

TWO NEW SPECIES OF *UROLEUCON* MORDVILKO, 1914 (HEMIPTERA, APHIDIDAE) FROM THE AYSÉN DEL GENERAL CARLOS IBÁÑEZ DEL CAMPO REGION (CHILE)

Juan Manuel Nieto Nafría¹, Jaime Ortego² & M. Pilar Mier Durante³

¹ Departamento de Biodiversidad y Gestión Ambiental. Universidad de León. 24071 León (Spain).
Email: jmnien@unileon.es – ORCID iD: <http://orcid.org/0000-0001-6714-2415>

² Avenida Carlinda, 18. 29010 Málaga (Spain) [previously: Estación Experimental Agropecuaria Mendoza (INTA), Luján de Cuyo (Mendoza, Argentina)].
Email: ortegojaime@yahoo.com.ar – ORCID iD: <http://orcid.org/0000-0001-9738-7085>

³ Departamento de Biodiversidad y Gestión Ambiental. Universidad de León. 24071 León (Spain).
Email: mpmied@unileon.es – ORCID iD: <http://orcid.org/0000-0001-7834-1778>

ABSTRACT

Two species of *Uroleucon* (Hem., Aphididae, Aphidinae, Macrosiphini) are described from specimens collected on South American indigenous composites in the Aysén del General Carlos Ibáñez del Campo region (Chile), which is located between parallels 43° 38' 22" S and 49° 09' 50" S. *Uroleucon chilotrichi* **sp. n.** is described from apterous viviparous females found on *Chilotrichum diffusum*. *Uroleucon amigoi* **sp. n.** is described from apterous and alate viviparous females and oviparous females found on *Adenocaulon chilense*. Differences between these and morphologically similar South American species are presented.

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Keywords: Aphids; Aphididae; Macrosiphini; *Uroleucon*; New species; *Chilotrichum*; *Adenocaulon*; Chile; Identification key.

RESUMEN

Dos nuevas especies de *Uroleucon* Mordvilko, 1914 (Hemiptera, Aphididae) de la región de Aysén del General Carlos Ibáñez del Campo (Chile)

Se describen dos especies de *Uroleucon* (Hem. Aphididae, Aphidinae, Macrosiphini) a partir de especímenes colectados sobre compuestas indígenas sudamericanas en la región de Aysén del General Carlos Ibáñez del Campo (Chile), la cual está situada entre los paralelos 43° 38' 22" S y 49° 09' 50" S. *Uroleucon chilotrichi* **sp. n.** se describe a partir de hembras vivíparas ápteras recogidas sobre *Chilotrichum diffusum*. *Uroleucon amigoi* **sp. n.** se describe a partir de hembras vivíparas ápteras y aladas y de hembras ovíparas recogidas sobre *Adenocaulon chilense*. Se exponen las diferencias de ambas nuevas especies con las especies sudamericanas de *Uroleucon* más parecidas a ellas.

Palabras clave: Pulgones; áfidos; Aphididae; Macrosiphini; *Uroleucon*; especies nuevas; *Chilotrichum*; *Adenocaulon*; Chile; claves de identificación.

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Introduction

In our recent study on the aphid fauna of the Aysén del General Carlos Ibáñez del Campo region (Nieto Nafria *et al.*, 2020), we reported that some samples collected in January 2019 had only been identified to genus level, and that a more thorough study would be necessary to ensure their specific identities.

Specimens of three of those samples exhibit clear features of *Uroleucon* Mordvilko, 1914 (Aphididae, Macrosiphini), but their precise characteristics do not fit those of any described species of the genus, per Nieto Nafria *et al.* (2019), Mier Durante *et al.* (2020).

Thirty-two species of *Uroleucon* are known in South America, including *U. littorale* Blanchard, 1939 and *U. ambrosiae* (Thomas, 1878). *Uroleucon littorale* is a poorly defined species that may be synonymous with another South American species (Blackman & Eastop, 2020). *Uroleucon ambrosiae* (Thomas, 1878) is represented in South America by its subspecies, *U. ambrosiae lizerianum* (Blanchard, 1939) while its nominotypical subspecies is found in North America. Twenty-three of these 32 species (79%), being known only from South America, are presumably indigenous to the continent. Thirty of the 32 species have been recorded from Chile or Argentina: 20 from Chile and 23 from Argentina. Almost all those species are represented in the aphid collection of the University of León, and the relevant specimens have been examined for this study.

Material and methods

We employed standard protocols for collection, rearing, ethanol preservation, slide preparation, and morphometric study, which have been employed in previous works (Nieto Nafria *et al.*, 2019; Mier Durante *et al.*, 2020). Microphotographs were taken using a smartphone through an eyepiece adapted to an Olympus CX41 microscope and were subsequently adjusted with Corel Photo-Paint 2018 and Microsoft Publisher 2010 software.

Geographical coordinates and altitudes were obtained or validated using the Google Earth Pro computer tool, version 7.3.2.

Spanish orthography, diacritics included, was retained in the names of localities and political-administrative entities (region, provinces and communes). The official name of the region, Aysén del General Carlos Ibáñez del Campo, is abbreviated to Aysén from here on.

All specimens examined belonging to both new species were designated as holotypes or paratypes and are listed in the “type material” section of each species.

Results and discussion

Uroleucon chiliotrichi sp. n.

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Fig. 1

TYPE MATERIAL. **Holotype**, apterous viviparous female (labelled with the number 5 of sample CHI-467, on a slide with a paratype), CHILE, Aysén region, Coyhaique province, Coyhaique: Coyhaique Alto (45°31' S, 71°33' W, 770 m a.s.l.), on *Chilotrimum diffusum*; 13-January-2019; Mier Durante, Nieto Nafria and Ortego *leg.*; Universidad de León collection (León, Spain).

Paratypes, 9 apterous viviparous females, same data and depository as the holotype.

APTEROUS VIVIPAROUS FEMALES (Fig. 1A-H). Based on 10 specimens. Colour when alive pale green with dark brown antennae and brownish green siphunculi and cauda. Body 2.29–2.99 mm and pear-shaped with long antennae and legs and very conspicuous siphunculi and cauda. Mounted specimens more or less very light brown with pigmented appendages, dorsal thoracic and abdominal sclerites, siphunculi, subgenital and anal plates and cauda, as detailed below. Setae on dorsum of body and antennae, and most of those on the legs very pale, thin and with truncate apices; other setae more or less pointed. Marginal tubercles absent. Frons sinuous, because it is shallow and the medial tubercle almost as high as the lateral ones. Cephalic dorsum with two anterior and four posterior setae. Head, with clypeus and mandibular and maxillary laminae, and also antennal segments I and II, the very proximal part of antennal segment III, and most of rostrum light brown, contrasting greatly with the rest of segment III and the remaining antennal segments, which are dark brown. Antennal segments I to III smooth, segment IV somewhat striated, segments V and VI imbricated. Antennal sensoria round, with thick walls; primary sensoria ciliate; secondary sensoria small, non-protruding, more-or-less aligned and limited to the proximal half or two thirds of antennal segment III. Rostrum reaching past middle coxae; ultimate and pre-ultimate rostral segments (IV+V and III, respectively, in Blackman & Eastop, 2020) darker than two proximal rostral segments. Legs smooth except tarsi; mostly pigmented like the head, with tarsi and distal portion of tibiae darker. Thoracic and abdominal dorsum with light brown setiferous sclerites, pigmented like the cephalic dorsum; spiracular sclerites light brown; intersegmental muscular sclerites brown. Marginal setiferous sclerites on abdominal segments 1 to 5 and sclerites on abdominal segment 8, sometimes joined; pre- and post-siphuncular sclerites absent. Siphunculus cylindrical with broad base, very thin, brown to dark brown (darker than the rest of the body, except the distal antennal segments),

very rough over most of its length (only with isolated spinules on its proximal quarter), short apical portion with relatively big polygonal cells (5 to 8 rows with 6 or 7 cells per row), and a small flange. Sub-

genital plate pale brown. Anal plate and cauda less pigmented than siphunculi. Cauda lanceolate, broad at middle, with thin setae, lateral setae much longer than dorsal ones. Quantitative data are in Table 1.

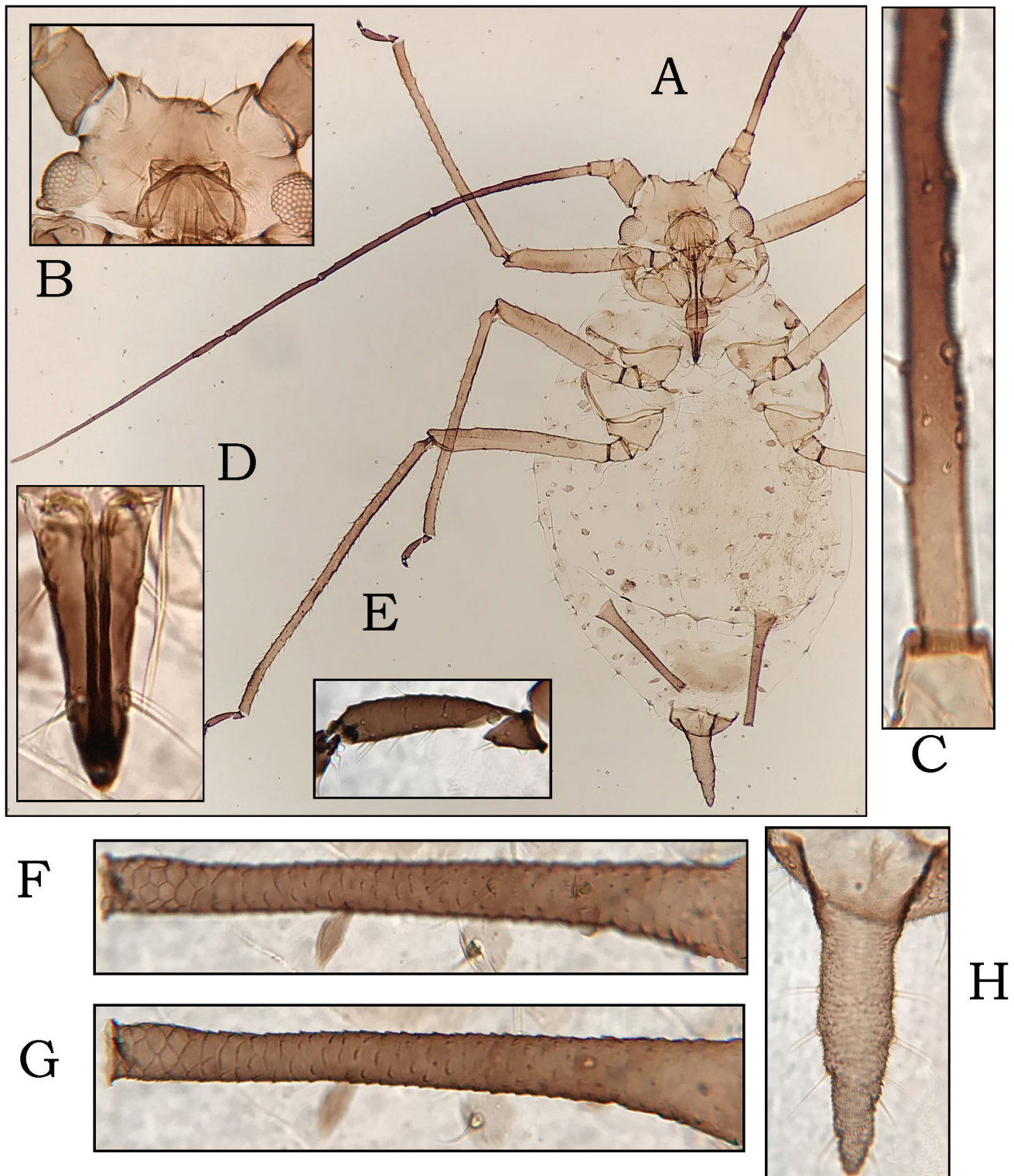


Fig. 1.— *Uroleucon chilotrichi* sp. n., apterous viviparous females. **A**, habitus; **B**, head; **C**, antennal segments II and III (in part); **D**, ultimate rostral segment; **E**, hind tarsus; **F**, siphunculus in focus ventrally; **G**, siphunculus in focus dorsally; **H**, cauda.

Fig. 1.— *Uroleucon chilotrichi* sp. n., hembras vivíparas ápteras. **A**, hábitus; **B**, cabeza; **C**, segmentos antenales II y III (en parte); **D**, artejo apical del rostro; **E**, tarso de la pata posterior; **F**, cornículo, cara ventral enfocada; **G**, cornículo, cara dorsal enfocada; **H**, cola.

Table 1.— Metric and meristic features of *U. chilotrichi* sp. n., apterous viviparous females (apt. viv. fem.) and of *U. amigoi* sp. n., apterous viviparous females (apt. viv. fem.), alate viviparous females (al. viv. fem.) and oviparous females (ov. fem.). **D**: subarticular diameter of the antennal segment III. Numbers in parentheses are considered exceptional extremes.

Tabla 1.— Características métricas y merísticas de *U. chilotrichi* sp. n. hembras vivíparas ápteras (apt. viv. fem.) y de *U. amigoi* sp. n. hembras vivíparas ápteras (apt. viv. fem.), hembras vivíparas aladas (al. viv. fem.) y hembras ovíparas (ov. fem.). **D**: diámetro subarticular del artejo antenal III. Entre paréntesis: excepciones.

Feature	<i>U. chilotrichi</i> apt. viv. fem. n=10	<i>U. amigoi</i> apt. viv. fem. n=4	<i>U. amigoi</i> al. viv. fem. n=3	<i>U. amigoi</i> ov. fem. n=10
body (cauda included) [mm]	2.288–2.988	2.850–3.538	3.088–3.525	3.200–3.375
body / siphunculus [times]	4.86–6.17	4.34–5.48	5.15–5.64	5.12–5.49
setae on head dorsum behind the anterior discal pair [number]	(3)4	4	4	4
setae on vertex [μ m]	48–65	43–45	42–48	41–53
setae on vertex [times D]	1.5–2.3	1.1–1.4	1.5–1.7	1.2–1.7
antenna [mm]	2.82–3.05	2.80–3.40	3.19–3.34	3.01–3.14
antenna / body [times]	1.0–1.3	\pm 1.0	\pm 1.0	0.9–1.0
antennal segment III [mm]	0.60–0.73	0.70–0.83	0.75–0.79	0.74–0.80
setae on antennal segment III [μ m]	23–33(38)	25–33	22–28	28–38
setae on antennal segment III [times D]	0.8–1.3	0.8–1.0	0.8–1.0	0.8–1.3
secondary sensoria on antennal segment III, each antenna [number]	6–13	23–27	24–36	19–28
secondary sensoria on antennal segment III, both antennae [number]	14–24	46–51	51–71	40–53
antennal segment III with secondary sensoria [%]	44–65	87–94	91–97	86–95
antennal segment IV [mm]	0.50–0.58	0.52–0.63	0.61–0.64	0.55–0.60
antennal segment V [mm]	0.43–0.48	0.46–0.55	0.53–0.56	0.47–0.50
antennal segment VI base [mm]	0.16–0.17	0.14–0.18	0.16–0.18	0.15–0.17
antennal segment VI processus terminalis [mm]	0.79–0.93	0.76–1.01	0.85–0.94	0.78–0.86
antennal segment VI processus terminalis / antennal segment III [times]	1.1–1.5	1.1–1.2	1.1–1.2	1.0–1.1
antennal segment VI: processus terminalis / base [times]	(4.8)5.1–5.9	5.2–6.0	4.9–5.7	4.7–5.4
ultimate rostral segment [mm]	0.14–0.15	0.20–0.22	0.20–0.21	0.19–0.21
ultimate rostral segment / antennal segment VI base [times]	0.8–1.0	1.2–1.4	1.1–1.2	1.2–1.4
ultimate rostral segment / second segment hind tarsus [times]	1.0–1.2	1.5–1.6	1.4–1.6	1.4–1.7
ultimate rostral segment / its basal diameter [times]	1.6–2.3	2.8–3.2	2.7–3.2	2.4–2.8
setae on ultimate rostral segment, accessory [number]	(3)4–5	6–10	6–9	6–10
hind femur [mm]	0.70–0.80	0.94–1.18	1.00–1.10	1.09–1.20
hind tibia [mm]	1.29–1.43	1.78–2.13	1.88–2.10	1.90–2.10
setae on first tarsal segments [number]	3–5	5	(4)5	5
second segment hind tarsus [mm]	0.13–0.15	0.12–0.14	0.13–0.14	0.12–0.14
setae on abdominal segment 2 to 5, dorsal, total [number]	10–13	9–11	13–15	10–14
setae on abdominal segment 2 to 5, marginal each side [number]	2–3	2–3	3–4	2–3
setae on abdominal segment 2 to 5, spinal & pleural [number]	5–7	6–9	7	6–8
setae on abdominal segment 2 to 5, spinal [μ m]	30–50(60)	28–40	38–50	30–50
setae on abdominal segment 2 to 5, spinal [times D]	1.0–2.0	0.6–1.3	1.4–1.8	1.0–1.7
setae on abdominal segment 2 to 5, ventral [number]	22–30	40–48	29–48	40–67
setae on abdominal segment 8 [number]	4–5	4–6	4–6	6–12
setae on abdominal segment 8 [μ m]	(45)50–65	(50)58–70	48–65	50–65
setae on abdominal segment 8 [times D]	(1.5)1.7–2.2	(1.2)1.8–2.2	1.7–2.4	1.4–2.2
siphunculus [mm]	0.45–0.54	0.52–0.76	0.59–0.63	0.59–0.64
siphunculus / antennal segment III [times]	0.63–0.79	0.75–0.97	0.77–0.79	0.76–0.84
siphuncular reticulation (at dorsum) / siphunculus [times]	0.11–0.21	0.27–0.33	0.24–0.30	0.22–0.30
siphunculus / its basal width [times]	4.7–6.1	4.0–5.2	5.6–6.6	4.0–5.7
siphunculus / its width at the beginning of reticulation [times]	11.9–14.5(15.4)	11.7–12.7	13.1–13.9	11.4–14.0
siphuncular widths: basal / at the beginning of reticulation [times]	2.0–3.1	2.2–3.1	2.1–2.3	2.2–3.0
siphunculus / cauda [times]	1.2–1.3	1.4–1.6	1.6–1.7	1.4–1.6
setae on subgenital plate, discal [number]	2–4	4–8(12)	15–22	15–22
setae on subgenital plate, posterior [number]	8–14	10–16	5–6	13–20
setae on subgenital plate, total [number]	10–17	18–28	10–16	30–40
cauda [mm]	0.37–0.44	0.37–0.52	0.35–0.37	0.39–0.48
cauda / its basal width [times]	1.9–2.6	1.8–2.1	1.9–2.0	1.6–1.9
setae on cauda [number]	11–20	9–14	10–14	12–19

Alate viviparous females, oviparous females, males.
Unknown.

BIONOMICS. *Chiliotrichum diffusum* (G. Forst.). Kuntze (Asteraceae, Asteroideae) is the only host plant known of the species. There are no data on its life cycle.

DISTRIBUTION. The species is known only from its type locality. It is possible that it is present wherever *Chiliotrichum diffusum* can be found, that is, in the southern half of Chile and in Argentinean Patagonia and Tierra del Fuego, but so far only *Brachycaudus helichrysi* (Kaltenbach, 1843) has been found on that plant (Nieto Nafría *et al.*, 2004).

ETYMOLOGY. The specific name *chiliotrichi* is the name in genitive of the plant-host genus of the aphid.

TAXONOMIC DISCUSSION, WITH IDENTIFICATION KEY. Apterous viviparous females of *Uroleucon chiliotrichi* sp. n. are morphologically similar to *U. bereticum* (Blanchard, 1922), *U. macolai* (Blanchard, 1932) and *U. mendocinum* (Mier Durante & Ortego, 2007) that occupy the last two couplets in the identification key to apterous viviparous females of *Uroleucon* species found in South America (Nieto Nafría *et al.*, 2019, with modifications by Mier Durante *et al.*, 2020). That key is here modified to include *Uroleucon chiliotrichi* sp. n.

- | | | |
|--------|--|--------------------------------------|
| 21 | Ultimate rostral segment 0.16–0.20 mm and 1.1–1.3 times hind tarsi second segment | 22 |
| – | Ultimate rostral segment 0.12–0.18 mm and 0.8–1.1 times hind tarsi second segment | 22 bis |
| 22 | {without modifications} | <i>U. pseudomuermosum</i> |
| – | {without modifications} | <i>U. chilense</i> |
| 22 bis | Siphunculi thinner than hind tibiae, with marked ornamentation on most of its non-reticulated part and large polygonal cells on its reticulate part. First tarsal segments usually with 4 setae, exceptionally 3 or 5. Ultimate rostral segment with 5 accessory setae at most. Colour light green when alive. On <i>Chiliotrichum diffusum</i> . Chile: Aysén | <i>U. chiliotrichi</i> sp. n. |
| – | Siphunculi thicker than hind tibiae, with moderate or poor ornamentation on its non-reticulated part and with relatively small polygonal cells on its reticulate part. First tarsal segments consistently have 5 setae. Ultimate rostral segment with 6 accessory setae at least. Colour in life is not bright light green | 23 |
| 23 | {without modifications} | <i>U. bereticum</i> |
| – | {without modifications} | 24 |
| 24 | {without modifications} | <i>U. mendocinum</i> |
| – | {without modifications} | <i>U. macolai</i> |

Uroleucon amigoi sp. n.

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Figs. 2-3

TYPE MATERIAL. **Holotype**, apterous viviparous female (labelled with the number 5 of sample CHI-467, on a slide with an oviparous female paratype), CHILE, Aysén region, Capitán Prat province, Cochran: Valle La Tranquera (47°37' S, 72°56' W, 180 m a.s.l.), on *Adenocaulon chilense*; 19-January-2019; Mier Durante, Nieto Nafría and Ortego *leg.*; *Universidad de León* collection (León, Spain).

Paratypes, 2 apterous viviparous females, 12 oviparous females, 3 alate viviparous females CHILE, same data as that of the holotype; and 1 apterous viviparous female, CHILE, Aysén region, Capitán Prat province, Cochran: road 9, 10 km N from Los Nadis bridge (47°31' S, 72°51' W, 80 m a.s.l.), on *Adenocaulon chilense*; 19-January-2019; Mier Durante, Nieto Nafría and Ortego *leg.*; *Universidad de León* collection (León, Spain).

APTEROUS VIVIPAROUS FEMALES (Fig. 2A-2I). Based on 4 specimens. Colour when alive dark brown with hyaline antennae, legs and cauda. Body 2.85–3.54 mm, pear-shaped and with long antennae and legs and conspicuous siphunculi and cauda. Mounted specimens more or less light brown with noticeably dark siphunculi and more or less pigmented dorsal thoracic and abdominal sclerites, subgenital and anal plates, and cauda, as detailed below. Setae on antennae, dorsum of body, and most of those on the legs very pale, thin, with apices truncate; other setae more or less pointed. Marginal tubercles absent. Frons with a marked sinus, conspicuously divergent lateral tubercles, and low medial tubercle. Cephalic dorsum with two anterior and four posterior setae. Head, antennal segment I, and proximal part of antennal segment III light brown; clypeus, mandibular and maxillary laminae, antennal segment II, distal part of antennal segment III and antennal segments IV to VI brown. Antennal segments I and II delicately rough; most of antennal segment III smooth; a small distal portion of segment III, and antennal segment IV with stretch marks; segments V and VI imbricated. Sensoria round; primary sensoria ciliate; secondary sensoria poorly aligned on the ventral face of most of antennal segment III, variable in size, with relatively thick margins and protruding disk. Rostrum reaching hind coxae; ultimate and pre-ultimate segments (IV+V and III, respectively, in Blackman & Eastop, 2020) brown, darker than previous segments, relatively narrow. Legs smooth except tarsi; mostly pigmented like the head, with tarsi and very distal portion of tibiae darker. Thorax with marginal patches and spiracular sclerites light brown, and intersegmental muscular sclerites brown. Abdomen with light brown small or very small setiferous sclerites and post-siphuncular sclerites; intersegmental sclerites usually inconspicuous, if present they are small and darker than stigmatic sclerites. Siphunculi dark brown (they are by far the most pigmented structure), cylindrical and thin, with broad base, very rugose non-reticulated part, long apical portion with polygonal cells (which are relatively small, 12 to 25 cells per row), enlarged apex, and very small flange. Subgenital and anal plates pale brown. Cauda lanceolate, broad at middle, weakly pigmented (no more than the cephalic dorsum), with thin and pale setae, marginal setae much longer than dorsal ones. Quantitative data are in Table 1.

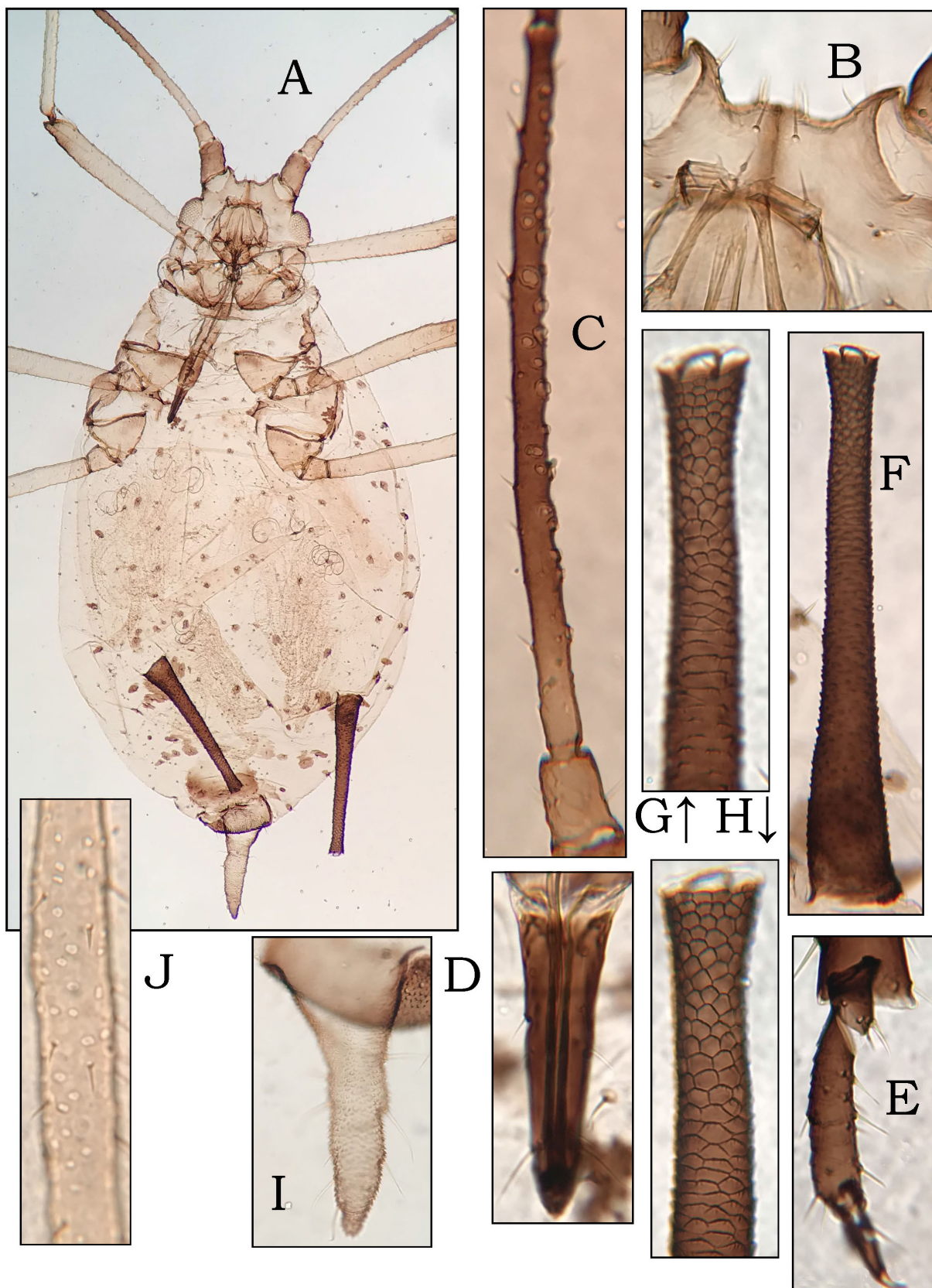


Fig. 2.— *Uroleucon amigoi* sp. n. A-I, apterous viviparous females. A, habitus; B, head; C, antennal segments II and III; D, ultimate rostral segment; E, hind tarsus; F, siphunculus; G, siphunculus, distal part in focus ventrally; H, siphunculus, distal part in focus dorsally; I, cauda. J, oviparous female, proximal part of hind tibia.

Fig. 2.— *Uroleucon amigoi* sp. n. A-I, hembras vivíparas ápteras. A, hábitus; B, cabeza; C, segmentos antenales II y III; D, artejo apical del rostro; E, tarso posterior; F, cornículo; G, cornículo, porción distal, cara ventral enfocada; H, cornículo, porción distal, cara dorsal enfocada; I, cola. J, hembra ovípara, porción proximal de la tibia de las patas posteriores.

ALATE VIVIPAROUS FEMALES (Fig. 3). Based on 3 specimens. Colour when alive similar to that of apterous viviparous females, but with darker antennae. Body 3.09–3.53 mm. When mounted they are similar in general appearance to apterous viviparous females, with dark thorax and darker antennae (the pale basal portion of antennal segment III is very small), distal half of both front and middle femora, distal quarter of hind femora, marginal patches on abdominal segments 2 to 4 or 5, and intersegmental sclerites. Quantitative data are in Table 1.

OVI PAROUS FEMALES (Fig. 2J). Body length 3.20–3.38 mm. Similar to apterous viviparous females when alive and mounted, with more setae on subgenital plate and slightly swollen proximal part of the hind tibiae bearing most of scent plates, (36)54–73, diverse in size and form. Quantitative data are in Table 1.

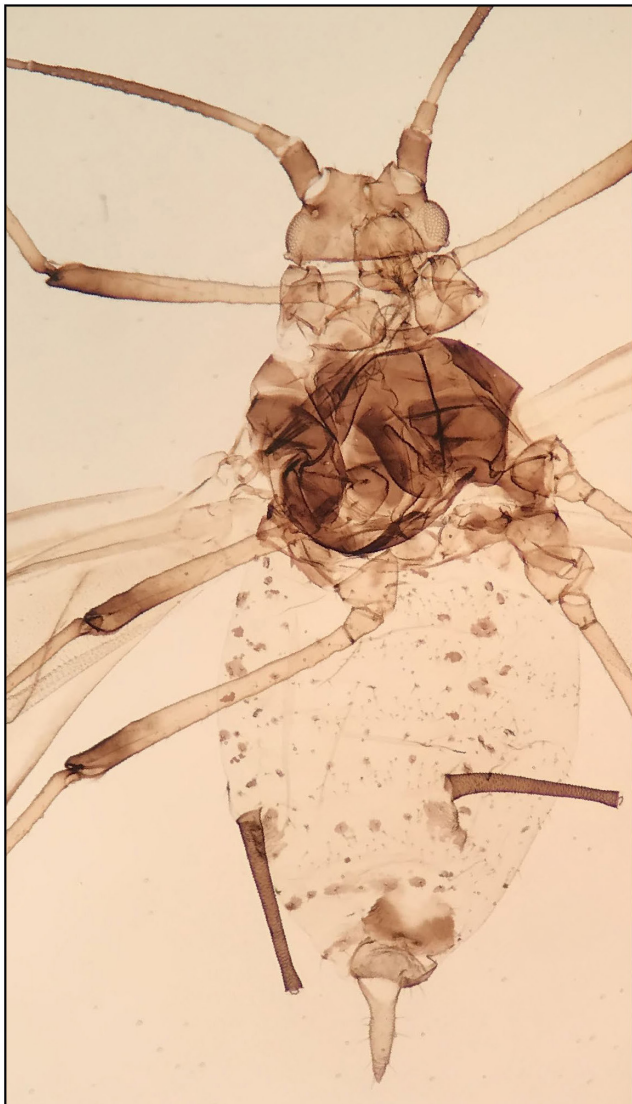


Fig. 3.— *Uroleucon amigoi* sp. n., alate viviparous female

Fig. 3.— *Uroleucon amigoi* sp. n., hembra vivipara alada.

BIONOMICS. *Uroleucon amigoi* sp. n. lives on the stems of *Adenocaulon chilense* Less. (Asteraceae, Mutisioideae), forming relatively compact groups in which individuals of *Macrosiphum euphorbiae* (Thomas, 1878) (Aphididae, Macrosiphini) may be mixed. The species produces oviparous females early, in mid-January.

DISTRIBUTION. The species is only known from its type localities, both in the Capitán Prat province (Aysén region, Chile), although its distribution may extend further north and south, accompanying its host plant, which is known from the Biobío region of Chile and Neuquén province of Argentina in the north, to the extreme south of the continent.

ETYMOLOGY. The species is dedicated to Francisco-Javier Amigo Vázquez, botanist at the University of Santiago de Compostela (Spain), connoisseur of the flora of southern Chile, who identified the host plant of both species described here.

TAXONOMIC DISCUSSION, WITH IDENTIFICATION KEY. Apterous viviparous females of *Uroleucon amigoi* sp. n. are similar to *U. muermosum* (Essig, 1953) and *U. eumadiae* Delfino, 2005, species placed in couplet 8 of the identification key to apterous viviparous females of *Uroleucon* species found in South America (Nieto Nafría *et al.*, 2019, with modifications by Mier Durante *et al.*, 2020), which is here modified as follows to include *Uroleucon amigoi* sp. n.

- | | | |
|-------|--|-------------------------|
| 7 | Ultimate rostral segment (0.20–0.27 mm) 1.5–1.8 times second hind tarsal segment | 8 |
| – | Ultimate rostral segment (0.12–0.22 mm) 0.8–1.4 times second hind tarsal segment | 9 |
| 8 | Ultimate rostral segment (0.21–0.23 mm) with 18–24 accessory setae. Siphunculi mainly pale with dusky apices. Antennal segment III with 8–26 secondary sensoria. Shiny green when alive. On <i>Madia chilensis</i> and <i>M. sativa</i> . Chile: Santiago | U. eumadiae |
| – | Ultimate rostral segment with 6–10 accessory setae. Siphunculi homogeneously dark. Antennal segment III with 22 secondary sensoria at least. Dark reddish to brown or black when alive | 8 bis |
| 8 bis | Cauda broad and as dark as the siphunculi. Presiphuncular sclerites present. Siphunculi approximately 1 mm, covered 25% by polygonal cells and faintly ornamented on the rest of its surface. Ultimate rostral segment 0.23–0.27 mm. Antennal segment III with 22 secondary sensoria at least. On <i>Acrisione denticulata</i> and perhaps on species of <i>Senecio</i> . Chile: La Araucanía, Los Lagos | U. muermosum |
| – | Cauda slender and much paler than siphunculi. Presiphuncular sclerites absent. Siphunculi approximately 0.8 mm at most, 27–33% covered by polygonal cells and strongly ornamented on the rest of its surface. Ultimate rostral segment 0.20–0.22 mm. Antennal segment III with 27 secondary sensoria at most. On <i>Adenocaulon chilense</i> . Chile: Aysén | U. amigoi sp. n. |

Table 2.— Appreciable morphometric differences between viviparous females of *U. adenocaulonae* (Essig) [from Essig 1936; Robinson 1985; and Blackman & Eastop 2020] and *U. amigoi* sp. n. [from type specimens]. Lengths in mm.

Tabla 2.— Diferencias morfológicas apreciables entre las hembras vivíparas de *U. adenocaulonae* (Essig) [a partir de Essig 1936; Robinson 1985; y Blackman & Eastop 2020] y las de *U. amigoi* sp. n. [especímenes tipo]. Longitudes en milímetros.

	<i>U. adenocaulonae</i>	<i>U. amigoi</i>
apterae, secondary sensoria on antennal segment III	≥11–18 over ~70% of segment length	≤46–51 over ~85% of segment length
viviparae, siphunculus / antennal segment III	≤1	1.0–1.3
viviparae, siphunculi	~1 mm, somewhat recurved	≤0.76 mm, straight
viviparae, siphuncular reticulation (at dorsum) / siphunculus	0.30–0.40	0.24–0.33
apterae, siphunculus / cauda	~2.1	1.4–1.6
alata, siphunculus / cauda	2.2–2.5	1.6–1.7
apterae, antennal segment VI: processus terminalis / base	~4.4	5.2–6.0
alata, antennal segment VI: processus terminalis / base	~4.6	4.9–5.7
alata, antennal segment VI processus terminalis	≤0.78	≥0.80
viviparae, ultimate rostral segment	≤0.19	≥0.20
viviparae, ultimate rostral segment / second segment hind tarsi	1.8–2.4	1.4–1.6
viviparae, second segment of hind tarsi	~0.10	0.12–0.14
viviparae, caudal setae	≥16	≤14

Only *Uroleucon adenocaulonae* (Essig, 1936) has been recorded on species of *Adenocaulon* (Blackman & Eastop, 2020). Specimens of this species also have very dark and heavily ornamented siphunculi and, when alive, also are more-or-less reddish brown, but the distribution of this species and that of *U. amigoi* are widely disjunct: *U. adenocaulonae* is known from Idaho, Washington, Oregon and California (U.S.A.). The more appreciable morphological differences between *U. adenocaulonae* and *U. amigoi* (Essig 1936; Robinson, 1985; Blackman & Eastop, 2020) are shown in Table 2.

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