Department for Environment Food & Rural Affairs

Plant Pest Factsheet

Plane lace bug

Corythucha ciliata

Fig 1. *Corythucha ciliata* adult © Chris Malumphy Fera

Background

In 2006, localised outbreaks of *Corythucha ciliata* (the plane lace bug) were found by the PHSI at two nurseries in Bedfordshire, alongside a stand of mature plane trees near one of the nurseries. London plane (*Platanus x acerifolia*) and Oriental plane *(P. orientalis*) trees imported from France and Italy, were found to be infested as well as mature plane trees grown on site at the nursery. The nurseries were advised to spray affected trees with insecticide which seemed effective. Due to the level of infestation and distribution on more mature trees at multiple sites, it was assumed that *C. ciliata* was already established in the UK and so statutory action against the pest was deemed inappropriate. Since the findings in 2006, no more populations have been found at the original site or in the surrounding area. However, in September of 2024 the Forestry Commission confirmed findings of *C. ciliata* in central London. It is currently deemed to be **Present** (not widely distributed and not under official control).

Geographical Distribution

Corythucha ciliata is of North American origin and was first discovered in Europe in 1964 in Padova, Italy. It has now spread through most of mainland Europe with populations as far east as Uzbekistan.

Host Plants

Corythucha ciliata feeds primarily on plane trees (*Platanus* spp) which are often planted as urban trees in cities. Several other host plants are listed in the literature, including *Broussonetia papyrifera*, *Carya ovata*, *Chamaedaphne* sp., *Fraxinus* sp. and *Quercus laurifolia*.

Description

The common name (Platanus lace bug) refers to their host preference and their external appearance of lacy white exoskeleton. There are several native and introduced species of lace bug found in the UK but *Corythucha ciliata* is the only one to feed on plane trees and is usually found on the underside of leaves. The adults are very small (up to 4mm in length) and so can be difficult to see at first on leaves with the naked eye.

Biology

Both nymphs and adults feed on the underside of leaves, initially near the veins (Fig. 2) and then outwards, affecting the whole leaf. This causes chlorotic stippling on the upper surface of the leaf which then may drop prematurely. Adult females can lay several hundred eggs along leaf veins in the warmer months and 1-3 generations can occur in a year. The optimum development temperature for a full life cycle is between 19°C and 33°C though adults have been known to survive winter temperatures as low as -24°C overwintering in loose bark on the trunk. The closely related *Corythucha arcuata* (oak lace bug) has been known to overwinter under raised bark, bark crevices, and branch forks covered by leaf litter etc, so it is likely that *C. ciliata* does the same.

Fig 2. *Corythucha ciliata* feeding damage to upper surface of leaf © Fera Science Ltd

Fig 3. *Corythucha ciliata* frass deposited on under leaf surface © Fera Science Ltd

Dispersal and Detection

Juveniles and adults are usually found on the underside of plane leaves, initially near the veins and then outwards, affecting the whole leaf. 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. If there is a severe infestation, whole leaves become whitish (Fig. 5), and the tree may lose all leaves in late summer.

Fig 4. *Corythucha ciliata* nymph © Fera Science Ltd

Fig 5. Heavy infestations of *Corythucha ciliata* can cause severe chlorosis of the foliage © Chris Malumphy

Fig 6. *Corythucha ciliata* adults overwintering under bark © Chris Malumphy

One of the easiest ways of detecting the presence of plane lace bug, is to peel off the bark during the autumn, winter or early spring, to find the overwintering adults (Fig. 6).

Economic Impact

After many consecutive years of feeding at high levels, trees are weakened and may be vulnerable to opportunistic fungi and disease. This is likely to lead to economic impacts of replacement, and localised environmental impacts. Many years of severe damage caused by *C. ciliata* combined with other environmental influences (drought stress is a large factor) may kill the tree. However, unless feeding is combined with other factors, most years the only noticeable effect will be bronzed foliage and early leaf drop. There are potential increased impacts due to climate change in the future and looking at countries with slightly warmer climates (Italy etc) may allow us to predict the effects of *C. ciliata* in the UK.

Social impacts due to biting and loss of shade trees could also be a potential issue. Biting has only been recorded in Paris, France, Piedmont, Italy, and Bucharest, Romania which all have broadly similar climates to the UK. The biting only occurs in areas where populations have built up, there is a high density of adults on host trees, and it is in very hot weather as in the summer. Loss of trees in an urban environment can exacerbate high temperatures, as there is an average decrease of 2°C in temperature under leafy trees in cities.

Pest Management and Reporting

Raising awareness among the public to discover *C. ciliata* at low levels before there is a major population increase is helpful for pest management. Findings in the wider environment should be reported via tree alert: https://treealert.forestresearch.gov.uk/

In the UK, routine use of insecticides on mature plane trees would be impractical due to the costs and difficulties of applying pesticides and their non-target impacts. However, approved insecticides could be used at nurseries. The use of insecticides, home remedies (soap, hosing off etc), and biocontrol (assassin bugs, lacewings, spiders, and predatory mites) can be used to lower populations if necessary.

Suspected outbreaks of ***Corythucha ciliata*** or any other non-native plant pest should be reported to the relevant authority:

For finds in the wider environment:
In GB, please use Tree Alert: https://treealert.forestresearch.gov.uk/

For NI, please use TreeCheck: https://www.daera-ni.gov.uk/articles/about-treecheck

For finds at **garden centres, plant nurseries or private gardens** in England and Wales, contact your local APHA Plant Health and Seeds Inspector, or the PHSI headquarters, in York Tel: 0300 1000 313
Email: planthealth.info@apha.gov.uk

For **Scotland**, contact the **Scottish Government's Horticulture and Marketing Unit:**
Email: hort.marketing@gov.scot

For **Northern Ireland**, contact the **DAERA Plant Health Inspection Branch:**Tel: 0300 200 7847 Email: planthealth@daera-ni.gov.uk
Web: https://www.daera-ni.gov.uk/topics/plant-and-tree-health

For additional information on UK Plant Health please see:
https://planthealthportal.defra.gov.uk/pests-and-diseases/uk-plant-health-risk-register/
https://planthealthportal.defra.gov.uk/
https://www.gov.uk/plant-health-controls
http://www.gov.scot/Topics/farmingrural/Agriculture/plant/PlantHealth/PlantDiseases
https://www.daera-ni.gov.uk

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January 2025 (version 3)