Lendatus, a new genus of Xanthopygina (Coleoptera: Staphylinidae: Staphylininae) with description of three new species

Stylianos Chatzimanolis Corresp. 1

1 Department of Biology, Geology and Environmental Science, University of Tennessee at Chattanooga, Chattanooga, Tennessee, United States

Corresponding Author: Stylianos Chatzimanolis
Email address: stylianos-chatzimanolis@utc.edu

A new genus of Xanthopygina rove beetles is described here as *Lendatus* **gen. nov.** The new genus includes three new species: *L. bolivianus* **sp. nov.**, described from Bolivia, *L. philothalpiformis* **sp. nov.** described from Costa Rica and Panama, and *L. platys* **sp. nov.** described from Bolivia, Colombia, Ecuador and Peru. *Lendatus* belongs to the *Isanopus* group of genera of Xanthopygina and can distinguished from all the genera based on the unique punctation on the pronotum and the long apical setae of the paramere. A key to the three species of *Lendatus* along with photographs and illustrations is provided for the identification of species.

1 *Lendatus*, a new genus of Xanthopygina (Coleoptera: Staphylinidae:
2 Staphylininae) with description of three new species.

4
5 Stylianos Chatzimanolis

7 Department of Biology, Geology and Environmental Science, University of Tennessee at Chattanooga,
8 615 McCallie Ave., Dept. 2653 Chattanooga, TN, USA
9
10 Corresponding Author:
11 Stylianos Chatzimanolis
12 Email address: stylianos-chatzimanolis@utc.edu

14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41

Abstract

A new genus of Xanthopygina rove beetles is described here as *Lendatus* **gen. nov.** The new
genus includes three new species: *L. bolivianus* **sp. nov.**, described from Bolivia, *L.
philothalpiformis* **sp. nov.** described from Costa Rica and Panama, and *L. platys* **sp. nov.**
described from Bolivia, Ecuador and Peru. *Lendatus* belongs to the *Isanopus* group of genera of
Xanthopygina and can distinguished from all the genera based on the unique punctation on the
pronotum and the long apical setae of the paramere. A key to the three species of *Lendatus* along
with photographs and illustrations is provided for the identification of species.

Introduction

Xanthopygina is a diverse group of mostly neotropical rove beetles that includes (before the
publication of this paper) 29 genera. In the latest phylogenetic analyses of the subtribe,
Chatzimanolis & Brunke (2019) were able to examine all genera of Xanthopygina and identified
the major lineages of the subtribe, One of them was the *Isanopus* group of genera, which
included four genera: *Zackfalinus* Chatzimanolis (Chatzimanolis 2012) as the sister group of
Peripus Chatzimanolis & Hightower (Chatzimanolis & Hightower 2019; identified in the
phylogeny paper as genus 5), and *Isanopus* Sharp (Chatzimanolis 2008) as the sister group of
genus 2. That genus 2 is described in this paper as the new genus *Lendatus* Chatzimanolis and
includes three new species.

The sister group relationship between *Isanopus* and *Lendatus* was first identified by
Chatzimanolis (2014) in the first molecular phylogeny of the subtribe, where *Lendatus* was
presented in that phylogeny as 'undescribed genus'. Delimiting new taxa, especially above the
species level is not straightforward and ideally one should have multiple lines of evidence before
proposing formal taxonomic names. While I had strong molecular evidence that *Lendatus* is
indeed a new genus for quite some time, I did not feel comfortable describing *Lendatus* as new
taxon until the completion of the morphological analysis of the subtribe that included all
described genera and a number of undescribed ones.

Materials & Methods

Specimen preparation, study and photography followed other recently published papers on
Xanthopygina (e.g., Chatzimanolis & Hightower 2019). Dissected aedeagi were placed in small
glass vials filled with glycerin and pinned underneath the specimen. I took the following
measurements: HL: head length, at middle, from the anterior margin of frons to the nuchal ridge;
HW: Head width, the greatest width, including the eyes; PL: pronotum length, at middle; PW:
pronotum width, greatest width; EL: elytra length, measured in lateral view from the
anterolateral angle of the elytra to the apex of the elytra; however, I used these measurements
only proportionally (e.g., PW/PL). As a surrogate of total body length, I used forebody length
(FL), measured by adding HL+PL+EL. I examined specimens using an Olympus ZX10
stereomicroscope and I took photographs using a Canon 40D camera equipped with a MP-E 65

87 mm macro lens on a Cognisys StackShot 3X macro rail and controller (https://www.cognisys-
88 inc.com/products/stackshot/stackshot.php). I automontaged images using Helicon Focus Pro
89 6.7.1 (http://www.heliconsoft.com/heliconsoft-products/helicon-focus/). I removed the
90 background of photographs using Fluid Mask 3 (https://www.vertustech.com). Type labels are
91 separated by a slash '/'. Text within brackets [ ] is explanatory and was not included in the
92 original label. Generic description was extracted from the matrix in Chatzimanolis & Brunke
93 (2019) with addition of a few other characters. I produced maps using the online program
94 SimpleMappr (Shorthouse 2010). In this paper, I used the phylogenetic species concept of
95 Wheeler & Platnick (2000) to delimit different species. Datasets for each species in DarwinCore
96 format are available online at https://figshare.com/authors/Stylianos_Chatzimanolis/384794.
97
98 I examined specimens from the following institutions:
99
100 BMNH   The Natural History Museum, London, UK (M. Barclay).
101 CMNC   Canadian Museum of Nature, Ottawa, ON, Canada (R. Anderson).
102 CMNM   Carnegie Museum of Natural History, Pittsburgh, PA, USA (R. Davidson).
103 CNC   Canadian National Collection, Ottawa, ON, Canada (A. Brunke).
104 CRO   G. de Rougemont collection, Oxford, UK (G. de Rougemont).
105 DEBU   University of Guelph Insect Collection, Guelph, ON, Canada (S.
106   Marshall).
107 FMNH   Field Museum of Natural History, Chicago, IL, USA. (C. Maier).
108 MNCR-A   National Museum of Costa Rica, San José, Costa Rica (A. Ruiz).
109 MUSM   Universidad Nacional Mayor de San Marcos, Museo de Historia Natural,
110   Lima, Peru (D. Silva).
111 NHMD   Natural History Museum of Denmark, University of Copenhagen,
112   Copenhagen, Denmark (A. Solodovnikov).
113 SEMC   Snow Entomological Collection, Biodiversity Institute, University of
114   Kansas, Lawrence, KS, USA (Z. Falin).
115 UNSM   University of Nebraska State Museum, Lincoln, NE, USA (B. Ratcliffe).
116 UTCI   The University of Tennessee at Chattanooga, Chattanooga, TN, USA
117   (S. Chatzimanolis).
118
119 Please note that several of the specimens currently deposited in SEMC will be transferred to
120 MUSM per previous institutional/collecting agreements.
121
122   The electronic version of this article in Portable Document Format (PDF) will represent a
123 published work according to the International Commission on Zoological Nomenclature (ICZN),
124 and hence the new names contained in the electronic version are effectively published under that
125 Code from the electronic edition alone. This published work and the nomenclatural acts it
126 contains have been registered in ZooBank, the online registration system for the ICZN. The
127 ZooBank LSIDs (Life Science Identifiers) can be resolved and the associated information viewed
128 through any standard web browser by appending the LSID to the prefix http://zoobank.org/. The
129 LSID for this publication is urn:lsid:zoobank.org:pub:0612FF19-38E8-4072-AF74-
130 0EB16165841. The online version of this work is archived and available from the following
131 digital repositories: PeerJ, PubMed Central and CLOCKSS.
132

133 **Results**
134
135 Taxonomy
136
137 *Lendatus* **Chatzimanolis, new genus**
138 (Figs. 1, 2, 3, 4, 5, 6, 7, 8, 9)
139
140 urn:lsid:zoobank.org:act:73EEC4F3-E35B-4E67-9FAA-5C8C14222ABB
141
142 **Type Species.** *Lendatus platys*, new species, here designated.
143
144 **Diagnosis**. *Lendatus* belongs to the *Isanopus* group of genera (see Chatzimanolis and Brunke
145 2019 for characters differentiating all genera in the *Isanopus* group) based on the following
146 morphological characteristics: basal transverse carina on sternum 3 acutely pointed medially;
147 lack of dense meshed microsculpture on sterna 5–7 (Fig. 4C); antennomeres 8–10 quadrate or
148 elongate (Fig. 3E); and mesocoxae moderately to strongly separated (Fig. 4B). *Lendatus* was
149 recovered as the sister group to *Isanopus* (Chatzimanolis 2014; Chatzimanolis and Brunke 2019)
150 and the sister group relationship is supported by the following morphological characteristics
151 (besides the molecular data supporting that relationship): coarse punctures impressed in flange at
152 posterior angle of pronotum (Fig. 2); and lateral area of basal transverse carina on sternum 3
153 sinuate. Synapomorphies for *Lendatus* include: apical setae on paramere long, produced over the
154 median lobe (Figs. 5, 6, 7), longer than any other Xanthopygina genus; and distribution of
155 punctures on disc of pronotum split into anterior and posterior parts by diagonal longitudinal
156 line, a unique character state in Xanthopygina. Additional characteristics that can distinguish
157 *Lendatus* from *Isanopus* include: paramere not extremely reduced (as in *Isanopus*) and
158 tarsomeres of middle and hind legs not enlarged and lobed (as in *Isanopus*).
159 Some species of *Oligotergus* Bierig may look superficially similar to *Lendatus*, but
160 species in that genus typically lack the characteristics of the *Isanopus* group. Additionally, *L.
161 philothalpiformis* has the same color pattern with some *Philothalpus* Kraatz species but
162 *Philothalpus* can be easily distinguished by the presence of a pair of accessory ridges on the
163 anterior basal transverse carina of tergum 3 (see Chani-Pose et al. 2018).
164
165 **Description.** Habitus as in Fig. 1. Body medium-sized, forebody 4.6–5.8 mm long; without long
166 bristle-like setae. Coloration of head and pronotum dark brown to black with metallic overtones
167 or bright reddish-orange; elytra dark metallic green, blue or purple; abdomen dark brown or
168 reddish brown to dark brown.
169 Head (Fig. 2) shape rectangular; head length in comparison to pronotum shorter to
170 subequal. Eye size relative to length of head large, more than 3/4 length of head. Postclypeus in
171 comparison to frons not deflexed, anterior margin more or less straight. Middle of epicranium
172 impunctate but with microsculpture. Postmandibular ridge laterally; with deep punctures
173 demarcating raised postmandibular ridge dorsolaterally present. Gular sutures not joined before
174 neck extended close to each other at base of head capsule. Nuchal ridge present. Neck disc
175 punctures sparse.
176 Antennae (Fig. 3E), antennomere 1 same width or slightly wider than 2. Antennomere 3
177 elongate, three times as long as wide; antennomere 4 with tomentose pubescence; antennomere 6
178 with curved, distinctly longer and thicker subapical setae than other macrosetae, forming circlet;

179   antennomeres 1–11, cylindrical, longer than wide; antennomeres 8–10 symmetrical;
180   antennomeres 5–10 without club; antennomere 11 in males subequal to 10.
181   Mouthparts with labrum having broad U-shaped emargination, lobes strongly separated.
182   Mandibles (Figs. 3A–B) relative length typical (i.e. closed mandible not extending beyond
183   margin lateral margin of head); without asymmetrical torsion. Mandibles in dorsal view curved
184   from apical half; in lateral view straight; left and right mandibles each with one tooth. Maxilla
185   (Fig. 3D) with galea much shorter than palpus; maxillary palpus with P_3 distinctly shorter than P_2;
186   P_4 distinctly longer than P_3; P_4 not dilated. Hypopharynx and labial palpi as in Fig. 3C; labial
187   palpus P_3 widest before apex, without long dense setae on entire lateral sides. Ligula small, entire.
188   Mentum with alpha setae present; hypostomal cavity present, moderately delimited.
189   Pronotum (Fig. 2) shape of lateral margins in dorsal view posteriad of midpoint straight
190   to sinuate (except *L. platys* convex); anterior angles in dorsal view not strongly acuminate and
191   produced laterad. Pronotum near anterolateral angles without raised impunctate spots;
192   anterolateral corners with punctation; disc of pronotum with punctation split into anterior and
193   posterior parts by diagonal longitudinal line of punctures; with coarse punctures impressed in
194   flange at posterior angle of pronotum; with microsculpture. Pronotum subquadrate; narrower
195   than head at widest points. Hypomeron (Fig. 4A) with superior marginal line continuous to
196   anterior margin; superior marginal line without deflection under anterior angles in ventral view;
197   inferior marginal line continued as a separate entity beyond anterior pronotal angles and curving
198   around them. Postcoxal process absent. Basisternum slightly longer than furcasternum;
199   basisternum with pair of macrosetae situated far from anterior margin of prosternum.
200   Elytra without contiguous polygon-shaped meshed microsculpture or patches of white
201   setae. Elytral setae not reduced, easily seen at low magnification (e.g., 40x). Mesoventrite (Fig.
202   4B) with anterior margin forming "lip"; without median carina; mesoventral process triangular;
203   process extended distally to distance about 2/5 between mesocoxae. Metaventrite (Fig. 4B) with
204   large punctures; metaventral processes, small, rounded, triangular, extended to beginning of
205   metacoxae.
206   Legs with tarsal segmentation 5-5-5; prefemora without lateroventral apical spines;
207   protarsi with modified pale (adhesive) setae ventrally; tarsomeres 1–4 of protarsi dorsoventrally
208   flattened. Mesocoxae (Fig. 4B) moderately separated; intercoxal area distinctly recessed
209   compared to mesoventrital process. Metacoxae without coxal shield; metatibia without thick and
210   long apical spurs but with smaller spurs and spines. Meso/metatarsi without asymmetrically
211   lobed tarsomeres 1–4; tarsomeres 3–5 of metatarsi with chaetotaxy developed only at margins of
212   dorsal surface, dorsal surface of tarsomeres glabrous along midline. Pretarsal claws with
213   empodial setae.
214   Abdomen (Figs. 4C–D) with protergal glands having well-developed acetabula. Anterior
215   basal transverse carina on terga 3–5 without pair of accessory ridges; tergum 3 without posterior
216   basal transverse carina and without curved carina (arch-like) on disc; center of tergum 5 with
217   punctation; posterior half of tergum 5 in lateral view not appearing bulging. Sternum 3 with
218   acutely pointed basal transverse carina medially; laterally basal transverse carina sinuate; basal
219   transverse carina absent on sternum 4; sternum 5 without dense, meshed microsculpture
220   anterolaterally; sternum 7 with sparse punctation laterally. Males with secondary sexual
221   structures (emargination medially on sterna 7 and 8); without porose structure. Females without
222   obvious secondary sexual structures.

Aedeagus as in Figs. 5–7; with long median lobe and single paramere; paramere with sensory peg setae and long apical setae; median lobe with single subapical tooth; median lobe without apical tooth, carina or paired apex. Spermatheca not sclerotized.

Etymology. The name is in honor of my dear friends Dr. Ntina Karametsi, Dr. Lia Koutelou, Mr. Dimitris Kotsis, Dr. Tania Patsialou and Dr. Eleni Zika. The name is made up from a combination of letters from the first names. The name is masculine.

Habitat. Collected in lowland tropical rainforests and mid-elevation cloud forests using a variety of trapping techniques and by shifting leaf litter. The genus most likely inhabits the leaf litter.

Lendatus bolivianus **Chatzimanolis, new species**
(Figs. 1A, 2A, 5, 8)

urn:lsid:zoobank.org:act:14E6C64D-E882-41D3-85DA-75930F62DCF1

Type material. **Holotype**, here designated, male, "Bolivia: La Paz, 9.4 km E. Chulumani, Apa-Apa, 2400 m, 16°20.99S 67°30.30W [-16.349833, -067.505], 17.i.2001, R. Anderson, upper yungas litter, BOLA01-002" / "SM0459200 [barcode label]" / "HOLOTYPE *Lendatus bolivianus* Chatzimanolis, des. Chatzimanolis 2019". In the collection of SEMC.

Paratypes. Six; one with same locality label as holotype and barcode label SM0459190 (1♀ SEMC); "Bolivia: La Paz Prov. Chulumani, 9.2 km E of, 2300 m, 16°20.59S 67°30.18W [-16.3431667, -67.503], 19–21 Jan[nuary] 2001, J. S. Ashe, R. S. Hanley, BOL1AH01 039 ex: flight intercept trap" / "SM0236239" (1♂ SEMC); "Bolivia: La Paz 9.4 km E Chulumani, 2200 m, 16°20.99S 67°30.30W [-16.349833, -067.505], 19–21.i.2001, J. S. Ashe, R. S. Hanley, BOL1AH01 038 ex: flight intercept trap" / SM0574084, SM236231 (1♀ SEMC; 1♀ UTCI); "Bolivia: Chulumani, Apa-Apa forest, 16°21'S, 67°30'W [-16.35, -67.5], 12–14.xi.2007, 2000 m, shifting forest litter, V. Grebennikov leg." (1♀, 1♂ NHMD). All paratypes with label "PARATYPE *Lendatus bolivianus* Chatzimanolis, des. Chatzimanolis 2019".

Diagnosis. *Lendatus bolivianus* and *L. platys* can be distinguished from *L. philothalpiformis* by the coloration of head and pronotum (dark brown to black in *L. bolivianus* and *L. platys*; bright reddish-orange in *L. philothalpiformis*). *Lendatus bolivianus* can be distinguished from *L. platys* by the shape of the pronotum (becoming narrower (concave) posteriorly (Fig. 2A) in *L. bolivianus*; becoming wide (convex) posteriorly (Fig. 2C) in *L. platys*); the shape of the paramere (paramere wider, converging to apex in dorsal view (Fig. 5B) in *L. bolivianus*; paramere narrower, parallel-sided from base to apex in dorsal view (Fig. 7B) in *L. platys*); and the length comparison between the anterior portion of the paramere and median lobe (median lobe slightly longer than paramere (Figs. 5A–B) in *L. bolivianus*; median lobe much longer than paramere (Figs. 7A–B) in *L. platys*).

Description. Forebody length 4.9–5.5 mm. Coloration of head, pronotum and ventral side of body dark brown to black; mouthparts and antennae dark orange; elytra metallic purple with green overtones; legs dark brown except tarsi dark orange; abdomen dark brown to black except segment 7 (posterior 1/4 orange) and segment 8 (orange).

270   Head with 1–2 irregular rows of medium-sized punctures on each side of central
271 impunctate area (except anteriorly); with additional 3–4 large punctures on epicranium; with
272 microsculpture and micropunctures. Head width/length ratio = 1.61. Pronotum width/length ratio
273 = 0.95; pronotum widest anteriorly, becoming gradually narrower posteriad; diagonal
274 longitudinal line of punctures on disc of pronotum with 3–4 large punctures; anterolateral to that
275 line pronotum with 5–6 medium-sized punctures; posterolateral to that line pronotum
276 impunctate; pronotum with microsculpture and sparse micropunctures; pronotum/elytra length
277 ration = 0.82. Males with narrow, deep emargination on sternum 7; sternum 8 with deep U-
278 shaped emargination.
279   Aedeagus as in Fig. 5; paramere in dorsal view gradually converging to rounded apex; in
280 lateral view paramere slightly convex, converging to broadly rounded apex; paramere with peg
281 setae as in Fig. 5C; paramere narrower but slightly longer than median lobe; median lobe in
282 dorsal view converging to apex; in lateral view median lobe becoming narrower from middle to
283 apex; with small dorsal subapical tooth.
284
285 **Distribution.** Known from the province of La Paz in Bolivia.
286
287 **Habitat.** All specimens were collected in the Yungas forest along eastern slope of the Andes
288 Mountains in Bolivia (at elevations of 2000 m or above) by shifting litter or flight intercept traps.
289
290 **Etymology.** The specific epithet refers to the country of Bolivia.
291
292
293 *Lendatus philothalpiformis* **Chatzimanolis, new species**
294 (Figs. 1B, 2B, 3, 4, 6, 9)
295
296 urn:lsid:zoobank.org:act:7AFD3EE5-49B1-495D-A289-2C390B06BF61
297
298 **Type material**. **Holotype**, male, here designated, "Costa Rica: Puntarenas, Corcovado National
299 Park, Sirena Station, upper Rio Claro trail, 100 m, 8°28'29''N 83°35'8''W [8.474722, -
300 83.58555], 28.Jun[e]–1.Jul[y].2000, Z.H. Falin, CR1ABF00 061, ex: flight intercept trap" /
301 "SM0203906 [barcode label]" / "HOLOTYPE *Lendatus philothalpiformis* Chatzimanolis, des.
302 Chatzimanolis 2019". In the collection of SEMC.
303
304 **Paratypes.** 121: "Costa Rica: Alajuela, Estac. Biol. San Ramón, 900 m, 1.vii.–31.viii.1995, P.
305 Hanson, CR1H93-95 5, ex: malaise trap" / "SM0075968" (1♂ SEMC); same locality except
306 1.viii–30.ix.1995, CR1H93-95 6, SM0075818 (1♀ SEMC); same locality except 10°13'4''N
307 84°35'46''W [10.21777, -84.596111], xi.–xii.1999, SM0457580 (1♂ SEMC); same locality
308 except 10°13'4''N 84°35'46''W [10.21777, -84.596111], ii.–iii.2000, SM0457607 (1♀ SEMC);
309 "Costa Rica: Alajuela, E.B. San Ramón, R.B. San Ramón, 27 km N & 8 km W San Ramón,
310 10°13'30''N 84°35'30''W [10.225, -84.591666], 850–950 m, 29.vi.–6.vii.1999, R. Anderson,
311 wet premontane forest CR1A99-108A" / "SM0188194" (1♂ SEMC); same locality except 900
312 m, CR1A99-113B, SM0186510 (1♀ SEMC); same locality except 810 m, 10°13'4''N
313 84°35'46''W [10.21777, -84.596111], 8.vii.2000, J.S. Ashe, R. Brooks, Z.H. Falin, CR1ABF00
314 084, ex: flight intercept trap, SM0203647, SM0203665 (1♂, 1♀ SEMC); same locality except
315 900 m, 10°13'4''N 84°35'46''W [10.21777, -84.596111], 8.vii.2000, P. Hanson, CR1EH99 01,
316 SM0235433 (1♂ SEMC); "Costa Rica: Prov. Alajuela, A.C.A. San Ramón, Reserva Biol Alberto

317 Brenes, Rio San Lorencito, 850 m, 24.iii.1999, C. Moraga, Sombrereta, L_N_245500_470800
318 #52477" / INB0003030776, INB0003030777, INB0003030779 (2♂, 1♀ NHMD); "Costa Rica:
319 Prov. Alajuela, San Ramón, Est. Biol. Villa Blanca, Send. La Capilla, 1115 m, 16.iii.–9.iv.2010,
320 B. Hernández, Tp. Malaise, L_N_242482_483371 #99630" / "INB0004248707" (1♀ NHMD);
321 "Costa Rica: Prov. Alajuela, Upala, P.N. Volcán Tenorio, Cerro La Carmela, 1026 m, 17.ii.–
322 18.iv.2010, J.A. Azofeifa, Tp. Malaise, L_N_298828_427338 #99732" "INB0004256029" (1♀
323 NHMD); "Costa Rica: Alajuela, Peñas Blancas, 800 m, 19.v.1999, J.S. Ashe, R. Leschen, R.
324 Brooks, ex: flight intercept trap" / "SM0046201" (1♀ SEMC); "Costa Rica: Prov. Alajuela, La
325 Fortuna, Sector Catarata, 500 m, 3.xi.1997–6.i.1998, G. Garballo, Malaise,
326 L_N_268500_462500 #48837" / "INBIOCR002595077" (1♀ MNCR-A); "Costa Rica: Cartago
327 Prov., Refugio Nac. de Fauna Silvestre Tapanti, 2 km E Station, 1320 m, 9°44.287'N
328 83°46.875'W [9.738116, -83.78125], 30.x.–1.xi.2001, R. Brooks, ex: flight intercept trap,
329 CR1B01 15" / SM0474732, SM0474730, SM0474731, SM047429 (2♂, 1♀ SEMC; 1♂ UTCI);
330 same locality except 1 km E Station, 1410 m, 9°45.129'N 83°46.936'W [9.75215, -83.782266],
331 CR1B01 13, SM0474724 (1♀ SEMC); "Costa Rica: Prov. Cartago, La Represa. Tapanti, 1800
332 m, vii.1995, R. Delgado, interseccion LN 185900 563300 #5342" / "INBIOCR002209951" (1♂
333 MNCR-A); "Costa Rica: Prov. Cartago, Pejibaye, Estación Biológica Copal, Sendero Tigra,
334 1090 m, 3–14.iv.2005, J. Azofeira Z., Tp. Malaise, L_N_196286_563684 #80039" /
335 "INB0003938486" (1♂ NHMD); "Costa Rica: Guanacaste, Guanacaste Conservacion Area,
336 Maritza Field Station, 950 m, 13.ii.1996, R. Anderson, CR1A96 010C, ex: dry-tropical wet
337 forest trans. litter" "SM0083887" (1♂ SEMC); "Costa Rica: Guanacaste, Estac. Cacao, 1000–
338 1400 m, SW side Volcan Cacao, vii.1989–iii.1990, Malaise, TP.-GNP Biod. Survey" /
339 INBIOCR000203134, INBIOCR000248458, INBIOCR000258332, INBIOCR000203124,
340 INBIOCR000203105, INBIOCR000168862 (2♂, 4♀ MNCR-A); same locality label except II
341 curso Parataxon., vi.1990, INBIOCR000250397 (1♂ MNCR-A); same locality label except iii–
342 viii.1990, INBIOCR000231448 (1♀ MNCR-A); same locality label except 21–29.v.1992,
343 INBIOCR000374813 (1♀ MNCR-A); same locality label except 1988–1989,
344 INBIOCR000101546, INBIOCR000042128 (2♀ MNCR-A); "Costa Rica, Guanacaste, Estac.
345 Pitilla, 9 km S Santa Cecilia, 700 m, xi.1989, C. Moraga & P. Rios, 330200, 380200" /
346 "INBIOCR000111406" (1♂ MNCR-A); "Costa Rica, Guanacaste, Tierras Morenas, 685 m,
347 xi.1993, G. Rodriguez, L N 287800_427600 #2476" / "INBIOCR001947013" (1♀ MNCR-A);
348 "Costa Rica, Prov. Guanacaste, Macizo Miravalles, Estac. Cabro Muco. Sitio Azufral, 1100 m,
349 22.ix.–5.x.2003, J. Azofeifa, Intersección L_N_299769_411243 #75479" / "INB0003771446"
350 (1♀ NHMD); "Costa Rica: Heredia Prov., 6 km ENE Vara Blanca, 10°11'N 84°07'W
351 [10.18333, -84.11666], 1950 m, 15–22.iv.2002, montane forest leaf litter, R. Anderson, CR2A02
352 03" / SM0527314, SM0527301 (2♂ SEMC); "Costa Rica, Heredia, Finca Murillo, 9 km NE
353 Vara Blanca, 1450–1550 m, 10°14'17''N 84°06'06''W [10.238055, -84.101666], R. Anderson,
354 14–20.ii.2005, INbio-CET-ALAS transect, CRA105 007" / "SM0693946" (1♀ SEMC); "Costa
355 Rica: [Heredia] Vara Blanca, viii.[19]38" / "Field Mus. Nat. Hist.1966, A. Bierig Colln., Acc. Z-
356 13812" (1♂ FMNH); "Costa Rica: Prov. Limón, P.N. La Amistad. Punto., 1300–1400 m, 25.x.–
357 2.xi.2007, M. Moraga, B. Gamboa, Tp. Malaise, L_N_198990_627455 #92615" /
358 "INB0004126042" (1♂ NHMD); "Costa Rica: Prov. Limón, Manzanillo, RNFS Gandoca y
359 Manzanillo, 0–100 m, 9.xi.–13.x.1992, K. Taylor, L-S 398100, 610600" / "INB000937676" (1♀
360 MNCR-A); "Costa Rica: Puntarenas, Corcovado National Park, Sirena Station, Corcovado trail,
361 150 m, 8°29'7''N 83°34'39''W [8.485277, -83.57750], 28.Jun[e]–1.Jul[y].2000, Z.H. Falin,
362 CR1ABF00 059, ex: flight intercept trap" / "SM0203552" (1♀ SEMC); "Costa Rica: Puntarenas,

363 Corcovado National Park, Sirena Station, Rio Pavo trail, 5 m, 8°29'5''N 83°35'33''W
364 [8.484722, -83.5925], 25–28 Jun[e].2000, Z.H. Falin, CR1ABF00 037, ex: flight intercept trap" /
365 "SM0203763" (1♂ SEMC); "Costa Rica: Puntarenas, Monteverde,, 24.v.1989, 1400 m, J.S.
366 Ashe, R. Leschen, R. Brooks, #419, ex: pitfall trap" / "SM0046200" (1♂ SEMC); same locality
367 label except Boehme house, #437, SM0046209 (1♂ SEMC); same locality label except Cerro
368 Chomogo, 1550 m, flight intercept trap, SM0046211 (1♂ SEMC); same locality label except
369 1520 m, flight intercept trap, SM0046199 (1♂ SEMC); same locality label except 1570 m,
370 9.v.1989, flight intercept trap, SM0046198 (1♀ SEMC); same locality label except 1630 m,
371 7.vii.1990, S.E. Roberts, flight intercept trap, SM0046193 (1♂ SEMC); same locality label
372 except 1610 m, 7.vii.1990, S.E. Roberts, flight intercept trap, SM0046210, SM0046208 (2♂
373 SEMC); same locality label except 21.v.1989, flight intercept trap, SM0046195, SM0046204,
374 SM0046202, SM0046197, SM0046194, SM0046205, SM0046196 (3♂, 2♀ SEMC; 1♂ 1♀
375 UTCI); same locality label except 1550 m, flight intercept trap, SM0046203 (1♂ SEMC); same
376 locality label except 28–31.v.1992, M.L. Jameson, flight intercept trap, SM0045890 (1♂
377 SEMC); "Costa Rica, Puntarenas, San Luis-Monteverde, LN250-850-449-250, 17–31.xii.1993,
378 Z. Fuentes, 1040 m, ex: malaise trap, #2583" / "SM0068168" (1♂ SEMC); same locality
379 label except ii.1993, #1897, SM0068198, INBIOCR002522864, INBIOCR002522865,
380 INBIOCR001166927 (1♀ SEMC; 3♀ MNCR-A); same locality label except ii.1992,
381 INBIOCR000842619 (1♀ MNCR-A); same locality label except 1000–1350 m, 17–31.xii.1992,
382 #2583, INBIOCR002523162 (1♂ MNCR-A); same locality label except 1000–1350 m, xii.1993,
383 #2493, INBIOCR001714070 (1♂ MNCR-A); same locality label except vii.1993, #2424,
384 INBIOCR002523005 (1♂ MNCR-A); same locality label except 1–31.x.1993, #2425,
385 INBIOCR001957088 (1♂ MNCR-A); same locality label except vii.1992, INBIOCR000722993
386 (1♂ MNCR-A); same locality label except x.1993, #2428, INBIOCR002523051 (1♂ MNCR-A);
387 same locality label except xi.1993, #2443, INBIOCR001938006, INBIOCR001938032,
388 INBIOCR001938005, INBIOCR001938033 (2♂, 2♀ MNCR-A); same locality label except
389 ix.1993, #2429, INBIOCR002523059 (1♂ MNCR-A); same locality label, A. C. Arenal, xi.1993,
390 #2427, Z. Fuentes, Amarilla, SM0068204, SM0068201, INBIOCR002523429,
391 INBIOCR002523428, INBIOCR002523427 (2♂ SEMC; 1♂, 2♀ MNCR-A); same locality label,
392 A. C. Arenal, i.1993, Z. Fuentes, LN 449250_250850 #2584, SM0068203, INBIOCR002523178,
393 INBIOCR002523177, INBIOCR002523179 (1♂ SEMC; 3♂ MNCR-A); same locality label, A.
394 C. Arenal, i.1993, Z. Fuentes, LN 449250_250850 #2585, SM0068196, SM0068200 (2♀
395 SEMC); same locality label except 20–27.vi.1994, #3029, INBIOCR001922841,
396 INBIOCR001922842 (1♂, 1♀ MNCR-A); "Costa Rica, Puntarenas, Res. Biol. Monteverde, Est.
397 La Casona, 1520 m, K. Flores, iv.1992, L-N 253250 449700" / INBIOCR000990559,
398 INBIOCR000793519 (1♂, 1♀ MNCR-A); same locality label except ix.1991,
399 INBIOCR000510117 (1♂ MNCR-A); "Costa Rica: Puntarenas Prov., Hacienda La Amistad,
400 8°58.102'N 82°46.883'W [8.968366,-82.781383], 1900 m, premont.-lower mont. moist forest,
401 sifting leaf litter, 12.vi.2012, Solodovnikov, Brunke, Puliafico, Selvantharan" / "Chatzimanolis
402 DNA Voucher, Extraction SC-405, Extraction date: 27.iii.2015" (1♂ NHMD); "Costa Rica,
403 Puntarenas, R.F. Golfo Dulce, 3 km SW Rincon, 10 m, v–vi.1992, P. Hanson, ex: malaise" /
404 "SM0069525" (1♂ SEMC); "Costa Rica, Puntarenas, Altamira Biol. Sta. 1510–1600 m,
405 9°1.76'N 83°0.49'W [9.029333, -83.008166], 4–7.vi.2004, J. S. Ashe, Z.H. Falin, I. Hinojosa,
406 ex: flight intercept trap, CR1AFH04 144" / "SM0606679" (1♂ SEMC); "Costa Rica, Puntarenas,
407 Las Alturas Biol. Sta. 1660 m, 8°56.17'N 82°50.01'W [8.936166, -82.8335], 31.v.–3.vi.2004, J.
408 S. Ashe, Z.H. Falin, I. Hinojosa, ex: flight intercept trap, CR1AFH04 092" / "SM0606867" (1♀

SEMC); "Costa Rica: Puntarenas, Fca. Cafrosa, Est. Las Mellizas, P.N. Amistad., 1300 m, R. Delgado, 19.vi.–26.vii.1990, L-S-316100, 596100" / "INBIOCR000667816" (1♂ MNCR-A); "Costa Rica, San Jose, Zurqui de Moravia, 1600 m, iv.1994, P. Hanson, ex: malaise" / "SM0069535" (1♂ SEMC); same locality except iii.1994, SM0069520 (1♂ SEMC); same locality except 1–30.viii.1995, CR1H93-95 14, SM0077306 (1♂ SEMC); same locality except 10°3'0''N 84°1'0''W [10.05, -84.01666], 1–30.ix.1995, CR1H95-96 07, SM0134461 (1♂ SEMC); "Costa Rica: San Vito de C. B., Las Cruces, 1200 m, 9.vii.–7.viii.1982, malaise tr, B. Gill" (1♀ CNC); "Panama: Bocas del Toro, 4 km N. Boquete, La Culebra trail, 1500 m, 17.vii.1995, A. Gillogly" / SM0004684, SM0004685 (1♂, 1♀ SEMC); "Panama: Bocas del Toro, 8°34N 81°50W [8.56666, -81.83333], 1500 m, 25 km NNE San Felix, leg. J. Wagner, 6.vi.1980" / "FM(HD)#80-5, Berlese floor litter & root mat, nr. ridge top, Qda. Alicia cloud forest" (1♀ FMNH); same locality except 10–12.vi.1980, Camino I7, malaise trap (1♀ FMNH); "Panama: Chiriqui Prov., La Fortuna Cont. Divide Trail, 8°46'N 82°12'W [8.766666, -82.2], 1150 m, 23.v.–9.vi.1995, J. Ashe, R. Brooks, #155, ex: flight intercept trap" / SM0046213, SM0007044, SM0003729, SM0046214 (3♂, 1♀ SEMC); same locality except 1100 m, #157, SM0003687 (1♀ SEMC); same locality except, 9–12.vi.1995, #185, SM0003498 (1♀ SEMC); same locality except 1200 m, 9.vii.1995, R. Anderson, PAN2A95 10C, ex: berlese forest litter, SM0037220 (1♀ SEMC); same locality except Hydrolog. Trail, 8°42'N 82°14'W, 1050 m, 9–12.vi.1995, #188, SM0005052 (1♂ SEMC); same locality Hydrolog. Trail, 8°42'N 82°14'W [8.7, -82.233], 1150 m, 23.v.–9.vi.1995, #156, SM0003747 (1♀ SEMC); "Panama: Chiriqui, 4 km N Sta. Clara Hartmann's Finca, 27.vi.–3.vii.1981, B. Gill, 1500 m" (1♀ CMNC); "Panama: Chiriqui, La Fortuna Dam, 1200 m, 14.vi.–15.viii.1982, wet forest FIT, B. Gill" (1♀ CNC); All paratypes with label "PARATYPE *Lendatus philothalpiformis* Chatzimanolis, des. Chatzimanolis 2019".

Diagnosis. *Lendatus philothalpiformis* can be easily recognized among the existing species in the genus due to the bright reddish-orange coloration of the head and pronotum. Additionally, it is the only species known with a Central American distribution.

Description. Forebody length 4.6–5.8 mm. Coloration of head, pronotum and prosternum bright reddish-orange (in few specimens brown); mouthparts, antennae and legs reddish-orange to brown; elytra metallic green or blue; meso- and metaventrite brown; abdomen reddish-orange to brown (frequently with segment 6 dark brown) except segment 7 dark brown with posterior 1/3 orange and segment 8 orange.

Head with 1–2 irregular rows of large punctures on each side of central impunctate area (except anteriorly); with additional 3–4 large punctures on epicranium; with microsculpture and micropunctures. Head width/length ratio = 1.5. Pronotum width/length ratio = 0.92; pronotum widest anteriorly, becoming strongly narrower (concave) posteriad; diagonal longitudinal line of punctures on disc of pronotum with 3–4 large punctures; anterolateral to that line pronotum with less than 5 large punctures; posterolateral to that line pronotum impunctate; pronotum with microsculpture and micropunctures; pronotum/elytra length ration = 0.92. Males with broad, shallow margination on sternum 7 (Fig. 4C); sternum 8 with shallow V-shaped emargination.

Aedeagus as in Fig. 6; paramere in dorsal view almost parallel-sided but apex wider; in lateral view paramere slightly convex, converging to narrow rounded apex; paramere with peg setae as in Fig. 6C; paramere narrower than median lobe except just before apex; paramere longer than median lobe; median lobe in dorsal view converging to apex; in lateral view median

455   lobe becoming narrower from middle to narrowly elongate apex; with large dorsal subapical
456   tooth.
457
458   **Distribution.** Known from many provinces in Costa Rica and the provinces of Bocas del Toro
459   and Chiriqui in Panama.
460
461   **Habitat.** Specimens were collected with malaise, pitfall and flight intercept traps and by shifting
462   leaf litter in wet tropical lowland forests or tropical cloud forests at elevations of 5–1950 m).
463
464   **Etymology.** The specific epithet is derived from the words *Philothalpus* and *formis* and refers to
465   the superficial resemblance of this species to species in the genus *Philothalpus*.
466
467
468   *Lendatus platys* **Chatzimanolis, new species**
469   (Figs. 1C, 2C, 7, 8)
470
471   urn:lsid:zoobank.org:act:920D79A5-D1D4-4B73-8263-30D4908E3823
472
473   **Type material**. **Holotype**, here designated, male, "Ecuador, Sucumbios, Sacha Lodge, 0.5°S
474   76.5°W [-0.5, -76.5], 270 m, 13–23.vi.1994, Hibbs, ex: malaise" / "SM0022600 [barcode label]"
475   / "HOLOTYPE *Lendatus platys* Chatzimanolis, des. Chatzimanolis 2019". In the collection of
476   SEMC.
477
478   **Paratypes.** 48: same locality label as holotype, SM0022371 (1♂ SEMC); same locality label as
479   holotype except 14–24.v.1994, SM0023298 (1♀ SEMC); same locality label as holotype except
480   3–16.viii.1994, SM0020931 (1♀ SEMC); "Bolivia: Santa Cruz, Amboro National Park, Los
481   Volcanes, c.1000 m, 18°06'S 63°36'W [-18.1, -63.6], 20.xi.–12.xii.2004" / "flight interception
482   trap, H. Mendel & M.V.L. Barclay, BMNH(E) 2004-280" (5♂, 2 ♀ BMNH); "Ecuador: Morona-
483   Santiago, Macas, 1300 m, 20.ix.1989, M. Cooper" / "M. Cooper BMNH(E) 2004-275" (1♀
484   BMNH); "Ecuador: Napo, Yuturi Lodge, Rio Napo, 270 m, 0°32'54''S 76°2'18''W [-0.548333,
485   -76.03833], 20–21.iii.1999, R. Brooks, D. Brzoska, ECU1B99 010, ex: flight intercept trap" /
486   SM0153450, SM0153439, SM0153432, SM0153459 (3♂ SEMC; 1♂ UTCI); "Ecuador: Napo,
487   Tena-Baeza Rd. km 24, N. Cotundo, 36-4000', 3.v.1982, H. Frania, leaf litter, ridge" (1♂
488   FMNH); "Ecuador, Napo Prov. Yasuni N.P., Yasuni Research Sta., 0°38'S 76°36'W [-0.6333, -
489   76.6], 215 m, 27.vii.–1.viii.1998, lowland rainforest, Ratcliffe, Jameson, Smith, Villatoro (1♂
490   UNSM); "Ecuador: Napo, Yasuni Nat. Park Biol. Res. Station, 220 m, 0.67°S 76.39°W [-0.67, -
491   76.39], 18–26.v.1996, P. Hibbs, MT, primary forest (1♀ CNC); "Ecuador: Prov. Orellano,
492   Yasuni Natl. Park, Yasuni Research Stn., 0°40'50''S 76°24'2''W [-0.680555, -76.400555], 250
493   m, 28.iv.–8.v.2009, on lead, M. Cannon (1♂ DEBU); "Ecuador: Sucumbios, Sacha Lodge, 270
494   m, 0°28'14''S 76°27'35''W [-0.470555, -76.45972], 21–24.iii.1999, R. Brooks, ECU1B99 047,
495   ex: flight intercept trap" / SM0153262, SM0153263, SM0153255 (3♂ SEMC); "Ecuador:
496   [Sucumbios], Napo R. Sacha Lodge, 250 m, 26–28.x.2004, FIT, G. de Rougemont leg. (1♀
497   CRO); "Peru: Dept. Cusco: Cock of the Rock Lodge, NE Paucanambo, 13°03.5'S 71°32.7'W [-
498   13.05833, -71.545], 1120 m, 4–9.xi.2007, D. Brzoska, ex. flight intercept trap, PER1B07 001" /
499   "SEMC0871107" (1♂ SEMC); "Peru: Cuzco Dept., Consuelo, Manu Rd km 165, 9.x.1982" /
500   "FMHD #82-361, beating dead branches, L.E. Watrous & G. Mazurek" (1♂ FMNH); same
501   locality labels except 4.x.1982, FMHD #82-337, leaf litter (1♀ FMNH); same locality labels

502 except 5.x.1982, FMHD #82-410, rotten palm bait trap (1♂ FMNH); same locality labels except
503 6–7.x.1982, FMHD #82-411, flight intercept trap (1♂ FMNH); same locality labels except
504 Pillahuata, Manu Rd. km 128, 20.ix.1982, FMHD #82-265, litter along gravel stream (1♂
505 FMNH); same locality labels except Pillahuata, Manu Rd. km 128, 24.ix.1982, FMHD #82-283,
506 litter along stream (1♂ FMNH); same locality labels except Pillahuata, Manu Rd. km 128,
507 27.ix.1982, FMHD #82-310, litter in runoff in mossy forest (1♂, 1♀ FMNH); same locality
508 labels except Pillahuata, Manu Rd. km 128, 28.ix.1982, FMHD #82-311, litter along gravel
509 stream (2 ♂ FMNH);"Peru: CU[sco] Camparmento Comerciato, 23.xi.2002, 12°47'S 73°22'W [-
510 12.78333, -73.36666], 1350 m, Pitfall, J. Grados" / "*Isanopus* spp. det. Asenjo 2004" (1♂
511 MUSM); "Peru: CU[sco] Camparmento Segakiato, 10.xi.2002, 12°43'S 73°18'W [-12.716666, -
512 73.3], 1850 m, Pitfall, J. Grados" (1♀ MUSM); "Peru: Dept. Loreto, Camparmento San Jacinto,
513 2°18.75'S 75°51.77W [-2.3125, -75.862833], 7.vii.1993, 175–215 m, R. Leschen #44, ex: flight
514 intercept trap" / "SM0080093" (1♀ SEMC); "Peru: Dept. Loreto, 1.5 km N. Teniente Lopez,
515 2°35.66'S 76°06.92'W [-2.594333, -76.115333], 18.vii.1993, 210–240 m, R. Leschen, #119. ex:
516 flight intercept trap" / "SM0080094" (1♀ SEMC); "Peru: JU[nín], 1 km S Mina Pichita, 2100 m,
517 25.i.2005, 11°05'40.2''S 75°4'49.6''W [-11.0945, -75.080444], A. Asenjo" (1♀ MUSM); "Peru,
518 Dept. Madre de Dios: Pantiacolla Lodge, Alto Madre de Dios R., 12°39.3'S 71°13.9W [-12.655,
519 -71.231666], 420 m, 14–19.xi.2007, D. Brzoska, ex. flight intercept trap, PER1B07 004" /
520 "SEMC0872413" (1♂ SEMC); "Peru: Madre de Dios: Pantiacolla Lodge, 8 km NW El Mirador
521 Trail, Alto Madre de Dios River, 800 m, 12°38'30''S 71°16'41''W [-12.64166, -71.278055],
522 23–26.x.2000, R. Brooks, PERU1B00 102, ex: flight intercept trap" / SM0210891, SM0210653
523 (1♀ SEMC; 1 ♀UTCI); "Peru, Madre de Dios Dept., CICRA Field Station, trail 6, research plot,
524 12.55207°S 70.10962°W, 295 m, 11–13.vi.2011, Chaboo team, Malaise trap, PER-11-MAT-
525 021" / "SEMC1060728" (1♂ SEMC); "Peru, Madre de Dios Dept., CICRA Field Station, ~2 km
526 NW of cafeteria, research plot, 12.55212°S 70.10921°W, 295 m, 7–9.vi.2011, Chaboo team,
527 flight intercept trap trap, PER-11-FIT-021" / "SEMC0956719" (1♀ SEMC); "Peru: Dept. Madre
528 de Dios, Manu Prov., Parque Nac. Manu, Zona Res. Rio Manu, Cocha Juarez, trail nr. Manu" /
529 "Lodge, 18–24.ix.1991, flight intercept trap, A. Hartman, Field Museum" (1♂ FMNH); "Peru:
530 Madre de Dios, Tambopata Wildlife Res. 30 km SW Pto. Maldanado, 12°50'S 69°20'W [-
531 12.83333, -69.3333], 290 m, 26.xi.1982, J.J. Anderson coll." (1♂ CMNH); "Peru, Ucauali Dept.,
532 Tingo Maria-Pucallpa Rd., Ruente Chino, km 205, 1300 m, 9°8'12''S 75°47'20''W [-9.13666, -
533 75.788888], 11–14.x.1999, R. Brooks, PERU1B99 007A, ex: flight intercept trap" / SM0185071,
534 SM0185076 (1♂ SEMC; 1♂ UTCI). All paratypes with label "PARATYPE *Lendatus platys*
535 Chatzimanolis, des. Chatzimanolis 2019".
536
537 **Diagnosis.** *Lendatus platys* and *L. bolivianus* can be distinguished from *L. philothalpiformis* by
538 the coloration of head and pronotum (dark brown to black in *L. bolivianus* and *L. platys*; bright
539 reddish-orange in *L. philothalpiformis*). *Lendatus platys* can be distinguished from *L. bolivianus*
540 by the shape of the pronotum (becoming wide (convex) posteriorly (Fig. 2C) in *L. platys*;
541 becoming narrower (concave) posteriorly (Fig. 2A) in *L. bolivianus*;); the shape of the paramere
542 (paramere narrower, parallel-sided from base to apex in dorsal view (Fig. 7B) in *L. platys*;
543 paramere wider, converging to apex in dorsal view (Fig. 5B) in *L. bolivianus*;) and the length
544 comparison between the anterior portion of the paramere and median lobe (median lobe much
545 longer than paramere (Figs. 7A–B) in *L. platys*; median lobe slightly longer than paramere (Figs.
546 5A–B) in *L. bolivianus*).
547

Description. Forebody length 4.7–5.6 mm. Coloration of head, pronotum and ventral side of body dark brown to black; mouthparts and antennae dark orange to brown; elytra metallic blue, green or purple (blue most commonly); legs dark brown except tarsi dark orange; abdomen dark brown to black except segment 7 (posterior 1/3 orange) and segment 8 (orange).

Head with 2–3 irregular rows of medium-sized punctures on each side of central impunctate area (except anteriorly); with additional 4–6 large punctures on epicranium; with microsculpture and micropunctures. Head width/length ratio = 1.53. Pronotum width/length ratio = 1.02; pronotum widest medially, lateral sides of pronotum convex; diagonal longitudinal line of punctures on disc of pronotum with 5–6 large punctures; anterolateral to that line pronotum with 5–8 medium-sized punctures; posterolateral to that line pronotum impunctate; pronotum with microsculpture and micropunctures; pronotum/elytra length ration = 0.89. Males with narrow, deep emargination on sternum 7; sternum 8 with deep U-shaped emargination.

Aedeagus as in Fig. 7; paramere in dorsal view almost parallel-sided but apex slightly wider; in lateral view paramere convex, converging to broadly rounded apex; paramere with peg setae as in Fig. 7C; paramere narrower but longer than median lobe; median lobe in dorsal view converging to apex; in lateral view median lobe becoming narrower from middle to narrowly elongate apex; with small dorsal subapical tooth.

Distribution. Known from the department of Santa Cruz in Bolivia, the provinces of Morona-Santiago, Napo, Orellano and Sucumbios in Ecuador, and the departments of Cusco, Loreto, Junín, Madre de Dions and Ucauali in Peru.

Habitat. Specimens were collected with malaise, baited pitfall and flight intercept traps and by shifting leaf litter in wet tropical lowland forests or tropical cloud forests at elevations of 10–1300 m).

Etymology. The specific epithet is derived from the Greek word πλατύς (wide) and refers to the wide shape of the pronotum.

Remarks. An additional specimen from Colombia [Colombia: Valle del Cauca, PNN Farallones de Cali, Anchicaya, 3°26'N 76°48'W, 730 m, 27.ii.–27.iii.2001, Malaise, S. Sarria leg., M1538" / "SM0548730"(1♀ SEMC)] looks almost identical to this species, except that the pronotum is not as wide as the other specimens in this species. Unfortunately, this specimen is female and thus I cannot place it with certainty in *L. platys*.

Key to the species of *Lendatus*

1.   Color of head and pronotum (Fig. 2B) bright reddish-orange (rarely brown); distributed in Central America (Fig. 9) … *Lendatus philothalpiformis*

-      Color of head and pronotum dark brown to black (Figs. 2A, C); distributed in South America (Fig. 8) … ………………………….… 2

592 2.   Pronotum becoming narrower (concave) posteriorly (Fig. 2A); paramere wider,
593 converging to apex in dorsal view (Fig. 5B); anterior portion of median lobe slightly longer than
594 paramere (Figs. 5A–B) … *Lendatus bolivianus*
595
596 -   Pronotum becoming wide (convex) posteriorly (Fig. 2C); paramere narrower, parallel-
597 sided from base to apex in dorsal view (Fig. 7B); anterior portion of median lobe much longer
598 than paramere (Figs. 7A–B) … *Lendatus platys*
599
600
601
602 **Acknowledgements**
603
604 I thank all the curators and collection managers listed in the materials examined section for
605 access to the specimens. I thank Adam Brunke, Aslak Kappel Hansen and an anonymous
606 reviewer for comments that improved this manuscript. I thank Max Marlowe for taking some of
607 the photographs shown in this paper.
608
609
610
611 **References**
612
613 Chani-Posse, M.R., Brunke, A.J., Chatzimanolis, S., Schillhammer, H., Solodovnikov, A. (2018)
614 Phylogeny of the hyper-diverse rove beetle subtribe Philonthina with implications for
615 classification of the tribe Staphylinini (Coleoptera: Staphylinidae). *Cladistics*, 38, 1–40.
616 https://doi.org/10.1111/cla.12188
617
618 Chatzimanolis, S. (2008) A revision of the neotropical beetle genus *Isanopus* (Coleoptera:
619 Staphylinidae: Staphylinini). *Journal of Natural History*, 42 (25–28), 1765–1792.
620 https://doi.org/10.1080/00222930802124057
621
622 Chatzimanolis, S. (2012) *Zackfalinus*, a new genus of Xanthopygina (Coleoptera: Staphylinidae:
623 Staphylinini) with description of 20 new species. *Annals of the Carnegie Museum*, 80, 261–308.
624 http://dx.doi.org/10.2992/007.080.0401
625
626 Chatzimanolis, S. (2014) Phylogeny of xanthopygine rove beetles based on six molecular loci.
627 *Systematic Entomology*, 39 (1), 141–149.
628 https://doi.org/10.1111/syen.12040
629
630 Chatzimanolis, S & Brunke, A.J. (2019) A phylogeny of Xanthopygina (Insecta: Coleoptera)
631 reveals major lineages and the origin of myrmecophily. *Zoologica Scripta*, 48, 494–506.
632 https://doi.org/10.1111/zsc.12358
633
634 Chatzimanolis, S & Hightower, H.J. (2019) *Peripus*, a new genus of Xanthopygina (Coleoptera:
635 Staphylinidae) from South America. *Zootaxa*, 4648 (2), 371–383.
636 https://doi.org/10.11646/zootaxa.4648.2.10

637

638   Shorthouse, D.P. (2010) SimpleMappr, an online tool to produce publication-quality point maps.
639   [Retrieved from http://www.simplemappr.net. Accessed June 15, 2019].

640

641   Wheeler, Q.D. & Platnick. N.I. (2000) The phylogenetic species concept (sensu Wheeler and
642   Platnick). *In:* Q.D. Wheeler & Meier, R. (Eds.), *Species Concepts and Phylogenetic Theory: A*
643   *Debate*). Columbia University Press, New York, NY, pp. 55–69.

644

645

646

Figure 1

Habitus photographs of species of *Lendatus* Chatzimanolis.

(A) *Lendatus bolivianus* Chatzimanolis. (B) *Lendatus philothalpiformis* Chatzimanolis. (C) *Lendatus platys* Chatzimanolis. Not to scale.
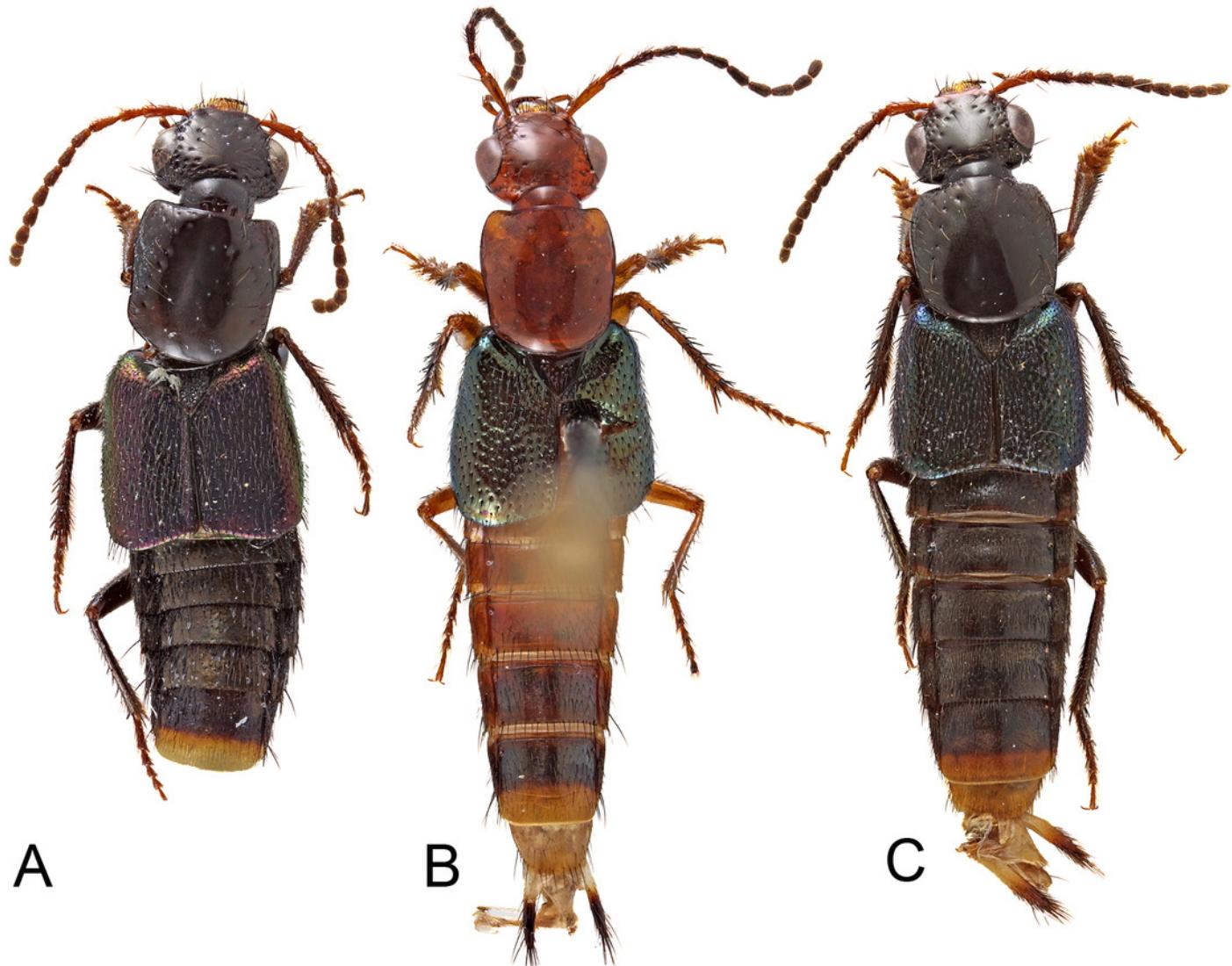
Figure 2

Heads and pronota of species of *Lendatus* Chatzimanolis.

(A) *Lendatus bolivianus* Chatzimanolis. (B) *Lendatus philothalpiformis* Chatzimanolis. (C) *Lendatus platys* Chatzimanolis. Not to scale.

Figure 3

SEM photographs of *Lendatus philothalpiformis* Chatzimanolis.

(A) Ventral view of left mandible, scale bar = 0.56 mm. (B) Dorsal view of right mandible, scale bar = 0.56 mm. (C) Hypopharynx and labial palps, scale bar = 0.88 mm. (D) Maxilla, scale bar = 0.56 mm. (E) Antenna, scale bar = 1.09 mm. Numbers above the antenna, the maxillary palp and the labial palp correspond to the different segments; ga: galea; lc: lacinia; hp: hypopharynx.
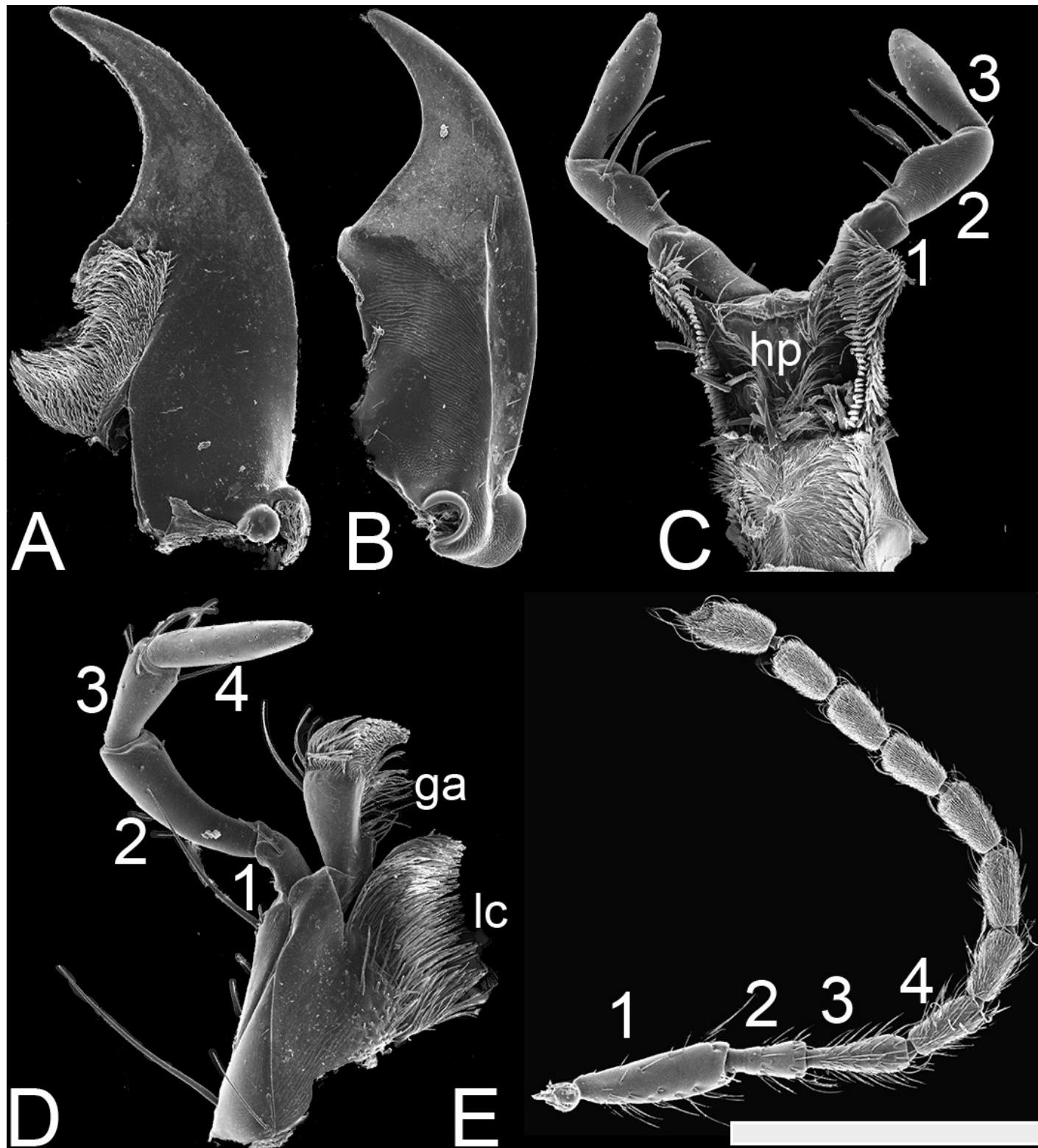
Figure 4

SEM photographs of *Lendatus philothalpiformis* Chatzimanolis.

(A) Prosternum and pronotal hypomeron, scale bar = 1.09 mm. (B) Meso- and metaventrite, scale bar = 1.44 mm. (C) Abdominal sterna 5–7, scale bar = 1.25 mm. (D) Abdominal sterna 8–9, scale bar = 1.27 mm. Numbers on the abdomen correspond to the number of segments; ms: mesoventrite; mt: metaventrite.
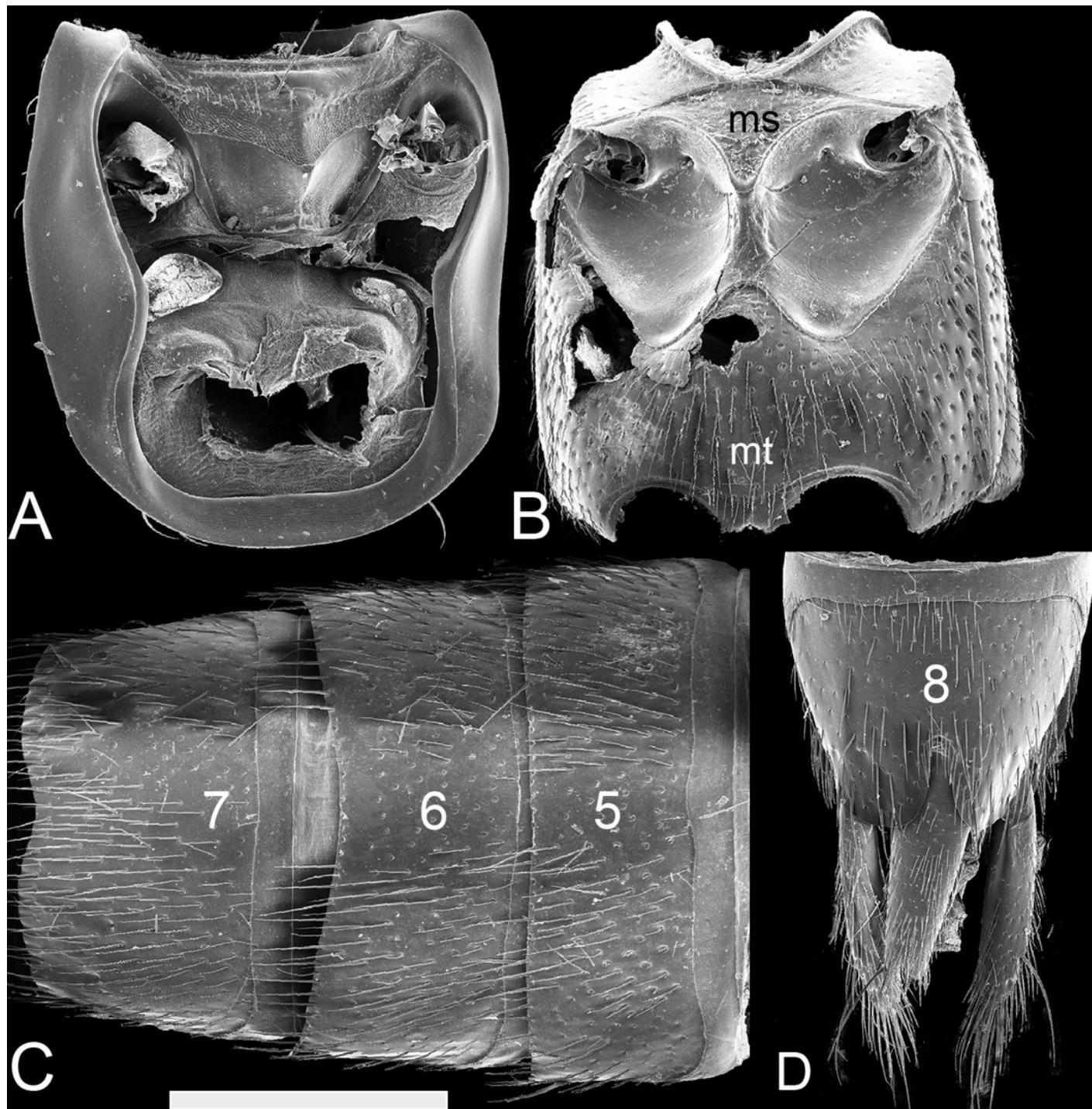
Figure 5

Aedeagus of *Lendatus bolivianus* Chatzimanolis.

(A) Lateral view. (B) Dorsal view. (C) Detail of paramere, ventral view.
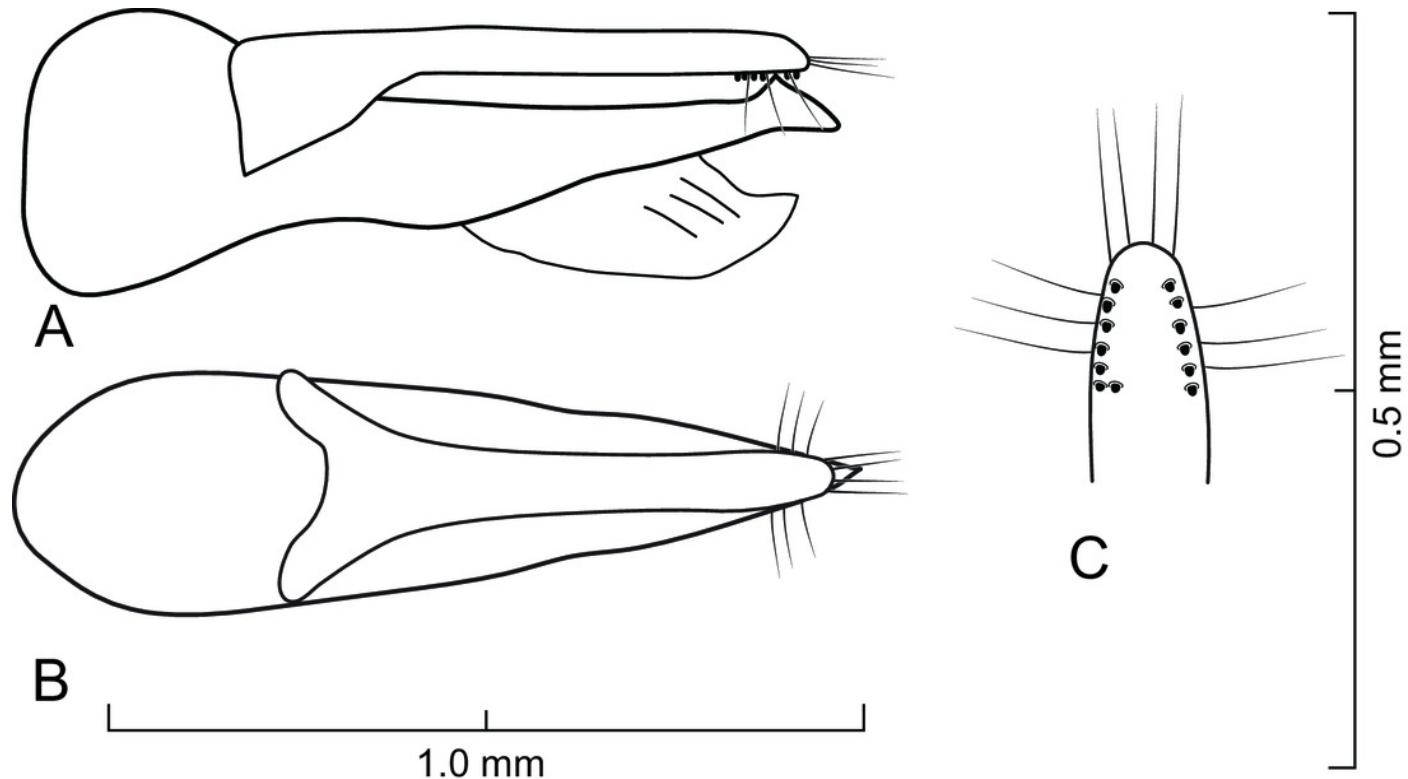
Figure 6

Aedeagus of *Lendatus philothalpiformis* Chatzimanolis.

(A) Lateral view. (B) Dorsal view. (C) Detail of paramere, ventral view.
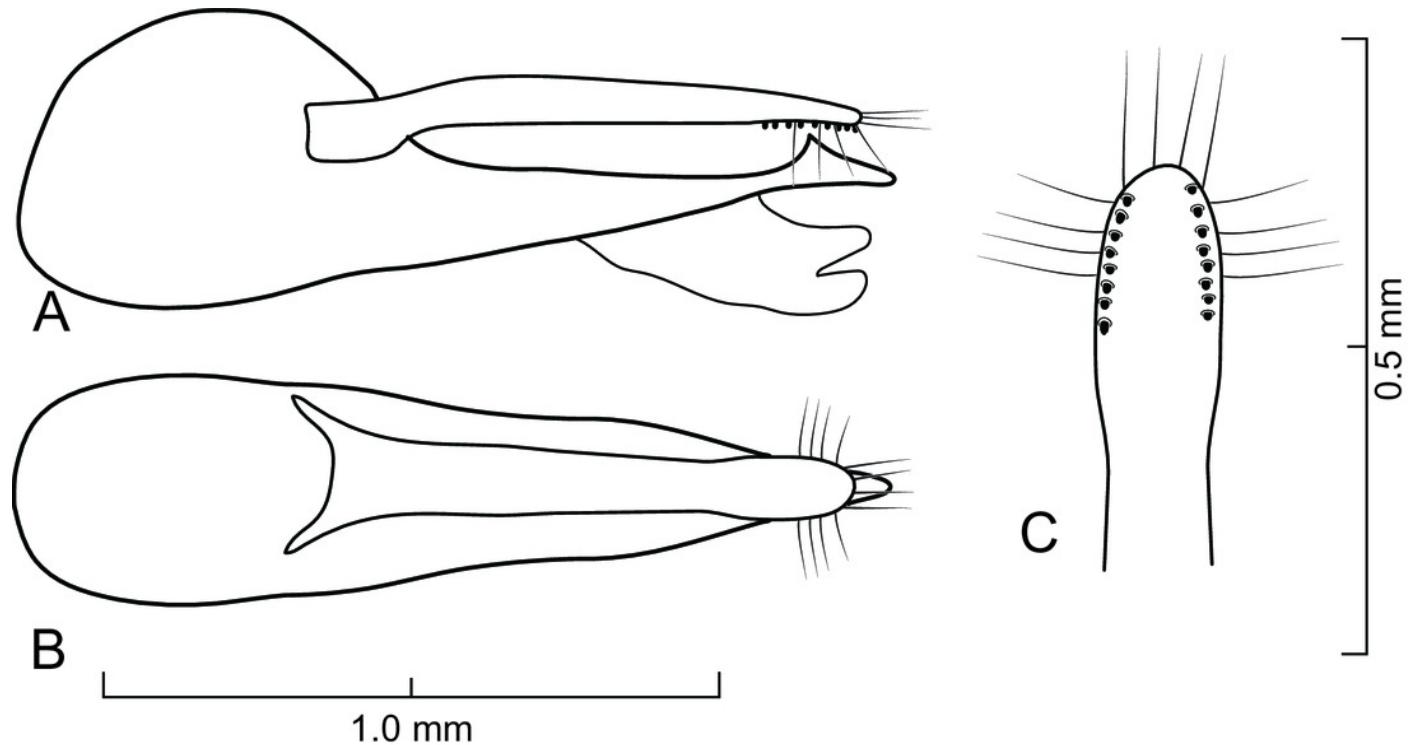
Figure 7

Aedeagus of *Lendatus platys* Chatzimanolis.

(A) Lateral view. (B) Dorsal view. (C) Detail of paramere, ventral view.
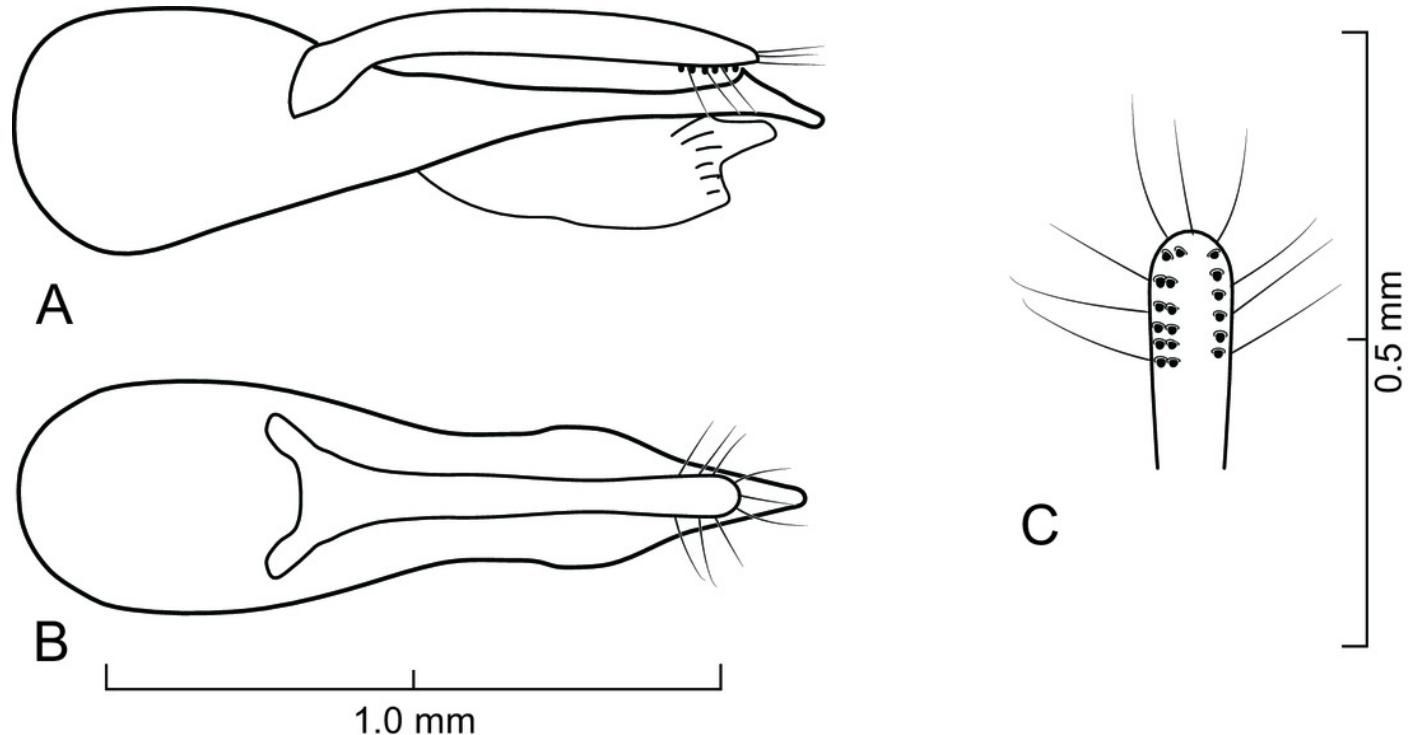
Figure 8

Distribution map of *Lendatus bolivianus* Chatzimanolis (square) and *Lendatus platys* Chatzimanolis (circles).

Figure 9

Distribution map of *Lendatus philothalpiformis* Chatzimanolis.

![Distribution map of Lendatus philothalpiformis Chatzimanolis showing collection localities in Costa Rica and western Panama]