Pest Risk Analysis For *Chrysolina americana*

STAGE 1: PRA INITIATION

1. What is the name of the pest?

Chrysolina americana L. Coleoptera Chrysomelidae - Rosemary beetle

synonym = *Chrysomela americana*
Taeniochrysa americana

2. What is the reason for the PRA?

This PRA was initiated after live specimens were found south London in May 2000. The PRA was completed on 31st May 2000.

April 2002 update: A paper summarising previous findings and the distribution of this organism in London and the south-east of England concluded that it is now established in England (Salisbury, 2002). Information from Salisbury (2002) has been used to update the PRA of May 2000. Such information is shown as "April 2002 update".

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?

As at 31st May 2000: No. This beetle does not occur or arrive regularly as a natural migrant. It is native to southern Europe, the Middle East and North Africa (Balachowsky, 1963).

April 2002 update: Yes, *Chrysolina americana* has established in the UK. Salisbury (2002) provides a distribution map of this pest in England. Most records are from the south-east of England, but there are also records from the Norwich area and south Yorkshire.

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

As at 31st May 2000: No. However, three live adults were found in spring 1994 on pot-grown rosemary at RHS Wisley. They died in the autumn. There was no obvious import connection (Halstead, 1996).

6. What is the pest's EU Plant Health Directive status?

Not listed.

7. What is the pest's EPPO Status?

Not listed.

8. What are its host plants?

Rosimarinus officinalis (rosemary) is the primary host. *Lavandula officinalis* (true lavender) is a secondary host (Balachowsky, 1963).

April 2002 – update: *Thymus vulgaris* (thyme) is also a host (Salisbury, 2002).

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

Rosemary, lavender and thyme are all grown in the UK, mostly in private gardens although there is a Norfolk lavender growing industry (Salisbury, 2002). Yorkshire also has a lavender growing industry.

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?

Chrysolina americana occurs in southern Europe, around the Mediterranean, North Africa and the Middle East (Balachowsky, 1963). There is a single record from Latvia (Telnov *et al.,* 1997).

April 2002 update: *Chrysolina americana* can be considered as established in England (Salisbury, 2002).

12. Could the pest enter the PRA area?

Yes, This beetle was first recorded in Britain in house in Cheshire in December 1963, a few months after the house occupants had returned from Portugal (Johnson, 1963).

Three live adults were found in May and June 1994 on pot-grown rosemary at RHS Wisley. The plants had been growing outdoors since spring 1993 (Halstead, 1996). There was no recent import connection.

Hodge (2000) reported identifying *C. americana* from a sample submitted from a garden in Weybridge, Surrey in 1999. He described the beetle as "a recent colonist in Britain".

The PHSI have also intercepted this organism at several nurseries in the past (Table 1).

Table 1: PHSI findings of *Chrysolina americana*

Date	Host	From	Comment	Reference	Action recs.
Jan. '97	rosemary	Spain	7 live adults	28328 /50 /2 /1	None.
Jan. '97	rosemary	Israel	2 live adults	23459 /46 /1 /1	None.
Feb. '97	rosemary	imported	1 live adult	11585 /116 /1 /1	None.
Nov. '97	rosemary	Spain	several live adults and larvae.	26503 /13 /1 /1	None.
May '00	lavender	? *	numerous adults and larvae	508370 / 2001/ 1	None.

* Found by PHSI in a formal planting of lavender on the South Bank of the Thames, London.

13. Could the pest establish outdoors in the PRA area?
Chrysolina americana is unlikely to be able to establish widely outdoors in the UK. This is an organism from southern Europe, the Middle East and North Africa. The cooler, wetter UK climate could be unsuitable for this pest. The specimens found at Wisley RHS during spring 1994 died in the autumn of that year.

Adults and larvae were found in May 2000 in London. In its native range, adults emerge in the spring and begin feeding. They aestivate in mid-summer and become active again in late summer when eggs are laid. Larvae emerge in the autumn and continue to feed during the winter. Pupation takes place in the soil (Balachowsky, 1963).

April 2002 update: *C. americana* has clearly been able to establish outdoors in SE England during the 1990's. The 1990's was the warmest decade in Britain since weather recording began and may help explain why this Southern European pest has been able to establish in part of the UK.

14. Could the pest establish in protected environments in the PRA area?
Perhaps, but hosts are generally grown outdoors in the UK.

15. How quickly could the pest spread within the PRA area?
Chrysolina americana could be spread rapidly across the UK if transported with host plants during movements in trade. Natural spread would occur much more slowly since this beetle cannot fly.

16. What is the pest's potential to cause economic and/or environmental damage?
Adults feed on foliage at the shoot tips in the spring. Larvae feed on foliage in the autumn and winter. The beetles found at RHS Wisley had caused a small amount of damage to the leaves. The beetles found during May 2000 in London had caused damage to approximately 100 of the 200 lavender plants at the site (Domero reference 50837/ 2001/ 1/ 1).

April 2002 update: Little damage has been reported on plants where *C. americana* has been found (Salisbury, 2002).

17. What is the pest's potential as a vector of plant pathogens?
Chrysolina americana is not recorded as a virus vector

STAGE 3: PEST RISK MANAGEMENT

18. What are the prospects for continued exclusion?
Fair. Although intercepted at irregular intervals, this pest does not appear capable of sustained population growth in the UK climate. *Chrysolina americana* is brachypterous (has reduced wings) and cannot fly, reducing its ability to disperse.

April 2002 update: There is no practical chance for exclusion. This pest has become established in the UK.

19. What are the prospects of eradicating an outbreak (at a nursery)?
Good. Insecticides could be used or host plants destroyed. As with all findings of non-indigenous pests, the success of eradication will depend on how widely the pest is distributed when it is first found.

20. What management options are available for containment and control?
Destruction of infested material. Application of chemical insecticides following advice from CSL Action Recommendations Team.

CONCLUSION OF THE PEST RISK ANALYSIS

This is a little known pest of rosemary and lavender. Its native range covers much warmer and drier climates than that of the UK. Previously only adult beetles have been found in the UK. This PRA was initiated with the first finding of larvae. It is unusual to find larvae during early summer, in its native range they are normally found in the autumn. There was no obvious import connection to the beetles finding on this occasion and they may have been present for some time, indicating that establishment could occur in the UK at suitable sites.

April 2002 update: *Chrysolina americana* can now be regarded as established in England.

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