PLANT PEST NOTICE

No 46

CENTRAL SCIENCE LABORATORY

Platanus lace bug
Corythucha ciliata

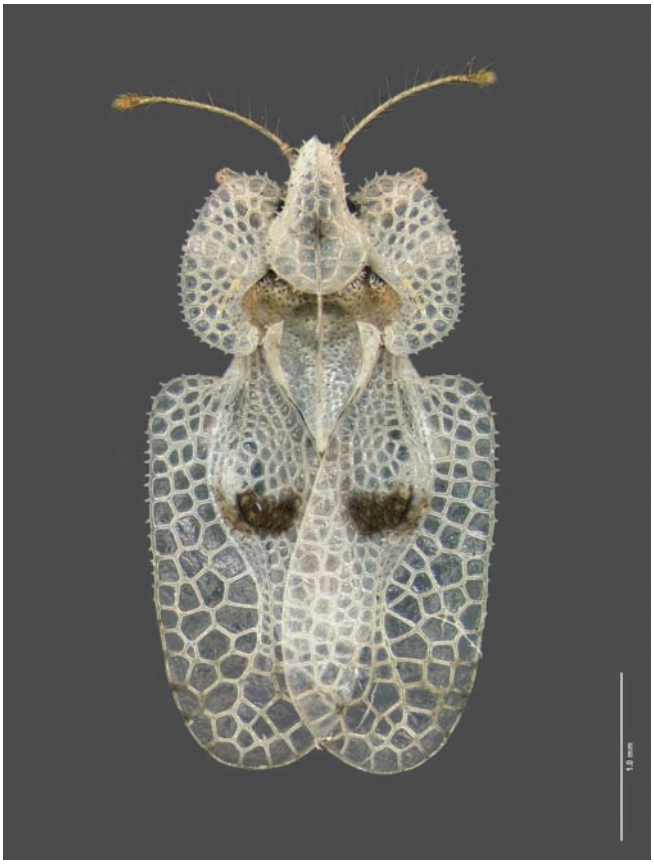

Fig. 1 *Corythucha ciliata* adult (Copyright James Turner)

Background

During September and October 2006, the Plant Health and Seeds Inspectorate visited two nurseries in Bedfordshire where they discovered lace bugs infesting London plane (*Platanus x acerifolia*) and oriental plane (*P. orientalis*) trees imported from France and Italy. Some of the infested trees were 30 feet tall and some had been imported six years previously. The lace bugs had also spread to mature locally grown plane trees outside the nursery. Samples were submitted to the Central Science Laboratory and identified as *Corythucha ciliata* (Say) (Hemiptera: Tingidae). It is commonly known as the 'sycamore lace bug' in North America, which is misleading, as it does not feed on *Acer pseudoplatanus*. 'Platanus lace bug' would be a more accurate designation in the UK.

Geographical Distribution

Corythucha ciliata is of North American origin, but has spread through southern and central Europe. It was first discovered in Europe 1964 in Padova, Italy and by 1986 it had spread to at least nine other countries, including France.

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Host Plants

Corythucha ciliata feeds primarily on *Platanus* spp., especially *P. occidentalis*. Several other host plants are listed in the literature, including *Broussonetia papyrifera, Carya ovata*, *Chamaedaphne* sp., *Fraxinus* sp. and *Quercus laurifolia*.

Pest Biology and Detection

Corythucha ciliata feeds on the underside of leaves causing desiccation of tissue, first near the veins (Fig. 2), and subsequently affecting the entire leaf, which may drop prematurely. They produce droplets of liquid frass, which dry out as black spots on the lower surface of the leaves. Mating pairs of sycamore lace bugs initiate colonies by laying eggs along the leaf veins. A single female can lay up to 350 eggs. There are five immature instars. Nymphs stay close together at first, only moving to new leaves after they reach the fourth instar. In the south of France it takes 43 to 56 days, and in Italy one life cycle is completed in just 29 to 36 days and in, and several generations can occur each year. First generation adults appear in June and second generation appear around July/August. They overwinter as adults under loose bark, leaf litter and crevices, and tolerate extreme temperatures as low as -24ºC. The wings of the adults are very delicate, and they rarely fly very far; however, supported by wind they can be blown over many kilometres. Human activity is thought to be the main cause of its spread over long distances.

The nymphs (Fig. 4) are flat, oval in shape, black and spiny, whereas the adults (Fig. 5) are whitish in colour and about 3 mm in length. The broadened areas around and behind the head and the wing covers are partially transparent and gauze- or lace-like in structure. The wings are usually partially transparent. The underside of the leaves are often covered with nymphal skins which have remained attached to the leaf after moulting and, and dark coloured honeydew. For practical purposes, the association with *Platanus* should be diagnostic for this species in Britain.

A related North American species, *C. arcuata,* was first discovered in Europe (Italy) in 2000. This oak feeder is on the European and Mediterranean Plant Protection Organisation (EPPO) alert list.

Fig. 2 *Corythucha ciliata* feeding damage to upper surface of leaf.

Fig. 3 *Corythucha ciliata* frass depositied on lower leaf surface

Fig. 4 *Corythucha ciliata* nymph.

Fig. 5 *Corythucha ciliata* adult.

Economic Importance and Damage

The feeding damage is most apparent on the upper surface of the leaf, initially causing a white stippling that can eventually progress into chlorotic or bronzed foliage and premature loss of leaves. In cases of severe infestations, trees may be defoliated in late summer. Several consecutive years of severe lace bug damage, combined with other stress factors, may kill the trees. Heavy infestations are more common on plane trees planted for ornamental purposes in parks and gardens rather than in natural settings. Damage is more severe during dry weather. In northern Italy, the lace bug is associated with two fungi, *Ceratocystis fimbriata forma platani* and *Apiognomonia veneta*, which, in combination with the lace bug, cause decline and death of the trees. The former is a quarantine-listed pest in the EU and the latter is native to the UK. It is suspected that the lace bugs may serve as vectors for these fungi.

In addition to the direct tree damage, the lace bug has become a major nuisance in Europe, as *Platanus* species are very popular shade tree in parks and open-air cafes in southern Europe. They may also invade homes in large numbers. Once the extent to which *C. ciliata* has spread in the U.K. has become clear, the possibilities for eradication can be evaluated. However, early indications are that the pest has already spread too widely for eradication to be practical.

Control Measures

Platanus lace bugs can be controlled by:

- A strong jet of water to dislodge young nymphs as they hatch in the early spring
- Repeated applications of physically acting insecticides such as petroleum oil, potassium phosphate or Majestik / Eradicoat (these contain natural plant extracts that physically coat insects).
- Chemical control using contact insecticides such as products containing bifenthrin or deltamethrin.
- Pesticides should only be applied according to the conditions of the pesticide label and the risks to bystanders, neighbours and the environment (especially water courses) should be considered before applications are made.

Advisory Information

Suspected outbreaks of *C. ciliata* should be reported to the local Defra Plant Health and Seeds Inspector or to PHSI Headquarters, York (Tel.: 01904 455174, Fax: 01904 455197) and samples submitted to the Central Science Laboratory for identification.

Chris Malumphy, Sharon Reid and Dominic Eyre
Central Science Laboratory
October 2006

Distribution

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