



CSL PEST RISK ANALYSIS FOR *ALEUROCERUS PALMAE*

STAGE 1: PRA INITIATION

1. What is the name of the pest?

Aleurocerus palmae Russell Aleyrodidae: Homoptera – palm whitefly

First described in 1986. No known synonyms, but it is morphologically similar to *A. flavomarginatus*. The pupae of the two species can be separated by differences in the shape and size of the submarginal glands as compared to the size of the marginal teeth (Russell, 1986).

2. What is the reason for the PRA?

There were three confirmed interceptions of *A. palmae* in the UK in 2006. The first was in October '06, in the North West, the second two in November '06 in the South East. In each case the pest was found on the leaves of a palm (*Chamaedorea elegans*) from Mexico (Anon. 2006a; b; CSL unpublished data). Prior to this, there has been one other confirmed UK interception of *A. palmae* (September 2000) and two suspected (January 2001), all found on *Cocos* palms originating from Guatemala (CSL unpublished data).

3. What is the PRA area?

This PRA considers the UK as the PRA area.

STAGE 2: PEST RISK ASSESSMENT

4. Does the pest occur in the PRA area or does it arrive regularly as a natural migrant?

No. Other than the four confirmed and two suspected interceptions, there is no record of the pest in the UK.

5. Is there any other reason to suspect that the pest is already established in the PRA area?

No.

6. What is the pest's status in the Plant Health Directive (Council Directive 2000/29/EC¹)?

A. palmae is not listed in the Plant Health Directive.

¹ http://europa.eu.int/eur-lex/en/consleg/pdf/2000/en_2000L0029_do_001.pdf

7. What is the quarantine status of the pest in the lists of the European and Mediterranean Plant Protection Organisation (EPPO)?

EPPO List: A1 regulated pest list A2 regulated pest list Action list Alert list

A. palmae is not listed in any EPPO quarantine list.

8. What are the pests' host plants?

| Plant family | Known Host Genera |
|-------------------------------------|--|
| Arecaceae – the palm family | <i>Chamaedorea, Cocos, Desmoncus, Howea, Phoenix</i> |
| Araceae – the arum family | <i>Philodendron</i> |
| Bromeliaceae – the pineapple family | <i>Tillandsia</i> |
| Orchidaceae – the orchid family | <i>Epidendrum; Oncidium</i> |
| Musaceae – the banana family | <i>Musa</i> |
| Sapotaceae – the sapote family | <i>Pouteria</i> |
| Moraceae – the mulberry family | <i>Artocarpus</i> |

Sources: Dooley & Evans, 2004; Anon., 2004.

9. What hosts are of economic and/or environmental importance in the PRA area?

None of the known host genera are native to, or naturalised in, the UK. However, many of the hosts are grown in nurseries and sold as house / pot plants, often by quite specialised nurseries, and their value in terms of sale price can vary from under £5 for plugs to several thousands of pounds for a large specimen plant (Anon. 2006c; Anon., 2007).

In addition, there may be some native UK genera in the Orchidaceae, Araceae and Moraceae families that are able to act as hosts given that *A. palmae* is a polyphagous and little studied whitefly (Preston, Pearman & Dines, 2002).

10. If the pest needs a vector, is it present in the PRA area?

No vector is required. This is a free-living organism.

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

The pest is native to Central and South America (see Table 2). There are reports of it being found in imported material in the USA, in California, Texas and Florida and in California it is Q-Rated as a pest with high potential to be destructive. However, there is no evidence that it has established in those states (Russell, 1986; Coile & Dixon, 2001; Gaimari, 2005). The pest has also been intercepted in Madeira, once in 1994 and again in 1996, both times on

unidentified palm foliage of unknown origin, imported via the Netherlands. Again, it appears not to have become established (Martin, 2005).

Table 2: Distribution of *Aleurocerus palmae*

| | |
|------------------|---|
| North America: | Absent – intercepted only in California, Texas and Florida |
| Central America: | Belize, Costa Rica, Guatemala, Honduras, Mexico, Nicaragua, Panama. |
| South America: | Colombia, Ecuador, Peru. |
| Europe: | Absent – intercepted only in UK and Madeira (PT). |
| Africa: | No records – assumed absent. |
| Asia: | No records – assumed absent. |
| Oceania: | No records – assumed absent. |

Sources: Russell, 1986; Dooley & Evans, 2004; Martin, 2005; Anon. 2006a, b.

12. How likely is the pest to enter the PRA area²?

Very unlikely Unlikely Moderately likely Likely Very likely

Aleurocerus palmae has already been intercepted in the UK, on imported material from Mexico and Guatemala, so the likelihood of this reoccurring is quite high (Anon. 2006a, b).

13. How likely is the pest to establish outdoors in the PRA area?

Very unlikely Unlikely Moderately likely Likely Very likely

The pest is unlikely to establish outdoors as it is native to a tropical climate in Central America and northern South America, with consistently higher temperatures than those found in the UK (Pearce & Smith, 1990). However, although its hosts are not native or naturalised in the UK (Preston, Pearman & Dines, 2002) they are grown outdoors for amenity and in gardens.

14. How likely is the pest to establish in protected environments in the PRA area?

Very unlikely Unlikely Moderately likely Likely Very likely

If imported plants or plant material enter UK protected environments without detection it is possible that the pest could establish on unaffected stock. However, it is not thought to have established in others areas where infected imports have been detected (Dooley & Evans, 2004; Martin, 2005) and the pest tends to be highly conspicuous and easily detected, even when present at low densities.

² Pest entry includes an assessment of the likelihood of transfer to a suitable host (ISPM No. 11, FAO, Rome)

15. How quickly could the pest spread³ within the PRA area?

Very slowly Slowly Moderate pace Quickly Very Quickly

The most likely mechanism for the pests' entry to the PRA area is on imported stock. If the pest is undetected and infected stock is then moved around the country the pest could then spread within protected environments. There is no data to document the spread of the pest in other countries, but it is not thought to have established in Madeira, where it has also been intercepted twice (Martin, 2005) or in the USA, where it is reportable (Dooley & Evans, 2004).

16. What is the pest's potential to cause economic and/or environmental damage in the PRA area?

Very small Small Medium Large Very large

Aleurocerus palmae has not specifically been recorded as an economic pest but, as is the case with other whitefly species, if its presence becomes significant, the aesthetic value of a host will be greatly reduced. In addition, the excreted honeydew, can detract from a plants value (Russell, 1986). Known and potential host plants such as palms and bananas are grown for pot / conservatory plants as well as for gardens and, in some parts of the UK (such as Cornwall and Devon) Arecaceae palms are used for amenity planting.

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

There are no records of *Aleurocerus palmae* acting as a vector for plant pathogens. It should be noted, however, that, to date, very little work has been done on this species.

STAGE 3: PEST RISK MANAGEMENT

18. How likely is the pest to continue to be excluded from the PRA area?

Outdoors: Very likely Likely Moderately likely Unlikely Very unlikely

The known host plants are not widely grown outside in the UK and *Aleurocerus palmae* is not thought to be able to survive in the UK climate (See 13).

³ ISPM No 5. defines spread as the expansion of the geographic distribution of a pest within an area. Note that just because an organism can move or be transported quickly, does not mean that it will spread quickly, i.e. it also has to establish.

In
protection: Very likely Likely Moderately likely Unlikely Very Unlikely

The pests' interception in the UK has been confirmed four times, with two more suspected, therefore, there is a chance of *Aleurocerus palmae* occurring in stock grown under protection.

19. How likely are outbreaks to be eradicated?

Very likely Likely Moderately likely Unlikely Very unlikely

Although the host plants, such as palms and bananas, are a valuable crop, they are not widely grown in the UK. Any outbreak is likely to come from imported stock and to be localised to specific nurseries, making containment and eradication more likely. No action has been taken on the most recent documented interceptions to the UK (Anon. 2006a, b).

20. What management options are available for containment and control?

There are no management options specific to *Aleurocerus palmae*. Other whitefly pests in the UK are controlled by a mixture of biological (e.g. *Encarsia formosa*) and chemical controls (e.g. buprofezin and deltamethrin).

Further work that would reduce uncertainties

| Area of PRA | Uncertainties | Further work that would reduce uncertainty |
|----------------------|--|---|
| Taxonomy | None. This species was described in 1986. | |
| Pathway | Volume and frequency of imports from Central America. | Analysis of plant import data from Central America. |
| Distribution | Detailed distribution in Central America is not known. | |
| Establishment | Has it established in any country where there have been interceptions? | Enquiries to the USA. |
| Spread | How quickly the pest spreads. | Enquiries to NAPPO or OIRSA (RPPO's for North and Central America). |
| Impact | The economic impact in the UK. | Details of impacts in Central America. |
| Management | | |

21. Conclusions

Aleurocerus palmae is not normally present in the UK, but although likely to enter on imported plant material it is not thought to be able to establish outdoors, or be a major threat to the UK palm and tropical plant industry as long as its presence is detected.

22. Summary

Aleurocerus palmae is a whitefly pest from Central and northern South America. Its main hosts seem to be palms, although it is also found on a number of genera, including bananas and orchids, in six other plant families. Its native climate is tropical and its known host plants are not native or naturalised in the UK, although they may be grown as pot plants, in gardens and as amenity plants in some areas. There have been four confirmed interceptions in the UK and two suspected, all on imported palm material. On host plants it is highly conspicuous and can cause unsightly damage and promote fungal growth. It has been intercepted in both the USA and Madeira, but is not thought to have established in either. In the UK it is unlikely to be able to establish outside or cause major economic damage under protection in the UK.

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