

Rapid Assessment of the need for a detailed Pest Risk Analysis for *Aleuroclava jasmini* Takahashi

Disclaimer: This document provides a rapid assessment of the risks posed by the pest to the UK in order to assist Risk Managers decide on a response to a new or revised pest threat. It does not constitute a detailed Pest Risk Analysis (PRA) but includes advice on whether it would be helpful to develop such a PRA and, if so, whether the PRA area should be the UK or the EU and whether to use the UK or the EPPO PRA scheme.

STAGE 1: INITIATION

1. What is the name of the pest?

Aleuroclava jasmini "Takahashi" (Hemiptera: Aleyrodidae) – jasmine whitefly

Synonym: *Aleurotuberculatus jasmini* "Takahashi"

2. What is the pest's status in the EC Plant Health Directive (Council Directive 2000/29/EC) and in the lists of EPPO?

Aleuroclava jasmini is not listed in the EC Plant Health Directive and is not recommended for regulation as a quarantine pest by EPPO, nor is it on the EPPO Alert List.

3. What is the reason for the Rapid Assessment?

Aleuroclava jasmini has been detected on many occasions in England and Wales and statutory action has been taken to eradicate incursions of the whitefly on *Gardenia* and *Ligustrum* bonsai originating from China and Sri Lanka. A CSL PRA already exists for *A. jasmini* (MacLeod, 1999, 2001) but it needs updating to take into account the fact that adult *A. jasmini* have recently been found at two plant nurseries in Hampshire, and the whitefly has recently increased its geographical range significantly. Simala & Milek (2008) recorded *A. jasmini* from Croatia although it is unclear if this is based on an interception or a breeding population. The Fera Plant Health Risk Management Work-stream requested a rapid assessment to help determine if an UK or EU wide PRA is required in order to support changes to the current recommendations.

STAGE 2: RISK ASSESSMENT

4. What is the pest's present geographical distribution?

Aleuroclava jasmini is Asian in origin and has recently spread throughout the warmer parts of the world.

North America: Mexico, USA.

Central America: Absent.

South America: Paraguay, Peru.

Caribbean: Absent.

Europe: Croatia (status unclear). Incursions in the UK and NL.

Africa: Egypt (Amin *et al.*, 1997), Ghana.

Middle East:

Asia: widespread in Asia (e.g. China including Hong Kong, India, Indonesia, Japan, Malaysia, Philippines, Taiwan, Thailand, Pakistan, Sri Lanka)

Oceania: Guam, Hawaii.

5. Is the pest established or transient, or suspected to be established/transient in the UK? (Include information on interceptions and outbreaks here).

Aleuroclava jasmini is absent from the UK.

Incursions have occurred on bonsai *Ligustrum* from China and *Gardenia* from Sri Lanka and China. It has also been intercepted on several occasions on *Citrus hystrix* foliage imported from Thailand and curry plant foliage from India and Ghana.

During 2010 small numbers of adult *A. jasmini* were found on sticky traps at two separate nurseries in Hampshire, however, these are likely to only be transient populations.

6. What are the pest's natural and experimental host plants; of these, which are of economic and/or environmental importance in the UK?

Polyphagous, see Table 1.

Table 1: Hosts plants of *Aleuroclava jasmini*

Plant family	Host plant	Comment
Combretaceae	<i>Quisqualis indica</i>	tropical climbing shrub
Euphorbiaceae	<i>Bischofia javanica</i>	native to tropical Asia - important timber tree
Fagaceae	<i>Quercus virginiana</i>	Evans, Dooley, & Gill 2006
Myrsinaceae	<i>Ardisia</i> sp.	tropical/warm temperate shrub - popular in glasshouses
	<i>Maesa</i> sp.	tropical Asian shrub
	<i>Maesa japonica</i>	Evans, Dooley, & Gill 2006
Oleaceae	<i>Jasminum</i> sp.	jasmine, grown widely in domestic glasshouses
	<i>Jasminum sambac</i>	jasmine, grown widely in domestic glasshouses
	<i>Ligustrum</i> (privet)	UK interception on new host (see 2.)
	<i>Osmanthus asiaticus</i>	East Asian shrub
Rubiaceae	<i>Gardenia augusta</i>	Evans, Dooley, & Gill 2006
	<i>Gardenia florida</i>	Grown in protection for cut flower production and as bonsai.
	<i>Ixora coccinea</i>	Evans, Dooley, & Gill 2006
	<i>Mitragyna</i> sp.	New host record from India (Sundararaj, 1999)
Rutaceae	<i>Citrus</i> spp.	Oranges, lemons
	<i>Murraya paniculata</i>	Chinese Box plant - widely grown as ornamental indoors
	<i>Murraya koenigii</i>	Curry plant - grown as an ornamental indoors

7. If the pest needs a vector, is it present in the UK?

Aleuroclava jasmini does not need a vector.

8. What are the pathways on which the pest is likely to move and how likely is the pest to enter the UK? (By pathway):

Yes - interceptions of live larvae have occurred in the past (see 2. above). Fairly large populations of breeding *A. jasmini* adults were intercepted with populations of *Dialeurodes citrii* on *Gardenia* in 2001.

A. jasmini has also been intercepted by the Netherlands (NL) e.g. on *Desmodium* and *Murraya* from Taiwan in 1988 and on *Murraya* from China in 1988. Unidentified *Aleuroclava* (*Aleurotuberculatus*) have also been intercepted by NL on *Gardenia* and *Murraya* (*A. jasmini* hosts) from China in 1984, 1989 and 1992 (Jansen, 1997).

Pathway 1. Growing plants (on bonsai and ornamentals from Asia)

Frequently intercepted

Very unlikely Unlikely Moderately likely Likely Very likely

Pathway 2. On produce (herbs from Asia)

Intercepted on several occasions in the past on herbs (*Citrus hystrix* and curry leaf) from Asia but it is unlikely that adult whiteflies emerging from puparia on infested leaves will find their way to suitable host plants.

Very unlikely Unlikely Moderately likely Likely Very likely

9. How likely is the pest to establish outdoors or under protection in the UK?

Aleuroclava jasmini occurs widely in tropical and subtropical areas and warm temperate areas (such as Egypt and Florida). Establishment is therefore likely to be restricted to protected ornamental plants.

Outdoors	Very unlikely <input checked="" type="checkbox"/>	Unlikely <input type="checkbox"/>	Moderately likely <input type="checkbox"/>	Likely <input type="checkbox"/>	Very likely <input type="checkbox"/>
Under protection	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. How quickly could the pest spread in the UK?

The adults are the main dispersal stage but are weak fliers. Spread is likely to be in trade.

Natural dispersal

Very slowly Slowly Moderate pace Quickly Very Quickly

Trade

Very slowly Slowly Moderate pace Quickly Very Quickly

11. What is the area endangered by the pest?

The endangered area is the protected ornamentals.

12. What is the pest's economic, environmental or social impact within its existing distribution?

No experimental data exist for the direct impact of *Aleuroclava jasmini*, although it is recorded as a pest in Egypt and India.

Very small Small Medium Large Very large

13. What is the pest's potential to cause economic, environmental or social impacts in the UK?

Potential yield losses are very small.

Very small Small Medium Large Very large

14. What is the pest's potential as a vector of plant pathogens?

Aleuroclava jasmini is not a vector.

STAGE 3: PEST RISK MANAGEMENT

15. What are the risk management options for the UK? (*Consider exclusion, eradication, containment, and non-statutory controls; under protection and/or outdoors*).

From the paucity of literature that exists on this organism, no specific management options are available.

Destruction of infested plants and precautionary treatment of those remaining may be the simplest and most straightforward way of achieving eradication.

Where infested plants are found at a place of production, CSL (now part of Fera) recommended that the infested plants were kept in isolation until pest freedom was achieved, and then treatments with Talstar were used in combination with a modern growth regulator, such as teflubenzuron (Nemolt), or buprofezin (Applaud). Buprofezin should only be used if plants are in protection. To prevent any live adults from dispersing onto nearby hosts, a space treatment was recommended.

In the absence of phytosanitary measures the whitefly is likely to continue to enter the UK

16. Summary and conclusion of rapid assessment.

This rapid assessment shows:

Risk of entry – moderately likely (on growing plants), very unlikely (on produce)

The main route of entry is likely to be on growing ornamental plants from countries where the whitefly has been reported. Detection of eggs and early instar-larvae is difficult and it may only be observed when present at high numbers or it has completed its development and adults are caught on sticky traps.

Risk of establishment – in protected ornamentals is likely

It is very unlikely to naturalise and overwinter outdoors in Britain but could establish on indoor plantings.

Rate of spread - slow

Spread is most likely to be with infested plants in trade

Economic impact – may have a small impact to indoor ornamentals

There is little data available on the economic impact of the whitefly although bonsai trees have been found to be susceptible in Britain..

Endangered area – protected ornamentals

Risk management – no specific management options exist for this pest, but destruction of infested plants and precautionary treatment of those remaining is feasible.

17. Is there a need for a detailed PRA? If yes, select the PRA area (UK or EU) and the PRA scheme (UK or EPPO) to be used.

Aleuroclava jasmini is a polyphagous whitefly, of most concern to the EU and EPPO as a pest of *Citrus* and some ornamentals. However, there are no records describing significant plant damage and it is possible that this is only a minor pest of *Citrus*. It has spread from Asia throughout the warmer parts of the world. It is reported from Croatia but its status is unclear. With the information that we currently have available on the whitefly it is not of sufficient concern to the UK to justify a more detailed assessment as such a recommendation for no statutory action is proposed.

No	X				
Yes		PRA area: UK or EU		PRA scheme: UK or EPPO	

Date of production: September 21st 2011

Version no.: Two

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IMAGES OF PEST AND SYMPTOMS



References

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