# Native insects on non-native plants in The Netherlands: curiosities or common practice?

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**Herbivorous insects, introduced plants, inventory, phytophagous insects**

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**In The Netherlands, close to 10% of all plant species occurring in natural habitats are non-native: species that were introduced from e.g. North America or Asia. Insect communities on non-native plants tend to get little attention from many (amateur) entomologists in The Netherlands for two main reasons. First, it is assumed that non-native plant species are not commonly used by herbivorous insects as host plants. Second, many entomologists consider insects associated with non-native plants of minor interest. Here, we give an overview of a large number (99) of native herbivorous insect species collected from non-native plant, clearly showing that non-native plants are used often as host plants.**

## Introduction

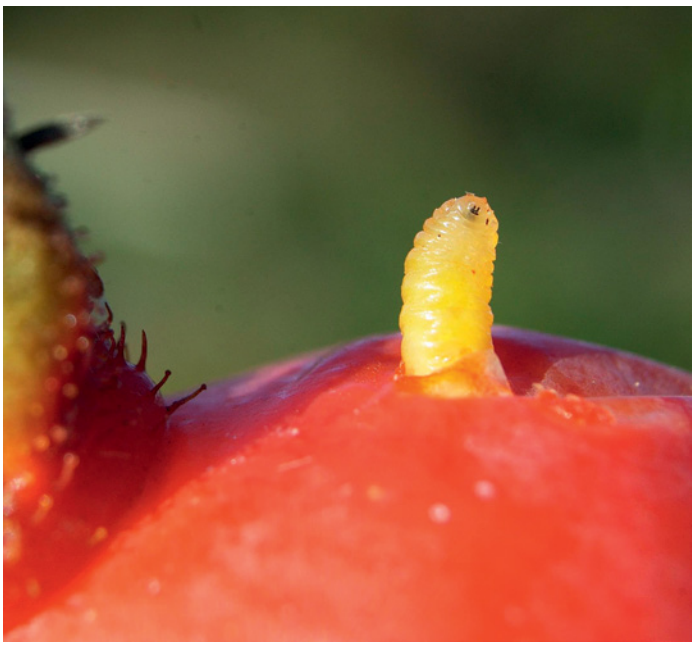
Non-native species can cause serious economic damage. In North America more than 50,000 species of plants, animals and microbes have been introduced, causing an estimated $137 billion damage annually (Pimentel 2001). Furthermore, in many countries non-native species have a large effect on native species and therefore also on the natural ecosystems in which they occur. The numbers of non-native species introduced are hard to estimate accurately; often it is difficult to determine if species are established, especially for smaller taxa (insects, microbes, etc.), but there is no doubt that the numbers are vast. To give some examples, in most countries at least 10% of the plant species are introduced, ranging up to almost 50% in New Zealand (Heywood *et al.* 1989). In California, USA more than a thousand non-native plants have established (Graves & Shapiro 2003) and in Hawaii between 460-690 plant species have established (Mueller- Dombois & Loope 1990). The Netherlands is no exception concerning the introduction of non-native species. Naturalis Biodiversity Centre provides detailed information about non-native species in The Netherlands, e.g. on their website www.soortenregister.nl. The present version of the list shows in total 275 non-native plant species have been classified as established in The Netherlands, which is about 9.1% of all plant species, occurring in natural habitats.

Most introduced species never establish, but part of the species does and some even become pests. It remains unclear why some non-native species become successful and sometimes even become invasive (e.g. Agrawal & Kotanen 2003, Blossey & Nötzold 1995, Colautti *et al.* 2004, Keane & Crawley 2002, Mitchell & Power 2003, Torchin *et al.* 2003). The 'escape' from natural enemies has been proposed as one major factor enhancing the success of non-native species. Both the 'Enemy Escape Hypothesis' (Jones & Lawton 1991) and the more commonly used 'Enemy Release Hypothesis' (ERH) (Williamson 1996) suggest that species shifting to a novel environment (e.g., ecosystem or host) suffer less from natural enemies like predators, parasites, herbivores and pathogens. Blossey & Nötzold (1995) suggested the 'Evolution of Increased Competitive Ability Hypothesis' (EICA) as possible explanation of the success of non-native species. The EICA predicts that if plants escape from their herbivores, they will allocate fewer resources to herbivore defence and will be favoured by natural selection. Because of this, the species will evolve a relatively higher competitive ability than native species. Hull-Sanders *et al.* (2007) refined the EICA by stating that non-native plants mainly escape from specialist herbivores. The process predicted by the EICA is most likely not only applicable to plants, but also to other groups of species, with different types of enemies like predators, parasites and pathogens.

In The Netherlands, little is known about native insects occurring on non-native plant species. Furthermore, non-native plants tend to get little attention from (amateur) entomologists. This is partly due to general belief that non-native species are hardly used by insects as host plants. Furthermore, many entomologists consider insects associated with non-native plants uninteresting, since their ecological interaction is not natural. In this study we give an overview of native phytophagous (hereafter called herbivorous) insect species collected on non-native plants in The Netherlands. With this overview we hope to give insight in how commonly native insects occur on non-native plants.

## Methods

In the period 2008-2011, herbivorous insects were collected on a wide variety of (mainly woody) non-native host plants on different locations in The Netherlands. Part of the plant species sampled was established, occurring in natural habitats, such as



**1.** *Rhagoletis alternata* larva emerging from a Japanese rose berry (*Rosa rugosa*). Photo: Kim Meijer
**1.** Een larve van *Rhagoletis alternata* kruipt uit een bes van rimpelroos (*Rosa rugosa*).

forests. The rest of the plant species occurred in more cultivated areas like parks, gardens and rural areas. The non-native plant species sampled originated mainly from North America and Asia, a few originated from East or South-East Europe. Three collection methods were used. (1) Sweep netting: plants were sampled by sweeping through the branches with a net (50 cm diameter) for approximately 5-20 seconds. This method was used for all types of plants (herbaceous plants, shrubs, small trees and trees with low branches). (2) Beating: plants were sampled by beating or shaking branches above a 1 $m^2$ sheet for approximately ten seconds. This method was not used for herbaceous plants. (3) Visual searching: after collecting by either sweep netting or beating plants were checked for the presence of leafminers and galls. This method was used for all types of plants. After collection, insects were stored in alcohol (70%), and either identified by one of the authors or sent to specialists for identification.

## Results and discussion

Table 1 gives an overview of all native herbivorous insect species observed on non-native plants, including insect order, family and feeding guild, and plant type (woody or herbaceous). In total, 99 native herbivorous insect species were collected from 36 different non-native plants: 24 Coleoptera, 9 Diptera, 19 Hemiptera, 7 Hymenoptera, 39 Lepidoptera and 1 Thysanoptera. These insects belong to five different feeding guilds. Most insect species found were either leaf chewers (55), sap feeders (18) or leaf miners (21). The rest were berry or seed feeders (4) and one galler.

Most insect species were found only on a single non-native host plant species, but some insects occurred on several (up to five) plant species. Because not all sampling methods were applied to all plant species, it is not possible to compare differences in the number of native insects species found. For example, most native insect species (60) have been found on black cherry (*Prunus serotina*). However, black cherry was sampled more extensively than other plant species, as it was one of the study organisms during other studies by the authors in the same period. We collected a few non-native insect species on non-native plants, which were excluded from the list. For example we found *Asiphonaphis pruni* (Wilson & Davis) (Hemiptera: Aphididae) on black cherry, *Graphocephala fennahi* (Young) (Hemiptera: Cicadellidae) on common rhododendron (*Rhododendron ponticum*) and *Macrosaccus robiniella* (Clemens) (Lepidoptera: Gracillariidae) on black locust (*Robinia pseudoacacia*). These six species originate from North America.

Some of the observations listed in table 1 should be considered with care. For some species (leafminers, gallers and berry/seed feeders) the direct interaction with the host plant is clear. These are species that live inside the plant (often as larvae) and in this stage are unable to switch to a different plant. For other insect species (different species of Coleoptera

2. *Gonioctena quinquepunctata* on black cherry (*Prunus serotina*). Photo: Kim Meijer
**2.** Het vijfstippelig struikhaantje (*Gonioctena quinquepunctata*) op Amerikaanse vogelkers (*Prunus serotina*).

**Table 1.** List of herbivorous insects found on non-native plants in The Netherlands in the period 2008-2011. Of each insect species the order, family and feeding type is shown. Of each plant species the growth form and country/region of origin is shown. BSF = Berry or seed feeder; LC = Leaf chewers; LM = Leafminer; SF = Sap feeder; G = Galler. W = Woody; H = Herbaceous. AS = Asia; JA = Japan; C_AS = Central Asia; NA = North America; CH = China; S_EU = Southern Europe; E_EU = Eastern Europe; SE_EU = South-eastern Europe; E_AS = Eastern Asia; W_AS = Western Asia.
**Tabel 1.** Lijst van hebivore insecten gevonden op uitheemse planten in Nederland in de periode 2008-2011. Van ieder insect is de orde, de familie en het foerageertype gegeven. Van iedere plant is de groeivorm en het land/regio van oorsprong gegeven. BSF = Bes- of zaadeter; LC = Bladeter; LM = Bladmineerder; SF = Sapzuigend; G = Gal. W = Houtig; H = Kruidachtig. AS = Azië; JA = Japan; C_AS = Centraal-Azië; NA = Noord-America; CH = China; S_EU = Zuid-Europa; E_EU = Oost-Europa; SE_EU = Zuidoost-Europa; E_AS = Oost-Azië; W_AS = West-Azië.

| Insect order | Insect family | Insect species (feeding type) | Host plant (growth form, origin) |
|---|---|---|---|
| Coleoptera | Apionidae | *Protapion fulvipes* (Fourcroy) (LC) | *Prunus laurocerasus* - Cherry laurel (W, E_EU) |
| | | *Protapion nigritarse* (Kirby) (LC) | *Fallopia japonica* - Japanese knotweed (H, JA) |
| | Cerambycidae | *Tetrops praeustus* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Chrysomelidae | *Gonioctena quinquepunctata* (Fabricius) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Curculionoidea | *Curculio glandium* (Marsham) (LC) | *Fallopia japonica* - Japanese knotweed (H, JA) |
| | | *Curculio pyrrhoceras* (Marsham) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Furcipus rectirostris* (Linnaeus) (LC) | *Prunus laurocerasus* - Cherry laurel (W, E_EU) |
| | | | *Prunus serotina* - Black cherry (W, NA) |
| | | *Magdalis ruficornis* (Linnaeus) (LC) | *Amelanchier* spec. - Shadbush (W, NA) |
| | | *Otiorhynchus crataegi* (Germar) (LC) | *Skimmia japonica* - Skimmia (W, JA) |
| | | *Otiorhynchus dieckmanni* (Magnano) (LC) | *Aucuba japonica* - Spotted laurel (W, JA) |
| | | *Otiorhynchus singularis* (Linnaeus) (LC) | *Aucuba japonica* - Spotted laurel (W, JA) |
| | | *Phyllobius argentatus* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Phyllobius maculicornis* (Germar) (LC) | *Ginkgo biloba* - Ginko (W, JA) |
| | | *Phyllobius oblongus* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Phyllobius pyri* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Phyllobius virideaeris* (Laicharting) (LC) | *Cornus controversa* - Giant dogwood (W, JA) |
| | | *Polydrusus cervinus* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Rhamphus oxyacanthae* (Marsham) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Sciaphilus asperatus* (Bonsdorff) (LC) | *Hydrangea macrophylla* - Hortensia (W, JA) |
| | | *Strophosoma capitatum* (Geer) (LC) | *Amelanchier* spec. - Shadbush (W, NA) |
| | | | *Crataegus viridis* - Green hawthorn (W, NA) |
| | | | *Prunus serotina* - Black cherry (W, NA) |
| | | *Strophosoma melanogrammum* (Forster) (LC) | *Prunus laurocerasus* - Cherry laurel (W, E_EU) |
| | | | *Berberis thunbergii* - Japanese barberry (W, JA) |
| | | | *Crataegus viridis* - Green hawthorn (W, NA) |
| | | | *Prunus serotina* - Black cherry (W, NA) |
| | | | *Quercus cerris* - Turkey oak (W, S_EU) |
| | | *Tychius picirostris* (Fabricius) (LC) | *Parthenocissus quinquefolia* - Virginia creeper (W, NA) |
| | Latridiidae | *Cortinicahra gibbosa* (Herbst) (LC) | *Amelanchier* spec. - Shadbush (W, NA) |
| | Rhynchitidae | *Caenorhinus pauxillus* (Germar) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| Diptera | Agromyzidae | *Amauromyza verbasci* (Bouché) (LM) | *Buddleja davidii* - Summer lilac (W, CH) |
| | | *Aulagromyza cornigera* (Griffiths) (LM) | *Symphoricarpos albus* - Common snowberry (W, NA) |
| | | | *Lonicera tatarica* - Tartarian honeysuckle (W, W_AS) |
| | | *Aulagromyza hendeliana* (Hering) (LM) | *Symphoricarpos albus* - Common snowberry (W, NA) |
| | | *Aulagromyza luteoscutellata* (De Meijere) (LM) | *Symphoricarpos albus* - Common snowberry (W, NA) |
| | | | *Lonicera tatarica* - Tartarian honeysuckle (W, W_AS) |
| | | *Chromatomyia lonicerae* (Robineau-Desvoidy) (LM) | *Symphoricarpos albus* - Common snowberry (W, NA) |
| | | *Phytoliriomyza melampyga* (Loew) (LM) | *Impatiens glandulifera* - Himalayan balsam (H, AS) |
| | Tephritidae | *Anomoia purmunda* (Harris) (BSF) | *Prunus serotina* - Black cherry (W, NA) |
| | | | *Cotoneaster sternianus* - Stern's cotoneaster (W, W_AS) |
| | | *Rhagoletis alternata* (Fallén) (BSF) | *Rosa rugosa* - Japanese rose (W, E-AS) |
| | | *Rhagoletis cerasi* (Linnaeus) (BSF) | *Lonicera tatarica* - Tartarian honeysuckle (W, W_AS) |
| | | | *Symphoricarpos albus* - Common snowberry (W, NA) |
| Hemiptera | Acanthosomatidae | *Acanthosoma haemorrhoidale* (Linnaeus) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Elasmostethus interstinctus* (Linnaeus) (SF) | *Amelanchier* spec. - Shadbush (W, NA) |
| | Aphididae | *Aphis* spec. (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Myzus* spec. (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Rhopalosiphum padi* (Linnaeus) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | Aphrophoridae | *Aphrophora alni* (Fallén) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | Cercopidae | *Cercopis vulnerata* (Rossi) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Haematoloma dorsata* (Ahrens) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | Cicadellidae | *Alnetoidea alneti* (Dahlbom) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Edwardsiana frustrator* (Edwards) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Empoasca vitis* (Goethe) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | Coreidae | *Coreus marginatus* (Linnaeus) (SF) | *Mahonia aquifolium* - Oreogon-grape (W, NA) |
| | | | *Rosa rugosa* - Japanese rose (W, E-AS) |

| Insect order | Insect family | Insect species (feeding type) | Host plant (growth form, origin) |
|---|---|---|---|
| | Lygaeidae | *Kleidocerys resedae* (Panzer) (SF) | *Amelanchier* spec. - Shadbush (W, NA) |
| | | | *Fagus grandifolia* - American beech (W, NA) |
| | | | *Prunus serotina* - Black cherry (W, NA) |
| | | | *Berberis thunbergii* - Japanese barberry (W, JA) |
| | | | *Fallopia japonica* - Japanese knotweed (H, JA) |
| | Miridae | *Campyloneura virgula* (Herrich-Schaeffer) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | | | *Robinia pseudoacacia* - Black locust (W, NA) |
| | | *Harpocera thoracica* (Fallén) (SF) | *Larix kaempferi* - Japanese larch (W, JA) |
| | | *Lygocoris pabulinus* (Linnaeus) (SF) | *Prunus serotina* - Black cherry (W, NA) |
| | Pentatomidae | *Palomena prasina* (Linnaeus) (SF) | *Acer japonicum* - Japanese maple (W, E_AS) |
| | | | *Tilia americana* - American linden (W, NA) |
| | Psychidae | *Cacopsylla* spec. (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Pyrrhocoridae | *Pyrrhocoris apterus* (Linnaeus) (SF) | *Hibiscus* syriacus - Rose of Sharon (W, AS) |
| **Hymenoptera** | Cynipidae | *Aphelonyx cerricola* (Giraud) (G) | *Quercus cerris* - Turkey oak (W, S_EU) |
| | Pamphiliidae | *Neurotoma* spec. (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Tenthredinidae | *Metallus pumilus* (Klug) (LM) | *Rubus spectabilis* - Salmonberry (W, NA) |
| | | *Pareophora pruni* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Periclista* spec. (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Profenusa pygmaea* (Klug) (LM) | *Quercus palustris* - Pin oak (W, NA) |
| | Torymidae | *Megastigmus aculeatus* (Swederus) (BSF) | *Rosa rugosa* - Japanese rose (W, E-AS) |
| **Lepidoptera** | Bucculatricidae | *Bucculatrix thoracella* (Thunberg) (LM) | *Tilia mongolica* - Mongolian linden (W, AS) |
| | Coleophoridae | *Coleophora* spec (LC) | *Amelanchier* spec. - Shadbush (W, NA) |
| | | | *Prunus serotina* - Black cherry (W, NA) |
| | | *Coleophora coracipennella* (Hübner) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Coleophora hemerobiella* (Scopoli) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Elachistidae | *Perittia obscurepunctella* (Stainton) (LM) | *Symphoricarpos albus* - Common snowberry (W, NA) |
| | Geometridae | *Operophtera brumata* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Phigalia pilosariaa* (Denis & Schiffermüller) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Gracillariidae | *Cameraria ohridella* (Deschka & Dimic) (LM) | *Aesculus flava* - Yellow buckeye (W, NA) |
| | | | *Aesculus glabra* - Ohio buckeye (W, NA) |
| | | | *Aesculus hippocastanum* - Horse-chestnut (W, SE_EU) |
| | | *Phyllonorycter emberizaepenella* (Bouché) (LM) | *Symphoricarpos albus* - Common snowberry (W, NA) |
| | | *Phyllonorycter leucographella* (Zeller) (LM) | *Malus domesticus* - Apple (W, C_AS) |
| | | *Phyllonorycter* spec (LM) | *Quercus prinus* - Chestnut oak (W, NA) |
| | Lymantriidae | *Euproctis chrysorrhoea* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Euproctis similis* (Fuessly) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Lymantria dispar* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Orgyia antiqua* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Lyonetiidae | *Lyonetia clerkella* (Linnaeus) (LM) | *Prunus laurocerasus* - Cherry laurel (W, E_EU) |
| | | | *Amelanchier* spec. - Shadbush (W, NA) |
| | | | *Prunus serotina* - Black cherry (W, NA) |
| | Nepticulidae | *Ectoedemia albifasciella* (Heinemann) (LM) | *Quercus palustris* - Pin oak (W, NA) |
| | | *Stigmella aurella* (Fabricius) (LM) | *Rubus spectabilis* - Salmonberry (W, NA) |
| | | *Stigmella centifoliella* (Zeller) (LM) | *Rosa rugosa* - Japanese rose (W, E-AS) |
| | | *Stigmella microtheriella* (Stainton) (LM) | *Corylus colurna* - Turkish hazel (W, AS) |
| | | *Stigmella samiatella* (Zeller) (LM) | *Quercus frainetto* - Hungarian oak (W, SE_EU) |
| | Noctuidae | *Agrochola lota* (Clerck) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Amphipyra pyramidea* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Cosmia trapezina* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Craniophora ligustri* (Denis & Schiffermüller) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Cucullia* spec. (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Diloba caeruleocephala* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Eupsilia transversa* (Hufnagel) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Orthosia cerasi* (Fabricius) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | | *Quercus rubra* - Northern red oak (W, NA) |
| | | *Orthosia cruda* (Denis & Schiffermüller) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Orthosia incerta* (Hufnagel) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Orthosia gracilis* (Denis & Schiffermüller) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Orthosia populeti* (Fabricius) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Perigrapha munda* (Denis & Schiffermüller) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Psychidae | *Psyche casta* (Pallas) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | Tischeriidae | *Coptotriche marginea* (Haworth) (LC) | *Rubus spectabilis* - Salmonberry (W, NA) |
| | Tortricidae | *Archips rosana* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| | | *Archips xylosteana* (Linnaeus) (LM) | *Prunus serotina* - Black cherry (W, NA) |
| | Yponomeutidae | *Yponomeuta evonymella* (Linnaeus) (LC) | *Prunus serotina* - Black cherry (W, NA) |
| **Thysanoptera** | Thripidae | *Limothrips cerealium* Haliday (LC) | *Prunus serotina* - Black cherry (W, NA) |

3. Firebugs (*Pyrrhocoris apterus*) on the fruits of a rose of Sharon (*Hibiscus syriacus*). Photo: Menno Schilthuizen
**3.** Vuurwantsen (*Pyrrhocoris apterus*) op de vruchten van tuinhibiscus (*Hibiscus syriacus*).

and Lepidoptera (larvae), and Hemiptera) this interaction is less certain. Individuals capable of flight are often observed on non-feeding plants, especially late in the season. Furthermore e.g. caterpillars sometimes fall from their host plant, ending up on a different plant species below the original one. This happens, for example, with *Orthesia caterpillars* (Lepidoptera: Noctuidae), falling from oak trees (*Quercus*) onto different shrub species growing below (K. Meijer personal observation).

## Conclusion

The general believe amongst many entomologists is that non-native plants are 'empty'. But our results clearly show the opposite. In general, non-native plants are far from empty, even though there are great differences between plant species. For example, common rhododendron (*Rhododendron ponticum*) has been sampled many times, but no native insects have been found, while on black cherry 60 insect species have been found (including a leafmining and a berry feeding species).

Furthermore, there is a census that insect species occurring on non-native plants are of no interest. This is very unfortunate, since these cases can be used to study e.g. the Enemy Release Hypothesis, or the adaptation of herbivorous insects to novel host plants and vice versa. Furthermore, studying these cases could provide us with important knowledge on the possibilities for biocontrol of pest species like the black cherry.

We hope that our results will stimulate entomologists to study insects on non-native plants in The Netherlands. Furthermore, we welcome additional observations of native insects occurring on non-native plants to enlarge the list of species shown in table 1. We particularly welcome formally-identified insect and plant species, as well as photographs and specimens (dry or in alcohol) of the insects.

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**4.** The leafmining fly *Phytoliriomyza melampyga* in the leafs of Himalayan balsam (*Impatiens glandulifera*). Photo: Kim Meijer
**4.** De bladmineerende vlieg *Phytoliriomyza melampyga* in de bladeren van reuzenbalsemien (*Impatiens glandulifera*).

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## Samenvatting

**Inheemse insecten op uitheemse planten in Nederland: een zeldzaamheid of niet?**
Bijna 10% van de plantensoorten die in Nederland in het wild voorkomen zijn uitheems. Deze soorten zijn geïntroduceerd vanuit bijvoorbeeld Noord-Amerika of Azië en hebben zich gevestigd in de Nederlandse natuur. Desondanks worden uitheemse planten vaak genegeerd door (amateur)entomologen; slechts weinigen onderzoeken uitheemse planten op bloembezoekende of herbivore insecten. Dit gebrek aan aandacht wordt ten dele veroorzaakt door de algemeen gevestigde overtuiging dat uitheemse planten niet of nauwelijks als waardplant gebruikt worden door inheemse insecten. Daarnaast worden waarnemingen van herbivore insecten op uitheemse planten vaak gezien als oninteressant, omdat het geen oorspronkelijke ecologische interactie betreft. In deze studie geven wij een overzicht van een groot aantal herbivore insecten gevonden op uitheemse planten, namelijk aan de hand van 99 insectensoorten. Dit is een duidelijke indicatie dat dit fenomeen algemener is dan gedacht. Verder hopen wij (amateur)entomologen te overtuigen van het belang van dit soort waarnemingen. Het kan ons veel leren over het succes van sommige invasieve plantensoorten, de eventuele bestrijding hiervan en de interacties tussen inheemse en uitheemse soorten.

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