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Pest categorisation of *Anthonomus bisignifer*

EFSA Panel on Plant Health (PLH),

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Abstract

The Panel on Plant Health performed a pest categorisation of the strawberry blossom weevil, *Anthonomus bisignifer* Schenkling, (Coleoptera: Curculionidae), for the EU. *Anthonomus bisignifer* is a well-defined and distinguishable species, recognised as an occasional pest of strawberry (*Fragaria*) fruit production in Japan where it is also feeds on *Rubus* and *Rosa* spp. Adults clip developing buds, preventing fruit development and reducing yield. Losses are variable and are likely to depend on the cultivars attacked. Severe damage to *Fragaria* spp. has been reported but is rare. Flowers of ornamental garden *Rosa* spp. are more commonly damaged. *Anthonomus bisignifer* is not known to occur in the EU. *A. bisignifer* is listed in Annex IIAI of Council Directive 2000/29/EC. Host plants for planting could provide a pathway although only a few non-EU countries can export *Fragaria* plants for planting to the EU and *A. bisignifer* is not known to occur in any of them. However, *Rubus* and *Rosa* plants for planting could provide a potential pathway to introduce *A. bisignifer*. Considering climatic similarities of the region where *A. bisignifer* occurs and where hosts occur in the EU, *A. bisignifer* has the potential to establish within the EU. There would be one generation per year, as in Japan. Impacts could be expected on field grown and protected *Fragaria*, field grown *Rubus* and garden *Rosa* spp. There is uncertainty regarding which other hosts exist within Rosaceae, hence impacts could potentially be seen on other species too. Phytosanitary measures are available to reduce the likelihood of introduction of *A. bisignifer*. All criteria assessed by EFSA for consideration as a potential Union quarantine pest are met. As *A. bisignifer* is not known to occur in the EU, this criterion assessed by EFSA to consider it as a Union regulated non-quarantine pest is not met.

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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.....	9
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. Intraspecific diversity.....	11
3.1.3. Biology of the pest.....	11
3.1.4. Detection and identification of the pest.....	12
3.2. Pest distribution.....	12
3.2.1. Pest distribution outside the EU.....	12
3.2.2. Pest distribution in the EU.....	14
3.3. Regulatory status.....	15
3.3.1. Council Directive 2000/29/EC.....	15
3.3.2. Legislation addressing the hosts of <i>Anthonomus bisignifer</i>	15
3.4. Entry, establishment and spread in the EU.....	16
3.4.1. Host range.....	16
3.4.2. Entry.....	16
3.4.3. Establishment.....	17
3.4.3.1. EU distribution of main host plants.....	17
3.4.3.2. Climatic conditions affecting establishment.....	17
3.4.4. Spread.....	17
3.5. Impacts.....	18
3.6. Availability and limits of mitigation measures.....	18
3.6.1. Biological or technical factors limiting the feasibility and effectiveness of measures to prevent the entry, establishment and spread of the pest.....	18
3.6.2. Control methods.....	19
3.7. Uncertainty.....	19
4. Conclusions.....	19
References.....	20
Abbreviations.....	21

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> (Moultex)
<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 morbosus</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> Kugelán	<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> Coquillet | 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 | 7) Peach X-disease mycoplasma |
| 2) Cherry rasp leaf virus (American) | 8) Peach yellows mycoplasma |
| 3) Peach mosaic virus (American) | 9) Plum line pattern virus (American) |
| 4) Peach phony rickettsia | 10) Raspberry leaf curl virus (American) |
| 5) Peach rosette mosaic virus | 11) Strawberry witches' broom mycoplasma |
| 6) Peach rosette mycoplasma | 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. |

Annex IIAI

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

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

- | | |
|--|--|
| 1) <i>Margarodes vitis</i> (Phillipi) | 3) <i>Margarodes prieskaensis</i> Jakubski |
| 2) <i>Margarodes vredendalensis</i> de Klerk | |

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>Hirschmanniella gracilis</i> (de Man) Luc and Goodey	<i>Xiphinema americanum</i> Cobb <i>sensu lato</i> (non-EU populations)
<i>Liriomyza sativae</i> Blanchard	<i>Xiphinema californicum</i> Lamberti and Bleve-Zacheo

(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

Anthonomus bisignifer 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 (RNQP) for the area of the European Union (EU) excluding Ceuta, Melilla and the outermost regions of Member States (MSs) referred to in Article 355(1) of the Treaty on the Functioning of the European Union (TFEU), other than Madeira and the Azores.

In Appendix 1 of the ToR, the taxonomist who named *A. bisignifer* is mistakenly given in brackets, indicating that the species was originally described in another genus. This is not the case. The valid taxonomic name is *Anthonomus bisignifer* Schenkling, 1934.

2. Data and methodologies

2.1. Data

2.1.1. Literature search

A literature search on *A. bisignifer* was conducted at the beginning of the categorisation in the ISI Web of Science bibliographic database, using the scientific name of the pest as search term. Relevant papers were reviewed, and further references and information were obtained from citations within the references and grey literature.

2.1.2. Database search

Pest information, on host(s) and distribution, was retrieved from the EPPO Global Database (EPPO, 2017) and from the literature.

Data about the import of commodity types that could potentially provide a pathway for the pest to enter the EU and about the area of hosts grown in the EU were searched for in EUROSTAT and from the EU Seventh Framework Programme project ISEFOR (Increasing Sustainability of European Forests, 2007-2013 KBBE 2009-3 grant agreement 245268). The ISEFOR project examined the plant nursery trade and, for some EU MSs, collected import data on plants for planting at a much more detailed level than is made publically available via EUROSTAT. While it is recognised that the ISEFOR data is not

comprehensive, it does contain some data on imports of plants for planting of *A. bisignifer* hosts, such as *Fragaria* and *Rubus*.

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 MSs and the phytosanitary measures taken to eradicate or avoid their spread.

2.2. Methodologies

The Panel performed the pest categorisation for *A. bisignifer* 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's 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 RNQP in accordance with Regulation (EU) 2016/2031 on protective measures against pests of plants, and includes additional information required as per 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 RNQP. 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 RNQP which 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, while 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).
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?

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
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 or No)

Yes, the identity of the pest is established. *Anthonomus bisignifer* Schenkling, 1934, is an insect in the Order Coleoptera (beetles) and the family Curculionidae (weevils).

Due to overlapping synonyms, there is possible confusion with an *Anthonomus* species from North America. A junior synonym of *A. bisignifer* Schenkling is *Anthonomus signatus* Kinoshita and Shinkai. However, a species from North America has the valid name *A. signatus* Say. A junior synonym of *A. signatus* Say is *Anthonomus bisignatus* Gyllenhal while *A. bisignatus* Roelofs is another junior synonym of *A. bisignifer* Schenkling (Table 2). Other synonyms for *A. bisignifer* Schenkling are detailed in Kojima and Morimoto (1994). Despite the confusion over nomenclature, it is clear that *A. bisignifer* Schenkling is a distinct species. Note that Jeger et al. (2017) provides a pest categorisation for *A. signatus* Say.

Table 2: Synonyms of two *Anthonomus* species. The present categorisation concerns *A. bisignifer* Schenkling. Jeger et al. (2017) provides a pest categorisation for *A. signatus* Say

Senior synonym	<i>Anthonomus bisignifer</i> Schenkling	<i>Anthonomus signatus</i> Say
Junior synonyms	<i>Anthonomus signatus</i> Kinoshita and Shinkai <i>Anthonomus bisignatus</i> Roelofs	<i>Anthonomus bisignatus</i> Gyllenhal
Pest status	Pest of <i>Fragaria</i> & <i>Rubus</i> in Japan	Pest of <i>Fragaria</i> & <i>Rubus</i> in North America

3.1.2. Intraspecific diversity

Some specimens from northern Japan are smaller and often darker than those found elsewhere in Japan (Kojima & Morimoto, 1994).

3.1.3. Biology of the pest

The majority of studies on *A. bisignifer* were conducted in Japan during the first half of the 20th century. Due to the difficulty in accessing the original literature the following account is largely based

on abstracted information and review articles synthesised as factsheets by Smith et al. (1997) and in the CABI Crop Protection Compendium (CABI, 2015).

A. bisignifer has one generation per year (Kato, 1936). In the region of Nara, southern Honshu, Japan, adults emerge from overwintering between late March and early April (Imura, 2011). Further north, around Sendai, adults emerge from mid- to late-April (Kato, 1936). Adults begin to crawl at around 10°C and will fly at approximately 23°C (Kato, 1938a). Adults feed on the pollen within wild *Rubus* and *Rosa* and cultivated *Fragaria* flower buds, switching between hosts according to availability and the flower budding period (Imura, 2011). Following maturation feeding adults mate. Females oviposit in early summer from May to mid-June. Females lay around 80 eggs, each one in a separate flower bud (Kinoshita and Shinkai, 1926). Oviposition occurs during the day and is influenced by solar radiant energy and soil surface temperature (Kato, 1937, 1938b). The highest number of eggs are laid on days with around 12 hours of sunshine and temperatures of 20°C. Fewer eggs are laid at 12°C (Kato, 1936, 1937). Following oviposition the female chews through the stem of the bud, partially or completely severing the bud which drops to the ground. This prevents the bud from further development and provides a protected environment for the egg to hatch and for a larva to develop within. Eggs hatch after 4–9 days depending on temperature. Young larvae first feed on the pollen then feed on other parts of the bud. There are three larval instars and development takes 10 to 50 days (Kinoshita and Shinkai, 1926; Kato, 1936). Pupation is assumed to occur in the bud (CABI, 2015). Adults emerge and begin feeding before searching for overwintering sites. The available literature does not describe overwintering sites for *A. bisignifer* but it is reasonable to assume that overwintering occurs under plant debris within fields, in soil around hosts and within the vegetation of adjacent field boundaries which are the types of overwintering sites used by *A. signatus*, the ecological equivalent species in North America.

3.1.4. Detection and identification of the pest

Are detection and identification methods available for the pest?

Yes, the organism can be detected by visual searching, often after damage symptoms are seen (e.g. clipped flower buds of *Fragaria*). The species can be identified by examining morphological features, for which keys exist, e.g. Kojima & Morimoto (1994).

A detailed description of adults in the genus *Anthonomus* from Japan is provided by Morimoto (1962).

A. bisignifer can be noticed when the damage symptoms (clipped buds) are detected, e.g. *Fragaria* flower buds either hanging from the plants or laying on the ground.

Eggs are 0.6 mm long and 0.4 mm wide.

Larvae are 3–4 mm long (by analogy with related species), off-white becoming greyish with age. A detailed description of the larvae is provided by Lee (1996). Characteristic larval morphology can be useful to distinguish species (Burke, 1976).

No description of the pupae could be found. Nevertheless, it is assumed by Smith et al. (1997) and CABI (2015) to be similar to the pupae of *Anthonomus rubi* (3.0–3.5 mm long, curved, white, head brown).

Adults are from 2.5 to 4.0 mm long. The head and pronotum is dark brown to black with an elongated curved rostrum. The elytrae are pale brown to dark reddish brown. Legs are brown. Careful examination is required to reliably distinguish adult and immature stages of the species from those of *A. rubi*, the strawberry blossom weevil, which occurs in Europe (CSL, 1998).

3.2. Pest distribution

3.2.1. Pest distribution outside the EU

Anthonomus bisignifer is only known to occur in the Far East and has not been reported in the EU (Smith et al., 1997; CABI, 2015; EPPO Global database, 2017) (Table 3).

Table 3: Distribution of *Anthonomus bisignifer* based on the information from the EPPO Global Database and other sources (Kojima & Morimoto 1994; Kim et al., 2006)

Region	Occurrence (CABI 2000; EPPO, 2017)	Area/region	Reference
North America	Absent, not known to occur		
Central America & Caribbean	Absent, not known to occur		
South America	Absent, not known to occur		
Europe	Absent, not known to occur		
Africa	Absent, not known to occur		
Asia	Present		
	Japan	Hokkaido	Kojima & Morimoto (1994)
		Honshu	Kojima & Morimoto (1994)
		Shikoku	Kojima & Morimoto (1994)
		Kyushu	Kojima & Morimoto (1994)
		Tsushima	Kojima & Morimoto (1994)
	Korea		Kojima & Morimoto (1994)
	Republic of Korea	Gangwon-do	Kim et al. (2006)
	Democratic People's Republic of Korea	See text below ^(a)	Kojima & Morimoto (1994)
	Russia	Siberia ^(b)	Kojima & Morimoto (1994)
		Kurile Islands	Kojima & Morimoto (1994)
		Sakhalin	Kojima & Morimoto (1994)
Oceania	Absent, not known to occur		

(a): In a taxonomic study of Anthonominae from Japan, Kojima & Morimoto (1994) report the distribution of *A. bisignifer* in a list and include 'Korea' and 'Siberia'. No other details are provided. It is therefore not clear whether Kojima & Morimoto (1994) mean that *A. bisignifer* occurs in both the Republic of Korea and in the Democratic People's Republic of Korea. The occurrence of *A. bisignifer* in the Republic of Korea is confirmed by Kim et al. (2006) who obtained samples from several sites adjacent to the demilitarised zone, a few km from the border with the Democratic People's Republic of Korea. For the purposes of this opinion, it is assumed that *A. bisignifer* occurs in both the Republic of Korea and the Democratic People's Republic of Korea.

(b): Kojima & Morimoto (1994) do not provide any information about where in Siberia *A. bisignifer* occurs. CABI (2000) interprets Kojima & Morimoto (1994) as meaning eastern Siberia. So as to not suggest that *A. bisignifer* occurs widely across eastern Siberia without supporting evidence, eastern Siberia is identified in Figures 1a and b as the stripped area. No other literature could be found to confirm occurrence of *A. bisignifer* in Siberia.

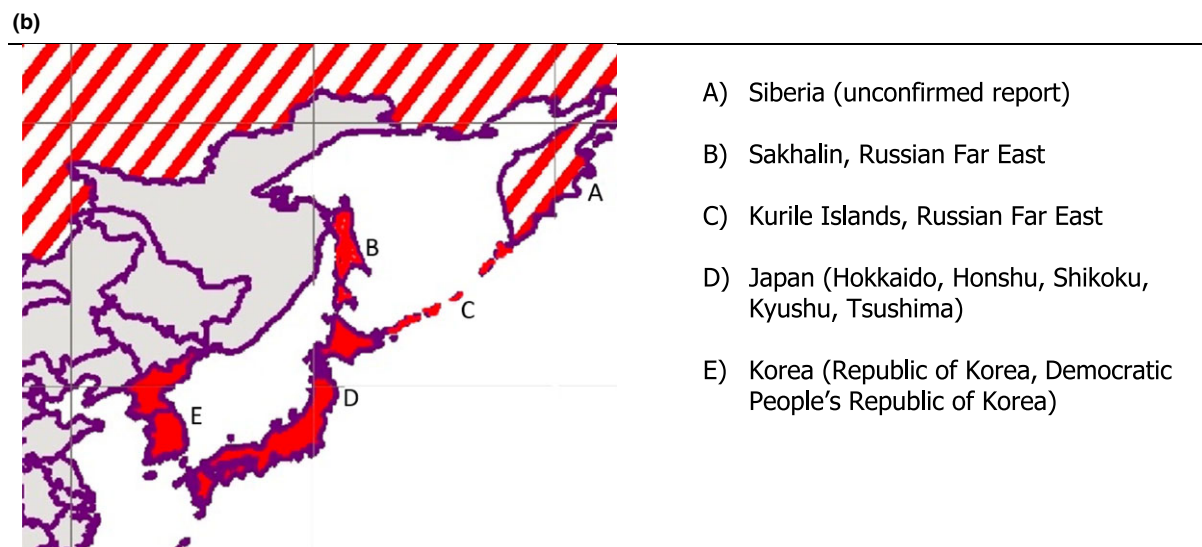
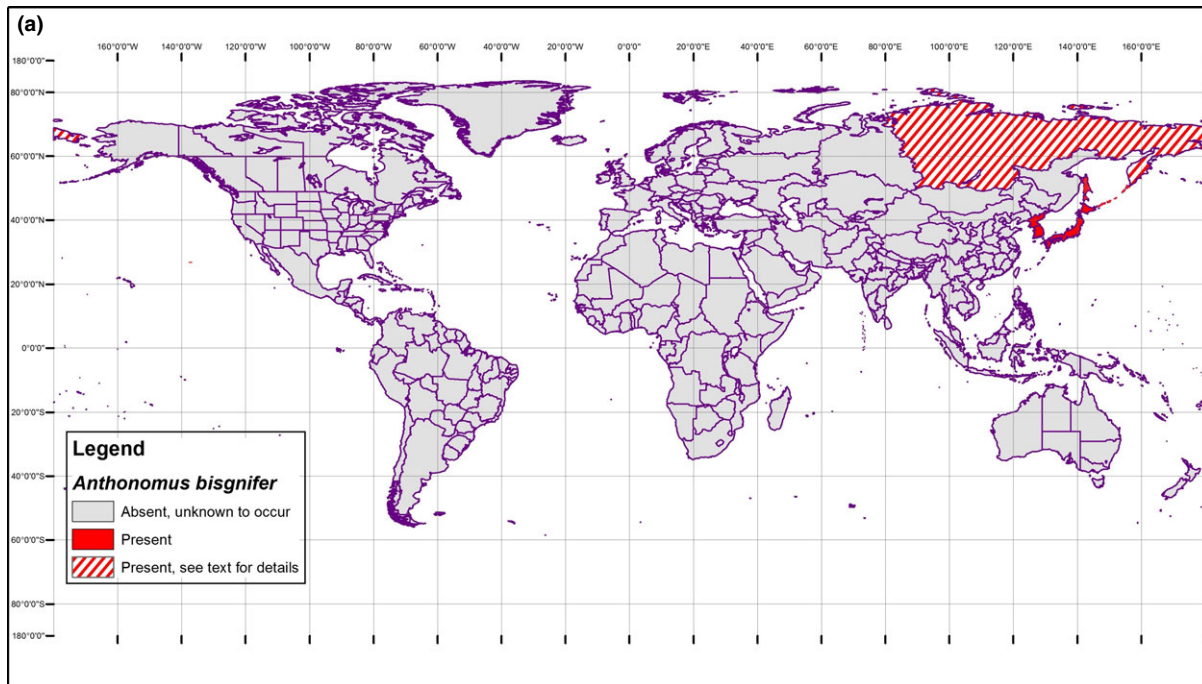


Figure 1: (a) Global distribution map for *Anthonomus bisignifer* Schenkling. (b) Distribution of *Anthonomus bisignifer* Schenkling in Far East

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, *Anthonomus bisignifer* is not known to occur in the EU (EPPO, 2017)

3.3. Regulatory status

3.3.1. Council Directive 2000/29/EC

Anthonomus bisignifer is listed in Council Directive 2000/29/EC. Details are presented in Tables 4 and 5.

Table 4: *Anthonomus bisignifer* 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
3.	<i>Anthonomus bisignifer</i> (Schenkling)	Plants of <i>Fragaria</i> L., intended for planting, other than seeds

3.3.2. Legislation addressing the hosts of *Anthonomus bisignifer*

Table 5: Regulated hosts and commodities that may involve *Anthonomus bisignifer* in Annexes III, IV and V 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	
9	Plants of <i>Chaenomeles</i> Ldl., <i>Cydonia</i> Mill., <i>Crateagus</i> L., <i>Malus</i> Mill., <i>Prunus</i> L., <i>Pyrus</i> L., and <i>Rosa</i> L., intended for planting, other than dormant plants free from leaves, flowers and fruit	Non-European countries
18	Plants of <i>Cydonia</i> Mill., <i>Malus</i> Mill., <i>Prunus</i> L. and <i>Pyrus</i> L. and their hybrids, and <i>Fragaria</i> L., intended for planting, other than seeds	Without prejudice to the prohibitions applicable to the plants listed in Annex III A (9), where appropriate, non- European countries, other than Mediterranean countries, Australia, New Zealand, Canada, the continental states of the USA.
Annex IV, Part A	Special requirements which must be laid down by all member states for the introduction and movement of plants, plant products and other objects into and within all member states	
Section I	Plants, plant products and other objects originating outside the community	
	Plants, plant products and other objects	Special requirements
21.3.	Plants of <i>Fragaria</i> L., intended for planting other than seeds	Without prejudice to the provisions applicable to the plants listed in Annex III(A)(18), and Annex IV(A)(I) (19.2), (21.1) and (21.2), official statement that the plants originate in an area known to be free from <i>Anthonomus signatus</i> Say and <i>Anthonomus bisignifer</i> (Schenkling).

44	Herbaceous perennial plants, intended for planting, other than seeds, of the families Caryophyllaceae (except <i>Dianthus</i> L.), Compositae (except <i>Dendranthema</i> (DC.) Des Moul.), Cruciferae, Leguminosae and Rosaceae (except <i>Fragaria</i> L.), originating in third countries, other than European and Mediterranean countries	Without prejudice to the requirements applicable to plants, where appropriate, listed in Annex IV(A)(I)(32.1), (32.2), (32.3), (33) and (34) official statement that the plants: <ul style="list-style-type: none"> — have been grown in nurseries, and — are free from plant debris, flowers and fruits, and — have been inspected at appropriate times and prior to export, and — found from symptoms of harmful bacteria, viruses and virus-like organisms, and — either found free from signs or symptoms of harmful nematodes, insects, mites and fungi, or have been subjected to appropriate treatment to eliminate such organisms.
Annex V	Plants, plant products and other objects which must be subject to a plant health inspection (at the place of production if originating in the Community, before being moved within the Community—in the country of origin or the consignor country, if originating outside the Community) before being permitted to enter the Community	
Part A	Plants, plant products and other objects originating in the Community	
2.1	Plants intended for planting other than seeds of the genera <i>Abies</i> Mill., <i>Apium graveolens</i> L., <i>Argyranthemum</i> spp., <i>Aster</i> spp., <i>Brassica</i> spp., <i>Castanea</i> Mill., <i>Cucumis</i> spp., <i>Dendranthema</i> (DC) Des Moul., <i>Dianthus</i> L. and hybrids <i>Exacum</i> spp., <i>Fragaria</i> L., <i>Gerbera</i> Cass., <i>Gypsophila</i> L., all varieties of New Guinea hybrids of <i>Impatiens</i> L., <i>Lactuca</i> spp., <i>Larix</i> Mill., <i>Leucanthemum</i> L., <i>Lupinus</i> L., <i>Pelargonium</i> l'Hérit. ex Ait., <i>Picea</i> A. Dietr., <i>Pinus</i> L., <i>Platanus</i> L., <i>Populus</i> L., <i>Prunus laurocerasus</i> L., <i>Prunus lusitanica</i> L., <i>Pseudotsuga</i> Carr., <i>Quercus</i> L., <i>Rubus</i> L., <i>Spinacia</i> L., <i>Tanacetum</i> L., <i>Tsuga</i> Carr. and <i>Verbena</i> L.	

3.4. Entry, establishment and spread in the EU

3.4.1. Host range

Kojima & Morimoto (1994) report that *A. bisignifer* is 'common on *Rosa* spp., *Rubus* spp. and some other Rosaceae' in Japan; it also occurs on *Fragaria* (strawberry).

3.4.2. Entry

Is the pest able to enter into the EU territory? (Yes or No) If yes, identify and list the pathways!

Yes, *A. bisignifer* could potentially enter the EU via *Fragaria*, *Rosa* and *Rubus* plants for planting.

Publically available international trade statistics describing the trade in plants for planting are not sufficiently detailed as to allow for the amount of trade in individual plant species to be determined. The Netherlands National Plant Protection Organisation kindly provided detailed trade inspection data regarding plants for planting from 2012 to 2014. These data indicate that there have been imports of both rooted and unrooted cuttings of *Rosa* from Japan. Thus, there is evidence of imports into the EU of host plants from a country where *A. bisignifer* occurs.

There are no records of interception of *A. bisignifer* in the Europhyt database.

Current EU legislation (2000/29/EC) regulates *A. bisignifer* on *Fragaria* plants for planting, other than seed. However, as noted above, *A. bisignifer* does have other hosts, at least within the genera *Rosa* and *Rubus*. Given that imports of *Rubus* and dormant *Rosa* plants for planting are permitted from countries where *A. bisignifer* occurs, *A. bisignifer* could potentially be carried into the EU.

3.4.3. Establishment

Is the pest able to become established in the EU territory? (Yes or No)

Yes. Biotic factors (host availability) and abiotic factors (climate suitability) suggest that *A. bisignifer* would find large parts of the EU suitable for establishment.

3.4.3.1. EU distribution of main host plants

Over the 5 years 2011–2015, the EU grew an average of almost 104,000 ha of strawberries annually. The top three EU countries for strawberry production by area harvested, together with total EU area is shown in Table 6. Poland grows the largest area of strawberries of any other EU MS. Approximately 70% the annual area of EU strawberry production occurs in Poland, Germany and Spain. Typically, approximately half of the total EU strawberry area is usually grown in Poland.

Table 6: EU area of strawberry (*Fragaria* spp.) production 2011–2015 (thousands of hectares) ranked by area

	2011	2012	2013	2014	2015	5-year mean	Mean %
European Union sum	101.07	103.00	97.10	109.48	107.43	103.62	100.0
Poland	50.60	50.60	40.20	52.90	52.30	49.32	47.6
Germany	13.49	15.00	15.58	15.35	14.72	14.83	14.2
Spain	6.86	7.65	7.97	7.79	7.21	7.50	7.2
Other EU MS	30.14	29.75	33.37	33.46	33.20	31.98	30.9

Table 7 indicates the top three EU countries of raspberry production by area harvested, together with total EU area. Poland grows more raspberries than all other EU Member States combined. Typically over 80% of the total EU raspberry area occurs in Poland, Bulgaria and Spain.

Table 7: EU area of raspberry production 2011–2015 (thousands of hectares)

	2011	2012	2013	2014	2015	5-year mean	Mean %
European Union sum	35.32	37.09	37.63	37.07	38.73	37.17	100.0
Poland	27.10	28.40	28.80	28.30	27.40	28.00	75.3
Bulgaria	1.60	1.37	1.33	1.19	1.52	1.40	3.8
Spain	1.04	1.44	1.35	1.49	1.85	1.43	3.9
Other EU MS	5.58	5.88	6.15	6.09	7.96	6.33	17.0

3.4.3.2. Climatic conditions affecting establishment

Anthonomus bisignifer is distributed in the Far East (Figure 1) across a variety of Köppen–Geiger climate zones. The global Köppen–Geiger climate zones (Kottek et al., 2006) describe terrestrial climate in terms of average minimum winter temperatures and summer maxima, amount of precipitation and seasonality (rainfall pattern). *A. bisignifer* occurs widely across Japan. The majority of Japan is classified into climate zones Cfa (warm temperate, fully humid hot summer) and Dfb (snow, fully humid, warm summer). Large parts of the EU, including Poland (partly Dfb), Bulgaria (partly Cfa and Dfb) and Spain (partly Cfa) share these climate characteristics and are countries producing a substantial proportion of EU strawberries and raspberries, hosts to *A. bisignifer*.

The foremost region for strawberry production in Japan is Nara Prefecture (Honshu) (Beech, 1988) which has a warm temperate climate (Cfa).

Considering its distribution in Japan and availability of hosts outdoors in Europe, *A. bisignifer* has the potential to establish in many parts of the EU.

3.4.4. Spread

Is the pest able to spread within the EU territory following establishment? (Yes or No) How?

Yes, as a free living organism, adults can disperse naturally e.g. by walking and flying.

No information about the dispersal ability of *A. bisignifer* could be found but it is reasonable to assume that it would behave in a similar manner to *A. signatus*. Foord et al. (2017) reported that adult *A. signatus* rarely fly or walk more than 10 m while looking for food or places to lay eggs. Assuming that *A. bisignifer* behaves in a similar way, natural spread is likely to be relatively slow. However, if accidentally transported with rooted plants for planting, or as a hitchhiker, *A. bisignifer* could be distributed over greater distances in a short time.

3.5. Impacts

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

Yes, *A. bisignifer* is a pest of Rosaceae. It attacks flower buds, preventing them from flowering and bearing fruit.

The EPPO pest datasheet on *A. bisignifer* (Smith et al. (1997) noted that *A. bisignifer* was included in a catalogue of important pests of agricultural crops in Japan by Shiraki (1952). However, Smith et al. (1997) concluded that due to the lack of recent publications reporting impacts, or on requirements for its control, this suggested that the weevil was now of little concern. Such a conclusion was supported by Kojima & Morimoto (1994) who reported that damage to strawberry in Japan by *A. bisignifer* was negligible given modern horticultural practice, such as growing strawberries under physical protection in glasshouses with controlled temperatures and controlled water and nutrient supply, use of sterile growing media, raised benches and appropriate use of agrochemicals (Takei, 2010). In a technical report describing strawberry production in Japan, Takei (2010) provides information for the control of strawberry pests. *A. bisignifer* is not included as a pest of strawberries. However, later Imura (2011) reported that severe damage to strawberry occurred in 2006 in south and central Nara Prefecture (Honshu), the foremost region for strawberry production in Japan (Beech, 1988). Damage to plants included strawberry plants within protected cultivation. Subsequent surveys over the next 3 years found variable amounts of damage in the area. For example, some surveys in 2007 found 50% of strawberry plants had been attacked. However, although a small amount of damage was noted in early 2008, 'there was hardly any subsequent damage' (Imura, 2011). It was notable that wild hosts were located close to where damage occurred but the variation between years could not be explained. Other than Imura (2011) there is no more recent evidence of impacts in commercial crops. Kojima & Morimoto (1994) noted that *A. bisignifer* was often injurious to garden roses (assumed to mean ornamental roses grown in non-commercial private gardens).

There is only a little evidence that *A. bisignifer* has caused any impacts in commercial *Fragaria* over the past 10 years in Japan. Modern horticultural practice, including use of pesticides such as emamectin, imidacloprid, pymetrozine and thiacloprid (Takei, 2010) against other invertebrate pests may also control *A. bisignifer*. There is uncertainty as to whether EU horticultural practice would also effectively manage the pest if it established in the EU.

The related European species *Anthonomus rubi* is regarded as a serious pest of strawberries. It is unknown whether *A. bisignifer* would cause a similar level of impact in the EU. If impacts were to occur they could be expected in warm temperate regions of the EU.

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; the import of *Fragaria* plants for planting, which could provide a pathway, is currently prohibited from many countries, including all those where *A. bisignifer* occurs. Entry via other hosts such as *Rubus* or *Rosa* plants for planting can be mitigated if host plants for planting are sourced from pest free areas.

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

- If plants for planting are not sourced from pest free areas, dormant whole plants for planting, harvested with a little soil, could carry adults sheltering in the soil under whole plants and hence could be transported along the pathway.
- Larvae develop and pupate inside buds where they are protected from contact insecticides and natural enemies.

3.6.2. Control methods

- Growers could use chemical insecticides. *In vitro* experiments showed that commercial concentrations of thiacloprid, spinosad, and malathion were effective against adults (Imura, 2011).
- Populations would be suppressed by removing weed hosts (e.g. *Rosa* spp. and *Rubus* spp.) from within and around commercial host production sites.
- Outdoor production sites should be kept weed free and plant debris should be removed to remove overwintering sites.
- In North America, resistant *Fragaria* varieties are used in areas where *A. signatus* (related to *A. bisignifer*) has a history of causing damage. There may be *Fragaria* varieties that are resistant to *A. bisignifer*.

3.7. Uncertainty

Although there are uncertainties, for example regarding what are the other (wild) hosts within Rosaceae and the magnitude of impacts that would result from *A. bisignifer* establishing within the EU, the uncertainties are not sufficient as to cast doubt as to whether *A. bisignifer* satisfies the criteria necessary for it to be regarded as a Union quarantine pest.

4. Conclusions

Anthonomus bisignifer meets the criteria assessed by EFSA for consideration as a potential Union quarantine pest (Table 8) but not the criteria for a Union RNQP.

Table 8: 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 identity of <i>Anthonomus bisignifer</i> Schenkling is well established; it can be identified to species using conventional entomological keys.	The identity of <i>Anthonomus bisignifer</i> Schenkling is well established; it can be identified to species using conventional entomological keys.	None
Absence/presence of the pest in the EU territory (Section 3.2)	The pest is absent (not known to occur) in the EU	The pest is absent (not known to occur) in the EU. (A criterion to satisfy the definition of a regulated non-quarantine pest is that the pest must be present in the risk assessment area)	None
Regulatory status (Section 3.3)	The pest is currently regulated by 2000/29/EC, listed in Annex II/AI on <i>Fragaria</i> plants for planting	The pest is currently regulated by 2000/29/EC, listed in Annex II/AI on <i>Fragaria</i> plants for planting.	None
Pest potential for entry, establishment and spread in the EU territory (Section 3.4)	<i>Anthonomus bisignifer</i> could potentially enter the EU via <i>Fragaria</i> , <i>Rosa</i> and <i>Rubus</i> plants for planting. Biotic factors (host availability) and abiotic factors (climate suitability) suggest that it would find large parts of the EU suitable for establishment. As a free living organism, adults can disperse naturally e.g. by walking and flying.	Whilst plants for planting are likely to provide the principle pathway into the EU, once within the EU, plants for planting would not be the principle mechanism for further spread. As a mobile insect, capable of flight, spread would occur naturally. (A criterion to satisfy the definition of a RNQP is that spread should primarily be via plants for planting – <i>A. bisignifer</i> does not meet this criterion).	Other unspecified Rosaceae are reported as hosts in Japan, hence there may be more pathways available.

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
Potential for consequences in the EU territory (Section 3.5)	<i>A. bisignifer</i> is a pest of Rosaceae. The establishment of the pest in the EU could potentially cause yield losses to strawberry and <i>Rubus</i> fruit. It attacks flower buds, preventing them from flowering and bearing fruit. Wild <i>Rosa</i> could also be attacked.	As a direct pest, the presence of the pest on plants for planting could influence subsequent yield and quality.	There is uncertainty as to whether commercial impacts would materialise in the EU.
Available measures (Section 3.6)	Phytosanitary measures are available to inhibit the likelihood of entry into the EU, e.g. sourcing host plants for planting from pest free areas; prohibiting soil from being carried with host plants for planting.	Plants for planting are not the principle means of spread. Nevertheless, measures are available to inhibit spread via plants for planting (e.g. source hosts from pest free areas).	None
Conclusion on pest categorisation (Section 4)	<i>Anthonomus bisignifer</i> does satisfy all of the criteria that are within the remit of EFSA to assess to be regarded as a Union quarantine pest.	<i>Anthonomus bisignifer</i> does not meet the criteria of (a) occurring in the EU territory, and (b) plants for planting being the principal means of spread. Hence it does not satisfy all of the criteria that are within the remit of EFSA to assess to be regarded as a Union RNQP.	None

Aspects of assessment to focus on/scenarios to address in future if appropriate

Any future assessment should focus on likelihood and magnitude of impacts.

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Abbreviations

EPPO	European and Mediterranean Plant Protection Organization
FAO	Food and Agriculture Organization
IPPC	International Plant Protection Convention
ISEFOR	Increasing Sustainability of European Forests
MS	Member State
PLH	EFSA Panel on Plant Health
RNQP	regulated non-quarantine pest
TFEU	Treaty on the Functioning of the European Union
ToR	Terms of Reference