

Report of a Pest Risk Assessment: *Dryocosmus kuriphilus*

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: *Dryocosmus kuriphilus*
PRA area: EPPO region
Assessor: Original PRA: Dr Marco Vettorazzo Plant protection Service Veneto, IT
Report of the PRA: EPPO Secretariat
Date: 2003-05

1. INITIATION

1.1 Reason for doing PRA: An outbreak of the pest has been recently detected in Italy Piedmont region South of Cueno province.
1.2. Taxonomic position of pest: Insecta: Hymenoptera, Cynipidae

2. PROBABILITY OF INTRODUCTION**2.1 Entry**

2.1.1 Geographical distribution: **EPPO region:** Italy
Asia: China, Korea, Japan
America: U.S.A. (south east: Georgia, Alabama, North Carolina and Tennessee)
E.U.: Italy (Piedmont region, South of Cuneo province)

2.1.2 Major host plants: *Dryocosmus kuriphilus* attacks *Castanea crenata*, *C. dentata*, *C. mollissima*, *C. sativa* and their hybrids. This species infests also *C. seguinii* in China., but not yet other wild North American species of *Castanea*: *C. pumila* and *C. alnifolia* Nutt., which are very often grown adjacent to infested chestnuts.

2.1.3 Which pathway(s) is the pest likely to be introduced on: Plants for planting and cut branches of *Castanea* (young chestnut plants or cut branches with buds moving in trade can contain pest's eggs or first instar larvae within buds)
The pest can also spread naturally when adult females fly (end of June beginning of July).

2.2 Establishment

2.2.1 Crops at risk in the PRA area: The most important crop is *Castanea sativa* both in commercial plantations and in forest.

2.2.2 Climatic similarity of present distribution with PRA area (or parts thereof): Climatic conditions of EPPO region and of the area of pest origin can be considered similar.

2.2.3 Aspects of the pest's biology *Dryocosmus kuriphilus* has only one generation per year, but it

that would favour establishment: is a parthenogenetic species. Each female can lay more than 100 eggs into the buds.

2.2.4 Characteristics (other than climatic) of the PRA area that would favour establishment: - In the PRA area natural indigenous enemies (hymenopteran parasitoids) seem to be unable to ensure good control of the pest.

- In the area of origin (China) chestnut growers collect and destroy the galls before the emergence of adult. In the EPPO region, this control method is not possible due to the high cost of labour and the large size of wild and cultivated chestnuts.

- Wild or cultivated chestnuts are seldom treated with pesticides.

2.2.5 Which part of the PRA area is the endangered area: Development would be possible in most of the PRA area.

Chestnut woods occur in many EPPO countries (from Greece to Portugal, from southern Italy to southern England).

3. ECONOMIC IMPACT ASSESSMENT

3.1 Describe damage to potential hosts in PRA area:

The insect forms galls on leaves and buds. The galls suppress shoot elongation and reduce fruiting (in USA, chestnuts with severe infestations lose their vigour and often die).

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

In Japan, Korea and USA, the pest has caused severe economic losses to chestnut growers after its establishment. It is considered as one of the most damaging insects of chestnut. Losses of final production reaching 60-70 % have been recorded.

3.3 How much economic impact would the pest have in the PRA area:

The pest could strongly reduce nut production and quality. In Europe, chestnut is often grown on marginal land in hills or mountains. Damage resulting from the spread of *D. kuriphilus* could lead to the stop of chestnut cultivation in these areas and thus to economic and environmental degradation in these areas, with further negative consequences on hydrological equilibrium.

4. CONCLUSIONS OF PRA

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

The pest is considered as one of the most damaging insects of chestnut.

Chestnut is grown in many EPPO countries.

4.2 Estimate the probability of entry:

High

4.3 Estimate the probability of establishment:

High (has already been introduced in one EPPO country)

4.4 Estimate the potential economic impact:

High

4.5 Degree of uncertainty

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5. OVERALL CONCLUSIONS OF THE ASSESSOR

D. kuriphilus is proposed for listing on EPPO A2 quarantine list