

Report of a Pest Risk Assessment

This summary presents the main features of a pest risk assessment which has been conducted on the pest, according to EPPO Standard PP 5/3(1) Pest Risk Assessment Scheme.

Pest:	<i>Phyllonorycter issikii</i>
PRA area:	Non-Asian part of the EPPO region
Assessor:	EPPO Panel on Quarantine Pests for Forestry
Date:	April, 2003

1. INITIATION

1.1 Reason for doing PRA: Study of the risk of forest pests occurring on the territory of the former USSR for the western part of the EPPO region

1.2. Taxonomic position of pest: *Phyllonorycter issikii* Kumata (Lepidoptera: *Gracillariidae*)

2. PROBABILITY OF INTRODUCTION

2.1 Entry

2.1.1 Geographical distribution: **EPPO region:** Russia (South of the Far East; South and centre of the European part: cities Voronezh, Samara, Ufa, Moscow and their vicinities), Ukraine. Recently introduced to Lithuania.
Europe: Lithuania, Russia (South and centre of the European part: cities Voronezh, Samara, Ufa, Moscow and their vicinities), Ukraine.
Asia: Korea, Russia (South of the Far East), Japan.
EU: Absent.
North America: Absent
Central America & Caribbean: Absent
South America: Absent
Oceania: Absent

2.1.2 Major host plants: Larvae of *P. issikii* make plicated mines in the lower side of leaves of *Tilia cordata* (preferred host), *T. amurensis*, *T. mandshurica*, *T. maximowicziana* and other *Tilia*, but also *Betula platyphylla*.

2.1.3 Which pathway(s) is the pest likely to be introduced on: *P. issikii* is associated with leaves of host plants. The introduction of eggs, larvae and pupae of the pest to new areas is possible with plants for planting with leaves originating in areas where it is present. Pupae can be introduced with fallen leaves (in soil). Natural spread is possible with flights of adult moths.

In decreasing order of risk, main pathways for *P. issikii* are:

1. Plants for planting
2. Leaves with soil or vehicles
3. Cut branches

2.2 Establishment

2.2.1 Crops at risk in the PRA area: The most important risk is expected on *Tilia cordata* and other species of *Tilia*. The biggest risk exists for ornamentals and forest lime trees.

2.2.2 Climatic similarity of present distribution with PRA area (or parts thereof): All the EPPO region (except the extreme North) have similar climatic conditions to those of the area of present distribution of the pest.

2.2.3 Aspects of the pest's biology that would favour establishment: The pest has two generations per year.

2.2.4 Characteristics (other than climatic) of the PRA area that would favour establishment: Host plants are widely distributed within the PRA area. Suitable ecological niches are available throughout the PRA area.

2.2.5 Which part of the PRA area is the endangered area: The endangered part of the PRA area covers most of the EPPO territory. The experience shows that it can easily establish in new areas: Lithuania, Ukraine, several locations in European Russia.

3. ECONOMIC IMPACT ASSESSMENT

3.1 Describe damage to potential hosts in PRA area: *P. issikii* stresses much its host plants because its larvae damage leaves. It may attack both stressed and healthy trees of different ages leading to losses in vigour of the trees (both in cities and forests) and considerably reducing ornamental value of trees.

3.2 How much economic impact does the pest have in its present distribution: In 1987 in Voronezh region of European Russia, 70% of lime leaves were damaged by *P. issikii*, and from 1988 to 1998 more than 98% of leaves were damaged. The presence of up to 27 mines per leaf has been recorded. The damage leads to considerable reduction of ornamental value of trees widely used for city plantations thus causing considerable social damage.

3.3 How much economic impact would the pest have in the PRA area: Considering the similarity of ecological conditions, the damage in the endangered part of the PRA area could be similar to that in the present area of the pest.

4. CONCLUSIONS OF PRA

4.1 Summarize the major factors that influence the acceptability of the risk from this pest:

This pest

- comes from an area with similar climatic conditions to those of the PRA area and could easily establish throughout a large part of it;
- is the pest of lime, which is an important ornamental and forest tree in the PRA area;
- can cause serious economic damage there;
- can also cause serious social damage.

4.2 Estimate the probability of entry:

high with plants for planting, medium with leaves (with vehicles and/or soil) and low with cut branches

4.3 Estimate the probability of establishment:

high with plants for planting, medium with leaves (with vehicles and/or soil) low for other pathways

4.4 Estimate the potential economic impact:

high

4.5 Degree of uncertainty

There is little uncertainty in this assessment

5. OVERALL CONCLUSIONS OF THE ASSESSOR

The endangered part of the PRA area covers almost all the EPPO territory. The pest entry with plants for planting and establishment have a high probability. Its impact within the endangered area would be the direct damage to ornamental and forest plantations of lime. *P. issikii* is spreading in the EPPO region (already spread from the Far East of Russia to European Russia, Ukraine and Lithuania). Phytosanitary measures probably could prevent or limit its introduction into the endangered area.

P. issikii should be included into the EPPO Alert list.