

SCIENTIFIC OPINION

ADOPTED: 1 February 2018

doi: 10.2903/j.efsa.2018.5186

Pest categorisation of *Aschistonyx eppoi*

EFSA Panel on Plant Health (EFSA PLH Panel),
Michael Jeger, Claude Bragard, David Caffier, Thierry Candresse, Elisavet Chatzivassiliou,
Katharina Dehnen-Schmutz, Gianni Gilioli, Josep Anton Jaques Miret, Alan MacLeod,
Maria Navajas Navarro, Björn Niere, Stephen Parnell, Roel Potting, Trond Rafoss,
Vittorio Rossi, Gregor Urek, Ariena Van Bruggen, Wopke Van der Werf, Jonathan West,
Stephan Winter, Virág Kertész and Jean-Claude Grégoire

Abstract

The Panel on Plant Health performed a pest categorisation of the gall midge *Aschistonyx eppoi* Inouye (1964) (Diptera, Cecidomyiidae), for the EU. *A. eppoi* is a well-defined and distinguishable species, native to Japan and Korea, and recognised as a pest of *Juniperus chinensis*, although our knowledge is solely based on one unique publication. *A. eppoi* is absent from the EU, and is listed in Annex IIAI of Directive 2000/29/EC. Its host plants, *Juniperus* spp. are also listed in Annex III of Directive 2000/29/EC. Plants for planting and branches are considered as pathways for this pest. *A. eppoi* has been intercepted twice (1974; 1975) in the EU and has been eradicated. The pest is likely to affect bonsai plants of *J. chinensis* if it were to establish in the EU territory. However, as it is unknown whether *A. eppoi* would attack the *Juniperus* spp. that occur in the EU, its potential impact on the wild vegetation is also unknown. As the pest originates from areas with warm climates, impact outdoors would affect the southern parts of the EU. Cultural control (destruction of infested material) and chemical control are the major control methods. All criteria assessed by EFSA for consideration as a potential quarantine pest are met, although there are high uncertainties regarding impact. The species is presently absent from the EU, and thus the criteria for consideration as a potential regulated non-quarantine pest are not met.

© 2018 European Food Safety Authority. *EFSA Journal* published by John Wiley and Sons Ltd on behalf of European Food Safety Authority.

Keywords: European Union, Juniper gall midge, pest risk, plant health, plant pest, quarantine

Requestor: European Commission

Question number: EFSA-Q-2017-00318

Correspondence: alpha@efsa.europa.eu

Panel members: Claude Bragard, David Caffier, Thierry Candresse, Elisavet Chatzivassiliou, Katharina Dehnen-Schmutz, Gianni Gilioli, Jean-Claude Grégoire, Josep Anton Jaques Miret, Michael Jeger, Alan MacLeod, Maria Navajas Navarro, Björn Niere, Stephen Parnell, Roel Potting, Trond Rafoss, Vittorio Rossi, Gregor Urek, Ariena Van Bruggen, Wopke Van der Werf, Jonathan West and Stephan Winter.

Acknowledgements: The Panel on Plant Health wishes to acknowledge all European competent institutions, Member State bodies and other organisations that provided data for this scientific output.

Suggested citation: EFSA PLH Panel (EFSA Panel on Plant Health), Jeger, M, Bragard C, Caffier D, Candresse T, Chatzivassiliou E, Dehnen-Schmutz K, Gilioli G, Jaques Miret JA, MacLeod A, Navajas Navarro M, Niere B, Parnell S, Potting R, Rafoss T, Rossi V, Urek G, Van Bruggen A, Van der Werf W, West J, Winter S, Kertész V and Grégoire J-C, 2018. Scientific Opinion on the pest categorisation of *Aschistonyx eppoi*. EFSA Journal 2018;16(2):5186, 17 pp. <https://doi.org/10.2903/j.efsa.2018.5186>

ISSN: 1831-4732

© 2018 European Food Safety Authority. *EFSA Journal* published by John Wiley and Sons Ltd on behalf of European Food Safety Authority.

This is an open access article under the terms of the [Creative Commons Attribution-NoDerivs License](https://creativecommons.org/licenses/by-nd/4.0/), which permits use and distribution in any medium, provided the original work is properly cited and no modifications or adaptations are made.



The EFSA Journal is a publication of the European Food Safety Authority, an agency of the European Union.



Table of contents

Abstract.....	1
1. Introduction.....	4
1.1. Background and Terms of Reference as provided by the requestor.....	4
1.1.1. Background.....	4
1.1.2. Terms of Reference.....	4
1.1.2.1. Terms of Reference: Appendix 1.....	5
1.1.2.2. Terms of Reference: Appendix 2.....	6
1.1.2.3. Terms of Reference: Appendix 3.....	7
1.2. Interpretation of the Terms of Reference.....	8
2. Data and methodologies.....	8
2.1. Data.....	8
2.1.1. Literature search.....	8
2.1.2. Database search.....	8
2.2. Methodologies.....	9
3. Pest categorisation.....	11
3.1. Identity and biology of the pest.....	11
3.1.1. Identity and taxonomy.....	11
3.1.2. Biology of the pest.....	11
3.1.3. Intraspecific diversity.....	11
3.1.4. Detection and identification of the pest.....	11
3.2. Pest distribution.....	11
3.2.1. Pest distribution outside the EU.....	11
3.2.2. Pest distribution in the EU.....	11
3.3. Regulatory status.....	12
3.3.1. Council Directive 2000/29/EC.....	12
3.3.2. Legislation addressing the hosts of <i>Aschistonyx eppoi</i>	12
3.4. Entry, establishment and spread in the EU.....	12
3.4.1. Host range.....	12
3.4.2. Entry.....	12
3.4.3. Establishment.....	13
3.4.3.1. EU distribution of main host plants.....	13
3.4.3.2. Climatic conditions affecting establishment.....	14
3.4.4. Spread.....	14
3.5. Impacts.....	14
3.6. Availability and limits of mitigation measures.....	14
3.6.1. Phytosanitary measures.....	14
3.6.2. Biological or technical factors limiting the feasibility and effectiveness of measures to prevent the entry, establishment and spread of the pest.....	15
3.6.3. Biological or technical factors limiting the ability to prevent the presence of the pest on plants for planting.....	15
3.6.4. Control methods.....	15
3.7. Uncertainty.....	15
4. Conclusions.....	15
References.....	16
Abbreviations.....	17

1. Introduction

1.1. Background and Terms of Reference as provided by the requestor

1.1.1. Background

Council Directive 2000/29/EC¹ on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community establishes the present European Union plant health regime. The Directive lays down the phytosanitary provisions and the control checks to be carried out at the place of origin on plants and plant products destined for the Union or to be moved within the Union. In the Directive's 2000/29/EC annexes, the list of harmful organisms (pests) whose introduction into or spread within the Union is prohibited, is detailed together with specific requirements for import or internal movement.

Following the evaluation of the plant health regime, the new basic plant health law, Regulation (EU) 2016/2031² on protective measures against pests of plants, was adopted on 26 October 2016 and will apply from 14 December 2019 onwards, repealing Directive 2000/29/EC. In line with the principles of the above mentioned legislation and the follow-up work of the secondary legislation for the listing of EU regulated pests, EFSA is requested to provide pest categorizations of the harmful organisms included in the annexes of Directive 2000/29/EC, in the cases where recent pest risk assessment/pest categorisation is not available.

1.1.2. Terms of Reference

EFSA is requested, pursuant to Article 22(5.b) and Article 29(1) of Regulation (EC) No 178/2002³, to provide scientific opinion in the field of plant health.

EFSA is requested to prepare and deliver a pest categorisation (step 1 analysis) for each of the regulated pests included in the appendices of the annex to this mandate. The methodology and template of pest categorisation have already been developed in past mandates for the organisms listed in Annex II Part A Section II of Directive 2000/29/EC. The same methodology and outcome is expected for this work as well.

The list of the harmful organisms included in the annex to this mandate comprises 133 harmful organisms or groups. A pest categorisation is expected for these 133 pests or groups and the delivery of the work would be stepwise at regular intervals through the year as detailed below. First priority covers the harmful organisms included in Appendix 1, comprising pests from Annex II Part A Section I and Annex II Part B of Directive 2000/29/EC. The delivery of all pest categorisations for the pests included in Appendix 1 is June 2018. The second priority is the pests included in Appendix 2, comprising the group of *Cicadellidae* (non-EU) known to be vector of Pierce's disease (caused by *Xylella fastidiosa*), the group of *Tephritidae* (non-EU), the group of potato viruses and virus-like organisms, the group of viruses and virus-like organisms of *Cydonia* Mill., *Fragaria* L., *Malus* Mill., *Prunus* L., *Pyrus* L., *Ribes* L., *Rubus* L. and *Vitis* L. and the group of *Margarodes* (non-EU species). The delivery of all pest categorisations for the pests included in Appendix 2 is end 2019. The pests included in Appendix 3 cover pests of Annex I part A section I and all pests categorisations should be delivered by end 2020.

For the above mentioned groups, each covering a large number of pests, the pest categorisation will be performed for the group and not the individual harmful organisms listed under "such as" notation in the Annexes of the Directive 2000/29/EC. The criteria to be taken particularly under consideration for these cases, is the analysis of host pest combination, investigation of pathways, the damages occurring and the relevant impact.

Finally, as indicated in the text above, all references to 'non-European' should be avoided and replaced by 'non-EU' and refer to all territories with exception of the Union territories as defined in Article 1 point 3 of Regulation (EU) 2016/2031.

¹ Council Directive 2000/29/EC of 8 May 2000 on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community. OJ L 169/1, 10.7.2000, p. 1–112.

² Regulation (EU) 2016/2031 of the European Parliament of the Council of 26 October 2016 on protective measures against pests of plants. OJ L 317, 23.11.2016, p. 4–104.

³ Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. OJ L 31/1, 1.2.2002, p. 1–24.

1.1.2.1. Terms of Reference: Appendix 1

List of harmful organisms for which pest categorisation is requested. The list below follows the annexes of Directive 2000/29/EC.

Annex IIAI

(a) Insects, mites and nematodes, at all stages of their development

<i>Aleurocantus</i> spp.	<i>Numonia pyrivorella</i> (Matsumura)
<i>Anthonomus bisignifer</i> (Schenkling)	<i>Oligonychus perditus</i> Pritchard and Baker
<i>Anthonomus signatus</i> (Say)	<i>Pissodes</i> spp. (non-EU)
<i>Aschistonyx eppoi</i> Inouye	<i>Scirtothrips aurantii</i> Faure
<i>Carposina niponensis</i> Walsingham	<i>Scirtothrips citri</i> (Moultx)
<i>Enarmonia packardi</i> (Zeller)	<i>Scolytidae</i> spp. (non-EU)
<i>Enarmonia prunivora</i> Walsh	<i>Scrobipalopsis solanivora</i> Povolny
<i>Grapholita inopinata</i> Heinrich	<i>Tachypterellus quadrigibbus</i> Say
<i>Hishomonus phycitis</i>	<i>Toxoptera citricida</i> Kirk.
<i>Leucaspis japonica</i> Ckll.	<i>Unaspis citri</i> Comstock
<i>Listronotus bonariensis</i> (Kuschel)	

(b) Bacteria

Citrus variegated chlorosis	<i>Xanthomonas campestris</i> pv. <i>oryzae</i> (Ishiyama)
<i>Erwinia stewartii</i> (Smith) Dye	Dye and pv. <i>oryzicola</i> (Fang, et al.) Dye

(c) Fungi

<i>Alternaria alternata</i> (Fr.) Keissler (non-EU pathogenic isolates)	<i>Elsinoe</i> spp. Bitanc. and Jenk. Mendes
<i>Anisogramma anomala</i> (Peck) E. Müller	<i>Fusarium oxysporum</i> f. sp. <i>albedinis</i> (Kilian and Maire) Gordon
<i>Apiosporina morbosa</i> (Schwein.) v. Arx	<i>Guignardia piricola</i> (Nosa) Yamamoto
<i>Ceratocystis virescens</i> (Davidson) Moreau	<i>Puccinia pittieriana</i> Hennings
<i>Cercoseptoria pini-densiflorae</i> (Hori and Nambu) Deighton	<i>Stegophora ulmea</i> (Schweinitz: Fries) Sydow & Sydow
<i>Cercospora angolensis</i> Carv. and Mendes	<i>Venturia nashicola</i> Tanaka and Yamamoto

(d) Virus and virus-like organisms

Beet curly top virus (non-EU isolates)	Little cherry pathogen (non- EU isolates)
Black raspberry latent virus	Naturally spreading psorosis
Blight and blight-like	Palm lethal yellowing mycoplasma
Cadang-Cadang viroid	Satsuma dwarf virus
Citrus tristeza virus (non-EU isolates)	Tatter leaf virus
Leprosis	Witches' broom (MLO)

Annex IIB

(a) Insect mites and nematodes, at all stages of their development

<i>Anthonomus grandis</i> (Boh.)	<i>Ips cembrae</i> Heer
<i>Cephalcia lariciphila</i> (Klug)	<i>Ips duplicatus</i> Sahlberg
<i>Dendroctonus micans</i> Kugelan	<i>Ips sexdentatus</i> Börner
<i>Gilpinia hercyniae</i> (Hartig)	<i>Ips typographus</i> Heer
<i>Gonipterus scutellatus</i> Gyll.	<i>Sternochetus mangiferae</i> Fabricius
<i>Ips amitinus</i> Eichhof	

(b) Bacteria

Curtobacterium flaccumfaciens pv. *flaccumfaciens*
(Hedges) Collins and Jones

(c) Fungi

Glomerella gossypii Edgerton

Hypoxyton mammatum (Wahl.) J. Miller

Gremmeniella abietina (Lag.) Morelet

1.1.2.2. Terms of Reference: Appendix 2

List of harmful organisms for which pest categorisation is requested per group. The list below follows the categorisation included in the annexes of Directive 2000/29/EC.

Annex IAI**(a) Insects, mites and nematodes, at all stages of their development**

Group of Cicadellidae (non-EU) known to be vector of Pierce's disease (caused by *Xylella fastidiosa*), such as:

- | | |
|--|---|
| 1) <i>Carneocephala fulgida</i> Nottingham | 3) <i>Graphocephala atropunctata</i> (Signoret) |
| 2) <i>Draeculacephala minerva</i> Ball | |

Group of Tephritidae (non-EU) such as:

- | | |
|--|---|
| 1) <i>Anastrepha fraterculus</i> (Wiedemann) | 12) <i>Pardalaspis cyanescens</i> Bezzi |
| 2) <i>Anastrepha ludens</i> (Loew) | 13) <i>Pardalaspis quinaria</i> Bezzi |
| 3) <i>Anastrepha obliqua</i> Macquart | 14) <i>Pterandrus rosa</i> (Karsch) |
| 4) <i>Anastrepha suspensa</i> (Loew) | 15) <i>Rhacochlaena japonica</i> Ito |
| 5) <i>Dacus ciliatus</i> Loew | 16) <i>Rhagoletis completa</i> Cresson |
| 6) <i>Dacus curcurbitae</i> Coquillett | 17) <i>Rhagoletis fausta</i> (Osten-Sacken) |
| 7) <i>Dacus dorsalis</i> Hendel | 18) <i>Rhagoletis indifferens</i> Curran |
| 8) <i>Dacus tryoni</i> (Froggatt) | 19) <i>Rhagoletis mendax</i> Curran |
| 9) <i>Dacus tsuneonis</i> Miyake | 20) <i>Rhagoletis pomonella</i> Walsh |
| 10) <i>Dacus zonatus</i> Saund. | 21) <i>Rhagoletis suavis</i> (Loew) |
| 11) <i>Epochra canadensis</i> (Loew) | |

(c) Viruses and virus-like organisms

Group of potato viruses and virus-like organisms such as:

- | | |
|----------------------------------|--|
| 1) Andean potato latent virus | 4) Potato black ringspot virus |
| 2) Andean potato mottle virus | 5) Potato virus T |
| 3) Arracacha virus B, oca strain | 6) non-EU isolates of potato viruses A, M, S, V, X and Y (including Yo, Yn and Yc) and Potato leafroll virus |

Group of viruses and virus-like organisms of *Cydonia* Mill., *Fragaria* L., *Malus* Mill., *Prunus* L., *Pyrus* L., *Ribes* L., *Rubus* L. and *Vitis* L., such as:

- | | |
|--------------------------------------|--|
| 1) Blueberry leaf mottle virus | 8) Peach yellows mycoplasma |
| 2) Cherry rasp leaf virus (American) | 9) Plum line pattern virus (American) |
| 3) Peach mosaic virus (American) | 10) Raspberry leaf curl virus (American) |
| 4) Peach phony rickettsia | 11) Strawberry witches' broom mycoplasma |
| 5) Peach rosette mosaic virus | 12) Non-EU viruses and virus-like organisms of <i>Cydonia</i> Mill., <i>Fragaria</i> L., <i>Malus</i> Mill., <i>Prunus</i> L., <i>Pyrus</i> L., <i>Ribes</i> L., <i>Rubus</i> L. and <i>Vitis</i> L. |
| 6) Peach rosette mycoplasma | |
| 7) Peach X-disease mycoplasma | |

Annex IIAI

(a) Insects, mites and nematodes, at all stages of their development

Group of *Margarodes* (non-EU species) such as:

- 1) *Margarodes vitis* (Phillipi)
- 2) *Margarodes vredendalensis* de Klerk
- 3) *Margarodes prieskaensis* Jakubski

1.1.2.3. Terms of Reference: Appendix 3

List of harmful organisms for which pest categorisation is requested. The list below follows the annexes of Directive 2000/29/EC.

Annex IAI

(a) Insects, mites and nematodes, at all stages of their development

<i>Acleris</i> spp. (non-EU)	<i>Longidorus diadecturus</i> Eveleigh and Allen
<i>Amauromyza maculosa</i> (Malloch)	<i>Monochamus</i> spp. (non-EU)
<i>Anomala orientalis</i> Waterhouse	<i>Myndus crudus</i> Van Duzee
<i>Arrhenodes minutus</i> Drury	<i>Nacobbus aberrans</i> (Thorne) Thorne and Allen
<i>Choristoneura</i> spp. (non-EU)	<i>Naupactus leucoloma</i> Boheman
<i>Conotrachelus nenuphar</i> (Herbst)	<i>Premnotrypes</i> spp. (non-EU)
<i>Dendrolimus sibiricus</i> Tschetverikov	<i>Pseudopityophthorus minutissimus</i> (Zimmermann)
<i>Diabrotica barberi</i> Smith and Lawrence	<i>Pseudopityophthorus pruinus</i> (Eichhoff)
<i>Diabrotica undecimpunctata howardi</i> Barber	<i>Scaphoideus luteolus</i> (Van Duzee)
<i>Diabrotica undecimpunctata undecimpunctata</i> Mannerheim	<i>Spodoptera eridania</i> (Cramer)
<i>Diabrotica virgifera zea</i> Krysan & Smith	<i>Spodoptera frugiperda</i> (Smith)
<i>Diaphorina citri</i> Kuway	<i>Spodoptera litura</i> (Fabricus)
<i>Heliothis zea</i> (Boddie)	<i>Thrips palmi</i> Karny
<i>Hirschmanniella</i> spp., other than	<i>Xiphinema americanum</i> Cobb <i>sensu lato</i> (non-EU populations)
<i>Hirschmanniella gracilis</i> (de Man) Luc and Goodey	<i>Xiphinema californicum</i> Lamberti and Bleve-Zacheo
<i>Liriomyza sativae</i> Blanchard	

(b) Fungi

<i>Ceratocystis fagacearum</i> (Bretz) Hunt	<i>Mycosphaerella larici-leptolepis</i> Ito et al.
<i>Chrysomyxa arctostaphyli</i> Dietel	<i>Mycosphaerella populorum</i> G. E. Thompson
<i>Cronartium</i> spp. (non-EU)	<i>Phoma andina</i> Turkensteen
<i>Endocronartium</i> spp. (non-EU)	<i>Phyllosticta solitaria</i> Ell. and Ev.
<i>Guignardia laricina</i> (Saw.) Yamamoto and Ito	<i>Septoria lycopersici</i> Speg. var. <i>malagutii</i> Ciccarone and Boerema
<i>Gymnosporangium</i> spp. (non-EU)	<i>Thecaphora solani</i> Barrus
<i>Inonotus weirii</i> (Murril) Kotlaba and Pouzar	<i>Trechispora brinkmannii</i> (Bresad.) Rogers
<i>Melampsora farlowii</i> (Arthur) Davis	

(c) Viruses and virus-like organisms

Tobacco ringspot virus	Pepper mild tigré virus
Tomato ringspot virus	Squash leaf curl virus
Bean golden mosaic virus	Euphorbia mosaic virus
Cowpea mild mottle virus	Florida tomato virus
Lettuce infectious yellows virus	

(d) Parasitic plants

Arceuthobium spp. (non-EU)

Annex I A I I

(a) Insects, mites and nematodes, at all stages of their development

Meloidogyne fallax Karssen

Rhizoecus hibisci Kawai and Takagi

Popillia japonica Newman

(b) Bacteria

Clavibacter michiganensis (Smith) Davis et al.
ssp. *sepedonicus* (Spieckermann and Kotthoff)
Davis et al.

Ralstonia solanacearum (Smith) Yabuuchi et al.

(c) Fungi

Melampsora medusae Thümen

Synchytrium endobioticum (Schilbersky) Percival

Annex I B

(a) Insects, mites and nematodes, at all stages of their development

Leptinotarsa decemlineata Say

Liriomyza bryoniae (Kaltenbach)

(b) Viruses and virus-like organisms

Beet necrotic yellow vein virus

1.2. Interpretation of the Terms of Reference

Aschistonyx eppoi is one of a number of pests listed in the Appendices to the Terms of Reference (ToR) to be subject to pest categorisation to determine whether it fulfils the criteria of a quarantine pest or those of a regulated non-quarantine pest for the area of the EU excluding Ceuta, Melilla and the outermost regions of Member States (MS) referred to in Article 355(1) of the Treaty on the Functioning of the European Union (TFEU), other than Madeira and the Azores.

2. Data and methodologies

2.1. Data

2.1.1. Literature search

A literature search on *A. eppoi* in the ISI Web of Science bibliographic database, using the scientific name of the pest as search term, revealed one relevant publication. Six additional references were found.

The Central Science Laboratory of the Ministry of Agriculture, Fisheries and Food (UK), published a Data Sheet on Quarantine Pests and summary pest risk assessment for *A. eppoi* (Baker, 1995), based on one original publication and two reports of interception and eradication. Following this analysis, only little additional information (two faunistic studies and one taxonomic catalogue) have been published. Therefore, the data sheet and summary PRA by Baker (1995) is still fully relevant and will be frequently cited in the present opinion. Excerpts from Baker (1995) have been indicated in italics between quotation marks to allow for their easy identification. Direct excerpts from Inouye (1964) have been treated similarly.

2.1.2. Database search

Pest information, on host(s) and distribution, was retrieved from the European and Mediterranean Plant Protection Organization (EPPO) Global Database (EPPO, 2017) and relevant publications.

The Europhyt database was consulted for pest-specific notifications on interceptions and outbreaks. Europhyt is a web-based network launched by the Directorate General for Health and Consumers (DG SANCO), and is a subproject of PHYSAN (Phyto-Sanitary Controls) specifically concerned with plant

health information. The Europhyt database manages notifications of interceptions of plants or plant products that do not comply with EU legislation, as well as notifications of plant pests detected in the territory of the MS and the phytosanitary measures taken to eradicate or avoid their spread.

2.2. Methodologies

The Panel performed the pest categorisation for *A. eppoi*, following guiding principles and steps presented in the EFSA guidance on the harmonised framework for pest risk assessment (EFSA PLH Panel, 2010) and as defined in the International Standard for Phytosanitary Measures No 11 (FAO, 2013) and No 21 (FAO, 2004).

In accordance with the guidance on a harmonised framework for pest risk assessment in the EU (EFSA PLH Panel, 2010), this work was initiated following an evaluation of the EU plant health regime. Therefore, to facilitate the decision-making process, in the conclusions of the pest categorisation, the Panel addresses explicitly each criterion for a Union quarantine pest and for a Union regulated non-quarantine pest in accordance with Regulation (EU) 2016/2031 on protective measures against pests of plants, and includes additional information required in accordance with the specific terms of reference received by the European Commission. In addition, for each conclusion, the Panel provides a short description of its associated uncertainty.

Table 1 presents the Regulation (EU) 2016/2031 pest categorisation criteria on which the Panel bases its conclusions. All relevant criteria have to be met for the pest to potentially qualify either as a quarantine pest or as a regulated non-quarantine pest. If one of the criteria is not met, the pest will not qualify. A pest that does not qualify as a quarantine pest may still qualify as a regulated non-quarantine pest that needs to be addressed in the opinion. For the pests regulated in the protected zones only, the scope of the categorisation is the territory of the protected zone; thus, the criteria refer to the protected zone instead of the EU territory.

It should be noted that the Panel’s conclusions are formulated respecting its remit and particularly with regard to the principle of separation between risk assessment and risk management (EFSA founding regulation (EU) No 178/2002); therefore, instead of determining whether the pest is likely to have an unacceptable impact, the Panel will present a summary of the observed pest impacts. Economic impacts are expressed in terms of yield and quality losses and not in monetary terms, whereas addressing social impacts is outside the remit of the Panel, in agreement with EFSA guidance on a harmonised framework for pest risk assessment (EFSA PLH Panel, 2010).

Table 1: Pest categorisation criteria under evaluation, as defined in Regulation (EU) 2016/2031 on protective measures against pests of plants (the number of the relevant sections of the pest categorisation is shown in brackets in the first column)

Criterion of pest categorisation	Criterion in Regulation (EU) 2016/2031 regarding Union quarantine pest	Criterion in Regulation (EU) 2016/2031 regarding protected zone quarantine pest (articles 32–35)	Criterion in Regulation (EU) 2016/2031 regarding Union regulated non-quarantine pest
Identity of the pest (Section 3.1)	Is the identity of the pest established, or has it been shown to produce consistent symptoms and to be transmissible?	Is the identity of the pest established, or has it been shown to produce consistent symptoms and to be transmissible?	Is the identity of the pest established, or has it been shown to produce consistent symptoms and to be transmissible?
Absence/ presence of the pest in the EU territory (Section 3.2)	Is the pest present in the EU territory? If present, is the pest widely distributed within the EU? Describe the pest distribution briefly!	Is the pest present in the EU territory? If not, it cannot be a protected zone quarantine organism.	Is the pest present in the EU territory? If not, it cannot be a regulated non-quarantine pest. (A regulated non-quarantine pest must be present in the risk assessment area).

Criterion of pest categorisation	Criterion in Regulation (EU) 2016/2031 regarding Union quarantine pest	Criterion in Regulation (EU) 2016/2031 regarding protected zone quarantine pest (articles 32–35)	Criterion in Regulation (EU) 2016/2031 regarding Union regulated non-quarantine pest
Regulatory status (Section 3.3)	If the pest is present in the EU but not widely distributed in the risk assessment area, it should be under official control or expected to be under official control in the near future.	The protected zone system aligns with the pest free area system under the International Plant Protection Convention (IPPC). The pest satisfies the IPPC definition of a quarantine pest that is not present in the risk assessment area (i.e. protected zone).	Is the pest regulated as a quarantine pest? If currently regulated as a quarantine pest, are there grounds to consider its status could be revoked?
Pest potential for entry, establishment and spread in the EU territory (Section 3.4)	Is the pest able to enter into, become established in, and spread within, the EU territory? If yes, briefly list the pathways!	Is the pest able to enter into, become established in, and spread within, the protected zone areas? Is entry by natural spread from EU areas where the pest is present possible?	Is spread mainly via specific plants for planting, rather than via natural spread or via movement of plant products or other objects? Clearly state if plants for planting is the main pathway!
Potential for consequences in the EU territory (Section 3.5)	Would the pests' introduction have an economic or environmental impact on the EU territory?	Would the pests' introduction have an economic or environmental impact on the protected zone areas?	Does the presence of the pest on plants for planting have an economic impact, as regards the intended use of those plants for planting?
Available measures (Section 3.6)	Are there measures available to prevent the entry into, establishment within or spread of the pest within the EU such that the risk becomes mitigated?	Are there measures available to prevent the entry into, establishment within or spread of the pest within the protected zone areas such that the risk becomes mitigated? Is it possible to eradicate the pest in a restricted area within 24 months (or a period longer than 24 months where the biology of the organism so justifies) after the presence of the pest was confirmed in the protected zone?	Are there measures available to prevent pest presence on plants for planting such that the risk becomes mitigated?
Conclusion of pest categorisation (Section 4)	A statement as to whether (1) all criteria assessed by EFSA above for consideration as a potential quarantine pest were met and (2) if not, which one(s) were not met.	A statement as to whether (1) all criteria assessed by EFSA above for consideration as potential protected zone quarantine pest were met, and (2) if not, which one(s) were not met.	A statement as to whether (1) all criteria assessed by EFSA above for consideration as a potential regulated non-quarantine pest were met, and (2) if not, which one(s) were not met.

The Panel will not indicate in its conclusions of the pest categorisation whether to continue the risk assessment process, but following the agreed two-step approach, will continue only if requested by the risk managers. However, during the categorisation process, experts may identify key elements and knowledge gaps that could contribute significant uncertainty to a future assessment of risk. It would be useful to identify and highlight such gaps so that potential future requests can specifically target the major elements of uncertainty, perhaps suggesting specific scenarios to examine.

3. Pest categorisation

3.1. Identity and biology of the pest

3.1.1. Identity and taxonomy

Is the identity of the pest established, or has it been shown to produce consistent symptoms and to be transmissible?

Yes, the pest has been fully described by Inouye (1964)

Aschistonyx eppoi, the Juniper Gall midge, is an insect of the order Diptera, family Cecidomyiidae.

3.1.2. Biology of the pest

'The life history of this species is incompletely known. The larvae spend the winter in the bud gall and are fully grown at the end of April to the beginning of May. They then leave the gall and pupate in the soil. The adults emerge from mid-May to early June (Inouye, 1964). A similar species, the Juniper tip midge (*Oligotrophus betheli*) has 4–5 overlapping generations in a year (Steinhauer, 1975)'. (Baker, 1995).

3.1.3. Intraspecific diversity

No intraspecific diversity has been recorded by Inouye (1964).

3.1.4. Detection and identification of the pest

Are detection and identification methods available for the pest?

Yes

'This insect causes a very small quadrangular pyramid-gall at the apical bud of the twigs. In the middle of April a swelling of the apical bud indicates the presence of infestation, but later the twigs become dry and browned' (Inouye, 1964). 'The swollen buds are characteristic of infection by this species and are very obvious in bonsai juniper' (Baker, 1995).

Inouye (1964) 'provides photographs, detailed measurements and descriptions of the males, females, pupae and larvae' (Baker, 1995).

3.2. Pest distribution

No data is available on the distribution of *A. eppoi* in the EPPO Global Database, nor in the CABI Forestry Compendium.

3.2.1. Pest distribution outside the EU

A. eppoi is known to be present in Japan (Okayama Prefecture, Honshu: Inouye, 1964; Gagné and Jaschhof, 2014) and in the Korean peninsula (ESK & KSAE 1994 in Paik et al., 2004; Gagné and Jaschhof, 2014).

3.2.2. Pest distribution in the EU

Is the pest present in the EU territory? If present, is the pest widely distributed within the EU?

No, the pest is not known to occur in the EU territory.

3.3. Regulatory status

3.3.1. Council Directive 2000/29/EC

Aschistonyx eppoi is listed in Council Directive 2000/29/EC. Details are presented in Tables 2 and 3.

Table 2: *Aschistonyx eppoi* in Council Directive 2000/29/EC

Annex II, Part A	Harmful organisms whose introduction into, and spread within, all member states shall be banned if they are present on certain plants or plant products	
Section I	Harmful organisms not known to occur in the community and relevant for the entire community	
(a)	Insects, mites and nematodes, at all stages of their development	
	Species	Subject of contamination
7.	<i>Aschistonyx eppoi</i>	Plants of <i>Juniperus</i> L., other than fruit and seeds, originating in non-European countries

3.3.2. Legislation addressing the hosts of *Aschistonyx eppoi*

Table 3: Regulated hosts and commodities that may involve *Aschistonyx eppoi* in Annex III of Council Directive 2000/29/EC

Annex III, Part A	Plants, plant products and other objects the introduction of which shall be prohibited in all Member States	
	Description	Country of origin
1.	Plants of [...] <i>Juniperus</i> L., [...] other than fruit and seeds	Non-European countries

Aschistonyx eppoi is listed as one of the harmful organisms of concern for *Juniperus* plants in:

Commission Decision 2002/499/EC authorising derogations from certain provisions of Council Directive 2000/29/EC in respect of naturally or artificially dwarfed plants of *Chamaecyparis* Spach, *Juniperus* L. and *Pinus* L., originating in the Republic of Korea.

Commission Decision 2002/887/EC authorising derogations from certain provisions of Council Directive 2000/29/EC in respect of naturally or artificially dwarfed plants of *Chamaecyparis* Spach, *Juniperus* L. and *Pinus* L., originating in Japan.

3.4. Entry, establishment and spread in the EU

3.4.1. Host range

Juniperus chinensis is the only known host. It is 'widely grown in gardens and as bonsai in Europe' (Baker, 1995). Given the fact there is very little information available, there is uncertainty as to whether *A. eppoi* is able to attack other *Juniperus* species.

3.4.2. Entry

Is the pest able to enter into the EU territory? If yes, identify and list the pathways!

Yes, the pest has been intercepted twice, in the UK, in 1974 and 1975 (EPPO Reporting Services 1974; Baker, 1995).

The main pathways of entry are:

- plants for planting
- branches.

Despite the fact that there is a general prohibition for the import of *Juniperus* plants, *Juniperus* bonsai plants can be imported from Japan and Korea providing the export and import requirements as specified in Commission Decisions 2002/499/EC and 2002/887/EC.

According to Commission Decisions 2002/499/EC and 2002/887/EC, MS have to report the amounts of *Juniperus* bonsai plants imported using these derogations. However, these data are not publicly available.

There are no records of interception of *A. eppoi* in the Europhyt database. However, in 1973 and 1974, the UK intercepted the pest twice on consignments of *J. chinensis* bonsai plants (Baker, 1995).

3.4.3. Establishment

Is the pest able to become established in the EU territory?

Yes, the pest would be able to become established in the southern parts of the EU, provided that the European *Juniperus* species are acceptable host species.

3.4.3.1. EU distribution of main host plants

Juniperus species are widely distributed in Europe (Figure 1). However, *J. chinensis* is not represented in this map as it is only grown in gardens and indoors as bonsai plants.

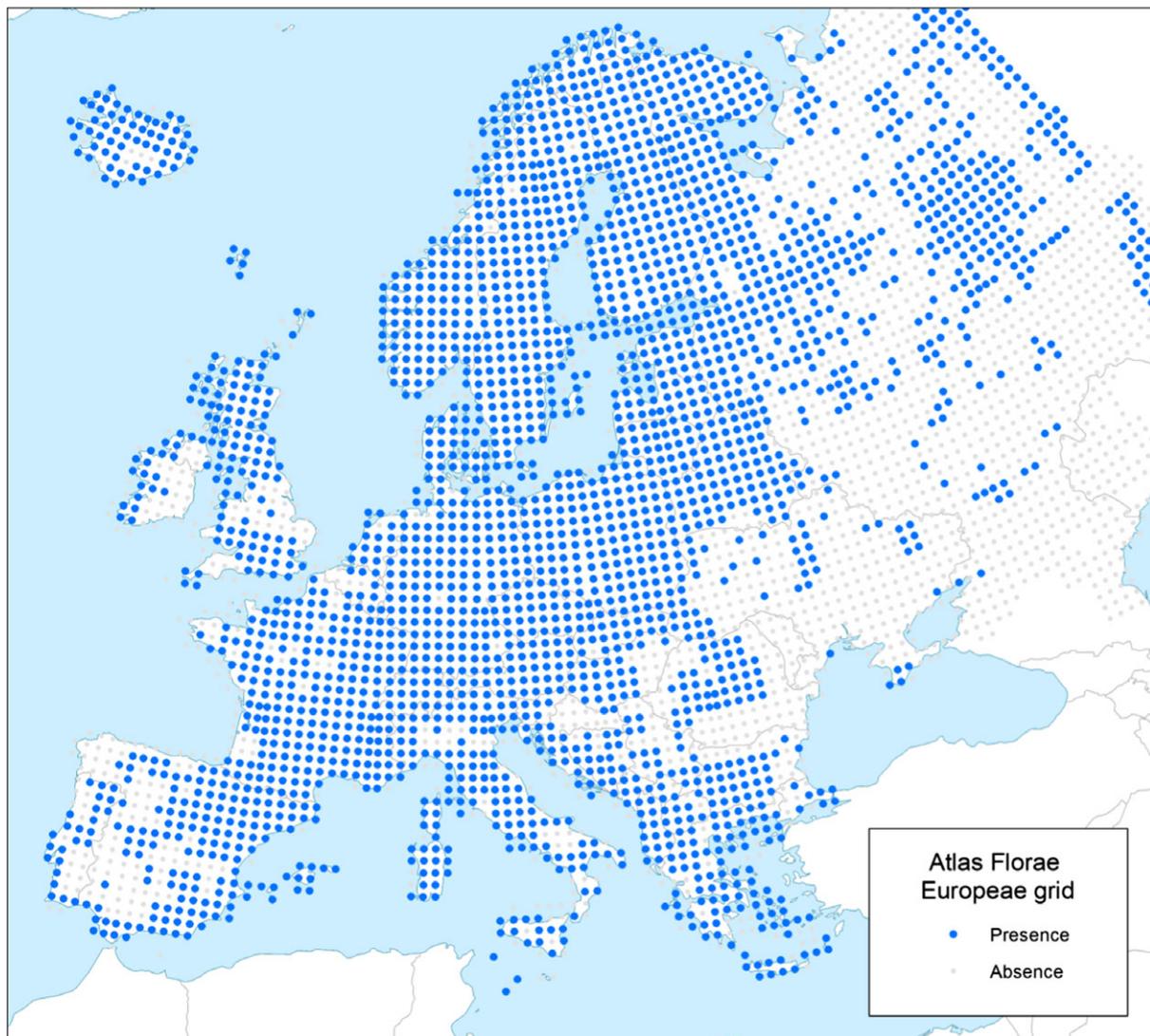


Figure 1: Distribution of the genus *Juniperus* according to *Atlas Florae Europaeae* (Jalas and Suominen, 1973). The map considers the following species: *J. drupacea*, *J. communis* s.l., *J. oxycedrus*, *J. brevifolia*, *J. phoenicea*, *J. thurifera*, *J. foetidissima*, *J. excelsa*, *J. sabina*. It indicates where at least one of them is recorded in a 50 × 50 km grid in a UTM projection

3.4.3.2. Climatic conditions affecting establishment

The presence of *A. eppoi* in Okayama Prefecture (southern part of Honshu island, Japan) and in the Korean peninsula 'suggests that this species requires high temperatures for development and that, outdoors, it would only be a risk to junipers in southern Europe' (Baker, 1995). Bonsai plants, however, are usually kept indoors.

3.4.4. Spread

Is the pest able to spread within the EU territory following establishment? How?

Yes, *A. eppoi* could spread with nursery plants, in particular bonsai plants.

RNQPs: Is spread mainly via specific plants for planting, rather than via natural spread or via movement of plant products or other objects?

Yes, *A. eppoi* is mainly spread by the movement of *Juniperus* plants for planting. However, the scarce information available results in high uncertainty regarding the importance of this pathway.

3.5. Impacts

Would the pests' introduction have an economic or environmental impact on the EU territory?

Yes, to some extent. 'Infestation would make the bonsai unmarketable and "severe injury for two or three successive years causes the tree to appear thin and severely infested trees lose nearly all their tip growth" (Inouye, 1964). Although *A. eppoi* on bonsai juniper is not likely to be difficult to control, if it were able to colonise wild or garden juniper, control would be impossible' (Baker, 1995).

RNQPs: Does the presence of the pest on plants for planting have an economic impact, as regards the intended use of those plants for planting?⁴

Yes (see above)

3.6. Availability and limits of mitigation measures

Are there measures available to prevent the entry into, establishment within or spread of the pest within the EU such that the risk becomes mitigated?

Yes, as illustrated by the absence of interceptions since 1975, suggesting that careful inspection and treatment in the country of origin allows preventing entry of the pest.

RNQPs: Are there measures available to prevent pest presence on plants for planting such that the risk becomes mitigated?

Yes (see above)

3.6.1. Phytosanitary measures

A. eppoi is listed as one of the harmful organisms of concern for *Juniperus* plants in Commission Decisions 2002/499/EC and 2002/887/EC authorising derogations from certain provisions of Council Directive 2000/29/EC in respect of naturally or artificially dwarfed plants of *Chamaecyparis* Spach, *Juniperus* L. and *Pinus* L., originating, respectively, in the Republic of Korea and in Japan.

Summary of requirements:

- Prior to export, the *Juniperus* plants have been grown, held and trained for at least two consecutive years in officially registered nurseries, which are subject to an officially supervised control regime.
- The nurseries and their immediate vicinity are inspected at least six times a year at appropriate intervals for the presence of *A. eppoi* and other harmful organisms.

⁴ See Section 2.1 on what falls outside EFSA's remit.

- The plants have to be potted and placed either on shelves at least 50 cm above ground or onto concrete flooring, impenetrable for nematodes, which is well maintained and free from debris.
- The plants shall have been found free, in these inspections, from the harmful organisms mentioned in the legislation above. Infested plants shall be removed. The remaining plants shall be effectively treated.
- The material shall be subject, before it is released, to official post-entry quarantine for a period including the active growth season from 1 April until 30 June in the case of *Juniperus* plants and must be found free, during this quarantine period, from any harmful organisms of concern.

3.6.2. Biological or technical factors limiting the feasibility and effectiveness of measures to prevent the entry, establishment and spread of the pest

None, judging from the absence of interception since 1975.

3.6.3. Biological or technical factors limiting the ability to prevent the presence of the pest on plants for planting

None, judging from the absence of interception since 1975.

3.6.4. Control methods

- Insecticide treatments
- Destruction of the contaminated plants.

3.7. Uncertainty

Given the paucity of the available information, there is a high uncertainty regarding the harmfulness of *A. eppoi* and the danger it represents for the EU. There is also a high uncertainty regarding the width of its host plant range.

4. Conclusions

A. eppoi meets the criteria assessed by EFSA for consideration as a potential quarantine pest for the EU territory, although there is high uncertainty regarding its impact. It does not meet the criteria assessed by EFSA for consideration as a regulated non quarantine pest because it is absent from the EU territory (Table 4).

Table 4: The Panel's conclusions on the pest categorisation criteria defined in Regulation (EU) 2016/2031 on protective measures against pests of plants (the number of the relevant sections of the pest categorisation is shown in brackets in the first column)

Criterion of pest categorisation	Panel's conclusions against criterion in Regulation (EU) 2016/2031 regarding Union quarantine pest	Panel's conclusions against criterion in Regulation (EU) 2016/2031 regarding Union regulated non-quarantine pest	Key uncertainties
Identity of the pest (Section 3.1)	The pest has been fully described by Inouye (1964).	The pest has been fully described by Inouye (1964).	Only one description available in the literature.
Absence/presence of the pest in the EU territory (Section 3.2)	The pest is absent from the EU territory.	The pest is absent from the EU territory. Therefore, it cannot be considered as a regulated non-quarantine pest.	None

Criterion of pest categorisation	Panel's conclusions against criterion in Regulation (EU) 2016/2031 regarding Union quarantine pest	Panel's conclusions against criterion in Regulation (EU) 2016/2031 regarding Union regulated non-quarantine pest	Key uncertainties
Regulatory status (Section 3.3)	<i>Aschistonyx eppoi</i> is listed in Council Directive 2000/29/EC (Annex IIAI; on plants of <i>Juniperus</i> , other than fruit and seeds, originating in non-European countries) and in Commission Decisions 2002/499/EC and 2002/887/EC.	<i>Aschistonyx eppoi</i> is listed in Council Directive 2000/29/EC (Annex IIAI; on plants of <i>Juniperus</i> , other than fruit and seeds, originating in non-European countries) and in Commission Decisions 2002/499/EC and 2002/887/EC.	None
Pest potential for entry, establishment and spread in the EU territory (Section 3.4)	The pest is able to enter into and establish in the EU territory on plants for planting and cut flowers or branches.	Plants for planting are the main pathway.	None
Potential for consequences in the EU territory (Section 3.5)	Infestation would reduce tree growth, and make the bonsai unmarketable.	Infestation would reduce tree growth, and make the bonsai unmarketable.	The harmfulness of the pest is weakly documented.
Available measures (Section 3.6)	Careful inspection and treatment in the country of origin allows to prevent entry of the pest	Careful inspection and treatment in the country of origin allows to prevent entry of the pest.	None
Conclusion on pest categorisation (Section 4)	All criteria assessed by EFSA above for consideration as a potential quarantine pest for the EU territory were met.	The criteria assessed by EFSA above for consideration as a potential regulated non-quarantine pest were not met: the pest is absent from the EU territory.	The harmfulness of the pest is weakly documented.
Aspects of assessment to focus on/scenarios to address in future if appropriate	A deeper knowledge of the biology, geographic range and impact of the pest would allow reducing the uncertainties.		

References

- Baker RHA, 1995. *Aschistonyx eppoi*. Data Sheets on Quarantine Pests and summary pest risk assessment. Ministry of Agriculture, Fisheries and Food, Central Science Laboratory, Sand Hutton, York.
- EFSA PLH Panel (EFSA Panel on Plant Health), 2010. PLH Guidance on a harmonised framework for pest risk assessment and the identification and evaluation of pest risk management options by EFSA. EFSA Journal 2010;8(2):1495, 66 pp. <https://doi.org/10.2903/j.efsa.2010.1495>
- EPPO (European and Mediterranean Plant Protection Organization) Reporting Service. 1974. No. 01. Num. article: 1974/10. <https://gd.eppo.int/reporting/article-5850>, accessed 24 November 2017
- EPPO (European and Mediterranean Plant Protection Organization), 2017. EPPO Global Database. Available online: <https://gd.eppo.int>
- ESK & KSAE (The Entomological Society of Korea & The Korean Society of Applied Entomology), 1994. *Check list of insects from Korea*. 1AA pp., Kon-Kuk University Press, Seoul.
- FAO (Food and Agriculture Organization of the United Nations), 2004. ISPM (International Standards for Phytosanitary Measures) 21—Pest risk analysis of regulated non-quarantine pests. FAO, Rome, 30 pp. Available online: https://www.ippc.int/sites/default/files/documents//1323945746_ISPM_21_2004_En_2011-11-29_Refor.pdf
- FAO (Food and Agriculture Organization of the United Nations), 2013. ISPM (International Standards for Phytosanitary Measures) 11—Pest risk analysis for quarantine pests. FAO, Rome, 36 pp. Available online: https://www.ippc.int/sites/default/files/documents/20140512/isp_m_11_2013_en_2014-04-30_201405121523-494.65%20KB.pdf
- Gagné RJ and Jaschhof M, 2014. *A catalog of the Cecidomyiidae (Diptera) of the World* (No. 25). Entomological Society of Washington, Washington, DC, USA. 3rd Edition. Digital version 2.
- Inouye M, 1964. Gall midges (Itonididae) attacking coniferous trees. Bulletin, Forest Experimental Station, Meguro, Tokyo, 164, 1–39.

- Jalas J and Suominen J, 1973. *Atlas Florae Europaeae. Distribution of Vascular Plants in Europe*. 2. Gymnospermae (Pinaceae to Ephedraceae). The Committee for Mapping the Flora of Europe and Societas Biologica Fennica Vanamo, Helsinki.
- Paik JC, Yukawa J, Uechi N, Sato S and Ganaha T, 2004. Gall-inducing species of the family Cecidomyiidae (Diptera) recorded from the Korean Peninsula and surrounding islands, in comparison with the gall-midge fauna of Japan. *Esakia*, 44, 57–66.
- Steinhauer JR, 1975. Arthropod pests of juniper. *Journal of Arboriculture*, 1, 205–207.

Abbreviations

EPPO	European and Mediterranean Plant Protection Organization
FAO	Food and Agriculture Organization
IPPC	International Plant Protection Convention
MS	Member State
PLH	EFSA Panel on Plant Health
TFEU	Treaty on the Functioning of the European Union
ToR	Terms of Reference