

## 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.

<b>Pest:</b>	<i>Malacosoma parallela</i>
<b>PRA area:</b>	Non-Asian part of the EPPO region
<b>Assessor:</b>	EPPO Panel on Quarantine Pests for Forestry
<b>Date:</b>	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:** *Malacosoma parallela* Staudinger (Lepidoptera: Lasiocampidae)

### 2. PROBABILITY OF INTRODUCTION

#### 2.1 Entry

**2.1.1 Geographical distribution:** **EPPO region:** Kyrgyzstan, Russia (North Caucasus: Dagestan and Chechnya), Turkey.  
**Europe:** Absent  
**Asia:** Armenia, northern Iran, eastern Kazakhstan, Kyrgyzstan, Uzbekistan, Syria, Tajikistan, Turkey and Turkmenistan.  
**EU:** Absent.  
**North America:** Absent  
**Central America & Caribbean:** Absent  
**South America:** Absent  
**Oceania:** Absent

Main outbreaks of *M. parallela* occur in mountain forests at an altitude of 1000 – 1800 m where the pest finds optimal conditions for its development. It can occur up to 2400 m.

**2.1.2 Major host plants:** *M. parallela* is extremely polyphagous and damages many different species of deciduous trees and shrubs from many families: *Amygdalus bucharica*, *Amygdalus communis*, *Atraphaxis pyrifolia*, *Berberis integerrima*, *Cerasus verrucosa*, *Chaenomeles japonica*, [*Cotoneaster acutiuscula*]<sup>1</sup>, *Cotoneaster insignis*, *Cotoneaster suavis*, *Crataegus hissarica*, *Crataegus pontica*, *Crataegus turkestanica*, *Cydonia oblonga*, *Fraxinus sogdiana*, *Hippophae rhamnoides*, *Juglans regia*, *Lonicera korolkowii*, *Lonicera nummulariifolia*, *Malus*

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<sup>1</sup> the name used in Soviet literature and not found in European databases is placed in square brackets

*domestica*, *Malus sieversii*, *Myricaria bracteata*, *Padus asiatica*, *Populus alba*, *Populus tremula*, *Prunus mahaleb*, *Prunus armeniaca*, *Prunus avium*, *Prunus cerasus*, *Prunus divaricata*, *Prunus dulcis*, *Prunus persica*, *Pyrus communis*, *Quercus boissieri*, *Quercus macranthera*, *Quercus robur subsp. robur*, *Ribes nigrum*, *Ribes rubrum*, *Rosa canina*, *Rosa corymbifera*, *Rosa kokanica*, *Rosa maracandica*, *Rubus idaeus*, *Rubus turkestanicus*, *Salix excelsa*, *Salix tenuijulis*, *Sorbus persica*, *Sorbus turkestanica* and *Ulmus* sp. The most important damage occurs on *Amygdalus bucharica*, *Amygdalus communis*, oak and wild apple trees. Important damage also occurs on *Berberis*, *Chaenomeles*, *Cotoneaster*, *Crataegus*, *Cydonia*, *Malus*, *Prunus*, *Pyrus*, *Rosa*, *Salix* and *Sorbus* species. Other plants are damaged occasionally.

**2.1.3 Which pathway(s) is the pest likely to be introduced on:**

*M. parallela* is associated with leaves and branches of host plants. Eggs, larvae and pupae (cocoons) may be associated with wood containing bark. All stages of the life cycle can be transported on host plants moving in trade, particularly plants for planting and cut branches. Natural spread is possible with flights of adult moths.

In decreasing order of risk, main pathways for *M. parallela* are:

1. Plants for planting
2. Cut branches
3. Wood with bark

**2.2 Establishment**

**2.2.1 Crops at risk in the PRA area:**

The most important risk is expected on *Amygdalus* and oak. Important damage also occurs on *Berberis*, *Chaenomeles*, *Cotoneaster*, *Crataegus*, *Cydonia*, *Malus*, *Prunus*, *Pyrus*, *Rosa*, *Salix* and *Sorbus* species. The biggest risk exists for ornamentals, forest and fruit plants.

**2.2.2 Climatic similarity of present distribution with PRA area (or parts thereof):**

The Central and the Southern parts of the EPPO region have similar climatic conditions with the area of origin and present distribution of the pest.

**2.2.3 Aspects of the pest's biology that would favour establishment:**

The pest is extremely polyphagous and genetically adaptable.

**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 central and southern regions of the EPPO territory including mountain areas (up to 2400 m).

**3. ECONOMIC IMPACT ASSESSMENT**

**3.1 Describe damage to potential hosts in PRA area:**

*M. parallela* is a defoliator. It may attack both stressed and healthy trees of different ages considerably reducing the yield of fruits and sometimes leading to the death of ornamental and forest trees.

**3.2 How much economic impact does the pest have in its present distribution:**

*M. parallela* is an important defoliator of many deciduous trees in several countries of the former USSR. Its outbreaks often last for two consecutive years. It was especially noted as a very dangerous pest of oak in the mountains of Armenia and of forests, fruit trees and shrubs of *Rosaceae*, *Fagaceae* and *Elaeagnaceae* in the mountains of Tajikistan. It attacks both stressed and healthy trees of different ages. Its outbreaks occur throughout large mountain areas, often result in 100% defoliation and sometimes lead to the death of trees and forests as well as to losses of fruit yield, either itself or in association with *Yponomeuta padellus*, *Euproctis kargalica*, *Erschoviella musculana*, *Lymantria dispar* and/or other defoliators. The pest may damage mountain forests up to 2400 m.

**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;
- can cause serious economic damage there;
- is the pest of many ornamental, forest and fruit trees, which are important in the PRA area.

**4.2 Estimate the probability of entry:**

high with plants for planting, medium with cut branches and low with wood with bark

**4.3 Estimate the probability of establishment:**

high with plants for planting, 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 most of central and southern regions of 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 plantations of many ornamental, forest and fruit trees, which would consist in fruit yield losses, stress or death of ornamental and forest plants. *M. parallela* is of limited distribution in the EPPO region (only in Kyrgyzstan, South-European Russia, and Turkey). Phytosanitary measures could prevent its introduction into the endangered area.

*M. parallela* is proposed for the A2 list.