

New associations between aphids and host plants in the Netherlands up to 2021 (Hemiptera: Sternorrhyncha: Aphidoidea)

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KEY WORDS

Phylloxeroidea, Adelgidae, Aphididae

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This contribution is a continuation of an elaborate study of host plants of aphids. Presented are 143 aphid-host plant associations observed in the Netherlands, including 54 combinations that are new records. Most of these findings are from Wageningen and Nijmegen, both in the province of Gelderland. Also added are some aphid-host plant associations long known, but still not published. Remarkable is the observation that already for many years some aphid species like *Myzus ascalonicus* and *Myzus ornatus* are found on their host plants year round. It is however crucial that the host plants stay alive in wintertime.

Introduction

This contribution is an addition to Piron (2017) and presents new associations between aphids and host plants observed in the Netherlands. Presented are 143 aphid-host plant associations of which 54 associations are new records. To the 54 aphid-host plant associations new to science a hash (#) is added to the name of the plant.

Some associations like *Phyllaphis fagi* on *Carpinus betulus*, *Sitobion avenae* on *Triticum aestivum* and *Tuberolachnus salignus* on *Salix alba* are already known for many years, but not published somewhere. Accidentally, I found on the internet that in 2014 Arnold C. Grosscurt observed *Uroleucon montanivorum* feeding on *Centaurea montana* (Grosscurt 2017) and he kindly allowed me to add his observation in this list. Previously, I thought that the recent found by A.H. de Wilde in 2019 should be considered as the first observation for the Netherlands (personal communication). This contribution collects all this information to present an overview for anybody interested in studying aphids and their host plants.

The observations are made in Wageningen, Nijmegen, Gendt (all province of Gelderland), Deventer (province of Overijssel) and Dronten (province of Flevoland). Between brackets the city of the observation is given. Only plants on which aphid colonies were established are included. Original photographs were made for 128 associations and when no photograph of the association is present an asterisk (*) is added to the name of the host plant. Photographs can be obtained by contacting the author. The aphid species were identified using a microscope and aphid determination keys by Blackman & Eastop (1994), Blackman (2010) and Stroyan (1984). The aphids are arranged according to Blackman & Eastop (1994) and Blackman (2010) and the genus names are in conformity with Remaudière & Remaudière (1997). In box 1, two corrections are made for the previous paper (Piron 2017).

Observations of aphid-host plant associations

Sternorrhyncha – Phylloxeroidea – Adelgidae

Pineus (*Pineus*) *pini* (Macquart) (identified by R.D. Dransfield, InfluentialPoints) on the young shoots of *Pinus mugo*, 2.v.2018 (Nijmegen).

Calaphidinae – Calaphidini

Phyllaphis fagi (Linnaeus) on underside of the leaves of *Carpinus betulus*[#], 18.vi.2010 (Wageningen).
Pterocallis (*Pterocallis*) *alni* (de Geer) on underside of the leaves of *Alnus cordata*, 1.vi.2019 (Nijmegen).

Aphidinae – Aphidini – Rhopalosiphina

Melanaphis pyrarica (Passerini) on the leaves of *Poa annua*, 12.vi.2018 (Nijmegen) (figure 1).
Rhopalosiphum insertum (Walker) on the flower stems and flowers of *Malus sylvestris*[#], 9.vi.2011 (Wageningen).

Aphidinae – Aphidini – Aphidina

Aphis (*Aphis*) *asclepiadis* Fitch on underside of the leaves of *Helianthus annuus*, 11.vii.2009 (Wageningen); on the flower stem of *Yucca filamentosa*^{*}, 2.vii.2009 (Wageningen).
Aphis (*Aphis*) *craccivora* Koch on the stems of *Cardamine hirsuta*[#], 24.vi.2018 (Nijmegen); on underside of the leaves, stems and bladders of *Colutea arborescens*, 7.vi.2018 (Nijmegen); on the stems of *Fallopia aubertii*[#], 29.vi.2018 (Nijmegen); on the growing tips of *Hatiora salicornioides*[#], 9.vii.2020 (Nijmegen); on the stems of *Matricaria chamomilla*, 27.viii.2018 (Nijmegen); on stems and underside of the leaves of *Oxalis corniculata*, 29.vi.2018 (Nijmegen); on the stems of *Vicia cracca*, 10.vi.2018 (Nijmegen).
Aphis (*Aphis*) *euphorbiae* Kaltenbach on the stems of *Euphorbia*



3. *Tuberolachnus salignus* feeding on *Salix alba*. Nijmegen (Gelderland), 19.ix.2019. Photo: Paul Piron

3. *Tuberolachnus salignus* voedend op *Salix alba*. Nijmegen (province of Gelderland), 19.ix.2019.



4. *Protrama ranunculi* feeding on *Ranunculus acris*. Wageningen (Gelderland), 29.xi.2020. Photo: Paul Piron

4. *Protrama ranunculi* voedend op *Ranunculus acris*. Wageningen (province of Gelderland), 29.xi.2020.

young shoots in the top and flowers of *Citrus volkameriana*[#], 14.v.2020 (Nijmegen); on underside of the leaves of *Helleborus niger*[#], 19.v.2014 (Wageningen); on the stems and flowers of *Salvia greggii* 'Joy'[#], 12.v.2020 (Nijmegen).

Aulacorthum (*Aulacorthum*) *solani* (Kaltenbach) on the stems of *Cardamine amara*[#], 26.iv.2020 (Nijmegen); on the stems of *Chenopodium album*, 24.viii.2017 (Nijmegen); on the stems of *Clematis* spp., 6.iii.2014 (Wageningen); on underside of the leaves of *Cucumis sativus*, 4.ix.2010 (Wageningen); on the stems and underside of the leaves of *Dioscorea elephantipes*[#], 12.vii.2017 (Nijmegen); on the flower stems of *Doronicum orientale*, 11.iv.2018 (Nijmegen); on the flower stems of *Doronicum orientale* 'Little Leo'[#], 11.iv.2018 (Nijmegen); on underside of the young leaves of *Euonymus alatus*[#], 4.v.2018 (Nijmegen); on the growing tips of *Hatiora salicornioides*[#], 1.v.2020 (Nijmegen); on the stem of *Hieracium aurantiacum*, 7.vi.2019 (Nijmegen); on underside of the leaves of *Hydrangea macrophylla*, 18.v.2018 (Nijmegen); on the young growth of *Rosa* spp., 29.iv.2012 (Wageningen); on the young shoots of *Spiraea trilobata*[#], 18.v.2017 (Wageningen); on underside of the leaves of *Urtica dioica*[#], 16.vii.2005 (Wageningen); on the stems and underside of the leaves of *Vicia faba*, 10.ix.2010 (Wageningen); on the stems of *Vinca major*, 1.v.2015 (Wageningen); on underside of the leaves of *Viola tricolor*^{*}, 3.v.2005 (Wageningen). *Brachycaudus* (*Prunaphis*) *cardui* (Linnaeus) on the stems of *Bellis perennis*^{*}, 2.vi.2020 (Nijmegen); on the stems of *Senecio jacobaea*^{*}, 2.vi.2020 (Nijmegen); on the flower stems of *Tanacetum vulgare*, 7.xi.2009 (Wageningen).

Brachycaudus (*Brachycaudus*) *helichrysi* (Kaltenbach) on the leaves and stems of *Erigeron annuus*, 15.vi.2018 (Nijmegen).

Brachycaudus (*Acaudus*) *lateralis* (Walker) on underside of the lower leaves of *Senecio jacobaea*^{*}, 2.vi.2020 (Nijmegen).

Brachycaudus (*Acaudus*) *lychnidis* (Linnaeus) on the young shoots of *Silene coronaria*^{*}, 22.vii.2020 (Nijmegen).

Cavariella (*Cavariella*) *aegopodii* (Scopoli) on the young shoots between young developing leaves of *Salix integra* 'Hakuro-nishiki'[#], 29.v.2018 (Nijmegen).

Illinoia (*Illinoia*) *liriodendri* (Monell) on underside of the leaves of *Liriodendron tulipifera*, 6.vi.2018 (Nijmegen).

Lipaphis (*Lipaphis*) *erysimi* (Kaltenbach) on the stems and leaves of *Cardamine hirsuta*, 23.viii.2017 (Nijmegen).

Macrosiphum (*Macrosiphum*) *euphorbiae* (Thomas) on the stems and underside of the leaves of *Aquilegia vulgaris*, 27.vi.2009 (Wageningen); on the leaves of *Bellis perennis*, 1.v.2018 (Nijmegen); on underside of the leaves and on the young shoots of *Buddleja davidii*[#], 22.v.2020 (Nijmegen); on the stems of *Cardamine hirsuta*, 29.x.2017 (Nijmegen); on the stems of *Centranthus ruber*, 14.v.2020 (Nijmegen); on the stems and underside of the leaves of *Chaenomeles japonica*, 13.v.2015 (Wageningen); on the stems of *Chenopodium album*, 7.vi.2020 (Nijmegen); on the stems of *Conyza canadensis*[#], 23.x.2018 (Nijmegen); on the flower stems of *Doronicum orientale* 'Little Leo'[#], 11.iv.2018 (Nijmegen); on underside of the leaves of *Forsythia x intermedia*[#], 29.v.2018 (Nijmegen); on the growing tips of *Hatiora salicornioides*[#], 17.v.2020 (Nijmegen); on the stems of *Leucanthemum vulgare*, 8.v.2017 (Wageningen); on the young growth between young developing leaves of *Salix integra* 'Hakuro-nishiki'[#], 24.iv.2019 (Nijmegen); on the stems and flowers of *Salvia greggii* 'Joy'[#], 12.v.2020 (Nijmegen); on the stems of *Salvia nemorosa* 'Caradonna', 7.v.2020 (Nijmegen); on the young shoots and underside of the young leaves of *Spiraea douglasii* var. *roseata*, 26.iv.2017 (Wageningen).

Macrosiphum (*Macrosiphum*) *rosae* (Linnaeus) on the stems of *Centranthus ruber*, 14.v.2020 (Nijmegen); on underside of the young leaves of *Ilex aquifolium*, 16.v.2017 (Wageningen).

Myzus (*Nectarosiphon*) *ascalonicus* Doncaster on the leaves of *Allium sativum*, 5.ix.2017 (Nijmegen); on the stems of *Cardamine amara*[#], 26.iv.2020 (Nijmegen); on the young shoots of *Euonymus alatus*[#], 30.iv.2020 (Nijmegen); on the stems and underside of the leaves of *Ranunculus acris*, 7.xii.2020 (Wageningen); on the stems of *Stellaria holostea*, 23.iii.2012 (Wageningen).

Myzus (*Myzus*) *cerasi* (Fabricius) on the stems of *Cardamine hirsuta*[#], 21.vi.2018 (Nijmegen); on the stems and underside of the leaves of *Veronica chamaedrys*, 18.vi.2018 (Nijmegen).

Myzus (*Sciomyzus*) *cymbalariae* Stroyan on the leaves of *Allium sativum*, 5.ix.2017 (Nijmegen); on the stems and underside of the leaves of *Cardamine hirsuta*[#], 25.xi.2018 (Nijmegen); on the stems of *Stellaria media*, 2.ix.2017 (Nijmegen).

Myzus (*Myzus*) *ornatus* Laing on the stems of *Anthriscus sylvestris*[#], 13.vi.2019 (Nijmegen); on underside of the leaves of *Calendula officinalis*[#], 27.xi.2019 (Nijmegen); on the stems and underside of the leaves of *Chrysanthemum indicum*, 3.xii.2020 (Nijmegen);

on the flower stems of *Doronicum orientale* 'Little Leo'[#], 22.iv.2019 (Nijmegen); on the stems of *Erigeron annuus*, 10.vi.2018 (Nijmegen); on underside of the leaves of *Forsythia x intermedia*, 29.v.2018 (Nijmegen); on the growing tips of *Hatiora salicornioides*[#], 21.v.2020 (Nijmegen); on the stems of *Impatiens parviflora*[#], 29.viii.2011 (Wageningen); on underside of the leaves of *Ranunculus acris*, 4.xii.2020 (Wageningen); on the stems of *Salvia greggii* 'Joy'[#], 13.v.2020 (Nijmegen); on the stems of *Salvia nemorosa* 'Caradonna'[#], 7.v.2020 (Nijmegen); on underside of the leaves of *Sonchus oleraceus*, 9.v.2010 (Wageningen); on the leaves and the stems of *Trifolium repens*, 8.xii.2020 (Nijmegen); on underside of the leaves of *Urtica dioica*[#], 21.vii.2012 (Wageningen); on underside of the leaves of *Vicia faba*, 17.ii.2019 (Nijmegen). *Myzus* (*Nectarosiphon*) *persicae* (Sulzer) on the stems and underside of the leaves of *Anthriscus sylvestris*[#], 4.v.2019 (Nijmegen); on the young leaves of *Buddleja davidii*, 16.v.2020 (Nijmegen). on the stems of *Cardamine amara*, 2.v.2020 (Nijmegen); on the growing tips of *Hatiora salicornioides*[#], 22.iii.2020 (Nijmegen); on the stems of *Linaria vulgaris*[#], 24.iv.2019 (Nijmegen); on the stems and flowers of *Senecio vulgaris*, 12.xii.2018 (Nijmegen); on the stems of *Solanum nigrum*, 6.xi.2020 (Nijmegen). *Neotoxoptera formosana* (Takahashi) on the stems and underside of the leaves of *Dianthus caryophyllus* 'Pink Kisses'[#], 8.v.2020 (Nijmegen); on the leaves of *Poa annua*[#], 31.v.2009 (Wageningen); on the stems and underside of the leaves of *Viola tricolor*[#], 8.v.2020 (Nijmegen). *Sitobion* (*Sitobion*) *avenae* (Fabricius) in the ears of *Triticum aestivum*^{*}, 11.vi.1991 (Wageningen). *Uroleucon* (*Uromelan*) *montanivorum* (Mosbacher) on underside of

the leaves of *Centaurea montana*, 12.v.2014 (Dronten) (Grosscurt 2017) (figure 2).

Uroleucon (*Uroleucon*) *sonchi* (Linnaeus) on the stems of *Taraxacum officinale*, 4.x.2016 (Wageningen).

Wahlgreniella nervata nervata (Gillette) on the stems and leaves of *Rosa chinensis*[#], 16.i.2020 (Deventer).

Lachninae – Tuberolachnini

Tuberolachnus (*Tuberolachnus*) *salignus* (J.F. Gmelin) on the branches of *Salix alba*, 19.ix.2019 (Nijmegen) (figure 3).

Lachninae – Eulachnini

Cinara (*Schizolachnus*) *pineti* (Fabricius) on the needles of *Pinus mugo*, 15.ix.2017 (Nijmegen).

Lachninae – Tramini

Protrama ranunculi (del Guercio) on the roots of *Ranunculus acris*[#], 29.xi.2020 (Wageningen) (A. Majoor personal communication) (figure 4).

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Samenvatting

Nieuwe associaties tussen bladluizen en voedselplanten in Nederland tot 2021 (Hemiptera: Sternorrhyncha: Aphidoidea)

Sinds de laatste publicatie over bladluis-voedselplantcombinaties zijn in Nederland 143 nieuwe bladluis-voedselplantcombinaties gevonden. Hiervan zijn 54 combinaties nieuw voor de wetenschap. Alle combinaties worden hier opgesomd en de combinaties die nieuw zijn voor de wetenschap zijn gemerkt met een hekje (#) achter de naam van de plant. Ook zijn nu enkele al veel langer bekende bladluis-voedselplantcombinaties opgenomen, omdat deze tot nu toe niet waren gepubliceerd. Arnold Grosscurt was zo vriendelijk mij toestemming te geven om *Uroleucon montanivorum*, die hij al in 2014 heeft gevonden, ook in deze lijst te vermelden. Het vermelden van de al bekende combinaties in dit overzicht heeft tot voordeel dat ze bekend worden en bovendien kan het nuttig zijn voor de eventuele bestudering van bijvoorbeeld de biologie of het gedrag van bepaalde bladluissoorten. Van 128 combinaties zijn originele foto's gemaakt die opgevraagd kunnen worden bij de auteur. De combinaties waarvan geen foto is zijn gemerkt met een sterretje (*) achter de naam van de plant. Opvallend is dat al vele jaren enkele bladluissoorten zoals bijvoorbeeld *Myzus ascalonicus* en *Myzus ornatus* gedurende het hele jaar gevonden kunnen worden. Het is wel belangrijk dat de planten waarop de bladluizen zitten de winter overleven.

