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## BOLIVIAN RHINOTRAGINI VII: PROVISIONAL REPORT OF HIGHER ALTITUDE SPECIES (COLEOPTERA, CERAMBYCIDAE) WITH DESCRIPTIONS OF NEW TAXA

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### ABSTRACT

*Three new genera are described: Ephippiotragus with two new species, E. wappesi and E. thomasi; Amborotragus with A. vestigiepimeron sp. nov.; and Tomopterchasia with T. sullivanorum sp. nov. Additionally, five new species are described: Acyphoderes amboroensis, Isthmiade mariahelenae, Chrysaethe lazzoi, Ecliptoides pseudovicinus, and Stenopseustes lingafelteri. All the new species are illustrated, and host flower records provided. A striking example of structurally different genitalia in two very closely related species is illustrated and briefly discussed. Ischasia cuneiformis Fisher, 1952 is transferred to Tomopterchasia. The following new country records for Bolivia are registered: Odontocera hirundipennis Zajciw, 1962 and Odontocera ornaticollis Bates, 1870.*

KEY-WORDS: Bolivia; Cerambycinae; Genitalia; Host flowers; Submontane; taxonomy.

### INTRODUCTION

This paper, the author's seventh devoted to the Bolivian Rhinotragini, is a provisional account of taxa from higher altitudes (1000-2000 m) in the departments of Santa Cruz and Chuquisaca.

The search for higher altitude Rhinotragini in Bolivia is still far from complete, as extensive areas of these densely forested, submontane life zones in the departments of La Paz, Cochabamba and Tarija have not been visited by the author; and nothing at all is known about the Rhinotragini of Bolivia's montane zones.

The one locality (Bicoquin/Floripondio, 1700-2000 m) where substantial collections have been made has proved to be rich in endemic new species, as well as three new genera.

A literature search for higher altitude records in other countries has only provided meagre information,

as they are often omitted from specimen labels and publications; and only in Mexico (Volcan Colima, 1800 m) have Rhinotragini been collected at altitudes approaching the highest in Bolivia (where the author has yet to establish the altitude above which Rhinotragini do not occur).

### MATERIAL AND METHODS

Most of the material studied was collected in the Department of Santa Cruz, in the Province of Florida (18°08'S/63°44'W), 100 km west of the lowland city of Santa Cruz. The remaining material was collected 300 km to the south, in the subhumid Chaco Forests of the Andean foothills: at the foot of Incahuasi (1070 m) in the Department of Santa Cruz (19°49'S/63°40'W), and above Incahuasi (1600 m) in the Department of Chuquisaca.

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Species from higher altitudes in Bolivia which have already been described Clarke (2010, 2011, 2012), Clarke *et al.* (2011), and Santos-Silva *et al.* (2010) are briefly included for the sake of completeness.

*Measurements:* These can vary considerably, depending on the size of the specimen; but variation is significantly reduced in specimens of similar size to those referred to in the text.

Total length = tip of mandibles to apex of abdomen. Forebody length (estimated with head straight, not deflexed) = apex of gena to middle of posterior margin of metasternum. Length of abdomen = base of urosternite I (apex of abdominal process) to apex of urosternite V. Length of rostrum = genal length (from apex of side to where it meets inferior lobe of eye). Length of inferior lobe of eye (viewed from above with the scale along side of gena): from the lobes most forward position to its hind margin (adjacent to, and slightly to the side of, antennal insertion). Width of inferior lobe of eye (with head horizontal and level viewed from directly above) = width of head with eyes at its widest point, minus width of interocular space, and divided by two. Interocular space between inferior lobes = its width at the narrowest point (including smooth lateral margins). References to antennal length in relation to body parts are made, as far as is possible, with head planar to dorsad and antenna straightened. Length of leg (does not include coxae) = length of femur (from base of femoral peduncle to apex of claw) + length of tibia + length of tarsus (does not include claws).

The terminology used to describe the genitalia follow those used by Sharp & Muir (1912): aedeagus = the median lobe and tegmen together; tegmen = the term applied to the lateral lobes and basal piece together (since Sharp & Muir do not do so, the author refers to the two halves of the basal piece as the "sclerites"); median lobe = the central portion of the aedeagus upon which the median orifice is situated.

The acronyms used in the text are as follows: American Coleoptera Museum, San Antonio, Texas, USA (ACMT); Carnegie Museum of Natural History (CMNH); Florida State Collection of Arthropods, Gainesville, Florida, USA (FSCA); Museo Noel Kempff Mercado, Universidad Autónoma Gabriel René Moreno, Santa Cruz de la Sierra, Bolivia (MNKM); Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil (MNRJ); Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil (MZUSP); National Museum of Natural History, Washington (NMNH); Robin Clarke/Sonia

Zamalloa private collection, Hotel Flora & Fauna, Buena Vista, Santa Cruz, Bolivia (RCSZ).

The bibliographic references for each taxon correspond to the original description as cited in the catalogue by Monné (2005), and additions to this catalogue.

## RESULTS AND DISCUSSION

### *Acyphoderes amboroensis* sp. nov.

#### Fig. 1A

*Holotype male:* 14.2 mm. Deposited at MNKM.

*Diagnosis:* *Acyphoderes amboroensis* is most closely related to *A. carinicolis* Bates, 1873, but differs by the following characters: legs black, with or without dark chestnut hue, except basal half of metafemoral peduncle yellow (in *A. carinicolis* legs rufous and black, base of meso- and metafemoral peduncle yellow); pronotum lacking patches of pubescence (in *A. carinicolis* pronotum with patches of golden or silvery pubescence); apex of elytra reach middle of urosternite IV (in *A. carinicolis* middle of III); sides of soleate depression towards apex of urosternite V raised, but not tuberculate (in *A. carinicolis* sides of this depression raised into pair of upright tubercles); abdominal process about 30° to abdomen (in *A. carinicolis* abdominal process planar with abdomen).

Two species of South American *Acyphoderes*, *Acyphoderes itaiuba* Martins & Galileo, 2004 and *Acyphoderes odyneroides* White, 1855 also have inclined abdominal processes, but in their case 90-100° to abdomen. *A. amboroensis* is also readily separated from the former by its, simple, setose metatibiae (in *A. itaiuba* the metatibiae have brushes); and also easily separated from the latter by the apex of its elytra, which are not spined (in *A. odyneroides* the apex of the elytron is drawn out into a spine).

Both *Acyphoderes amboroensis* and *A. carinicolis* differ from other South American species of *Acyphoderes* by the following characters: metatibiae simply setose (in other species metatibiae with distinct brush); rostrum short, width/length 2.40-2.50 (in other species rostrum either very short, width/length 2.80-3.60, or long, width/length 1.70-1.80); length antennomere III moderately short, lengths III/scape 1.14-1.19 (in other species length antennomere III either very short, lengths III/scape 0.85, or long, lengths III/scape 1.40).

*Description of holotype:* Colour black, only mouthparts, humeri, translucent panels on elytra, and most

of metatibial peduncle yellow or yellowish; and inner edge of mandibles, antennomeres IV-XI and tarsi chestnut.

*General pubescence:* Upper side of head and elytra almost glabrous; pronotum with uniform, moderately dense, erect to suberect, brown pubescence. Under-side with similar, but longer and denser pubescence on mentum-submentum and prosternum; and on metasternum and metepisternum, but hairs subrecumbent and ashy, and on apex of mesepimeron and front margin of metasternum overlying layer of dense, short, white hairs. The latter also clothing surfaces of all urosternites, except hind margins (which are smooth and glabrous). Scape, pedicel and antennomeres III-V with thick, black setae ventrally. Legs covered with moderately dense, suberect, whitish pubescence (longest towards apex of metatibiae); on tarsi hairs rather short, thicker and chestnut.

*Surface ornamentation:* Puncturation on upper side of head, and on all of prothorax and sides of elytra, small and dense (on the latter two more uniform, contiguous and alveolate); and at base of elytra larger, alveolate, and slightly beveled (only elytral panels impunctate). Surface of antennomeres, meso- and metasterna, abdomen and tibiae, minutely shagreened and closely micropunctate; larger, simple, deep punctures only found between carinas of mentum-submentum, on antennal clava and pedicel (these remaining shiny), femora, and surface of soleate depression of urosternite V.

*Structure:* Moderately small and narrow; elytra subulate and slightly dilated towards rounded apex; forebody 0.87 length of abdomen. Head with eyes (1.70 mm), distinctly narrower than width of prothorax. Rostrum 2.4 wider than long, and almost parallel-sided. Labrum rather small; with rounded sides and weakly emarginate apex; nearly twice as wide as long; and punctate. Clypeus almost planar with frons; only punctate adjacent to basal margin. Eyes large; rounded, length and width of inferior lobes (0.70 mm), about one third longer than genae; their proximal margins just lying on genae, distal margins truncate; width of one inferior lobe 2.3 times interocular space (0.30 mm). Superior lobes of eye with 10-12 rows of fine ommatidia, separated by (0.60 mm) about 2.5 times their own width. Antennal tubercles with rounded apices; the distance between them more than twice width of scape. Antennae moderately long, reaching apical third of urosternite I; antennomeres subfiliform; VI-X weakly serrate, the apical angles rounded; scape subcylindrical, not much

shorter (0.80 mm) than antennomere III; pedicel oval (0.25 mm); III cylindrical, longer (0.95 mm) than rest; IV short (0.60 mm); V-VII (0.65-0.70 mm); VIII (0.60 mm); IX (0.55 mm); X (0.50 mm); XI (0.55 mm) relatively wide, with narrower apical cone. Prothorax elongate, 1.1 longer than wide; widest at apical third; sides not at all sinuate, well rounded from weak apical constriction to narrow basal constriction; pronotal surface uneven, its convexity interrupted by calli, and between the pair of lateral calli depressed; lateral calli lie within middle half of disc, arched, narrow and impunctate anteriorly, wider, more prominent and closely punctate posteriorly; median callus impunctate, narrow and short. Prosternum not declivous across middle, but front margin prominent, sloping to prosternal process; the latter moderately arched, base narrowing towards apex, width of base 8.0 times narrower than width of coxal cavity; apex elongate and trapezoidal, the apical half bent upwards. Procoxal cavities ovate, distinctly closed behind, plugged laterally. Mesosternum deeply and abruptly declivous. Base of mesosternal process moderately broad (0.25 mm), sides well raised, much narrower than coxal cavity (0.75 mm); apex of mesosternal process bilobed (separated by short wide notch), the lobes moderately short, narrow and divergent. Mesocoxal cavity narrowly open to mesepimeron; the latter narrow, and constricted at middle, depressed at midline. Scutellum scutate, moderately short, rounded at apex. Elytra subulate and subfissate (leaving apices of elytra well apart); 3.1 longer than width of humeri, reaching middle of urosternite IV; narrow, and not hiding mesosterna; sides narrowing behind shoulders as far as basal third, then almost subparallel to apex, apical fifth sublobate; apices flat and slightly oblique (lateral side longer), and bluntly acuminate. Humeri slightly projecting and moderately prominent. Surface of elytron sloping from humerus towards scutellum, area adjacent to scutellum moderately raised, thus leaving a narrow elongate depression between humerus and scutellum; without humero-apical costa; epipleur not vertical adjacent to humerus, flat (with border clearly visible) and narrow to apex; inner side of epipleur incrementally raised towards apex of elytron, leaving a narrow, but distinct fold almost to apex; the rest of elytron's surface rather flat, and largely occupied by the translucent panel, which is well demarcated mesally by the relatively strong sutural border, and laterally by the closely punctured, black epipleur (only at base is panel poorly delimited, where a narrow part of it projects into the depression between humerus and scutellum). Metasternum large, convex, slightly less so behind (and planar with mesocoxae); sides rounded

from base to middle of apical margin; longitudinal suture almost complete (albeit shallow and narrow to front, deeper and broader behind); metasternal process short, wide, and triangular, with thick, raised borders at apex, the latter acuminate. Metepisternum not strongly cuneate, widest at base, and moderately narrowed to apex. Abdomen moderately vespiform, narrowest at middle of urosternite I, widest at base of IV (and V hardly narrower than IV). Urosternites nearly quadrate to weakly transverse, slightly rounded at sides; urosternites I (1.70 mm) the longest, II and III (1.40 mm); IV (1.30 mm); V (1.20 mm); V weakly trapezoidal, bell-shaped depression occupying most of disc, its sides not strongly, but rather abruptly raised (viewed laterally appearing winged with short rounded apices); apical margin almost truncate. Abdominal process moderately inclined (approx. 30 degrees) to abdomen; narrow and triangular, sides raised, intimately inserted between metacoxae; entirely yellow in colour. Apical tergite moderately short, subtrapezoidal, apex emarginate, and hardly overlapping apex of urosternite V. Legs rather long and robust; ratio length front, middle, and hind leg 1.0:1.2:1.7; strongly pedunculate-clavate; profemora 2.00 mm long, mesofemora shorter (2.70 mm) than metafemora (3.80 mm); meso- and metafemoral peduncles narrow and flat, pro- and mesofemoral claws moderately tumid, the latter more tumid mesally (width of clave/length femora 3.0). Profemoral peduncle very short (about 1/8 length of clave); profemur and protibia equal in length (2.00 mm); protibia with lateral side obliquely excised at apex, and apical margin projecting at middle. Protarsomeres I and II trapezoidal, I quadrate, II transverse, III wider than I and II (the lobes broad and weakly separated, mesal lobe longer than lateral one). Mesotibia (2.00 mm) shorter than mesofemur, cylindrical, almost straight, and steadily thickened to apex. Mesotarsus similar in structure to, and equal in length to, protarsus (1.50 mm). Hind leg moderately long (9.00 mm), about two-thirds total length of body; apex of femora reaching apex of urosternite III, clave fusiform and subabrupt, about 1/3 longer than peduncle; metatibia (3.50 mm long) cylindrical, robust, bisinuate, widening from middle to apex; metatarsus robust, 2.20 mm long; metatarsomere I elongate (widening slightly to apex), 1.6 longer than II+III; II trapezoidal and wider than I, III wider than II, the lobes rather elongate and not widely separated.

*Measurements (mm)*: 1 male: total length 14.2; length of pronotum 2.3; width of pronotum 2.1; length of elytra 7.2; width at humeri 2.3.

*Type material*: Holotype male, BOLIVIA, *Santa Cruz*, Provincia Florida, Floripondio (east), 18°08'S/63°44'W, 1914 m, on/flying to flowers of "Sotillo", 26.XI.2009, Clarke & Zamalloa col. (MNKM).

*Etymology*: This species' name refers to Amboró National Park, whence (Latin, "ensis") the species came from.

### *Aechmutes subandinus* Clarke, 2012

*Aechmutes subandinus* Clarke, 2012:74.

*Material examined*: Holotype male, BOLIVIA, *Santa Cruz*, Estancia Caraparicito, 6 km W Caraparicito, 19°48'76"S/63°39'67"W, 1070 m, on/flying to flowers of *Croton* sp. A, 03.I.2008, Clarke & Zamalloa col. (MNKM). Paratypes, *Chuquisaca*, Incahuasi, 1600 m, E Muyupampa, XII.1984, L.E. Peña col., 1 male and 1 female (MZUSP), and 1 female (RCSZ).

### *Anomalotragus morrissi* Clarke, 2010

*Anomalotragus morrissi* Clarke, 2010:242; Monné & Bezark, 2012:154 (checklist).

*Material examined*: BOLIVIA, *Santa Cruz*, Amboró Rd above Achira Campo, 18°07'43"S/63°47'98"W, 1768 m, 1 female (Holotype), 09-11.X.2004, Morris & Wappes col. (MNKM).

*Comment*: Although not registered on the insect's label, it is probable that the above specimen was collected from flowers of *Sagüintillo* (Wappes, *pers. comm.*).

### *Isthmiade mariabelenae* sp. nov.

**Figs. 2A, 2B, 12A**

*Holotype male*: 15.6 mm. Deposited at MNKM.

*Diagnosis*: *Isthmiade mariabelenae* sp. nov. is very similar in appearance to *Isthmiade ichneumoniformis* Bates, 1870 (see Clarke, 2009: Figs. 3A, 3B), but on examination, with marked differences as follows: colour distribution (mandibles entirely black, pronotum only black at anterior margin, scutellum yellow, underside almost entirely orange-red, legs entirely dark coloured); pubescence (patches of recumbent pubescence white); and structure, the most important

being: rostrum longer, female interocular not carinate, elytra more than three times longer than width of humeri (and, when seen from directly above, hardly hide sides of sterna), prosternum strongly declivous across middle, apex of prosternal process trapeziform, metasternum strongly tumid (leaving metacoxae well below its level), male abdomen apiform (widened towards apex) and urosternite V differentiated (with deep, horseshoe-shaped depression), female abdomen with urosternites much widened (III almost 1.5 width of I) and urosternite V only weakly elongate, legs comparatively more slender (peduncles longer and femora not as abrupt, nor as robust).

However similar the two species, the tegmen of the aedeagus of *I. mariabelenae* (Fig. 12A) and *I. ichneumoniformis* (Fig. 12B) are unexpectedly, and strikingly, different: in *I. mariabelenae* robust and compact; lateral lobes wide and proximate, and slightly twisted; apices slightly expanded, and apical margin rounded, and the only area bearing rather few, fine setae; and basal piece relatively short (in *I. ichneumoniformis* tegmen is composed of two setose, elongate, narrow, diverging, acuminate lateral lobes, these not at all robust, nor compact, nor twisted, and the basal piece long. Median lobes of the two species show few differences.

*Comment:* The extraordinary differences described between the tegmen of these two, strikingly similar species, mandates serious introspection regarding the importance of genital structure as a tool for determining species' relationships. That the median lobes of the two species are so similar in structure, only adds to the difficulty of explaining the apparent anomaly. The author has examined the genitalia of more than 100 species of Rhinotragini without finding anything similar. Before attempting any interpretation of this example, and any declaration suggesting it be one of nature's anomalies, it would seem prudent to further the examination of genitalia among Neotropical Cerambycidae.

*Description of holotype:* The following opaque black: head (including mandibles and antennal segments I-IV) and front margin of prothorax; the following opaque chestnut: rest of antenna, centre of prosternum, apical third of elytra, and legs (except mesocoxae paler); the following translucent orange-red: rest of prothorax, meso- and metasterna, and urosternites I-IV; the following translucent yellow: mouthparts, post coxal process, mesepimeron, scutellum, basal two-thirds of elytra (disc almost vitreous), and urosternite IV. Abdominal process whitish in colour. Pre-apical band on wings ochraceous-yellow.

*General pubescence:* Head almost glabrous, genae and frons with sparse, very short, recumbent pubescence; submentum and gula with group of short setae at each side. Scutellum completely clothed with, and sides of pronotum (adjacent to procoxae) with moderately small patch of, glistening white recumbent hairs; rest of pronotum glabrous. Prothorax anterior to prosternal process and apical half of metasternum somewhat sparsely hirsute, mesepimeron and base of metasternum clothed with glistening white, recumbent pubescence; metepisternum and sides of abdomen almost glabrous (urosternites I-III with sparse, long hairs towards midline), IV with additional scattered, recumbent hairs, the latter becoming dense on V; tergites with short golden coloured pubescence; pleurites of all abdominal segments adorned with farinose, golden coloured pubescence.

*Surface ornamentation:* Punctures non-alveolate. Labrum with single large, setaceous punctures to each side, and two groups of very small punctures to each side of midline; clypeus impunctate; frons with mix of large and small punctures, smaller and contiguous towards sides, interocular impunctate; vertex inconspicuously carinate, with single row of well separated punctures between antennal tubercles, these extending around inner and hind margins of superior lobes in two irregular rows, leaving vertex partly impunctate; mentum-submentum inconspicuously, transversely carinate, with irregular lines of large and small punctures, gula impunctate; prosternum anterior to prosternal process with irregular, sparse, large and small punctures, interstices micro-punctate; pronotum almost impunctate, sides with few scattered punctures, and below white pubescence somewhat more densely punctured (representing the sexual puncturation); disc of elytra with shallow, irregular, sparse, small punctures, basal half with single row of deeper, small punctures adjacent to sutural border, towards sides punctures denser, and larger on humero-apical costa; mesosternum micropunctate at centre smooth towards sides; metathorax similar, metasternum with small, dense, somewhat beveled punctures adjacent to midline; abdomen almost impunctate, micropunctate where pubescent, dense on urosternite V.

*Structure:* Forebody (6.55 mm) 0.71 length of abdomen (9.25 mm). Head with eyes (1.90 mm) slightly narrower than prothorax. Frons separated from clypeus by strong, transverse declivity; frontal suture represented by deep V-shaped depression extending to hind margin of antennal tubercles. Rostrum widest (1.35 mm) at base, 1.8 wider than long (0.75 mm);

sides slightly constricted at middle. Labrum small and projecting, transverse, rectangular (three times wider than broad), apical half slightly declivous. Inferior lobes of eyes subcontiguous, interocular distance (0.20 mm) 4.5 width of lobe (0.90 mm); very convex laterally; below level of interocular medially; distal margin lying on frons, proximal margin oblique. Superior lobes with 11-12 ommatidia, relatively proximate; interocular distance (0.50 mm) twice width of lobe (0.25 mm). Area of submentum depressed with evanescent, arched carinas; not separated from gula by distinct declivity. Antennae slender, somewhat short, reaching apical third of urosternite III; VI-X with short, but acute, serrations; scape (0.85 mm) more than four times longer than pedicel, two-thirds length of antennomere III (1.30 mm); IV (1.00 mm); V (1.35 mm), slightly longer than VI (1.30 mm); remaining antennomeres gradually shortening to X (1.00 mm); X1 slightly longer (1.05 mm). Prothorax about 1.1 longer (2.15 mm) than wide (2.00 mm); sides deeply constricted at base and apex, middle third occupied by large, rounded callus; width of front and hind margins equal (1.80 mm). Pronotal disc with five prominent calli; those to either side of centre subcircular; median callus elongate and narrowed posteriorly; posterior pair with secondary, smaller callus laterally, and slightly behind each one. Prosternum abruptly declivous across apical third; basal two-thirds strongly inclined to base of prosternal process. The latter rather long, and almost flat; about 12 times narrower than width of coxal cavity; apex trapezoidal, sides hardly raised, declivous across apical third. Postcoxal process relatively broad (0.25 mm), closing posterior coxal cavities. Mesosternum deeply and abruptly declivous; mesosternal process moderately broad at base (0.25 mm), about one third width of coxal cavity; apex weakly cordiform with well elevated sides. Scutellum moderately large, rather narrow, subtrapezoidal, sides slightly sinuate, apex truncate. Elytral surface adjacent to scutellum narrowly raised and concolourous with basal two-thirds of elytra. Elytra elongate (7.60 mm), 3.30 width of humeri (2.30 mm), reaching base of urosternite III; narrowed from humerus to apex; dehiscent for apical half; humero-apical costa weak (absent from humeri, and weakest at middle, only slightly salient towards apex, absent from extreme apex); apical margin slightly thickened and obliquely truncate. Metasternum tumid (more so behind); more prominent than mesocoxae; and much more prominent than metacoxae; sides rounded from base to middle of apex; longitudinal suture long, occupying apical four-fifths, not deeply impressed behind. Abdomen moderately

robust and elongate; subparallel (broadest at middle of urosternite III and IV), urosternite I longest (2.65 mm), cylindrical, and constricted at middle; II (1.85 mm), slightly trapezoidal, narrowest at base, sides almost straight; III (1.65 mm) subquadrate; IV transverse (1.40 mm). Urosternite V (0.90 mm) trapezoidal; with strong horseshoe-shaped depression from near base to apex (sides of depression raised and extended posteriorly, almost "winged"); apical margin rounded, but slightly sinuate at each side. Abdominal process long and narrow; base vertical; apex recurved and horizontal to abdomen (and deeply inserted between metacoxae). Legs long and moderately robust, ratio of length from front to hind leg 1.0:1.4:2.5. Front leg (5.85 mm): peduncles very short; clave fusiform, moderately robust and abrupt, sides only moderately flattened; tibia straight, sides subparallel (narrow at extreme base, gradually widening to apex), apex weakly excised laterally. Middle leg (7.95 mm): femora slightly bisinuate; peduncle flattened (about half length of clave); clave fusiform (and sinuate at apex), moderately abrupt, flattened laterally, slightly less so mesally; tibia straight, slightly flattened, gradually widening from middle to apex, and rather abruptly widened at extreme apex. Hind leg (14.70 mm): femora more cylindrical, peduncle straight and cylindrical (about half length of clave); clave not well demarcated from peduncle (but more so when viewed laterally, appearing narrowly fusiform), apex reaching basal third of urosternite IV; tibia cylindrical, bisinuate (when viewed laterally, straight from directly behind), slightly shorter (5.65 mm) than metafemora, gradually thickened to apex, rather finely setose, and without specialised pubescence. Pro- and mesotarsi similar; tarsomeres rather narrow (I moderately elongate, II slightly elongate and trapezoidal, III wide and moderately strongly bilobed). Metatarsus also narrow (but more robust); hardly setose; metatarsomere I cylindrical and curved, about 1.3 longer (1.40 mm) than II+III (1.10 mm); II cylindrical (with narrow base); III small, narrow, and deeply bilobed; onychium moderately long and robust.

*Male variation:* Colour differences are few; most of prosternum (but not post-coxal process) and all coxae may be black; legs may be almost black; elytral epipleur from behind humeri may be dusky.

*Description of female (Fig. 2B):* Example size 19.50 mm. Colour differences limited to the following: mouthparts may be darker; centre of mesosternum, metasternum adjacent to mesocoxal cavities, apical half of urosternite V dusky (and in largest

female all urosternites clouded dusky); and legs black. Surface pubescence (and its corresponding puncturation, is sparser or absent, dense patches of white pubescence absent, except on mesepimera.

*Structure:* Rostrum almost parallel sided, about 1.8 wider than long (0.90 mm), equal to length of inferior lobe. Labrum larger, 2.5 wider than broad. Inferior lobes of eyes smaller and less convex than in male; proximal margin reaching sides of genae, posterior margin more oblique; well separated, the distance between them equal to width of one lobe (0.75 mm); interocular demarcated by raised sides (these extending onto frons beyond front margin of lobes); bisected by moderately deep and wide frontal suture, each half depressed to midline, with short, comma-shaped sulcus anteriorly (containing group of 2-3 small punctures), and irregular group of small contiguous punctures posteriorly. Superior lobes of eyes with 11-12 ommatidia, relatively proximate, interocular distance (0.50 mm) twice width of one lobe. Area of mentum-submentum lacking carinas. Antennae as male, but reach middle of urosternite III. Prothorax very similar to that of male, but almost quadrate (1.04 longer than wide); central callus distinctly more prominent than others on disc; and prosternal process slightly arced and wider (base about 0.2 width of coxal cavity). Mesosternal process wider than male, about half as broad as coxal cavity, and without elevated sides. Scutellum as male, but apex slightly emarginate. Elytra 3.0 longer than width of humeri, reaching apex of urosternite II; more strongly dehiscent than in male (leaving apices much wider apart, the tips of latter with slightly inwardly projecting lobes). Abdomen vespiform; very robust (almost twice as wide as that of male); urosternites II-IV much wider than I (III the widest, almost 1.5 wider than I), and more rounded at sides; V triangular, with apical margin moderately acuminate, but otherwise undifferentiated; abdominal process as in male, but slightly broader. Legs very similar to male; ratio length front, middle and hind leg the same (but front leg somewhat shorter than in male); metatarsomere I 1.3 longer than II+III.

*Measurements (mm):* 8 males/5 females: total length 15.35-18.7/18.25-21.05; length of pronotum 2.25-2.45/2.35-2.70; width of pronotum 1.85-2.05/2.15-2.50; length of elytra 7.10-8.25/7.60-10.00; width at humeri 2.20-2.50/2.60-3.15.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (east),

18°08'S/63°44'W, 1914 m, on/flying to flowers of "Sotillo", 27.XI.2009, Clarke & Zamalloa col. (MNKM).

*Paratypes with nearly same data as holotype:* 3 males, 1 female, 26.XI.2009 (RCSZ); 1 male, 27.XI.2009 (MNRJ); 2 males, 29.XI.2009 (RCSZ, ACMT).

*Paratypes with same locality as holotype, but different host flower:* On/flying to flowers of "Sagüintillo", 1 male, 1 female, 29.XI.209, Clarke & Zamalloa col. (MZUSP); 1 male, 1 female, 29.XI.209, Clarke & Zamalloa col. (MCNZ).

*Paratype with slightly different locality from holotype, and different host flower:* Floripondio (west), 18°08'S/63°45'W, 1893 m, on/flying to flowers of "Lloque colorado", 1 female, 02.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Comment:* "Lloque colorado" is also known by the local name "Garapatillo" (tick-like), which refers to the appearance of the seeds of this shrub.

*Etymology:* This new species is dedicated to Dr. Maria Helena Galileo (MCNZ) in recognition of her huge contribution cataloguing the Neotropical Cerambycidae.

### *Odontocera hirundipennis* Zajciw, 1962

*Odontocera hirundipennis* Zajciw, 1962:423; Monné, 2005:474 (cat.); Monné & Hovore, 2006:118 (checklist).

*Material examined:* BOLIVIA, Beni, Alto Beni, Rio Inigua, 1100 m, 1 male, I.1976, L.E. Peña col. (MZUSP). Santa Cruz, Provincia Florida, Refugio Los Volcanes, 18°06'S/63°36'W, 1036-1280 m, 1 female, 16-20.IX.2012, Wappes, Kelley, Bonaso & Hamel col. (ACMT).

*Discussion:* As this species is not recorded by Wappes *et al.* (2006) in their preliminary checklist of Bolivian Cerambycidae, nor in their (2011) additions and deletions to that list, these are new country records.

### *Odontocera ornaticollis* Bates, 1870

*Odontocera ornaticollis* Bates, 1870:323; Monné, 2005:476 (cat.); Monné & Hovore 2006:119 (checklist).

*Material examined:* BOLIVIA, Santa Cruz, Provincia Florida, Refugio Los Volcanes, 18°06'S/63°36'W, 1036-1280 m, 1 female, 16-20.IX. 2012, Wappes, Kelley, Bonaso & Hamel col. (ACMT).

*Comment:* This is only the second record of this species for Bolivia; the first taken by the author at 420 m, 1 male, 18.IV.2008, near Buena Vista. As this species is not recorded by Wappes *et al.* (2006) in their preliminary checklist of Bolivian Cerambycidae, nor in their (2011) additions and deletions to that list, these are new country records.

***Chrysaethe lazzoi* sp. nov.**

**Figs. 3A, 3B, 3C**

*Holotype male:* 11.10 mm. Deposited at MNKM.

*Diagnosis:* The pronotum of *Chrysaethe lazzoi* is closely punctured, lacking transverse striae or sulci, a character it shares only with *Chrysaethe beltiana* and *Chrysaethe viriditincta*. *C. lazzoi* and *C. viriditincta* are readily separated from *C. beltiana* by the longer, more filiform antennae, with antennomeres VII-X slightly thickened and serrate (in *C. beltiana* the antennae are shorter, moderately crassate, and more strongly serrate).

Giesbert (1991) states that *C. viriditincta* is easily distinguished by the colour of its integument, which is basically testaceous, with the entire body heavily infuscated with metallic green. *Chrysaethe lazzoi* is very variable in colour, from entirely blackish with violet sheen, through entirely metallic blue, or green (or combinations of these colours), with or without red elytral base; but in all the specimens examined the metallic colour is fully opaque. Moreover, the legs in *C. lazzoi* (except the meso- and metafemoral peduncles in some specimens) are entirely dark and metallic, in *C. viriditincta* entirely orange-testaceous.

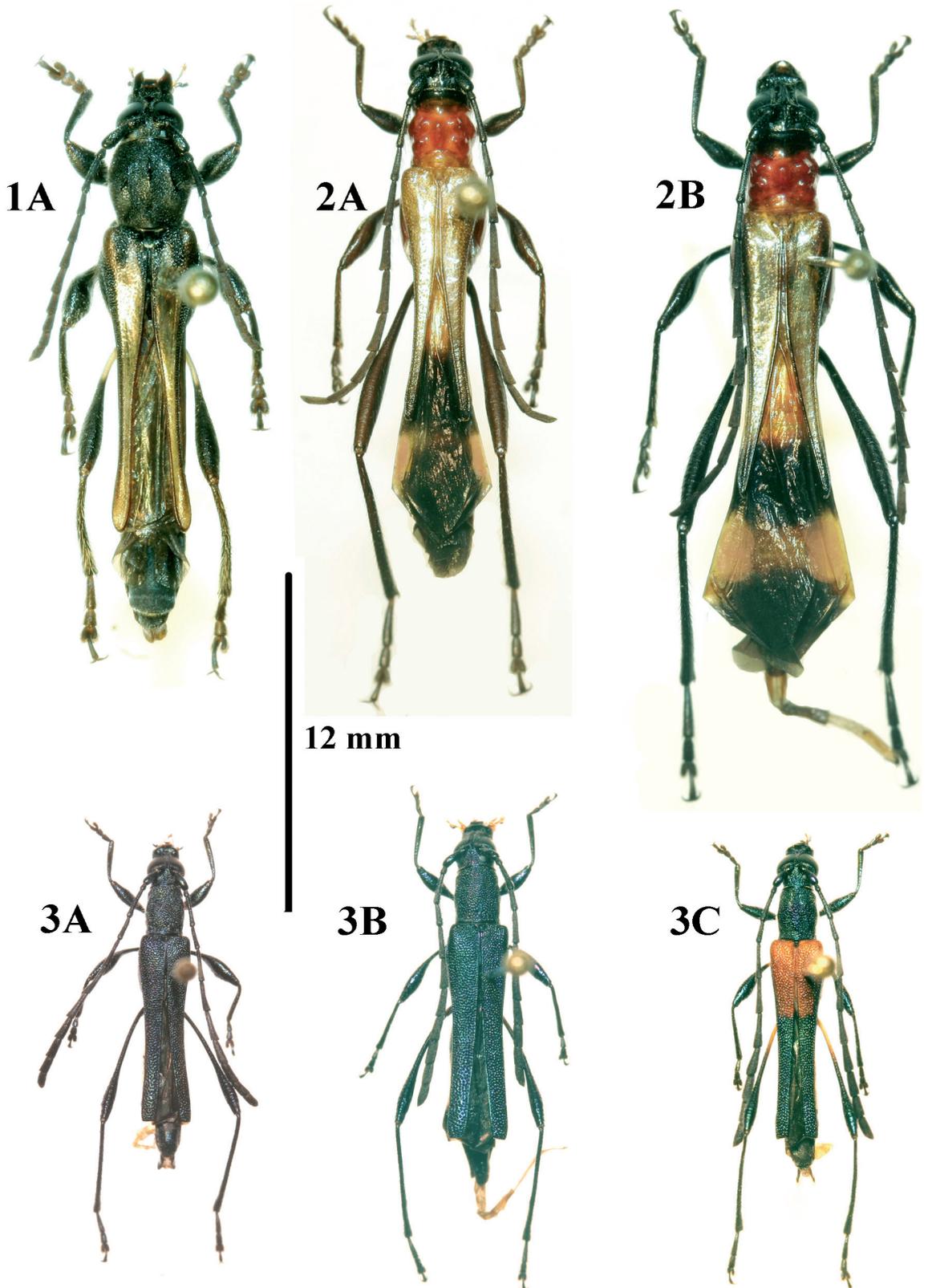
*Description of holotype:* General colour opaque black with shining metallic, royal-blue reflection above, green below; except the following (and see variation): apical antennomeres and all third tarsomeres duller; mouthparts (but not palps) yellowish.

*General pubescence:* Dorsad apparently glabrous (only elytra with indistinct, short hairs); and almost free of long setae (including antennae, elytra and legs). Mentum- submentum glabrous, with about a dozen fine setae laterally. Underside with patches of glistening white pubescence, the latter dense, short and

recumbent, especially on the following: centre of prosternum; indistinct patch on side of pronotum (adjacent to coxal cavity); all of mesepimeron; metasternum (mixed with longer, semi-erect, straight hairs), and similar, but sparser, on metepisternum. Abdomen almost uniformly covered with moderately sparse, straight hairs, and denser untidy hairs (rather woolly in appearance). Last visible tergite sparsely clothed with small, scabrous hairs.

*Surface ornamentation:* Strong, more so on dorsad; and complex (each body part characteristic). Head smooth, with small punctures, moderately dense on frons; confluent and alveolate on vertex; small, shallow, and scattered amongst weak carinas, on mentum-submentum. Prothorax almost uniformly, densely and deeply punctate (only apical third of prosternum smooth and almost impunctate), the punctures small and generally contiguous to confluent, with strongly reticulate interstices; centre of prosternum with confluent, semi-alveolate punctures; pronotum with alveolate punctures of irregular size, the largest towards midline, the smallest towards base and sides (the latter, pubescent, representing the sexual puncturation). Elytra entirely punctate, the punctures contiguous, moderately deep and alveolate; on disc larger and almost uniform in size; at base mixed with smaller ones; and adjacent to suture uniformly small; at narrowest part of elytra with rows of five punctures (two small, three large). Mesosternum reticulate with irregular mix of shallow, large and small punctures; at centre deeper, subalveolate, and micro-punctured anteriorly. Metathorax generally smooth and shining (only base of metasternum dull with dense micro-punctures); the punctures shallow, small, somewhat beveled, and sparser towards midline of metasternum, and only absent from extreme base of metepisternum. Surface of abdomen transversely, finely striate, with moderately dense, small, beveled punctures, generally denser towards sides (and all of urosternite V); some larger ones at base of urosternite I.

*Structure:* Forebody (5.40 mm) equal to length of abdomen (5.40 mm). Head with eyes (1.35 mm) slightly wider than pronotum. Rostrum moderately narrow (1.00 mm) and long (0.50 mm), shorter than length of inferior lobes (0.80 mm), sides slightly widened to apex. Labrum moderately small, declivous across middle, apical margin excavate. Clypeus rather strongly declivous across middle, impunctate anteriorly, posteriorly sharing small, round, shallow punctures of frons. Eyes large and convex; distal margin of inferior lobe lying on frons, proximal margin



FIGURES 1-3: 1, *Acyphoderes amboroensis* sp. nov.: A = male holotype. 2, *Isthmiade mariahelena* sp. nov.: A = male holotype, B = female paratype. 3, *Chrysaethe lazzoi* sp. nov.: A = male holotype, B = female paratype, C = male paratype (colour variety).

almost truncate. Inferior lobes planar with interocular; close, but not contiguous; interocular distance (0.10 mm) much narrower than width of one lobe (0.65 mm). Superior lobes with 10-11 rows of ommatidia; the width of one lobe (0.20 mm) about half interocular distance. Antennae reach base of urosternite V, passing apex of elytra at base of antennomere XI; antennomeres III-V filiform and densely setose (the setae rather short), VI widened at apex (setose at base and apex), VII and VIII widening to apex, IX and XI widest and parallel sided, XI with apical cone; VI-X modestly serrate, but the serration acute. Scape subpyriform (0.70 mm), two-thirds length of antennomere III (1.05 mm), IV equal to scape, V the longest (1.20 mm), VI equal to III, VII slightly shorter (1.00 mm), VIII (0.90 mm), IX (0.85 mm), X (0.70 mm), XI (0.80 mm). Prothorax cylindrical; about 1.4 longer (1.85 mm) than wide (1.30 mm); sides slightly sinuate, widest just behind middle; apical constriction weak, basal constriction moderate; front margin (1.10 mm) narrower than hind margin (1.30 mm). Prosternum broadly depressed across apical middle; prosternal process arched, sides slightly raised, base moderately long, narrow (0.50 mm), about one tenth width of coxal cavity, apex trapezoidal, slightly depressed towards centre. Coxal cavities closed at sides and behind. Pronotum convex, the surface irregular as follows: apical third somewhat depressed; basal sixth occupied by basal constriction; the rest midline raised (separated from sides of disc by inconspicuous, narrow sulci); sides of disc occupied by pair of inconspicuous, saddle-shaped calli (which do not overhang basal constriction). Mesosternal declivity deep, but less than abrupt; mesosternal process moderately narrow (0.20 mm), about one quarter width of coxal cavity, depressed to midline, slightly widened to form bilobed apex (the lobes rounded at sides, not divergent, but separated by deep notch). Mesepimeron moderately narrow and constricted to middle. Coxal cavity narrowly open to mesepimeron. Scutellum characteristic: small and oval, apical half occupied by deep, round fossa. Elytra almost hiding sides of mesoterna; basal half moderately convex, moderately flattened to apex (epipleur abrupt for basal third, flat for apical two-thirds); apex reaching apex of urosternite IV; about 3.6 longer (6.55 mm) than width of humeri (1.80 mm); humeri well demarcated, moderately prominent, square (but not projecting forwards); humero-apical costa hardly traceable (and absent from apical third); not strongly dehiscent (suture almost straight, but gaping from just behind scutellum). Each elytron gradually narrowing for basal two-thirds, slightly diverging to apex; suture bordered

throughout, terminating in small tooth; apex truncate (slightly crenallate), lateral angle blunt.

Metasternum tumid (at middle planar with mesocoxae), sides subparallel, apex oblique; longitudinal suture long (but not entire) and deep. Metepisternum partly hidden by elytral epipleur; moderately narrow, broad at base, regularly narrowing to acuminate apex. Metasternal process subtriangular, sides moderately raised, apex weakly acuminate. Abdomen convex, narrow, cylindrical, parallel-sided; urosternites almost quadrate and subequal in length, sides slightly rounded; V with horseshoe-shaped depression occupying apical two-thirds, sides of depression slightly raised (and liberally pubescent), apical margin truncate; abdominal process slightly inclined to abdomen, moderately long (0.30 mm), triangular, and deeply inserted between metacoxae. Last visible sternite elongate, parallel-sided, apical margin excavate at middle. Legs long and slender, ratio of length from front to hind leg 1.0:1.3:2.4. Front leg (4.60 mm); peduncles short; clava fusiform, moderately widened and abrupt dorsally, sides only slightly tumid, more so mesally, underside spiculate towards apex; tibia straight, gradually widening to apex, side of apex weakly excised and lacking tooth. Middle leg (6.35 mm); peduncle flattened, about half length of clava; clava fusiform, moderately abrupt, flattened laterally, less so mesally, and underside spiculate towards apex; tibia bisinuate, slightly flattened, gradually widening from middle to apex, and rather abruptly widened at extreme apex. Hind leg (11.10 mm); femora more cylindrical and slender; peduncle straight and cylindrical, about 1.5 length of clava; clava relatively small and narrow, but well demarcated from peduncle, less so when viewed laterally (appearing narrowly fusiform), apex just reaching tip of abdomen; tibia cylindrical, hardly bisinuate (when viewed laterally, straight from directly behind), slightly shorter (4.50 mm) than metafemora, hardly thickened towards apex, and rather abruptly widened at extreme apex, rather densely setose, the setae short (their length less than width of tibia), and without specialised pubescence. Pro- and mesotarsi subequal in length and similar in structure: tarsomeres rather short and wide, I slightly elongate, II quadrate and trapezoidal, III wide and moderately strongly bilobed. Metatarsus narrower, but long (1.85 mm); tarsomere I cylindrical and curved, 1.14 longer (1.60 mm) than II+III (1.40 mm); II cylindrical; III relatively small and narrow, deeply bilobed, asymmetrical (the outer lobe longer); onychium moderately long and slender.

*Male variation:* Colour distribution among the 10 male paratypes is greater than normal within the tribe

Rhinotrugini. Three males with basal third of elytra, and basal half of meso- and metafemoral peduncles, orange-yellow (Fig. 3C); and one male with small circular spot of same colour just behind scutellum, but only half of metafemoral peduncle yellow; of the six males remaining, all of them with mesofemora entirely dark, metafemoral peduncle partially yellow (1 male with more than half of peduncle orange-yellow, 3 males with less than half, and 2 males inconspicuously orange-yellow on latero-basal part of peduncle). Among the male paratypes seven with elytra irregularly violet towards base, two with elytra almost entirely violet (in both, scutellum and antennal scape also violet; in one, head, pronotum and legs tinged violet), and one as holotype; underside varies in colour, may be as holotype, or blue, or sterna blue and abdomen green. Abdominal pubescence is usually not as woolly.

Structural variation appears to be limited: antennae may be equivalent to half a segment shorter; in one male antennomere V is shorter than III, and in two equal to III; pronotal surface is near female condition in one male paratype; elytra may not reach apex of urosternite IV, and apices of elytra may be slightly oblique; in one paratype metatarsomere I equal in length to II+III.

*Description of female (Fig. 3B):* example size 11.6 mm. The single female paratype shows minor colour differences to those of male: dorsally strongly violet, ventrally metallic reflection is blue and violet; and base of metafemoral peduncle brownish. General pubescence reduced, but surface ornamentation much as male; except sides of pronotum lack the smaller punctures found in the male, and metasternum more sparsely punctured.

*Structure:* Slightly more robust than male; length of forebody (5.35 mm) and abdomen (5.55 mm) almost equal. Head with eyes (1.40 mm) slightly narrower than pronotum; clypeus normal. Inferior lobes of eyes considerably smaller (width 0.50 mm, length 0.65 mm) and less convex than in male; well separated, interocular (0.40 mm) not much narrower than width of lobe; and proximal margin oblique. Antennae more robust and shorter than in male, reaching base of urosternite IV, not passing apex of elytra; antennomere V equal in length to III and VI; otherwise little different from male. Prothorax slightly less elongate than in male (about 1.3 longer than wide); surface features of pronotum much reduced (especially basal constriction, which is moderately deep in male, almost evanescent in female). Meso- and metathorax very similar to those of male, except: elytra broader

(hiding sides of sterna), 3.5 longer than width of humeri, apex slightly oblique (sutural margin shorter); metasternal process triangular, apex not narrowed. Abdomen very different from that of male; fusiform; broad; urosternites more transverse (except V); and last visible tergite elongate and subconical (with rounded apical margin). Legs slightly shorter (especially tarsi) than in male, ratio of length from front to hind leg 1.0:1.3:2.3; middle leg less robust, but hind leg more robust; metafemora just passes apex of elytra.

*Measurements (mm):* 11 males/1 female: total length 10.0-12.75/11.60; length of pronotum 1.60-2.00/1.85; width of pronotum 1.20-1.50/1.45; length of elytra 5.80-7.15/6.70; width at humeri 1.60-2.00/1.90.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (east), 18°08'S/63°44'W, 1914 m, on/flying to flowers of "Sotillo", 25.XI.2009, Clarke & Zamalloa col. (MNKM).

*Paratypes with nearly same data as holotype:* 1 female, 25.XI.2009, Clarke & Zamalloa col. (MNKM); 1 male, 26.XI.2009, Clarke & Zamalloa col. (RCSZ); 2 males, 26.XI.2009, Clarke & Zamalloa col. (MZUSP); 3 males, 27.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 29.XI.2009, Clarke & Zamalloa col. (ACMT); 2 males, 29.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratype with nearly same data as holotype, different host flower:* Flying to/on flowers of "Sagüintillo", 1 male, 26.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Comment:* *Chrysaethe lazzoi* sp. nov. is one of six species, *Chrysaethe smaragdina* (Bates, 1870) the type-species, *Chrysaethe aurantipennis* (Giesbert, 1991), *Chrysaethe aurata* (Bates, 1870), *Chrysaethe beltiana* (Bates, 1872), and *Chrysaethe viriditincta* (Giesbert, 1991), in this genus that share the following character combination: slender, metallic species, pronotum elongate and subcylindrical, which (Santos-Silva, pers. comm.) may be the only valid species of this genus; and possibly *Chrysaethe cyanipennis* (Bates, 1872); which the author suggests may be synonymous with *C. beltiana*.

*Etymology:* This new species is dedicated to Edgar Lazzo, whose generosity and kindly assistance facilitated the collection of this new species at the type locality.

### *Ommata andina* Clarke, 2010

*Ommata andina* Clarke in Santos-Silva, Martins & Clarke, 2010:604; Monné & Bezark, 2012:161 (checklist).

*Material examined*: BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (west), 18°08'S/63°45'W, 1893 m, 1 male (Holotype), on/flying to flowers of "Lloque colorado", 01.XI.2009 (MNKM).

*Comment*: Santos-Silva *et al.* (2010) incorrectly state that the holotype is deposited in RCSZ private collection; it is deposited in MNKM.

### *Ephippiotragus* gen. nov.

Figs. 4A, 5A

*Type species*: *Ephippiotragus wappesi* sp. nov., here designated.

*Diagnosis*: The main diagnostic characters for the new genus *Ephippiotragus* are as follows: pronotum with large, glabrous, saddle-shaped area demarcated by dense pubescence; procoxal cavities open; eyes far from contiguous in both sexes; antennae entirely filiform in males, preapical segments wider (but not serrate) and yellowish in colour in females; elytra moderately long, subulate, lobed, and entirely punctate and pubescent (and lacking transparent panels); metepisternum almost rectangular; legs lacking specialised pubescence (*i.e.*, simply setose); apex of protibia truncate; tegmen characteristic; puncturation non alveolate.

The open procoxal cavities eliminate *Ephippiotragus* from most of the larger genera (*Acyphoderes* Audinet-Serville, 1833, *Odontocera* Audinet-Serville, 1833, *Ischasia* Thomson, 1864, *Isthmiade* Thomson, 1864, *Ommata* White, 1855 (except 2-3 species) and its previous subgenera, and related genera of *Phepsia* Bates, 1873, *Phygopoda* Thomson, 1864 (but see *Neophygopoda* Melzer, 1933), *Rhinotragus* Germar, 1824 and *Tomopterus* Audinet-Serville, 1833).

Martins & Santos-Silva (2010) list 16 Rhinotrugini genera with open coxal cavities; all small genera, except for *Epimelitta* Bates, 1870 (with short cuneate elytra); which cannot receive *Ephippiotragus* (with its longer, subulate, lobed elytra).

For the reasons given in parenthesis *Ephippiotragus* can be eliminated for inclusion in the fifteen remaining genera: *Acorethra* Bates, 1873 and *Neophygopoda* (elytra short and cuneate); *Pseudophygopoda* Tavakilian & Peñaherrera-Leiva, 2007 (elytra short,

cuneate, with short, narrow extension); *Apostropha* Bates, 1873 (long cuneate elytra); *Catorthontus* Waterhouse, 1880 (elytra short and fissate); *Corallancyla* Tippmann, 1960, *Cylindrommata* Tippmann, 1960, *Mimommata* Peñaherrera-Leiva & Tavakilian, 2003, *Oxylymma* Pascoe, 1859, *Stenochariergus* Giesbert & Hovore, 1989, *Stenopseustes* Bates, 1873, *Sulcommata* Peñaherrera-Leiva & Tavakilian, 2003 (all with elytra entire, not subulate); *Thouvenotiana* Peñaherrera-Leiva & Tavakilian, 2003 (pronotum with broad crest at midline, elytra short, abdomen much longer than forebody); *Xenocrasis* Bates, 1873 and *Xenocrasoides* Tavakilian & Peñaherrera-Leiva, 2003 (elytra with well demarcated transparent panels, inferior lobes of eyes contiguous in males, and/or with metatibial brush).

And, one last genus, *Laedorcari* Santos-Silva, Clarke & Martins, 2011, split off from *Xenocrasis*, would not be suitable for placement of *Ephippiotragus* as inferior lobes of eyes in males are contiguous, and elytra entire.

Although eliminated from all genera which share open procoxal cavities with it, *Ephippiotragus* is not an isolated genus with unique characters when compared to those with closed procoxal cavities. It shares a common habitus with both, *Ecliptophanes* Melzer, 1934 (without the abrupt, wide antennal club shared by the species of this genus), and the *Ommata*-like genera, with which it shares some specific characters (somewhat generalised here): antennae filiform, long, in females widening to apex (but not at all serrate), with antennomeres (7)8 and 9 whitish; rostrum short; prothorax subcylindrical, longer than wide; elytra narrowed towards apex, not covering apical abdominal segments, punctate and pubescent, rounded at apex, and narrowly lobed (as in some species of *Ommata*-like genera); abdomen cylindrical to weakly fusiform; abdominal process not strongly inclined; legs long, hind legs much longer than others; pedunculate-clavate (claves fusiform and not abrupt); apex of protibia hardly widened, truncate (outer margin not toothed, nor obliquely excised); metatarsomeres rather narrow, I longer than II+III.

Among the *Ommata*-like genera, *Ephippiotragus* probably comes closest to *Acatanga* Santos-Silva, Martins & Clarke, 2010, with which it shares simply setose metatibiae, slightly shorter antennae; and moderately lobed elytra (in some species of *Acatanga*).

*Description of genus*: Moderately sexually dimorphic; small (6.80-10.80 mm); body subcylindrical, narrow in male, broader in female; forebody 1.0-1.2 length of abdomen; elytra moderately short and lobed;

antennae moderately long; legs long. Body almost entirely pubescent (but pronotum with characteristic glabrous, saddle-shaped area); and closely punctured (the punctures non-alveolate); elytra punctate, pubescent, and semi-translucent (but lacking vitreous panels). Head with eyes narrower than pronotum; rostrum short (3.5-5.3 wider than long); frontal suture evanescent in both sexes. Mentum-submentum completely lacking carinas, submentum separated from neck by transverse declivity. Mandibles acute at apex (blunter in female). Palps short, apical palpomeres subcylindrical, obliquely truncate at apex (sides and apex more rounded in female). Eyes finely faceted, relatively small; inferior lobes somewhat obliquely placed in male (less so in female), in both sexes well separated (the distance between them 0.7-1.0 width of one inferior lobe); distal margin just lying on frons in male (just on gena in female), proximal margins moderately oblique; superior lobes somewhat unusual, considerably wider and curved mesally. Antennal tubercles not prominent; apices rounded, and separated by twice width of antennal scape. Antennae long, passing apex of elytra, in males just reaching base of urosternite IV (in females longer or shorter than in male); not serrate; pedicel and antennomeres III-VI finely setose (but scape completely lacking setae); entirely filiform in male, more robust towards apex in female; but antennal formula almost the same in both sexes: scape subpyriform, distinctly shorter than antennomere III; III distinctly the longest; IV shorter than V, equal to XI (except in female *E. thomasi*); V and VII equal to subequal in length, shorter than VI; VI the second longest; VIII and IX equal in length (as long as or shorter than V and VII); X is the shortest (but as long as XI in female *E. thomasi*); XI ending with small acuminate cone. Prothorax subcylindrical (or urn-shaped in female *E. wappesi*); elongate (about 1.1-1.5 longer than wide); sides almost regularly and weakly rounded (but see female *E. wappesi*), widest at, or behind, middle. Pronotum strongly (in female *E. wappesi*) to moderately convex, basal two-thirds occupied by characteristic, glabrous, saddle-shaped area; surface uneven, with paired calli to either side of weakly raised midline. Prosternum with apical third moderately, to abruptly, declivous with basal two-thirds; the latter inclined to base of prosternal process; prosternal process arched (more so towards apex), base rather long and laminate; apex almost vertical (but see female *E. thomasi*), small, hidden by pubescence, but seems to be narrowly trapezoidal and declivous at midline (viewed from directly below looks bilobed); and without raised sides. Procoxal cavities closed at sides and moderately open behind.

Mesosternum (partially hidden by pubescence): in male mesosternal declivity weak, slightly inclined to its process (rendering the underside flat-looking, somewhat like the Rhopalophorini); base of mesosternal process relatively wide (*ca.* 0.23 mm, half width of coxal cavity); apex wider and bilobed (the lobes divergent and separated by deep, V-shaped excavation); mesocoxal cavity rather widely open to mesepimeron; the latter narrow and slightly widening mesally. Scutellum probably scutiform (but dense pubescence hides details). Elytra subulate, moderately short (2.8-3.1 longer than width of humeri), reaching urosternite II or III); rather narrow (only slightly wider than prothorax), contracted from humeri (hiding sides of mesosternum, but leaving much of metepisternum visible); surface uneven: basal third convex (but bisected by longitudinal depression), apical two thirds flat (except lobes which are tumid at midline); hardly dehiscent (suture straight to lobes, but lobes diverging); lacking humero-apical costa; humeri square (prominent, but not projecting). Elytron regularly narrowed to apical lobes; the lobes hardly wider, and parallel-sided, separated from rest of elytra by slight transverse declivity, with apices weakly acuminate, or rounded-truncate. Metasternum convex, more so anteriorly, but not tumid (mesocoxae distinctly more prominent); sides weakly rounded, hind margin weakly oblique; longitudinal suture well defined, reaching basal third of sternum; wider and deeper posteriorly; metepisternum rectangular, narrow, base hardly wider than pre-apex, apex only modestly acuminate. Male abdomen apiform (convex, moderately narrow and subcylindrical); urosternites incrementally shorter to apex; broadest at urosternite I or II, tapering to apex; sides of individual urosternites straight and more or less parallel-sided. Female abdomen weakly fusiform; somewhat wider and more robust than in male; urosternites transverse, II and III slightly wider than rest, sides of individual urosternites straight or rounded. Male urosternite V trapezoidal, moderately narrower to apex, apical half tumid to either side of midline, with silvery pubescence on apical margin (the pubescence longer at centre, giving the impression margin is tridentate). Female urosternite V hardly down-turned; subtrapezoidal, the surface undifferentiated, apical margin rounded. Male abdominal process moderately inclined to abdomen (*ca.* 20°); base triangular with narrow, acuminate apex deeply inserted between metacoxae. Female abdominal process shorter, wider, and blunter at apex, the latter not intimately inserted between metacoxae.

Apical tergite in male trapezoidal, in female subconical, apex truncate in males, more rounded

in females; surpassing apex of urosternite V in both sexes. Legs long and slender; ratio of front leg to hind leg 1.0:1.5-1.7:2.2-2.5. Length of body/length of hind leg 1.0-1.3. Pedunculate-clavate; claws fusiform (when viewed from above) and subacuminate at apex; pro- and mesofemoral claws wide (when viewed from the side) and strongly flattened laterally; meta-femoral claw subcylindrical. Meso- and metafemoral peduncles narrow and flattened; those of metafemora about as long as claws. Tibiae usually slightly shorter than femora, straight; protibia narrow, widening gradually to apex, apex truncate (not toothed, nor excised laterally). Metatibia nearly as long, or longer, than metafemora; cylindrical for basal two-thirds, discretely flattened for apical third; almost regularly, and moderately densely setose. Metatarsus rather slender; tarsomeres elongate and not wider than apices of tibia (including III, as lobes narrow and hardly divergent); rather sparsely setose, the setae fine; metatarsomere I cylindrical, longer than II+III, II cylindrical, III small and deeply bilobed; onychium long and slender.

*Male genitalia* (Figs. 11A, 11B): tegmen characteristic, weakly sclerotised, rather small. Lateral lobes hardly divergent; short (ca. 0.50 mm), but broad (ca. 0.20 mm); slightly widening to rounded apex; apex finely setose, sides glabrous. Basal piece long and Y-shaped, the sclerites widely separated at base, converging at middle and contiguous to apex (typically, the basal piece is V-shaped, the sclerites coming together near apex). Median lobe weakly sclerotised; rather small; weakly arced; in lateral aspect narrow and acuminate; in dorsal aspect moderately broad, narrowing towards apex, apex with small acuminate tip.

*Surface ornamentation*: body (including abdomen) almost entirely pubescent (the primary pubescence short, white and recumbent), and closely punctured (the punctures non alveolate), or micropunctate.

*Glabrous areas are*: apical third of prosternum, and saddle on pronotum; and subglabrous areas: mentum-submentum and elytra both with pubescence uniformly distributed, but short and rather indistinct (except on apical third of elytra, adjacent to suture, the hairs whitish, glistening, subrecumbent; and denser). Primary pubescence clothing the following: pubescence surrounding pronotal saddle; basal half of prosternum; all of mesosterna and metasternum; sides of metepisternum; and completely covering abdomen in males (in females limited to latero-basal area on each urosternite).

*Species included*: *Ephippiotragus wappesi* sp. nov. and *Ephippiotragus thomasi* sp. nov.

*Etymology*: Referring to the saddle-shaped area on the pronotum; combination of *ephippium* (Latin for "saddle") and *tragus* from (Rhino)tragini; gender masculine.

### Key to the species of the genera *Ephippiotragus*

1. Antennomeres III-VI black; in female apical half of VII, VIII and IX white, and X and XI smaller in size. Saddle-shaped area on pronotum almost impunctate. Elytra reach apical third of urosternite III; base and apex of elytra black. Meso- and metafemoral claws rufous. Metatarsomeres I and II pale yellowish. Figs. 4A, 4B .....  
.....*Ephippiotragus wappesi* sp. nov.
- Antennomeres III-VI pale chestnut; in female only VIII and IX white, and X and XI not smaller in size. Saddle-shaped area on pronotum densely punctate. Elytra nearly reaching apex of urosternite II; base and apex of elytra pale chestnut. Meso- and metafemoral claws pale chestnut. Metatarsomeres dusky. Figs. 5A, 5B.....  
.....*Ephippiotragus thomasi* sp. nov.

### *Ephippiotragus wappesi* sp. nov.

Figs. 4A, 4B, 11A

*Holotype male*: 7.60 mm. Deposited at MNKM.

*Diagnosis*: Both sexes of *Ephippiotragus wappesi* are readily separated from those of *Ephippiotragus thomasi* by the following: saddle shaped area of pronotum largely impunctate (in *E. thomasi* it is densely punctured); antennomeres III-VI black (in *E. thomasi* they are pale chestnut).

*Description of holotype*: Elongate, *Ommata*-like species; forebody (3.85 mm) 1.0 longer than abdomen (3.80 mm). General colour opaque, body shining black, without metallic reflection. Mouthparts chestnut clouded dusky. Antennae entirely black. Elytra translucent testaceous; except the following black: base from shoulders to scutellum (and extending a short distance adjacent to sutural margin); epipleur from well behind shoulders to level of metacoxae; and apical lobe.

*Legs*: All of profemora, meso- and metafemoral claws rufous; mesofemoral peduncle yellow; basal half of

metafemoral peduncle yellow, apical half black; all tibiae black; pro- and mesotarsi black, metatarsomeres I and II pale yellow, III and onychium blackish.

*General pubescence:* Moderately conspicuous, the hairs of two types: short, recumbent, glistening white pubescence becoming dense on: frons, sides of pronotum (encroaching on to disc on apical third) and triangular patch at centre of posterior constriction; basal two-thirds of prosternum (including its process), all of meso- and metasterna, scutellum, and abdomen (densest at side). Relatively sparse, short, fine hairs clothing most of elytra, becoming denser and glistening on apical lobes. Longer, sparser, more erect hairs noticeable on: pronotum, basal third of elytra, sides of metasternum, and metepisternum.

*Surface ornamentation:* Generally hidden by dense pubescence, but visible on the following glabrous parts: mentum-submentum with a square, smooth patch of sparse, small, round punctures; apical third of prosternum somewhat carinate, with isolated shallow punctures; pronotum densely punctured for apical third (the punctures deep, rounded and contiguous), smooth and almost impunctate for basal two-thirds (a group of about twenty punctures to each side of midline); elytra with somewhat uniform deep, round punctures (dense adjacent to scutellum, sparser towards sides and apex, shallow and irregularly micro-punctate on apical lobes). And, just visible through surface pubescence: basal two-thirds of prosternum and sides of pronotum with dense, round punctures; and abdomen probably uniformly micro-punctate. Sexual puncturation: sides of pronotum densely punctured, in female sparser.

*Structure:* Head with eyes (1.05 mm) distinctly narrower than pronotum; rostrum parallel-sided, 3.5 wider (0.70 mm) than long, much shorter than length of inferior lobes (0.45 mm). Palps moderately short, apical palpomere of maxilla comparatively large, slightly widened, and truncate at apex; and galea slightly longer than palp. Labrum rectangular, 2.5 wider than long, depressed apically, apical margin broadly excavate. Clypeus short, declivous with frons, punctate towards centre. Eyes convex; width of one inferior lobe (0.40 mm) 1.6 interocular distance (0.25 mm); superior lobe with 8-9 ommatidia, width of lobe (ca. 0.15 mm) half interocular distance. Antennae passing elytra at apex of antennomere X; antennomeres III-V cylindrical, VI and VII wider at apex, VIII-XI uniformly, but only slightly, widened. Antennomeres IV and VIII-XI slightly arched. Scape

(0.55 mm) with apex slightly projecting; antennomere III (0.90 mm), IV (0.60 mm), V (0.70 mm), VI (0.80 mm), VII (0.70 mm), VIII and IX (0.60 mm), X (0.55 mm), XI (0.65 mm). Prothorax distinctly longer (1.45 mm) than wide (1.15 mm), sides widest just behind middle, slightly sinuate to front margin (apical constriction feeble); apical border impunctate and moderately prominent; basal constriction narrow, but deep; front margin slightly narrower (0.90 mm) than hind margin (1.00 mm). Pronotum convex, midline slightly raised, narrowly towards front, broadly through saddle-like area; the paired calli in this area, rounded and low; rest of pronotal surface punctured and pubescent, the latter hiding hind angles. Prosternum with apical third abruptly declivous with basal two-thirds. Scutellum partially hidden by pubescence, but appears to be moderately small and quadrate, and declivous at midline. Elytra (4.00 mm), 3.1 longer than width of humeri; reaching apical third of urosternite III; apical lobes well defined, almost parallel-sided, strongly tumid at midline, and slightly upturned. Abdomen broadest at urosternite II; I quadrate, the rest transverse.

*Legs:* Ratio of length from front to hind leg 1.0:1.6:2.2. Front leg: relatively long (3.35 mm); peduncles short; clavae robust and abrupt, sides only moderately. Middle (5.45 mm) and hind (7.35 mm) legs long (the latter as long as body); apex of metafemora reaching middle of urosternite V; metatibia slightly shorter (2.90 mm) than metafemora. Metatarsomere I long (0.65 mm), 1.3 longer than II+III (0.50 mm).

*Genitalia (Fig. 11A):* Tegmen very similar to that of *E. thomasi*; but lateral lobes distinctly widened at apex, and only slightly longer than basal piece.

*Description of female (Fig. 4B):* Example size 8.00 mm; sexual dichromatism limited to the following: antennomeres VIII and IX, and apical third of VII white; hind tibia entirely yellow and metatarsus yellow (only apex of onychium dusky). Pubescence is generally less dense, and puncturation very similar to male.

*Structure:* Forebody (4.0 mm) 1.2 longer than abdomen (3.4 mm). Rostrum hardly longer (0.25 mm) than in male, half length of inferior lobes. Front margin of clypeus prominent. Eyes slightly smaller and less convex than those of male; width of one inferior lobe (0.40 mm); about 1.1 interocular distance (0.35 mm); interocular flat and planar with inferior lobes, with disorderly pubescence and moderately small round punctures, the latter almost uniform

in size; superior lobe with 9-10 rows of ommatidia. Antennae reach apex of urosternite IV, not entirely filiform, antennomeres VIII and IX incrassate, X and XI characteristically narrower, and comparatively small; measurements: antennomere III (0.95 mm), IV (0.55 mm), V (0.70 mm), VI (0.80 mm), VII (0.70 mm), VIII and IX (0.70 mm), X (0.50 mm), XI (0.55 mm). Prothorax sides more rounded than male, apical and basal constrictions stronger; lateral pubescence of pronotum not reaching "saddle", leaving the latter wider than in male, and uncovering hind angles.

Pro- and mesosterna similar to male; mesosternal declivity slightly stronger than in male. Elytra broader than in male, 2.8 longer than width of humeri (but also reaching apical third of urosternite III); and slightly less dehiscent (as apical lobes less projecting). Metasternum slightly tumid anteriorly (with mesocoxae planar here). Abdomen rather short: urosternites II and III widest, equal in length, and with sides rounded; abdominal process inclined as in male. Apical tergite slightly constricted before apex; apical margin weakly rounded. Legs longer than in male, especially hind leg (8.30 mm); ratio of length from front to hind leg 1.0:1.7:2.5; metafemora longer (3.40 mm) than in male (apex passing apex of abdomen), but very slightly shorter than metatibia; metatarsomere I short, 1.2 longer than II+III.

*Measurements (mm):* 12 males/14 females: total length 6.75-8.25/7.60-10.65; length of pronotum 1.30-1.65/1.50-1.95; width of pronotum 1.05-1.20/1.20-1.55; length of elytra 3.65-4.75/4.50-5.60; width at humeri 1.20-1.50/1.45-2.00.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (west), 18°08'S/63°45'W, 1893 m, flying to/on flowers of "Lloque colorado", 01.XI.2009, Clarke & Zamalloa col. (MNKM).

*Paratype with nearly same data as holotype:* 1 female 02.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratypes with same locality as holotype, different host flower:* Flying to/on flowers of "Sagüintillo", 3 males, 2 females, 01.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 02.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratypes with slightly different locality from holotype, and different host flowers:* Provincia Florida,

Floripondio (east), 18°08'S/63°44'W, 1914 m. On/ flying to flowers of "Llave": 3 males, 25.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 1 female, 26.XI.2009, Clarke & Zamalloa col. (RCSZ). On/ flying to flowers of "Sotillo": 2 males, 25.IX.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 25.IX.2009, Clarke & Zamalloa col. (MNRJ); 1 male, 1 female, 26.XI.2009, Clarke & Zamalloa col. (MZUSP); 1 male, 1 female, 27.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 female, 29.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratypes with locality not far from that of holotype:* Amboró Rd above Achira, 18°07'43"S/63°47'98"W, 1768 m, 1 female, 17-20.XI.2003, Morris, Nearn & Wappes col. (MNRJ); 2 females, 09-11.X.2004, Morris & Wappes col. (FSCA); 2 females, 09-11.X.2004, Morris & Wappes col. (ACMT).

*Etymology:* This new species is dedicated to James E. Wappes in recognition of his admirable endeavour to collect every species of Bolivian cerambycid.

### *Ephippiotragus thomasi* sp. nov.

**Figs. 5A, 5B, 11B**

*Holotype male:* 9.15 mm. Deposited at MNKM.

*Diagnosis:* See description of *Ephippiotragus wappesi*.

*Description of holotype:* General colour opaque. Body and mouthparts black. Front margin of prosternum and antennae pale chestnut. Elytra semi-translucent testaceous; except the following: apical third somewhat rufous; most of apical lobes blackish. Legs chestnut (coxae and protibiae pale chestnut), pro- and mesofemoral peduncles yellow; tarsi black.

*General pubescence:* Most of body densely clothed with short, recumbent pubescence (the hair grey with a golden reflection), as follows: upper side of head; most of prothorax (especially thick and lustrous laterally), but almost glabrous on anterior part of prosternum and disc of pronotum (to leave a broad, contrasting, glabrous rectangle on its basal two-thirds, with only a small patch of pubescence opposite scutellum); scutellum; and meso- and metasterna. Abdominal pubescence renders surface with unusual matt aspect, the hairs grey and recumbent, but fine and long (on each segmental half lying obliquely towards midline, only directed posteriorly laterally); urosternite V with two rounded patches of, stiff, black pubescence to either

side of midline. Elytra finely pubescent throughout, the hairs rather fine, lying transversely on apical half, and only dense towards apices; basal half with sparse, erect, long hairs.

*Surface ornamentation:* Since dense pubescence hides most of surface detail on body, description of puncturation (which is non-alveolate) is limited to those parts almost glabrous, as follows: area of mentum-submentum (with rectangular patch of dense, small, round punctures, these mostly of equal size and deep); small, rectangular path on apical third of prosternum (the punctures contiguous, but separated into groups, and from rest of prosternum, by transverse carinas); disc of pronotum (closely punctured, the interstices smooth, the punctures round and deep, larger on and around calli, smaller adjacent to midline and towards sides); and elytra (moderately densely and regularly punctured, the punctures deep and rounded with smooth interstices, denser at base of epipleur and towards apices). Sexual puncturation can only be intimated by slight differences in the density of pubescence at sides of pronotum.

*Structure:* Rostrum wide (0.80 mm) and very short (about 0.15 mm), about one third length of inferior lobes. Labrum small and short. Frons deeply depressed adjacent to clypeus (leaving clypeus inclined with respect to labrum and genae). Width of one inferior lobe (0.35 mm) equal to the interocular distance; the latter lying below the level of the lobes. Superior lobes: interocular distance (0.40 mm) about 2.5 width of one lobe. Antennae passing elytra at apex of antennomere IX; VIII arcuate; measurements: scape (0.55 mm), III (1.05 mm), IV (0.65 mm), V (0.80 mm), VI (0.90 mm), VII (0.75 mm) VIII (arcuate) and IX (0.65 mm), X (0.50 mm), XI (0.65 mm). Prothorax about 1.5 longer (1.75 mm) than wide (1.15 mm); sides weakly rounded; apical constriction represented by shallow, broad depression occupying apical third of pronotum (but hardly detectable laterally); basal constriction narrow at sides, widening to middle. Front margin with narrow, prominent border, narrower (0.90 mm) than basal margin (1.15 mm). Pronotum with the following protuberances: midline marked by narrow, impunctate callus occupying middle half of disc; paired calli weak (anteriorly nearly touching midline). Prosternum with apical third moderately declivous with basal two-thirds. Elytra three times longer (4.35 mm) than width of humeri (1.45 mm); nearly reaching apex of urosternite II; apical lobes not strongly defined, tumid at midline, preceded by weak transverse depression, sides

subparallel, and apex rounded-truncate. Abdomen widest at urosternites I and II, III very slightly narrower; only I slightly elongate, II-IV almost quadrate; V weakly transverse. Apical tergite slightly constricted before apex; apical margin weakly rounded.

*Legs:* Ratio of front leg to hind leg 1.0:1.7:2.2. Front leg: relatively short (3.50 mm); peduncle short but distinct; clava fusiform, robust, abrupt, mesally only moderately flattened. Middle leg: long (5.90 mm), hind leg relatively short (7.80 mm), shorter than body; apex of metafemora reaching middle of urosternite IV; metatibia shorter (3.00 mm) than metafemora. Metatarsomere I short (1.20 mm), about 1.1 longer than II+III (1.05 mm).

*Genitalia (Fig. 11B):* Tegmen very similar to that of *E. wappesi*; but lateral lobes weakly widened at apex, and distinctly longer than basal piece.

*Variation:* Two male paratypes are paler in colour, especially one that seems to have recently emerged from its pupa; and several have legs paler than holotype.

*Description of female (Fig. 5B):* Example size 10.30 mm; general colour paler than male; saddle on prothorax chestnut; elytra yellowier (and apical lobes hardly infuscate); antennae and legs ochraceous (pro- and mesofemoral claws less contrasting with peduncles), and antennomeres VIII and IX white. Pubescence and puncturation much as in male, except: short, dense pubescence somewhat reduced in extent and density (but see elytra), especially on underside (exposing the puncturation not visible in males); pronotum not so densely punctured (with some smoother areas to side of basal third), and short, dense pubescence encroaching less on to disc; elytra punctures slightly larger, and pubescence more apparent. Puncturation of underside: mentum-submentum and apical third of prosternum as male; basal two thirds of prosternum with large contiguous, somewhat scabrous punctures; mesosternum with small, round, moderately sparse punctures; metasternum almost impunctate on disc and towards hind margin, larger, shallow, dense punctures towards sides, and on metepisternum; abdomen finely reticulate and uniformly micropunctate.

*Structure:* Rostrum much as in male, hardly any longer (0.20 mm). Frons not deeply depressed; interocular flat and almost planar with inferior lobes, only slightly wider (0.40 mm) than male. Superior lobes with 9-10 ommatidia. Antenna reach middle of urosternite III, more robust than male, especially antennomeres

VIII-XI; X and XI not narrowed; formula much the same as male; measurements: scape (0.65 mm), antennomere III (1.15 mm), IV (0.70 mm), V (0.90 mm), VI (0.95 mm), VII (0.70 mm) VIII and IX (0.65 mm), X and XI (0.50 mm). Prothorax not as elongate as in male, about 1.4 longer (1.80 mm) than wide (1.30 mm); callus at midline slightly wider than in male, and paired calli slightly stronger. Prosternum less inclined towards its process than in male, and apex of latter less vertical. Mesosternal declivity abrupt but not deep. Elytra very similar to those of male, slightly less dehiscent (lobes less divergent) than in male; each elytron broader for apical two-thirds; apical lobes preceded by distinct transverse depression, and tumid at midline. Abdomen widest at apex of urosternite II; sides not rounded; apical margin of V very weakly acuminate; abdominal process slightly less inclined than in male. Apical tergite not constricted before apex; apical margin weakly subacuminate. Ratio of front leg to hind leg 1.0:1.5:2.2 (middle leg proportionately shorter than that of male); metatarsomere long (0.65 mm), 1.3 longer than II+III (the latter pair of tarsomeres smaller than in male).

*Measurements (mm):* 31 males/9 females: total length 7.85-9.65/8.60-10.80; length of pronotum 1.50-1.80/1.65-2.00; width of pronotum 1.15-1.30/1.25-1.50; length of elytra 3.85-4.50/4.05-4.60; width at humeri 1.25-1.55/1.35-1.75.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (west), 18°08'S/63°45'W, 1893 m, on/flying to flowers of "Sagüintillo", 02.XI.2009, Clarke & Zamalloa col. (MNKM).

*Paratypes with nearly same data as holotype:* 1 male, 1 female, 01.XI.2009, Clarke & Zamalloa col. (MZUSP); 2 males, 1 female, 02.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratypes with nearly same data as holotype, but different host flower:* On/flying to flowers of "Lloque Colorado", 2 males, 01.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratypes with slightly different locality from holotype, and different host flowers:* Floripondio (east), 18°08'S/63°44'W, 1914 m, on/flying to flowers of "Sotillo", 1 male, 26.XI.2009, Clarke & Zamalloa col. (RCSZ); on/flying to flowers of "Llave", 1 male, 25.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratypes with locality not far from that of holotype:* Amboró Rd, above Achira, 18°07'43"S/63°47'98"W, 1768 m, beaten, 1 male, 10-11.X.2006, Nearn, Wappes & Eya col. (ACMT); 1 female, 12-13.X.2000, Wappes & Dozier col. (ACMT); beaten, 1 male, 09-11.X.2004, Morris & Wappes col. (ACMT); 1700 m, beaten, 1 male, 09-11.X.2004, Morris & Wappes col. (ACMT); 1700 m, 1 female, 09-11.X.2004, Morris & Wappes col. (MNRJ); 1 female, 21-22.X.2000, Wappes & Morris col. (FSCA); 1 female, 22.XI.2000, M.C. Thomas col. (FSCA); 2 males, 09-11.X.2004, Morris & Wappes col. (FSCA). Achira, 18°09'S/63°49'W, 1317 m, 1 male, 25.XI.2004, on flowers of *Acacia*, Clarke & Zamalloa col. (RCSZ). Bicoquin, 18°07'S/63°47'W, 1820 m, on/flying to flowers of "Sagüintillo", 5 males, 1 female, 29.X.2009, Clarke & Zamalloa col. (RCSZ); on/flying to flowers of "Khuro-Khu", 1 male, 1 female, 30.X.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 31.X.2009, Clarke & Zamalloa col. (MNRJ). 3 km S Santa Cruz-Samaipata Highway, 19 km E Samaipata, Comunidad Palermo, 1400 m, on/flying to flowers of "Khuro-Khu", 1 male, 05.X.2012, Clarke & Zamalloa col. (RCSZ).

*Paratypes from different Department:* Chuquisaca, Incahuasi, 1600 m, E Muyupampa, 5 females, XII.1984, L.E. Peña col. (MZUSP).

*Paratypes from lower altitude (750-795 m) Chaco forest:* Chuquisaca, Semi-Dry and grazed Foothill Chaco Forest, 21 km N Machereti, 20°36'S/63°17'W, 750 m, on/flying to flowers of "Tipilla", 1 male, 15.XII.2011, Clarke & Zamalloa col. (RCSZ). Tarija, 48 km S Villamontes, 5 km W Santa Cruz-Yacuiba Highway, Comunidad Sanandita-La Granja, 21°40'S/63°38'W, 793 m, 5 males, 2 females, 14.XII.2011, Clarke & Zamalloa col. (RCSZ).

*Etymology:* This species is dedicated to Dr. Michael Thomas (FSCA), who collected specimens of this new species; and in recognition of his work on the Cucujidae.

### ***Amborotragus* gen. nov.**

#### **Fig. 6A, 6B, 11C**

*Type species:* *Amborotragus vestigiepimeron* sp. nov., here designated.

*Diagnosis:* Sexually dimorphic (including surface of pronotum), and dichromatic. Forebody distinctly

shorter than abdomen. Maxillary galea very long and narrow. Antennae subfiliform. Pronotum bisulcate in male. Mesosternal process little differentiated (golf tee-shaped). Mesepimeron almost vestigial. Elytra subulate, rather short and dehiscent, and densely punctured (and lacking vitreous panels). Front and middle legs subequal, hind leg almost twice length of middle leg; metatarsomere I slightly longer than II+III, about 1.5 longer in female.

*Amborotragus* is similar to some species presently in the genus *Odontocera*, but cannot be included in this genus for lack of vitreous panels; and as far as is known, the golf tee-shaped mesosternal process, only occurs in one species of this genus, *Odontocera scabricollis* Melzer, 1934, which may not belong in *Odontocera* (mesosternal process lobed), nor qualifies (elytra vitreous, genitalia different) for inclusion in *Amborotragus*.

*Amborotragus* is also, somewhat, similar to some species of *Eclipta* Bates, 1873, but the type-species, *Eclipta flavicollis* (Bates, 1873), differs from *Amborotragus* in many ways, the most demonstrative being the pronotum (subglobose, and densely micropunctate), elytra (rather wide, and subcuneate), and metatarsus I very long (longer than II-V united).

The establishment of *Amborotragus* gen. nov. would seem to be justified, if not for its very narrow mesoepimeron (which has not been examined in many species of Rhinotrugini), for the reasons outlined above.

*Description of genus:* Sexually dimorphic and dichromatic; small (7.20-10.30 mm); body subcylindrical, narrow in male, slightly broader in female; forebody shorter than abdomen in male (equally long in female); elytra moderately short, flat and dehiscent, apex truncate (subtruncate in female); antennae moderately short (shorter in female), legs long.

Head with eyes narrower than pronotum; Rostrum moderately short in males (width/length 2.8), longer in females; frontal suture distinct in both sexes. Mentum-submentum separated from neck by transverse declivity. Mandibles acute at apex (blunter in female). Palps short, apical palpomere subcylindrical, truncate at apex (sides and apex more rounded in female). Eyes finely faceted; large in male, smaller in female; inferior lobes not obliquely placed in either sex (distal margin lying on frons, proximal margin transverse); almost contiguous in male; well separated in females. Antennal tubercles weak and rounded at apex, the distance between them twice width of scape.

Antennae subfiliform, not long (not passing apex of elytra); not serrate in male (apical segments

weakly serrate in female); pedicel and antennomeres III-V finely setose (but scape lacking setae); in both sexes filiform basally, somewhat crassate apically (including antennomere XI). Antennal formula sexually dimorphic (in female antennomeres V-X incrementally shorter); in male: scape subcylindrical, distinctly shorter than antennomere III; III the longest; IV, VI and VII equal, shorter than V, slightly longer than XI; V the second longest, only slightly shorter than III; VIII and XI equal, slightly longer than IX and X; XI ending with short acuminate cone. Prothorax sexually dimorphic; subcylindrical in male (as in female, but thick pubescence at sides gives it a vase-shaped appearance); elongate; sides widest and slightly protuberant at middle, straight to front margin, slightly sinuate to hind margin. Pronotum convex, surface uneven for basal two-thirds: in male with single, broad, prominent callus to either side of midline, each callus separated from midline by distinct, longitudinal sulcus; midline wide (but not as wide, nor as prominent as paired calli), and restricted to basal half; in female callus at midline absent, and paired pronotal calli rounded and shorter (limited to basal half of pronotum). Prosternum transversely, broadly and feebly depressed (abruptly declivous with front margin), posteriorly subplanar with its process; the latter weakly arced to apex, with sides slightly raised; base moderately long and narrow (about 0.1 mm), widening to large apical triangle (the middle of latter depressed in male, strongly depressed in female). Coxal cavities closed at sides and just closed behind. Mesosternal declivity deep, but not abrupt (in female abrupt and deep). Mesosternal process golf-tee shaped, moderately narrow (about 0.13 mm), about one quarter width of coxal cavity (in female wider (0.2 mm), about one third width of coxal cavity), apical margin slightly excavate, leaving apical angles acute; coxal cavity widely open to mesepimeron; the latter characteristic, very narrow (about 0.05 mm at its widest), almost vestigial. Scutellum partially hidden by pubescence, but appears to be very small in size, narrow and trapezoidal. Elytra in male narrow across humeri (just exposing sides of mesosternum and metepisternum), in female slightly wider (hiding sides of mesosterna); reaching base of urosternite III; moderately convex for basal sixth, otherwise flattened; humeri somewhat prominent and rounded, not projecting; humero-apical costa traceable from behind humeri, well marked towards pre-apex (in female restricted to apical half); sides of elytra strongly arced (moderately strongly converging to apical third and equally strongly diverging to apex); suture dehiscent from basal third, strongly for apical third; apical

third of each elytron slightly widening to pre apex, apex truncate. Metasternum tumid, mesocoxae lying well below level of metasternum; sides moderately rounded, apical margin oblique; metasternal suture almost entire, from slightly behind base of metasternal process to hind edge of metasternum, and deep posteriorly. Metepisternum moderately large and broad (especially broad in female), subrectangular, moderately acuminate to apex. Abdomen in male convex, narrow, and cylindrical; broadest at base of urosternite I and apex of IV (but II, III and V only slightly narrower); urosternites II and III equal in length, moderately elongate, longer than IV (quadrate) and V (transverse); sides of individual urosternites straight; surface of V almost wholly occupied by large, round, tumid area based on centre (the sides rounded and slightly raised, the centre flat); apical margin truncate. Female abdomen fusiform; widest at urosternites I and base of II; III very slightly narrower; only I and V slightly elongate, II-IV almost quadrate; V flat, apical margin subacuminate. Abdominal process planar to abdomen; rather short (0.25 mm), broad and triangular; apex weakly acuminate, not deeply inserted between metacoxae (especially in female). Apical tergite in male convex and cylindrical, slightly constricted before apex, and apical margin weakly rounded; in female rather flat, conical, not constricted before apex; and apical margin weakly subacuminate. Legs similar in both sexes (slightly shorter in female); moderately slender and long; ratio of length from front to hind leg 1.0:1.2-1.3:2.3-2.4. Length of body/length of hind leg 1.1. Pedunculate-clavate; claws fusiform (when viewed from above) and subacuminate at apex; pro- and mesofemoral claws wide (when viewed from the side) and strongly flattened laterally; metafemoral claws subcylindrical. Meso- and metafemoral peduncles narrow and flattened; those of metafemora about as long as claws. Tibiae slightly shorter than femora and bisinuate. Protibia narrow for basal third, abruptly widening, and subparallel to apex; apex truncate, toothed, and excised laterally. Metatibia shorter than metafemora; cylindrical; gradually widening to apex; and rather sparsely setose. Tarsi moderately robust; only metatarsomere I distinctly elongate, II and III as wide as, or wider than apex of tibiae (with II trapézoidal, and III quadrate and deeply lobed, the lobes hardly divergent); metatarsal setae rather short and sparse; metatarsomere I subcylindrical, distinctly longer than II+III.

*Male genitalia (11C):* Tegmen similar to some species of *Odontocera*, weakly sclerotised, moderately small. Lateral lobes divergent; long (0.80 mm), slightly

widening from middle towards apex, the latter subacuminate and finely setose (sides glabrous). Basal piece moderately long, V-shaped. Median lobe moderately sclerotised; arced; in lateral aspect narrow and acuminate; in dorsal aspect moderately broad, narrowing towards apex, apex with small acuminate tip.

*Surface ornamentation:* Body (except abdomen) almost entirely pubescent and closely punctured (the punctures simple or alveolate). Above: densely punctured; alveolate on head and pronotum, non-alveolate and beveled on base of elytra; dense recumbent pubescence on frons; and in female pronotal disc surrounded by broad, scalloped ring of recumbent, yellow pubescence. Below: meso- and metasterna micropunctate with scattered, larger punctures, and dense recumbent pubescence; dense (less so in female), long, erect pubescence on mentum-submentum and prosternum, suberect on metasterna. Abdomen sparsely punctured and pubescent, with dense arc of recumbent pubescence laterally in female.

*Etymology:* Combination of *Amboro* (Amboró National Park, where the species comes from, and *tragus* from (Rhino)tragini; gender masculine.

***Amborotragus vestigiepimeron* sp. nov.**

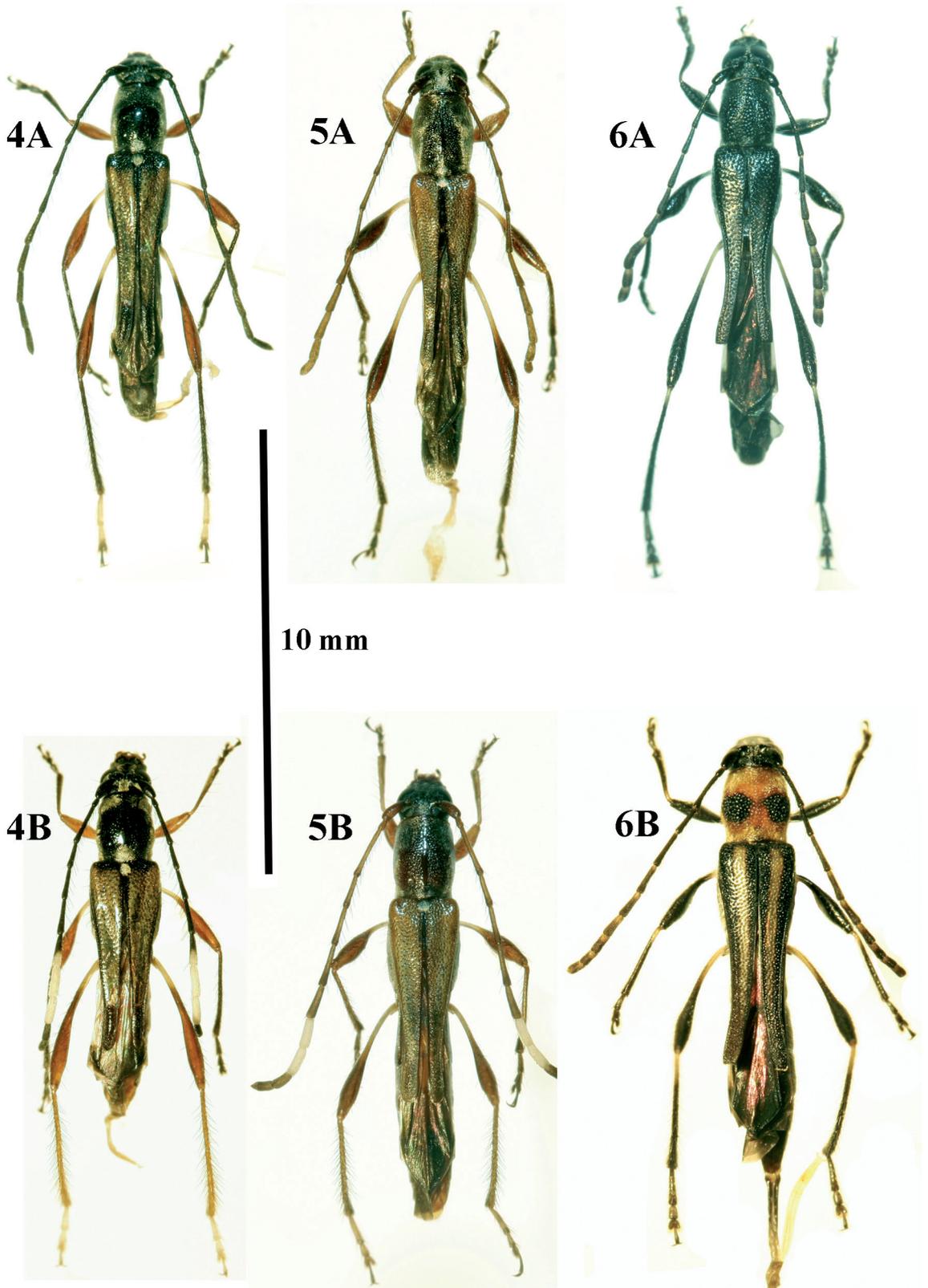
**Fig. 6A, 6B, 11C**

*Holotype male:* 9.5 mm. Deposited at MNKM.

*Diagnosis:* See diagnosis under description of genus.

*Description of holotype:* Elongate, narrow species; forebody (4.25 mm) 1.2 shorter than abdomen (5.20 mm). General colour opaque, shining black, without metallic reflection; centre of elytra paler and somewhat translucent (but not at all vitreous); the following yellow: maxilla (except apical palpomere); narrow rings on base of antennomeres VI-XI; basal third of metafemora; and extreme base of metatibiae.

*Surface ornamentation:* Above: frons densely punctured, each puncture with short suberect, white hair. Pronotum with scattered erect, long and short hairs, as found on frons (these in male forming indistinct patches of pubescence laterally); paired sulci with simple, smaller punctures. Elytra punctate (each puncture with very short hair), punctures dense, confluent and alveolate on apical third; and basal third moderately clothed with long, erect pubescence. Below: mentum-submentum multicarinate, and densely punctured,



FIGURES 4-6: 4, *Ephippiotragus wappesi* sp. nov.: A = male holotype, B = female paratype. 5, *Ephippiotragus thomasi* sp. nov.: A = male holotype, B = female paratype. 6, *Amborotragus vestigiepimeron* sp. nov.: A = male holotype, B = female paratype.

the punctures non alveolate, moderately large, and deep. Prosternum multicarinate with dense, moderately large, transverse punctures. Meso- and metasterna with recumbent, grey pubescence (on sides of mesosternum, mesepimeron, base of metasternum, and metepisternum). Abdomen hardly punctate (slightly denser towards sides); pubescence recumbent, very short to short (with scattered suberect hairs towards sides); punctures shallow, transverse, and slightly beveled.

*Structure:* Head width with eyes (1.15 mm); rostrum moderately narrow (width 0.85 mm, length 0.30 mm), much shorter than length of inferior lobes (0.60 mm), sides slightly narrowed to apex. Maxillary galea very narrow, twice as long as lacinia, and much longer (0.80 mm) than palp (0.50 mm). Labrum projecting, rectangular, depressed apically; apical margin almost straight. Clypeus short, prominent transversely, declivous with both labrum and frons, punctate towards centre. Eyes moderately convex; inferior lobes with interocular distance (0.10 mm) much narrower than width of one inferior lobe (0.55 mm); superior lobe with 6-7 ommatidia, width of lobe (0.15 mm) about one-third interocular distance (0.40 mm). Antennae reach apex of urosternite II; moderately narrow; antennomeres III-VI filiform, VII wider at apex, VIII-XI uniformly widened, XI with short cone at apex. Scape (0.60 mm), III (0.90 mm), IV short (0.60 mm), V (0.80 mm), VI and VII (0.60 mm), VIII (0.50 mm), IX and X (0.45 mm), XI (0.50 mm). Prothorax 1.2 longer (1.50 mm) than wide (1.25 mm), sides converging; width (1.00 mm) of front margin narrower than width (1.15 mm) of hind margin (the former with narrow, raised border); apical constriction feeble, basal constriction short but stronger. Pronotum: paired calli not overhanging basal constriction, nor hiding sides of hind angles. Elytral length 4.40 mm, 3.0 longer than width of humeri; width of elytron measured at beginning of apical third 0.30 mm; apex of elytron not bordered, sutural angle with minute tooth, lateral angle unarmed and almost square.

*Legs:* Front leg relatively short (3.65 mm); peduncles short; underside of clava slightly spiculate. Middle leg longer (4.45 mm), femora bisinuate; peduncle about two-thirds length of clava; underside of clava spiculate towards apex; tibia gradually widening to apex. Hind leg comparatively long (8.40 mm), about twice length of middle leg; peduncle almost straight; clava rather narrow, its apex reaching middle of urosternite IV. Pro- and mesotarsi similar, tarsomeres short, I slightly

elongate, II trapezoidal, III wide and strongly bifid. Metatarsomere I long (1.30 mm), 1.4 longer than II+III (0.90 mm); II and III as mesotarsus, except II slightly more elongate.

*Variation:* Colour variation absent, but less opaque panels on elytra may be much reduced (in holotype extend from well behind humeri to apical fifth), or slightly more extensive. Mouthparts may be browner; apical antennomeres may be chestnut with cinnamon coloured pubescence; apical half of elytra may be bronzy. Suture of elytra may lack border for apical quarter. Prothorax may be more cylindrical, the sides less convergent (but still 1.2 longer than wide); prosternal process may be more arched, and apex sub-trapezoidal (with broadly rounded apical angles). Width of elytron measured at beginning of apical third varies from 0.30 mm (as in holotype) to 0.45 mm; and apex may be slightly lobed.

*Description of female (Fig. 6B):* Example size 10.30 mm; elongate, antennae and legs much as male, but body more robust; forebody (4.50 mm) slightly shorter than abdomen (4.75 mm). General colour as male (including colour of pubescence), or as follows: opaque, shining black, without metallic reflection; disc of elytra (from base to apical third) distinctly paler and less opaque; the following yellow: base of antennomeres IV-XI yellow (IV-VII very narrowly yellow, VIII-XI more obviously), pronotum (except paired calli), prosternum in one female entirely black, in other yellow, basal half of metafemora, extreme base of mesofemur, and all tibiae. The puncturation also similar to male except: frons less densely punctured; on pronotum more uniform, lacking the smaller, simple punctures present in the male; and elytra, also uniformly, but more densely punctured, and less rugose anteriorly. Mentum-submentum uniformly carinate, with sparse, deep punctures.

*Structure:* The female shows the following structural differences from the male: rostrum 2.3 wider (0.90 mm) than long (0.40 mm), shorter than length of inferior lobes (0.55 mm); clypeus not declivous with both labrum and frons; eyes less convex; inferior lobes with interocular distance (0.45 mm) equal to width of one lobe (two females from the Department of Chuquisaca have a narrower interocular (0.35-0.40 mm); interocular flat and planar with eyes, with uniform, dense, small, round punctures; frontal suture just traceable from well behind superior lobes, where it is prominent, to middle of frons, where it is superficial; superior lobe of eye with 8-9

ommatidia; antennal structure similar to that of male, with the following differences: apex reaches middle of urosternite II; VII-XI uniformly widened, X distinctly shorter than IX and XI. Antennal measurements: scape (0.60 mm); antennomere III (0.80 mm); IV (0.55 mm); V (0.75 mm); VI (0.60 mm); VII (0.55 mm); VIII (0.50 mm); IX (0.45 mm); X (0.40 mm); XI (0.50 mm). Prothorax distinctly longer (1.55 mm) than wide (1.25 mm); base of prosternal process wider (0.20 mm) than in male, and sides of apical triangle more raised; mesosternal process moderately narrow (about 0.15 mm), about one third width of coxal cavity, mesepimeron not as narrow (about 0.07 mm at its widest) as in male. Elytra reaching middle of urosternite III; each elytron rather wider than those of male. Ratio of length from front to hind leg 1.0:1.3:2.4 slightly different to that of male; tibiae less sinuate; and metatarsomere I longer than in male, about 1.5 longer than II+III.

*Measurements (mm):* 10 males/7 females: total length 8.30-9.75/7.2-10.3; length of pronotum 1.35-1.5/1.30-1.75; width of pronotum 1.10-1.25/1.10-1.55; length of elytra 3.75-4.40/3.90-5.00; width at humeri 1.20-1.35/1.25-1.70.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (west), 18°08'S/63°45'W, 1893 m, on/flying to flowers of "Lloque colorado", 02.XI.2009, Clarke & Zamalloa col., (MNKM).

*Paratypes with nearly same data as holotype:* 1 female, 01.XI.2009 (RCSZ); 1 male, 02.XI.2009 (RCSZ).

*Paratypes with same locality as holotype, but different host flowers:* On/flying to flowers of "Sagüintillo", 1 male, 1 female, 01.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 01.XI.2009, Clarke & Zamalloa col. (MNRJ); on/flying to flowers of "Sotillo", 2 males, 1 female, 26.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 27.XI.2009, Clarke & Zamalloa col. (MZUSP).

*Paratypes with slightly different localities from holotype, and different host flower:* BOLIVIA, Santa Cruz, Provincia Florida, Bicoquin, 18°07'S/63°47'W, 1820 m, on/flying to flowers of "Khuro-Khu", 2 males, 29.X.2009, Clarke & Zamalloa col. (RCSZ). Rd to Amboró above Achira, Rd to Floripondio, 18°09'S/63°47'W, 1900 m, 2 males, 27-28.X.2011, Wappes & Skillman col. (ACMT).

*Paratypes with slightly different localities from holotype, and no host flower:* BOLIVIA, Santa Cruz, Amboró Rd above Achira, 18°07'43"S/63°47'98"W, 1767 m, 1 female, 09-11.X.2004, Wappes, Nearn & Eya col. (MZUSP); *ditto*, 1940 m, 2 females, 14-15.X.2006, Wappes, Nearn & Eya col. (ACMT). Refugio Los Volcanes, 18°06'S/63°36'W, 1036-1280 m, 3 females, 16-20.IX.2012, Wappes, Skelley, Bonaso & Hamel col. (ACMT); 1 female, 16-20.IX.2012, Wappes, Skelley, Bonaso & Hamel col. (RCSZ).

*Paratypes with different locality from holotype, and no host flower:* Chuquisaca, Incahuasi, E Muypampa, 1600 m, 2 females, XII.1984, L.E. Peña col. (MZUSP, RCSZ).

*Etymology:* *Vestigiepimeron* (a noun phrase in apposition) refers to the very narrow, almost vestigial mesepimeron in the male of this species.

### ***Ecliptoides pseudovicinus* sp. nov.**

**Figs. 7A, 7B**

*Holotype male:* 6.35 mm. Deposited at MNKM.

*Diagnosis:* In nearly all males of *Ecliptoides* basal third of elytra is furnished with long hairs; but in males of *E. eunomia* and *E. pseudovicinus* these hairs are lacking (but note, present in females of *E. pseudovicinus*). These two species are readily separated by the following: in *E. pseudovicinus* the prosternum is almost entirely blackish, with only front and hind margins yellowish (in *E. eunomia* almost entirely yellowish); and in *E. pseudovicinus* antennomeres are almost uniform pale chestnut (in *E. eunomia* antennomeres with distinct yellowish annulations).

*Ecliptoides pseudovicinus* sp. nov. is similar to *Ecliptoides vicinus* (Melzer, 1927) from Brazil (Minas Gerais), both species closely, minutely and almost uniformly punctured above; with rather short and broad rostrum; prothorax similar in shape, surface of pronotum with longitudinal depressions to either side of midline; with rather broad, short, moderately dehiscent elytra, the apices weakly excavate and truncate; and their overall colouration almost the same. However, the males of the Bolivian species differ from a male cotype of the Brazilian species as follows: in *E. pseudovicinus* forebody is distinctly longer than abdomen (in *E. vicinus* forebody is slightly shorter than abdomen); in *E. pseudovicinus* inferior lobes of eyes are far from contiguous (in *E. vicina* they are nearly contiguous); in *E. pseudovicinus* head is almost entirely

testaceous (in *E. vicinus* almost entirely blackish); in *E. pseudovicinus* antennae are filiform, almost uniform pale chestnut, and without distinct paler annulations on apical segments (in *E. vicinus* apical antennomeres form a moderate club, scape to antennomere III are entirely blackish, and the rest contrastingly annulated yellowish); in *E. pseudovicinus* metafemoral peduncle and base of clavae are yellow (in *E. vicinus* only basal half of peduncle is yellow, the rest, and all of clavae, dark chestnut).

*Ecliptoides pseudovicinus* resembles *E. schmidi*; but the two species are readily separated by the following: in male *E. pseudovicinus* the inferior lobes of eyes are rather widely separated (in *E. schmidi* contiguous); and in *E. pseudovicinus* antennae are filiform (in *E. schmidi* apical antennomeres widened to form a distinct club).

*Description of holotype:* General colour: opaque black and tan. Vertex of head black, rest of head and antennae tan. Prothorax black, the following tan: front and hind margin of prosternum, and all of prosternal process. Meso- and metathorax black. Elytra black with two broad, tan coloured panels from base to middle, each panel cuneate, touching sutural border, further from sides of elytra; epipleur adjacent to humerus tan. Abdomen black, apical third of urosternite I paler. Legs, including coxae, tan, except meso- and metafemoral peduncles yellow, and the following black: sides of mesofemoral club, and all of metafemoral club, apical two-thirds of meso- and metatibia, metatarsus and all onychia.

*Structure:* Small, moderately narrow, rather long-legged species. Forebody long (3.35 mm) 1.2 longer than abdomen. Head with eyes slightly narrower than prothorax. Rostrum wide (0.7 mm), 2.8 wider than long, the sides subparallel. Labrum small and strongly transverse. Inferior lobes of eyes large, but only moderately convex; spherical, their front margins lying on frons, hind margins transverse; far from contiguous; interocular (0.20 mm) about 1.8 narrower than width (0.35 mm) of one lobe, lying below level of eyes, bisected by deep frontal suture, and, as rest of frons, closely punctured and pubescent. Superior lobes narrow, separated by more than twice their own width (about 0.15 mm). Surface of mentum-submentum somewhat confused by many, arched, narrow carinas and large, irregular punctures. Neck somewhat tumid, and head slightly widening behind eyes. Antennal tubercles weakly prominent, apices rounded, separated by about twice width of scape. Antenna filiform, moderately long, just

reaching apex of elytra, only weakly setose from antennomere III to apex of V; scape subcylindrical (length 0.45) and rather narrow (0.15 mm); antennomere III and V longest (0.55 mm), distinctly longer than IV, VI and VII (all 0.40 mm); VIII to X (0.30 mm) incrementally shorter; XI (0.35 mm) acuminate, without demarcated cone. Prothorax lacking smooth areas, uniformly covered by confused, dense, small, alveolate punctures (these, together with some overlying, short pubescence, obliterating much of surface detail); longer (1.20 mm) than wide (1.05 mm), widest just in front of middle, sides moderately bisinuate to front margin, more strongly sinuate to hind margin; front border narrower than hind border (hind angles moderately explanate and rounded). Pronotum irregularly convex; anterior constriction shallow, but wide; basal constriction narrow and rather weak; these constrictions connected by way of two shallow depressions lying to each side of midline (these depressions flanked by pair of ill-defined calli). Sides of prothorax marked by irregular, harp-shaped patch of short, white, recumbent pubescence centred on an elongate callus; this patch and associated surface features may represent the sexual puncturation since the features described are not absent, but much reduced in the female. Prosternum weakly convex, declivous across apical third, basal two-thirds inclined towards coxal cavities; prosternal process almost flat, base laminate (about fifteen times narrower than width of coxal cavity), apex moderately large and trapezoidal. Mesosternum rather short (0.60 mm), two-thirds length of metasternum; moderately strongly declivous to mesosternal process; base of process narrow (about 0.08 mm, five times narrower than width of coxal cavities), apex of process bilobate; mesepimeron rather narrow throughout (mesal and lateral apical thirds only slightly wider, and weakly narrowed to middle); coxal cavities narrowly open to epimera. Elytra flat (and lacking humero-apical costa); 2.70 mm long, 2.5 longer than width of humeri (the latter slightly projecting, but hardly prominent); nearly reaching apex of urosternite II; each elytron rather wide throughout, but weakly narrowing from base to apex, and dehiscent from middle (not strongly, but sufficient to leave the apices of each elytron widely separated); the latter slightly excavate and transversely truncate (with minute, acute tooth marking both sutural and lateral angles). Elytral surface similar to that of pronotum, uniformly and closely punctured and pubescent; but devoid of long hairs. Metasternum tumid and somewhat flattened at centre (but more prominent than

mesocoxae), sides subparallel, rounded from base to middle of apex; metepisternum subrectangular (not much wider at base than at middle, weakly narrowed to apex). Abdomen convex, subcylindrical and moderately narrow; widest at middle of urosternite II; lengths of I and III equal, IV hardly shorter; V short and trapezoidal, shallow, surface flattened from base to apex, and with rounded depression towards apex; apical margin truncate. Abdominal process planar with surface of abdomen, triangular, apex pointed and intimately inserted between metacoxae. Legs pedunculate-clavate (claves fusiform and subabrupt, meso- and metafemoral peduncles flattened, the latter rather robust); long, especially middle leg, and metatarsus; ratio length front/middle/hind leg 1.0:1.6:2.5. Front leg 2.70 mm; tibia slightly shorter than femur, narrow basally, apices almost truncate with tooth laterally, tarsomere I elongate and cylindrical (longer than II and III), II trapezoidal, III narrow, with weakly diverging lobes. Middle leg long, 4.20 mm (two-thirds total length of body); tibia slightly shorter than femur; tarsus as protarsus in structure. Hind leg 6.50 mm, as long as body; claws less abrupt than others, 1.2 longer than peduncle; tibia slightly longer (2.70 mm) than femur cylindrical, almost straight, only slightly wider at apex; with rows of long sparse setae on dorso-lateral surfaces; tarsus 1.25 mm, tarsomere I narrow, cylindrical, and long, 2.0 longer than II+III, II and III no wider, but short, III with narrow, hardly diverging lobes.

*Genitalia (examined in situ)*: Lateral lobes of tegmen (parameres) rounded at apex, and apical setae rather short.

*Male variation*: None of the paratypes differ significantly in colour from the holotype. In two male paratypes elytra 2.6-2.7 longer than width at humeri, just reaching basal third of urosternite III. All the male paratypes lack longer hairs on basal third of elytra.

*Description of female*: Example size 6.80 mm; general colour almost as male, but the following dusky: frons (in all three paratypes); and in two of them, centre of mentum-submentum; antennomeres IV-VI, and coxae; in one female front and hind margin of prosternum, and all of prosternal process; in the "above Achira" females front legs and femoral claws. In the lowlands (Hotel Flora & Fauna) female elytra's tan coloured panels shorter (occupying basal third of elytra). Abdomen chestnut to black, apical margins of urosternites paler. In both female paratypes basal third of elytra with long hairs.

*Structure*: Forebody long (3.50 mm) 1.1 longer than abdomen. Rostrum (0.75 mm) 2.5 wider than long; and in two females (one from higher altitude, the other from the lowlands) with rounded, low callus to either side of midline. Inferior lobes of eyes smaller, less convex and further apart (the width of one inferior lobe equal to interocular distance); interocular with 3-4 rows of dense punctures; antenna fall well short of elytral apex, reaching base of urosternite II. Elytra 2.4-2.6 longer than width of humeri (shortest in the lowland female); reaching from middle of urosternite II (in the lowland female) to apex of three (in the two higher altitude ones). Mesosternum weakly declivous to base of mesosternal process; the latter narrow (about 0.10 mm), four times narrower than width of mesocoxal cavity. Abdomen broadly fusiform; and closely pubescent (as in male).

*Legs*: Similar to male; ratio length front/middle/hind leg 1.0:1.4:2.5; front and hind leg as long as in male (and hind leg also as long as body), middle leg and hind tarsus shorter than in male; metatarsomere I about 1.9 longer than II+III.

*Measurements (mm)*: 4 males/3 females: total length 6.15-6.90/6.20-6.75; length of pronotum 1.20-1.25/1.10-1.30; width of pronotum 1.00-1.05/0.90-1.05; length of elytra 2.90-2.95/2.80-3.00; width at humeri 1.10-1.15/1.05-1.25.

*Type material*: Holotype male, BOLIVIA, *Santa Cruz*, Provincia Florida, Floripondio (east), 18°08'S/63°44'W, 1914 m, flying to/on flowers of "Sotillo", 29.XI.2009, Clarke & Zamalloa col. (MNKM).

*Paratypes with slightly different data from holotype*: Amboro Rd above Achira, 18°07'43"S/63°47'98"W, 1940 m, 1 male, 14-15.X.2006, Morris & Wappes col. (RCSZ); 1 male, 1 female, 14-15.X.2006, Morris & Wappes col. (ACMT); *ditto*, 1 male (MZUSP); *ditto*, 1 female (RCSZ).

*Paratype with different data from holotype*: BOLIVIA, *Santa Cruz*, Prov. Ichilo, Hotel Flora & Fauna, 5 km SSE of Buena Vista, 17°29'96"S/63°39'13"W, 440 m, on/flying to flowers of "Ramoneo", 1 female, 11.VIII.2008, Clarke & Zamalloa col. (RCSZ).

*Etymology*: The species' epithet, *pseudovicinus* (which means "the false *vicinus*") draws attention to its similarity to *E. vicinus*.

***Paraclipta tombacketti* Clarke, 2011**

*Paraclipta tombacketti* Clarke, 2011:244; Monné & Bezark, 2012:162 (checklist).

*Material examined:* BOLIVIA, Santa Cruz, Quebrada Angostura, 26 km W Ipati, 6 km W Estancia Caraparacito, 19°48'S/63°39'W, 1070 m, on/flying to flowers of *Croton* sp. A, 1 male (Holotype), 03.I.2008, Clarke & Zamalloa col. (MNKN); Paratypes, same data, 1 male, 1 female (RCSZ). *Chuquisaca*, Incahuasi, 1600 m, E Muyupampa, 3 females, XII.1984, L.E. Peña col. (MZUSP); Monteagudo, 1300 m, 1 female, XII.1984, L.E. Peña col. (RCSZ).

***Rhopalessa subandina* Clarke, Martins & Santos-Silva, 2011**

*Rhopalessa subandina* Clarke, Martins & Santos-Silva, 2011:328; Monné & Bezark, 2012:164 (checklist).

*Material examined:* BOLIVIA, Santa Cruz, Provincia Florida, Achira Sierra Resort, 18°09'S/63°49'W, 1300 m, on/flying to flowers of "Acacia", 1 female (Holotype), 25.XI.2004, Clarke & Zamalloa col. (MNKM).

***Stenopseustes lingafelteri* sp. nov.****Fig. 8A**

*Holotype male:* 10.5 mm. Deposited at MNKM.

*Diagnosis:* *Stenopseustes lingafelteri* is similar in appearance to *Stenopseustes sericinus* Bates, 1880; both species sharing semivitreous elytra, and pronotum not narrowed anteriorly; in *Stenopseustes aeger* Bates, 1873 and *Stenopseustes gibbicollis* Fisher, 1947 elytra opaque, and pronotum narrowed anteriorly.

*Stenopseustes lingafelteri* (from Bolivia) is readily separated from *S. sericinus* (from Mexico) by the following: in *S. lingafelteri* apex of elytra somewhat lobed (in *S. sericinus* not at all lobed).

In addition, *S. lingafelteri* has a number of other characters somewhat unusual for the Rhinotrugini (*i.e.*, not seen by the author in many other species, and rarely referred to by other authors), among which: very small labrum and inclined clypeus (both shared by *S. aeger* and maybe others of the genus); base of antennomere III with inconspicuous keel mesally (not detectable in one example); hind angles of pronotum

rounded (shared by *S. aeger* and maybe others of the genus); centre of mesosternum convex, planar with its process, the latter short, wide and blunt at apex (shared by *S. aeger* and maybe others of the genus); inner side of humeri declivous; shape of abdomen characteristic, narrowing from base to apex of III, then widening to apex of V (but regularly cylindrical in *S. aeger*).

*Description of holotype:* General colour translucent fulvous; submentum, prosternum, centre of mesosternum (including its process), abdomen, and base of antennae, pale chestnut; mouthparts and legs (including coxae) entirely testaceous; tip of mandible black; elytra transparent (not vitreous), less so towards sides, and apices translucent, creamy yellow (the dusky wings make the elytra appear darker).

*General pubescence:* Semi-recumbent, short and white; dense on entire prothorax, sides of mesothorax (including epimeron), scutellum, metathorax and sides of abdomen; less dense on head (inconspicuous), submentum, centre and basal urosternite of abdomen, and base of elytra (concentrated on basal third adjacent to suture); sparse, longer, yellowier, more erect hairs scattered on apical two-thirds (denser on lobes) of elytra and most of abdomen. Antennomeres II-VI densely setose below, VII and VIII less so. Legs without specialised pubescence; but pro- and mesotibiae, and apex of metatibiae with denser, recumbent, yellow pubescence mesally; metatibiae increasingly setose from base to apex.

*Surface ornamentation:* Inconspicuous, fine to microscopic, and very dense on prothorax; surfaces usually micro-carinate where punctures less dense. Vertex with very small, contiguous, raised punctures. Scape with one or two rows of larger isolated punctures; pedicel, antennomeres II+IV, and base of V smooth with sparse punctures; VI-XI densely micro-punctate.

*Structure:* Head with eyes (1.70 mm) narrower than width of prothorax; rostrum 2.4 wider (1.30 mm) than long (0.55 mm); labrum small (0.35 mm wide, 0.20 mm long); clypeus wide (0.75 mm), distinctly inclined from declivous apical margin of frons. Eyes small, inferior lobes convex laterally, about as long as wide (0.50 mm), separated by 1.5 their own width, their proximal margin lying on frons, distal margins transverse; superior lobes with 7-8 rows of fine ommatidia, narrow (0.15 mm), separated by about 4.3 their own width. Antennal tubercles slightly wider apart than width of scape (0.40 mm), apices prominent

posteriorly. Antennae moderately long, reaching apical third of urosternite II; scape pyriform (with shallow longitudinal depression), pedicel subpyriform (apex oblique), III-VII filiform (base of pedicel and antennomere III weakly keeled mesally, and III thickened at apex), VIII-X slightly and regularly thickened and not serrate (IX slightly curved), XI longer (0.65 mm) and narrower than X, without apical cone. Scape (0.85 mm), pedicel (0.40 mm), antennomere III (1.15 mm), IV (0.60 mm), V (0.90 mm), VI (0.85 mm), VII (0.90 mm), VIII+IX (0.65 mm), X (0.55 mm). Prothorax: slightly elongate (2.00 mm), widest (1.85 mm) near apex (width of apex 1.80 mm); sides almost subparallel to middle, rounded and contracted to base (1.40 mm wide); apical constriction weak, basal constriction narrow, hind angles absent (and well separated from base of elytra). Pronotum strongly convex, obtusely prominent at midline, extreme base obliquely declivous; front margin narrowly bordered, raised above vertex of head (which, itself, may be strongly convex, but is not visible); hind margin with prominent, narrow border. Prosternum slightly depressed across apical third, rising to middle of prosternal process, the latter upturned for apical half, with narrow subparallel base (depressed at midline), and lacking apical dilation, leaving procoxal cavities widely (0.60 mm) open behind; sides of latter open, with V-shaped notch. Mesosternum not declivous, the surface convex, inclined downwards from its base to apex of mesosternal process, and separated from sides of mesosternum by distinct suture; mesosternal process with convex base, but lacking apical dilation; base moderately broad (0.30 mm); mesocoxal cavities ovate-elongate (0.50 mm wide), oblique, and widely open to mesepimeron; the latter very narrow (about 0.10 mm), almost parallel-sided, and just touching mesal angle at base of metasternum. Scutellum small, rounded, slightly depressed towards midline. Elytra almost flat, depressed to inside of humeri, and apical sixth tumid; elongate, reaching apex of urosternite IV, 3.6 longer than width of humeri; humeri moderately prominent (finely and dense punctured on summit), narrowed by abrupt declivity internally, projecting, outer angle somewhat rounded. Elytra almost regularly, and rather weakly narrowed from humeri to middle (hardly hiding sides of metepisterna), almost parallel-sided to apex; apex slightly turned outwards, leaving the obliquely rounded tips separated, and suture slightly gaping; epipleur steeply inclined for basal third, flattened to apex, where its border unites with that of suture; humero-apical costa absent. Metathorax: not large, and only slightly wider (1.00 mm) than prothorax. Metasternum convex,

more so behind, and apical margin oblique towards sides. Metepisternum not wide, widest at base, moderately narrowing to apex. Abdomen: apiform, widest at base of urosternite I and base of V (both 1.30 mm wide), narrowing from base to apex of III (1.00 mm wide); I quadrate, II-IV transverse, IV shorter than II+III; sides of segments not rounded, those of II+III converging to apex; V shortest segment, trapezoidal, with flat, horseshoe-shaped area occupying midline, the latter delimited by slightly raised sides laterally, the apices of which project beyond apical margin, leaving the latter broadly V-shaped. Apical tergite short and trapezoidal, not overlapping apex of urosternite V.

*Legs:* Slender; ratio of length front to hind leg 1.0:1.5:2.6; all legs strongly pedunculate-clavate (profemoral clava and all peduncles flattened latero-mesally, and claves abrupt). Front leg short (2.00 mm); peduncle one third length of clava; tibia as long as femur, curved, and apex obliquely excised laterally. Middle leg moderately long (6.10 mm); peduncle curved, as long as clava; tibia straight, slightly thickened at apex. Hind leg (10.30 mm) almost as long as body; peduncle 1.5 longer than clava, clava slightly more slender than others; tibia bisinuate, as long as femur, gradually doubling in width to apex. Protarsus (1.00 mm) and mesotarsi (1.50 mm) rather short; metatarsus moderately long (1.90 mm), metatarsomere I (0.90 mm) 1.5 longer than II+III.

*Genitalia:* Have not been extracted, but tegmen examined *in situ* appear to be similar to that of *Lae-dorcari fulvicollis* (Lacordaire, 1868), as figured by Santos-Silva *et al.* (2011).

*Measurements (mm):* 3 males: total length 10.50-14.50; length of pronotum 2.00-2.75; width of pronotum 1.85-2.45; length of elytra 7.10-9.50; width at humeri 2.00-2.65.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, Prov. Ichilo, Hotel Flora & Fauna, 5 km SSE of Buena Vista, 17°29'96"S/63°39'13"W, 430 m, 21.XI.2003, Nearn, Morris & Wappes col. (MNKM).

*Paratypes:* Prov. Florida, above Achira, road to Floripondio, 1900 m, 1 male, 10.XII.2011, Bonaso, Morris & Wappes col. (ACMT); above Achira, Bicoquin area, road to Amboró, 18°07'S/63°48'W, 2000 m, 1 male, 19.XII.2011, N. Woodley col. (USNM).

*Comments:* This new species shares a number of characters found in the genera *Xenocrasis* Bates, 1873,

*Laedorcari* Santos-Silva, Clarke & Martins, 2011 and *Stenopseustes* Bates, 1873; these are: antennae rather short and subfiliform; frons often carinate; sides of pronotum may be dilated anteriorly; pronotum usually tumid along midline and densely pubescent and micropunctate; elytra pubescent, may gape (but not dehiscent), and apex often weakly lobed; apex of prosternal process narrow (but not in *Laedorcari*), leaving procoxal cavities open; sides of urosternite V elevated and projecting posteriorly.

However, as diagnosed by Santos-Silva *et al.* (2011) this new species cannot be placed in *Laedorcari* (since the elytra are opaque and glabrous); in this new species semi-vitreous and pubescent; nor in *Xenocrasis* (since the inferior lobes of eyes in males are subcontiguous), in males of this new species widely separated.

It would seem that *Stenopseustes lingafelteri* sp. nov. is best placed in *Stenopseustes*.

*Etymology*: This species is dedicated to Steven W. Lingafelter (NMNH) in recognition of his work on the Elaphidiini.

### ***Tomopterchasia* gen. nov.**

**Figs. 9A, 10A**

*Type species*: *Tomopterchasia sullivanorum* sp. nov., here designated.

*Diagnosis*: *Tomopterchasia* gen. nov. is diagnosed by a combination of male characters which separates it from other genera with short cuneate elytra; these are: rostrum short, inferior lobes of eyes far from contiguous, procoxal cavities closed, abdominal process steeply inclined, short hind legs, and metatibia lacking dense pubescence.

Another combination of characters present in this new genus could be termed sub-diagnostic, since they are often found among other genera of Rhinotrugini (*Odontocera*, *Phespia*, *Epimelitta* and in most species of *Tomopterus*); but among *Phygopoda* and related genera they are unusual. These are the form of the prothorax: quadrate, and subglobose (and uniformly convex), and the pubescence on the pronotum (with bands of dense recumbent pubescence clothing apical and basal margins).

*Epimelitta* and related genera have open coxal cavities, and usually densely pubescent metatibiae. *Phygopoda* Thomson, 1864 and related genera have long hind legs and usually densely pubescent metatibiae. Few males among the species in these two generic

groups have widely spaced eyes, or a uniformly convex, quadrate prothorax (with bands of dense recumbent pubescence clothing front and hind margins).

*Tomopterus* has a similar shaped prothorax, and pronotum with similar bands of pubescence; but rostrum moderately long; in male eyes nearly contiguous; antennae rather short and clavate; elytra not passing metacoxae (and usually shorter); abdomen broad; and hind femora with short peduncles and long, robust claws.

The monotypic genus *Carenoptomerus* Tavakilian & Peñaherrera-Leiva, 2003 shares a number of characters with *Tomopterchasia*, as follows: short rostrum short; inferior lobes of eyes in male well separated; prothorax convex and rounded at sides (but pubescence very different); procoxal cavities just closed; wide mesosternal process; cuneate elytra; and vespiiform abdomen. However *Carenoptomerus guyanensis* Tavakilian & Peñaherrera-Leiva, 2003 is a much more robust species (with crassate antennae, wide abdomen, and sturdy hind legs); and, moreover, may be separated from *Tomopterchasia* by the following diagnostics: prosternum flat (in *Tomopterchasia* arced); prosternal process wide (in *Tomopterchasia* sublaminar); elytra not passing level of metacoxae (in *Tomopterchasia* they reach middle of urosternite I); metasternum very convex (in *Tomopterchasia* somewhat flattened); and metatarsomere I shorter than II+III (in *Tomopterchasia* I longer than II+III).

Fisher (1952) must have considered the above alternatives (with exception of the latter), and placed his species (*Ischasia cuneiformis* Fisher, 1952, here transferred to *Tomopterchasia*), in the genus *Ischasia* Thomson, 1864 for want of further choice. However, *Tomopterchasia* gen. nov. may be separated from *Ischasia* by the following male characters (unless otherwise stated): in *Tomopterchasia* rostrum short, about one third length of inferior lobe of eye (in *Ischasia rufina* Thomson, 1864, the type-species of its genus, rostrum more than half length of inferior lobe); in *Tomopterchasia* inferior lobes of eyes rather widely separated, width of one lobe 1.70 wider than interocular (in *Ischasia rufina* width of one lobe six times wider than interocular); in *Tomopterchasia* antenna slender, and antennomere III and V subequal, 0.45-0.50 mm (in *Ischasia rufina* antennomere III, V, VI and VII subequal, 0.50-0.55 mm); in both sexes of *Tomopterchasia* prothorax subglobose, quadrate to slightly transverse (in *Ischasia rufina* subcylindrical and elongate); in both sexes of *Tomopterchasia* abdomen vespiiform and abdominal process steeply inclined (in both sexes of *Ischasia rufina* abdomen fusiform and abdominal process planar with abdomen); in *Tomopterchasia*

urosternite V with deep soleate excavation (in *Ischasia rufina* urosternite V is undifferentiated); and in both sexes of *Tomopterchasia* hind leg short, 2.2 longer than front leg, about 0.8 body length (in both sexes of *Ischasia rufina* hind leg is long, 2.6 longer than front leg, 1.1 longer than body length).

*Description of genus:* Small (7.20-8.60 mm), forebody short and moderately wide, abdomen long and moderately narrow; ratio forebody:abdomen 0.7-0.8:1.0. Head with eyes slightly narrower than width of prothorax. Rostrum short, about one third length of inferior lobe of eye. Apical palpomeres fusiform with truncate apices. Labrum short, five times wider than long; front margin straight, but declivous. Inferior lobes of eyes convex (in female rather flat), slightly longer than wide; not contiguous, in male separated by 1.3 diameter of antennal scape (Fisher says in *I. cuneiformis* twice width of scape; and female three times); their distal margins lying on frons, proximal margins transverse (slightly oblique in female). Superior lobes small and narrow, the distance between them about three times their own width; with 7-8 rows of ommatidia. Mentum-submentum multicarinate and densely punctured (in quadrate patch in male, in transverse patch in female *T. cuneiformis*). Antennal tubercles rather prominent, the surface between them unusually flat. Antennae moderately short, reaching middle of urosternite II in male (hardly passing metacoxae in female *T. cuneiformis*); subfiliform in male (subcrassate in female *I. cuneiformis*); scape subcylindrical, in male shorter than antennomere III (in female *T. cuneiformis* equal to III); antennomeres III and IV filiform; V weakly pedunculate-clavate; VI slightly longer than VII; VII-X incrementally shorter; VII-IX feebly serrate in male (thickened towards apex, but laterally strongly rounded), in female rather strongly serrate; X trapezoidal; XI fusiform. Prothorax *Tomopterus*-like, quadrate (to slightly transverse in female *T. cuneiformis*); uniformly convex with rounded sides. Prosternum almost flat, but apical border strongly declivous; prosternal process arced, base sublunate, its apex rather short, wide and triangular. Procoxal cavities rather broadly plugged at sides, just closed behind. Mesosternum not declivous, but planar and inclined (*ca.* 45°) from base of mesosternal process to its apex; mesosternal process with wide base (half width mesocoxal cavity in male, two-thirds width in female *T. cuneiformis*), its apex short, lanceolate and depressed medially. Elytra cuneate with broadly rounded apices, short and *Ischasia*-like; rather flat, but transversely depressed across base of apical third, and convex to apex; about 1.6 longer than width of

humeri; reaching mid urosternite I; just hiding mesosterna; humeri moderately projecting and prominent (flatter in female *T. cuneiformis*); gape for apical third (but not truly dehiscent); apices rounded; each elytron with translucent panel. Metasternum broad and tumid, but flattened on disc (less prominent than mesocoxae); with straight, slightly converging sides, apical margin oblique; longitudinal suture well marked to apical third. Metepisternum moderately broad at base and subacuminate at apex. Abdomen vespiform (narrowest at apex urosternite I/base of II, widest at apex III and middle of IV); moderately narrow (in female *T. cuneiformis* urosternites wider, especially III). In male urosternite I and II slightly elongate, and weakly constricted towards middle; I subcylindrical; II weakly trapezoidal; III similar to II, but wider; IV cylindrical and transverse, with rounded sides. Male urosternite V trapezoidal with rounded sides; strongly differentiated: apical half with abrupt, deep, soleate excavation (*n.b.*, not a depression), reminiscent of some *Ischasia* species (see Peñaherrera-Leiva & Tavakilian, 2004, fig. 26b); and alate at apex of sides. Female urosternite V subconical, contracted near apex, leaving apical third parallel-sided and slightly downturned. Abdominal process steeply inclined (slightly less in female *T. cuneiformis*), apex narrow and recurved to horizontal in male (broader and blunter in female *T. cuneiformis*), in male intimately inserted between coxae. Front and hind legs short; hind legs relatively short; ratio front/middle/hind leg 1.0:1.2-1.3:2.1-2.2; pedunculate-clavate. Protibiae slightly shorter than profemora, straight, narrow at base, gradually widening to apex, sides of apex with setose tubercle, apical margin oblique. Pro- and mesofemoral claws broad and abrupt (when viewed from the side), the latter flatter laterally, slightly tumid mesally (when viewed from above); profemoral peduncle short and rather broad; mesofemoral peduncle flat and narrow, about one third length of claw. Metafemoral peduncle cylindrical, narrow, about two-thirds length of claw; claw fusiform, not abrupt, apex reaching middle of urosternite III. Metatibiae bisinuate, shorter than metafemora, moderately sturdy, abruptly broadened at extreme apex, finely setose (and without brush). Metatarsus moderately long; metatarsomere I subcylindrical (gradually widening from base to apex), short, about 1.1 longer than length of II+III; II subtrapezoidal (with apex rounded); III short, the lobes diverging.

*Male genitalia (examined in situ):* Tegmen arced, moderately sclerotised; lateral lobes not twisted, nor divergent; moderately short and broad (about 0.20 mm);

slightly widening to rounded apex; apex and sides finely setose. Apex of median lobe appears to be well rounded.

The visible part of the tegmen looks very like that of *Ephippiotragus wappesi* sp. nov., as shown in Fig. 11A.

*Surface ornamentation:* Above and below with patches of dense, recumbent pubescence (silvery in *T. sullivanorum*, yellow in *Tomopterchasia cuneiformis* (Fisher, 1952) comb. nov. Above, on the following: frons between eyes, moderately wide fascia on front and hind margins of pronotum, and all of scutellum. Below, generally clothed with subrecumbent, rather short pubescence: (becoming dense on hind margins of urosternites I-IV; and dense patches of shorter, recumbent pubescence (much reduced in female *T. cuneiformis*) on sides of mesosternum, and basal half of metasternum. Elytra almost glabrous (according to Fisher (1952) less so in *T. cuneiformis*); and rather densely punctured throughout (Fisher (1952) says in *T. cuneiformis* sparse on translucent panels; confirmed in female). Punctures generally small and alveolate. Prothorax closely punctured throughout. Prosternum densely punctured; on mesosternum punctures becoming almost micropunctate; on metasternum sparse and non-alveolate; and on abdomen very dense, beveled, and somewhat confused.

*Species included:* *Tomopterchasia sullivanorum* sp. nov. and *Tomopterchasia cuneiformis* (Fisher, 1952) comb. nov.

*Specimen examined:* *Ischasia cuneiformis* Fisher, 1952, BRAZIL, Santa Catarina, Nova Teutonia, 27°11'S/52°23'W, 1 female 03.XI.1940, Fritz Plau-mann col. (MZUSP).

*Comment:* Since *Ischasia cuneiformis* Fisher, 1952 (Fig. 10A) shares the combination of characters set out for the diagnosis of *Tomopterchasia* gen. nov., its placement in this new genus would seem to be correct.

Separation of the two species in this genus is based on the original description, Fisher (1952), of four male and two female *Ischasia cuneiformis* (Fig. 10A), and redescription of this species by Zajciw (1973); and by three male specimens of *T. sullivanorum* and one female of *I. cuneiformis*, examined by the author.

### ***Tomopterchasia sullivanorum* sp. nov.**

#### **Fig. 9A**

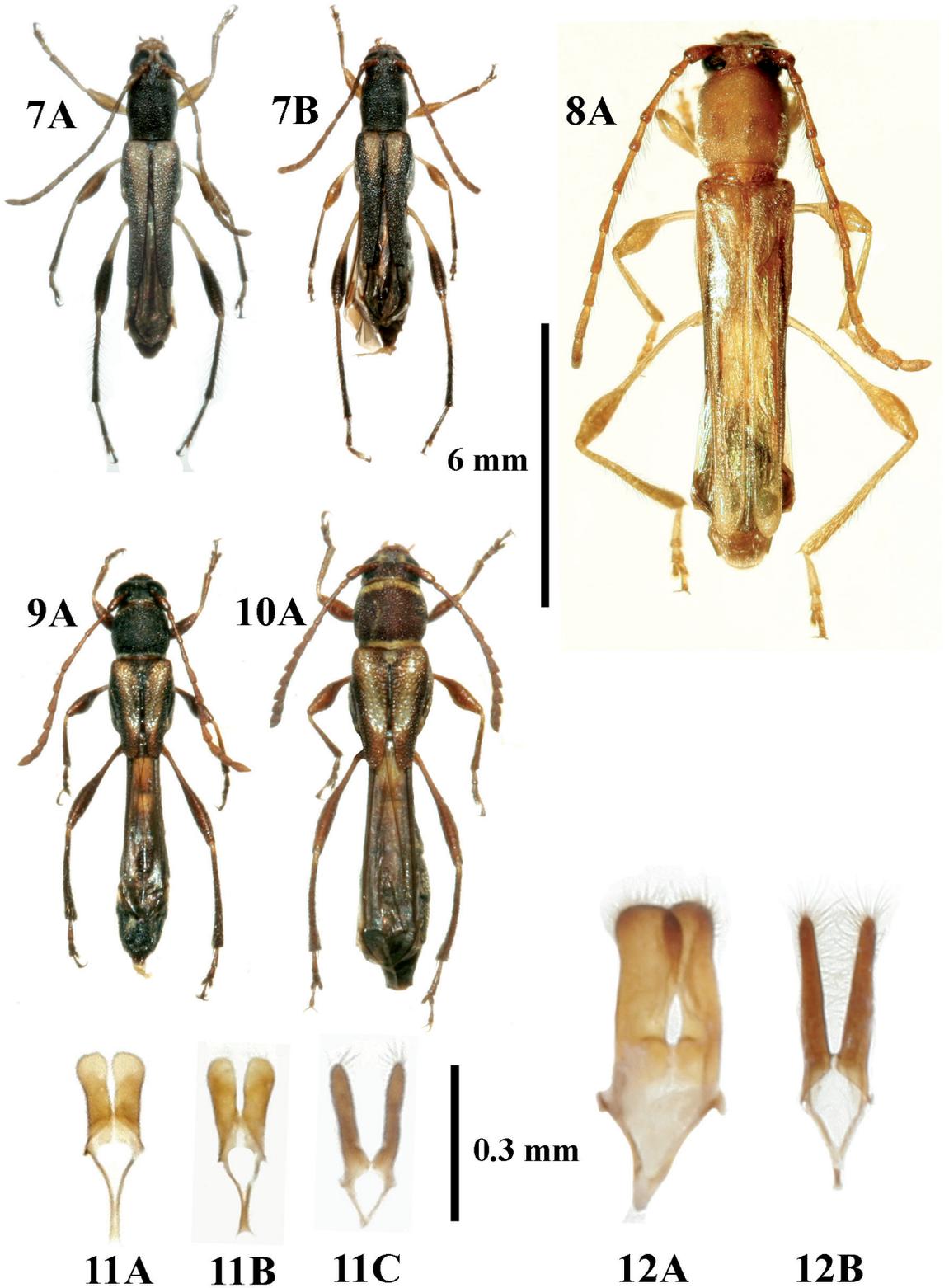
*Holotype male:* 7.20 mm. Deposited at MNKM.

*Diagnosis:* In male *T. sullivanorum* antennae are pale chestnut in colour (in *T. cuneiformis* dark chestnut); in *T. sullivanorum* pubescence on frons, front and hind margins of pronotum, and scutellum, brassy in colour (in *T. cuneiformis* yellow); in *T. sullivanorum* translucent panels on elytra almost uniformly densely punctate (in *T. cuneiformis* only densely punctate at base, impunctate at apex); in male *T. sullivanorum* inferior lobes of eyes separated by 1.3 diameter of antennal scape (in *T. cuneiformis* twice width of scape); in male *T. sullivanorum* antennae reaching middle of urosternite II (in *T. cuneiformis* shorter).

*Description of holotype:* Small, dull and densely punctured generally; abdomen (4.00 mm) 1.4 longer than forebody (2.85 mm). General colour opaque black and chestnut; the following black: head, prothorax, underside of forebody, most of abdomen (except midline of urosternites I and II broadly yellowish), and coxae. Antennae pale chestnut (scape slightly darker). Elytra dull black with broad, brownish, translucent panels running from humeri to apical third, the latter clouded with rufous.

*Legs:* Femora, and most of metatibiae dark chestnut; all tibiae yellowish at extreme base; pro- and mesotibiae, and tarsi chestnut.

*Structure:* Rostrum parallel-sided, moderately wide (0.40 mm), 2.7 wider than long. Labrum almost planar with clypeus, with group of small punctures to each side. Clypeus planar with frons, both somewhat depressed. Width of one inferior lobe (3.75 mm) of eyes about 1.7 width of interocular (2.25 mm). Interocular lying below level of eyes, frontal suture very narrow, partially obliterated by contiguous punctures, but traceable from antennal tubercles to near front margin of eye. Antennae passing apex of elytra at middle of antennomere IX; measurements: scape (0.45 mm); antennomere III (0.50 mm); IV (0.35 mm); V (0.45 mm); VI (0.40 mm); VII (0.37 mm); VIII (0.35 mm); IX (0.30 mm); X (0.25 mm); XI (0.35). Prothorax widest at middle, front and hind margins subequal (0.90 mm); apical constriction weak, basal one stronger (but narrow). Base of prosternal process narrow (about 0.05 mm), seven times narrower than width of procoxal cavity. Elytra short (1.85 mm), and moderately wide at humeri (1.15 mm). Abdomen: length of urosternite I 0.90 mm; II and III 0.85 mm; IV 0.75 mm; V 0.50 mm. Width at narrowest point 0.65 mm; and widest point 0.95 mm. Inclination of abdominal process about 80°.



FIGURES 7-12: 7, *Ecliptoides pseudovicinus* sp. nov.: A = male holotype, B = female paratype. 8, *Stenopseustes lingafelteri* sp. nov.: A = male holotype. 9, *Tomopterchasia sullivanorum* sp. nov.: A = male holotype. 10, *Tomopterchasia cuneiformis* (Fisher, 1952) comb. nov., A = female. 11, Tegmen of aedeagus: A = *Ephippiotragus wappesi* sp. nov., B = *Ephippiotragus thomasi* sp. nov., C = *Amborotragus vestigiepimeron* sp. nov. 12, Tegmen of aedeagus: A = *Isthmiade mariaehelenae* sp. nov., B = *Isthmiade icbneumoniformis* Bates, 1870.

*Male variation:* Colour variation minor, limited to changes of hue (the Incahuasi male is generally paler on body than holotype (which may be due to the age of the specimen, black becoming dark chestnut on prothorax and abdomen; but antennae darkening to chestnut, with paler scape).

*Structure:* The sex of the two paratypes is confirmed by the deeply foliate urosternite V; but the Floripondio male paratype presents certain characters tending towards those more typical of females, in particular: width of one superior lobe 1.27 width of interocular (about half way between male and female); and eyes correspondingly smaller and flatter; ratio forebody and abdomen much the same as in holotype, but abdomen slightly less elongate, and distinctly wider than in holotype (again, in appearance midway between male and female); and the antennae are shorter (reaching apical third of urosternite I). The Incahuasi male paratype differs from the holotype by the following: width of one superior lobe 1.42 width of interocular; the eyes large, but rather flat; ratio forebody and abdomen 0.67:1.00 (not very different from the other two types); but the abdomen distinctly more elongate (giving it a strongly male appearance).

*Measurements (mm):* 3 males: total length 7.15-8.60; length of pronotum 1.10-1.35; width of pronotum 1.10-1.35; length of elytra 1.85-2.10; width at humeri 1.20-1.35.

*Type material:* Holotype male, BOLIVIA, Santa Cruz, 18°08'S/63°44'W, 1914 m, Provincia Florida, Floripondio (east), on/flying to flowers of "Sotillo", 26.XI.2009, Clarke & Zamalloa col. (MNKM).

*Paratype with same data as holotype:* 1 male, 26.XI.2009, Clarke & Zamalloa col. (RCSZ).

*Paratype with different data from holotype:* Chuquisaca, Incahuasi, E Muypampa, 1600 m, 1 male, XII.1984, L.E. Peña col. (MZUSP).

*Discussion:* Although it could be, the author discounts any real possibility that *T. sullivanorum* and *T. cuneiformis* are conspecific; there seem to be too many small differences, and, certainly, their distribution would mitigate against this possibility: *T. sullivanorum* from the subtropical rainforest of subAndean Bolivia (which as noted in the introduction seem to contain an endemic fauna), and *T. cuneiformis* from the Mata Atlantica of eastern Brazil.

The one female of *T. cuneiformis* on loan to the author (from the MZUSP collection) would seem to

be one of a series collected by Fritz Plaumann on the same occasion, and at the same place, as Fisher's Type (male) and 5 Paratypes (3 males, 2 females). Curiously, the MZUSP specimen is brown (or could be termed "rufous") in colour, but Fisher (1952) says: "this species is allied to *Ischasia rufina* Thomson, but differs from that species by being of a different colour".

*Etymology:* *T. sullivanorum* is dedicated to Pat and Lisa Sullivan who have generously supplied us with collecting equipment for our work in Bolivia.

### *Tomopterus basimaculatus* Zajciw, 1964

*Tomopterus basimaculatus* Zajciw, 1964:425; Monné, 2005:504 (cat.); Monné & Hovore 2006:124 (checklist).

*Measurements (mm):* 2 males: total length 10.50-11.00; length of pronotum 1.85-1.90; width of pronotum 1.65-1.70; length of elytra 1.90-2.05; width at humeri 1.90-2.10.

*Material examined:* BOLIVIA, Santa Cruz, Provincia Florida, Floripondio (east), 18°08'S/63°44'W, 1914 m, on/flying to flowers of "Sotillo", 1 male, 26.XI.2009, Clarke & Zamalloa col. (RCSZ); 1 male, 29.XI.2009, Clarke & Zamalloa col. (RCSZ).

## RESUMO

*Rhinotragini bolivianos VII: comunicado provisório de espécies de altitude elevado (Coleoptera, Cerambycidae), com descrição de novos gêneros e espécies. Três novos gêneros são descritos: Ehippiotragus com E. wappesi sp. nov. e E. thomasi sp. nov.; Amborotragus com A. vestigiepimeron; e Tomopterchasia com T. sullivanorum sp. nov. Adicionalmente, cinco espécies novas são descritas: Acyphoderes amboroensis, Isthmiade mariahelena, Chrysaethe lazzoi, Ecliptoides pseudovicinus, e Stenopseustes lingafelteri. Todas as espécies novas são ilustradas e as flores-hospedeiras são listadas. Um notável exemplo de genitalia estruturalmente diferente, em duas espécies aparentadas, é ilustrado e brevemente discutido. Ischasia cuneiformis Fisher, 1952 é transferida para Tomopterchasia. Odontocera hirundipennis Zajciw, 1962 e Odontocera ornaticollis Bates, 1870 são registradas pela primeira vez para Bolívia.*

PALAVRAS-CHAVE: Bolívia; Cerambycinae; Flores-hospedeiras; Genitalia; Submontanha; Taxonomia.

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## APPENDIX

Summary: Host flowers visited by Bolivian Higher Altitude Rhinotragini.

Local Name	Scientific Name	Family
<b>Acacia</b> <i>Rhopalessa subandina</i> Clarke, Martins & Santos-Silva, 2011 <i>Ephippiotragus thomasi</i> sp. nov.	<i>Acacia</i> sp. indet.	MIMOSACEAE
<b>Llave</b> <i>Ephippiotragus wappesi</i> sp. nov.	Unidentified sp.	
<b>Lloque Colorado</b> <i>Isthmiade mariahelena</i> sp. nov. <i>Ommata andina</i> Clarke, 2010 <i>Ephippiotragus wappesi</i> sp. nov. <i>Ephippiotragus thomasi</i> sp. nov. <i>Amborotragus vestigiepimeron</i> sp. nov.	<i>Mauria thaumatophylla</i> Loesner	ANACARDIACEAE
<b>Khuro-Khu</b> <i>Amborotragus vestigiepimeron</i> sp. nov. <i>Ephippiotragus thomasi</i> sp. nov.	<i>Croton</i> aff. <i>pilulifurus</i> Rusby	EUPHORBIACEAE
<b>Sagüintillo</b> <i>Anomalotragus morrisoni</i> Clarke, 2010 <i>Isthmiade mariahelena</i> sp. nov. <i>Chrysaethe lazzoi</i> sp. nov. <i>Ephippiotragus wappesi</i> sp. nov. <i>Ephippiotragus thomasi</i> sp. nov. <i>Amborotragus vestigiepimeron</i> sp. nov.	<i>Viburnum witteanum</i> Graebner	CAPRIFOLIACEAE
<b>Sotillo</b> <i>Acyphoderes boliviensis</i> sp. nov. <i>Isthmiade mariahelena</i> sp. nov. <i>Chrysaethe lazzoi</i> sp. nov. <i>Ephippiotragus wappesi</i> sp. nov. <i>Ephippiotragus thomasi</i> sp. nov. <i>Amborotragus vestigiepimeron</i> sp. nov. <i>Ecliptoides pseudovicinus</i> sp. nov. <i>Tomopterchasia sullivanorum</i> sp. nov. <i>Tomopterus basimaculatus</i> Zajciw, 1964	<i>Weinmannia sorbifolia</i> H.B.K.	SAPINDACEAE

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