



Aphis gossypii Glover, 1877 - Cotton aphid, melon aphid (Hemiptera, Aphididae). Chapter 14: Factsheets for 80 representative alien species

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14.33 – *Aphis gossypii* Glover, 1877 - Cotton aphid, melon aphid (Hemiptera, Aphididae)

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Description and biological cycle: Small aphid, about 2 mm long, phloem-feeding with two virginiparous forms. Winged and wingless, highly variable in colour from yellowish green to partly black; immature stages pale yellow to pale green (*Photo- wingless female and immatures*). Highly polyphagous species, a major pest of cultivated plants in the families Cucurbitaceae, Rutaceae, Malvaceae and of Citrus trees. Flight range of winged adults is limited. Long-range dispersal of eggs, immature stages and adults is human-mediated with the transport of infested plant material. In Europe, it reproduces by apomictic parthenogenesis, and can produce nearly sixty generations a year. The optimal temperature is 21–27 °C. Viviparous females produce 70–80 offspring at a rate of 4.3 per day. Developmental periods of immature stages vary from 21 d at 10°C to 4 d at 30°C. Good resistance to summer heat. Dry weather conditions are favourable and heavy rainfall decreases population sizes.

Native habitat (EUNIS code): Unknown.

Habitat occupied in invaded range (EUNIS code): I1- Arable land and market gardens; I2- Cultivated areas of gardens and parks; J100- glasshouses.

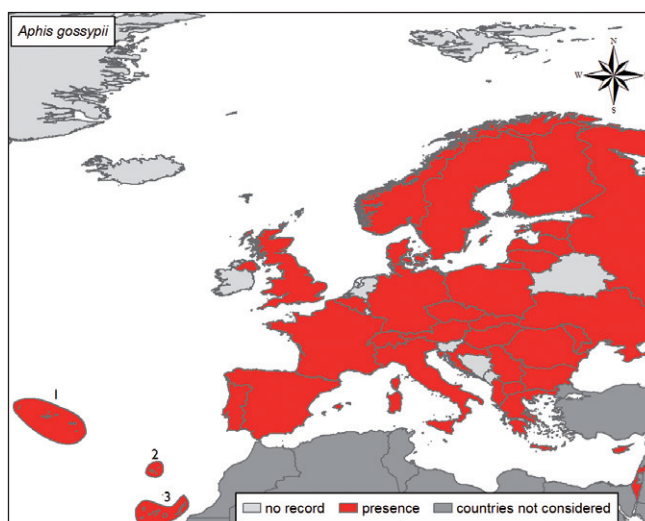
Native range: Unknown.

Introduced range: Found in tropical and temperate regions throughout the world except northern areas. Common in Africa, Australia, Brazil, East Indies, Mexico and Hawaii, Present in most of Europe (*Map*) but it can develop outdoors only in Southern Europe, surviving in glasshouses in Northern Europe.

Pathways: Passive transport with plant trade including vegetables, fruits, cut flowers, ornamental plants, bonsai, and nursery stock.



Credit: Jérôme Carletto



Impact and management: Economically important because nymphs and adults feed on the underside of leaves, or on growing tip of vines, sucking nutrients from the plant. The foliage may become chlorotic and die prematurely. Feeding also causes distortion and leaf curling, hindering photosynthetic capacity of the plant. In addition, honeydew production fosters growth of sooty moulds, resulting in a decrease of fruit/vegetable quantity and quality. Vector of crinkle, mosaic, rosette, Tristeza citrus fruit (CTV) and other virus diseases. Impact is especially high on courgette, melon, cucumber, aubergine, strawberry, cotton, mallow and citrus. Resistance has arisen to many pesticides. Insecticides should be used sparingly and in conjunction with other non-chemical control methods. Parasitoid aphidiid wasps (e.g., *Aphidius colemanior*, *Lysiphlebus testaceipes*), aphelinid wasps (e.g., *Aphelinus gossypii*), predatory midges (e.g., *Aphidoletes aphidimyza*), predatory anthocorid bugs (e.g., *Anthocoris* spp.), predatory coccinelids, and entomopathogenic fungi (e.g., *Neozygites fresenii*) are efficient and available for biocontrol in glasshouse crops.

Selected references

- Fuller SJ, Chavigny P, Lapchin L, Vanlerberghe-Masutti F (1999) Variation in clonal diversity in glasshouse infestations of the aphid, *Aphis gossypii* Glover in southern France. *Molecular Ecology* 8: 1867–77.
- Margaritopoulos JT, Tzortzi M, Zarpas KD, Tsitsipis JA, Blackman RL (2006) Morphological discrimination of *Aphis gossypii* (Hemiptera: Aphididae) populations feeding on Compositae. *Bulletin of Entomological Research* 96: 153–165.
- Martin B, Rahbé Y, Fereres A (2003) Blockage of stylet tips as the mechanism of resistance to virus transmission by *Aphis gossypii* in melon lines bearing the Vat gene. *Annals of Applied Biology* 142: 245–250.