

A NEW SPECIES OF *APHIS* LINNAEUS, 1758 (HEMIPTERA, APHIDIDAE) COLLECTED ON *GYMNOPHYTON CLOS* (APIACEAE) IN ARGENTINA

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SUMMARY

Aphis cuyana López Ciruelos & Ortego, **sp. n.** (Aphididae, Aphidinae) is described from apterous and alate viviparous females collected on *Gymnophyton polycephalum* (Apiaceae) in localities of the Argentinean provinces of La Rioja, San Juan and Mendoza. A table with differences of the apterous viviparous females of the new species from the species of *Aphis* and its close genera *Andinaphis* and *Protaphis* known in South America is presented.

<http://urn:lsid:zoobank.org:pub:4834FEF4-171C-4EBD-BF91-2137B517491E>

Key words: Aphids; new species; South America; *Aphis*; *Andinaphis*; *Protaphis*.

RESUMEN:

Una nueva especie de *Aphis* Linnaeus, 1758 (Hemiptera, Aphididae) recogida sobre *Gymnophyton Clos* (Apiaceae) in Argentina

Se describe *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** (Aphididae, Aphidinae) a partir de hembras vivíparas ápteras y aladas recogidas sobre *Gymnophyton polycephalum* (Apiaceae) en localidades de las provincias argentinas de La Rioja, San Juan y Mendoza. Se presenta una tabla con las diferencias de las hembras vivíparas ápteras de la nueva especie con las de *Aphis* y sus géneros vecinos *Andinaphis* y *Protaphis*, conocidas en América del Sur.

Palabras clave: Pulgones; áfidos; especie nueva; América del Sur; *Aphis*; *Andinaphis*; *Protaphis*.

Recibido/Received: 1/07/2016; **Aceptado/Accepted:** 16/11/2016; **Publicado en línea/Published online:** 24/02/2017

Cómo citar este artículo/Citation: López Ciruelos, S. I., Ortego, J., Mier Durante, M. P. & Nieto Nafría, J. M. 2017. A new species of *Aphis* Linnaeus, 1758 (Hem. Aphididae) collected on *Gymnophyton Clos* (Apiaceae) in Argentina. *Graellsia*, 73(1): e055. <http://dx.doi.org/10.3989/graellsia.2017.v73.171>

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Introduction

Many species belonging to family Apiaceae are host plants for species of aphids, included species of *Aphis* Linnaeus, 1758 (Aphididae Aphidina), which have different distribution and are diverse in trophic preferences, some species are endemic and other cosmopolitan, several ones are polyphagous and other are more or less stenophagous. No records of aphids exist on plants of apiaceous genus *Gymnophyton* Clos. This genus is South American and include few species, only six in the South Cone (Blackman & Eastop, 2016; Instituto de Botánica Darwinion, 2016).

Aphids belonging to genus *Aphis* have been collected in last years in Argentinean localities on *Gymnophyton polycephalum* (Gillies & Hook.) Clos, which is known in the provinces of Salta, Catamarca, La Rioja, San Juan and Mendoza, from North to South (Instituto de Botánica Darwinion, 2016). They present peculiar features that permit to us establish a new species (see above the taxonomic discussion).

Results and discussion

Aphis cuyana López Ciruelos & Ortego, sp. n.

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TYPE MATERIAL: **Holotype**, apterous viviparous female (labelled with the number 5 of the sample ARG-752), collected on *Gymnophyton polycephalum*, ARGENTINA, La Rioja, Cuesta de Miranda (29° 21' S, 67° 47' W, 2010 m), 26-November-2002, Mier Durante, Ortego & Nieto Nafria *leg.*, *Universidad de León* collection (Leon, Spain). **Paratypes**, 21 apterous viviparous females and 2 alate viviparous females collected at same time than the holotype; 17 apterous viviparous females and 8 alate viviparous females, same plant, locality and collectors, 2-November-2006 (sample ARG-1101); 20 apterous viviparous females, same plant and collectors, ARGENTINA, La Rioja, Paso Pircas Negras (28° 34' S, 68° 44' W, 2910 m), 25-November-2002 (ARG-739); 26 apterous viviparous females and 1 alate viviparous female, same plant and collectors, ARGENTINA, San Juan, pie del Paso Agua Negra, (30° 22' S, 69° 30' W, 2700 m), 24-November-2002 (ARG-732); 42 apterous viviparous females and 1 alate viviparous female, same plant, date and collectors, ARGENTINA, San Juan, Paso Agua Negra, (30° 22' S, 69° 35' W, 2960 m), 24-November-2002 (ARG-728); 66 apterous viviparous females (all "small" form), same plant, ARGENTINA, Mendoza, Uspallata (32° 34' S, 69° 19' W, 1900 m), 7-January-2013, J. Ortego *leg.* (ARG-1705); *Universidad de León* and Natural History Museum (London, United Kingdom).

APTEROUS VIVIPAROUS FEMALES, big form (Figs. 1A, 1E): From 127 specimens, which 76 have been measured. When alive caramel to brown with dorsal bright spots. When mounted, specimens have parts and sclerites more or less pigmented

(see above). Metric and meristic features in Table 1. Head, including clypeus and mandibular and maxillary lames and rostrum brown. Frons nearly flat or sometimes gently sinuated. Antennal segment I, II, VI and apex of V more or less dark brown, like head. Other antennal segments pale. Rostrum reaches nearly to the hind leg coxae. Its ultimate segment is darker than the other and has 2 accessory setae lateral to groove. Coxae, trochanters, tarsi, apex of tibiae, brown like head; front and medial femora homogeneously light brown, paler than coxae; hind femora with half or two thirds distal part darker than anterior femora and as dark as coxae and trochanters. Prothorax and mesothorax with individual brown entire or fragmented transverse dorsal band. Metathorax with brown fragmented transverse band, sometimes reduced to marginal sclerites. First segment of tarsi with 2 or 3 setae. Dorsum of abdominal segments 1–6 with individual spinopleural transversal and irregularly edged patches, which can be coalescent one another in different ways, come up to form a patch with unsclerotized intersegmental spots. Abdominal segments 1–4 without marginal sclerites. Small antesiphuncular and postsiphuncular patches, sometimes fragmented in sclerites. Abdominal segments 7 and 8 with individual transverse bands carrying spinules. All segmental sclerotization as dark as head. Intersegmental and spiracular sclerites always conspicuous and dark brown. Hind tibiae of several specimens of spring sample ARG-1101 carries 1–7 (exceptionally up to 12 and one specimen with 17 and 25) well defined, small and pale scent plates; these specimens also carry an exceptional higher number setae on abdominal segment 8. Marginal prothoracic tubercles, smaller than the triommatidium, but more voluminous than marginal tubercles on abdominal segments 1 and 7. Intermediate abdominal segments without marginal tubercles. Siphunculi tapered on proximal half and subcylindrical on distal one, little longer than cauda, homogeneously dark brown to black, darker other body part, with scales and small flange. Genital and anal plates dark brown. Cauda finger-shaped, with slight constriction and medial edges more or less parallel. Setae in general robust and pointed.

APTEROUS VIVIPAROUS FEMALES, small form (Figs. 1B, 1F): From 66 specimens, which 13 have been measured. When alive similar to "big" females, but without bright spots. When mounted very pale because have not segmental dorsal sclerotization (reduced to a small transverse band on abdominal segment 8 and sometime setiferous pale sclerites on segment 7), and the pigmentation of intersegmental and spiracular sclerites, antennae in general, rostrum, trochanters and femora is more less intense than the "big" females. Siphunculi

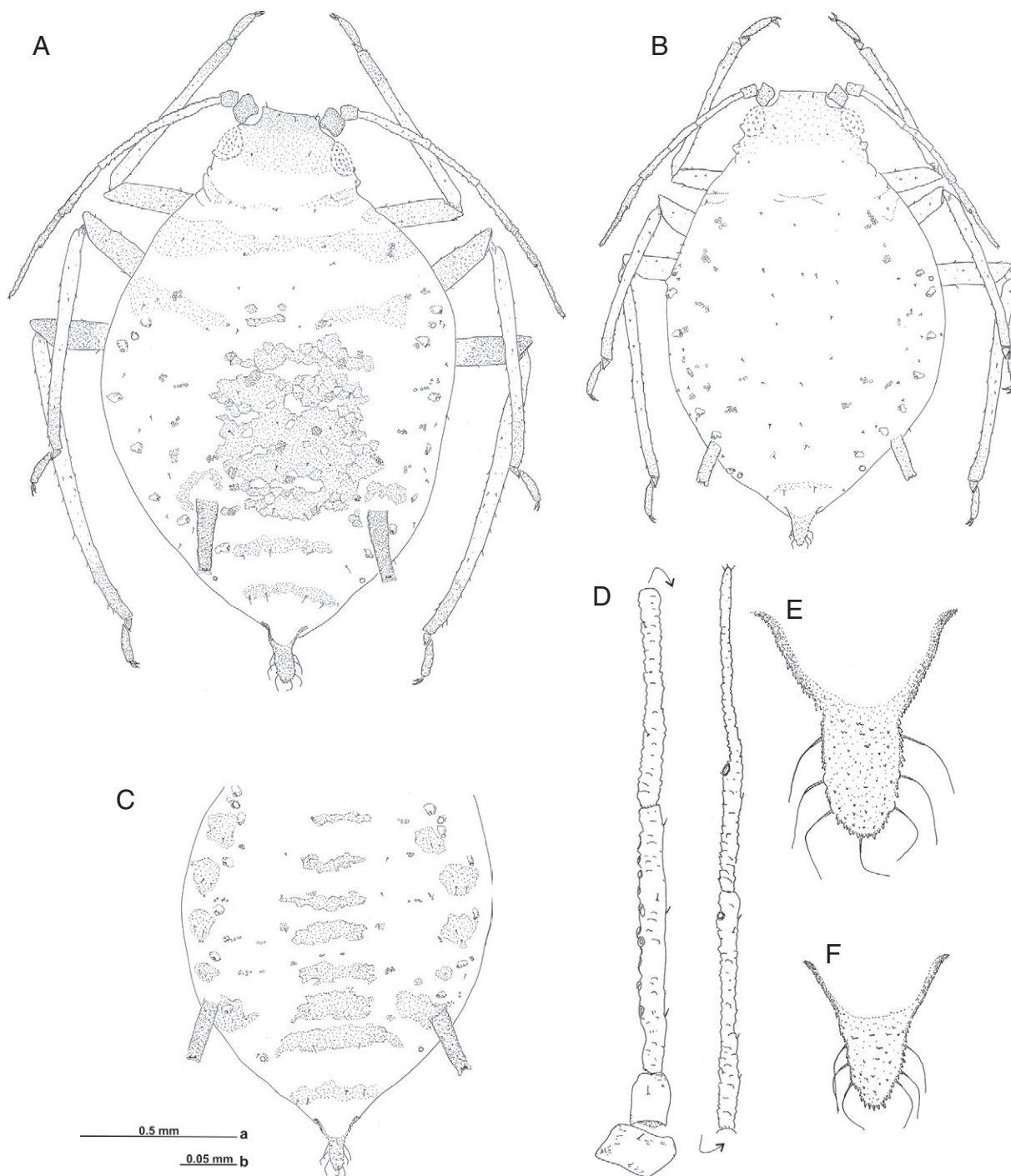


Fig. 1.— *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** A, E, apterous viviparous female, “big” form; B, F, apterous viviparous female, “small” form; C, D, alate viviparous female. A, B, habitus; E, F, cauda; C, dorsum of abdomen; D, antenna. Scale bar: a — A, B, C; b — D, E, F.

Fig. 1.— *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** A, E, hembra vivípara áptera, forma “grande”; B, F, hembra vivípara áptera, forma “pequeña”; C, D, hembra vivípara alada. A, B, habitus; E, F, cola; C, dorso del abdomen; D, antena. Escalas: a — A, B, C; b — D, E, F.

subcylindrical and cauda triangular. Metric and meristic features in Table 1.

ALATE VIVIPAROUS FEMALES (Figs. 1C, 1D): From 12 specimens, which 11 have been measured. Similar

to apterous viviparous “big” females, more intense and wide pigmented. Ocelli surrounded by a dark ring. Segments of antennal flagellum with strong imbrication. Antennal segment III with 6–12 secondary sensoria ventrally aligned along the segment, and

Table 1.— Metric and meristic features of apterous (“big” and “small” forms) and alate viviparous females of *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** Used abbreviations: apterous viv. fem., apterous viviparous females; alate viv. fem., alate viviparous females; Ant., Antennal; b. d., basal diameter; segm., segment or segments.

Tabla 1.— Características métricas y merísticas de las hembras vivíparas ápteras (formas “grande” y “pequeña”) y aladas de *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** Abreviaturas: apterous viv. fem., hembras vivíparas ápteras; alate viv. fem., hembras vivíparas aladas; Ant., Antenal; b. d., diámetro basal; segm., segmento o segmentos.

	apterous viv. fem. “big” form	apterous viv. fem. “small” form	alate viv. fem.
Body [mm]	1.500–2.325	1.300–1.475	1.500–2.125
Body / hind tibia [times]	1.512–2.270	2.000–2.292	1.455–2.576
Antenna [mm]	1.00–1.50	0.74–0.85	1.27–1.53
Antenna / Body [times]	0.548–0.830	0.535–0.600	0.624–0.883
Ant. segm. III [mm]	0.23–0.37	0.16–0.20	0.30–0.38
Ant. segm. III / Ant. segm. VI processus terminalis [times]	(1.02)1.10–1.77	1.10–1.39	1.28–1.74
Ant. segm. IV [mm]	0.15–0.29	0.11–0.14	0.24–0.33
Ant. segm. V [mm]	0.18–0.29	0.11–0.15	0.23–0.29
Ant. segm. VI base [mm]	0.11–0.16	0.10–0.15	0.13–0.16
Ant. segm. VI processus terminalis [mm]	0.17–0.26	0.13–0.16	0.20–0.26
Ant. segm. VI processus terminalis / Ant. segm. VI base [times]	1.18–2.14	0.97–1.52	1.50–1.76
Ultimate rostral segm. [mm]	0.12–0.15	0.11–0.12	0.12–0.13
Ultimate rostral segm. / its basal width [times]	(2.18)2.27–3.13	2.44–2.88	2.30–3.12
Ultimate rostral segm. / Ant. segm. VI base [times]	0.80–1.17	0.72–1.10	0.75–0.92
Ultimate rostral segm. / hind tarsus, 2nd segm. [times]	0.76–0.89(1.00)	0.85–0.96	0.82–0.96
Hind femur [mm]	0.45–0.68	0.35–0.40	0.40–0.55
Hind tibia [mm]	0.80–1.20	0.60–0.70	0.83–1.12
Hind tarsus, 2nd segm. [mm]	0.13–0.16	0.11–0.14	0.13–0.14
Siphunculus [mm]	(0.18)0.20–0.29	0.12–0.15	0.14–0.22
Siphunculus / its basal width [times]	2.05–3.92	2.15–3.63	3.0–5.0
Siphunculus / its middle width [times]	2.68–4.60(4.90)	3.11–3.71	3.5–5.0
Siphunculus / Cauda [times]	1.00–1.41	0.86–1.32	0.97–1.18
Cauda [mm]	0.15–0.23	0.11–0.15	0.13–0.18
Cauda / its basal width [times]	1.03–1.86(1.96)	0.73–1.23	1.00–1.28
Setae on ...			
... Vertex [µm]	22–33	17–25	20–28
... Vertex / b. d. Ant. segm. III [times]	0.9–1.4	1.0–1.7	0.9–1.4
... Ant. segm. III [number]	5–11	5–7	(5)6–9
... Ant. segm. III [µm]	12–20	10–15	12–18
... Ant. segm. III / b. d. Ant. segm. III [times]	0.5–0.9	0.6–1.0	0.6–0.9
... Hind trochanter, posterior [µm]	25–42(48)	25–38	20–30
... Hind trochanter, posterior / trochantero-femoral suture [times]	0.4–0.9	0.6–1.0	0.4–0.7
... Hind femur, dorsal [µm]	15–35	15–25	17–25
... Hind femur, dorsal / b. d. Ant. segm. III [times]	0.6–1.6	1.0–1.5(1.7)	0.9–1.4
... Hind femur, ventral [µm]	17–38	17–25	20–28

Table 1. (continued)

	apterous viv. fem. "big" form	apterous viv. fem. "small" form	alate viv. fem.
... Hind femur, ventral / b. d. Ant. segm. III [times]	0.8–1.7	1.1–1.5	1.0–1.6
... Hind tibia, at middle, dorsal [μ m]	20–43	25–30	17–28
... Hind tibia, at middle, dorsal / hind tibial diameter at middle [times]	0.2–0.5	0.3–0.4	0.2–0.3
... Hind tarsi, 1st segm. [number]	2–3	2–3	3
... Abdominal segm. 2–4, marginal [μ m]	22–32	17–25	20–30
... Abdominal segm. 2–4, marginal / b. d. Ant. segm. III [times]	0.9–1.5	1.1–1.7	1.1–1.5
... Abdominal segm. 8 [number]	(2)3–4(9)	2–4	2–6
... Abdominal segm. 8 [μ m]	30–55(60)	27.5–55(60)	45–55(60)
... Abdominal segm. 8 / b. d. Ant. segm. III [times]	1.2–2.8	1.8–3.7	2.2–3.1
... Genital plate, discal [number]	2–5	2–4	2–7
... Genital plate, marginal [number]	10–12	10–16	12–18
... Cauda [number]	5–10	5–7	(6)7–10

segment IV sometimes with 2–4 secondary sensoria. Spinopleural patches slender and completely individualized. Round marginal patches on abdominal segments 2–6. One specimen of sample 732 has 1 marginal tubercle on abdominal segment 2. Siphunculi subcylindrical. Other quantitative features in Table 1.

BIOLOGY: *Gymnophyton polycephalum* (Gilles & Hook.) Clos is at the moment the only host plant for *Aphis cuyana* sp. n. It should be holocyclic without host alternation, as usual in the species of this genus in mountain areas of Argentina. The species presents during summer one or several generations of apterous viviparous females that are smaller and paler than the spring or autumnal generations, adjectival aestivating, dwarf, small, like the South American *A. mendocina* Mier Durante & Ortego, 2006, *A. eucollinae* López Ciruelos & Ortego, 2016, *A. melosae* Mier Durante & Ortego, 1999, or the North American *A. rubicola* Oestlund, 1887, or several European species, e.g. *A. hieracii* Schrank, 1801, *A. confusa* Walker, 1849, *A. lambersi* (Börner, 1940), *A. ruborum* (Börner, 1931) (see Mier Durante & Ortego 1999; Blackman & Eastop, 2016).

DISTRIBUTION: It is possible that the new species is present in the area where its host plant grows.

ETYMOLOGY: The specific epithet *cuyana*, is an adjective that means inhabiting on the Argentinean

region of Cuyo (entire or in part current provinces of San Juan, San Luis, Mendoza and La Rioja).

TAXONOMIC DISCUSSION: *Aphis cuyana* sp. n. is the 56th species of *Aphis*, in current sense of genus, recorded from South America, twenty-two are introduced and 34 are native (Ortego *et al.*, 2013; López Ciruelos *et al.*, 2016; Nieto Nafría *et al.*, 2016a, 2016b; González Rodríguez *et al.*, 2017). To establish the taxonomic identity of the new species, several characteristic of its apterous viviparous "big" and "small" females are confronted with selected more evident characteristics of other 55 species of *Aphis* and three close relatives belonging to genera *Andinaphis* and *Protaphis* (Table 2); firstly (1) presence (in *A. cuyana*) or lack of marginal tubercles on abdominal segment 7 and presence (in *A. cuyana*) or absence of posterior setae on genital plate, or (2) lack (in *A. cuyana*) or presence of marginal tubercles on abdominal segments 2–4, or (3) lack (in *A. cuyana*) or presence of marginal sclerotization on abdominal segments 2–4, and subsequently other qualitative or quantitative features if it were necessary.

Acknowledgments

The field work was partially financed by the Regional Government (Junta) of Castilla and León, Spain (research projects LE 45/02 and LE 034A05).

Table 2. — Comparative table of “big” and “small” apterous viviparous females of *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** with apterous viviparous females of the species of *Aphis* [*A.*] and two relatives genera *Andinaphis* [*An.*] and *Protaphis* [*P.*] currently known in South America. In smaller font and into brackets: accessory features. Abbreviations: ABD, abdominal segment; ANT III, antennal segment III; ANT VI b., antennal segment VI base; ANT VI p.t., antennal segment VI process terminalis; h.t.II, hind tarsus second segment; u.r.s., ultimate rostral segment; introd., introd., introduced species.

Tabla 2. — Tabla comparativa de las hembras vivíparas ápteras, formas “grande” y “pequeña”, de *Aphis cuyana* López Ciruelos & Ortego, **sp. n.** con las hembras vivíparas ápteras de especies de *Aphis* [*A.*] y de dos géneros próximos, *Andinaphis* [*An.*] y *Protaphis* [*P.*], conocidas actualmente en Sudamérica. En letra más pequeña y entre corchetes: características secundarias. Abreviaturas: ABD, segmento abdominal; ANT III, artejo antenal III; ANT VI b., artejo antenal VI base; ANT VI p.t., artejo antenal VI filamento terminal; h.t.II, segundo artejo de los tarsos posteriores; u.r.s., artejo apical del rostro; introd., especie introducida.

aphid species	differential characters with the “big” apterous viviparous females of <i>A. cuyana</i> sp. n.		differential characters with the “small” apterous viviparous females of <i>A. cuyana</i> sp. n.		host plant	component
	sp. n.	sp. n.	sp. n.	sp. n.		
<i>A.n. paradoxa</i> (Mier Durante, Ortego & Nieto Nafria, 1997)		ABD 7 (and also ABD 1 and prothorax) without marginal tubercles			<i>Senecio</i> (Asteraceae)	native
<i>A. acaena</i> Mier Durante & Ortego, 1998	ABD 1–4 without segmental sclerotization		ABD 2–4 with marginal tubercles		<i>Acaena</i> (Rosaceae)	native
<i>A. acuminata</i> Nieto Nafria & von Dohlen, 2016		discal plate or wide spinopleural patch plus marginal sclerites on ABD 2–4			<i>Adesmia</i> (Fabaceae)	native
<i>A. affinis</i> Del Guercio, 1911	ABD 1–4 without segmental sclerotization		ANT VI p.t. 1.7 times ANT VI b. at least; u.r.s. longer than h.t.II		<i>Mentha</i> and other Lamiaceae	introd.: diverse origin
<i>A. alstroemeriae</i> Essig, 1953		u.r.s. 1.0 times h.t.II at least; setae on ANT III longer than the basal width of ANT III.			<i>Alstroemeria</i> (Alstroemeriaceae)	native
<i>A. amaranthi</i> Holman, 1974	ABD 1–4 without segmental sclerotization		ANT VI p.t. 2.2 times ANT VI b. at least; 8–10 caudal setae		<i>Amaranthus</i> (Amaranthaceae)	introd.: Nearctic origin
<i>A. asclepiadis</i> Fitch, 1851	ABD 1–4 without segmental sclerotization		ANT III–V and siphunculi rough		species of numerous families	introd.: Nearctic origin
<i>A. berberidorum</i> Ortego & Mier Durante, 1997	ABD 2–4 with marginal sclerites, sometimes part of a dorsoabdominal plate		ABD 7–8 with individual transverse bands; cauda pointed		<i>Berberis</i> (Berberidaceae)	native
<i>A. biobiensis</i> Nieto Nafria & Mier Durante, 2016		ANT III rough, siphunculi also rough and 1.4–1.8 times cauda.			<i>Adesmia</i> (Fabaceae)	native
<i>A. carrilloi</i> Ortego, Mier Durante & Nieto Nafria, 2013		ABD 2–4 with marginal tubercles			<i>Gunnera</i> (Gunneraceae)	native
<i>A. cinerea</i> Nieto Nafria & Ortego, 2002		sometimes with marginal sclerites; cauda finger-shaped with marked proximal straight and pointed apex; dense white wax powder when alive			<i>Lathyrus</i> (Fabaceae)	native
<i>A. conflictica</i> Nieto Nafria, Ortego & Mier Durante, 2008	marginal sclerites usually present, and also frequently spinopleural patch or discal plate; [u.r.s. 1.0 times h.t.II at least; setae on ANT III 20 µm at least]		u.r.s. 1.0 times h.t.II at least; setae on ANT III 20 µm at least		Rhamnaceae	native
<i>A. coreopsisidis</i> (Thomas, 1878)	ABD 1–4 without segmental sclerotization		cauda finger-like and much shorter than siphunculi		<i>Bidens</i> and other Asteraceae genera	introd.: Nearctic origin
<i>A. cordifoliae</i> Mier Durante & Ortego, 1999	ABD 1–4 without segmental sclerotization		ABD 2–4 with marginal tubercles		<i>Baccharis</i> (Asteraceae)	native
<i>A. craccivora</i> Koch, 1854		discal plate			species of numerous families	introd.: diverse origin

Table 2. — (continued)

aphid species	sp. n.	aphid species	sp. n.	host plant	component
<i>A. cyrtosorum</i> Hartig, 1841				<i>Cytisus</i> and other woody Fabaceae	introd.: diverse origin
<i>A. daniélæ</i> Remaudière, 1994				<i>Lycium</i> (Solanaceae); <i>Echinopsis</i> (Cactaceae)	native
<i>A. eucoillinae</i> López Ciruelos & Ortego, 2016				<i>Euphorbia</i> (Euphorbiaceae)	native
<i>A. fabae</i> Scopoli, 1763				species of numerous families	introd.: diverse origin
<i>A. farinosa</i> Gmelin, 1790				<i>Salix</i> (Salicaceae)	introd.: diverse origin
<i>A. forbesi</i> Weed, 1889				<i>Fragaria</i> (Rosaceae)	introd.: Nearctic origin
<i>A. gossypii</i> Glover, 1877				species of numerous families	introd.: diverse origin
<i>A. hederæ</i> Kaltenbach, 1843				<i>Hedera</i> (Araliaceae)	introd.: diverse origin
<i>A. illinoisensis</i> Shimer, 1866				<i>Vitis</i> (Vitaceae)	introd.: Nearctic origin
<i>A. intrusa</i> Ortego, 1998				<i>Senecio</i> (Asteraceae)	native
<i>A. intybi</i> Koch, 1854				<i>Cichorium</i> (Asteraceae)	introd.: diverse origin
<i>A. malaluina</i> Mier Durante, Nieto Nafraía & Ortego, 1999				<i>Senecio</i> (Asteraceae)	native
<i>A. marthæ</i> Essig, 1953				<i>Quilaja</i> (Rosaceae)	native
<i>A. martinezi</i> Nieto Nafraía, Ortego & Mier Durante, 1999				<i>Mulinum</i> (Apiaceae)	native
<i>A. matilei</i> Nieto Nafraía, Ortego & Mier Durante, 2000				<i>Verbena</i> (Verbenaceae)	native
<i>A. mauensis</i> Mier Durante & García-Tejero, 2016				<i>Euphorbia</i> (Euphorbiaceae)	native
<i>A. melosæ</i> Mier Durante & Ortego, 1999				<i>Grindelia</i> , <i>Haplopappus</i> (Asteraceae)	native
<i>A. mendocina</i> Mier Durante, Ortego & Nieto Nafraía, 2006				<i>Urtica</i> (Urticaceae), <i>Adesmia</i> (Fabaceae)	native
<i>A. mulini</i> Hille Ris Lambers, 1974				<i>Mulinum</i> (Apiaceae)	native
<i>A. mulinicola</i> Hille Ris Lambers, 1974				<i>Mulinum</i> (Apiaceae)	native

Table 2. — (continued)

aphid species	differential characters with the “big” apterous viviparous females of <i>A. cuyana</i> sp. n.		differential characters with the “small” apterous viviparous females of <i>A. cuyana</i> sp. n.		host plant	component
	ABD 1–4 without segmental sclerotization	abdominal segments 1–4 without segmental sclerotization	siphunculi pale with smoky apex and longer than finger-shaped cauda	cauda finger-shaped and very robust, shorter than siphunculi, both black like legs		
<i>A. nasturtii</i> Kaltenbach, 1843	ABD 1–4 without segmental sclerotization		siphunculi pale with smoky apex and longer than finger-shaped cauda		species of numerous families	introd.: diverse origin
<i>A. nerii</i> Boyer de Fonscolombe, 1841	abdominal segments 1–4 without segmental sclerotization		cauda finger-shaped and very robust, shorter than siphunculi, both black like legs		<i>Nerium</i> and other Apocynaceae and Asclepiadaceae, mainly	introd.: diverse origin
<i>A. papillosa</i> Mier Durante, Nieto Nafria & Ortego, 2003		ABD 2–4 with marginal tubercles			<i>Senecio</i> (Asteraceae)	native
<i>A. paravanoi</i> Nieto Nafria, Ortego & Mier Durante, 1999		genital plate without posterior setae			<i>Mulium</i> (Apiaceae)	native
<i>A. patagonica</i> Blanchard, 1944	ABD 1–4 without segmental sclerotization		cauda broad and long; ANT VI p.t. 1.5 times ANT VI b. at least		<i>Berberis</i> (Berberidaceae)	native
<i>A. pomi</i> De Geer, 1773	ABD 1–4 without segmental sclerotization		cauda finger-shaped and robust, shorter than siphunculi, both black		<i>Malus</i> and other Rosaceae	introd.: diverse origin
<i>A. pseudopulchella</i> Blanchard, 1944		ABD 2–4 with marginal tubercles			<i>Euphorbia</i> (Euphorbiaceae)	native
<i>A. renjifoanae</i> Ortego & Nieto Nafria, 2016	ABD 1–4 without segmental sclerotization		siphunculi pale in most part darkening to apex; [small setae, on ANT III and ABD 2–4 respectively 8–10 and 12–15(20) µm]		<i>Adesmia</i> (Fabaceae)	native
<i>A. roberti</i> Nieto Nafria, Ortego & Mier Durante, 1999		discal plate or wide spinopleural patch	more marginal sclerites		<i>Mulinum</i> (Apiaceae)	native
<i>A. ruborum</i> (Börner, 1931)	ABD 1–4 without segmental sclerotization		siphunculi pale and cauda finger-shaped		<i>Rubus, Fragaria</i> (Rosaceae)	introd.: diverse origin
<i>A. rumicis</i> De Geer, 1773	ABD 1–4 frequently with small marginal sclerites sometimes in addition to spinopleural bands or sclerites; genital plate with 9–28 setae				<i>Rumex, Rheum</i> (Polygonaceae)	introd.: diverse origin
<i>A. sambuci</i> Linnaeus, 1758	ABD 1–4 without segmental sclerotization		antennae, siphunculi (long) and cauda (short triangular) black		species of numerous families	introd.: diverse origin
<i>A. schinifoliae</i> Blanchard, 1939	ABD 1–4 without segmental sclerotization		siphunculus entirely pale contrasting with black cauda		<i>Schinus</i> (Anacardiaceae)	native
<i>A. schinivora</i> Ortego, Nieto Nafria & Mier Durante, 2007.		ABD 2–4 with marginal tubercles			<i>Schinus</i> (Anacardiaceae)	native
<i>A. sedi</i> Kaltenbach, 1843	ABD 1–4 without segmental sclerotization		cauda finger-shaped; ANT VI p.t. 1.6 times ANT VI b. at least		<i>Sedum</i> and other genera, mainly Crassulaceae	introd.: diverse origin
<i>A. senecionicooides</i> Blanchard, 1944		ABD 2–4 with marginal tubercles			<i>Senecio</i> (Asteraceae)	native
<i>A. solanella</i> Theobald, 1914	ABD 1–4 frequently with small marginal sclerites sometimes in addition to spinopleural bands or sclerites; cauda broad finger-shaped with 11 setae at least				species of numerous families	introd.: diverse origin
<i>A. spiraeicola</i> Patch, 1914	ABD 1–4 without segmental sclerotization		cauda finger-shaped and robust, shorter than siphunculi, both black		species of numerous families	introd.: diverse origin

Table 2. — (continued)

aphid species	differential characters with the "big" apterous viviparous females of <i>A. cuyana</i> sp. n.		differential characters with the "small" apterous viviparous females of <i>A. cuyana</i> sp. n.		host plant	component
	ABD 2–4 with marginal tubercles	ABD 7 without marginal tubercles	ABD 2–4 with marginal tubercles [l.r.s. very long]	ABD 1–4 frequently with marginal sclerites; ANT III–IV(V) habitually with secondary sensoria; [siphunculi short tapering and cauda robust triangular, both dark brown to black]		
<i>A. tehuelchis</i> Nieto Nafría y López Ciruelos, 2016					<i>Euphorbia</i> (Euphorbiaceae)	native
<i>A. vurillocensis</i> Nieto Nafría, Brown & López Ciruelos, 2016					<i>Mulinum</i> (Apiaceae)	native
<i>A. zapalina</i> Mier Durante & Ortego, 2016					<i>Adesmia</i> (Fabaceae)	native
<i>P. middletonii</i> (Thomas, 1879)					species of numerous families	introd.: diverse origin; Nearctic
<i>P. terricola</i> (Rondani, 1847)					Asteraceae mainly	introd.: diverse origin

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