

Field Identification Guide

Plane lace bug



Photograph: James Solomon, USDA Forest Service; Bugwood.org

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Plane lace bug

The plane lace bug (*Corythucha ciliata*), also known as the sycamore lace bug, is an insect pest of plane trees (*Platanus* species). It can reduce growth and weaken affected trees making them more susceptible to other pests and diseases. After several consecutive years of severe infestation, combined with other stress factors such as drought, the plane lace bug can cause mortality in plane trees, with young trees being particularly at risk. In large numbers this pest can also cause major public nuisance problems because it can land on people in parks, invade homes and has even occasionally been reported to 'bite' humans, which can result in dermatitis.

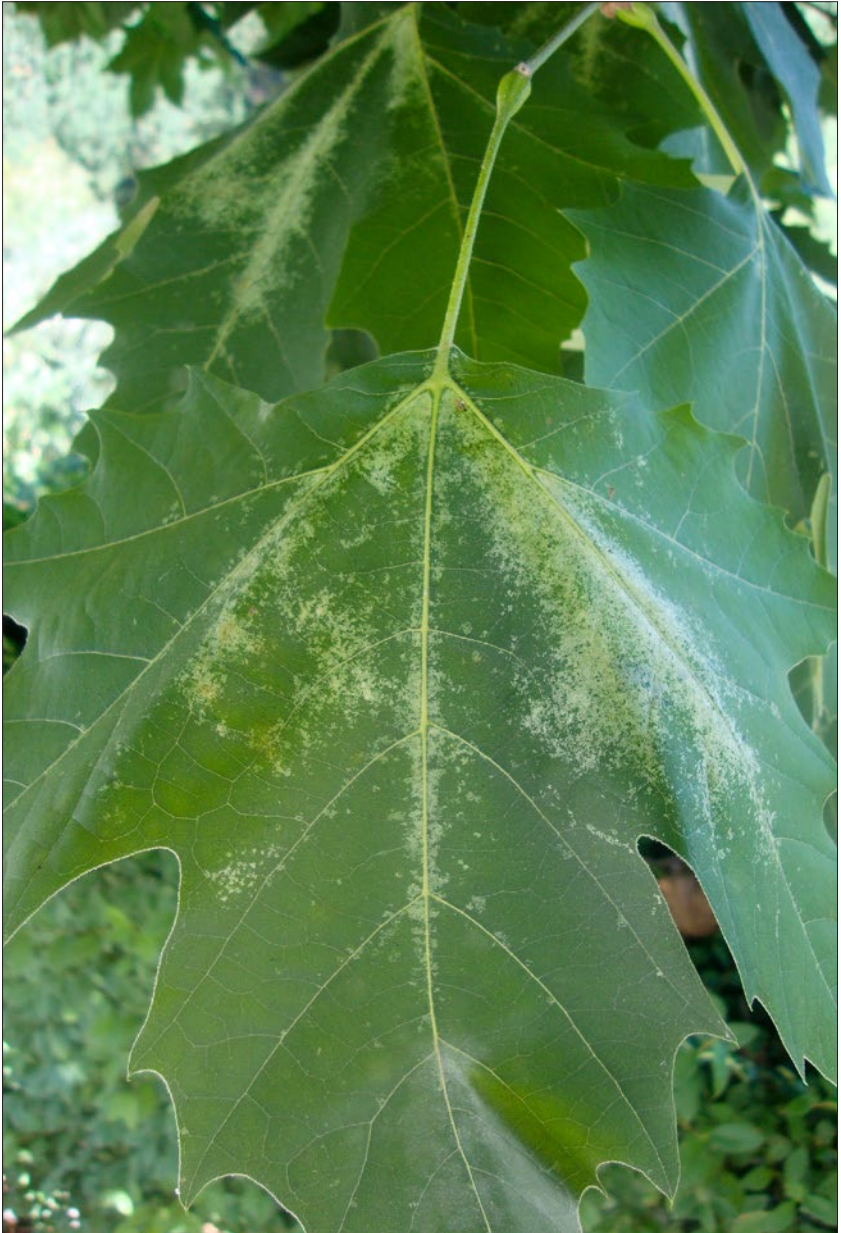
Species affected	The primary hosts of the plane lace bug include the London plane (<i>Platanus x acerifolia</i>), oriental plane (<i>P. orientalis</i>) and American sycamore (<i>P. occidentalis</i>). Other <i>Platanus</i> species including <i>P. racemosa</i> and several other host genera have been reported for this insect pest; however, the three main <i>Platanus</i> species listed above are considered to be most at risk from this pest in the UK.
Signs and symptoms	<p>The plane lace bug feeds on the foliage of plane trees, causing chlorosis (loss of normal colour) to occur on the upper surface of the leaves. Lace bugs use their piercing–sucking mouthparts to rupture plant cells in order to feed on the nutritious sap within. The first sign of feeding damage is a stippling of small, yellow spots on the upper leaf surface, often concentrating around the leaf veins. As the lace bug populations increase, the chlorotic spots coalesce to produce large, yellow and bronze coloured areas on the upper leaf surface. Heavy infestations can also cause premature leaf drop.</p> <p>Plane lace bugs can produce two to three generations per year and the damage they cause to their host trees increases with each new generation. Adults and juvenile (nymphal) stages, as well as eggs, may all be present simultaneously on the underside of affected leaves. The adults are recognisable because of their delicate milk-white lacy wings with variable brown markings, and the nymphs because they are flattened, wingless, black, spiny and oval in shape. The adults and nymphs attain a maximum length of 4 and 2 mm respectively. The eggs are 0.5 mm long, elliptical, and brown with a lighter coloured lid, and tend to be found in clusters along main leaf veins on the underside of leaves.</p>

	<p>Lace bugs deposit droplets of liquid frass onto the undersides of leaves as they feed. These dry out into hard, black spots and are characteristic of lace bug infestations. Cast nymphal skins will also be visible on the underside of leaves.</p> <p>Although there are a number of native lace bugs in the UK, none of them breed on plane trees, so if you come across a lace bug on plane it could well be the plane lace bug.</p> <p>Various other insects cause foliar symptoms on plane, in particular leafhoppers, which feed in a similar manner to plane lace bugs and therefore cause similar damage. However, a plane lace bug infestation is distinguishable from that of the leafhopper by the presence of lace bug adults and juveniles on the underside of the leaves. Other insects such as leaf miners also affect plane leaves; however, the relatively large mines which they produce bear no resemblance to the damage caused by the plane lace bug.</p>
<p>Timing</p>	<p>Damage to the leaves is visible during the summer months and tends to increase through the year from July to September. Adults, nymphs and eggs may be present on leaves throughout late spring and the summer. Adults are present in leaf litter and beneath peeling bark flakes on the main stem of the trees during the winter. Some populations may have a partial generation late in the year, so the nymphs may also be found in the late autumn or early winter.</p>
<p>Biosecurity</p>	<p>The pest is spread locally by adults flying/being blown to new tree hosts. It is extremely important that no leaf litter/soil, wood or foliage from infected trees is removed from a site because there may be plane lace bug adults, juveniles and eggs present. All clothing, including the inside of boots, hoods and outer pockets, should be brushed down and checked for insects and tree-derived material. Boots should be cleaned and disinfected before and after every site visit. Keep vehicles on hard tracks and ensure that they are kept clean so that they are easier to disinfect when necessary.</p>

Reporting requirements	This is a notifiable pest so if you find it you must report it. Please report through Tree Alert (www.forestry.gov.uk/trealert). In Northern Ireland please report via the TreeCheck website (www.treecheck.net) or phone app, or by emailing planthealth@daera-ni.gov.uk
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Based on information available in July 2017.

Signs and symptoms



Photograph: Ana Perez-Sierra, Forest Research

Early feeding damage on plane leaves caused by the plane lace bug.

Signs and symptoms



Photograph: Fera Science Ltd

Early feeding damage on plane leaves caused by the plane lace bug.



Photograph: Fera Science Ltd / Chris Malumphy

Plane leaves showing yellowing and bronzing caused by plane lace bugs.

Signs and symptoms



Photograph: Fera Science Ltd / Chris Malumphy

A plane leaf showing chlorosis and bronzing caused by plane lace bugs.



Photograph: Fabio Stergali, Università di Udine, Bugwood.org

Adult plane lace bugs on the bark of a plane tree, where they often overwinter beneath bark flakes.

Signs and symptoms



Photograph: Fera Science Ltd / David Crossley

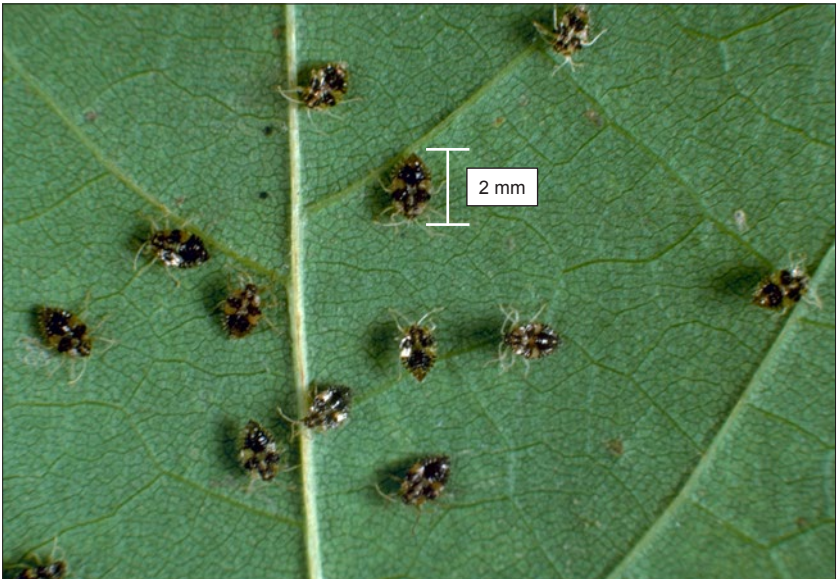
Adult plane lace bug on the underside of a plane leaf.

Signs and symptoms



Photograph: Jim Baker, North Carolina State University; Bugwood.org

Hatched lace bug eggs on the underside of a leaf.



Photograph: James Solomon, USDA Forest Service; Bugwood.org

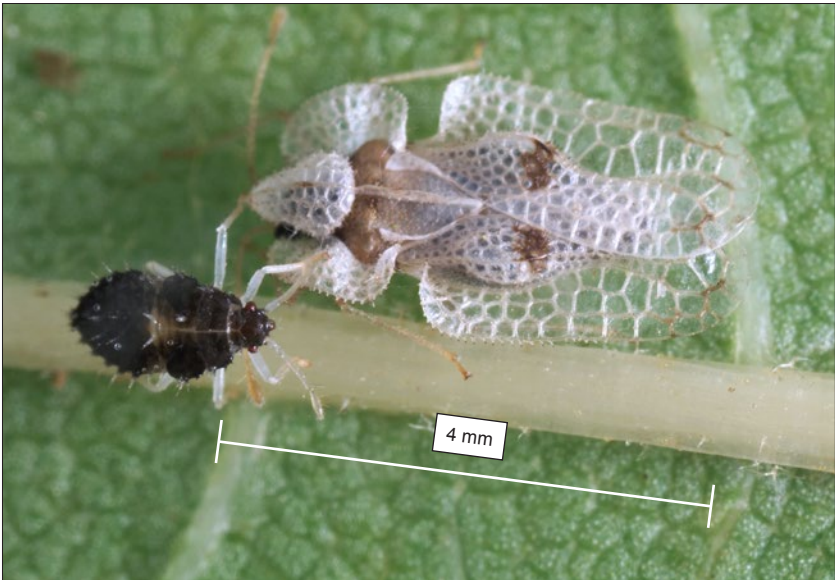
Nymphs of the plane lace bug on the underside of a plane leaf.

Signs and symptoms



Photograph: Fera Science Ltd / David Crossley

Nymph of the plane lace bug.



Photograph: Fera Science Ltd / David Crossley

Nymph and adult plane lace bug.

Signs and symptoms



Photograph: Ana Perez-Sierra, Forest Research

Plane lace bug nymphs clustering along leaf veins to feed on the underside of a plane leaf.



Photograph: Fera Science Ltd / Chris Malumphy

Adults and nymphs of the plane lace bug feeding along the leaf veins on the underside of a plane leaf. The black dots are dried frass droplets produced by the bugs as they feed.

Signs and symptoms



Photograph: Jim Baker, North Carolina State University; Bugwood.org

Plane leaf heavily infested with plane lace bugs.



Photograph: Fera Science Ltd

Dried frass droplets produced by the plane lace bug on the underside of a plane leaf.

Look-alike signs and symptoms



Photograph: Fera Science Ltd / Chris Malumphy

Leafhopper damage on a plane tree leaf.



Photograph: Fera Science Ltd / Chris Malumphy

Leafhoppers on the underside of a sycamore leaf.



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This booklet forms part of a set that supports Observatree volunteers when out looking for priority pests and diseases. It supplements face-to-face training and is not intended as a full or detailed description. It will also be useful for others who have some knowledge of the particular pest or disease and understand how to look for these. Further information is available online from the websites listed below:

Observatree: **www.observatree.org.uk**

Forestry Commission: **www.forestry.gov.uk**

Forest Research: **www.forestry.gov.uk/forestresearch**