-brown setae on oblique region; with oblique dorsal carina after middle, slightly conically tuberculate on its apices; humeral carina well marked on basal half, sinuous and inclined toward dorsal surface; dorsal surface somewhat finely, abundantly punctate on basal third, punctures gradually finer and sparser toward apex; area between epipleural margin and humeral carina coarsely, somewhat rugose-punctate; apex truncate, with spiniform outer angle and rounded sutural angle; basal quarter of dorsocentral region with greenish-brown pubescence, narrowed toward its apex, slightly surpassing level of centrobasal crest, projected toward humerus basally; with longitudinal, slightly yellowish pubescent band from centrobasal crest to anterior margin, following along anterior margin toward humerus, where it turns yellowish brown, following along humeral carina as a narrow band, then abruptly inclined toward epipleural margin at about middle of elytra; with triangular, large greenish-brown pubescent macula on area of posterior oblique carina; outer side of posterior oblique carina with pale-yellow pubescent spot; area between humeral carina and epipleural margin on basal half with minute dark brown pubescence distinctly exposing integument; epipleural margin with dashed white pubescence, with minute, dark pubescence between each dash, from middle to near apex; outer margin of dorsal quarter with irregular yellowish-brown pubescent maculae; remaining surface of elytra with abundant grayish-white pubescence, dense on some areas, slightly sparser on other. **Legs:** Femora with dense yellowish-white pubescence partially obscuring integument, except area between apex of peduncle and club with brownish pubescence on outer side and ventral surface, and small brownish pubescent spot on dorsal surface of femoral club. Protibiae distinctly expanded apically; with somewhat sparse yellowish pubescence basally, dense pale-yellow pubescence on wide central area, dense yellowish-brown pubescence on apical quarter, and brownish pubescence dorsally and laterally between these areas. Meso- and metatibiae with dense yellowish-white pu-

bescence on basal half, except brownish pubescent ring near base, and dense yellowish-brown pubescence on posterior half, except brownish pubescent ring dorsally and laterally, close to yellowish-white pubescence; dorsal sulcus of metatibiae with short, thick blackish setae. Metatarsomere I 1.1 times II-III together.

Abdomen: Ventrites with yellowish-white pubescence not obscuring integument, except glabrous apex of ventrites 1-4, and yellowish-brown pubescence on apex of ventrite 5. Apex of ventrite 5 strongly concave, with outer angles spiniform. Apex of last tergite surpassing elytral apex, with apex rounded and emarginated centrally.

Antennae in the paratype male (Fig. 2H): Antennae 2.25 times elytral length, reaching elytral apex at basal quarter of antennomere V. Antennomere III dark reddish brown on basal $\frac{1}{2}$; antennomeres IV-VI reddish brown on basal quarter, gradually dark brown on posterior $\frac{3}{4}$; antennomeres VII-XI reddish brown. Antennal formula based on length of antennomere III: scape = 1.06; pedicel = 0.15; IV = 0.49; V = 0.37; VI = 0.32; VII = 0.29; VIII = 0.26; IX = 0.25; X = 0.24; XI = 0.25.

Variation in the paratype male: Elytral apex concave between outer and sutural angles.

Dimensions in mm (holotype-paratype): Total length, 13.20-13.80; prothoracic length, 2.15-2.25; anterior prothoracic width, 2.30-2.40; posterior prothoracic width, 2.90-2.95; maximum prothoracic width, 3.65-3.85; humeral width, 4.75-5.05; elytral length, 9.05-9.25.

Type material: Holotype male from ECUADOR, *Napo*: Cosanga, Cabanas San Isidro, 14.VI.2021, J. Vlasak leg. (MZSP). Paratype male (collected as pupa), same data as holotype (JVCO).

Etymology: The specific epithet "uniformis" (Latin, "uni" (one) + "formis" (having the form of)) refers to the relatively uniform elytral pubescence.

Remarks: *Xenocona uniformis* sp. nov. is similar to *X. forsteri* (Tippmann, 1960), but differs by the scape distinctly surpassing level of scutellum (not surpassing in *X. forsteri*), scutellum without longitudinal pubescent band (present in *X. forsteri*), elytra without black maculae on posterior third (present in *X. forsteri*), and elytral apex with outer angle spiniform (not spiniform in *X. forsteri* – the drawing provided by Tippmann (1960) does not agree with the photograph of the holotype).

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