

## 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>Erschoviella musculana</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

<b>1.1 Reason for doing PRA:</b>	Study of the risk of forest pests occurring on the territory of the former USSR for the western part of the EPPO region
<b>1.2. Taxonomic position of pest:</b>	<i>Erschoviella musculana</i> Ershov (Lepidoptera: <i>Noctuidae</i> )

### 2. PROBABILITY OF INTRODUCTION

#### 2.1 Entry

<b>2.1.1 Geographical distribution:</b>	<b>EPPO region:</b> Kyrgyzstan. <b>Europe:</b> Absent <b>Asia:</b> Southern Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan, probably Afghanistan and Iran. <b>EU:</b> Absent. <b>North America:</b> Absent <b>Central America &amp; Caribbean:</b> Absent <b>South America:</b> Absent <b>Oceania:</b> Absent In Central Asia, outbreaks of <i>E. musculana</i> occur in valley and mountain forests and orchards up to an altitude of 1900-2100 m.
<b>2.1.2 Major host plants:</b>	<i>E. musculana</i> attacks wild and cultivated varieties of <i>Juglans regia</i>

**2.1.3 Which pathway(s) is the pest likely to be introduced on:** *E. musculana* is associated with walnut fruits and plants. Eggs, larvae and pupae (cocoons) may be associated with wood containing bark. All stages of the life cycle can be transported with walnut fruits (inside nuts) and on walnut plants moving in trade (inside shoots), particularly plants for planting and cut branches. Natural spread is possible with flights of adult moths. In decreasing order of risk, pathways for *E. musculana* are:

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

## 2.2 Establishment

**2.2.1 Crops at risk in the PRA area:** *Juglans regia* and probably other species of *Juglans*. The major risk is for walnut orchards.

**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 has two to three 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 central and southern regions of the EPPO territory.

## 3. ECONOMIC IMPACT ASSESSMENT

**3.1 Describe damage to potential hosts in PRA area:** *E. musculana* is the pest of fruits and shoots of walnuts. It attacks both stressed and healthy walnut trees of different ages considerably reducing the yield of nuts and feeds inside young shoots causing them to wilt.

**3.2 How much economic impact does the pest have in its present distribution:** *E. musculana* is the most important pest of walnuts in the countries of its present distribution. Young fruits damaged by the pest caterpillars fall. One caterpillar may destroy several fruits. Fruits are deformed and do not usually produce normal nuts. In this way the pest considerably reduces the yield of nuts (up to 70-80%), which makes difficult the natural reforestation of walnut forests and causes direct economic damage in commercial walnut orchards. In the years of low yield of nuts, the caterpillars feed inside young shoots causing them to wilt. In this case, the most important damage is observed on young walnut trees. The pest may damage mountain walnut forests up to 1900-2100 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, but limited to planted walnut

trees.

#### 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 a pest of walnut, which is an important nut tree in the PRA area.

##### 4.2 Estimate the probability of entry:

high with plants for planting, low for cut branches, nuts and wood with bark. Even plants for planting do not, in the actual situation represent a substantial pathway.

##### 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 the central and southern regions of the EPPO territory. Pest entry with plants for planting and establishment, have high probability, but there is in practice little trade. Impact of the pest within the endangered area would be direct damage to plantations of *Juglans regia* and probably other species of *Juglans*, which would mainly consist in nut yield losses. *E. musculana* is of limited distribution in the EPPO region (only in Kyrgyzstan). Phytosanitary measures could prevent its introduction into the endangered area.

*E. musculana* is proposed for the A2 list.