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NOTES ON TWO NEW APHID SPECIES (HEMIPTERA: APHIDIDAE) DETECTED IN CHILE

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ABSTRACT

Two new aphidinae species for Chile, *Aphis nasturtii* Kaltenbach and *Wahlgreniella nervata* (Gillette), were collected in the Área Metropolitana. Morphological characters and biological features of these species are briefly reviewed.
Key words: Chile, *Aphis, Wahlgrehiella,* new records.

RESUMEN

Dos especies de Aphidinae nuevas para Chile, *Aphis nasturtii* Kaltenbach y *Wahlgreniella nervata* (Gillette), fueron colectadas en el Área Metropolitana. Se revisan brevemente algunos antecedentes biológicos y caracteres morfológicos de estas especies.
Palabras clave: Chile, *Aphis, Wahlgreniella,* nuevos registros.

Aphis nasturtii Kaltenbach, 1843

Synonyms (following Eastop & Hille Ris Lambers, 1976)

= *Aphis abbreviata* Patch, 1912
= *Aphis acetosella* Theobald, 1918
= *Aphis cathartica* del Guercio, 1909
= *Aphis githaginella* Theobald, 1927
= *Aphis linguae* Opmanis, 1928
= *Aphis mathiolae* Theobald, 1928
= *Aphis neopolygoni* Theobald, 1927
= *Aphis pedicularis* Buckton, 1879
= *Aphis polygoni* van der Goot, 1912 nec Walker, 1848; Macchiatti, 1885
= *Aphis rhamni* auctt. nec Boyer de Fonscolombe, 1841
= *Aphis transiens* Walker, 1849
(Figures 1b, 2b,2d)

Morphological description: (Plate 32, page 427 in Blackman & Eastop, 1984) This species has egg-shaped yellow, yellowish green or light green apterae 0.9-2.4 mm long, with rather short antennae, 0.5-0.8 times as long as the body. The siphunculi are rather short, 0.11-0.15 times as long as the body, cylindrical and pale with dark apices. Alatae have a yellow or green abdomen with dark spots along the margins. *A. nasturtii* is generally similar to *A. gossypii* Glover, but they can be separated as follows:

Apterae viviparae

1. Siphunculi uniformly dark (Figure 1a). Hairs on femora shorter than the basal diameter of the femur (Figure 1a). Processus terminalis 1.3 - 2.7 times as long as the cauda ..... *A. gossypii*
- Siphunculi paler at the base than apex (Figure 1b). Many hairs on femora as long as or larger than the basal diameter of the femur (Figure 2b). Processus terminalis 1.0 - 1.6 times as long as the cauda ..... *A. nasturtii*

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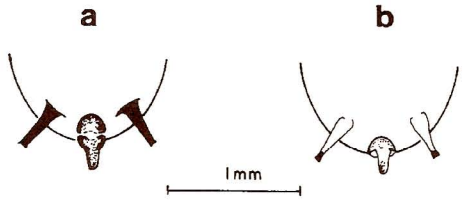

Figure 1: Abdomen of apterae. a. *A. gossypii*; b. *A. nasturtii*.

Alatae viviparae

1. Antennae with secondary rhinaria distributed III 3-16; IV 0 (Figure 2c), exceptionally 1-3; V 0. Processus terminalis 1.8 - 3.5 times as long as the cauda ..... *A. gossypii*
- Secondary rhinaria distributed III 8-16; IV 1-6 (Figure 2d), V 0-2. Processus terminalis 1.4 - 2.1 times as long as the cauda ..... *A. nasturtii*

Remaudière (1994) provides a key for the identification of further South American species of the genus *Aphis*.

Biological features: In the Northern hemisphere this species is holocyclic, alternating between *Rhamnus cathartica* (and *R. alnifolia*) and a wide variety of secondary hosts, among them *Solanum tuberosum*. Spring colonies on *Rhamnus* cause typical distortion of young leaves (Blackman & Eastop, 1994; Heie, 1986). In Argentina it has been collected on *Rumex* sp. and *Rumex crispus* (Starý & Delfino, 1987; Nieto Nafría *et al.*, 1994).

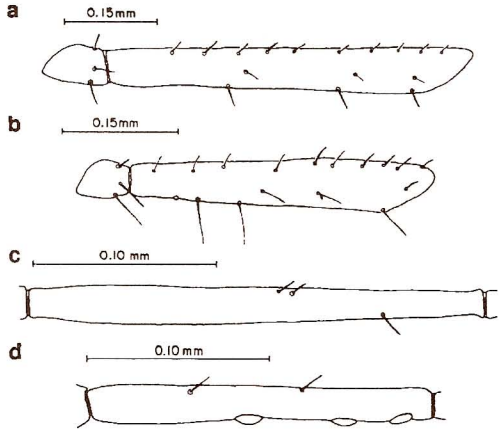

Figure 2: Hind trochanter and femur of apterae. a. *A. gossypii*; b. *A. nasturtii*. Fourth antennal segment of alatae. c. *A. gossypii*; d. *A. nasturtii*, showing three secondary rhinaria.

Geographical distribution: It is widely distributed in the Northern hemisphere, mainly in Europe across Asia to Japan, introduced and widespread in North America as well (Blackman & Eastop, 1994). In the Neotropical area has been previously reported from Argentina (Smith & Cermeli, 1979; Starý & Delfino, 1987; Nieto Nafría *et al.*, 1994).

Collection site and date: One apterous viviparous female on *Drimys winteri* J.R. et G. Forster var. *winteri* (Winteraceae) at the botanical garden of the Campus Juan Gómez Millas, Universidad de Chile, (October 23, 1991).

***Wahlgreniella nervata* (Gillette), 1908**

Synonyms (following Eastop & Hille Ris Lambers, 1976)

= *Amphorophora cicutae* Shinji, 1917
= *Amphorophora halli* Knowlton, 1927
= *Amphorophora henryi* Balachowsky & Cairaschi, 1941
= *Amphorophora janesi* Knowlton, 1938
= *Aulacorthum clavicornis* Richards, 1972
= *Rhopalosiphum arbuti* Davidson, 1910
= *Rhopalosiphum nervata* Gillette, 1908
(Figure 3)

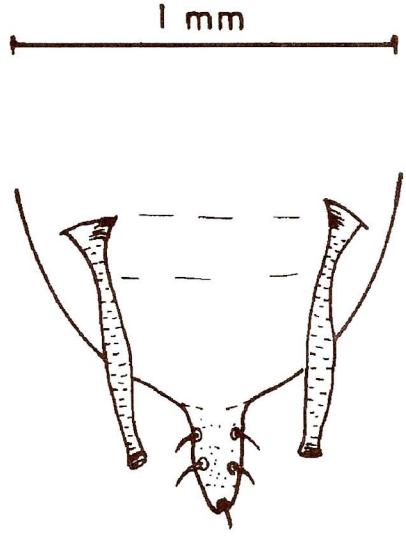

Figure 3: Abdomen of apterae of *W. nervata* showing clavate siphunculi and five caudal hairs.

Morphological description: (Plate 128, page 459 in Blackman & Eastop, 1984) This species has spindle-shaped pale green apterae 1.4-2.5 mm long, with long slender swollen pale siphunculi with dark apices. Alatae have a green abdomen with variably developed dorsal pigmentation which is sometimes barely detectable and at the other extreme forms a much perforated central patch. *Wahlgreniella* Hille Ris Lambers 1949 differs from other genera of Macrosiphini by the combination of smooth, slender clavate siphunculi, a pointed cauda usually bearing only 5 (rarely up to 7) hairs (Figure 3), the absence of secondary rhinaria from the antenae of apterae, and by the dark wing veins of the alatae (Hille Ris Lambers, 1949). Only one other species of *Wahlgreniella* is recorded from South-America, *W. australis* Delfino (Delfino, 1981) which appears to be a synonym of *'Amphorophora' peruviana* Essig (Essig, 1953). *W. australis* was described from *Cayaponia* sp. (Cucurbitaceae), a surprising host for *Wahlgreniella* which is mostly associated with Rosaceae and Ericaceae. The host of *A. peruviana* is not known. The two species can be separated by the following key for the South American species of *Wahlgreniella*.

Apterae viviparae

1. Body 2.3 - 3.2 times as long as the siphunculi which are 4.5 - 6.3 times as long as the base of the sixth antennal segment; cauda 1.9 - 2.8 times as long as the base of the last antennal segment, on *Rosa* spp ..... *W. nervata*
- Body 4.1 - 5.2 times as long as the siphunculi which are 2.5 - 3.3 times as long as the base of the last antennal segment; cauda 1.2 - 1.5 times as long as the base of the last antennal segment, on *Cayaponia* sp ..... *W. australis*

Alatae viviparae

1. Body 2.8 - 4.0 times as long as the siphunculi which are 3.9 - 5.6 times as long as the base of the last antennal segment; cauda 1.5 - 2.3 times as long as the base of the last antennal segment, on *Rosa* spp ..... *W. nervata*
- Body 4.9 - 5.6 times as long as the siphunculi which are 2.3 - 2.8 times as long as the base of the last antennal segment; cauda 1.0 - 1.3 times as long as the base of the last antennal segment, on *Cayaponia* sp ..... *W. australis*

Biological features: In North America this species seems to be holocyclic and heteroecious between *Rosa* spp. and Ericaceae, including *Arbutus* spp., while in Europe introduced anholocyclic populations occur on both host-plants (Blackman & Eastop, 1994). In Argentina it has been collected on *Rosa* sp. (Nieto Nafría *et al.*, 1994).

Geographical distribution: Nearctic and introduced to Paleartic Europe. In the Neotropical region it has been previously reported from Brazil (Smith & Cermeli, 1979) and Argentina (Nieto Nafría *et al.*, 1994).

Collection site and date: Apterae and alatae viviparous on *Rosa* sp. (Rosaceae) at the botanical garden of the Campus Juan Gómez Millas, Universidad de Chile, Santiago (September 26, 1995). The rose bushes were also infected with the "rose aphid" *Macrosiphum rosae* (L.). The aphids were preyed on by syrphid larvae and the plants were searched by females of *Diplazon laetatorius* (F.) (Ichneumonidae: Diplazontinae) a parthenogenetic parasite of Syrphidae.

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