



Acacia sucker *Acizzia uncatoides*



Fig. 1 *Acizzia uncatoides* adult

Background

Acizzia uncatoides (Ferris & Klyver) (Hemiptera: Psyllidae) is a serious pest of ornamental mimosas and wattles (*Acacia* sp.) and silk trees (*Albizia* sp.). It is commonly known as the 'Acacia sucker' or 'Acacia psyllid'. Since 1990 it has been detected on eight occasions in England (in the counties: Essex, Kent, London, Norfolk, Suffolk and Surrey) on *Acacia longifolia*, *A. retinoides*, *A. rivalis* and *Acacia* sp. The infested plants were imported directly from either France or Italy (Sicily), or were found in association with imported plants, and action was taken to eradicate the pest.

In 2006 the insect was observed on an *Acacia baileyana* tree growing in a private garden in Surrey. The plant had been in the garden for about nine years and there was no import connection to explain the pathway of entry of the pest. By the spring of 2007 the psyllid population had grown to such an extent that it was causing defoliation and dieback. A sample was submitted to the Royal Horticultural Society and subsequently forwarded to the Central Science Laboratory, where it was identified. This latest outbreak is currently under control.

Sand Hutton ■ York

YO41 1LZ ■ U.K.

Tel: +44 (0)1904 462000

Fax: +44 (0)1904 462111

Website: www.csl.gov.uk

E-mail: science@csl.gov.uk



Fig. 2 *Acizzia uncatoides* eggs



Fig. 3 *Acizzia uncatoides* nymph



Fig. 4 *Acizzia uncatoides* adult, dark form



Fig. 5 *Acizzia uncatoides* adult, pale form

Geographical Distribution

Acizzia uncatoides is native to Australia, but has spread to New Zealand, USA (including Hawaii), Central America, Mexico, Chile, France, Spain, Italy, Canary Isles (Spain), Malta, Portugal, the former Yugoslavia, North Africa and Israel.

Host Plants

The majority of psyllids are generally host specific. *Acizzia uncatoides*, however, is unusual as it is polyphagous feeding on more than 58 species of *Acacia* and several *Albizia* species.

Pest Biology and Detection

Acizzia uncatoides is a sap-feeding insect that forms dense colonies on the leaves and stems at the shoot tips, and all life stages can be found together. The eggs (Fig. 2) are approximately 0.25 mm long, yellow to orange, and oval with the apical end narrower and more pointed than the basal end. They are laid singularly or in groups on the buds and undersides of the foliage. The nymphal stages (Fig. 3) are dorso-ventrally flattened with obvious wing pads. Young nymphs are creamy yellow with reddish eyes, whereas the older nymphs are yellow-orange or greenish-yellow with part of the head, wing pads and the tip of the abdomen all brown in colour. The dorsal surface of the thorax and abdomen has paired brown spots and transverse bands (Fig. 3). The adult insects

(Figs 1, 4 and 5) are 2-3 mm long and exhibit a wide variation in colour from green to yellow to dark brown. Generally the head and thorax are much darker than the abdomen and are orange-brown to dark-brown or grey. The abdomen is green to greenish-orange or orange-brown with transverse greyish bands. The wings are hyaline with distinct brown or grey patches (Figs 1 and 4).

In Italy, up to eight overlapping generations were recorded in a year. The psyllid can over-winter at the adult or nymphal stage. Adults can disperse over short distances by flight and over longer distances by air currents. Two other species, *Acizzia acaciaebaileyanae* (Froggat) and *A. jamatonica* (Kuwayama), have been introduced into continental Europe and have been intercepted on imported plants in England. *Acizzia acaciaebaileyanae* feeds on *Acacia baileyana*, *A. decurrens*, *A. podalyriifolia* and *Acacia* sp. It originates from Australia and has been introduced to New Zealand, South Africa and Italy. *Acizzia jamatonica* feeds on *Albizzia* species, particularly *A. julibrissin*. It originates from Asia and has been introduced to Italy, France, Switzerland, Slovenia and Croatia, and has been placed on the European and Mediterranean Plant Protection Organisation (EPPO) Alert List.

Economic Importance and Damage

Acizzia uncatoides is a serious pest of ornamental *Acacia* and *Albizzia*. Dense colonies form on the growing tips causing chlorosis, defoliation and die back. Heavily infested young plants show reduced growth and suffer damage to the meristematic tissue causing poor growth form. Both adults and nymphs excrete large quantities of honeydew, which becomes coated with waxy secretions and deposited on the plant. The honeydew serves as a medium for the growth of black sooty moulds, which may blemish the foliage.

Acizzia uncatoides is currently the target of a biological programme in Hawaii, where it is a significant pest of the endemic *Acacia koa*, and in France where it is a pest of the Australian species *A. retinodes*. The risk of *A. uncatoides* and other *Acizzia* species becoming naturalised in Britain is increasing with climate change. Its distribution in South Island New Zealand suggests that it could survive more widely in Europe, but it is presumably restricted by its food plant.

Control Measures

Acacia psyllid populations tend to be associated with the availability of tender new growth on the plant. Minimising pruning and shearing where possible is advisable, as this can stimulate the tender new growth preferred by the psyllid. In addition, avoid excess irrigation and fertilisation; these encourage the succulent foliage that promotes increased psyllid populations. Monitoring for the pest when susceptible new growth or adult psyllids become abundant is the key for successful control, as this is the best time to apply treatment. Monitoring of this pest can be achieved using yellow sticky traps, or by shaking plants over a collecting surface (such as a beating tray, white sheet, or a clipboard with white paper), and counting the number of live psyllids.

Insecticidal soaps and fatty acids are effective against this pest, however control is not persistent. The advantage of using these insecticides is the reduced toxicity to native biocontrol agents. Contact insecticides such as deltamethrin and bifenthrin will provide more persistent control, but have a greater toxicity to native biocontrol agents. Home and garden insecticidal products are available with the suitable active ingredients (as above) for the treatment of this psyllid. A known biocontrol agent of this psyllid native to the UK is the predatory bug *Anthocoris nemoralis*. This has been used to provide effective control of this psyllid in the USA. Ladybirds and lacewings may also provide some control depending on population levels, which can be augmented.

Advisory Information

Suspected outbreaks of *A. uncatoides* or any other non-native plant pest 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 Helen Moran
Central Science Laboratory, March 2007

Distribution

PHSI (Plant Health & Seeds Inspectorate):
All Inspectors (via David Butler)
CSL (Central Science Laboratory):
Mike Roberts, Chief Executive
Tony Hardy, Agri-Env. Science Director
CSL Information Centre
Heads of Groups:

Eden Project:
Katie Treseder
EPPO (European & Med.n Plant Protection Org.):
Nico Van Opstal
FC (Forestry Commission):
Roddie Burgess
Forest Research:

John Dennis
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ADAS (Agr. Devel. & Advisory Service):
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 Mike Lole
 Sue Ogilvy
 Tim O'Neil
BCPC (British Crop Production Council):
 David Alford
Bishop Burton:
 John Hickling
BOPP (Brit. Ornamental Plant Producers):
 Jeanette Soer
British Plant Gall Society:
 Michael Chinery
Dept. of Agr. & Fisheries Jersey:
 Scott Meadows
Dept of Agr. Fisheries & Forestry IoM:
 Michael Caley
 Andrew Macloud
DARDNI (Dept Ag. & Rural Devel. N. Ireland):
 Reid Coleman
 Stephen Jess
 Jonathan McAdams
 Michael McKillen
 Stephen Nixon
East Malling Research:
 Library
EC SCPH (EC Standing Com. on Plant Health):
 Marc Vereecke
 Hugh Evans
 Christine Tilbury
FVO (Food & Veterinary Office):
 Lars Christoffersen
Garden Organic (Henry DoubleDay Res. Assn):
 Andy Strachan
 Phil Sumption
Harper Adams U. College, Plant Health Clinic:
 Matthew Back
HDC (Horticulture Development Council)
Horticulture & Potatoes Division:
 Mr I Llewellyn
Hope Collection (U o Oxford):
 George McGavin
HRI (Horticulture Research International)
Hunterian Museum (U o Glasgow):
 Geoff Hancock
HTA (Horticultural Trades Association)
IGER (Inst. Grassland & Environmental Res.):
 Chris Pollack
Clive Lipscombe
Killgerm Chemicals Ltd
Liverpool Museum:
 Steve Judd
Manchester Museum:
 Dimitri Logunov
Monks Wood Biological Records
National Museum Wales:
 James Turner
 Mike Wilson
NIAB (National Institute of Agricultural Botany)
National Museums Scotland:
 Graham Rotheray
NAW (National Assembly for Wales, PHBB):
 Stephen Jackson
 Nigel Cooke
 Emma Cross
NHM (Natural History Museum):
 Stuart Hine
 Jon Martin
 Malcolm Scoble
 Mick Webb
RBG (Royal Botanic Gardens) Edinburgh:
 Library
RBG (Royal Botanic Gardens) Kew:
 Martin Staniforth
RHS (Royal Horticultural Society Garden, Wisley):
 Andrew Halstead
Rothamsted Research:
 Library
SASA (Scottish Agricultural Science Agency):
 June Chard
 Fiona Highet
 John Pickup
Scottish Agricultural Colleges
SCRI (Scottish Crop Research Institute):
 Brian Fenton
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SEERAD (Scot. Exec. Env. & Rural Affairs Dept.):
 Charles Greenslade
States Committee for Horticulture, Guernsey:
 Nigel Clark
Stockbridge Technology Centre
Ulster Museum:
 Brian Nelson