

## PEST RISK ANALYSIS FOR *CACOECIMORPHA PRONUBANA*

### STAGE 1: PRA INITIATION

#### 1. What is the name of the pest?

*Cacoecimorpha pronubana* Hübner Lepidoptera: Tortricidae  
Mediterranean carnation leafroller

#### Synonyms

*Tortrix pronubana* Hübner  
*Cacoecia pronubana* Hübner  
*Cacoecimorpha ambustana* Hübner

*Cacoecimorpha hermineana* Duponchel  
*Cacoecimorpha insolatana* Lucas

#### 2. What is the reason for the PRA?

*Cacoecimorpha pronubana* is the subject of European Council Directive 74/647/EEC that lays down requirements needed by EU Member States to inhibit the spread of *C. pronubana*. However, given the widespread distribution of the organism within the EU already, a working party of Agricultural Attachés has considered repealing the Directive. A PRA is required to inform policy discussions and inform the UK decision as to whether to support repeal of 74/647/EEC.

#### 3. What is the PRA area?

UK.

### STAGE 2: PEST RISK ASSESSMENT

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

Yes. *C. pronubana* is widespread across the UK and has been present here for over 100 years. Multiple overlapping generations occur outdoors each year and it can also occur in protected conditions (Maitland-Emmet & Heath, 1991).

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

*C. pronubana* is well established in the UK.

#### 6. What is the pest's status in the Plant Health Directive (Council Directive 2000/29/EC<sup>1</sup>) ?

*C. pronubana* is not included in Council Directive 2000/29, the principal Directive that sets out the EC Plant Health regime. However, *C. pronubana* is

<sup>1</sup> [http://europa.eu.int/eur-lex/en/consleg/pdf/2000/en\\_2000L0029\\_do\\_001.pdf](http://europa.eu.int/eur-lex/en/consleg/pdf/2000/en_2000L0029_do_001.pdf)

covered by Council Directive 74/647/EEC, on the control of carnation leaf rollers (see 2. above). It is the latter Directive that is being considered for repeal.

**7. What is the quarantine status of the pest in the lists of the European and Mediterranean Plant Protection Organisation (EPPO)? [www.eppo.org](http://www.eppo.org)**

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

EPPO recommends regulation of *C. pronubana* as an A2 quarantine pest, primarily to protect glasshouse crops, especially carnations and other flowers and ornamental plants (Smith *et al.*, 1997; EPPO PQR, 2007).

**8. What are the pests' host plants?**

*C. pronubana* is highly polyphagous and larvae feed on plants in 138 genera. Throughout its range, *C. pronubana* is a pest of carnation (*Dianthus caryophyllus*). Other major hosts include *Brassica*, *Chrysanthemum*, *Citrus*, *Daucus carota* (carrot), *Lycopersicon esculentum* (tomato), *Pelargonium*, *Picea* (spruce), *Pinus* (pine), *Prunus*, *Rosa* and *Vicia faba* (beans). Minor hosts include *Allium porrum* (leeks) and *Fragaria* (strawberry) (Anon., 1979; CABI, 2009).

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

All hosts noted above are of economic importance in the PRA area, as either horticultural crops or as ornamental or amenity plants.

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

No vector is needed, this is a free living organism.

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

Table 1: Distribution of *Cacoecimorpha pronubana* (Mediterranean leaf roller)

North America:	USA (Oregon)
Central America:	No records assumed absent.
South America:	No records assumed absent.
Europe:	Widespread in Europe, e.g. in Albania, Belgium, Croatia, France, Germany, Greece, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Romania, Serbia and Montenegro, Spain, Switzerland and UK
Africa:	North Africa (e.g. Algeria, Libya, Tunisia, Morocco), South Africa
Asia:	Israel, Turkey, Japan
Oceania:	No records assumed absent.

Sources: CABI (2009) and EPPO (1998).

As its common name suggests, *C. pronubana*, the Mediterranean carnation leaf-roller, is indigenous to the Mediterranean region where it is widespread. In more northern Europe it has been present in the UK since 1905 and also in the Netherlands (since 1992) (CABI, 2009).

**12. How likely is the pest to enter the PRA area<sup>2</sup>?**

very Unlikely  Unlikely  Moderate  Likely  very   
 Unlikely  Unlikely  likelihood  Likely  Likely

*C. pronubana* has already entered the UK. It is now widely spread.

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

very  Unlikely  Moderate  Likely  very   
 Unlikely  Unlikely  likelihood  Likely  Likely

*C. pronubana* can certainly establish outdoors in the PRA area. In the UK and other northern areas of its distribution, *C. pronubana* overwinters as larvae on plants outdoors and in glasshouses (see 14). However, mortality among larvae outdoors can be high since they cannot survive low temperatures and are injured by rain. Larvae mature during spring and early summer. Adults first emerge in late spring to mate. Females lay up to 700 eggs that hatch very quickly. The larvae emerge and feed from April to August. A second generation of adults appears from mid-August until the beginning of October. During a very warm autumn a third generation of adults may develop on evergreen plants (Anon., 1979).

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

very  Unlikely  Moderate  Likely  very   
 Unlikely  Unlikely  likelihood  Likely  Likely

In glasshouses (with a minimum temperature of 15°C, e.g. for roses), more than five generations of *C. pronubana* may develop each year, and all stages of the insect may be found between spring and autumn. Larvae can overwinter on hosts maintained in glasshouses.

**15. How quickly could the pest spread within the PRA area?**

very  Slowly  Moderate  Quickly  very   
 Slowly  Slowly  pace  Quickly  Quickly

*C. pronubana* is already widely distributed across the PRA area.

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

In international trade, *C. pronubana* may be carried on plants for planting or cut flowers of carnations, chrysanthemums, pelargoniums, roses and other host plants.

No statutory action has ever been taken on plant material infested with *C. pronubana* landed in the UK on 75 previous findings. *C. pronubana* is a pest that can be managed by the domestic horticulture industry given that there are effective chemical controls and physical methods available for management of the pest commercially.

**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

In spite of the polyphagous nature of this insect, serious damage is confined mainly to carnation crops in the Mediterranean area, where losses have been reported since the 1920s, e.g. around Nice in the early 1970s, between 25% and 35% of carnations were affected with consequent export losses.

In northern countries damage can be inflicted to outdoor crops, such as strawberries outdoors in the UK (Gratwick, 1992) although *C. pronubana* is most important in glasshouses. Larvae roll leaves with spun silk to create a shelter and then feed on foliage inside the shelter. Damaged plants can wither and sometimes die. Flower buds are tunnelled into and flowers eaten. Carnation stems can be damaged. Routine pest management practice can control this pest.

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

*C. pronubana* is not known as a vector of plant pathogens.

**STAGE 3: PEST RISK MANAGEMENT**

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

Outdoors: very Likely  Likely  Moderate likelihood  Unlikely  very Unlikely

In protection: very Likely  Likely  Moderate likelihood  Unlikely  very Unlikely

*C. pronubana* is a resident species, widespread in the UK, with multiple overlapping generations each year.

**19. How likely are outbreaks to be eradicated?**

very  Likely  Moderate likelihood  Unlikely  very   
 Likely  Likely  likelihood  Unlikely  Unlikely

As a resident non-native species, widespread in the UK, *C. pronubana* is not under official control. Between 1st January 1996 and 31st March 2009 *C. pronubana* was identified in 75 samples sent to CSL (Diagnosis database). No action was ever recommended on any findings. Nevertheless, CSL once gave guidance for control of *C. pronubana* (June/ July 2004, reference 22928/2021/5/1) when a population was found causing damage to a growing crop of *Bougainvillea* in southern England. However, the guidance was only advisory and not statutory.

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

As an organism that is widespread and not under official control, *C. pronubana* does not fit the definition of a quarantine pest and no statutory management action is recommended. Nevertheless, insecticides approved for the control of lepidopteran larvae on protected ornamentals, such as *Bacillus thuringiensis* var. *kurstaki* ('DiPel DF'), teflubenzuron ('Nemolt') and/or deltamethrin (e.g. 'Decis') could be used for (non-statutory) management of *C. pronubana* if necessary.

**21. Summary**

The Mediterranean carnation leaf-roller (*Cacoecimorpha pronubana*), is widespread across the UK and has been present here for over 100 years. Multiple overlapping generations occur outdoors each year and it can also occur in protected conditions. No statutory action has ever been taken on plant material infested with *C. pronubana* landed in the UK on 75 previous findings. *C. pronubana* is a pest that can be managed by the domestic horticulture industry given that there are effective chemical controls and physical methods available for commercial management of the pest.

**22. Conclusions**

This PRA supports the repeal of Council Directive 74/647/EEC that lays down the minimum requirements needed by EU Member States to inhibit the spread of *C. pronubana*, in order to focus on pests of more immediate concern.

**REFERENCES**

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