



Two new species of Parandrinae (Coleoptera: Cerambycidae) in the genera *Parandra* and *Acutandra* from South America

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Abstract

Two new species of high-elevation Parandrinae (Coleoptera: Cerambycidae) are described from Bolivia and Ecuador, South America. Both species are unusual in having piceous coloration over most of the dorsal surface. *Parandra (Tavandra) santossilvai* Lingafelter & Tishechkin, **new species**, is described from Achira, Santa Cruz Province, Bolivia, a site at 2,000 meters elevation. *Acutandra caterinoi* Lingafelter & Tishechkin, **new species**, is described from Pichincha Province, Ecuador, from sites between 1,900–2,500 meters. Illustrations, descriptions, diagnoses, and discussion of their generic and subgeneric placements are included.

Key words: longhorned beetles, morphology, taxonomy, Ecuador, Bolivia

Introduction

The Parandrinae of South America are well known, compared to other beetle groups, primarily due to the work of Antonio Santos-Silva and Ubirajara Martins. Their important contributions to the knowledge of Cerambycidae of South America brought together all the current known information on the group up to that time (Santos-Silva and Martins, 2010). Nevertheless, the size of the continent, the paucity of collecting in many regions, and the prevalence of allopatry, especially for montane Parandrinae, demonstrate that additional species remain undiscovered. Two such species, one in the genus *Parandra*, subgenus *Tavandra*, from Bolivia, and one in the genus *Acutandra*, from Ecuador, are described herein from recent explorations. Both of these species are unusual in that they are mostly piceous in color (almost all species of Parandrinae are light reddish-brown), and both species were collected at relatively high elevations (2,000–2,500 meters). The only other Neotropical species of Parandrinae that are mostly piceous in color are *Parandra (Hesperandra) conspicua* Tippmann, 1960, some specimens of *Acutandra murrayi* (Lameere, 1912), and some specimens of *Birandra (Yvesandra) angulicollis* (Bates, 1879).

A chronological review of the pertinent literature leading to Santos-Silva and Martins (2010) seminal work is as follows. Santos-Silva (2002) provided a review of the genus *Parandra*, and elevated some previous subgenera to generic status and proposed several new subgenera. Based on his reclassification, he provided a key to all the genera of Parandrini and the subgenera and species of the current concept of *Parandra*. Santos-Silva refined the definition of the subgenus *Parandra* as including species having the ventral sensorial area of antennomere XI either partially or completely divided by a carina.

Santos-Silva (2003a) reclassified the genus *Hesperandra* Arigony, 1977, removing one species to the genus *Acutandra*, *A. murrayi* (Lameere, 2012), and creating new subgenera, *Zikandra* Santos-Silva, 2003 and *Tavandra* Santos-Silva, 2003. The piceous species mentioned above, *Parandra (Hesperandra) conspicua* Tippmann, was not assigned since Santos-Silva (2003a) did not examine it at that time. That paper provided keys to all subgenera and their species, except for *H. conspicua* and *H. lalanecassouorum* (Tavakilian, 2000).

Santos-Silva (2003b) described a new species of *Hesperandra*, *H. (Tavandra) solangeae* Santos-Silva, from Venezuela. In that work, Santos-Silva stated that few American species of Parandrinae have abundant pubescence on the metasternum—a character that is present in *H. (T.) solangeae* and the other two species of the subgenus *Tavandra*: *H. (T.) colombica* (White, 1853) and *H. (T.) scaritoides* (Thomson, 1861). A key to species in the subgenus *Tavandra* having abundant metasternal pubescence was provided.

Cardona-Duque, et al. (2007) described a new species in the subgenus *Parandra* (*P. (P.) antioquensis* Duque, Santos-Silva, and Wolff) from Colombia from an elevation range between 700–2100 m. It was subsequently transferred to the genus *Birandra* Santos-Silva, 2002, and the only species in the subgenus *Yvesandra* Santos-Silva and Shute, 2009, by Santos-Silva and Shute (2009).

Santos-Silva (2005) described a new species of *Hesperandra* (subgenus *Hesperandra*) from Brazil, *H. (H.) imitatrix* Santos-Silva. *Parandra conspicua* (originally placed in the subgenus *Archandra* by Tippmann, and previously unexamined in Santos-Silva's 2003 paper on *Hesperandra*) was assigned to this subgenus in that work. A key to all the species of the subgenus *Hesperandra* was provided.

Santos-Silva (2007) described a new species, *Hesperandra solisi* Santos-Silva (subgenus *Zikandra*), from Costa Rica and stated it is very similar to *H. (Z.) glabra* (De Geer, 1774), but admitted that many of the species-level characters within the subgenus are variable. A key to all the species of *Hesperandra (Zikandra)* (all from Central and South America) was provided.

In a timely paper before the monograph on South American Parandrinae was completed (Santos-Silva and Martins, 2010), Santos-Silva and Shute (2009) validated the authorship of *Parandra* as Latreille (1802) and designated a new status for *Hesperandra* Arigony, 1977 and *Hesperandra (Zikandra)* Santos-Silva, 2003a as subordinate to *Parandra* Latreille, 1802.

Santos-Silva and Martins (2010) synthesized all the data on South American Parandrinae and provided keys to all genera, subgenera, and species. In summary, the three Parandrinae genera for South America are *Parandra* Latreille, *Acutandra* Santos-Silva, and *Birandra* Santos-Silva. The genus *Parandra* has three subgenera: *Parandra* (ten species in South America), *Tavandra* (nine species in South America), and *Hesperandra* (four species in South America). The genus *Acutandra* has no subgenera and five species in South America. The genus *Birandra* has two subgenera: *Birandra* (three species in South America) and *Yvesandra* (one species in South America).

Since that work, one additional South American species of Parandrinae has been described: *Parandra (Parandra) barclayi* Santos-Silva (2015). This species was described from Peru from a locality at an elevation of 3,550 m, a record for the subfamily in the Neotropics. That work brought the total species of Parandrinae known from South America to 32.

Materials and methods

Specimens of Bolivian Parandrinae in this study were collected during an expedition to Bolivia in 2013 by James Wappes, Andres Garzón, and Steven Lingafelter, accompanied by Toni Bonaso. Specimens of Ecuadorian Parandrinae in the study were collected on an expedition to Pichincha Province in 2011 by Michael Caterino and Alexey Tishechkin. The new species descriptions mostly follow the format of Santos-Silva and Shute (2009) where the male holotype is described in detail, followed by a more brief description of the female paratype(s) that focusses on character states differing from the holotype.

Imaging was done through the use of a Nikon Digital Sight DS-F12 camera attached to a Nikon SMZ18 stereomicroscope and SHR Plan Apo 0.5X objective. Lighting was provided by a P2-FIRL LED ring illumination unit and an NII-LED illuminator using diffusors. Label data from type material is presented verbatim, in quotes. Institution acronyms for specimen depositories and institutional affiliations are as follows: ACMT (American Coleoptera Museum, James E. Wappes Collection, San Antonio, Texas, USA); CUAC (Clemson University Insect Collection, Clemson, South Carolina, USA); MNKM (Noel Kempff Museum, Santa Cruz de la Sierra, Bolivia); PUCE (Pontificia Universidad Católica del Ecuador, Quito, Ecuador); SWLC (collection of Steven W. Lingafelter, Hereford, Arizona, USA); USFQ (Universidad San Francisco de Quito, Quito, Ecuador); USNM (National Museum of Natural History, Smithsonian Institution, Washington, DC, USA).

Taxonomy

Parandra (Tavandra) santossilvai Lingafelter & Tishechkin, new species

(Figs. 1–2)

Description. Male (Figs. 1a–g). Color generally piceous with some areas including vertex of head, most of venter, tarsi, palpi, and antennomeres, dark reddish-brown. Body length (end of elytra to base of mandibles) = 23.5 mm; body width (at humeri) = 6.5 mm. Width of head including eyes slightly broader than pronotum at anterior angles. Mandibles (Fig. 1f) pronounced and sickle-shaped; finely and sparsely punctate, punctures smaller than those on disc of head; apices bifurcate, with three or four small teeth along inner curvature, the largest at approximately apical third. Length of mandible greater than length of head (left mandible = 4.3 mm, right mandible = 3.8 mm). Dorsal surface of head mostly flat with a shallow median longitudinal sulcus. Finely and sparsely punctured along anterior margin, punctation becoming denser and deeper at sides, around eye lobes, and along posterior margin and occiput; most punctures of head larger, deeper, and denser than those of mandibles and pronotum. Punctures very large, deep, and contiguous across anterior half of hypostoma and gula from between posterior eye margin to just before anterior eye margin; sides of punctate region of hypostoma demarcated by distinct, raised carina. Anterolateral region of gula merging with gena and extending as a lobe on either side by almost half the length of gula. Clypeus with abrupt, narrow, truncate projection medially. Eye (Figs. 1f–g) pyriform, less than twice as long as wide, strongly protuberant laterally (intraocular distance 6.7 mm) with posterior ocular edge very distinct. Antenna (Figs. 1c–d) 11-segmented; 3–10 subequal in length; 5–10 with apicoventral projections (largest on 6–8); ventral sensory regions pronounced and divided by pronounced, median longitudinal carina on segments 3–11. Antennal pubescence sparse, longer and more concentrated at apex of most antennomeres.

Pronotum (Fig. 1a) somewhat flattened, maximum width at anterior two-thirds, equal to elytral width at humeri but slightly narrower than head width at eyes, then narrowing markedly on posterior one-third. Pronotal length = 5.0 mm; pronotal width = 6.5 mm. Lateral margins complete and demarcated, but not visible from dorsal view for small region at approximately anterior one-third. Lateral margin continuous with posterior margin in even curvature around posterolateral regions which are not projecting. Pronotal margin not well delineated anteriorly at middle. Pronotal disc with very fine, shallow, widely separate punctures, much smaller than those on head and subequal in size and distribution to those on elytra. Elytra (Fig. 1a) parallel-sided to near apex and then rounded to suture. Elytron 2.26 X longer than wide; elytral length = 14.7 mm; elytral width = 6.5 mm. Sparse, fine, shallow punctures, similar in size and distribution to those of pronotum, scattered throughout surface. Margin delineated and visible from dorsal view except for small area around slightly projecting humeri. Prosternum (Fig. 1b) very sparsely punctate, glabrous, with protuberant but rounded intercoxal process extending beyond procoxae, and with dorsolateral extensions that completely close the procoxal cavities posteriorly. Prosternal intercoxal process 1.5X wider than mesosternal intercoxal process (Fig. 1b). Mesosternum with moderate, fine pubescence anterior to mesocoxae. Metasternum almost half length of elytron and slightly shorter than abdomen, glabrous except for anterolateral portion adjacent to mesocoxae and metepisterna. Metepisternum (Fig. 1g) with scattered, appressed setae throughout, denser than on remainder of venter; sparsely, finely punctate, but much more densely than on adjacent metasternum. Ventrites (Fig. 1b) 1–4 heavily punctate at sides and ventrite 5 punctate throughout. Ventrite 5, 1.3X length of ventrite 4, broadly rounded at apex. Parameres broad, separate, apically rounded and pubescent with golden setae. Femora (Figs. 1b, g) nearly glabrous and very sparsely, shallowly punctate; each slightly shorter than and 1.75X the greatest width of the associated tibia. Tibiae sparsely, shallowly punctate and nearly glabrous with setae primarily on ventral margin and apex; over three times as wide at apex as at base; with complete, or nearly complete median carina on anterior face (nearly straight on pro- and metatibia; sinuate on mesotibia); apices each with two ventral spurs and one dorsal spine. Each tarsus approximately the length of its associated tibia; tarsomere 5 slightly longer than 1–4 combined on each tarsus.

Female (Figs. 2a–g) with proportions, coloration, punctation, and pubescence similar to male with differences noted as follows: overall size slightly shorter but as broad as male (body length = 22.2 mm; body width = 6.5 mm). Head less robust, width including eyes slightly narrower than that of pronotum at anterior angles. Punctation less pronounced around eyes than in male (Fig. 2f). Eyes less projecting than in male and slightly smaller. Mandible (Fig. 2f) subtriangular, not sickle-shaped as in male; much shorter than in male (left mandible = 2.3 mm; right mandible = 2.0 mm); equal to two thirds length of head; more coarsely punctured than in male, punctures

approximately the same size and distribution as on head; apex not bifurcate as in male; with three adjacent teeth at apical third. Pronotum (Fig. 2a) similar to male, slightly shorter (4.7 mm) and narrower (6.3 mm), with an indistinct, oval depression on either side of disc just behind midline. Punctuation of gula/hypostoma (Fig. 2b) much reduced compared to male, with punctures smaller and more sparsely distributed. Gular-genal margins less pronounced and projecting anteriorly by less than one-fourth length of punctate gular region. Terminal ventrite and tergite densely fringed with short, golden pubescence. Ovipositor (Fig. 2e) highly sclerotized with three dorsally projecting teeth increasing in length posteriorly; lateral face rugose.

Discussion. This new species is in the genus *Parandra* based on the distinctly closed procoxal cavities (Santos-Silva & Martins, 2010). The strongly projecting eyes and hypostoma with distinct raised, lateral carinae place this species in the subgenus *Tavandra*, although it superficially resembles a species in the subgenus *Hesperandra*, also from Bolivia (Yungas de Totorá, 2100 m), *Parandra (Hesperandra) conspicua* (Tippmann, 1960) (Fig. 5). Santos-Silva and Martins (2010) characterize the subgenus *Hesperandra* as lacking a hypostomal carina, thus distinguishing it from the subgenus *Tavandra*.

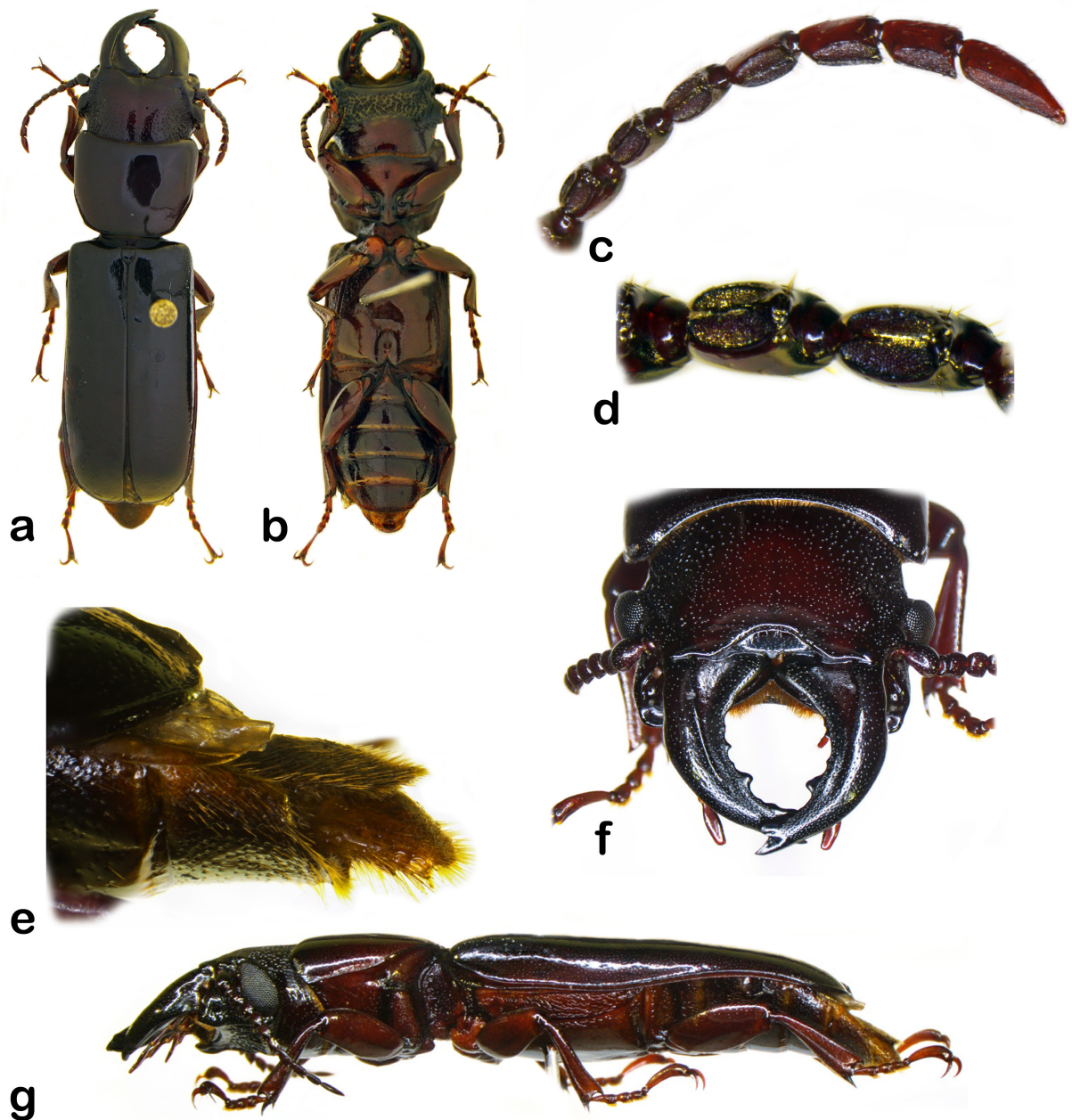


FIGURE 1. *Parandra (Tavandra) santossilvai* Lingafelter & Tishechkin, new species, holotype male. a) dorsal view, b) ventral view, c) antenna, d) close-up of sensory regions of antennomeres, e) lateral view of terminal abdominal sclerites, f) detail of head and mandible, g) lateral view.



FIGURE 2. *Parandra (Tavandra) santossilvai* Lingafelter & Tishechkin, new species, paratype female. a) dorsal view, b) ventral view, c) antenna, d) close-up of sensory regions of antennomeres, e) lateral view of terminal abdominal sclerites, showing ovipositor, f) detail of head and mandible, g) lateral view.

Using the key of Santos-Silva and Martins (2010), the following character states place this new species in couplet 5 with *Parandra (Tavandra) brevicollis* Lameere and *Parandra (Tavandra) villei* Lameere: metepisternum distinctly pubescent; metasternum with pubescence more sparse than on metepisternum and concentrated only around the mesocoxae. It is most similar to *P. (T.) villei* due to the relatively more slender body, very fine but distinct elytral punctures, and labrum with an acute medial process. To modify the existing key, a new couplet is presented (5a) and the original couplet 5 from Santos-Silva & Martins (2010) is translated as (5b):

- 5a. Color reddish-brown over most of dorsal surface; anterior genal projections weak, less than one-third length of punctate region of hypostoma.5b

- 5a'. Color piceous over most of dorsal surface; anterior genal projections at least one-third length of punctate region of hypostoma
 *Parandra (Tavandra) santossilvai* Lingafelter & Tishechkin, new species
- 5b. Body robust; elytral punctation extremely fine and inconspicuous microscopic; apex of labrum truncate (Ecuador)
 *Parandra (Tavandra) brevicollis* Lameere
- 5b'. Body not robust; elytral punctation very fine with distinct pores; apex of labrum acute (Venezuela, Colombia, Ecuador, Peru)
 *Parandra (Tavandra) villei* Lameere

Etymology. It is our pleasure to name this species in honor of Antonio Santos-Silva, among the most productive and generous cerambycid workers. In particular, Antonio has made tremendous contributions toward the knowledge of Parandrinae, and we are pleased to acknowledge his efforts with this patronym.

Type material. Holotype male: "Bolivia: Dept. Santa Cruz, Prov. Florida, Vicoquin Area above Achira, rd to Amboro, 18°07'S, 63°47'W, 2000m, 5–6 Feb. 2013. UV/MV lights, Lingafelter, Wappes, Garzon" (USNM). Paratype female: "Bolivia, S. Cruz Dept., Achira area, N. rd to Amboro on Achira ridge, 18°09'S, 63°48'W, Wappes, Bonaso, Lingafelter, Garzon" (ACMT).

***Acutandra caterinoi* Lingafelter & Tishechkin, new species**

(Figs. 3–4)

Description. Male (Figs. 3a–g). Color generally piceous with some areas including parts of venter, legs, palpi, and antennomeres, dark reddish-brown. Body length (end of elytra to base of mandibles) = 19.7 mm; body width (at humeri) = 6.3 mm. Width of head including eyes slightly narrower than pronotum at anterior angles. Mandibles (Fig. 3f) relatively short, robust, elongate-triangular, dorsal face with distinct sharp ridge; finely and sparsely punctate, punctures smaller than those of head; apices bifurcate, left mandible with three large teeth along inner curvature, the largest being the basal-most, right mandible with two weak tooth-like projections. Length of mandible shorter than length of head (left mandible = 2.0 mm, right mandible = 1.7 mm). Dorsal surface of head weakly convex with a shallow median inverted T-shaped sulcus. Disc finely, rather densely and evenly punctured; most punctures of head larger, deeper, and denser than those of mandibles and pronotum. Punctures small and sparse across anterior half of hypostoma and gula from between posterior eye margin to just before anterior margin, this area with two deep transverse sulci, spaces between outer ends of these sulci and posterior eye margins flat, with small dense punctures. Anterolateral region of gula merging with gena and extending in lobe on either side by less than one-third the length of gula. Clypeus with broad triangular projection with sub-acute apex medially. Eye (Figs. 3f–g) bean-shaped, about twice as long as wide, weakly protuberant laterally (intraocular distance 5.3 mm). Antenna (Figs. 3c–d) 11-segmented; 3–10 subequal in length, 3 being the longest; apicoventral projections weak and indistinct; ventral sensory regions pronounced and divided by distinct, median longitudinal carina on segments 3–11. Antennal pubescence sparse, present only in apical areas of most antennomeres.

Pronotum (Fig. 3a) moderately convex, maximum width near anterior angles, equal to elytral width at humeri, then narrowing posteriorly. Pronotal length = 4.7 mm; pronotal width = 6.5 mm. Lateral margins complete and demarcated, dorsally visible and continuous through posterior margin. Posterolateral regions not projecting. Pronotal margin not delineated on anterior edge of pronotum. Pronotal disc with distinct anteromedial and medial longitudinal impression and fine, shallow, relatively dense punctures, only slightly smaller than those on head and elytra. Elytra (Fig. 3a) parallel-sided to near apex and then rounded to suture. Elytron 2.11 X longer than wide; elytral length = 13.3 mm; elytral width = 6.3 mm. Rather dense, fine, shallow punctures, similar in size to those of head, evenly covering elytral surface. Margin delineated and visible from dorsal view except for small area around slightly projecting humeri, anterior two-thirds of lateral sides distinctly sulcate next to margin. Elytral disc with two weak and low, but distinct, longitudinal ridges in anterior two-thirds, inner one being slightly shorter than outer one, especially posteriorly. Prosternum (Fig. 3b) sparsely punctate, glabrous, with declivous rounded intercoxal process slightly extending beyond procoxae; dorsolateral extensions closing external halves of the procoxal cavities posteriorly. Prosternal intercoxal process subequal in width to mesosternal intercoxal process (Fig. 3b). Mesosternum asetose. Metasternum almost half length of elytron and slightly shorter than abdomen, glabrous, with small sparse punctures being larger and denser anteriorly and laterally. Metepisternum (Fig. 3g) glabrous, punctation similar to that of adjacent metasternum. Punctation of ventrites (Fig. 3b) similar to that of metasternum, slightly denser, especially at sides. Ventrite 5 length subequal to that of ventrite 4, straight at apex. Femora (Figs.

3b, g) nearly glabrous and very sparsely, shallowly punctate; each subequal to and 2.0–2.2X the greatest width of the associated tibia. Tibiae sparsely, shallowly punctate and nearly glabrous with setae primarily on ventral margins and apex; about 2.5 times as wide at apex as base; with complete, or nearly complete straight middle carina on anterior faces; apices each with two ventral spurs and one dorsal spine. Each tarsus approximately three-quarters length of its associated tibia; tarsomere 5 slightly longer than 1–4 combined on each tarsus.

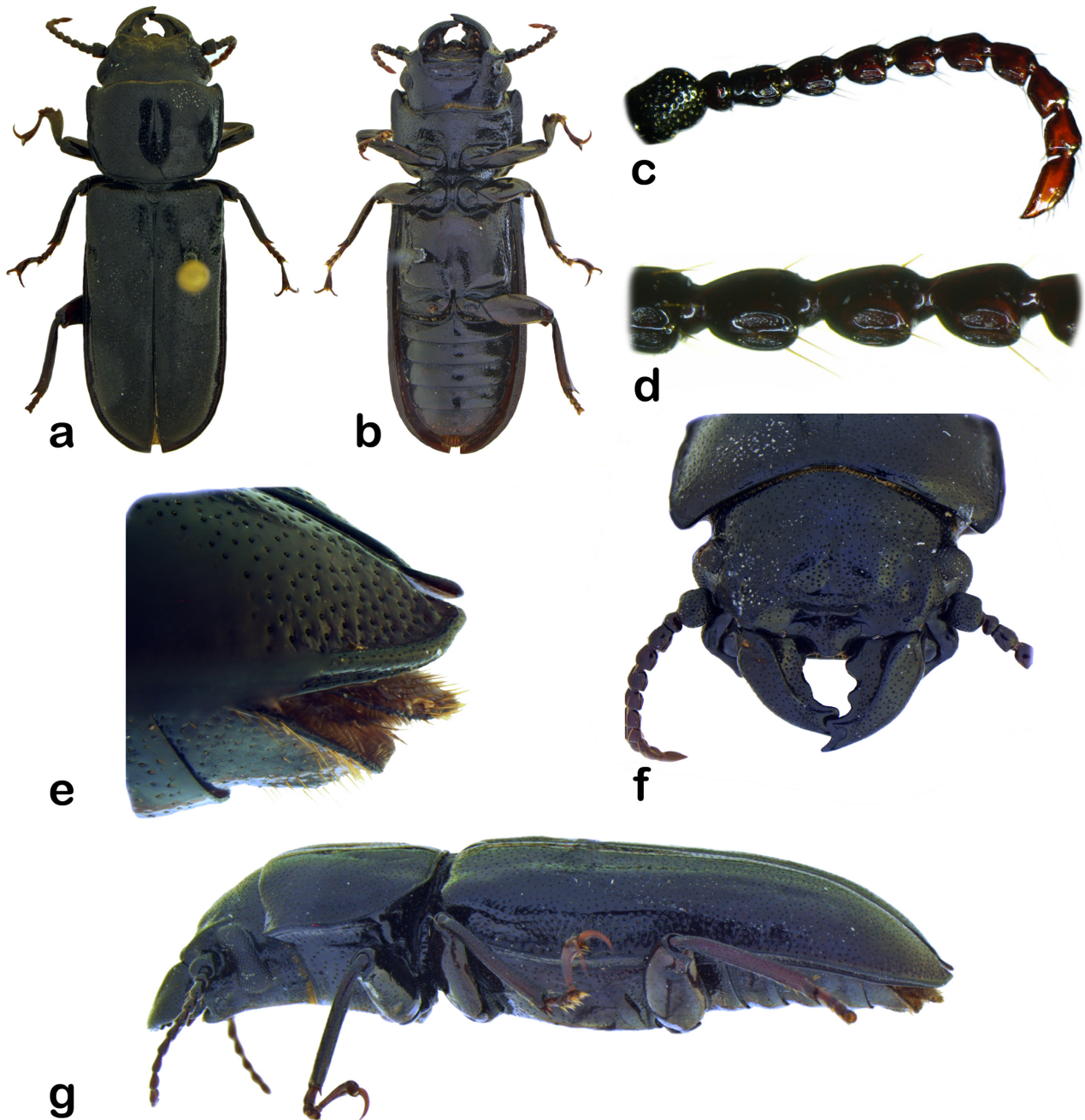


FIGURE 3. *Acutandra caterinoi* Lingafelter & Tishechkin, new species, holotype male. a) dorsal view, b) ventral view, c) antenna, d) close-up of sensory regions of antennomeres, e) lateral view of terminal abdominal sclerites, f) detail of head and mandible, g) lateral view.

Female (Figs. 4a–g) with proportions, coloration, punctation, and pubescence similar to that of male with differences noted as follows: overall size, slightly longer and broader than male (body length = 19.2–23.7 mm; body width = 6.3–7.5 mm). Head less robust; width including eyes slightly narrower than that of pronotum at anterior angles. Eyes less projecting than in male and slightly smaller. Median sulcus not T-shaped, just longitudinal. Mandible (Fig. 4f) shaped as in male, broader basally, with weak and indistinct dorsal ridge; slightly

shorter than in male (left mandible = 1.3–2.0 mm; right mandible = 1.3–1.7 mm); both mandibles with three teeth, much shorter, broader and blunter than in males. Lateral margins of pronotum (Fig. 4a) rounded, widest point approximately at anterior third; pronotum dimensions similar to those of male (length 4.0–5.0 mm, width 5.7–7.0 mm), punctation distinctly denser, longitudinal median impression much less pronounced. Anterior gular/hypostoma area (Fig. 4b) without transverse sulci, its surface somewhat irregularly, densely punctate. Punctuation of metasternite and abdominal ventrites much sparser than male, especially laterally. Terminal ventrite somewhat narrower and longer than in male. Ovipositor (Fig. 4e) highly sclerotized with two dorsally projecting teeth, basal one wider, bicuspidate.

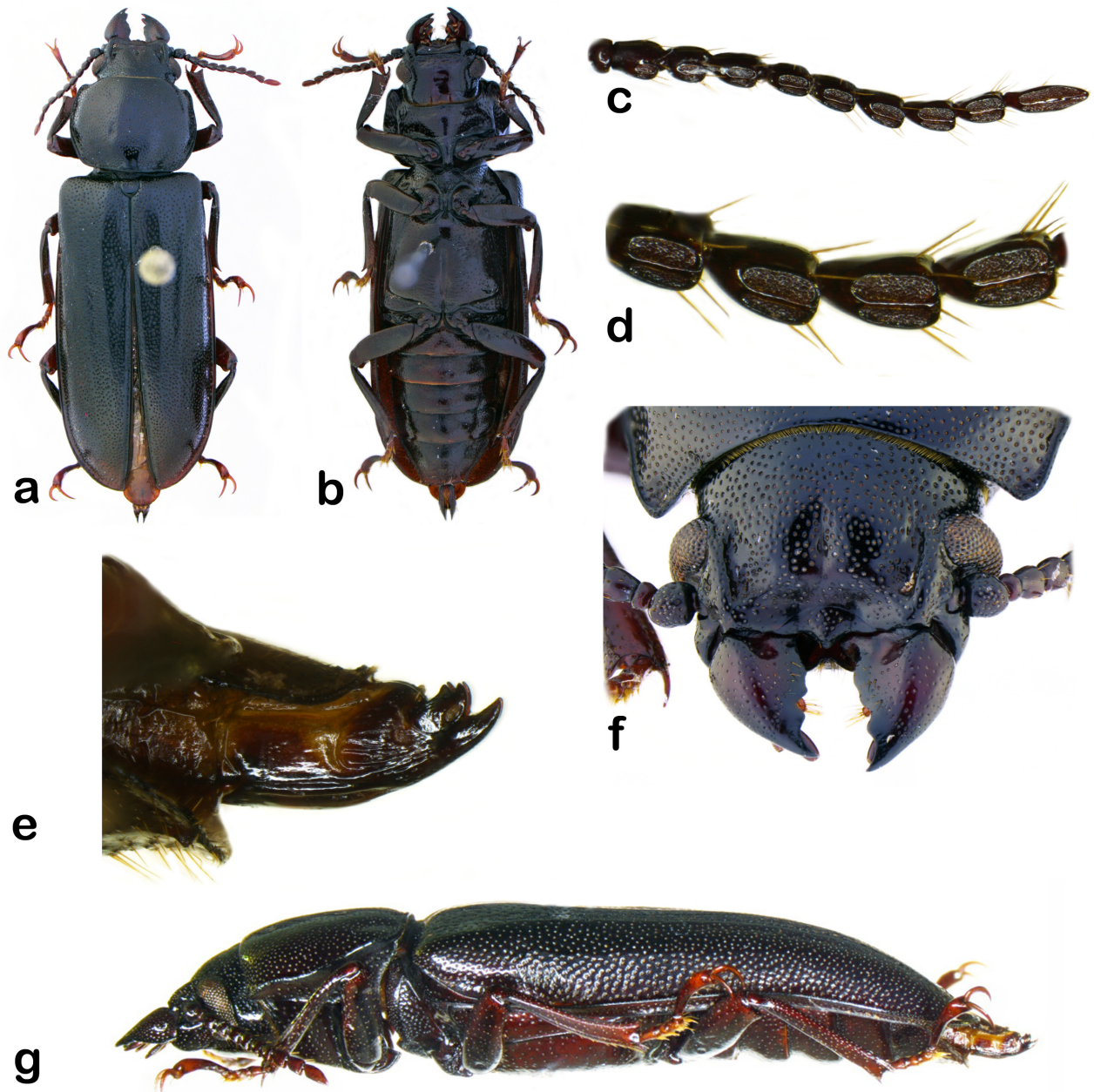


FIGURE 4. *Acutandra caterinoi* Lingafelter & Tishechkin, new species, paratype female. a) dorsal view, b) ventral view, c) antenna, d) close-up of sensory regions of antennomeres, e) lateral view of terminal abdominal sclerites, showing ovipositor, f) detail of head and mandible, g) lateral view.

Discussion. This new species belongs in the genus *Acutandra* due to the open procoxal cavities, sinuate anterior margin of the pronotum, acute apex of the labrum in both sexes, and modest mandibles that are not falciform in both sexes. *Acutandra* contains five species and is restricted to South America (Santos-Silva and Martins, 2010). No species of *Acutandra* have been recorded from Ecuador. In Santos-Silva and Martins's (2010)

key to species of *Acutandra*, *A. caterinoi* possesses the following character states taking it to couplet 4 with the species *A. murrayi* (Lameere) from east and south Brazil and *A. araucana* (Bosq) from Chile and Argentina: ventral antennal carinae present dividing the sensory regions of each antennomere; eyes small and not prominent; antennomeres III and IV approximately equal in length; dorsal sensory region of antennomere XI small in both sexes, but well-delimited. It is most similar to *A. murrayi* in having antennomeres 3 and 4 subequal in length and a distinctly delimited dorsal sensory region on antennomere XI. A new couplet is presented (4a) and the original couplet 4 is translated (4b) from Santos-Silva & Martins (2010):

- 4a. Posterolateral margin of pronotum weakly produced, lateral margin unevenly curved at junction with posterior margin; pronotum without or with very weak medial longitudinal impression; color most often reddish brown (Brazil, Chile, Argentina) 4b
- 4a'. Posterolateral margin of pronotum not produced, lateral margin evenly curved to posterior margin; pronotum with distinct anteromedial and longitudinal impressions; color piceous over dorsal surface (Ecuador) *Acutandra caterinoi* Lingafelter & Tishechkin, new species
- 4b. Antennomeres 3 & 4 subequal in length; dorsal sensory area of antennomere XI well delimited and deep. (East and south Brazil) *Acutandra murrayi* (Lameere)
- 4b'. Antennomere 3 longer than 4; dorsal sensory area of antennomere XI poorly delimited and shallow. (Chile, Argentina) *Acutandra araucana* (Bosq)

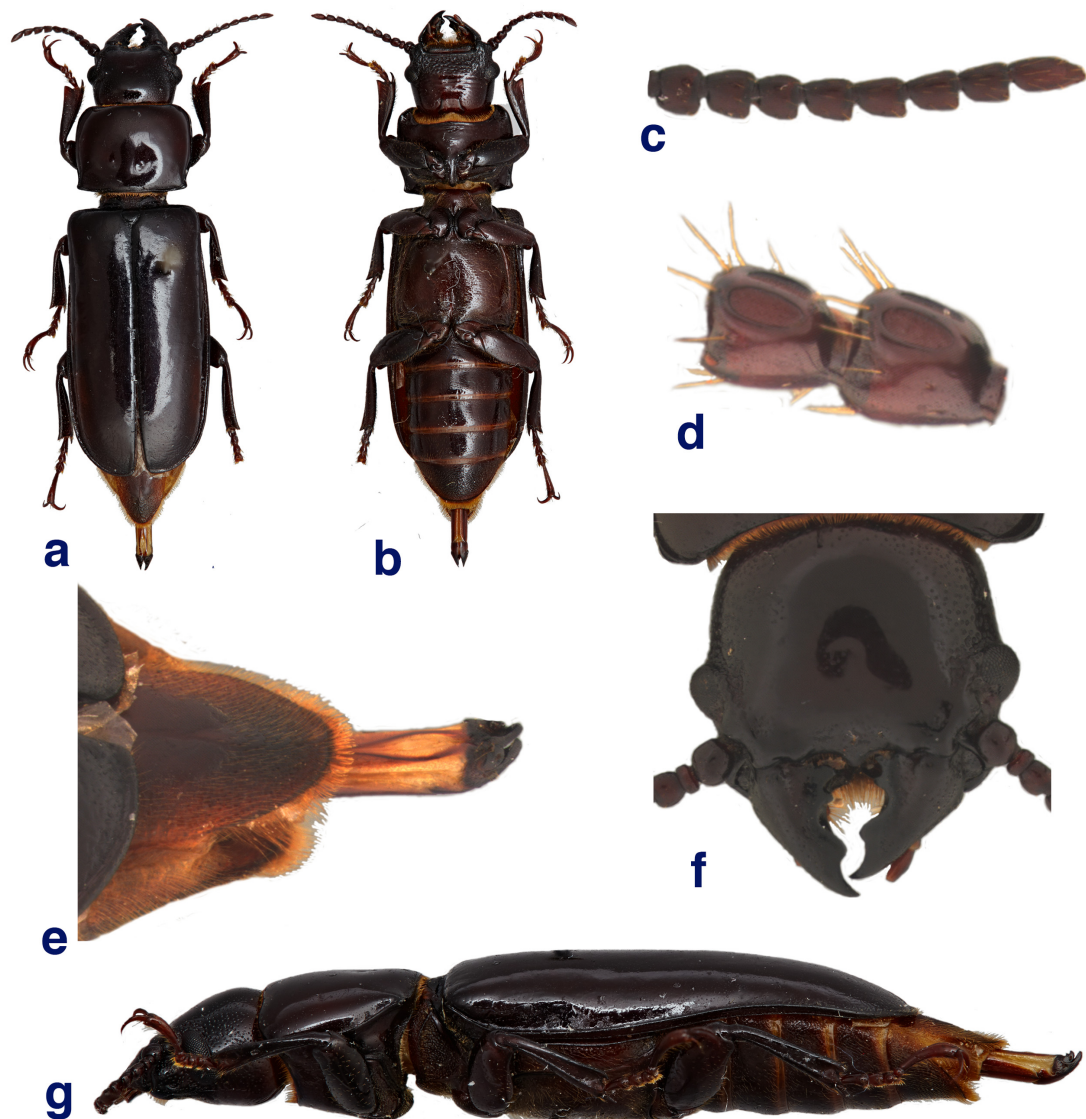


FIGURE 5. *Parandra (Hesperandra) conspicua* (Tippmann), holotype male. a) dorsal view, b) ventral view, c) antenna, d) close-up of sensory regions of antennomeres, e) lateral view of terminal abdominal sclerites, f) detail of head and mandible, g) lateral view.

Etymology. We dedicate this species to Michael S. Caterino, a colleague and friend, co-collector of the type series, in recognition of his contributions to the study of the Neotropical beetles.

Type material. Holotype male: "ECUADOR: Pichincha, Res. El Pahuma. 1,900–2,100m. 0.0264°N 78.6344°W. Hand coll. 28.v.-1.vi.2011. AT1324. M.S. Caterino & A.K. Tishechkin" (USNM). Paratypes: one female with same data as holotype (CUAC), four females with the same locality and collector data, but collected on 28–31 May 2011 at 2500 m under bark/in rotten wood (PUCE, SWLC, USFQ, USNM)

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