

Dokument vsebuje vgnezdene datoteke, ki se odpirajo ločeno

“Annexes Working Group”. Priporočilo

Ime škodljivega organizma

Dryocosmus kuriphilus Yasumatsu

Taksonomska uvrstitev: Insecta: Hymenoptera: *Cynipidae*

Trenuten predpisan status v EU zakonodaji

ŠO ni uvrščen na sezname

Podatki o škodljivem organizmu, gostitelji, trenutno stanje v EU

Kostanjeva osa šiškarica je škodljivi organizem, ki je omejen na rod *Castanea*. Na območjih, kjer se je ustalila (Kitajska, Japonska, Koreja in jugovzhod ZDA), povzroča pomembno gospodarsko škodo. *D. kuriphilus* je navzoča vrsta na omejenem območju Piedmonta v Italiji, vključno z območji izven komercialne pridelave kostanja.

Svet EPPO je vrsto priporočil za uvrstitev na seznam EPPO A2 leta 2003.

Delovna skupina priporoča, da Stalni odbor za zdravstveno varstvo rastlin preuči dopolnitev ustreznih prilog directive 2000/29/ES kot sledi:

Priporočilo za uvrstitev na seznam – Priloga I ali Priloga II

II A II seznam

(a) 4.1 *Dryocosmus kuriphilus* Yasumatsu Rastline *Castanea* L., za saditev, razen semena,

Recommendation for Phytosanitary Measures – Annex IV A I, IV A II or IVB

IV A I and IV A II entries

Rastline *Castanea* L., za saditev, razen semena.

- a) Rastline za saditev rastejo na območju, kjer je znano, da ni vrste *Dryocosmus kuriphilus*, ali

b) Rastline za saditev rastejo vseskozi na nenapadenem mestu pridelave¹, ki je ustrezno fizično zaščiten pred napadom *Dryocosmus kuriphilus* in v zadnji rastni dobi ni bilo opaženih vidnih znamenj, ki jih povzroča *Dryocosmus kuriphilus* na enoti pridelave od začetka zadnje popolne rastne dobe.

Utemeljitev z dokumenti.

¹ Pest free production site is defined in FAO ISPM no. 10 as "Place of production in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period".

EPP0 Datasheet 03/10095:



EPP0data.doc

Podatki o potencialnem karantenskem škodljivem organizmu

Dryocosmus kuriphilus kostanjeva šiškarica

ISTOVETNOST

Ime: *Dryocosmus kuriphilus* YasumatsuVeljavno znanstveno ime *D. kuriphilus* in opis osice je napravil Yasumatsu šele leta 1951.**Sinonimi:** Pred tem je bila znana kot nedoločena vrsta iz rodu *Biorhiza* (Fukuda in Okudai 1950, Ishii 1949, Shiraga 1948, 1951, Shiraga in Sasaki 1949).**Taksonomska uvrstitev:** Insecta: Hymenoptera, Cynipidae**Splošno ime:** Oriental chestnut gall wasp (angl.), Gallwespe, Japanische Esskastanien (nem.), Chalcide du chataignier (franc.), Kuri-tamabati (japonsko).**Bayer koda:** DRYCKU**EPPO A2 lista:** No. 317**EU uvrstitev:** Nima statusa (v postopku sprejemanja na II.A. II).

GOSTITELJSKE RASTLINE

D. kuriphilus napada *Castanea crenata* Sieb. et Zucc. (japonski kostanj), *C. dentata* (Marsh.) (ameriški kostanj), *C. mollissima* Blume (kitajski kostanj), *C. sativa* Mill. (pravi kostanj) in njihove križance. Ta vrsta napada tudi *C. seguinii* Dode na Kitajskem., ne pa še drugih divjih severnoameriških vrst kostanja *Castanea*: *C. pumila* (L.) in *C. alnifolia* Nutt., ki zelo pogosto rastejo blizu infestiranega kostanja.

GEOGRAFSKA DISTRIBUCIJA

EPPO regija: Italija (Pidmont), Francija (Bretanija)**Azija:** Kitajska, Koreja, Japonska**Amerika:** ZDA. (JV: Georgia, Alabama, Severna Carolina in Tennessee)**E.U.:** Italija (regija Piedmont, južno od province Cuneo)

BIOLOGIJA

D. kuriphilus je univoltina in telitokna vrsta. Zgodnje razvojne stopnje ličink prezimijo znotraj brstov kostanja. V času brstenja spomladi kostanjeva šiškarica povzroči tvorbo zelene ali roza obarvane šiške, premera 5-20 mm. Šiške se razvijejo sredi aprila na mladih poganjkih. Ličinke se 20-30 dni hranijo znotraj šiške, preden se zabubijo. Glede na lokaliteto (geografski položaj, osončenost) in sorte kostanja, se bube pojavljajo od sredine maja do sredine julija, odrasle osice pa izletajo iz šišk od konca maja do konca julija. Vse so samičke; samcev te vrste doslej še niso našli. Samica leže 3-5 jajčec v grozdu v notranjost brsta. Vsaka samica lahko izleže več kot 100 jajčec. Nekateri brsti vsebujejo 20-30 jajčec. Samice živijo kratek čas (več ali manj 10 dni, nekaj pa jih porabijo že za vrtnje tunela za izlet iz šiške). Jajčeca se začno valiti po 30-40 dneh. Ličinka raste počasi skozi ves preostanek leta.

DETEKCIJA IN IDENTIFIKACIJA

Simptomi

Šiške so enojne ali pa imajo več prekatov, velike so v premeru 5-20 mm, zeleno ali roza obarvane, pogosto vsebujejo del razvijajočih listov, stebel in listnih pecljev. Razvijejo se na mladih poganjkih, listnih pecljih ali na litnih žilah. Po izletu odraslih osic se šiške posušijo, olesenijo in ostanejo pripete na drevo tudi do dveh let.

Medtem ko šiške zlahka opazimo na rastlinah ali njenih delih, jajčec in prvih razvojnih stadijev ličink znotraj brstov ne moremo zaznati s preprostim vizualnim pregledom.



Slika 1: Šiške *D. kuriphilus* na listih (1) in na poganjkih (2) kostanja



Slika 2: Šiške na evropsko-japonskem hibridu kostanja (cv. Marsol)

MORFOLOGIJA

Jajčeca

Jajčeca vrste *D. kuriphilus* odlagajo samice v brste poganjkov v juniju in juliju. Jajčeca so ovalna, mlečno bela, 0,1-0,2 mm dolga, z dolgim pecljem.



Slika 3: Jajčeca vrste *D. kuriphilus*

Ličinka

Ličinka vrste *D. kuriphilus* zraste v dolžino do 2,5 mm, je mlečno bele barve, brez oči in nog.



Slika 4: Ličinka prve razvojne stopnje vrste *D. kuriphilus*



Slika 5: Ličinka vrste *D. kuriphilus* v kostanjevi šiški

Buba

Buba vrste *D. kuriphilus* je dolga 2,5 mm, črna ali temno rjava.

Buba vrste *D. kuriphilus* [vir: EPPO]



Slika 6: Buba vrste *D. kuriphilus*

Odrasla

Samičke osic *D. kuriphilus* so v povprečju dolge 2,5-3 mm, telo imajo črno; noge, scapus in pedile anten, apeks klipeusa in mandibule so rumeno rjave; glava je zvito oblikovana; skutum, mesopleuron in gaster imajo visok sijaj, so gladki; propodeum ima tri longitudinalne carinae; propodeum, pronotum (posebej spodaj) močno oblikovan; scutum z dvema enako vdrtima in oblikovanima votlinama (notaulices), ki se stekata posteriorno; radialna celica prednjih krill je odprta; tipalke so 14-delno segmentirane z vrhnjim segmentom, ki se ne daljša v konico.

Odrasla samička osice je zelo podobna evropski hrastovi osi šiškarcu, *D. cerriphilus* Giraud 1859, ki je znana po tem, da dela šiške samo na hrastu *Quercus cerris*. Kakorkoli, slednja ima verteks z velikim rumeno-rdečimi oznakami, tipalke imajo 15 segmentov, propodeum je brez vzdolžnega sredinskega gredlja, medtem ko ima *D. kuriphilus* verteks črn, tipalke s 14 segmenti in propodeum z izrazitim srednjim vzdolžnim gredljem.



Slika 7: Samica vrste *D. kuriphilus*

NAČIN GIBANJA IN ŠIRJENJA

Vrsta *D. kuriphilus* se širi v novih državah z vnosom infestiranih vej ali poganjkov. Lokalno se osa šiškarcica širi s premeščanjem infestiranih vej in mladih rastlin, ali z letom odraslih samic v obdobju letanja (konec maja do konca julija).

POMEN ŠKODLJIVEGA ORGANIZMA**Gospodarski vpliv**

Z napadom vegetativnih brstov in tvorbo šišk, ta osa šiškarcica zmoti rast veje in zmanjša rodni nastavek. Profesionalni pridelovalci lahko pričakujejo 50-70% zmanjšanje pridelka. Močan napad lahko povzroči propad kostanjevih dreves. *D. kuriphilus* je najbolj nevaren znan škodljivec kostanja, ki lahko onemogoči pridelek in celo uniči drevo (Dixon *et al.*, 1986).

Okoljski vpliv

Napad vrste *D. kuriphilus* lahko zmanjša rast mladih kostanjev in oslabi kostanje v gozdovih, ki imajo pomembno vlogo v ohranjanju stabilnosti hribovitih območij.

Obvladovanje

Infestacija majhnih nasadov kostanja se lahko zmanjša z obrezovanjem in uničevanjem infestiranih poganjkov, vsekakor pa si profesionalni pridelovalci zaradi stroškov takega načina ne morejo privoščiti. Obstojni insekticidi so lahko učinkoviti proti samicam in mladim ličinkam, a predstavljajo tveganje za okolje. Trenutno ni učinkovitih insekticidov za zatiranje tega škodljivca.

Po drugi svetovni vojni so japonski žlahtnitelji odbrali sorte kostanja, ki so odporne na to žuželko, toda škodljivec je razvil novo raso, ki je zaobšla rezistetnost. Sedaj so novi japonski in korejski kultivarji kostanja odporni na ta škodljivi organizem.

V naravnem območju distribucije populacije osice *D. kuriphilus* na Kitajskem jo učinkovito obvladujejo z naravnimi sovražniki, posebej še s parazitoidi Hymenoptera. Številne nove vrste parazitoidov, pridobljene iz šišk *D. kuriphilus* so pred kratkim opisali na Kitajskem, Japonskem in v Koreji, npr. *Torymus sinensis*, *T. beneficus*, *Megastigmus maculipennis*, *M. nipponicus* (Chalcidoidea: Torymidae), *Ormyrus flavitibialis* (Ormyridae) in druge (Yasumatsu & Kamijo 1979 in številni drugi). Nekateri od teh parazitoidov so se pokazali kot zelo učinkoviti, npr. *Torymus sinensis* Kamijo so pred kratkim vnesli kot biotični agens na Japonsko in v Korejo, kjer se je pokazal kot zelo učinkovit v programih masovne rabe (Moriya 2002).

Nekateri transpalearktični parazitoidi, kot so npr. *Torymus geranii*, *Ormyrus pomaceus*, *Eurytoma brunniventris* in drugi, ki so tudi učinkoviti parazitoidi vrste *D. kuriphilus* na Japonskem (Yasumatsu and Kamijo 1979) so splošno znani in razširjeni parazitoidi v veliko hrastovih šiškah v Evropi in verjetno se bodo zlahko premestili v nove šiške *D. kuriphilus*. *Ormyrus pomaceus* (Geoffroy in Fourcroy) (Ormyridae) je bil že izločen iz šišk *D. kuriphilus* kot trdijo avtorji v Piedmontu (Italy). Tudi preskok gostitelja naravnega zahodno palearktičnega parazitoida na *D. kuriphilus* lahko pričakujemo. Zgodil se je v Georgiji (ZDA), kjer so pridobili naravni parazitoid vrste *Torymus tubicola* (Osten Sacken) in *T. advenus* (Osten Sacken) iz šišk vnesenega *D. kuriphilus*.

Naravni parazitoidi na Japonskem in Kitajskem (in zelo verjetno v Evropi) ne morejo zagotoviti dobrega obvladovanja vnesenih šišk (v EU), ker niso specifični in niso usklajeni z razvojnim ciklusom škodljivca.

FITOSANITARNO TVEGANJE

D. kuriphilus je bil vključen na EPPO A2 listo v letu 2003 in s tem priporočen za reguliranje kot karantenski škodljivi organizem. Vsesplošno ga imajo za najbolj nevarnega škodljivca kostanja. Zelo verjetno je, da se bo ustalil v več EPPO državah, posebej v srednje- in južnoevropskih državah, kjer raste gojeni ali samorasli kostanj. Širjenje škodljivca iz napadenega območja na jugu Piedmonta je verjeten z letom samičk in s premeščanjem mladih rastlin za saditev in cepljenje. Prenos škodljivca z napadenega območja v Aziji in Ameriki v EPPO države je prav tako verjeten z vnosom infestiranega materiala za cepljenje z jajčeci in prvimi razvojnimi stadiji ličink v brstih.

FITOSANITARNI UKREPI

Za preprečevanje vnosa *D. kuriphilus* iz Azije in Amerike bi bil ustrezen ukrep prepoved uvoza kostanjevih sadik ali rezanih vej za cepljenje. Na jugu Piedmona bi morale biti drevesnice, ki pridelujejo sadike kostanja redno pregledane vsako leto, da bi preprečili širjenje škodljivca s trgovanjem z mladimi rastlinami v druge regije.

ZAHVALA

Podatke sta pripravila:

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in

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"03-9957 Dryocosmus
kuriphilus PRA.doc"

**EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ЕВРОПЕЙСКАЯ И СРЕДИЗЕМНОМОРСКАЯ ОРГАНИЗАЦИЯ ПО КАРАНТИНУ И ЗАЩИТЕ РАСТЕНИЙ
ORGANIZATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES**

03-9957
PPM Point 7.11

PEST RISK ASSESSMENT SCHEME

Organism:

Dryocosmus kuriphilus Yasumatsu

Assessor(s):

**Dott. Giovanni Bosio
Settore Fitosanitario – Regione Piemonte**

Date:

8/01/2003

**Approximate time
spent on the
assessment**

3 days

PEST RISK ASSESSMENT

STAGE 1: INITIATION		
Identify pest		
<i>This section examines the identity of the pest to ensure that the assessment is being performed on a real identifiable organism and that the biological and other information used in the assessment is relevant to the organism in question.</i>		
1. Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank? <i>if yes go to 3</i> <i>if no go to 2</i>	Yes	<i>Insecta</i> <i>Hymenoptera</i> <i>Cynipidae</i> <i>Dryocosmus kuriphilus</i> Yasumatsu
2. Attempt to redefine the taxonomic entity so that the criteria under 1 are satisfied. Is this possible? <i>if yes go to 3</i> <i>if no go to 22</i>		
The PRA area		
<i>The PRA area can be a complete country, several countries or part(s) of one or several countries</i>		
3. Clearly define the PRA area. <i>go to 4</i>		EU and EPPO region
Earlier analysis		
<i>The pest, or a very similar pest, may have been subjected to the PRA process before, nationally or internationally. This may partly or entirely replace the need for a new PRA.</i>		
4. Does a relevant earlier PRA exist? <i>if yes go to 5</i> <i>if no go to 7</i>	No	
5. Is the earlier PRA still entirely valid, or only partly valid (out of date, applied in different circumstances, for a similar but distinct pest)? <i>if entirely valid End</i> <i>if partly valid go to 6</i> <i>if not valid go to 7</i>		
6. Proceed with the assessment, but compare as much as possible with the earlier assessment. <i>go to 7</i>		

STAGE 2: PEST RISK ASSESSMENT**Section A: Pest categorization (qualitative criteria of a quarantine pest)****Geographical criteria**

This section considers the geographic distribution of the pest in the PRA area.

7. Does the pest occur in the PRA area? <i>if yes go to 8</i> <i>if no go to 9</i>	Yes	Italy, Piedmont, Cuneo province
8. Is the pest of limited distribution in the PRA area? <i>Note: "of limited distribution" means that the pest has not reached the limits of its potential range either in the field or in protected conditions; it is not limited to its present distribution by climatic conditions or host-plant distribution. There should be evidence that, without phytosanitary measures, the pest would be capable of additional spread.</i> <i>if yes go to 18</i> <i>if no go to 22</i>	Yes	The pest is at present spread in a few localities near Cuneo city.

Potential for establishment

For the pest to establish, it must find a widely distributed host plant in the PRA area (do not consider plants which are accidental/very occasional hosts or recorded only under experimental conditions). If it requires a vector, a suitable species must be present or its native vector must be introduced. The pest must also find environmental conditions suitable for survival, multiplication and spread, either in the field or in protected conditions.

9. Does at least one host plant grow to a substantial extent in the PRA area, in the open, in protected conditions or both? <i>if yes go to 10</i> <i>if no go to 22</i>		
10. Does the pest have to pass part of its life cycle on a host plant other than its major host (i.e. obligate alternate host plant)? <i>if yes go to 11</i> <i>if no go to 12</i>		
11. Does the alternate host plant also occur in the same part of the PRA area as the major host plant ? <i>if yes go to 12</i> <i>if no go to 22</i>		

<p>12. Does the pest require a vector (i.e. is vector transmission the only means of dispersal)? <i>if yes go to 13</i> <i>if no go to 14</i></p>		
<p>13. Is the vector (or a similar species which is known or suspected to be a vector) present in the PRA area or likely to be introduced. If in doubt, a separate assessment of the probability of introduction of the vector (in section B1) may be needed? <i>if yes go to 14</i> <i>if no go to 22</i></p>		
<p>14. Does the known geographical distribution of the pest include ecoclimatic zones comparable with those of the PRA area? <i>if yes go to 18</i> <i>if no go to 15</i></p>		
<p>15. Is it probable, nevertheless, that the pest could survive and thrive in a wider ecoclimatic zone that could include the PRA area? <i>if yes go to 18</i> <i>if no go to 16</i></p>		
<p>16. Could the ecoclimatic requirements of the pest be found in protected conditions in the PRA area? <i>if yes go to 17</i> <i>if no go to 22</i></p>		
<p>17. Is a host plant grown in protected conditions in the PRA area? <i>if yes go to 18</i> <i>if no go to 22</i></p>		

Potential economic importance		
<i>Economic impact principally concerns direct damage to plants but may be considered very broadly, to include also social and environmental aspects. The effect of the presence of the pest on exports from the PRA area should also be allowed for. In deciding whether economically important damage or loss to plants may occur, it is necessary to consider whether climatic and cultural conditions in the PRA area are conducive to damage expression, which is not always the case even if both host and pest survive under these conditions.</i>		
<i>Note: when performing a PRA on a pest that is transmitted by a vector, consider also any possible damage that the vector may cause.</i>		
18. With specific reference to the host plant(s) which occur(s) in the PRA area, and the parts of those plants which are damaged, does the pest in its present range cause significant damage or loss? <i>if yes go to 21</i> <i>if no go to 19</i>	Yes	The pest is monophagous on <i>Castanea</i> spp. The wasps form galls on leaves and buds. The galls suppress shoots elongation and reduce fruiting (in U.S.A. chestnuts with severe infestations lose their vigor and often die).
19. Could the pest, nevertheless, cause significant damage or loss in the PRA area, considering ecoclimatic and other factors for damage expression? <i>if yes go to 21</i> <i>if no go to 20</i>		
20. Would the presence of the pest cause other negative economic impacts (social, environmental, loss of export markets)? <i>if yes go to 21</i> <i>if no go to 22</i>		
21. This pest could present a risk to the PRA area Go To Section B		
22. This pest does not qualify as a quarantine pest for the PRA area and the assessment can stop <i>However, if this is the first time that the decision-making scheme has directed you to this point, it may be worth returning to the question that led you here and continuing through the scheme in case the remaining questions strongly indicate categorization as a possible quarantine pest. In this latter case, seek a second opinion to decide whether the answers which led you to this point could be given a different reply.</i>		

Section B: Quantitative evaluation

The second part of the risk assessment process firstly estimates the probability of the pest being introduced into the PRA area (its entry and establishment) and secondly makes an assessment of the likely economic impact if that should happen. From these two aspects, it should be possible to consider the level of "pest risk" presented by the pest; this can then be used in the pest risk management phase to decide whether it is necessary to take phytosanitary measures to prevent the introduction of the pest, or if the measures chosen are appropriate for the level of risk. The questions in this section require an evaluation from minimum probability or impact (1) to maximum probability or impact (9). This must be done by an expert who can make an estimate according to the information provided (following the format of the check-list of EPPO (OEPP/EPPO, 1993a) and also according to comparison with other pests.

Answer as many of the following questions as possible, insofar as they are relevant to the pest concerned. If you cannot answer a particular question, do not give any score. Note whether this is because of lack of information or because the question is irrelevant to the pest concerned.

Questions marked with an asterisk (*) are to be considered as more important than the others in the same section.

1. Probability of introduction

Introduction, as defined by the FAO Glossary of Phytosanitary Terms, is the entry of a pest resulting in its establishment.

Entry

List the pathways that the pest could be carried on.

Note: a pathway can be any form of human activity that could transport the pest from a particular origin: e.g. plants and plant products moving in trade, any other traded commodity, containers and packing, ships, planes, trains, road transport, passengers, mail, etc. Note that similar means of pest transport from different origins can present greatly different probabilities of introduction, depending on the concentration of the pest in the area of origin. The pathways given should be only those already in operation, or proposed.

Chestnut plants, cut branches, shoots, buds moving in trade or for scientific researches.

1.1 How many pathways could the pest be carried on?

few = 1

many = 9

1

1.2 For each pathway, starting with the most important pathway identified above (i.e. that which carries the greatest trade or which is most likely to act as a means of introduction) and then in descending order of importance, answer questions 1.3 – 1.13. If one of the questions 1.3a, 1.5a, 1.7a or 1.12a is answered by 'no', the pathway could not act as a means of entry for the pest, and the scheme will return directly to this point, omitting later questions. Use expert judgement to decide how many pathways to consider.

Go to 1.3

<p>1.3a Could the pest be associated with the pathway at origin? <i>Note: does the pest occur in the area of origin? Is the pest in a life stage which would be associated with commodities, containers, or conveyances?</i> if yes go to 1.3b if no go to 1.2</p>	Yes	
<p>1.3b How likely is the pest to be associated with the pathway at origin? [i.e. are all areas infested or highly infested; will every consignment or part of it be infested?] not likely = 1 very likely = 9</p>	7	Widespread in some chestnut growing areas of China, Japan, Korea and U.S.A.(south-east).
<p>1.4 Is the concentration of the pest on the pathway at origin likely to be high? [i.e. will there be many individuals associated with the consignment?] not likely = 1 very likely = 9</p>	5	Pest may be present as eggs in buds. Some buds contain 10-25 eggs.
<p>1.5a Could the pest survive existing cultivation or commercial practices? <i>Note: these are practices mainly in the country of origin, such as pesticide application, removal of substandard produce, kiln-drying of wood.</i> if yes go to 1.5b if no go to 1.2</p>	Yes	Pesticides are not very effective against this pest. Systemic insecticides are not effective because the galls block off translocation. Eggs into the buds are not affected by pesticides applications.
<p>1.5b How likely is the pest to survive existing cultivation or commercial practices? not likely = 1 very likely = 9</p>	8	Eggs or first instar larvae into the buds can easily survive cultivation or commercial practices.
<p>1.6 How likely is the pest to survive or remain undetected during existing phytosanitary procedures? <i>Note: existing phytosanitary measures (e.g. inspection, testing or treatments) are most probably being applied as a protection against other (quarantine) pests; the assessor should bear in mind that such measures could be removed in the future if the other pests were to be re-evaluated. The likelihood of detecting the pest during inspection or testing will depend on a number of factors including:</i></p> <ul style="list-style-type: none"> • ease of detection of the life stages which are likely to be present. Some stages are more readily detected than others, for example insect adults may be more obvious than eggs; • location of the pest on the commodity. Surface feeders are more readily detected than internal feeders; 	9	Import of <i>Castanea</i> plants or parts of plants without leaves from third countries is admitted in U.E. While galls are readily detected on plants or parts of plants, eggs or first instar larvae into the buds cannot be detected by simple visual inspections.

<ul style="list-style-type: none"> • <i>symptom expression - many diseases may be latent for long periods, at certain times of the year, or may be without symptoms in some hosts or cultivars and virulent in others;</i> • <i>distinctiveness of symptoms - the symptoms might resemble those of other pests or sources of damage such as mechanical or cold injury;</i> • <i>the intensity of the sampling and inspection regimes;</i> • <i>distinguishing the pest from similar organisms.</i> <p><i>not likely = 1</i> <i>very likely = 9</i></p>		
<p>1.7a Could the pest survive in transit? <i>Note: consideration should be given to:</i></p> <ul style="list-style-type: none"> • <i>speed and conditions of transport;</i> • <i>vulnerability of the life-stages likely to be transported;</i> • <i>whether the life cycle is of sufficient duration to extend beyond time in transit;</i> • <i>the number of individuals likely to be associated with a consignment.</i> <p><i>Interception data can be used to estimate the ability of a pest to survive in transit.</i> <i>if yes go to 1.7b</i> <i>if no go to 1.2</i></p>	Yes	Eggs or first instar larvae into the buds can survive for a long period through autumn and winter. Young chestnut plants or cut branches with buds moving on trade (during vegetative block) can contain pest's eggs or first instar larvae into the buds.
<p>1.7b How likely is the pest to survive in transit? <i>not likely = 1</i> <i>very likely = 9</i></p>	9	
<p>1.8 Is the pest likely to multiply during transit? <i>not likely = 1</i> <i>very likely = 9</i></p>	1	Pest can't multiply during transit. Adult female stage life is very short.
<p>1.9 How large is movement along the pathway? [i.e. how much trade?] <i>not large = 1</i> <i>very large = 9</i></p>	2	Not very large. Import of chestnut part of plants (grafting materials) from third countries often occurs for scientific purposes (researchers, breeders, nurseries).
<p>1.10 How widely is the commodity to be distributed throughout the PRA area? <i>Note: the more scattered the destinations, the more likely it is that the pest might find suitable habitats.</i> <i>not widely = 1</i> <i>very widely = 9</i></p>	4	Many EPPO countries are interested on chestnut growing and genetic improvement.

<p>1.11 How widely spread in time is the arrival of different consignments? <i>Note: introduction at many different times of the year will increase the probability that entry of the pest will occur at a life stage of the pest or the host suitable for establishment.</i> not widely = 1 very widely = 9</p>	3	Young chestnut plants or grafting material moving occurs on autumn and winter.
<p>1.12a Could the pest transfer from the pathway to a suitable host? <i>Note: consider innate dispersal mechanisms or the need for vectors, and how close the pathway on arrival is to suitable hosts.</i> if yes go to 1.12b if no go to 1.2</p>	Yes	Young chestnut plants or grafting material are planted near suitable hosts (commercial groves, chestnuts woods, chestnut nurseries)
<p>1.12b How likely is the pest to be able to transfer from the pathway to a suitable host? not likely = 1 very likely = 9</p>	9	Winged female can easily move from infested plants to new chestnut trees.
<p>1.13 Is the intended use of the commodity (e.g. processing, consumption, planting, disposal of waste) likely to aid introduction? <i>Note: consider whether the intended use of the commodity would destroy the pest or whether the processing, planting or disposal might be done in the vicinity of suitable hosts.</i> not likely = 1 very likely = 9</p>	9	Yes, because the young chestnut plants or grafting material are planted near other chestnut trees.
Establishment		
<p>1.14 How many host-plant species are present in the PRA area? one or very few = 1 many = 9</p>	1	The most important species is <i>Castanea sativa</i> Mill. Other species of little diffusion in EPPO region are eurojapanese hybrids (<i>Castanea crenata</i> x <i>C. sativa</i>).
<p>1.15 How extensive are the host plants in the PRA area? rare = 1 widespread = 9</p>	7	<i>C. sativa</i> is widely spread in many EPPO countries in woods and commercial groves. Eurojapanese hybrids have a little diffusion on orchards for nut crop.
<p>1.16 If an alternate host is needed to complete the life cycle, how extensive are such host plants in the PRA area? rare = 1 widespread = 9</p>		No alternate hosts.

<p>1.17 *If a vector is needed for dispersal, how likely is the pest to become associated with a suitable vector? <i>Note: is the vector present in the PRA area, could it be introduced or could another vector be found?</i> not likely = 1 very likely = 9</p>		No vectors.
<p>1.18 Has the pest been recorded on crops in protected conditions elsewhere? (Answer this question only if protected cultivation is important in the PRA area.) no = 1 often = 9</p>		No protected cultivation.
<p>1.19 How likely are wild plants (i.e. plants not under cultivation, including weeds, volunteer plants, feral plants) to be significant in dispersal or maintenance of populations? not likely = 1 very likely = 9</p>	9	Wild chestnut trees have a large spreading in south and central Europe woods.
<p>1.20 *How similar are the climatic conditions that would affect pest establishment in the endangered area and in the area of origin? <i>Note: the climatic conditions in the PRA area to be considered may include those in protected cultivation.</i> not similar = 1 very similar = 9</p>	7	Climatic conditions of EPPO region and of the area of pest origin can be considered similar.
<p>1.21 How similar are other abiotic factors in the PRA area and in the area of origin? <i>Note: the major abiotic factor to be considered is soil type; others are, for example, environmental pollution, topography/orography.</i> not similar = 1 very similar = 9</p>		Not answered
<p>1.22 How likely is the pest to have competition from existing species in the PRA area for its ecological niche? very likely = 1 not likely = 9</p>	9	No competition from other species.
<p>1.23 How likely is establishment to be prevented by natural enemies already present in the PRA area? very likely = 1 not likely = 9</p>	9	PRA area natural indigenous enemies (hymenopteran parasitoids) seem to be unable to get good control of the pest.

¹ Questions marked with an asterisk are to be considered as more important than the others in the same section.

<p>1.24 *If there are differences in the crop environment in the PRA area to that in the area of origin, are they likely to aid establishment? <i>Note: factors that should be considered include time of year that the crop is grown, soil preparation, method of planting, irrigation, whether grown under protected conditions, surrounding crops, management during the growing season, time of harvest, method of harvest, etc.</i> not likely = 1 very likely = 9</p>		<p>In the area of origin (China) chestnut growers collect and destroy the galls before the emergence of adult wasps. This is possible for the low cost of human work and for the small size of cultivated chestnuts in China. In EPPO region this method of control is not possible for high cost of human work and for the large size of wild and cultivated chestnuts.</p>
<p>1.25 Are the control measures which are already used against other pests during the growing of the crop likely to prevent establishment of the pest? very likely = 1 not likely = 9</p>	9	<p>In U. E. wild or cultivated chestnuts are seldom treated with pesticides. Nut production could be often considered a “organic” cultivation. Present control measures can’t prevent the establishment of the pest.</p>
<p>1.26 *Is the reproductive strategy of the pest and duration of life cycle likely to aid establishment? <i>Note: consider characteristics which would enable the pest to reproduce effectively in a new environment, such as parthenogenesis/self-crossing, duration of the life cycle, number of generations per year, resting stage, etc.</i> not likely = 1 very likely = 9</p>	9	<p><i>Dryocosmus kuriphilus</i> has only one generation per year, but it is a parthenogenetic telythocous species. Eggs laid inside buds aid establishment.</p>
<p>1.27 How likely are relatively low populations of the pest to become established? not likely = 1 very likely = 9</p>	9	<p>Each female can lay more than 100 eggs into the buds. Pest spreading from low population is slow in the first years, but it becomes very fast in the next years.</p>
<p>1.28 How probable is it that the pest could be eradicated from the PRA area ? very likely = 1 not likely = 9</p>	9	<p>It is nearly impossible to eradicate an insect which has established.</p>
<p>1.29 How genetically adaptable is the pest? <i>Note: is the species polymorphic, with, for example, subspecies, pathotypes? Is it known to have a high mutation rate? This genotypic (and phenotypic) variability facilitates the pest's ability to withstand environmental fluctuations, to adapt to a wider range of habitats, to develop pesticide resistance and to overcome host resistance.</i> not adaptable = 1 very adaptable = 9</p>	7	<p>After the second World War Japanese breeders selected chestnut cultivars with some resistance to the insect, but the pest developed a new pathotype overcoming that resistance. (Now there are new Japanese and Korean chestnut cultivars resistant to the pest).</p>

<p>1.30 *How often has the pest been introduced into new areas outside its original range? <i>Note: if this has happened even once before, it is important proof that the pest has the ability to pass through most of the steps in this section (i.e. association with the pathway at origin, survival in transit, transfer to the host at arrival and successful establishment). If it has occurred often, it suggests an aptitude for transfer and establishment.</i> <i>never = 1</i> <i>often = 9</i></p>	9	<p>The pest has been accidentally introduced in Japan (1941), Korea (1963) and U.S.A. (Georgia, 1974), probably as result of movement of infested twigs or shoots among growers and nurseries.</p>
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<p>2. Economic Impact Assessment <i>Identify the potential hosts in the PRA area, noting whether wild or cultivated, field or glasshouse. Consider these in answering the following questions. When performing a PRA on a pest that is transmitted by a vector, consider also any possible damage that the vector may cause. According to the pest and host(s) concerned, it may be appropriate to consider all hosts together in answering the questions once, or else to answer the questions separately for specific hosts.</i></p> <p><i>Note that, for most pest/crop/area combinations, precise economic evaluations are lacking. In this section, therefore, expert judgement is asked to provide an evaluation of the likely scale of impact. Both long-term and short-term effects should be considered for all aspects of economic impact.</i></p>		
<p>2.1 *How important is economic loss caused by the pest within its existing geographic range? <i>little importance = 1</i> <i>very important = 9</i></p>	7	<p>In Japan, Korea and U.S.A. the pest caused severe economic loss to chestnut growers after its establishment. Not well known situation in China.</p>
<p>2.2 How important is environmental damage caused by the pest within its existing geographic range? <i>Note: environmental damage may be impact on ecosystem health, such as effects on endangered/threatened species, keystone species or biodiversity.</i> <i>little importance = 1</i> <i>very important = 9</i></p>		<p>In some region of China, Japan and Korea damages to chestnut are little because the pest is now under control by indigenous or introduced parasitoids (<i>Torymus</i> spp.).</p>
<p>2.3 How important is social damage caused by the pest within its existing geographic range? <i>Note: social effects could be, for example, damaging the livelihood of a proportion of the human population, or changing the habits of a proportion of the population (e.g. limiting the supply of a socially important food).</i> <i>little importance = 1</i> <i>very important = 9</i></p>		<p>Not answered</p>

<p>2.4 *How extensive is the part of the PRA area likely to suffer damage from the pest? <i>Note: the part of the PRA area likely to suffer damage is the <u>endangered area</u>, which can be defined ecoclimatically, geographically, by crop or by production system (e.g. protected cultivation).</i> <i>very limited = 1</i> <i>whole PRA area = 9</i></p>	6	Development would be possible in a great part of the PRA area. Chestnut woods are present in many EPPO countries (from Greece to Portugal, from southern Italy to southern England).
<p>Spread potential is an important element in determining how fast economic impact is expressed and how readily a pest can be contained.</p>		
<p>2.5 *How rapidly is the pest liable to spread in the PRA area by natural means? <i>very slowly = 1</i> <i>very rapidly = 9</i></p>	4	Natural spread of the pest occurs by flights of the adult females. Female's life is not long.
<p>2.6 How rapidly is the pest liable to spread in the PRA area by human assistance? <i>very slowly = 1</i> <i>very rapidly = 9</i></p>	8	Movement of infested young plants or shoots could spread the pest very quickly.
<p>2.7 How likely is it that the spread of the pest could be contained within the PRA area? <i>Note: consider the biological characteristics of the pest that might allow it to be contained in part of the PRA area; consider the practicality and costs of possible containment measures.</i> <i>very likely = 1</i> <i>not likely = 9</i></p>	7	Control of pest is not easy. Chestnut nurseries must be inspected to avoid movement of infested plants. Perhaps biological control with introduction of parasitoid <i>Torymus</i> could slow the spread of the pest and reduce damages.
<p>2.8 *Considering the ecological conditions in the PRA area, how serious is the direct effect of the pest on crop yield and/or quality likely to be? <i>Note: the ecological conditions in the PRA area may be adequate for pest survival but may not be suitable for significant damage on the host plant(s). Consider also effects on non-commercial crops, e.g. private gardens, amenity plantings.</i> <i>not serious = 1</i> <i>very serious = 9</i></p>	7	Ecological conditions in the PRA area are suitable for significant damage on chestnut.
<p>2.9 How likely is the pest to have a significant effect on producer profits due to changes in production costs, yields, etc., in the PRA area? <i>not likely = 1</i> <i>very likely = 9</i></p>	7	Pest could strongly reduce nut production and quality.

<p>2.10 How likely is the pest to have a significant effect on consumer demand in the PRA area? <i>Note: consumer demand could be affected by loss in quality and/or increased prices.</i> <i>not likely = 1</i> <i>very likely = 9</i></p>	6	Strong yield reduction could increase nut prices.
<p>2.11 How likely is the presence of the pest in the PRA area to affect export markets? <i>Note: consider the extent of any phytosanitary measures likely to be imposed by trading partners.</i> <i>not likely = 1</i> <i>very likely = 9</i></p>	5	
<p>2.12 How important would other costs resulting from introduction be? <i>Note: costs to the government, such as research, advice, publicity, certification schemes; costs (or benefits) to the crop protection industry.</i> <i>little importance = 1</i> <i>very important = 9</i></p>	5	To the government: costs for: chestnut nurseries inspections, pest researches and monitoring, chestnut growers information and advice, biological control attempt.
<p>2.13 How important is the environmental damage likely to be in the PRA area? <i>little importance = 1</i> <i>very important = 9</i></p>	7	In EPPO area environmental damages could be important if pest attacks cause severe losses to chestnut woods.
<p>2.14 How important is the social damage likely to be in the PRA area? <i>little importance = 1</i> <i>very important = 9</i></p>	5	Economic loss caused by pest attacks could reduce profits of little farmers living in mountain district.
<p>2.15 How probable is it that natural enemies, already present in the PRA area, will affect populations of the pest if introduced? <i>very likely = 1</i> <i>not likely = 9</i></p>	8	Probably natural enemies present in the PRA area are unable to control the pest.
<p>2.16 How easily can the pest be controlled? <i>Note: difficulty of control can result from such factors as lack of effective plant protection products against this pest, occurrence of the pest in natural habitats or amenity land, simultaneous presence of more than one stage in the life cycle, absence of resistant cultivars).</i> <i>easily = 1</i> <i>with difficulty = 9</i></p>	9	Lack of effective plant protection products against the pest, occurrence of the pest in natural habitats. Biological control with introduction of parasitoid <i>Torymus</i> from China could be the only effective measure.

<p>2.17 How likely are control measures to disrupt existing biological or integrated systems for control of other pests? <i>not likely = 1</i> <i>very likely = 9</i></p>		Chemical treatments have been proved to be ineffective.
<p>2.18 How likely are control measures to have other undesirable side-effects (for example on human health or the environment)? <i>not likely = 1</i> <i>very likely = 9</i></p>		Not answered
<p>2.19 Is the pest likely to develop resistance to plant protection products? <i>not likely = 1</i> <i>very likely = 9</i></p>		Not answered
<p><i>After completing this section, the assessor should comment on whether sufficient information exists to trust the answers given; or if he/she knows of other relevant factors that have not been considered in this evaluation</i></p>		

3. Final Evaluation

At the end of the procedure, the assessor will have at his disposal:

- (1) one or several sets of replies (1-to-9 scores) to questions 1.1-1.13, for one or several pathways (if no pathways have been retained, the probability of introduction will be zero);*
- (2) one set of replies (1-to-9 scores) to questions 1.14-1.30;*
- (3) one or several sets of replies (1-to-9 scores) to questions 2.1-2.19, for single, grouped or separate hosts (according to the manner of answering which has been chosen).*

The assessor should first consider the quality and quantity of the information used to answer the questions, and give an overall judgement of how reliable the pest risk assessment can be considered. If other relevant information is available that has not been considered, this should be noted.

By the means of his choice, the assessor should attempt to make a separate estimate of the probability of introduction of the pest and its probable level of economic impact. As explained in the introduction, these estimates cannot, on the basis of the procedure used in the scheme, be expressed in absolute units. The numerical scores may be combined, weighted and averaged in appropriate ways that may enable the assessor who uses them consistently to make useful comparisons between pests, pathways and hosts. No particular mode of calculation is specifically recommended by EPPO. Certain questions have been identified as more important than others, and the assessor should take due account of this.

The assessor may then combine his estimates of probability of introduction and probable economic impact to formulate a single estimate of pest risk. This may usefully be compared with one or several reference levels of risk to decide whether the pest should be considered to be a quarantine pest, so that phytosanitary measures should be taken against it.

Finally, the scores given in answer to the different sections (particularly that on pathways) may be used again in pest risk management.

Conclusions

Dryocosmus kuriphilus, imenottero cinipide originario della Cina, è considerato uno degli insetti più dannosi per il castagno.

Finora non era ancora segnalato in Europa, mentre in altri Paesi in cui è stato accidentalmente introdotto, come Giappone, Corea e Stati Uniti, ha causato ingenti danni alle locali castanicolture. Infatti nel caso di infestazioni elevate sono state registrate perdite di produzione fino al 60-70 % nonché nei casi più gravi anche la morte delle piante.

Allo stato attuale non è ancora ben conosciuto il grado di sensibilità del castagno europeo (*Castanea sativa* Mill.) agli attacchi di questo insetto, ma dalle prime osservazioni nell'area infestata si può ritenere che anche questa specie possa subire danni rilevanti.

Anche se la castanicoltura non riveste più l'importanza economica di un tempo, certamente la diffusione di questo insetto dannoso potrebbe causare un forte degrado sia dei castagneti da frutto che dei boschi di castagno selvatici, già duramente colpiti da avversità quali il cancro corticale e il mal dell'inchiostro, vanificando le numerose iniziative di rilancio della castanicoltura intraprese negli ultimi anni anche con il contributo di finanziamenti comunitari.

Poiché la castanicoltura europea è localizzata spesso in aree marginali pedemontane o montane, eventuali estesi danni causati dalla diffusione di *D. kuriphilus* potrebbero portare all'abbandono della coltura e ad un ulteriore degrado economico e ambientale di queste zone, con riflessi negativi anche sugli equilibri idrogeologici.

Data la diffusione dell'insetto nelle aree dell'attuale ritrovamento (Piemonte, provincia di Cuneo, comuni di Boves, Peveragno, Robilante, Borgo S. Dalmazzo, Cuneo e Chiusa Pesio) si ritiene che non sia più possibile l'eradicazione nelle zone infestate, anche per la mancanza di validi mezzi di lotta. Infatti i trattamenti con insetticidi sono considerati da vari autori poco efficaci, mentre gli interventi di potatura e distruzione dei getti con galle sono praticabili solo su alberi giovani, di dimensioni ridotte. Nel Cuneese sono presenti alcuni vivai che commercializzano astoni di castagno in diverse regioni italiane, per cui il rischio di diffusione del cinipide potrebbe essere elevato. In particolare va evidenziata la impossibilità di rilevare facilmente la presenza di uova o dei primi stadi larvali di *D. kuriphilus* all'interno delle gemme di piantine o di marze in fase di riposo vegetativo, che potrebbero essere commercializzate o scambiate anche per scopi di ricerca scientifica.

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EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION

03/10303

WPPR point 14.2

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 Climatic conditions of EPPO region and of the area of pest origin can be considered similar.



parts thereof):

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

Dryocosmus kuriphilus has only one generation per year, but it 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

-

EPPO poročilo o oceni tveganja (v angleščini):



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**5. OVERALL CONCLUSIONS
OF THE ASSESSOR**

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



EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION
ЕВРОПЕЙСКАЯ И СРЕДИЗЕМНОМОРСКАЯ ОРГАНИЗАЦИЯ ПО КАРАНТИНУ И ЗАЩИТЕ РАСТЕНИЙ
ORGANIZATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES

03/10304
Panel on QPF Point 5.3

Report of a Pest Risk Management: *Dryocosmus kuriphilus*

This summary presents the conclusions of the pest risk management which has been conducted on the pest, according to EPPO Standard PP 5/4(1) Pest Risk Management Scheme.

Pest:	<i>Dryocosmus kuriphilus</i> Yasumatsu (Hymenoptera, Cynipidae)
Assessors:	EPPO Panel on Quarantine Pests for Forestry
Date:	2003-04-04

IDENTIFICATION OF THE PATHWAYS

1 Pathways studied in the pest risk management

PATHWAY 1: Plants for planting

Plants for planting of *Castanea* are usually transported without leaves, but may carry eggs and larvae of the pest in twigs or shoots.

PATHWAY 2: Cut branches

Cut branches of host plants may carry eggs and larvae of the pest in twigs or shoots.

2 Other pathways

Fruits of *Castanea* spp. may carry larvae of the pest inside them. The Panel considered that damaged fruits felt down before the harvest of nuts, were much deformed and couldn't be traded. It can nevertheless be noted that this pathway may present a minor risk. Adult can fly but capacities of natural spread are rather limited.

IDENTIFICATION OF POSSIBLE MEASURES FOR PATHWAYS

Pathway 1: Plants for planting of *Castanea* originating in countries where *Dryocosmus kuriphilus* occurs

Measures related to consignments:

The following measures have been identified:

- plants for planting should be dormant and without leaves (this measure reduces the risk but is not sufficient and should be combined with other measures);

- phytosanitary inspection;
- post entry quarantine.

Measures related to the crop or to places of production

- pest-free area;
- grown according to the EPPO procedure No ... for growing healthy plants for planting (to be combined with the next measure);
- treatment with systemic insecticides against *Dryocosmus kuriphilus* during the growing season at the place of production following the EPPO procedure No

Pathway 2: Cut branches of *Castanea* originating in countries where *Dryocosmus kuriphilus* occurs

Measures related to consignments:

The following measures have been identified:

- phytosanitary inspection.

Measures related to the crop or to places of production

- pest-free area;
- origin from healthy plants (to be combined with the next measure);
- treatment of plants with systemic insecticides against *Dryocosmus kuriphilus* during the growing season at the place of production following the EPPO procedure No

EVALUATION OF THE MEASURES IDENTIFIED IN RELATION TO THE RISKS PRESENTED BY THE PATHWAYS

CONCLUSION: SELECTION OF MEASURES

Plants for planting of <i>Castanea</i> spp.	PC and, if appropriate, RC
Plants for planting of <i>Castanea</i> spp. originating in countries where <i>Dryocosmus kuriphilus</i> occurs	Dormant and free from leaves Free from <i>Dryocosmus kuriphilus</i> Area freedom for <i>Dryocosmus kuriphilus</i> <u>or</u> EPPO procedure No ... for growing healthy plants for planting <u>and</u> Treatment with systemic insecticides against <i>Dryocosmus kuriphilus</i> during the growing season at the place of production following the EPPO procedure No ...
Cut branches of <i>Castanea</i> spp.	PC and, if appropriate, RC
Cut branches of <i>Castanea</i> spp. originating in countries where <i>Dryocosmus kuriphilus</i> occurs	Free from <i>Dryocosmus kuriphilus</i> Area freedom for <i>Dryocosmus kuriphilus</i> <u>or</u> Origin from healthy plants <u>and</u> Treatment of plants with systemic insecticides against <i>Dryocosmus kuriphilus</i> during the growing season at the place of production following the EPPO procedure No ...

APPENDIX

For each possible category of measures in the pest risk management scheme, this table could identify specifically the ones which were considered suitable ("possible" in bold) and the ones which were not suitable (with a brief justification)

The Panel should decide whether such a summary table is useful, and whether it belongs to the pest risk management, or to the report of the pest risk management

CATEGORIES OF MEASURES	Pathway n° 1	Pathway n° 2
Detection of the pest in consignments by inspection or testing		
general visual inspection	yes	yes
targeted visual inspection	yes	yes
specified testing	no	no
import under special licence/permit and post-entry quarantine	Post-entry quarantine	no
Removal of the pest from the consignment by treatment or other phytosanitary procedures		
specified treatment	no	no
removal of parts of plants from the consignment	Free from leaves	not relevant
Prevention of establishment by limiting the use of the consignment		
import under special licence/permit and specified restrictions	no	no
Prevention of infestation of the commodity		
specified treatment and/or period of treatment (crop)	Systemic insecticide treatment	Systemic insecticide treatment of plants
consignment should be composed of specified cultivars	not suitable	not suitable
specified protected cultivation	no	no
specified age of plant, growth stage or time of year of harvest	Dormant	no
specific handling/packing methods	not relevant	not relevant
certification scheme	Healthy planting material	Origin from healthy planting material
Establishment and maintenance of pest freedom of a crop, place of production or area		
pest freedom of the crop	no	no
pest-free place of production	no	no
pest-free place of production and appropriate buffer zone	no	no
pest-free area	yes	yes
Prohibition	no	no
Internal measures		
surveillance and/or eradication campaign	no	no

EPPO škodljivcu specifične fitosanitarne določbe (v angleščini) :



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03/10319

WP PR Point 15.1

As developed by the Panel on Quarantine Pests for Forestry

Pest-specific Phytosanitary Requirements

DRYOCOSMUS KURIPHILUS (candidate A2 LIST)

EPPO countries where *Dryocosmus kuriphilus* does not occur, or where it is not widely distributed, may list it as a quarantine pest. If they do, they should make the following requirements

Plants for planting

Plants for planting of <i>Castanea</i> spp.	PC and, if appropriate, RC
Plants for planting of <i>Castanea</i> spp. originating in countries where <i>Dryocosmus kuriphilus</i> occurs	Dormant and free from leaves Free from <i>Dryocosmus kuriphilus</i> Area freedom for <i>Dryocosmus kuriphilus</i> <u>or</u> EPPO procedure No ... for growing healthy plants for planting <u>and</u> Treatment with systemic insecticides against <i>Dryocosmus kuriphilus</i> during the growing season at the place of production following the EPPO procedure No ...

Cut branches

Cut branches of <i>Castanea</i> spp.	PC and, if appropriate, RC
Cut branches of <i>Castanea</i> spp. originating in countries where <i>Dryocosmus kuriphilus</i> occurs	Free from <i>Dryocosmus kuriphilus</i> Area freedom for <i>Dryocosmus kuriphilus</i> <u>or</u> Origin from healthy plants <u>and</u> Treatment of plants with systemic insecticides against <i>Dryocosmus kuriphilus</i> during the growing season at the place of production following the EPPO procedure No ...



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MINISTÈRE DE L'AGRICULTURE,
DE L'ALIMENTATION, DE LA PÊCHE ET DES AFFAIRES RURALES

**Direction Générale de la Forêt et des
Affaires Rurales
Département de la Santé des Forêts**

Objet : Cynips du châtaignier - synthèse biblio

Paris – mai 2004

Le cynips du châtaignier (*Dryocosmus kuriphilus*), appelé aussi chalcide du châtaignier, est considéré au niveau mondial comme le ravageur le plus important de cette essence. Originaire de Chine, il a été introduit au Japon, en Corée, dans le sud-est des Etats-Unis, puis en Italie en 2002.

Biologie :

Cet insecte se développe uniquement sur châtaignier. Les larves passent l'hiver dans les bourgeons et provoquent la formation de galles au printemps. Elles s'y nourrissent pendant 3 à 4 semaines, atteignent une longueur de 2 à 3 mm, puis entrent en nymphose. Les adultes émergent entre fin-mai et fin-juillet et la ponte commence immédiatement. Les œufs, insérés à l'intérieur des bourgeons, éclosent au bout de 4 à 6 semaines. Les larves ne peuvent être détectées durant l'automne et l'hiver, jusqu'à la formation des galles au printemps suivant. Ces galles se forment sur les jeunes rameaux, le pétiole voire la nervure centrale des feuilles, contiennent une ou plusieurs loges et mesurent de 0,5 à 2 cm de diamètre.

Dégâts :

Les attaques du cynips provoquent une diminution de la croissance des rameaux et une baisse de la fructification (jusqu'à une perte de rendement de 50 à 70% dans la châtaigneraie à fruits). La littérature mentionne des cas de dépérissement et de mortalité liés à cet insecte. Au Japon, ce ravageur est en partie responsable de la baisse de la production de châtaignes (-50% en 20 ans).

Régulation des populations :

Il n'existe pas de méthode de lutte phytosanitaire ou sylvicole adaptée contre ce cynips, si ce n'est d'enlever les rameaux attaqués (technique valable lorsque l'infestation est faible). En cas d'introduction dans une nouvelle zone, l'éradication paraît difficile, à moins d'une détection très précoce. Au Japon, plusieurs séries de variétés de châtaigniers résistants ont été mises au point successivement, l'insecte ayant réussi à contourner la résistance des premières. Le châtaignier européen (*Castanea sativa*) paraît *a priori* sensible.

Dans la zone d'origine du cynips en Chine, les populations sont fortement régulées par un large cortège de parasitoïdes. Certains d'entre eux (*Torymus* spp.) sont utilisés au Japon dans le cadre d'une lutte biologique. Des parasitoïdes similaires se développent en Europe aux dépens du cynips du chêne. Il est cependant peu probable qu'ils parviennent à réguler efficacement les



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populations de cynips du châtaignier, en raison d'une mauvaise synchronisation probable des cycles de développement.

Éléments de contamination pour la France :

En Europe, l'extension du foyer du Piémont italien pourrait se faire de proche en proche par le vol des femelles (qui n'ont pas besoin d'être fécondées pour pondre), ou à plus longue distance par le transport de plants colonisés, de boutures ou de branches coupées. L'éradication étant peu réaliste, il est probable que ce cynips atteigne tôt ou tard le territoire français, d'autant plus que la zone italienne contaminée est une des principales régions productrices de plants. Si la détection de l'insecte n'est pas aisée (les œufs et jeunes larves ne sont pas visibles à l'œil nu et l'insecte adulte est difficilement identifiable), l'observation des galles est le meilleur critère de diagnostic car ce cynips semble être la seule espèce à provoquer des galles sur châtaignier.

Éléments pour la forêt et stratégie de surveillance :

En premier abord, les dommages (moindre croissance des rameaux, baisse de la production de châtaignes) que ce ravageur est susceptible de causer aux peuplements forestiers de châtaigniers paraissent relativement limités, en comparaison des dégâts causés par les champignons responsables du chancre et de l'encre. Cependant, au niveau de la châtaigneraie à fruits, l'impact de ce cynips peut être très important économiquement. Comme les châtaigniers forestiers sont susceptibles, en cas d'infestation, de constituer des réservoirs d'inoculum vis-à-vis des vergers, la détection précoce de tout foyer en forêt est essentielle.