

Rapid Assessment of the need for a detailed Pest Risk Analysis for *Phenacoccus peruvianus* Granada de Willink

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?

Phenacoccus peruvianus Granada de Willink, 2007 (Hemiptera: Pseudococcidae) – bougainvillea mealybug

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

Phenacoccus peruvianus 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?

Breeding populations of *Phenacoccus peruvianus* have been found in England under protection at commercial plant nurseries in Wiltshire (2003) and Dorset (2011), and at a botanical garden in Surrey (2005). In the latter case, the plants appear to have been infested for two years before the mealybug was reported. There were no known recent import connections for any of these incursions. A rapid assessment was requested to help determine if detailed PRA is required in order to determine policy.

STAGE 2: RISK ASSESSMENT

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

Phenacoccus peruvianus is native to South America (Granara de Willink & Szumik, 2007) and has been introduced to Europe, being first recorded in 1999 from Almeria, Spain. Since then it has naturalised widely along the Mediterranean coast of France, Monaco, Spain, southern coast of Portugal, the Balearic Islands, Corsica and Sicily (Beltrà *et al.*, 2010).

North America: Absent.

Central America: Absent.

South America: Argentina, Peru.

Caribbean: Absent.

Europe: France, Italy, Monaco, Portugal, Spain

Africa: Absent.

Middle East: Absent.

Asia: Absent.

Oceania: Absent.

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

It is not currently known to be established anywhere in the UK, although breeding populations have been found on three occasions. Action to eradicate the mealybugs was taken in each case.

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 on woody plants belonging to at least nine families (Beltrà *et al.*, 2010). It shows a preference for *Bougainvillea*.

- Acanthaceae:** *Justicia suberecta*
- Amaranthaceae:** *Alternanthera*
- Asclepiadaceae:** *Araujia sericifera*
- Asteraceae:** *Baccharis*, *Eupatorium*
- Aucubaceae:** *Aucuba japonica*
- Myoporaceae:** *Myoporum laetum*
- Nyctaginaceae:** *Bougainvillea*, *Bougainvillea glabra*
- Scrophulariaceae:** *Buddleja*
- Solanaceae:** *Cestrum*, *Solanum vespertilio*

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

Phenacoccus peruvianus 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):

Pathway 1. Growing plants (ornamentals) imported from Europe

There is free movement of its host plants within Europe, however, it has only been detected on three occasions.

Very unlikely Unlikely Moderately likely Likely Very likely

Pathway 2. Growing plants (ornamentals) imported from South America

It has never been intercepted on plants imported from South America, although this is the probable original source of entry into Europe

Very unlikely Unlikely Moderately likely Likely Very likely

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

Phenacoccus peruvianus is unlikely to be able to establish (overwinter) outdoors in the UK, apart from in exceptionally sheltered areas in large cities, such as London. It appears to have been present on indoor plantings at a botanical garden in Surrey for two years before measures were taken to eradicate it. It is therefore likely to establish on indoor plantings, wherever there are suitable hosts, such as bougainvillea.

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Natural dispersal is likely to be slow, especially as it is likely to be restricted to indoor plantings. It is much more likely to be spread in trade. It appears to have spread rapidly in the western Mediterranean due to movement in ornamental 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 indoor plantings throughout Britain, wherever there are suitable hosts.

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

There is no information published on the economic impact of *P. peruvianus*.

Very small Small Medium Large Very large

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

Even if *Phenacoccus peruvianus* became established in Britain, the economic impact is likely to be very small, as although it may damage individual bougainvillea plants grown indoors, its host plants are not common in Britain. It is unlikely to have any impact on biodiversity, ecosystems, crops or forestry in the UK. However, there is a degree of uncertainty as it was only described recently (2007) and its full host range, biology and economic importance have not been studied in detail.

Very small Small Medium Large Very large

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

Phenacoccus peruvianus 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).

Exclusion is unlikely as there is no effective control over the main pathway of introduction (on ornamental *Bougainvillea* imported from Europe). The simplest and most straightforward way of achieving eradication would be destruction of infested plants and precautionary treatment of those remaining. Non-statutory control of scales is usually difficult in practice, but both contact and systemic insecticides could be used.

16. Summary and conclusion of rapid assessment.

This rapid assessment shows:

Risk of entry – moderately likely (on growing plants from Europe)

The main route of entry is likely to be on growing ornamental plants from countries where the mealybug has been reported. It has, however, only been found on three occasions despite the popularity of *Bougainvillea* and *Buddleja* in the horticultural trade. Detection of early instars is difficult, particularly when present at low density. The mealybug may only be observed when mature specimens and ovisacs are present or numbers have built up to such a density that they are already causing conspicuous damage.

Risk of establishment – very likely on indoor plantings, very unlikely outdoors

It is likely to be able to establish on indoor plantings, wherever suitable hosts are grown.

Rate of spread – very slow (natural) to moderate (in trade)

Economic impact – a very small impact to Bougainvillea

Endangered area – indoor plantings.

Risk management - may be controlled by using the same products currently used for other glasshouse mealybugs

In the absence of phytosanitary measures the scale is likely to continue to enter the UK. It may be controlled using the same products used for other mealybugs already present in the UK.

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.

No	<input checked="" type="checkbox"/>				
Yes	<input type="checkbox"/>	PRA area: UK or EU		PRA scheme: UK or EPPO	

18. Given the information assembled within the time scale required, is statutory action considered appropriate / justified ?

Yes
Statutory action

No
Statutory action

Date of production: December 7th 2011

Version no.: Two

Author (s): Chris Malumphy PPPF.

IMAGES OF PEST AND SYMPTOMS



Colony of Bougainvillea mealybugs on *Bougainvillea* causing necrosis and dieback

References

Beltrà, A., Soto, A., Germain, J.F., Matile-Ferrero, D., Mazzeo, G., Pellizzari, G., Russo, A., Franco, J.C. & Williams, D.J. 2010. The Bougainvillea mealybug *Phenacoccus peruvianus*, a rapid invader from South America to Europe. *Entomologica Hellenica* **19**: 137-143.

Granara de Willink, M.C. & Szumik, C. 2007. Phenacoccinae de Centro y Sudamerica (Hemiptera: Coccoidea: Pseudococcidae): Sistemática y Filogenia. *Zoological Record Revista de la Sociedad Entomologica Argentina*. **66**: 29-129.