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

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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 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.

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2 Staphylininae) with description of three new species.
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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, Colombia, Ecuador and Peru. *Lendatus* belongs to the *Isanopus* group of genera of Xanthopygina and can distinguished from all the genera based on 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.

98 I examined specimens from the following institutions:

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).

119 Please note that several of the specimens currently deposited in SEMC will be transferred to
120 MUSM per previous institutional/collecting agreements.

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 0612FF19-38E8-4072-AF74-0EB16165841F. The online version of
130 this work is archived and available from the following digital repositories: PeerJ, PubMed
131 Central and CLOCKSS.

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

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

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

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

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

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

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

239 **Type material**. **Holotype**, here designated, male, "Bolivia: La Paz, 9.4 km E. Chulumani, Apa-
240 Apa, 2400 m, 16°20.99S 67°30.30W, 17.i.2001, R. Anderson, upper yungas litter, BOLA01-
241 002" / "SM0459200 [barcode label]" / "HOLOTYPE *Lendatus bolivianus* Chatzimanolis, des.
242 Chatzimanolis 2019". In the collection of SEMC.

244 **Paratypes.** Six; one with same locality label as holotype and barcode label SM0459190 (1♀
245 SEMC); "Bolivia: La Paz Prov. Chulumani, 9.2 km E of, 2300 m, 16°20.59S 67°30.18W, 19–21
246 Jan[nuary] 2001, J. S. Ashe, R. S. Hanley, BOL1AH01 039 ex: flight intercept trap" /
247 "SM0236239" (1♂ SEMC); "Bolivia: La Paz 9.4 km E Chulumani, 2200 m, 16°20.99S
248 67°30.30W, 19–21.i.2001, J. S. Ashe, R. S. Hanley, BOL1AH01 038 ex: flight intercept trap" /
249 SM0574084, SM236231 (1♀ SEMC; 1♀ UTCI); "Bolivia: Chulumani, Apa-Apa forest,
250 16°21'S, 67°30'W, 12–14.xi.2007, 2000 m, shifting forest litter, V. Grebennikov leg." (1♀, 1♂
251 NHMD). All paratypes with label "PARATYPE *Lendatus bolivianus* Chatzimanolis, des.
252 Chatzimanolis 2019".

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

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

269   Head with 1–2 irregular rows of medium-sized punctures on each side of central
270 impunctate area (except anteriorly); with additional 3–4 large punctures on epicranium; with
271 microsculpture and micropunctures. Head width/length ratio = 1.61. Pronotum width/length ratio
272 = 0.95; pronotum widest anteriorly, becoming gradually narrower posteriad; diagonal
273 longitudinal line of punctures on disc of pronotum with 3–4 large punctures; anterolaterally to
274 that line pronotum with 5–6 medium-sized punctures; posterolaterally to that line pronotum
275 impunctate; pronotum with microsculpture and sparse micropunctures; pronotum/elytra length
276 ration = 0.82. Males with narrow, deep emargination on sternum 7; sternum 8 with deep U-
277 shaped emargination.
278   Aedeagus as in Fig. 5; paramere in dorsal view gradually converging to rounded apex; in
279 lateral view paramere slightly convex, converging to broadly rounded apex; paramere with peg
280 setae as in Fig. 5C; paramere narrower but slightly longer than median lobe; median lobe in
281 dorsal view converging to apex; in lateral view median lobe becoming narrower from middle to
282 apex; with small dorsal subapical tooth.

284 **Distribution.** Known from the province of La Paz in Bolivia.

286 **Habitat.** All specimens were collected in the Yungas forest along eastern slope of the Andes
287 Mountains in Bolivia by shifting litter or flight intercept traps.

289 **Etymology.** The specific epithet refers to the country of Bolivia.

292 *Lendatus philothalpiformis* **Chatzimanolis, new species**
293 (Figs. 1B, 2B, 3, 4, 6, 9)

295 urn:lsid:zoobank.org:act:7AFD3EE5-49B1-495D-A289-2C390B06BF61

297 **Type material**. **Holotype**, male, here designated, "Costa Rica: Puntarenas, Corcovado National
298 Park, Sirena Station, upper Rio Claro trail, 100 m, 8°28'29''N 83°35'8''W, 28.Jun[e]–
299 1.Jul[y].2000, Z.H. Falin, CR1ABF00 061, ex: flight intercept trap" / "SM0203906 [barcode
300 label]" / "HOLOTYPE *Lendatus philothalpiformis* Chatzimanolis, des. Chatzimanolis 2019". In
301 the collection of SEMC.

303 **Paratypes.** 121: "Costa Rica: Alajuela, Estac. Biol. San Ramón, 900 m, 1.vii.–31.viii.1995, P.
304 Hanson, CR1H93-95 5, ex: malaise trap" / "SM0075968" (1♂ SEMC); same locality except
305 1.viii–30.ix.1995, CR1H93-95 6, SM0075818 (1♀ SEMC); same locality except 10°13'4''N
306 84°35'46''W, xi.–xii.1999, SM0457580 (1♂ SEMC); same locality except 10°13'4''N
307 84°35'46''W, ii.–iii.2000, SM0457607 (1♀ SEMC); "Costa Rica: Alajuela, E.B. San Ramón,
308 R.B. San Ramón, 27 km N & 8 km W San Ramón, 10°13'30''N 84°35'30''W, 850–950 m,
309 29.vi.–6.vii.1999, R. Anderson, wet premontane forest CR1A99-108A" / "SM0188194" (1♂
310 SEMC); same locality except 900 m, CR1A99-113B, SM0186510 (1♀ SEMC); same locality
311 except 810 m, 10°13'4''N 84°35'46''W, 8.vii.2000, J.S. Ashe, R. Brooks, Z.H. Falin,
312 CR1ABF00 084, ex: flight intercept trap, SM0203647, SM0203665 (1♂, 1♀ SEMC); same
313 locality except 900 m, 10°13'4''N 84°35'46''W, 8.vii.2000, P. Hanson, CR1EH99 01,
314 SM0235433 (1♂ SEMC); "Costa Rica: Prov. Alajuela, A.C.A. San Ramón, Reserva Biol Alberto
315 Brenes, Rio San Lorencito, 850 m, 24.iii.1999, C. Moraga, Sombrereta, L_N_245500_470800

316 #52477" / INB0003030776, INB0003030777, INB0003030779 (2♂, 1♀ NHMD); "Costa Rica:
317 Prov. Alajuela, San Ramón, Est. Biol. Villa Blanca, Send. La Capilla, 1115 m, 16.iii.–9.iv.2010,
318 B. Hernández, Tp. Malaise, L_N_242482_483371 #99630" / "INB0004248707" (1♀ NHMD);
319 "Costa Rica: Prov. Alajuela, Upala, P.N. Volcán Tenorio, Cerro La Carmela, 1026 m, 17.ii.–
320 18.iv.2010, J.A. Azofeifa, Tp. Malaise, L_N_298828_427338 #99732" "INB0004256029" (1♀
321 NHMD); "Costa Rica: Alajuela, Peñas Blancas, 800 m, 19.v.1999, J.S. Ashe, R. Leschen, R.
322 Brooks, ex: flight intercept trap" / "SM0046201" (1♀ SEMC); "Costa Rica: Prov. Alajuela, La
323 Fortuna, Sector Catarata, 500 m, 3.xi.1997–6.i.1998, G. Garballo, Malaise,
324 L_N_268500_462500 #48837" / "INBIOCR002595077" (1♀ MNCR-A); "Costa Rica: Cartago
325 Prov., Refugio Nac. de Fauna Silvestre Tapanti, 2 km E Station, 1320 m, 9°44.287'N
326 83°46.875'W, 30.x.–1.xi.2001, R. Brooks, ex: flight intercept trap, CR1B01 15" / SM0474732,
327 SM0474730, SM0474731, SM047429 (2♂, 1♀ SEMC; 1♂ UTCI); same locality except 1 km E
328 Station, 1410 m, 9°45.129'N 83°46.936'W, CR1B01 13, SM0474724 (1♀ SEMC); "Costa Rica:
329 Prov. Cartago, La Represa. Tapanti, 1800 m, vii.1995, R. Delgado, interseccion LN 185900
330 563300 #5342" / "INBIOCR002209951" (1♂ MNCR-A); "Costa Rica: Prov. Cartago, Pejibaye,
331 Estación Biológica Copal, Sendero Tigra, 1090 m, 3–14.iv.2005, J. Azofeira Z., Tp. Malaise,
332 L_N_196286_563684 #80039" / "INB0003938486" (1♂ NHMD); "Costa Rica: Guanacaste,
333 Guanacaste Conservacion Area, Maritza Field Station, 950 m, 13.ii.1996, R. Anderson, CR1A96
334 010C, ex: dry-tropical wet forest trans. litter" "SM0083887" (1♂ SEMC); "Costa Rica:
335 Guanacaste, Estac. Cacao, 1000–1400 m, SW side Volcan Cacao, vii.1989–iii.1990, Malaise,
336 TP.-GNP Biod. Survey" / INBIOCR000203134, INBIOCR000248458, INBIOCR000258332,
337 INBIOCR000203124, INBIOCR000203105, INBIOCR000168862 (2♂, 4♀ MNCR-A); same
338 locality label except II curso Parataxon., vi.1990, INBIOCR000250397 (1♂ MNCR-A); same
339 locality label except iii–viii.1990, INBIOCR000231448 (1♀ MNCR-A); same locality label
340 except 21–29.v.1992, INBIOCR000374813 (1♀ MNCR-A); same locality label except 1988–
341 1989, INBIOCR000101546, INBIOCR000042128 (2♀ MNCR-A); "Costa Rica, Guanacaste,
342 Estac. Pitilla, 9 km S Santa Cecilia, 700 m, xi.1989, C. Moraga & P. Rios, 330200, 380200" /
343 "INBIOCR000111406" (1♂ MNCR-A); "Costa Rica, Guanacaste, Tierras Morenas, 685 m,
344 xi.1993, G. Rodriguez, L N 287800_427600 #2476" / "INBIOCR001947013" (1♀ MNCR-A);
345 "Costa Rica, Prov. Guanacaste, Macizo Miravalles, Estac. Cabro Muco. Sitio Azufral, 1100 m,
346 22.ix.–5.x.2003, J. Azofeifa, Intersección L_N_299769_411243 #75479" / "INB0003771446"
347 (1♀ NHMD); "Costa Rica: Heredia Prov., 6 km ENE Vara Blanca, 10°11'N 84°07'W, 1950 m,
348 15–22.iv.2002, montane forest leaf litter, R. Anderson, CR2A02 03" / SM0527314, SM0527301
349 (2♂ SEMC); "Costa Rica, Heredia, Finca Murillo, 9 km NE Vara Blanca, 1450–1550 m,
350 10°14'17''N 84°06'06''W, R. Anderson, 14–20.ii.2005, INbio-CET-ALAS transect, CRA105
351 007" / "SM0693946" (1♀ SEMC); "Costa Rica: [Heredia] Vara Blanca, viii.[19]38" / "Field
352 Mus. Nat. Hist.1966, A. Bierig Colln., Acc. Z-13812" (1♂ FMNH); "Costa Rica: Prov. Limón,
353 P.N. La Amistad. Punto., 1300–1400 m, 25.x.–2.xi.2007, M. Moraga, B. Gamboa, Tp. Malaise,
354 L_N_198990_627455 #92615" / "INB0004126042" (1♂ NHMD); "Costa Rica: Prov. Limón,
355 Manzanillo, RNFS Gandoca y Manzanillo, 0–100 m, 9.xi.–13.x.1992, K. Taylor, L-S 398100,
356 610600" / "INB000937676" (1♀ MNCR-A); "Costa Rica: Puntarenas, Corcovado National Park,
357 Sirena Station, Corcovado trail, 150 m, 8°29'7''N 83°34'39''W, 28.Jun[e]–1.Jul[y].2000, Z.H.
358 Falin, CR1ABF00 059, ex: flight intercept trap" / "SM0203552" (1♀ SEMC); "Costa Rica:
359 Puntarenas, Corcovado National Park, Sirena Station, Rio Pavo trail, 5 m, 8°29'5''N
360 83°35'33''W, 25–28 Jun[e].2000, Z.H. Falin, CR1ABF00 037, ex: flight intercept trap" /
361 "SM0203763" (1♂ SEMC); "Costa Rica: Puntarenas, Monteverde,, 24.v.1989, 1400 m, J.S.

362 Ashe, R. Leschen, R. Brooks, #419, ex: pitfall trap” / “SM0046200” (1♂ SEMC); same locality
363 label except Boehme house, #437, SM0046209 (1♂ SEMC); same locality label except Cerro
364 Chomogo, 1550 m, flight intercept trap, SM0046211 (1♂ SEMC); same locality label except
365 1520 m, flight intercept trap, SM0046199 (1♂ SEMC); same locality label except 1570 m,
366 9.v.1989, flight intercept trap, SM0046198 (1♀ SEMC); same locality label except 1630 m,
367 7.vii.1990, S.E. Roberts, flight intercept trap, SM0046193 (1♂ SEMC); same locality label
368 except 1610 m, 7.vii.1990, S.E. Roberts, flight intercept trap, SM0046210, SM0046208 (2♂
369 SEMC); same locality label except 21.v.1989, flight intercept trap, SM0046195, SM0046204,
370 SM0046202, SM0046197, SM0046194, SM0046205, SM0046196 (3♂, 2♀ SEMC; 1♂ 1♀
371 UTCI); same locality label except 1550 m, flight intercept trap, SM0046203 (1♂ SEMC); same
372 locality label except 28–31.v.1992, M.L. Jameson, flight intercept trap, SM0045890 (1♂
373 SEMC); “Costa Rica, Puntarenas, San Luis-Monteverde, LN250-850-449-250, 17–31.xii.1993,
374 Z. Fuentes, 1040 m, ex: malaise trap, #2583” / “SM0068168” (1♂ SEMC); same locality label
375 except ii.1993, #1897, SM0068198, INBIOCR002522864, INBIOCR002522865,
376 INBIOCR001166927 (1♀ SEMC; 3♀ MNCR-A); same locality label except ii.1992,
377 INBIOCR000842619 (1♀ MNCR-A); same locality label except 1000–1350 m, 17–31.xii.1992,
378 #2583, INBIOCR002523162 (1♂ MNCR-A); same locality label except 1000–1350 m, xii.1993,
379 #2493, INBIOCR001714070 (1♂ MNCR-A); same locality label except vii.1993, #2424,
380 INBIOCR002523005 (1♂ MNCR-A); same locality label except 1–31.x.1993, #2425,
381 INBIOCR001957088 (1♂ MNCR-A); same locality label except vii.1992, INBIOCR000722993
382 (1♂ MNCR-A); same locality label except x.1993, #2428, INBIOCR002523051 (1♂ MNCR-A);
383 same locality label except xi.1993, #2443, INBIOCR001938006, INBIOCR001938032,
384 INBIOCR001938005, INBIOCR001938033 (2♂, 2♀ MNCR-A); same locality label except
385 ix.1993, #2429, INBIOCR002523059 (1♂ MNCR-A); same locality label, A. C. Arenal, xi.1993,
386 #2427, Z. Fuentes, Amarilla, SM0068204, SM0068201, INBIOCR002523429,
387 INBIOCR002523428, INBIOCR002523427 (2♂ SEMC; 1♂, 2♀ MNCR-A); same locality label,
388 A. C. Arenal, i.1993, Z. Fuentes, LN 449250_250850 #2584, SM0068203, INBIOCR002523178,
389 INBIOCR002523177, INBIOCR002523179 (1♂ SEMC; 3♂ MNCR-A); same locality label, A.
390 C. Arenal, i.1993, Z. Fuentes, LN 449250_250850 #2585, SM0068196, SM0068200 (2♀
391 SEMC); same locality label except 20–27.vi.1994, #3029, INBIOCR001922841,
392 INBIOCR001922842 (1♂, 1♀ MNCR-A); “Costa Rica, Puntarenas, Res. Biol. Monteverde, Est.
393 La Casona, 1520 m, K. Flores, iv.1992, L-N 253250 449700” / INBIOCR000990559,
394 INBIOCR000793519 (1♂, 1♀ MNCR-A); same locality label except ix.1991,
395 INBIOCR000510117 (1♂ MNCR-A); “Costa Rica: Puntarenas Prov., Hacienda La Amistad,
396 8°58.102’N 82°46.883’W, 1900 m, premont.-lower mont. moist forest, sifting leaf litter,
397 12.vi.2012, Solodovnikov, Brunke, Puliafico, Selvantharan” / “Chatzimanolis DNA Voucher,
398 Extraction SC-405, Extraction date: 27.iii.2015” (1♂ NHMD); “Costa Rica, Puntarenas, R.F.
399 Golfo Dulce, 3 km SW Rincon, 10 m, v–vi.1992, P. Hanson, ex: malaise” / “SM0069525” (1♂
400 SEMC); “Costa Rica, Puntarenas, Altamira Biol. Sta. 1510–1600 m, 9°1.76’N 83°0.49’W, 4–
401 7.vi.2004, J. S. Ashe, Z.H. Falin, I. Hinojosa, ex: flight intercept trap, CR1AFH04 144” /
402 “SM0606679” (1♂ SEMC); “Costa Rica, Puntarenas, Las Alturas Biol. Sta. 1660 m, 8°56.17’N
403 82°50.01’W, 31.v.–3.vi.2004, J. S. Ashe, Z.H. Falin, I. Hinojosa, ex: flight intercept trap,
404 CR1AFH04 092” / “SM0606867” (1♀ SEMC); “Costa Rica: Puntarenas, Fca. Cafrosa, Est. Las
405 Mellizas, P.N. Amistad., 1300 m, R. Delgado, 19.vi.–26.vii.1990, L-S-316100, 596100” /
406 “INBIOCR000667816” (1♂ MNCR-A); “Costa Rica, San Jose, Zurqui de Moravia, 1600 m,
407 iv.1994, P. Hanson, ex: malaise” / “SM0069535” (1♂ SEMC); same locality except iii.1994,

408 SM0069520 (1♂ SEMC); same locality except 1–30.viii.1995, CR1H93-95 14, SM0077306 (1♂
409 SEMC); same locality except 10°3'0''N 84°1'0''W, 1–30.ix.1995, CR1H95-96 07, SM0134461
410 (1♂ SEMC); "Costa Rica: San Vito de C. B., Las Cruces, 1200 m, 9.vii.–7.viii.1982, malaise tr,
411 B. Gill" (1♀ CNC); "Panama: Bocas del Toro, 4 km N. Boquete, La Culebra trail, 1500 m,
412 17.vii.1995, A. Gillogly" / SM0004684, SM0004685 (1♂, 1♀ SEMC); "Panama: Bocas del
413 Toro, 8°34N 81°50W, 1500 m, 25 km NNE San Felix, leg. J. Wagner, 6.vi.1980" /
414 "FM(HD)#80-5, Berlese floor litter & root mat, nr. ridge top, Qda. Alicia cloud forest" (1♀
415 FMNH); same locality except 10–12.vi.1980, Camino I7, malaise trap (1♀ FMNH); "Panama:
416 Chiriqui Prov., La Fortuna Cont. Divide Trail, 8°46'N 82°12'W, 1150 m, 23.v.–9.vi.1995, J.
417 Ashe, R. Brooks, #155, ex: flight intercept trap" / SM0046213, SM0007044, SM0003729,
418 SM0046214 (3♂, 1♀ SEMC); same locality except 1100 m, #157, SM0003687 (1♀ SEMC);
419 same locality except, 9–12.vi.1995, #185, SM0003498 (1♀ SEMC); same locality except 1200
420 m, 9.vii.1995, R. Anderson, PAN2A95 10C, ex: berlese forest litter, SM0037220 (1♀ SEMC);
421 same locality except Hydrolog. Trail, 8°42'N 82°14'W, 1050 m, 9–12.vi.1995, #188,
422 SM0005052 (1♂ SEMC); same locality Hydrolog. Trail, 8°42'N 82°14'W, 1150 m, 23.v.–
423 9.vi.1995, #156, SM0003747 (1♀ SEMC); "Panama: Chiriqui, 4 km N Sta. Clara Hartmann's
424 Finca, 27.vi.–3.vii.1981, B. Gill, 1500 m" (1♀ CMNC); "Panama: Chiriqui, La Fortuna Dam,
425 1200 m, 14.vi.–15.viii.1982, wet forest FIT, B. Gill" (1♀ CNC); All paratypes with label
426 "PARATYPE *Lendatus philothalpiformis* Chatzimanolis, des. Chatzimanolis 2019".
427
428 **Diagnosis.** *Lendatus philothalpiformis* can be easily recognized among the existing species in
429 the genus due to the bright reddish-orange coloration of the head and pronotum. Additionally, it
430 is the only species known with a Central American distribution.
431
432 **Description.** Forebody length 4.6–5.8 mm. Coloration of head, pronotum and prosternum bright
433 reddish-orange (in few specimens brown); mouthparts, antennae and legs reddish-orange to
434 brown; elytra metallic green or blue; meso- and metaventrite brown; abdomen reddish-orange to
435 brown (frequently with segment 6 dark brown) except segment 7 dark brown with posterior 1/3
436 orange and segment 8 orange.
437   Head with 1–2 irregular rows of large punctures on each side of central impunctate area
438 (except anteriorly); with additional 3–4 large punctures on epicranium; with microsculpture and
439 micropunctures. Head width/length ratio = 1.5. Pronotum width/length ratio = 0.92; pronotum
440 widest anteriorly, becoming strongly narrower (concave) posteriad; diagonal longitudinal line of
441 punctures on disc of pronotum with 3–4 large punctures; anterolaterally to that line pronotum
442 with less than 5 large punctures; posterolaterally to that line pronotum impunctate; pronotum
443 with microsculpture and micropunctures; pronotum/elytra length ration = 0.92. Males with
444 broad, shallow margination on sternum 7 (Fig. 4C); sternum 8 with shallow V-shaped
445 emargination.
446   Aedeagus as in Fig. 6; paramere in dorsal view almost parallel-sided but apex wider; in
447 lateral view paramere slightly convex, converging to narrow rounded apex; paramere with peg
448 setae as in Fig. 6C; paramere narrower than median lobe except just before apex; paramere
449 longer than median lobe; median lobe in dorsal view converging to apex; in lateral view median
450 lobe becoming narrower from middle to narrowly elongate apex; with large dorsal subapical
451 tooth.
452

Distribution. Known from many provinces in Costa Rica and the provinces of Bocas del Toro and Chiriqui in Panama.

Habitat. Specimens were collected with malaise, pitfall and flight intercept traps and by shifting leaf litter in wet tropical lowland forests or tropical cloud forests.

Etymology. The specific epithet is derived from the words *Philothalpus* and *formis* and refers to the superficial resemblance of this species to species in the genus *Philothalpus*.

Lendatus platys **Chatzimanolis, new species**
(Figs. 1C, 2C, 7, 8)

urn:lsid:zoobank.org:act:920D79A5-D1D4-4B73-8263-30D4908E3823

Type material. **Holotype**, here designated, male, "Ecuador, Sucumbios, Sacha Lodge, 0.5°S 76.5°W, 270 m, 13–23.vi.1994, Hibbs, ex: malaise" / "SM0022600 [barcode label]" / "HOLOTYPE *Lendatus platys* Chatzimanolis, des. Chatzimanolis 2019". In the collection of SEMC.

Paratypes. 49: same locality label as holotype, SM0022371 (1♂ SEMC); same locality label as holotype except 14–24.v.1994, SM0023298 (1♀ SEMC); same locality label as holotype except 3–16.viii.1994, SM0020931 (1♀ SEMC); "Bolivia: Santa Cruz, Amboro National Park, Los Volcanes, c.1000 m, 18°06'S 63°36'W, 20.xi.–12.xii.2004" / "flight interception trap, H. Mendel & M.V.L. Barclay, BMNH(E) 2004-280" (5♂, 2 ♀ BMNH); "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); "Ecuador: Morona-Santiago, Macas, 1300 m, 20.ix.1989, M. Cooper" / "M. Cooper BMNH(E) 2004-275" (1♀ BMNH); "Ecuador: Napo, Yuturi Lodge, Rio Napo, 270 m, 0°32'54''S 76°2'18''W, 20–21.iii.1999, R. Brooks, D. Brzoska, ECU1B99 010, ex: flight intercept trap" / SM0153450, SM0153439, SM0153432, SM0153459 (3♂ SEMC; 1♂ UTCI); "Ecuador: Napo, Tena-Baeza Rd. km 24, N. Cotundo, 36-4000', 3.v.1982, H. Frania, leaf litter, ridge" (1♂ FMNH); "Ecuador, Napo Prov. Yasuni N.P., Yasuni Research Sta., 0°38'S 76°36'W, 215 m, 27.vii.–1.viii.1998, lowland rainforest, Ratcliffe, Jameson, Smith, Villatoro (1♂ UNSM); "Ecuador: Napo, Yasuni Nat. Park Biol. Res. Station, 220 m, 0.67°S 76.39°W, 18–26.v.1996, P. Hibbs, MT, primary forest (1♀ CNC); "Ecuador: Prov. Orellano, Yasuni Natl. Park, Yasuni Research Stn., 0°40'50''S 76°24'2''W, 250 m, 28.iv.– 8.v.2009, on lead, M. Cannon (1♂ DEBU); "Ecuador: Sucumbios, Sacha Lodge, 270 m, 0°28'14''S 76°27'35''W, 21–24.iii.1999, R. Brooks, ECU1B99 047, ex: flight intercept trap" / SM0153262, SM0153263, SM0153255 (3♂ SEMC); "Ecuador: [Sucumbios], Napo R. Sacha Lodge, 250 m, 26–28.x.2004, FIT, G. de Rougemont leg. (1♀ CRO); "Peru: Dept. Cusco: Cock of the Rock Lodge, NE Paucanambo, 13°03.5'S 71°32.7'W, 1120 m, 4–9.xi.2007, D. Brzoska, ex. flight intercept trap, PER1B07 001" / "SEMC0871107" (1♂ SEMC); "Peru: Cuzco Dept., Consuelo, Manu Rd km 165, 9.x.1982" / "FMHD #82-361, beating dead branches, L.E. Watrous & G. Mazurek" (1♂ FMNH); same locality labels except 4.x.1982, FMHD #82-337, leaf litter (1♀ FMNH); same locality labels except 5.x.1982, FMHD #82-410, rotten palm bait trap (1♂ FMNH); same locality labels except 6–7.x.1982, FMHD #82-411, flight intercept trap (1♂ FMNH); same locality labels except Pillahuata, Manu Rd. km 128, 20.ix.1982, FMHD #82-265,

500 litter along gravel stream (1♂ FMNH); same locality labels except Pillahuata, Manu Rd. km 128,
501 24.ix.1982, FMHD #82-283, litter along stream (1♂ FMNH); same locality labels except
502 Pillahuata, Manu Rd. km 128, 27.ix.1982, FMHD #82-310, litter in runoff in mossy forest (1♂,
503 1♀ FMNH); same locality labels except Pillahuata, Manu Rd. km 128, 28.ix.1982, FMHD #82-
504 311, litter along gravel stream (2 ♂ FMNH); "Peru: CU[sco] Camparmento Comerciato,
505 23.xi.2002, 12°47'S 73°22'W, 1350 m, Pitfall, J. Grados" / "*Isanopus* spp. det. Asenjo 2004"
506 (1♂ MUSM); "Peru: CU[sco] Camparmento Segakiato, 10.xi.2002, 12°43'S 73°18'W, 1850 m,
507 Pitfall, J. Grados" (1♀ MUSM); "Peru: Dept. Loreto, Camparmento San Jacinto, 2°18.75'S
508 75°51.77W, 7.vii.1993, 175–215 m, R. Leschen #44, ex: flight intercept trap" / "SM0080093"
509 (1♀ SEMC); "Peru: Dept. Loreto, 1.5 km N. Teniente Lopez, 2°35.66'S 76°06.92'W,
510 18.vii.1993, 210–240 m, R. Leschen, #119. ex: flight intercept trap" / "SM0080094" (1♀
511 SEMC); "Peru: JU[nín], 1 km S Mina Pichita, 2100 m, 25.i.2005, 11°05'40.2''S 75°4'49.6''W,
512 A. Asenjo" (1♀ MUSM); "Peru, Dept. Madre de Dios: Pantiacolla Lodge, Alto Madre de Dios
513 R., 12°39.3'S 71°13.9W, 420 m, 14–19.xi.2007, D. Brzoska, ex. flight intercept trap, PER1B07
514 004" / "SEMC0872413" (1♂ SEMC); "Peru: Madre de Dios: Pantiacolla Lodge, 8 km NW El
515 Mirador Trail, Alto Madre de Dios River, 800 m, 12°38'30''S 71°16'41''W, 23–26.x.2000, R.
516 Brooks, PERU1B00 102, ex: flight intercept trap" / SM0210891, SM0210653 (1♀ SEMC; 1
517 ♀UTCI); "Peru, Madre de Dios Dept., CICRA Field Station, trail 6, research plot, 12.55207°S
518 70.10962°W, 295 m, 11–13.vi.2011, Chaboo team, Malaise trap, PER-11-MAT-021" /
519 "SEMC1060728" (1♂ SEMC); "Peru, Madre de Dios Dept., CICRA Field Station, ~2 km NW of
520 cafeteria, research plot, 12.55212°S 70.10921°W, 295 m, 7–9.vi.2011, Chaboo team, flight
521 intercept trap trap, PER-11-FIT-021" / "SEMC0956719" (1♀ SEMC); "Peru: Dept. Madre de
522 Dios, Manu Prov., Parque Nac. Manu, Zona Res. Rio Manu, Cocha Juarez, trail nr. Manu" /
523 "Lodge, 18–24.ix.1991, flight intercept trap, A. Hartman, Field Museum" (1♂ FMNH); "Peru:
524 Madre de Dios, Tambopata Wildlife Res. 30 km SW Pto. Maldanado, 12°50'S 69°20'W, 290 m,
525 26.xi.1982, J.J. Anderson coll." (1♂ CMNH); "Peru, Ucauali Dept., Tingo Maria-Pucallpa Rd.,
526 Ruente Chino, km 205, 1300 m, 9°8'12''S 75°47'20''W, 11–14.x.1999, R. Brooks, PERU1B99
527 007A, ex: flight intercept trap" / SM0185071, SM0185076 (1♂ SEMC; 1♂ UTCI). All paratypes
528 with label "PARATYPE *Lendatus platys* Chatzimanolis, des. Chatzimanolis 2019".

529

530 **Diagnosis.** *Lendatus platys* and *L. bolivianus* can be distinguished from *L. philothalpiformis* by
531 the coloration of head and pronotum (dark brown to black in *L. bolivianus* and *L. platys*; bright
532 reddish-orange in *L. philothalpiformis*). *Lendatus platys* can be distinguished from *L. bolivianus*
533 by the shape of the pronotum (becoming wide (convex) posteriorly (Fig. 2C) in *L. platys*;
534 becoming narrower (concave) posteriorly (Fig. 2A) in *L. bolivianus*;); the shape of the paramere
535 (paramere narrower, parallel-sided from base to apex in dorsal view (Fig. 7B) in *L. platys*;
536 paramere wider, converging to apex in dorsal view (Fig. 5B) in *L. bolivianus*;) and the length
537 comparison between the anterior portion of the paramere and median lobe (median lobe much
538 longer than paramere (Figs. 7A–B) in *L. platys*; median lobe slightly longer than paramere (Figs.
539 5A–B) in *L. bolivianus*).

540

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

545   Head with 2–3 irregular rows of medium-sized punctures on each side of central
546 impunctate area (except anteriorly); with additional 4–6 large punctures on epicranium; with
547 microsculpture and micropunctures. Head width/length ratio = 1.53. Pronotum width/length ratio
548 = 1.02; pronotum widest medially, lateral sides of pronotum convex; diagonal longitudinal line
549 of punctures on disc of pronotum with 5–6 large punctures; anterolaterally to that line pronotum
550 with 5–8 medium-sized punctures; posterolaterally to that line pronotum impunctate; pronotum
551 with microsculpture and micropunctures; pronotum/elytra length ration = 0.89. Males with
552 narrow, deep emargination on sternum 7; sternum 8 with deep U-shaped emargination.
553   Aedeagus as in Fig. 7; paramere in dorsal view almost parallel-sided but apex slightly
554 wider; in lateral view paramere convex, converging to broadly rounded apex; paramere with peg
555 setae as in Fig. 7C; paramere narrower but longer than median lobe; median lobe in dorsal view
556 converging to apex; in lateral view median lobe becoming narrower from middle to narrowly
557 elongate apex; with small dorsal subapical tooth.

559 **Distribution.** Known from the department of Santa Cruz in Bolivia, the department of Valle del
560 Cauca in Colombia, the provinces of Morona-Santiago, Napo, Orellano and Sucumbios in
561 Ecuador, and the departments of Cusco, Loreto, Junín, Madre de Dions and Ucauali in Peru.

563 **Habitat.** Specimens were collected with malaise, baited pitfall and flight intercept traps and by
564 shifting leaf litter in wet tropical lowland forests or tropical cloud forests.

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

570 **Key to the species of *Lendatus***

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

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

578 2.   Pronotum becoming narrower (concave) posteriorly (Fig. 2A); paramere wider,
579 converging to apex in dorsal view (Fig. 5B); anterior portion of median lobe slightly longer than
580 paramere (Figs. 5A–B) … *Lendatus bolivianus*

582 -   Pronotum becoming wide (convex) posteriorly (Fig. 2C); paramere narrower, parallel-
583 sided from base to apex in dorsal view (Fig. 7B); anterior portion of median lobe much longer
584 than paramere (Figs. 7A–B) … *Lendatus platys*

588 # Acknowledgements

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591 access to the specimens. I thank Max Marlowe for taking some of the photographs shown in this
592 paper.

593
594
595

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629
630
631

Figure 1

Habitus photographs of species of *Lendatus* Chatzimanolis.

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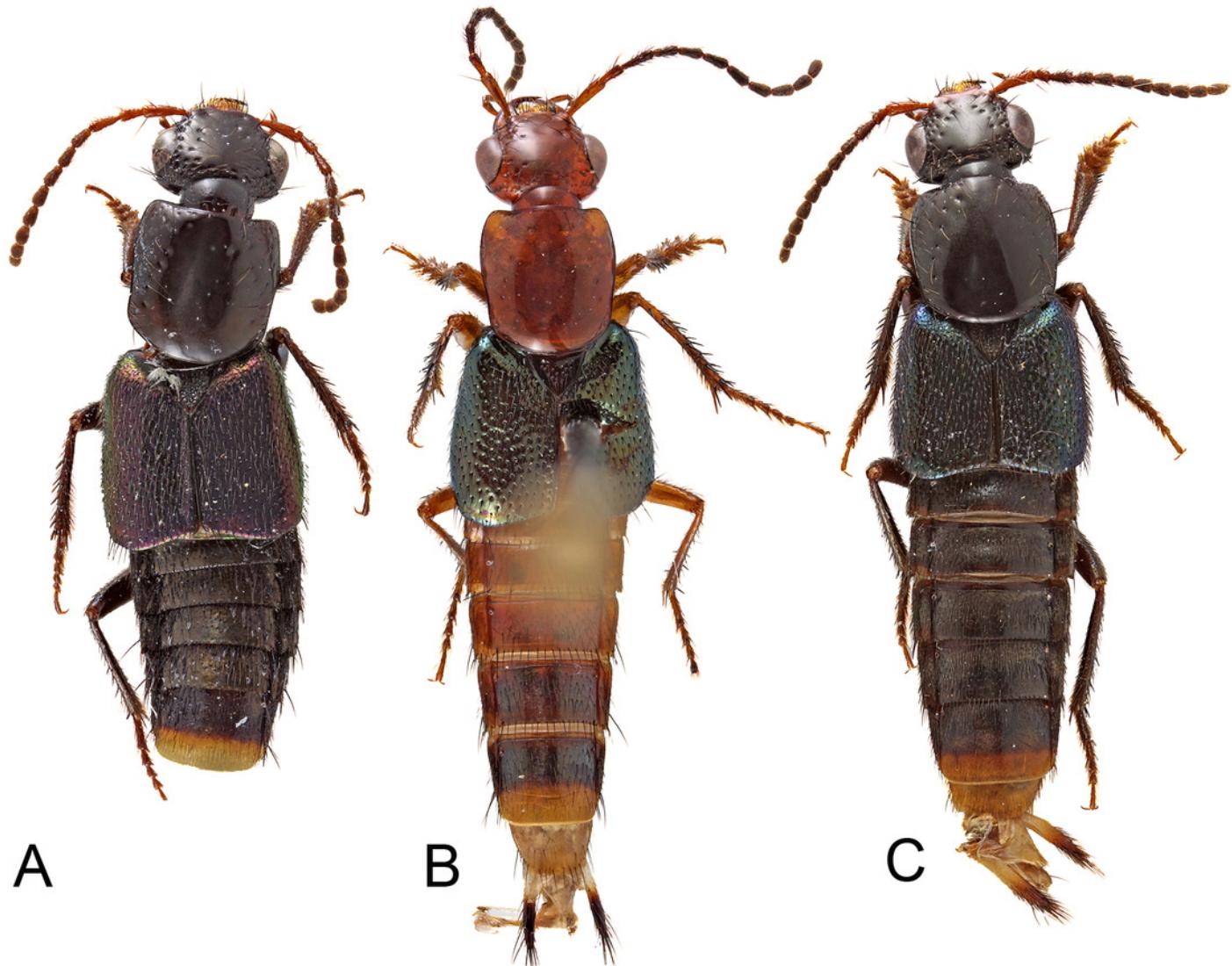
Figure 2

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.
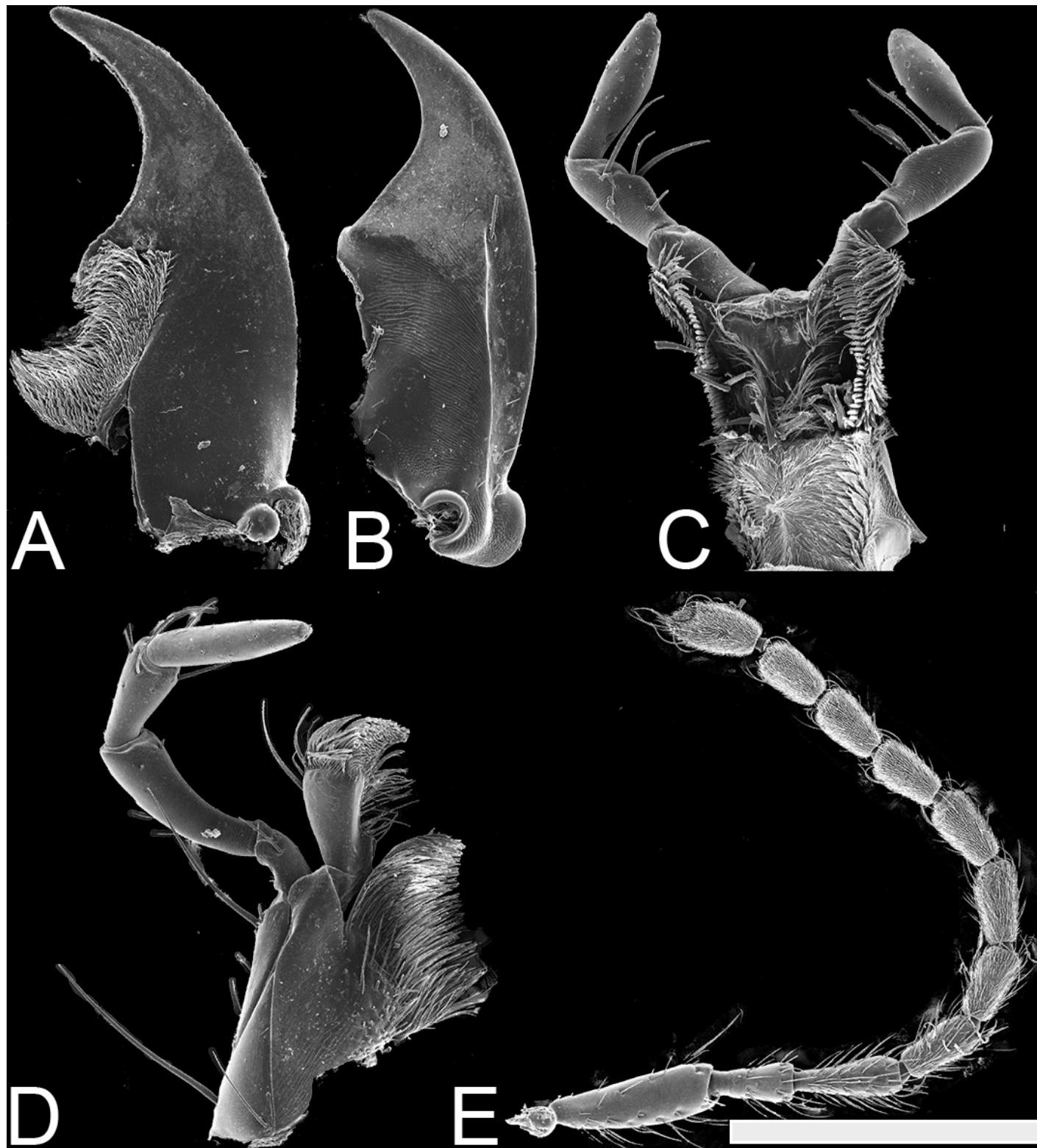
Figure 4

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.
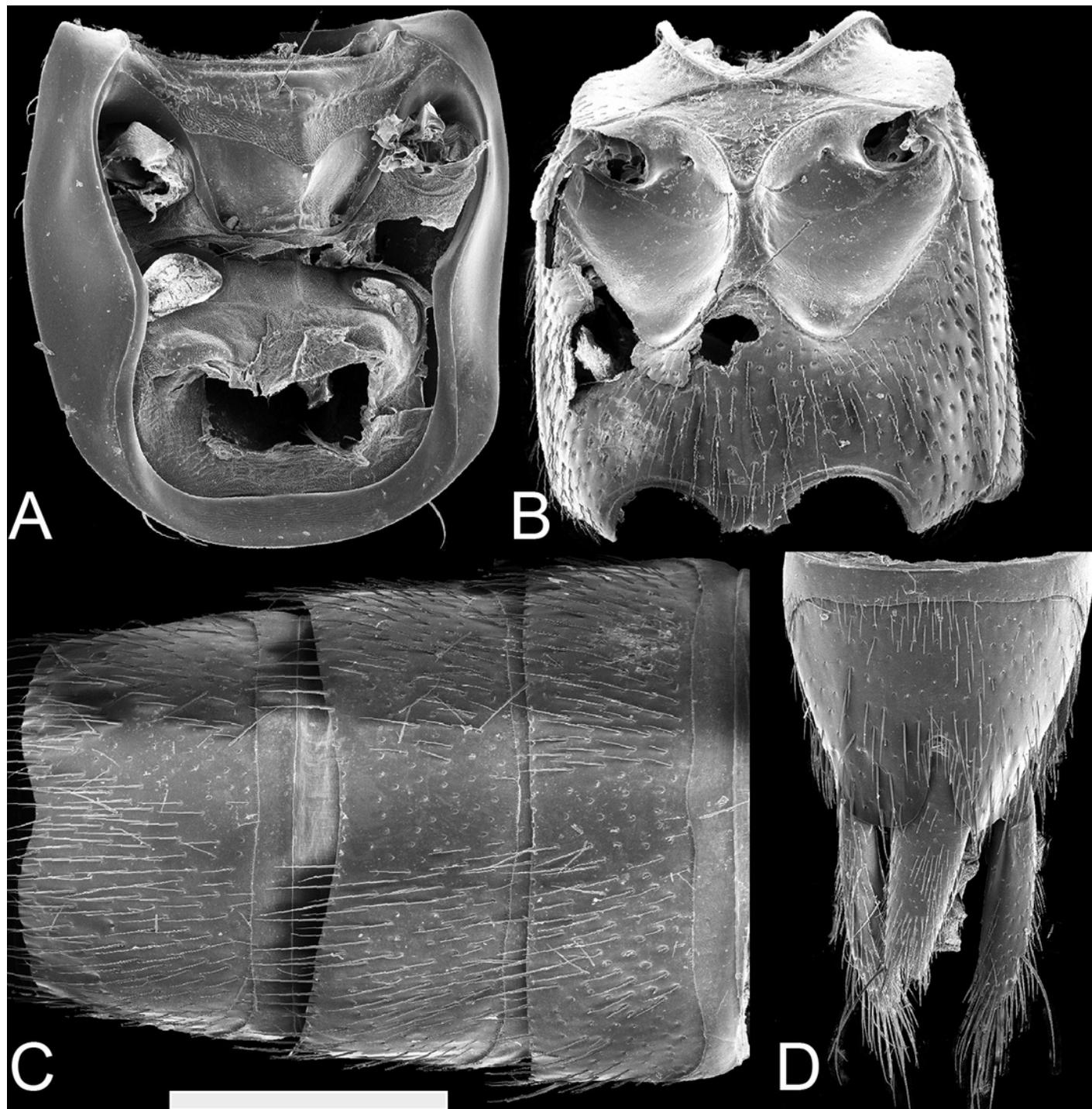
Figure 5

Aedeagus of *Lendatus bolivianus* Chatzimanolis.

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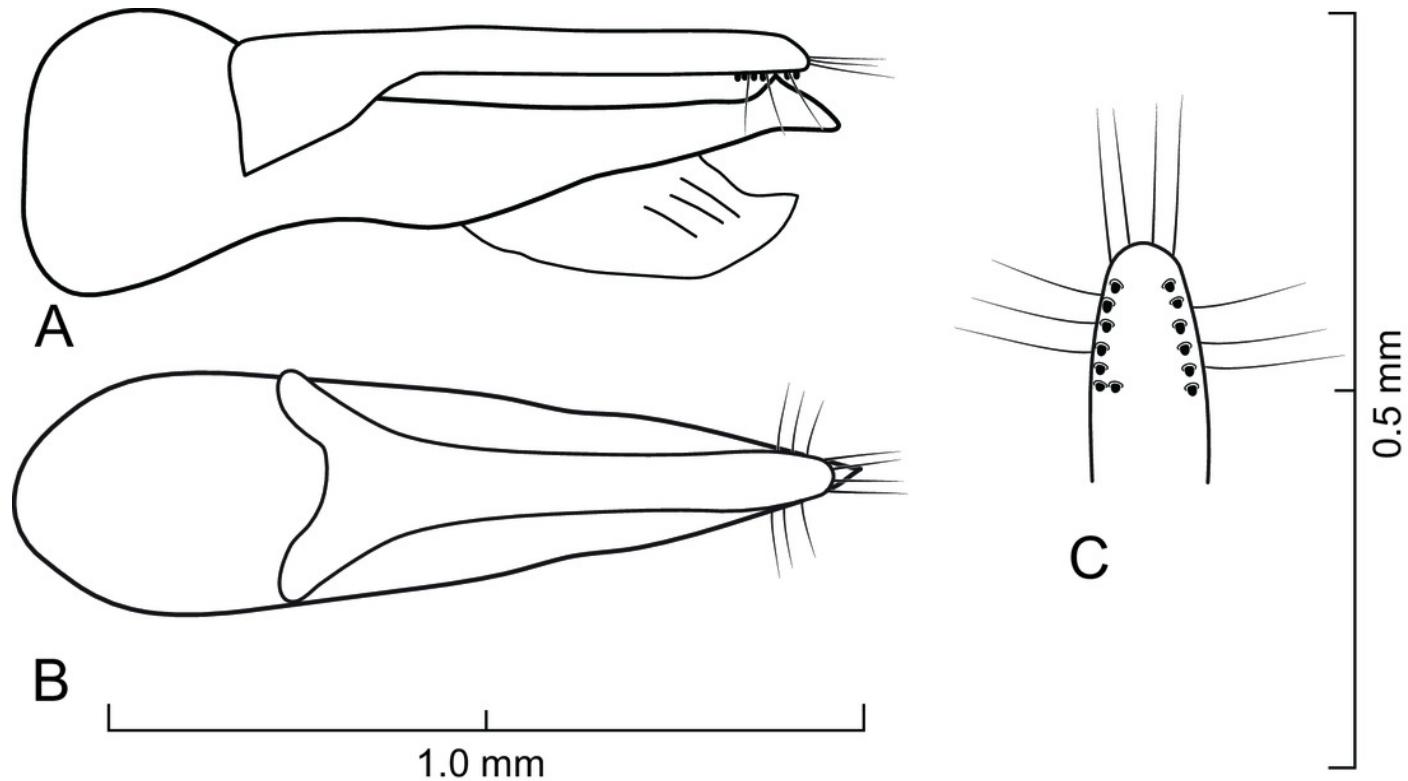
Figure 6

Aedeagus of *Lendatus philothalpiformis* Chatzimanolis.

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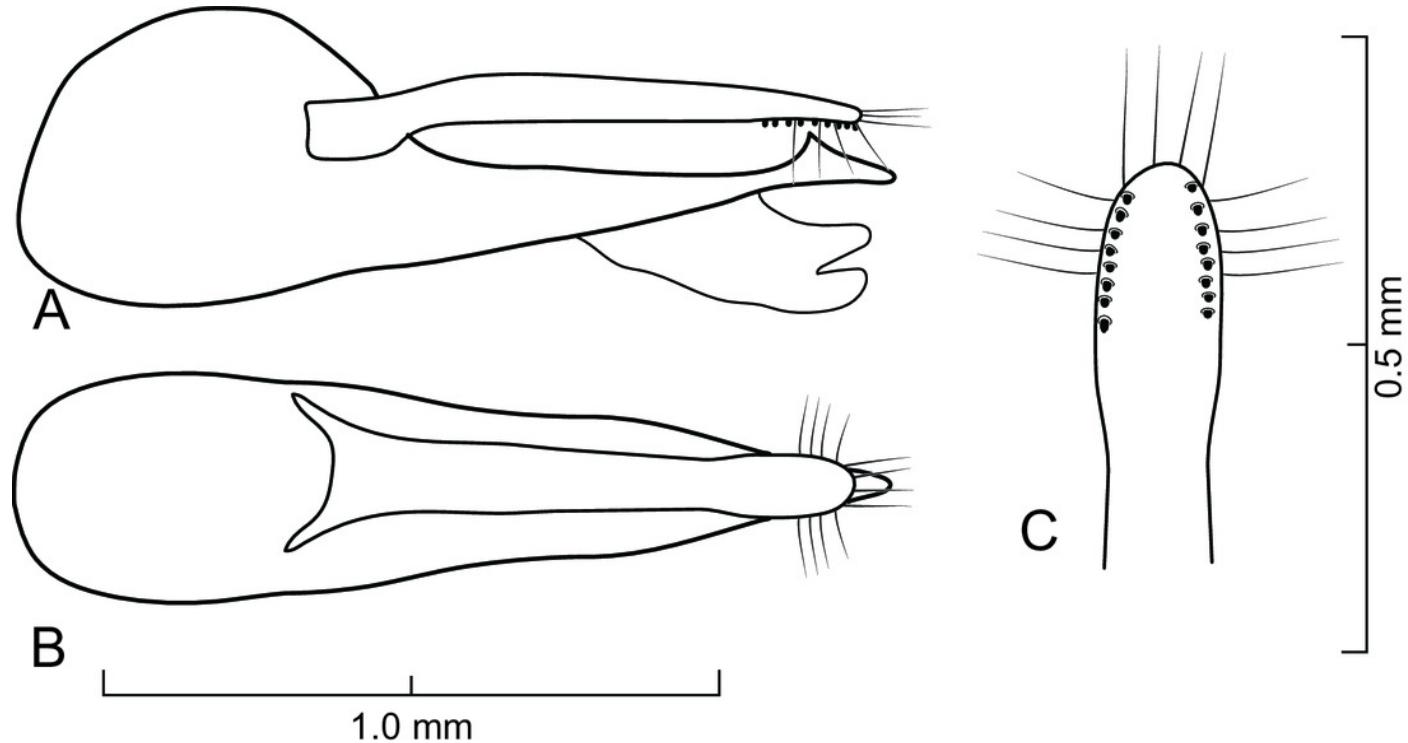
Figure 7

Aedeagus of *Lendatus platys* Chatzimanolis.

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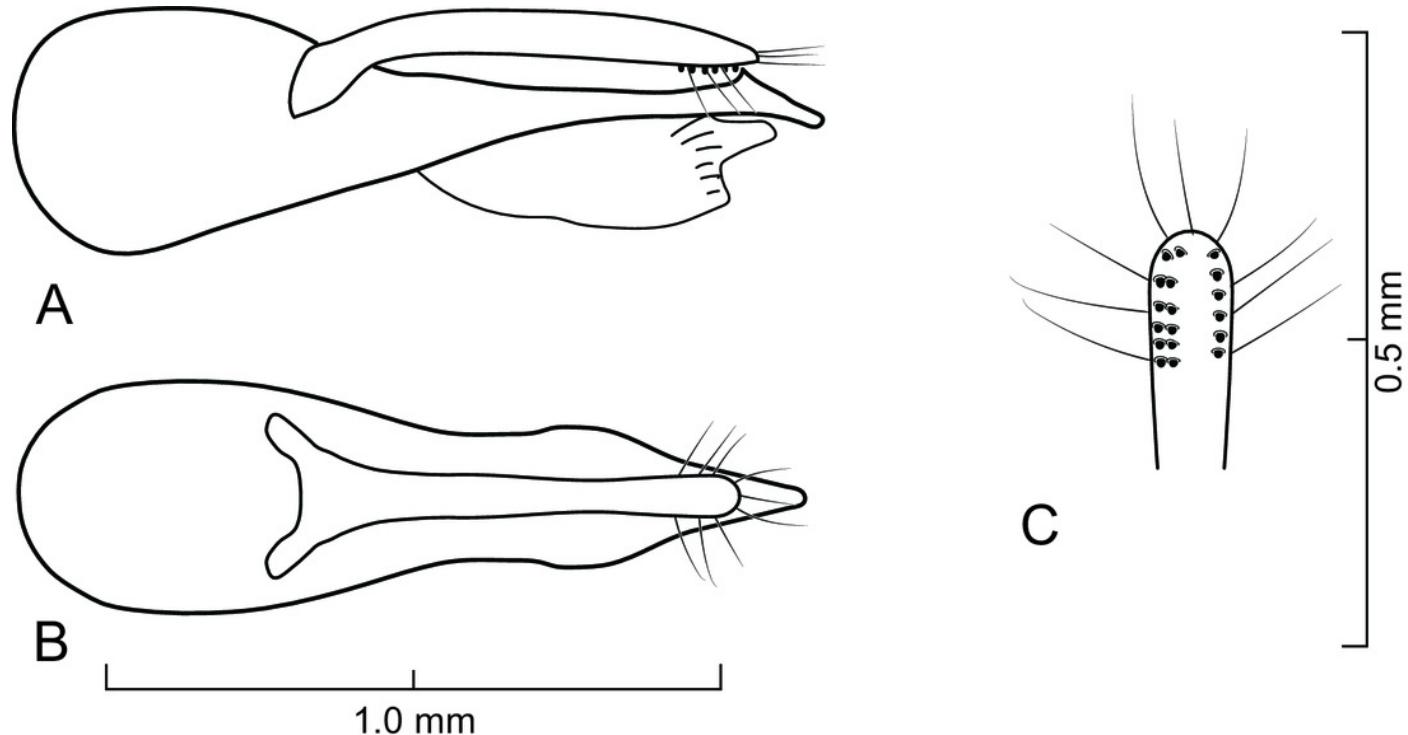
Figure 8

Distribution map of *Lendatus bolivianus* Chatzimanolis (squares) and *Lendatus platys* Chatzimanolis (circles).
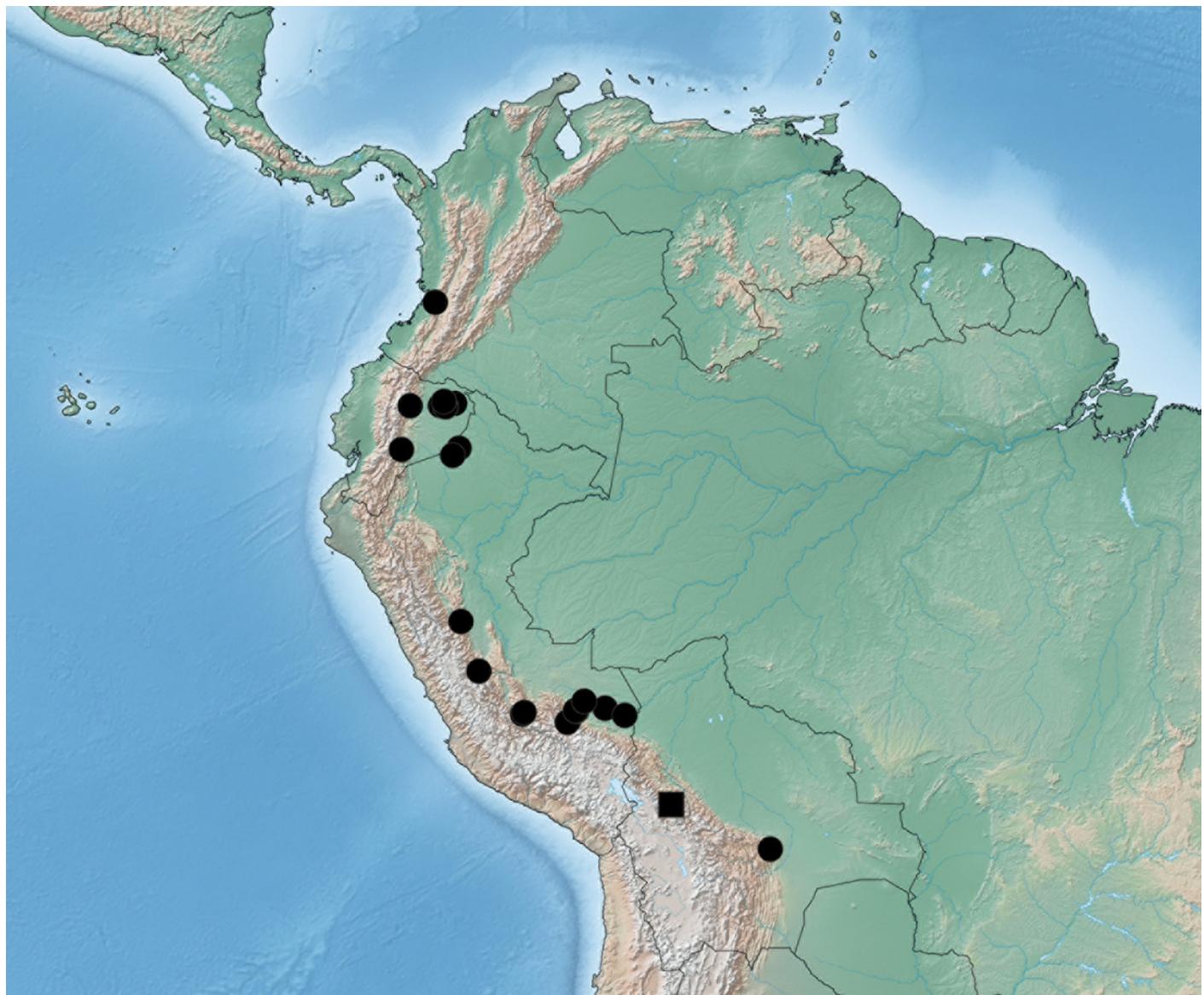
Figure 9

Distribution map of *Lendatus philothalpiformis* Chatzimanolis.

![Distribution map]