New species of Elateridae (Coleoptera) from Madre de Dios, Peru, with new taxonomic changes and distribution records

Especies nuevas de Elateridae (Coleoptera) de Madre de Dios, Perú, con nuevos cambios taxonómicos y registros de distribución

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Abstract

The Elateridae fauna of Peru is updated with species new to science, new country records and new taxonomic combinations from the Madre de Dios region. Ten species representing eight genera are described as new: Conoderus wachiperi new species (Agrypninae, Oophorini), Dipropus amarakaeri new species and Dipropus losamigos new species (Elaterinae, Ampedini, Dicrepidiina), Esthesopus machiguenga new species (Cardiophorinae), Glyphonyx peruanus new species (Elaterinae, Aдрastini), Lissomus carmen new species (Lissominae), Paradonus kosnipata new species (Negastriinae), and Pomachilus waygecha new species and Pomachilus waygecha new species (Elaterinae, Pomachilini). Aeolus platynotus Candéze is changed to Conoderus platynotus Candéze new combination and Aeolus ticuna Johnson is changed to Conoderus ticuna (Johnson) new combination (Agrypninae, Oophorini); and Aegrimus brunnilpis Candéze is changed to Probathrum brunnilpis (Candéze) new combination (Elaterinae, Elaterini). Twenty-seven (27) species, the genera Glyphonyx Candéze and Paradonus Stibick, the tribe Aдрastini, and the subfamily Negastriinae are added to the Peru faunal list. There are now 201 species representing 48 genera and 9 subfamilies recorded from Peru.

Key words: Taxonomy; biodiversity; click beetle; Andes; Amazonia.

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Introduction

The click beetle family Elateridae (Coleoptera) remains inadequately studied in Peru, with few modern taxonomic or faunal studies, but the paucity of attention is changing. A recent summary by Johnson and Chaboo (2015) listed 174 species classified in 46 genera and 8 subfamilies. Subsequently, Johnson (2017) described a new species of Dodecatomus Schwarz, and additional new taxa and records are presented below to update the working checklist for Peru to 201 species and 48 genera in 9 subfamilies.

The Elateridae were included in the sampling results for Coleoptera of the Andean eastern slopes, foothills and adjacent lowlands in southeastern Peru in the Beetles of Peru project (Chaboo 2015, Chaboo and Catenazzi 2015). Most of the specimens and those reported below were collected at the Centro de Investigación y Capacitación Río Los Amigos (CICRA), or Los Amigos Biological Station, along the Rio Madre de Dios, approximately 100 air kilometers west of Puerto Maldonado. The biological station is located adjacent to the Los Amigos Conservation Concession and the Manu-Tambopata Corridor between Manu National Park and Tambopata National Reserve. The area is an example of lowland Amazon rainforest with low topographic relief and high water tables near to the eastern foothills of the Andes. The new Interoceanic Highway traverses the region from Brazil to Puerto Maldonado, then to Cusco and three Pacific ports, and enables increased incursions and alterations to forest and riverine habitats. Some additional specimens were collected in the Andean foothills (ca. 500 m) in premontane rainforest at the Villa Carmen Biological Station within the Manu Biosphere Reserve, and upper montane (ca. 2800 m) cloud forest at the Wayqecha Cloud Forest Biological Station overlooking the Kosñipata Valley. The specimens presented herein were collected by all basic insect sampling methods, especially beating, gleaning, UV light trap, colored pan traps, and Malaise and other flight interception traps.

Peru is generally considered an extraordinary country for biodiversity because of its diverse environmental settings set entirely within tropical latitudes, including coastal desert, alpine Andes, and Amazon basin and transitions between these biomes (e.g., Kricher 1997; Lambs 1997; Mittermeier et al. 1997; Erwin and Geraci 2009; Larsen et al. 2011). The Andean-Amazonian transition slopes are recognized as a global biodiversity hotspot (Myers et al. 2000) because of its unique combination of climate, geology, and complex vegetation (Footit and Adler 2009). The region is threatened by commercial exploitation and encroachment, including gold mining, logging, road network construction, and a proposed dam construction (Laurance 1998, Laurance et al. 2011).

Footit and Adler (2009) discussed two challenges that limit the application of insect-based biomonitoring strategies in South America. First, there is a very large number of species to be identified from survey data, which has accumulated in part to a lack of taxonomic resolution. Second, reaching a good degree of taxonomic resolution for insects is critical for understanding ecological patterns and identifying/detecting disturbances in changes of any insect community. Aguirre and Johnson (2014) ranked Peru in sixth place for documented click beetle diversity among all South American countries. Sampling of these beetles and their relatives to date has largely been serendipitous collecting or relatively small structured projects by individual workers. In contrast, systematic sampling can be reasonably expected to add tremendously to documenting their diversity as most of the undescribed taxa that are known are small-sized, regionally endemic, generally overlooked by non-specialists, or are members of taxonomically neglected groups. Examples of each of these factors were treated by Johnson and Chaboo (2015, 2016), and in this and pending reports.

Here, we add to the biodiversity knowledge of Peru and address the two main biodiversity challenges given by Footit and Adler (2009) by reporting on discoveries with the taxonomic treatment of species new to science and new occurrence records in Peru for click beetle species. Ten (10) species new to science are described, three species receive genus transfers, and an additional 14 species are reported from Peru for the first time.

Materials and methods

Data for this study was assembled from field collections in 2010–2014 as part of the Beetles of Peru research project as detailed by Chaboo (2015). Specimen collections in that project uses various traps: Malaise (mainly terrestrial), flight interception, colored pan, and ultra-violet light traps; beating (sometimes with fumigation) is also used on lower vegetation. Most of the click beetles were recovered from Malaise and other flight interception traps. Additional specimens came primarily from the Snow Entomological Museum Collection (SEMC), University of Kansas, Lawrence, U.S.A., and the Universidad Nacional Mayor de San Marcos, Museo de Historia Natural (MUSM), Lima, Peru. Pertinent primary types of species were examined at the Natural History Museum, London (BMNH), U.K., the Museum für Naturkunde (MFNB), Berlin and the Senckenberg Deutsches Entomologisches Institut (SDEI), Müncheberg, Germany.

The new species were recognized by comparison with specimens of other known species within these genera and by published historical taxonomic literature. Species concepts are...
morphology-based. Descriptive measurements of morphological structures follow Johnson (2015, 2016), and were made with an ocular micrometer at 0.1 and 0.01 mm increments between 10–50 magnifications. Morphological terms and concepts generally follow Calder (1996) and Lawrence et al. (2010). Integument color terms are based on Nichols and Schuh (1989). Body length was measured from the anterior margin of the frons to the elytra apices, and width is measured across the elytral humeri. Antennomere 2–11 length ratios are given in those taxa where the values are useful, and were measured along the lateral midline from antennomere base to apex, and values are rounded to one decimal place. The string of values is usually given only for antennomeres 2–4 or 2–5 and 11, when antennomeres 5 or 6–10 are the same. The entire string of values is presented for those species that have antennomeres 3–5 and 6–10 of differing lengths. Pronotal length is along the midline from anterior margin to the antescutellar emargination, and width is at widest point at midlength or base of the hind angles. Metatarsomere lengths were measured along the dorsal midline, from basal to distal margins, values are rounded to two decimal places, and given as a ratio string.

Label data is presented as given on the specimens. Information from separate labels is separated a slash ( / ) bracketed by single spaces. Interpolated information is given within squared brackets as needed for clarity or supplementation.

Species presented represent a variety of family-group and genus taxa, thus the descriptions of each new taxon are not necessarily consistent in characters given between the taxa presented. The descriptions are designed to use characters of value within the genus or appropriate set of related next higher taxa.

Collection abbreviations follow Evenhuis (2018). The field sampling and lab research were conducted under permits numbered 506-2011-AG-DGFFS-DGFFS and 0159-2010-AG-DGFFS-DGFFS issued by the Peru Ministry of Agriculture to C.S. Chaboo. Holotypes designated herein will be returned to the MUSM. Paratypes and non-types are deposited in MUSM, SEMC, with a few examples retained in PJJC. Since specimens have unique barcodes specimen numbers by repository are not added with collection abbreviation.

**Systematics**

**FAMILY ELATERIDAE LEACH, 1815**

**Descriptions of New Species**

1. *Conoderus wachiperi* Johnson, new species

   (Figs. 1, 11)

   **Diagnosis**: Characters of *Conoderus* Eschscholtz as defined by Candèze (1859), Schwarz (1906b) and Johnson (1995). This new species is small (5.0 mm length) for the species of the region of occurrence, has variable infuscate maculations on the pronotum and elytra, the elytral apices emarginate and spinulate, and aedeagal morphology (Fig. 11).

   **Description**: Body (Fig. 1) length 5.0 mm, width 1.4-1.5 mm; integument brown-yellow (testaceous to brunneotestaceous), with infuscate head; pronotum with variable infuscate markings; median vitta, transverse anterior margin, lateral maculae posterior of midlength to mostly infuscate with hind angles...
3. Dipropus amarakaeri Johnson, new species

(Figs. 3, 13)

**Diagnosis:** This new species, and the next one, is assigned to *Dipropus* Germar as characterized by Candèze (1859), as *Ichiodontus* Candèze, Schwarz (1906b), and Casari (2013, 2017). It can be recognized apart from described congeneric species by its small size, proportionately long pubescence over a dull coarsely punctured dorsal integument, and the dark infuscate integument, with brown-yellow pronotal and elytral vittae.

**Description.** Characters of *Dipropus* Candèze (1859), Schwarz (1906b), and Casari (2013, 2017). Body (Fig. 3) narrowly elongate-oval, moderately convex dorsally; 5.1-6.7 mm long, 1.6-2.0 mm wide. Integument dark infuscate, with irregular brown-yellow pronotal vittae surrounding an infuscate discal macula and lateral margins; elytra with vogue to distinct brown-yellow to testaceous discal vittae. Antennae and legs rufoustestaceous. Head with vertex evenly rounded; frons depressed to shallowly impressed; densely, umbilicately punctured. Frontal margin evenly arcuate, slightly projecting, marginal carina variably patterned; pronotum with oval median vitta separate from anterior margin, reaching posterior margin, lateral maculae at middlenght; elytra infuscate, intervals 2-4 diffusely pale; venter infuscate on meso- and metathoraces, abdominal ventrites. Antennae and legs rufoustestaceous.

**Head with frontal carina evenly arcuate, forming a polished bead. Antennomere 10 exceeding pronotal hind angle apex; antennomeres 2-4 and 11 length ratio 1.0:1.0:1.4: 2.3.**

**Pronotum length 0.82X width (1.2X wider than long), widest at posterior third, slightly sinuate before hind angles. Dorsal carina of hind angle fine, divergent from lateral margin, reaching 0.5X distance to anterior margin. Metatarsomere length ratio 1.00:0.45:0.45:0.27:0.55; tarsi filiform; claw simple, arcuate.**

**Elytral length 2.53X width. Striae finely engraved and punctured. Intervals flat, sparsely scabrous; apices broadly emarginate, with short spines at sutural angle and interval 3.**

**Aedeagus (Fig. 12) with median lobe shallowly constricted at middlenght giving a spatulate dorsal habitus; paramere deeply sinuate before subsagittate apex; ventrally separate, articulate.**

**Type material.** Holotype male; PERU: Madre de Dios, CICRA Fld Stn. garden, 12.56940°S 70.10100°W, 260m, 9-16.ix.2010, MJ Endara, malaise trap, PER 10-09-MAT-015 / SEMC1098271 (MUSM).

**Paratypes: PERU: Madre de Dios, CICRA Fld Stn. garden, 12.56940°S 70.10100°W, 260m, 16-23.ix.2010, MJ Endara, malaise trap, PER 10-09-MAT-016 / SEMC1097908 (MUSM), SEMC1097911 (MUSM), SEMC1098060 (MUSM), SEMC1097346 (MUSM), SEMC1097318 (MUSM), SEMC1098193 (MUSM); 25.x.-1.xi.2010, PER 10-10-MAT-021 / SEMC1097088 (MUSM); 1-8.xi.2010, PER10-11-MAT022 / SEMC1097417 (MUSM), SEMC1097515 (MUSM).

**Etymology.** The species epithet "amarakaeri" is treated as a noun in apposition and is derived from the abbreviation for the Amazon Conservation Association.

**Notes.** *Cosmesus* comprises nearly 80 described species endemic to South America and the southern Lesser Antilles, but is in need of considerable taxonomic work. *Cosmesus aca* is the eighth species of the genus reported from Peru (Johnson and Chaboo 2015).

4. Dipropus losamigos Johnson, new species

(Figs. 4, 14)

**Diagnosis:** This new species is assigned to *Dipropus* Germar as characterized by Candèze (1859), as *Ichiodontus* Candèze, Schwarz (1906b), and Casari (2013, 2017). It can be recognized apart from described congeneric species by its small size, proportionately long pubescence over a dull coarsely punctured dorsal integument, and the pale brown pronotal and elytral vittae.

**Description.** Characters of *Dipropus* Candèze (1859), Schwarz (1906b), and Casari (2013, 2017). Body (Fig. 4) narrowly elongate-oval, moderately convex dorsally; 5.0-5.6
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mm long, 1.5-1.7 mm wide. Integument dark infuscate, with brown to light brown margins, broad pronotal and elytral vittae, the later merging at suture apically. Antennae brown, legs yellow-brown. Frontral carina shiny black. Pubescence long, conspicuous, dull golden-yellow.

Head evenly rounded, very densely, umbilicately punctured. Frontal margin evenly arcuate, slightly projecting, marginal carina beaded. Antenna long, apex of antennomere 8 reaching apex of pronotal hind angle; antennomere 2 subglobular, antennomere 3 triangular, length subequal to antennomere 2; antennomeres 2-11 length ratio 1.0:1.0:2.8:2.8:3.0:3.0:3.0:4.0.

Pronotum trapezoidal, length 0.8X width, widest across base of hind angles. Hind angles slightly divergent; dorsal carina sharp, short, reaching 0.3X distance to pronotal anterior margin. Tarsomeres 2 and 3 each with thin ventral membranous lobe; metatarsomere length ratio 1.00:0.29:0.21:0.14:0.36.

Elytra length 2.4X width. Intervals flat to shallowly convex; triserially setose; scabrous. Striae shallowly engraved; punctures small, setose; apices separately rounded.

Aedeagus (Fig. 14) with basal piece subquadrate, 0.34X aedeagal length. Median lobe narrow, subparallel, rapidly tapering at apex; struts extended, recurved apically. Paramere narrowing to preapical lateral spine; sagittate apically, dorsally unisetose; apex lightly sclerotized, evenly arcuate lateral margin; ventrally separate, articulate.

Female externally similar to male, but slightly smaller, less coarsely punctured, more shining integument.

Type material. Holotype male; PERU: Madre de Dios, CICRA Fld Stn. Exp. Plot, South Transect, 12.55261°S
70.11008°W, 295m; 11-13.vii.2010, Chaboo team, ex flight intercept trap, PER 10-07-FIT-006 / SEMC0956114 (MUSM).

Paratypes: PERU: Madre de Dios, CICRA Fld Stn. Exp. Plot, North Transact, 12.55261°S 70.11008°W, 295m; 11-15.vii.2010, Chaboo team, ex flight intercept trap, PER 10-07-FIT-009 / SEMC0954810 (MUSM); Trail 6, 12.56917°S 70.10019°W, 250-295m, 10.vii.2010, C.S. Chaboo ex hand coll., PER10-07-CSG-023 / SEMC0954629 (MUSM); CI-CRA Field Station, garden, 12.56940°S 70.10100°W, 260m, 22-29.vii.2010, MJ Endara, malaise trap, PER 10-07-MAT-008 / SEMC1096788 (MUSM), SEMC1096624 (MUSM), SEMC1096663 (MUSM), SEMC1096620 (SEMC), SEMC1096633 (MUSM), SEMC1096637 (PJJC); 19-26.viii.2010, PER 10-08-MAT-012 / SEMC1096788 (MUSM), SEMC1096624 (MUSM), SEMC1096633 (MUSM), SEMC1096620 (SEMC), SEMC1096637 (PJJC); 19-26.viii.2010, PER 10-08-MAT-012 / SEMC1096622 (MUSM).

Etiymology. The species epithet "losamigos" is treated as a noun in apposition and comes from the Rio de Los Amigos region of Madre de Dios in which the type locality is located.

Notes. This species is in part the "Anoplistochis sp. 1" of Johnson and Chaboo (2015). Casari (2008, 2013) showed that the genus-level classification within Dicrepidiina requires further study. This new species can be associated with Candèze's (1859) Section II, which is characterized by antennomere 3 bearing shorter antennae and narrower than antennomere 4, and differs from Section congeners by its small size, antennomeres 2 and 3 each smaller than antennomere 4, and opaque and bicolored dorsal integument.

5. **Esthesopus machiguenga** Johnson, new species
(Figs. 5, 15)

Diagnosis. With the characters of *Esthesopus* Eschscholtz (Candèze 1860, Schwarz 1907, Becker 1961). It superficially resembles the syntypes of *Horistonotus spernendus* (Erichson) from Colombia, but tarsomeres 4 have membranous ventral lobes, the antennae are much longer, reaching beyond the body midlength and more slender overall, dorsal setae longer and suberect, elytral striae more finely punctured, intervals shallowly convex and distinctly punctured, and pronotal and elytral bases lighter colored.

Description. Body (Fig. 5) 3.8 mm long, 1.3 mm wide. Integument dark brunneo- piceous, yellow-brown margins and highlights on anterior pronotal margin, scutellum, elytral base, hypomeron posterior margin, and legs. Pubescence fine, hair-like, dull yellow.

Head evenly rounded on vertex, frons depressed; finely, sparsely punctate, punctures separated by 1.0-1.5X own diameter. Frontal carina narrowly reflexed, obtrusely subangulate at median, joining eye margin with single ridge. Antenna long, narrowly serrate, apex of antennomere 7 reaching pronotal hind angle apex; antennomeres 2-4 and 11 length ratio 1.0:2.7:3.3, 4.0.

Pronotum moderately convex, length 0.94X width; very sparsely, finely punctate, punctures separated by >1.5X own diameter. Lateral margins effaced ca. 0.6X distance to anterior margin. Incisures of posterior margin short, obscure. Hind angles with lateral margins subparallel; dorsal carina close to lateral margin; short, ca. 0.47X distance to anterior margin.

Tarsomere 4 oblique dorsally, lobed ventrally; tarsomere length ratio 1.00:0.59:0.32:0.14:0.36.

Elytral length 2.1X width, disc depressed. Intervals flat to shallowly convex apically, finely punctured; biseriately setigerous. Striae finely engraved, finely serially punctate; apices conjointly rounded.

Aedeagus (Fig. 15) with median lobe broad basally, rapidly narrow, subparallel at midlength, narrowing to downturned apex. Paramere gradually attenuate from base, sinuate laterally, apices narrowly arcuate and acutely hooked laterally; ventrally separate, articulate.

Type material. Holotype male; PERU: Cusco Dept., Villa Carmen field station, -1.7 km west, research transect, 12.89231°S, 71.41930°W, 555m, 22-24.v.2011, D.J. Bennett & E. Razuri, yellow pan trap, PER-11-PTY005 / SEMC01020065 (MUSM).

Etiymology. The species epithet “machiguenga” is treated as a noun in apposition and is after the Machiguenga indigenous community in the area of Manu National Park near to the type locality.

Notes. *Esthesopus machiguenga* keys to *E. phisalus* Candèze (1860), described from Rio de Janeiro. It differs by being slightly smaller, dark brown integumental coloration with pale highlights at the base, longer antennae, and distribution.

6. **Glyphonyx kosnipata** Johnson, new species
(Figs. 6, 16)

Diagnosis. Characters of *Glyphonyx* Candèze (1859), Schwarz (1907), and Smith and Balsbaugh (1984). This species is distinguished by the overall yellow-brown integument, the clypeal remnant with a vertical carina, the prosternum with a Y-shaped carina, and morphology of the aedeagus.

Description. Body (Fig. 6) length 3.3-3.4 mm, width 1.1-1.2 mm; elongate, subparallel in dorsal silhouette, shallowly convex dor-sally. Integument yellow-brown (testaceous to brunneo-testaceous), with infuscate head variably patterned, semicircular mediobasal area of pronotum, scutellum, and elytral intervals 1-4 forming a variable pattern from interval 1 only, to a broad triangle reaching to two-third elytral length and a vague area laterally at midlength.

Head with frontal carina arching anterad, forming broad subtruncate juncture with clypeal margin. Antenna short, antennomere 11 exceeding pronotal hind angle apex; antennomeres 2-4 and 11 length ratio 1.0:0.7:1.0, 1.7.

Pronotum wider than long, 0.70 times width (1.44 times wider than long), widest at anterior third, slightly sinuate before hind angles. Dorsal carina of hind angle fine, divergent from lateral margin, reaching two-thirds distance to anterior margin. Prosternum with Y-shaped marginal carinae on posterior process. Metatarsomere length ratio 1.0:0.5:0.4:0.3:0.6; tarsomere 4 membranous anteroventral lobe thin, indistinct when dry; claw with single midlength tooth.

Elytral length 2.6 times width. Striae moderately-coarsely punctured, stria 9 deeply impressed, punctures distinct. Intervals shallowly convex; interval 9 carinate apically; apices each with a short acute spine.
Aedeagus (Fig. 16) with attenuate median lobe; paramere subspatulate; ventrally separate, articulate.

Type material. Holotype, male, labeled: PERU, Cusco Dept., Villa Carmen field station, 500 meters east of cafeteria, 12.89459°S 71.39928°W, 504m, 31.v.2011, D.J. Bennett, beating branches & fumigant, PER-11-DJB-049 / SEMC0984145 (MUSM).

Paratypes: same data as holotype: SEMC0984124 (MUSM), SEMC0984128 (MUSM), SEMC0984129 (MUSM), SEMC0984132 (MUSM), SEMC0984139 (MUSM), SEMC0984141 (MUSM), SEMC0984142 (SEMC), SEMC0984157 (SEMC), SEMC0984161 (SEMC), SEMC0984180 (SEMC), SEMC0984186 (PJJC).

Etymology. The species epithet “kosnipata” is treated as a noun in apposition and is in reference to the valley in which the type locality is located.

Notes. The new species is the “Glyphonyx sp. 1” of Johnson and Chaboo (2015). *Glyphonyx* Candèze (1863) is among the more diverse and poorly studied genera of elaterid beetles in the Americas. Champion (1896) reviewed 24 species for southern North America, of which 18 were described as new species. Smith and Balsbaugh (1984) revised 17 species for the Nearctic Region, with eight described as new species, and synonymized *Microglyphonyx* Champion.

Four species of *Glyphonyx* are recorded from South America (Schenkling 1927, Blackwelder 1944): *G. antiquus* Candèze
described and recorded from “Nouvelle-Grenade” (= Colombia); *G. cruciellus* (Erichson) described from Mexico and recorded also from Colombia, Venezuela, Panama, and Guatemala; and *G. niger* Steinheil and *G. suturellus* Steinheil described from Antioquia and Tolima departments of west-central Colombia.

*Glyphonyx kunipata* is the first species of the genus reported south of the equator and provides a new country record for the genus. Champion (1896) noted that his specimens of *G. cruciellus* from Colombia and Venezuela differed from the Mexican forms, suggesting that he probably confounded two or more species. Based on examinations of the Champion and other *Glyphonyx* specimens from Panama and Colombia it is doubtful that *G. cruciellus* was correctly reported from South America.

7. *Lissomus carmen* Johnson, new species

(Figs. 7, 17)

**Diagnosis:** With the characters of *Lissomus* Dalman, Bonvouloir (1859) and Gerstäcker (1860). This new species and *L. discedens* Bonvouloir differ from most *Lissomus* species by the subparallel elytral margins and body with long and conspicuous grey pubescence. It differs from *L. discedens* by having retrose spines on the aedeagal median lobe, broadened and apically subtruncate aedeagal paramere, and the pronotal hind angles are shallowly impressed basally and curved downward apically.

**Description.** Characters of *Lissomus* (Bonvouloir 1859, Gerstäcker 1860). Body (Fig. 7) length 7.4-8.3 mm, width 3.0-3.4 mm; dorsal silhouette subparallel at midlength, to elongate-ovoid, tapering posteriorly. Integument shining brunneopiceous to piceous; antennae and legs rufobrunneous. Pubescence pale grey; relatively long, suberect to recurved.

Head with frons shallowly impressed; deeply, moderately-densely punctured, punctures separated by ≤0.5 times own diameter. Antenna moderately long, antennomere 11 reaching posterior margin of hypomeron; antennomere 2 short, subcylindrical, antennomere 3 short, sub serrately widened, antennomeres 4-10 strongly serrate, antennomere 11 elongate-ovate.

Pronotum subtrapezoidal, margin slightly sinuate anterad of hind angle, strongly narrowing in anterior 0.2 of length. Punctuation deep, moderately sparse, punctures separated by 0.8-1.1 times own diameter; midline and posterior paramedial areas impunctate. Disc subsutaculate along dorsal carina, deplanate to shallowly impressed toward hind angles. Hind angles slightly divergent, recurved apically; dorsal carina strong, slightly divergent from lateral margin, forming a strong lateral bulge at anterior 0.2 of pronotum.

Elytra with striae of serial punctures subequal to interval punctures. Intervals flat. Stria 9 shallowly sulcate from epipleuron midlength to subapical narrowing; obsolescent before subhumeral groove.

Abdominal ventrite 5 densely punctured, tuberculare along apical margins. Aedeagus (Fig. 17) with basal piece 0.6 times total length; median lobe 0.5 times total length, with dorsal midline carinate, midlength with lateral wings up-curved and retrose; paramere 0.6 times total length, gradually broadening and dorsoventrally compressed apically, apex obliquely subtruncate, densely setose dorsally and ventrally; ventrally separate, articulate.

**Type material.** Holotype male; PERU, Cusco Dept., Villa Carmen field station, -1.7 km west cafeteria, research transect, 12.89213°S, 71.41920°W, 547m, 22-24.v.2011, D.J. Bennett & E. Razuri, Malaise trap, PER-11-MAT010 / SEMC1014745 (MUSM).

Paratypes: PERU, Cusco Dept., Villa Carmen Field Station, -1.7 km west, research transect, 12.89233°S, 71.41928°W, 555m, 26-28.v.2011, D.J. Bennett & E. Razuri, Malaise trap, PER-11-MAT015 / SEMC0988233 (MUSM); cafeteria, -1.7 km west research transect, 12.89250°S, 71.41917°W, 555m, 28-30.v.2011, D.J. Bennett & E. Razuri, flight intercept trap, PER-11-FIT-015 / SEMC0987463 (SEMC).

**Etymology.** The species epithet “carmen” is treated as a noun in apposition and is in recognition of the Villa Carmen Biological Station operated by the Amazon Conservation Association within the Manu Biosphere Reserve where much of the inventory sampling was conducted, and the family that donated the land for conservation.

**Notes.** This new species will key to *L. discedens* Bonvouloir in both Bonvouloir (1859) and Gerstäcker (1860), which was described from “Nouvelle-Grenade.” It is readily distinguished from most other *Lissomus* species by the diagnostic characters, but can be confused with *L. discedens* without an examination of the aedeagus.

8. *Paradonus esaejas* Johnson, new species

(Figs. 8, 18)

**Diagnosis:** This species possesses the salient characters of *Paradonus* Stibick (1971, 1990). It is similar to *P. nivalis* (Fleutiaux & Germain) in size, differing in having the integument pale yellow, including the head; reduced elytral maculae; dorsal sculpture finer in diameter and depth, with the pronotal and elytral punctures larger and the interpunctural spaces wider, 1.0-1.3 time their own diameter; the frontal margin finely carinate and lacking a narrow submarginal impression; and the aedeagal parameres shouldered and attenuate, with a long apical seta each (Fig. 18).

**Description.** Characters of *Negastriinae* and *Paradonus* Stibick (1971, 1990). Body (Fig. 8) length 3.1 mm, width 1.1 mm. Pronotum shallowly convex elytral disc subdepressed. Integument flavotestaceous, except legs pale flavous, sclerite margins and carina darkened, and elytral suture and transverse bands at apical third giving a cruciate pattern. Pubescence fine, pale, suberect.

Head with frontal carina bifurcate at eyes. Antennomeres 2-11 length ratio 1:0.9:1.3:1.3:1.3:1.1:1.1:1.1:1.4.

Pronotum wider than long, length 0.8 times width (1.3 times wider than long), widest at midlength, lateral margin evenly arcuate. Discal punctures shallow, moderately-dense, separated by 0.5-0.7 times own diameter; interspaces microreticulate. Dorsal carina of hind angle conjoined with lateral margin at apex, shallowly arcuate, reaching one-third of distance to anterior margin; apices acute, divergent. Tarsi slender, filiform; metatarsomere length ratio 1.0:0.0:7.0:5.0:4.0:8.

Elytral length 1.7 times width; shallowly convex, subdepressed on disc; shallowly, irregularly and finely punctured.
Elateridae: New species, taxonomic changes and news distribution records


Aedeagus (Fig. 18) narrow, median lobe long, attenuate, acute at apex; paramere attenuate, half the length of median lobe, with a long fine subapical seta; ventrally separate, articulate.

Type material. Holotype, male; PERU, Madre de Dios, CICRA Fld Stn. boat launch, 12.57088°S 70.10183°W, 225m, 14.vii.2010, DJ Bennett, ex sweeping, PER 10-07-DJB029A / SEMC1020914 (MUSM).

Etymology. The species epithet “esaejas” is treated as a noun in apposition and is in honor of the Esa’Ejas indigenous people of the region of origin of the holotype.

Notes. This is the “Paradonus sp. 1” of Johnson and Chaboo (2015). Stibick (1971) established Paradonus for those negastriine click beetles having a characteristic facies with small size, narrowly serrate antennae, broader than long pronotum with arcuate lateral margins, subdepressed to depressed elytral disc, strongly reduced to absent elytral striae, short pronotal hind angles, and filiform tarsi. Champion (1895) revised the Meso-

American species and Stibick (1990) revised the eastern Nearctic species. This genus includes some of the smallest known click beetles. Species of Paradonus with known ecological habits are riparian, with both adults and predatory larvae in sandy and sandy-gravelly deposits of both lentic and lotic waters. This new species is expected to be found in similar habitats.

Three described South American species, P. aequalis (Candèze), P. atomus (Candèze), and P. oberthuri (Candèze) remain largely unstudied since their original descriptions (Stibick 1971). Paradonus nivalis is reported from Chile and Argentina, and was illustrated by Solervicens (2014). Paradonus esaejas keys to P. quadrisignatus Champion (1895) from Panama, but differs by the entirely pallid integument and coarser pronotal punctuation. The description of P. esaejas represents the first species from Peru in the Negastriinae. This is the first report of this subfamily in the Peruvian fauna.
9. **Pomachilius quiqu Johnson, new species**

(Figs. 9, 19)

**Diagnosis**: This species possesses the salient characters of *Pomachilius* Eschscholtz as defined by Candèze (1860) and Schwarz (1906b). It differs from congeners by the combination of the form of the pronotum that is constricted anterad of the hind angles, strongly elevated and sharply carinate hind angle carina; and darker overall coloration with a pale brown band along the pronotal anterior margin, and darkly infuscate antennae and legs, and aedeagal morphology (Fig. 19).

**Description**. Characters of *Pomachilius* Eschscholtz (Candèze 1860, Schwarz 1906b). Body (Fig. 9) 8.7 mm long, 2.3 mm wide; elongate, narrow, moderately convex, subparallel at midlength. Integument brunneonigrous (brown-black); antennae and legs brown; elytra, pronotal anterior and posterior margins, hind angles, and antennomere apical angles and venter brunneotestaceous (brown-yellow). Pubescence sparse, setae hair-like, shining yellow.

Head shallowly convex, vaguely longitudinally impressed at median; punctuation very dense, punctures separated by <0.2X own diameter, umbilicate. Frontal margin narrowly shelf-like, slightly reflexed, carinate; nasale with median carina. Antenna narrowly serrate; moderately long, exceeding pronotal hind angle apex by two segments; antennomeres 2-5+11 length ratio 1.0:0.8:1.8:1.6, 2.1.

Pronotum quadrate, length and width equal; punctuation moderately dense, punctures ovoid, umbilicate, separated by ~0.5X own diameter. Hind angles strongly divergent, slightly recurved apically; dorsal carina shallowly arcuate, reaching 0.2X distance to pronotal anterior margin; deplanate lateral of dorsal carina, margin slightly reflexed, interim area punctate. Tarsus subfiliform; tarsomere 3 oblique at apex, ventrally expanded, densely setose; metatarsomere length ratio 1.00:0.26:0.19:0.14:0.4:0.26.

Elytral length 2.9X width. Intervals flat, triseriately setose. Sutriae of elongate serial punctures with narrow separation giving stitched appearance; apices narrowly truncate, denticulate at sutureal and interval 3 angles.

Abdominal ventrite 5 with obtuse denticle at apex. Aedeagus (Fig. 19) with median lobe broad basally, subparallel at midlength apex broadly rounded; paramere gradually narrowing apically, apex broadly membranous, hooked with acute lateral denticle; ventrally separate, articulate.

**Type material**. Holotype, male; PERU: Cusco Dept., Wayqecha field station, ~1 km west, research plot, 13.1765°S 71.5950°W, 2825 m, 12-14.v.2011, D.J. Bennett & E. Razuri, flight intercept trap, PER-11-FIT-004 / SEMC1016731 (MUSM).

Paratype: label data same as holotype, PER-11-MAT-001 / SEMC0984319 (MUSM).

**Etymology**. The species epithet “qusqu” is treated as a noun in apposition and comes from the Aymara name for the old Inca capital and region now known as Cusco.

**Notes**. This little species keys to *P. linearis* Candèze in his Section II of the genus (Candèze 1860).

10. **Pomachilius wayqecha Johnson, new species**

(Figs. 10, 20)

**Diagnosis**: This species possesses the salient characters of *Pomachilius* Eschscholtz as defined by Candèze (1860) and Schwarz (1906b). It differs from congeners by the combination of its small size, generally dark integument with appendages and sclerite highlights brown-yellow to brown, and aedeagal morphology (Fig. 20).

**Description**. Body (Fig. 10) 6.3–7.1 mm long, 1.5–1.7 mm wide; elongate, narrow, moderately convex, subparallel at midlength. Integument brunneonigrous (brown-black); antennae and legs brown; pronotal anterior margin, hind angles, antennomere apical angles, elytra, and ventrite lateral margin brunneotestaceous (brown-yellow). Pubescence sparse, setae hair-like, shining yellow.

Head shallowly convex, vaguely longitudinally impressed at median; punctuation dense, punctures separated by <0.3X own diameter, umbilicate. Frontal margin narrowly shelf-like, slightly reflexed, obtusely carinate, carina shallowly sinuate in anterior view. Antenna narrowly serrate; moderately long, exceeding pronotal hind angles by eight segments; antennomeres 2-5+11 length ratio 1.0:0.8:1.8:1.6, 2.0.

Pronotum quadrate, length and width equal; punctuation moderately dense, punctures ovoid, umbilicate, separated by ~0.5X own diameter. Hind angles strongly divergent, slightly recurved apically; dorsal carina shallowly arcuate, reaching 0.2X distance to pronotal anterior margin; deplanate lateral of dorsal carina, margin slightly reflexed, interim area punctate, shining. Tarsus subfiliform; tarsomere 3 oblique at apex, ventrally expanded, densely setose; metatarsomere length ratio 1.00:0.47:0.17:0.07:0.40.

Elytral length 2.9–3.0X width. Intervals flat, triseriately setose. Sutriae of elongate serial punctures with narrow separation giving stitched appearance; apices narrowly truncate, denticulate at sutureal and interval 3 angles.

Abdominal ventrite 5 sharply angulate posteriorly. Aedeagus (Fig. 20) with median lobe sides subparallel at midlength, apex broadly rounded; paramere broad along length, dorsoventrally compressed in apical half, apex arcuate and hooked; ventrally separate, articulate.

**Type material**. Holotype, male; PERU: Cusco Dept., Wayqecha field station, ~1 km west, research plot, 13.1761°S 71.5950°W, 2825 m, 12-14.v.2011, D.J. Bennett & E. Razuri, flight intercept trap, PER-11-FIT-004 / SEMC1016731 (MUSM).

**Etymology**. The species epithet “wayqecha” is treated as a noun in apposition and is after the name of the field station from which the known specimens were collected. The name comes from the Quechua word for brother.

**Notes**. This species is immediately recognized apart from regional congeners by its rufobrunneous elytra contrasting with the darkly infuscate head and pronotum.
New Taxonomic Combinations

Conoderus ticuna (Johnson), new combination

Aeolus livens Candèze 1881: 55, 1891: 78 [not A. livens (LeConte 1853: 484)]; Schwarz 1906b: 102; Schenkling 1925: 122; Blackwelder 1944: 290

Aeolus ticuna Johnson 2018: 13 (homonym replacement name)

Specimens examined. PERU: Madre de Dios, CICRA Field Statn, garden

Notes. The specimens documented here provide a new country record for Peru. All specimens examined are female and were compared to the male holotype of A. livens from “Ega” (= Tefé), Brazil, and the holotype of A. discoidalis Schwarz (1906a) from “Jatahy, Goyaz” (= Jataí, Goiás), Brazil. Probably, A. discoidalis is a synonym of A. livens, but additional material from across their combined range needs examination. Both species possess the basic characters of Conoderus Eschscholtz (Johnson 1995), not Aeolus Eschscholtz, particularly with regard to the rounded, non-carinate, anterior angle of the ventral face of the femur of the front legs. Here, A. livens Candèze is transferred as Conoderus livens (Candèze), new combination.

Aeolus livens Candèze became a homonym when Drasterius livens LeConte was listed in Aeolus by Leng (1920). Becker (1961) supported this transfer from Drasterius to Aeolus. It appears that this homonymy was not recognized until Johnson (2018) replaced A. livens Candèze with A. ticuna. While the latter action was in press the syntypes of A. livens Candèze were examined and causing the genus transfer proposed here. The recombination A. livens Candèze as C. livens removes this overlooked homonymy.

**Conoderus livens** is closely related to *C. discoidalis* (Schwarz), *C. fluitans* (Candèze), *C. partitus* (Candèze) and *C. sericeus* (Candèze). These four species form a distinct species group.

**Conoderus platynotus** (Candèze), **new combination**

* Aeolus platynotus* Candèze 1859: 284, 1891: 78; Gemminger & Harold 1869: 1526; Schenkling 1925: 124; Blackwelder 1944: 290

* Phedornus platynotus*, of Schwarz 1906b: 92

**Specimens examined.** PERU: Madre de Dios, CICRA Fld Stn., trail 6, research plot, 12.55207°S 70.10962°W, 295m, 9-11.vi.2011, Chaboo team, Malaise trap, PER-11-MAT-025 / SEMC1020199 (MUSM); -2 km NW of cafeteria, research plot 12.55237°S, 71.10949°W, 295m, 11-13.vi.2011, Chaboo team, blue pan trap, PER-11-PTB-011 / SEMC1019365 (MUSM).

**Notes.** The specimens documented here provide a new country record for Peru. These specimens match the syntypes of this species labelled from Quito, Ecuador (Candèze 1859). This species possesses the combination of characteristics fitting the broadest concept of *Conoderus* Eschscholtz by Candèze (1859) and Johnson (1995), including the rounded anteroventral angle of the front leg femur, double punctuation on the pronotum, and densely punctured hypomeron with a dull sheen. This species is here transferred as *Conoderus platynotus* (Candèze), **new combination**, to await further evaluation. Within this large genus *C. varians* can be included among the *Conoderus* varians-group of species. This complex of species was represented by four species in Candèze's (1859) Section III, with a number of species subsequently described.

**Probothrium brunipilis** (Candèze), **new combination**

* Ludius brunipilis* Candèze 1863: 310, 1891: 190; Gemminger & Harold 1869: 1588; Schenkling 1927: 430

* Trichophorus brunipilis*, of Schwarz 1907: 260 (incorrectly listed from Chile)

* Crigmus brunipilis*, of Blackwelder 1944: 294


**Notes.** *Probothrium brunipilis*, **new combination**, is a relatively small, 12.5-15.0 mm long, elaterine click beetle that is dark infuscate to black, with piceous antennae and rufous legs, and a smooth fulvous pubescence. It was described from “Nouvelle-Grenade” and is here reported from Peru as a new country record. This species may be a sister species to the Mexican *P. physorhinus* Candèze, described from Mexico, with both species appearing similar in appearance and general morphology, including the parallel walls of the mesosternal fossa and the posterior intercoxal portion of the mesosternum strongly declivous, ca. 120° from longitudinal plane. The intercoxal mesosternal area has a shallowly projecting dome-like form with a median carina, not either an extended horizontal structure (e.g. *Orthostethus* spp.) or a nearly flat mesosternum with an excavated ovoid intercoxal area (e.g. *Diplostethus* spp.). *Probothrium physorhinus (= P. physorrhinum, of Schenkling 1927: 425; L. physorhinus*, of Schenkling 1927: 430) is a revised taxonomic assignment.

The neotropical species presently assigned to *Crigmus* LeConte, *Diplostethus* Schwarz, Elater L., *Ludius* Berthold, *Probothrium* Candèze, and some of which were formerly assigned to *Mulsantea* Gozis or *Neotrichophorus* Jacobson, require review and reassignment at the genus level.

**Additional New Country Records**

**Aeolus nigriceps** Schwarz

* Aeolus nigriceps* Schwarz 1906a: 130, 1906b: 105; Schenkling 1925: 123; Blackwelder 1944: 290; Gaedike 1985: 50

**Specimens examined.** PERU: Cusco Dept., Villa Carmen field station, near cafeteria, 12.8947°S, 71.40364°W, 520m, 18.v.2011, D.J. Bennett & E. Razuri, UV light, PER-11-UV-004 / SEMC1097501 (MUSM).

**Notes.** Originally described from the Departamento de La Paz, Bolivia (Schwarz 1906a). The specimen documented here provides a new country record for Peru.

**Anoplistochius nigrolaterus** Schwarz

* Anoplistochius nigrolaterus* Schwarz 1904: 55, 1906b: 68; Schenkling 1925: 80; Blackwelder 1944: 298; Gaedike 1985: 51

**Specimens examined.** PERU: Madre de Dios, CICRA Field Stn, garden 12.56940°S 70.10100°W, 260m, 16-23.ix.2010, MJ Endara, malaise trap, PER10-09-MAT-016 / SEMC1097501 (MUSM).

**Notes.** Described from Venezuela (Schwarz 1904), then reported from Argentina by Golbach (1994). The specimen documented here provides a new country record for Peru.

**Cocchielater sanguinicolis** (Candèze)

* Pyrophorus sanguinicolis* Candèze 1878: clxix, 1891: 159; Schwarz 1906a: 213; Schenkling 1927: 354; Blackwelder 1944: 286

**Specimens examined.** PERU: Madre de Dios, CICRA Field Stn, garden 12.56940°S 70.10100°W, 260m, 18-25.x.2010, MJ Endara, malaise trap, PER10-10-MAT-020 / SEMC1061777 (MUSM).

**Notes.** Originally described from “Para e Guyane” (Candèze 1878) and not since reported from other countries. The specimen documented here provides a new country record for Peru.

**Conoderus andicola** (Candèze)

* Monocrepidius andicola* Candèze 1897: 33; Schwarz 1906b: 96

**Specimens examined.** PERU: Cusco Dept., Villa Carmen field station, 500 meters east of cafeteria, 12.89459°S, 71.39928°W, 504m, 31.x.2011, D.J. Bennett, beating branches & fugiment, PER-11-DJB0049 / SEMC0984151 (MUSM).

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Rev. peru. biol. 25(2): 075 - 090 (Mayo 2018)
Notes. Originally described from Bolivia (Candèze 1897). The report of this species from Peru is a new country record.

**Conoderus partitus** (Candèze)


**Specimen examined:** PERU: Madre de Dios, CICRA Field Stn, garden 12.56940’S 70.10100’W, 260m, 12.vii.2010, D.J. Bennett, ex hand coll, PER-10-07-DJB-014 / SEMC1015163 (MUSM), SEMC1015162 (SEMC), SEMC1014495 (SEM); flight intercept trap, PER-11-FIT-013 / SEMC1017587 (MUSM); Madre de Dios, CICRA Fld Stn., trail 6, research plot, 12.55207’S 70.10962’W, 295m, 11-13.vii.2010, Chaboo team, ex flight intercept trap, PER-11-FIT-017 / SEMC1013631 (MUSM), SEMC1014532 (SEM); PER-11-FIT-021 / SEMC1019318 (MUSM), SEMC1019319 (SEM), SEMC1019320 (SEM); 5-7.vi.2011, Chaboo team, Malaise trap, PER-11-MAT-018 / SEMC1019532 (MUSM); 7-9.vi.2011, PER-11-MAT-019 / SEMC1016562 (MUSM); PER-11-MAT-020 / SEMC1015161 (MUSM), SEMC1015162 (SEM); PER-11-MAT-024 / SEMC1014885 (PJJC); PER-11-MAT-025 / SEMC1020197 (MUSM); 11-13.vi.2011, flight intercept trap, PER-11-FIT-019 / SEMC0987444 (MUSM); PER-11-FIT-031 / SEMC0987942 (PJJC).

Notes. Originally described from “Guyane” (Candèze 1859). The specimens documented here provide a new country record for Peru.

**Crepidius emarginatus** Candèze

*Crepidius emarginatus* Candèze 1859: 84, 1891: 60; Gemminger & Harold 1869: 1514; Champion 1895: 316; Schwarz 1906a: 148, 1906b: 64; Schenkling 1925: 76; Blackwelder 1944: 297; Golbach 1994: 37; Chassain & Touroult 2010: 24

**Specimen examined:** PERU: Madre de Dios, CICRA Field Stn. near cafeteria, 12.56940’S 70.10100’W, 260m, 11.vii.2010, CW Shin ex hand coll, PER 10-07-CWS-011 / SEMC1060978 (MUSM).

Notes. *Crepidius emarginatus* was described from Brazil and is reported from Nicaragua to Argentina. The specimen documented here provides a new country record for Peru. The species is immediately recognizable apart from congeners by the combination of the hind angles of the pronotum subparallel and black, the elytral apices separately emarginated, and the frons shallowly impressed. The antennae of males are flabellate, with broadly compressed rami, while females have serrate antennae.

**Drapetes plagiatus** (Boheman)

*Lissomus plagiatus* Boheman, 1858: 66

**Drapetes plagiatus**, of LeConte 1863a: 44

**Drapetes praestus** Bonvouloir 1859: 79

[a complete set of references is in Johnson (2015)]

**Specimen examined:** PERU: Madre de Dios, CICRA Field Station, garden 12.56940’S 70.10100’W, 260m, 1-8.xi.2010, MJ Endara, Malaise trap, PER-11-10-MAT-022 / SEMC1097567 (MUSM).

Notes. Distributed from Belize to Brazil, and introduced to Florida (Johnson 2015). The specimen documented here provides a new country record for Peru.

**Drapetes unicolor** Bonvouloir

*Dipropus unicolor* Bonvouloir 1859: 42; Gemminger & Harold 1869: 1459; Schenkling 1925: 262; Blackwelder 1944: 304

**Specimen examined:** PERU: Madre de Dios, CICRA Field Stn, garden 12.56940’S 70.10100’W, 260m, 2-9.ix.2010, MJ Endara, Malaise trap, PER-10-09-MAT-014 / SEMC1096888 (MUSM).

Notes. *Drapetes unicolor* was described from “Sainte-Catherine” [Santa Catarina], Brazil, and is a small parallel-sided member of the brunneus-group of species, that are entirely casaneous. The specimen documented here provides a new country record for Peru.

**Esthesopus praeclarus** Schwarz


**Specimen examined:** PERU: Madre de Dios, CICRA Field Station, garden 12.56940’S 70.10100’W, 260m, 11-13.vii.2010, D.J. Bennett, ex flight intercept trap, PER-11-FIT-017 / SEMC1013631 (MUSM), SEMC1014532 (SEM); PER-11-FIT-021 / SEMC1019318 (MUSM), SEMC1019319 (SEM), SEMC1019320 (SEM); 5-7.vi.2011, Chaboo team, Malaise trap, PER-11-MAT-018 / SEMC1019532 (MUSM); 7-9.vi.2011, PER-11-MAT-019 / SEMC1016562 (MUSM); PER-11-MAT-020 / SEMC1015161 (MUSM), SEMC1015162 (SEM); PER-11-MAT-024 / SEMC1014885 (PJJC); PER-11-MAT-025 / SEMC1020197 (MUSM); 11-13.vi.2011, flight intercept trap, PER-11-FIT-019 / SEMC0987444 (MUSM); PER-11-FIT-031 / SEMC0987942 (PJJC).

Notes. Originally described from “Minas Geraes” [Minas Gerais], Brazil, then subsequently reported from Argentina by Golbach (1994). The specimens documented here provide a new country record for Peru.

**Conoderus stigmosus** (Germar)

Monocrepidius stigmosus Germar 1839: 230; Candèze 1859: 218, 1891: 70; Gemminger & Harold 1869: 1524; Schwarz 1906b: 94

**Specimen examined:** PERU: Madre de Dios, CICRA Fld Stn. 10.E, 12.56940’S 70.09100’W, 255m, 12.vii.2010, D.J. Bennett, ex hand coll, PER 10-07-DJB-014 / SEMC1014983 (MUSM); 2-11.x.2010, PER 10-10-MAT-018 / SEMC1061482 (MUSM).

Notes. Described from “Minas Geraes” [Minas Gerais], Brazil, then subsequently reported from Argentina by Golbach (1994). The specimens documented here provide a new country record for Peru.
Field Station, garden 12.56940°S 70.10100°W, 260m, 22-29. vii.2010, MJ Endara, ex Malaise trap, PER 10-07-MAT-008, SEMC1096593 (MUSM); 2-9.ix.2010, PER 10-09-MAT-014, SEMC1096275 (MUSM), SEMC1096280 (SEM), SEMC1096255 (SEM); 16-23.ix.2010, PER 10-09-MAT-016, SEMC1098179 (MUSM), SEMC1097931 (SEM), SEMC1098081 (MUSM); 2-11.x.2010, PER 10-10-MAT-018, SEMC1061438 (MUSM), SEMC1061435 (SEM); 18-25.x.2010, MJ Endara, malaise trap, PER10-10-MAT-020 / SEMC1061905 (MUSM), SEMC1061935 (SEMC); 1-8.xi.2010, PER 10-11-MAT-022, SEMC1097174 (MUSM), SEMC1097190 (PJJC).

Notes. Described from “Jatahy, Goyaz” (= Jataí, Goiás), Brazil and subsequently reported from Argentina by Golbach (1994). The specimens documented here provide a new country record for Peru. 

Esthesopus praeclarus is the only small, ovoid, red-yellow species of the genus known from Peru.

Horistontus zonatus Candêzé

Horistontus zonatus Candêzé 1860: 261, 1891: 136; Gemminger & Harold 1869: 1555; Schwarz 1906b: 178; Schenkling 1925: 259; Blackwelder 1944: 303; Chaboo & Touroult 2010: 25

Specimen examined: PERU: Madre de Dios, CICRA Field Stn, garden, 12.56940°S 70.10100°W, 260m, 16-23.x.2010, MJ Endara, malaise trap, PER10-09-MAT-016 / SEMC1097903 (MUSM).

Notes. Described from Brazil (Costa 1966) the specimen documented here provides a new country record for Peru.

Neoarhaphes brasiliensis Costa

Neoarhaphes brasiliensis Costa 1966: 264; Slíbick 1971: 389


Notes. Described from Brazil (Costa 1966) the specimen documented here provides a new country record for Peru.

Pterotarsus histrio Guérin-Méneville


Pterotarsus histrio, of Guérin-Méneville 1844: 36 (genus misspelling)
Pterotarsus tuberculatus, of Lucas 1857: 69
Pterotarsus (Lysothyreus) histrio, of Bonvouloir 1875: 847; Bruch 1911: 243
Lysothyreus histrio, of Fleutiaux 1920: 98, 1930: 34; Schenkling 1928a: 7; Blackwelder 1944: 275


Notes. Originally described from “Bresil” (Guérin-Méneville 1829), this highly variable and distinctive species is recorded from lowland and lower montane forest sites from Guatemala to Argentina. The specimen documented here provides a new country record for Peru.

Correction to List of Peruvian Elateridae

Records of Physorhinus erythrocephalus (Fabricius) in Peru were given by Schaaf (1971). The species was inadvertently absent in the checklist by Johnson and Chaboo (2015), and should be added.

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