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SCIENTIFIC OPINION

Pest categorisation of *Coniella castaneicola*

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Abstract

The European Commission requested the EFSA Panel on Plant Health to conduct a pest categorisation of *Coniella castaneicola* (Ellis & Everh) Sutton, following commodity risk assessments of *Acer campestre, A. palmatum*, *A. platanoides, A. pseudoplatanus*, *Quercus petraea* and *Q. robur* plants from the UK, in which *C. castaneicola* was identified as a pest of possible concern to the EU. When first described, *Coniella castaneicola* was a clearly defined fungus of the family Schizoparmaceae, but due to lack of a curated type-derived DNA sequence, current identification based only on DNA sequence is uncertain and taxa previously reported to be this fungus based on molecular identification must be confirmed. The uncertainty on the reported identification of this species translates into uncertainty on all the sections of this categorisation. The fungus has been reported on several plant species associated with leaf spots, leaf blights and fruit rots, and as an endophyte in asymptomatic plants. The species is reported from North and South America, Africa, Asia, non-EU Europe and Oceania. *Coniella castaneicola* is not known to occur in the EU. However, there is a key uncertainty on its presence and geographical distribution worldwide and in the EU due to its endophytic nature, the lack of systematic surveys and possible misidentifications. *Coniella castaneicola* is not included in Commission Implementing Regulation (EU) 2019/2072 and there are no interceptions in the EU. Plants for planting, fresh fruits and soil and other growing media associated with infected plant debris are the main pathways for its entry into the EU. Host availability and climate suitability in parts of the EU are favourable for the establishment and spread of the fungus. Based on the scarce information available, the introduction and spread of *C. castaneicola* in the EU is not expected to cause substantial impacts, with a key uncertainty. Phytosanitary measures are available to prevent its introduction and spread in the EU. Because of lack of documented impacts, *Coniella castaneicola* does not satisfy all the criteria that are within the remit of EFSA to assess for this species to be regarded as potential Union quarantine pest.

KEYWORDS

Coniella koreana, fruit rot, leaf spot, pest risk, *Pilidiella*, plant health, white rot of grapes

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1 | INTRODUCTION

1.1 | Background and Terms of reference as provided by the requestor

1.1.1 | Background

The new Plant Health Regulation (EU) 2016/2031, on the protective measures against pests of plants, is applying from 14 December 2019. Conditions are laid down in this legislation in order for pests to qualify for listing as Union quarantine pests, protected zone quarantine pests or Union regulated non-quarantine pests. The lists of the EU regulated pests together with the associated import or internal movement requirements of commodities are included in Commission Implementing Regulation (EU) 2019/2072. Additionally, as stipulated in the Commission Implementing Regulation 2018/2019, certain commodities are provisionally prohibited to enter in the EU (high risk plants, HRP). EFSA is performing the risk assessment of the dossiers submitted by exporting to the EU countries of the HRP commodities, as stipulated in Commission Implementing Regulation 2018/2018. Furthermore, EFSA has evaluated a number of requests from exporting to the EU countries for derogations from specific EU import requirements.

In line with the principles of the new plant health law, the European Commission with the Member States are discussing monthly the reports of the interceptions and the outbreaks of pests notified by the Member States. Notifications of an imminent danger from pests that may fulfil the conditions for inclusion in the list of the Union quarantine pest are included. Furthermore, EFSA has been performing horizon scanning of media and literature.

As a follow-up of the above-mentioned activities (reporting of interceptions and outbreaks, HRP, derogation requests and horizon scanning), a number of pests of concern have been identified. EFSA is requested to provide scientific opinions for these pests, in view of their potential inclusion by the risk manager in the lists of Commission Implementing Regulation (EU) 2019/2072 and the inclusion of specific import requirements for relevant host commodities, when deemed necessary by the risk manager.

1.1.2 | Terms of reference

EFSA is requested, pursuant to Article 29(1) of Regulation (EC) No 178/2002, to provide scientific opinions in the field of plant health.

EFSA is requested to deliver 53 pest categorisations for the pests listed in Annex 1A, 1B, 1D and 1E (for more details see mandate M-2021-00027 on the Open.EFSA portal). Additionally, EFSA is requested to perform pest categorisations for the pests so far not regulated in the EU, identified as pests potentially associated with a commodity in the commodity risk assessments of the HRP dossiers (Annex 1C; for more details see mandate M-2021-00027 on the Open.EFSA portal). Such pest categorisations are needed in the case where there are not available risk assessments for the EU.

When the pests of Annex 1A are qualifying as potential Union quarantine pests, EFSA should proceed to phase 2 risk assessment. The opinions should address entry pathways, spread, establishment, impact and include a risk reduction options analysis.

Additionally, EFSA is requested to develop further the quantitative methodology currently followed for risk assessment, in order to have the possibility to deliver an express risk assessment methodology. Such methodological development should take into account the EFSA Plant Health Panel Guidance on quantitative pest risk assessment and the experience obtained during its implementation for the Union candidate priority pests and for the likelihood of pest freedom at entry for the commodity risk assessment of High Risk Plants.

1.2 | Interpretation of the Terms of Reference

Coniella castaneicola is one of a number of pests relevant to Annex 1C of the Terms of Reference (ToR) to be subject to pest categorisation to determine whether it fulfils the criteria of a potential Union quarantine pest for the area of the EU excluding Ceuta, Melilla and the outermost regions of Member States referred to in Article 355(1) of the Treaty on the Functioning of the European Union (TFEU), other than Madeira and the Azores, and so inform EU decision-making as to its appropriateness for potential inclusion in the lists of pests of Commission Implementing Regulation (EU) 2019/ 2072. If a pest fulfils the criteria to be potentially listed as a Union quarantine pest, risk reduction options will be identified.

1.3 | Additional information

The European Commission requested the EFSA Panel on Plant Health to conduct a pest categorisation of *C. castaneicola* following commodity risk assessments of *Acer campestre, A. palmatum*, *A. platanoides, A. pseudoplatanus*, *Quercus petraea* and *Q. robur* plants from the UK, in which *C. castaneicola* was identified as a pest of possible concern to the EU (EFSA PLH Panel, 2023a, 2023b, 2023c, 2023d, 2023e, 2023f).

2 | DATA AND METHODOLOGIES

2.1 | Data

2.1.1 | Information on pest status from NPPOs

In the context of the current mandate, EFSA is preparing pest categorisations for new/emerging pests that are not yet regulated in the EU. When official pest status is not available in the European and Mediterranean Plant Protection Organization (EPPO) Global Database (EPPO, online), EFSA consults the NPPOs of the relevant MSs. To obtain information on the official pest status for *C. castaneicola*, EFSA has consulted the NPPOs of Germany, Hungary and Latvia. The results of this consultation are presented in Section 3.2.2.

2.1.2 | Literature search

A systematic literature search on *C. castaneicola* 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. Papers relevant for the pest categorisation were reviewed, and further references and information were obtained from experts, as well as from citations within the references and grey literature.

2.1.3 | Database search

Pest information, on host(s) and distribution, was retrieved from the systematic literature search (Section 2.1.1), integrated with records from the European and Mediterranean Plant Protection Organization (EPPO) Global Database (EPPO, online), the CABI databases and scientific literature databases as referred above in Section 2.1.1.

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 obtained from EUROSTAT (Statistical Office of the European Communities).

The Europhyt and TRACES databases were consulted for pest-specific notifications on interceptions and outbreaks. Europhyt is a web-based network run by the Directorate General for Health and Food Safety (DG SANTÉ) of the European Commission as a subproject of PHYSAN (Phyto-Sanitary Controls) specifically concerned with plant health information. TRACES is the European Commission's multilingual online platform for sanitary and phytosanitary certification required for the importation of animals, animal products, food and feed of non-animal origin and plants into the European Union, and the intra-EU trade and EU exports of animals and certain animal products. Up until May 2020, the Europhyt database managed 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 Member States and the phytosanitary measures taken to eradicate or avoid their spread. The recording of interceptions switched from Europhyt to TRACES in May 2020.

GenBank was searched to determine whether it contained any nucleotide sequences for *C. castaneicola* which could be used as reference material for molecular diagnosis. GenBank® (www.ncbi.nlm.nih.gov/genbank/) is a comprehensive publicly available database that as of August 2019 (release version 227) contained over 6.25 trillion base pairs from over 1.6 billion nucleotide sequences for 450,000 formally described species (Sayers et al., 2020).

2.2 | Methodologies

The Panel performed the pest categorisation for *C. castaneicola*, following guiding principles and steps presented in the EFSA guidance on quantitative pest risk assessment (EFSA PLH Panel, 2018), the EFSA guidance on the use of the weight of evidence approach in scientific assessments (EFSA Scientific Committee, 2017) and the International Standards for Phytosanitary Measures No. 11 (FAO, 2013).

The criteria to be considered when categorising a pest as a potential Union quarantine pest (QP) is given in Regulation (EU) 2016/2031 Article 3 and Annex I, Section 1 of the Regulation. Table 1 presents the Regulation (EU) 2016/2031 pest categorisation criteria on which the Panel bases its conclusions. In judging whether a criterion is met the Panel uses its best professional judgement (EFSA Scientific Committee, 2017) by integrating a range of evidence from a variety of sources (as presented above in Section 2.1) to reach an informed conclusion as to whether or not a criterion are satisfied.

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, deemed to be a risk management decision, the Panel will present a summary of the observed impacts in the areas where the pest occurs, and make a judgement about potential likely impacts in the EU. While the Panel may quote impacts reported from areas where the pest occurs in monetary terms, the Panel will seek to express potential EU impacts in terms of yield and quality losses and not in monetary terms, in agreement with the EFSA guidance on quantitative pest risk assessment (EFSA PLH Panel, 2018). Article 3 (d) of Regulation (EU) 2016/2031 refers to unacceptable social impact as a criterion for quarantine pest status. Assessing social impact is outside the remit of the Panel.

TABLE 1 Pest categorisation criteria under evaluation, as derived from 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 (article 3)
Identity of the pest (Section 3.1)	Is the identity of the pest clearly defined, 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 in a limited part of the EU or is it scarce, irregular, isolated or present infrequently? If so, the pest is considered to be not widely distributed
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 for entry and spread.
Potential for consequences in the EU territory (Section 3.5)	Would the pests' introduction have an economic or environmental impact on the EU territory?
Available measures (Section 3.6)	Are there measures available to prevent pest entry, establishment, spread or impacts?
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.

3 | PEST CATEGORISATION

3.1 | Identity and biology of the pest

3.1.1 | Identity and taxonomy

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

Yes, the identity of *Coniella castaneicola* was clearly defined when first described, but taxa later reported to be this fungus based primarily on molecular identification must be confirmed (see Section 3.1.5). The uncertainty on the reported identification of this species translates into uncertainty on all the sections of this categorisation.

Coniella castaneicola (Ellis & Everh) Sutton is the asexual reproductive stage of a plant pathogenic fungus of the order Diaporthales and the family Schizoparmaceae. The fungus was clearly defined when first described in 1895 by Ellis and Everhart as *Gloeosporium castaneicola* on *Castanea vesca* (syn. *Castanea sativa*) in Delaware, USA (Alvarez et al., 2016). However, various names have been assigned to this pathogen over time, due to reassessments of its taxonomic status. *Coniella* was first considered as a separate genus from *Pilidiella* due to differences in conidial pigmentation, being dark brown in *Coniella* and hyaline to pale brown in *Pilidiella*. Castlebury et al. (2002) and Van Niekerk et al. (2004) in their phylogenetic studies based on large subunit (LSU), internal transcribed spacer region (ITS) and partial translation elongation factor 1-alpha (*tef1-α*) sequence data, demonstrated that *Coniella* and *Pilidiella* represent different genera. This distinction was further corroborated by Wijayawardene et al. (2016) based on the analysis of both LSU and ITS sequences. However, Castlebury et al. (2002) showed that the genera *Coniella* and *Pilidiella* are phylogenetically closer to the genus *Schizoparme*, based on LSU sequences. This result led the authors to establish the *Schizoparme* complex to accommodate these three genera. In an attempt to resolve the classification of these three genera, Alvarez et al. (2016) conducted phylogenetic analyses based on four genetic loci (LSU, RNA polymerase II second largest subunit (*rpb2*), ITS and *tef1-α*) along with morphological characterisation of strains. Based on the results of their study, the authors considered *Coniella*, *Pilidiella* and *Schizoparme* to be synonymous, with the older name *Coniella* having priority.

Schizoparme straminea was considered as the sexual stage (teleomorph) of *C. castaneicola* (as *Pilidiella castaneicola*; Van Niekerk et al., 2004). However, in the most recent phylogenetic study of the genus *Coniella*, it was demonstrated that *S. straminea* is synonymous with *Coniella straminea* and not with *C. castaneicola* (Alvarez et al., 2016). In the compilation performed by Vanev and van der Aa (1998) concerning the genus *Asteromella*, *Mycosphaerella janus* was reported as the teleomorph of *C. castaneicola* (as *Asteromella castaneicola*). However, as no other information was found in the literature, the report of *M. Janus* being the teleomorph of *C. castaneicola* is doubtful. Nevertheless, if a teleomorph of *C. castaneicola* exists, it will correspond to an ascomycete, as for other fungi of the order Diaporthales.

The EPPO Global Database (EPPO, online) provides the following taxonomic identification for *C. castaneicola:*

Preferred scientific name: *Coniella castaneicola* (Ellis & Everhart) Sutton
Order: Diaporthales
Family: Schizoparmaceae
Genus: *Coniella*
Species: *Coniella castaneicola*

Synonym: *Gloeosporium castaneicola* Ellis & Everhart

According to Index Fungorum, the basionym (the original name given to a fungus when it is first described in the scientific literature) of *C. castaneicola* is *Gloeosporium castaneicola*. Index Fungorum lists also the following additional synonyms: *Pilidiella castaneicola* (Ellis & Everh) Arx, which is the predominant name found in the literature, *Phyllosticta castaneicola* Ellis & Everh, *Dothidella castaneicola* (Ellis & Everh) Bonar, and *Asteromella castaneicola* (Ellis & Everh) Petr (www.indexfungorum.org, accessed on 8 March 2024).

However, some of the taxa might have been misidentified as *C. castaneicola* and are thus likely to be different fungal taxa. *Anthasthoopa simba* Subram & K Ramakr and *Coniella simba* (Subram & K Ramakr) Sutton are also listed in Index Fungorum as synonymous with *C. castaneicola*, but in the most recent phylogenetic study of the genus *Coniella*, it was demonstrated that both are synonyms of *Coniella granati* (Alvarez et al., 2016). Similarly, *Embolidium eucalypti* Bat & Peres is listed in Index Fungorum as synonymous with *C. castaneicola*, but according to MycoBank (www.mycobank.org, accessed on 8 March 2024), *E. eucalypti* is synonymous with *Coniella eucalypti* (Bat & Peres) Sutton. An additional complication is that Alvarez et al. (2016) erected a new species *Coniella koreana*, which is based in part on CBS 143.97, which had been previously thought to be *C. castaneicola*. Some earlier accessions in Genbank erroneously attribute sequences from this isolate to *C. castaneicola*.

Hence, although the identity of *C. castaneicola* is clearly defined, with a type specimen at the herbarium of the New York Botanical Garden (https://www.mycoportal.org/portal/collections/individual/index.php?occid=7585753&clid=0), and a morphological description from 1895 (Ellis & Everhart, 1895), there is a high uncertainty with respect to (i) other fungal taxa that have been claimed to be *C. castaneicola* based on morphology, and (ii) its taxonomic assignment, when based on molecular identification only. There are also isolates which have been called *C. Castaneicola* based on some of the earlier GenBank accessions (AF408378, JF319013, JF319051) for *C. koreana* (which are labelled as *C. castaneicola*). See comments on entries in GenBank in Section 3.1.5. This uncertainty affects all sections of this pest categorisation.

The EPPO code[1] (EPPO, 2019; Griessinger & Roy, 2015) for this species is: CONLCA (EPPO, online).

3.1.2 | Biology of the pest

There is no specific information about the biology and life cycle of *C. castaneicola*. Therefore, most of the information provided in the literature on *C. castaneicola* biology was based on other species of the genus *Coniella*, particularly on *C. diplodiella*, as they are likely to share common characteristics (Australian Department of Agriculture, 2014).

Coniella castaneicola is a fungus that has been associated with leaf spots, leaf blights and fruit rots on a number of host plants (see Section 3.1.3). There is evidence that *C. castaneicola* can also adopt an endophytic lifestyle (Bissegger & Sieber, 1994; Kehr & Wulf, 1993), and its presence alongside other phytopathogenic fungal species in symptomatic plant tissues has also been observed (Jiang et al., 2021).

Based on the life cycle of *C. diplodiella* on grapes (Bisiach, 1988; Ji et al., 2024), it is likely that *C. castaneicola* also overwinters as mycelia or pycnidia in infected plant tissues. Under moist or humid conditions, thousands of conidia (pycnidiospores) are released from these pycnidia, that can remain viable for 2–3 years (Bisiach, 1988). Dried pycnidia of *C. diplodiella* can release viable conidia for more than 15 years (Bisiach, 1988), and the released conidia can be dispersed on short distances by water splash (Bisiach, 1988; Ji et al., 2024) or on medium-long distances by wind-driven rain, similarly to other conidia-producing fungi. If a sexual stage exists for *C. castaneicola*, the fungus could also spread via wind-disseminated spores (ascospores produced in ascomata). The germination of *C. diplodiella* conidia appears to be enhanced by the availability of external nutrients on the fruit surface (Ji et al., 2021). In fact, these conidia exhibit germination within a few hours when exposed to the juice of wounded grape berries or raindrops enriched with grape berry exudates (Bisiach, 1988). Although there is no specific information for *C. castaneicola*, the fungus could enter the plant tissues through wounds or via direct penetration of the fruit rachis and pedicel, similar to *C. diplodiella* (Bisiach, 1988; Ji et al., 2021). Infections caused by *C. diplodiella* are commonly associated with hailstorms, leading to wounds on fruits, especially when occurring during fruit ripening (Bisiach, 1988; Ji et al., 2021). In addition, heavy rain, sun scorch and injuries caused by insects might presumably facilitate the infection (Bisiach, 1988). Infection of fruits by *C. diplodiella* is favoured by warm temperatures and high relative humidity. On fruits artificially inoculated with *C. diplodiella*, 1 h of wetness was sufficient to cause infection under temperatures ranging from 10°C to 35°C, with an optimum of 23.8°C (Ji et al., 2021). Likewise, Bisiach (1988) indicated that *C. diplodiella* can germinate and initiate infection rapidly at 24–27°C but slows down at temperatures below 15°C. According to the same author, the incubation period (period between infection and appearance of first symptoms) varies from 3 to 8 days, depending on the temperature, relative humidity, means of penetration and the type of infected tissue (Bisiach, 1988). Under laboratory conditions, the incubation period in grape berries artificially inoculated with *C. diplodiella* ranged from 1 to 14 days, depending on the inoculation method (injured or uninjured fruits) and the post-inoculation temperature (Ji et al., 2021). According to the same study, the duration was notably shorter in injured fruits and at temperatures between 20°C and 35°C, and longer in uninjured fruits and at temperatures between 10°C and 15°C.

[1]An EPPO code, formerly known as a Bayer code, is a unique identifier linked to the name of a plant or plant pest important in agriculture and plant protection. Codes are based on genus and species names. However, if a scientific name is changed the EPPO code remains the same. This provides a harmonised system to facilitate the management of plant and pest names in computerised databases, as well as data exchange between IT systems (EPPO, 2019; Griessinger & Roy, 2015).

3.1.3 | Host range/species affected

As indicated in Appendix A, *C. castaneicola* has a variety of host plants, such as *Acer* spp. (maples), *Canarium album* (Chinese olive), *Carya* sp., *Castanea* spp., including *C. sativa* (sweet chestnut), *Eucalyptus* spp. (eucalypts), *Fragaria* sp., including *Fragaria* x *ananassa* (strawberry), *Liquidambar styraciflua* (American sweetgum), *Mangifera indica* (mango), *Quercus* spp. (oaks), including *Q. robur* (pedunculate oak), *Rhus* spp. (sumac), *Rosa rugosa* (Japanese rose), *Syzygium* spp., *Terminalia canescens* (winged nut tree), *Vaccinium virgatum* (rabbiteye blueberry), *Vateria indica* (white dammar), and *Vitis* spp., including *V. vinifera* (grapevine). References for each host are available in Appendix A. Some of these hosts hold significant importance in the EU, either due to their widespread distribution or high economic or environmental value, e.g. *Acer* spp., *C. sativa*, *Eucalyptus* spp., *Fragaria*×*ananassa*, *M. indica*, *Quercus* spp., *V. virgatum* and *V. vinifera*. Nevertheless, most of these reports are old, they rely exclusively on isolation and morphological characterisation of the fungus, and do not include pathogenicity tests.

The Panel could not identify any main hosts of *C. castaneicola* relevant for the EU because the following criteria were not fulfilled for any of the hosts listed in Appendix A. The criteria used were: hosts that are relevant for the EU and for which there is robust evidence in the literature that (a) the fungus was isolated and identified by both morphological and molecular (multilocus gene sequencing analysis) methods, (b) the Koch's postulates were fulfilled, and (c) impacts on affected crops were reported.

The only confirmed host of *C. castaneicola* is *Castanea sativa*, which was the species on which the initial type collection was made. The actual host range of *C. castaneicola* is still largely unknown, because more than one name has been assigned to *C. castaneicola*, and most of the reports based the identification of the fungus merely on morphology and without pathogenicity tests, whereas those supported by molecular identification are doubtful due to lack of a curated type-derived DNA sequence.

3.1.4 | Intraspecific diversity

To the best of our knowledge, no intraspecific diversity has been reported in *C. castaneicola*. Nevertheless, although no sexual stage has been described so far, the potential ability of the fungus to differentiate sexual reproductive stages may enhance its genomic plasticity and adaptation to various adverse environmental conditions, including fungicide exposure.

3.1.5 | Detection and identification of the pest

Are detection and identification methods available for the pest?

No, there are currently no methods available for the detection and identification of *Coniella castaneicola*, because there is an uncertainty in the identification when based on molecular tools, due to lack of curated (type-material) DNA sequence databases, and there is also uncertainty in the morphological identification.

Symptomatology

In the literature, information concerning the symptoms and/or signs caused specifically by *C. castaneicola* in host plants is very scarce. In most of the reports, *C. castaneicola* was isolated from diseased plant organs together with other phytopathogenic fungal species and the determination that the fungus was *C. castaneicola* was questionable.

Symptoms caused by *C. castaneicola* on its hosts cannot be distinguished easily from those induced by other pathogenic *Coniella* species responsible for leaf spots, leaf blight or fruit rots, such as *C. diplodiella* and *C. vitis* (Chethana et al., 2017; Ji et al., 2021). Thus, it is difficult to distinguish *C. castaneicola* from other *Coniella* species, particularly those occurring on the same host species, based only on visual inspection of symptoms.

Morphology

Coniella castaneicola can be isolated on culture media and description of cultural and morphological characteristics of other members of this genus is available in the literature (Alvarez et al., 2016). While numerous reports are available regarding culture appearance, and pycnidia and spore sizes, in some cases there is reason to believe that these reports are for another fungus, or the determination that the fungus as *C. castaneicola* is incomplete. In the original description of the fungus, the spore size was given as 20×2–2.5 μm (Alvarez et al., 2016). Sutton (1980) after examining a number of collections gave a spore size of 15–29×2.5–3.5, but he had a broader concept of *C. castaneicola*, including a number of taxa, some of which have been classified as other species (Alvarez et al., 2016).

Coniella species may exhibit variations in conidial characteristics such as size, shape, colour, the presence of a germ slit, guttules, basal or lateral mucoid appendages (Alvarez et al., 2016). Identification based on morphological characteristics requires expertise, as the morphometric characteristics of *C. castaneicola* may overlap with those of other *Coniella* species

(Dianese et al., 1993). For identification of the fungus, it is necessary to combine morphological characteristics with DNA sequence data, when DNA sequence curated databases will be available.

DNA-based identification

In the case of *C. castaneicola*, the DNA barcodes commonly used include the internal transcribed spacers (ITS) of genomic rDNA, in particular the region ITS1–5.8S–ITS2, and the 28S large subunit region (LSU) of rDNA, as well as several protein-coding genes, such as *tef1-α* and *rpb2* (Castlebury et al., 2002; Van Niekerk et al., 2004; Alvarez et al., 2016; Wijayawardene et al., 2016; He et al., 2017; Jiang et al., 2021; Lai et al., 2022). The combined use of these DNA barcodes could increase the accuracy of *C. castaneicola* identification (Alvarez et al., 2016). The multi-gene sequence analysis of ITS, *rpb2* and *tef1-α* was suggested to be suitable for giving precise species identification in the genus *Coniella* (Marin-Felix et al., 2017). Nucleotide sequences referred to as *C. castaneicola* are available in GenBank (www.ncbi.nlm.nih.gov/genbank) and have been used as reference material for molecular diagnosis. The three earliest sequences bearing the name *C. castaneicola* in Genbank used strain CBS 143.97. These are AF408378 (Castlebury et al., 2002) and JF319013 and JF319051 (Walker et al., 2012). Since strain CBS 143.97 is now classified as *C. koreana* (Alvarez et al., 2016), designation that an isolate is *C. castaneicola* based on these accessions is not correct. Other accessions (MW20811 and MW208112) are present in GenBank as *C. castaneicola* though the identification as this fungus was 'tentative' (Jiang et al., 2021). In addition, no accessions that have also conducted morphological studies of the type specimen are available. For this reason, some studies indicating host range of or losses due to *C. castaneicola* (He et al., 2017; Jiang et al., 2021; Lai et al., 2022) were considered to be uncertain.

Curated type-derived DNA sequences for *C. castaneicola* are lacking, which makes current identification based only on molecular tools doubtful.

No EPPO Standard is available for the detection and identification of *C. castaneicola*.

3.2 | Pest distribution

3.2.1 | Pest distribution outside the EU

Coniella castaneicola has been reported to be present in North (Canada, USA), Central (Cuba, West Indies) and South (Brazil) America, Africa (Nigeria, South Africa), Asia (China, India, Indonesia, Japan, South Korea, Pakistan), non-EU Europe (Russia, Switzerland, UK) and Oceania (Australia). The reported geographical distribution of *C. castaneicola* is shown in Figure 1. A list of the countries and states/provinces from where the fungus has been reported is included in Appendix B. The records are based on a systematic literature search integrated with the USDA Fungal Database (online); last accessed on 8 March 2024).

It is worth noting that most of the reports based the identification of the fungus only on morphology, which cannot reliably differentiate species within the genus *Coniella*, particularly species that affect the same hosts (e.g. *C. diplodiella, C. fragariae* and *C. vitis* on *V. vinifera*; *C. castanea* on *Castanea mollissima*). Therefore, the current geographical distribution of *C. castaneicola* outside the EU might be different (wider or narrower) than reported (Figure 1). In addition, in some cases, *C. castaneicola* has also been reported as an endophyte (Bissegger & Sieber, 1994; Kehr & Wulf, 1993), which increases the uncertainty on the actual geographical distribution of the fungus. The only certain report of the fungus is from the state of Delaware in the US, where it was originally collected.

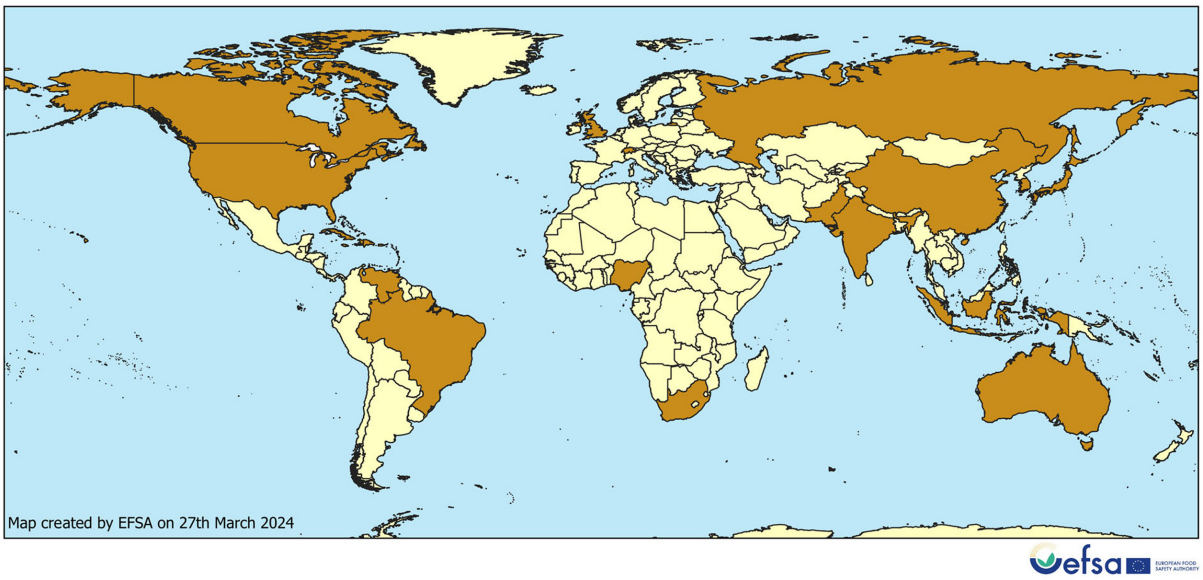

FIGURE 1 Reported global distribution of *Coniella castaneicola* (Sources: systematic literature search integrated with USDA Fungal Database (online); last accessed on 8 March 2024) (see Appendix B).

3.2.2 | Pest distribution in the EU

*Is the pest present in the EU territory? If present, is the pest in a limited part of the EU or is it scarce, irregular, isolated or present infrequently? If so, the pest is considered to be not widely distributed***.**

No. *Coniella castaneicola* is not known to be present in the EU.

Coniella castaneicola was reported from Germany (Kehr & Wulf, 1993), Hungary (Fischl & Bürgés, 1983) and Latvia (Laugale et al., 2009). In Germany, the fungus was isolated in 1990 together with several other fungi from dead twigs and stems of declining oak (*Quercus robur*) trees as well as from the phloem, xylem and twigs of asymptomatic *Q. robur* trees, all grown in the forest district of Braunschweig (Kehr & Wulf, 1993). The identification of the fungus was based only on morphology and no pathogenicity tests were conducted. In addition, no other reports of the presence of *C. castaneicola* in Germany exist in the available literature. The German NPPO stated in March 2024 that there has been no report of the occurrence of *C. castaneicola* in Germany.

In Hungary (Zala county, western Hungary), the fungus was isolated together with other fungi belonging to 13 genera from the surface of rotten chestnut (*C. sativa*) fruits (Fischl & Bürgés, 1983) and it was identified based on morphology. No pathogenicity tests were conducted, and no other reports of the presence of *C. castaneicola* in Hungary exist in the available literature. The Hungarian NPPO stated in March 2024 that the status of the species in Hungary is: Absent, confirmed by survey.

In Latvia (Kurzeme region), *C. castaneicola* was isolated during the period 2007–2008 together with other fungi from strawberry fruits exhibiting rot caused mainly by *Botrytis cinerea*, *Mucor* spp. and *Rhizopus* spp. (Laugale et al., 2009). Given that the identification of the fungus was based only on morphology, no pathogenicity tests were conducted and no other reports of the presence of *C. castaneicola* in Latvia exist in the available literature, there is uncertainty on the presence of the fungus in this EU Member State. The NPPO of Latvia stated in March 2024 that the results of the above-mentioned research may be questionable as the identification of the fungus was based on microscopy and *C. castaneicola* has never been identified by the National Phytosanitary Laboratory. According to the NPPO, the status of the species in Latvia is: Absent, unreliable record.

Based on the above, currently there is no evidence of *C. castaneicola* presence in the EU. However, because of the lack of systematic surveys of this fungus in the EU and the reasons mentioned in Section 3.2.1, there is a key uncertainty on the presence and geographical distribution of *C. castaneicola* in the EU. Moreover, it has been reported that *C. castaneicola* colonises endophytically its hosts (Bissegger & Sieber, 1994; Kehr & Wulf, 1993), which increases the uncertainty.

3.3 | Regulatory status

3.3.1 | Commission implementing regulation 2019/2072

Coniella castaneicola is not listed in Annex II of Commission Implementing Regulation (EU) 2019/2072, an implementing act of Regulation (EU) 2016/2031, or in any emergency plant health legislation. Hosts or species affected that are prohibited from entering the Union from third countries are listed in Table 2.

TABLE 2 List of plants, plant products and other objects that are *Coniella castaneicola* hosts whose introduction into the Union from certain third countries is prohibited (Source: Commission Implementing Regulation (EU) 2019/2072, Annex VI).

List of plants, plant products and other objects whose introduction into the union from certain third countries is prohibited			
	Description	**CN code**	**Third country, group of third countries or specific area of third country**
19.	Soil as such consisting in part of solid organic substances	ex 2530 90 00 ex 3824 99 93	Third countries other than Switzerland
20.	Growing medium as such, other than soil, consisting in whole or in part of solid organic substances, other than that composed entirely of peat or fibre of *Cocos nucifera* L., previously not used for growing of plants or for any agricultural purposes	ex 2530 10 00 ex 2530 90 00 ex 2703 00 00 ex 3101 00 00 ex 3824 99 93	Third countries other than Switzerland

3.4 | Entry, establishment and spread in the EU

3.4.1 | Entry

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

Comment on plants for planting as a pathway.

Coniella castaneicola could enter the EU via host plants for planting (other than seeds and pollen), fresh fruits, and soil/plant growing media associated with debris of host plants.

Plants for planting, other than seeds and pollen, are a main pathway for the entry of the fungus into the EU.

The Panel identified the following main pathways for the entry of *C. castaneicola* into the EU:

1. host plants for planting (cuttings, rooted plants, scions), other than seeds and pollen,
2. fresh fruits of host plants, and
3. soil and other plant growing media contaminated with infected host plant debris,

all originating in third countries from which the fungus has been reported.

Coniella castaneicola could also potentially enter the EU on parts of host plants (e.g. stems, twigs) for ornamental purposes and on dried fruits. However, these are considered minor pathways for the entry of the fungus into the EU territory. There is no information in the available literature of *C. castaneicola* or any other species of the genus *Coniella* to be seed-borne or pollen-transmitted. Therefore, seeds and pollen of host plants are unlikely pathways for the entry of the fungus into the Union. Given that *C. castaneicola* has also been isolated as an endophyte from asymptomatic host plants (Bissegger & Sieber, 1994; Kehr & Wulf, 1993), the fungus could potentially enter the EU on asymptomatic plants and plant parts (e.g. twigs, fruits) of its hosts. *Coniella castaneicola* could also enter the EU by natural means (rain, wind-driven rain, insects, etc.) from infested non-EU European countries. Provided that a sexual stage of the fungus exists, *C. castaneicola* could potentially enter the EU by wind-disseminated ascospores originated from infested non-EU European countries. Although there are no quantitative data available, conidia of the fungus may also be present as contaminants on other substrates or objects (e.g. non-host plants, second hand agricultural machinery and equipment, etc.) imported into the Union from infested third countries. Nevertheless, these are considered minor pathways for the entry of *C. castaneicola* into the EU territory (Table 3).

TABLE 3 Potential pathways for *Coniella castaneicola* into the EU.

Pathways (e.g. host/intended use/source)	Life stage	Relevant mitigations [e.g. prohibitions (annex VI), special requirements (annex VII) or phytosanitary certificates (annex XI) within implementing regulation 2019/2072
Host plants for planting, other than seeds and pollen	Mycelium, pycnidia and possibly ascomata	–
Fresh fruits of host plants	Mycelium, pycnidia	–
Parts of host plants, other than fruits and seeds	Mycelium, pycnidia, and possibly ascomata	A phytosanitary certificate is required for the introduction into the Union from third countries, other than Switzerland, of parts of host plants other than fruits and seeds (Annex XI, Part B of Commission Implementing Regulation (EU) 2019/2072)
Soil as such consisting of organic substances not associated with plants for planting	Mycelium	The introduction into the Union from third countries, other than Switzerland, of soil as such consisting in part of solid organic substances is banned (Annex VI (19) of Commission Implementing Regulation (EU) 2019/2072)
Growing media attached to or associated with host and non-host plants for planting carrying infected plant debris, with the exception of sterile media of in vitro plants	Mycelium, pycnidia, and possibly ascomata	A phytosanitary certificate is required for the introduction into the Union from third countries, other than Switzerland, of growing medium attached to or associated with plants, intended to sustain the vitality of the plants (Annex XI, Part A (1) of Commission Implementing Regulation (EU) 2019/2072). Special requirements also exist for this commodity (Annex VII (1) of Commission Implementing Regulation (EU) 2019/2072)
Machinery and vehicles with contaminated soil and/or infected debris of host plants	Mycelium, pycnidia and possibly ascomata	A phytosanitary certificate is required for the introduction into the Union from third countries, other than Switzerland, of machinery and vehicles (Annex XI, Part A (1) of Commission Implementing Regulation (EU) 2019/2072). Special requirements also exist for this commodity (Annex VII (2) of Commission Implementing Regulation (EU) 2019/2072)

It should be noted that the potential pathways of entry listed in Table 3 are open when originating in Switzerland.

Notifications of interceptions of harmful organisms began to be compiled in Europhyt in May 1994 and in TRACES in May 2020. As of March 2024, there were no records of interception of *C. castaneicola* in the Europhyt and TRACES databases.

3.4.2 | Establishment

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

Yes. Both biotic (host availability) and abiotic (climate suitability) factors occurring in the EU suggest that *C. castaneicola* could establish in parts of the territory where susceptible hosts are grown, similarly to other established *Coniella* species.

Following its entry into the EU, *C. castaneicola* could establish in parts of the EU where susceptible hosts are grown, and the climatic conditions are conducive for completing its life cycle, similar to other *Coniella* species already established in the EU (Crous et al., 2014; Linaldeddu et al., 2020; Szendrei et al., 2022; Thomidis, 2015).

Based on its biology (see Section 3.1.2), *C. castaneicola* could potentially be transferred from the pathways of entry to the host plants grown in the EU via splash-dispersed conidia, and contaminated soil and other plant growing media associated with plants for planting, as well as by natural means (e.g. rain, wind-driven rain, irrigation water). The frequency of this transfer will depend on the volume and frequency of the imported commodities, their destination (e.g. nurseries, retailers, packinghouses) and its proximity to the hosts grown in the EU territory, as well as on the management of plant debris and fruit waste.

Climatic mapping is the principal method for identifying areas that could provide suitable conditions for the establishment of a pest taking key abiotic factors into account (Baker, 2002; Baker et al., 2000). Availability of hosts is considered in Section 3.4.2.1. Climatic factors are considered in Section 3.4.2.2.

3.4.2.1 | *EU distribution of main host plants*

Hosts of *C. castaneicola* are noted above (see Section 3.1.3) and listed in Appendix A. The Panel could not identify any main host of *C. castaneicola* relevant to the EU.

3.4.2.2 | *Climatic conditions affecting establishment*

Based on the data available in the literature on the geographic coordinates of the locations from where *C. castaneicola* has been reported, the fungus is present in non-EU areas with BSh, BSk, Cfa, Cfb, Cfc, Csa, Csb, Csc, Dfb and Dfc Köppen–Geiger climate zones (Kottek et al., 2006). These climate zones also occur in the EU territory, where hosts of *C. castaneicola* are also grown (Figure 2).

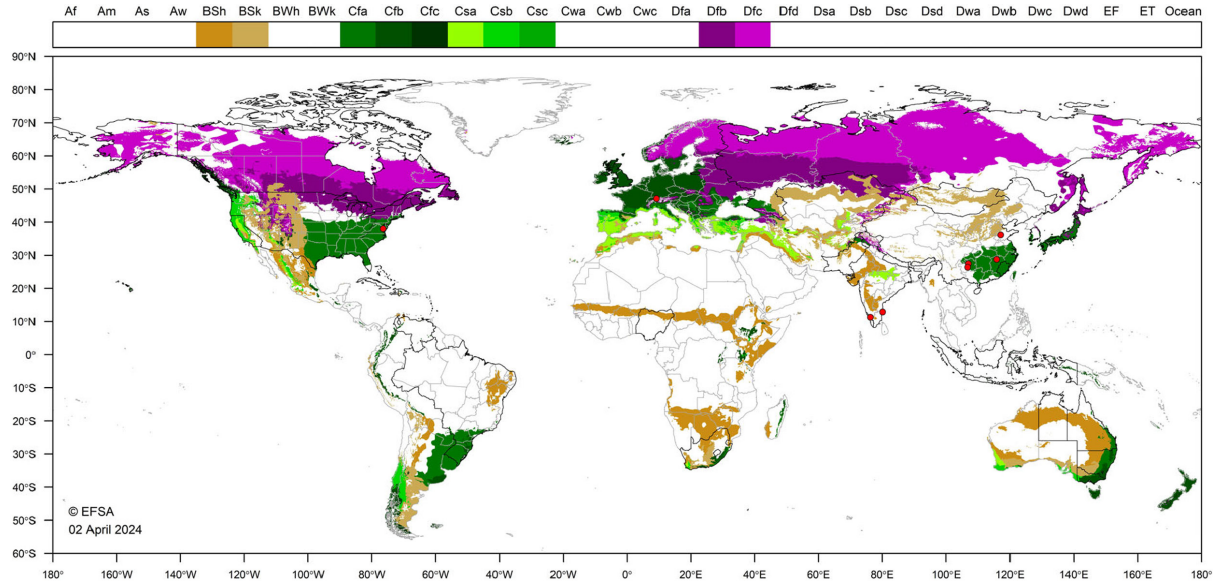

FIGURE 2 Distribution of 10 Köppen–Geiger climate types, i.e. BSh, BSk, Cfa, Cfb, Cfc, Csa, Csb, Csc, Dfb and Dfc that occur in the EU and in third countries where *Coniella castaneicola* has been reported.

3.4.3 | Spread

Describe how the pest would be able to spread within the EU territory following establishment?

Following its introduction, *Coniella castaneicola* could potentially spread within the EU by both natural and human-assisted means.

Host plants for planting, other than seeds and pollen, is a main means of spread of the fungus within the EU territory.

Coniella castaneicola could potentially spread within the EU by natural and human-assisted means.

Spread by natural means. Conidia of the fungus can spread over relatively short distances by water splash (rain, irrigation) (see Section 3.1.2). Wind may increase the dispersal distance of water-splashed conidia, but this has not been studied in the case of *C. castaneicola*. Although it has not been documented, conidia of the fungus could potentially be dispersed by insects, similarly to other conidia-producing fungi. Birds, rodents and other small animals could potentially disperse the fungus via infected plant parts (e.g. twigs, fruits). In case a sexual stage exists, the fungus could also spread via wind-disseminated spores (ascospores).

Spread by human-assisted means. The fungus can spread over long distances via the movement of infected host plants for planting (rootstocks, grafted plants, scions, etc.), including dormant plants, as well as fruits, contaminated soil and agricultural machinery, tools, etc. No information was found in the available literature of *C. castaneicola* being seed-borne or pollen-transmitted.

3.5 | Impacts

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

No. Based on the scarce information available, the introduction of *Coniella castaneicola* into the EU is not expected to cause substantial yield or quality losses, with a key uncertainty.

Coniella castaneicola has been reported to be associated with leaf spots, leaf blights or fruit rots on a variety of hosts worldwide (see Section 3.1.3 and Appendixes A and B). However, in most cases, no significant impacts were reported, the pathogenicity of the fungus was not investigated, and its identification was based only on morphology, which may not reliably differentiate species within the genus *Coniella* (see Section 3.1.5). In addition, reports supported by molecular identification are doubtful due to lack of a curated type-derived DNA sequence.

Coniella castaneicola (as *Pilidiella castaneicola*), *C. fragariae, C. vitis* and predominantly *C. diplodiella* (as *Pilidiella diplodiella*) are mostly known as the causal agents of the white rot of grapes (*Vitis vinifera*) (Australian Department of Agriculture, 2014; Bisiach, 1988; Chethana et al., 2017; Liu et al., 2021; Zhou & Li, 2020). The disease is prevalent in many grapevine-growing countries worldwide. The disease caused by *C. diplodiella* is particularly severe in areas prone to hailstorms as well as in areas with high summer rainfall followed by high relative humidity and moderate temperatures. In those areas, infection of grapes by *C. diplodiella* can result in yield losses of 20%–80% (Bisiach, 1988). Nevertheless, no specific information exists in the available literature on the impacts caused solely by *C. castaneicola* on grapes.

Coniella castaneicola is commonly encountered on *Eucalyptus* spp. leaves worldwide (Crous et al., 1989, citing Sutton, 1980; Crous & van der Linde, 1993; Van Niekerk et al., 2004; Australian Department of Agriculture, 2014). Nevertheless, no impacts have been reported and the fungus is generally regarded to be of minor importance as a foliar pathogen of eucalypts (Van Niekerk et al., 2004).

Coniella castaneicola has been isolated together with several other fungi from the twigs and stems of declining and asymptomatic *Quercus robur* (pedunculate oak) trees in the forest district of Braunschweig, Germany (Kehr & Wulf, 1993). However, according to the authors, no single fungus was constantly and frequently associated with the necrosis of twigs and stems. Based on morphology and pathogenicity tests using wounded leaves of potted plants, *C. castaneicola* was identified as the causal agent of leaf blight of *Quercus* spp. and *Castanea crenata* (Japanese chestnut) in Japan (Kaneko, 1981). *Coniella castaneicola* has also been reported to be pathogenic on *C. mollissima* (Chinese chestnut) leaves in China (Jiang et al., 2021). However, no information was found in the available literature on the economic significance of *C. castaneicola* on *Castanea* spp.

Coniella castaneicola has been found in association with a fruit rot of *Fragaria* x *ananassa* (strawberry) in the Middle Atlantic region of the USA (Maas, 1998), where it is considered to be a minor disease of little economic importance, and thus, few or no control strategies are applied (Maas, 1998).

Coniella castaneicola has been reported to be associated together with other fungi with preharvest rot of strawberry fruits mainly caused by *Botrytis cinerea, Mucor* spp. and *Rhizopus* spp. (Laugale et al., 2009). However, no impacts attributed specifically to *C. castaneicola* were reported.

Based on the scarce information available on the impact of *C. castaneicola* worldwide, the introduction into and spread of the fungus within the EU is not expected to cause substantial impact in parts of the territory where susceptible hosts are grown, with a key uncertainty due to the endophytic lifestyle of the fungus and the lack of information. Moreover, it is not known if the agricultural practices and chemical control measures currently applied in the territory could potentially reduce any impact.

3.6 | Available measures and their limitations

Are there measures available to prevent pest entry, establishment, spread or impacts such that the risk becomes mitigated?

Yes. Although not specifically targeted against *Coniella castaneicola*, existing phytosanitary measures (see Section 3.4.1) mitigate the likelihood of the fungus entry into the EU territory on certain host plants. Potential additional measures are also available to further mitigate the risk of entry, establishment, spread and impacts of the fungus in the EU (see Section 3.6.1).

3.6.1 | Identification of potential additional measures

Phytosanitary measures (prohibitions) are currently applied to some host plants for planting (see Section 3.4.1).

Additional potential risk reduction options and supporting measures are shown in Sections 3.6.1.1 and 3.6.1.2.

3.6.1.1 | *Additional potential risk reduction options*

Potential additional control measures are listed in Table 4.

TABLE 4 Selected control measures (a full list is available in EFSA PLH Panel, 2018) for pest entry/establishment/spread/impact in relation to currently unregulated hosts and pathways. Control measures are measures that have a direct effect on pest abundance.

Control measure/risk reduction option (blue underline = Zenodo doc, blue = WIP)	RRO summary	Risk element targeted (entry/establishment/spread/impact)
Require pest freedom	Plants, plant products and other objects come from a pest-free country or a pest-free area or a pest-free place of production (FAO, 1995)	Entry/Spread
Growing plants in isolation	Description of possible exclusion conditions that could be implemented to isolate the crop from pests and if applicable relevant vectors. E.g. a dedicated structure such as glass or plastic greenhouses Growing nursery plants in isolation may represent an effective control measure	Entry/Establishment/Spread
Managed growing conditions	Proper field drainage, plant distancing, use of pathogen-free agricultural tools (e.g. pruning scissors, saws and grafting blades) and removal of infected plants and plant debris in the field could potentially mitigate the likelihood of infection at origin as well as the spread of the fungus	Entry/Spread/Impact
Crop rotation, associations and density, weed/volunteer control	Crop rotation, associations and density, weed/volunteer control are used to prevent problems related to pests and are usually applied in various combinations to make the habitat less favourable for pests The measures deal with (1) allocation of crops to field (over time and space) (multi-crop, diversity cropping) and (2) to control weeds and volunteers as hosts of pests/vectors Although only few weeds have been reported as hosts of *C. castaneicola*, their control could potentially make the micro-environment less favourable (e.g. by reducing relative humidity) to pathogen infection and spread	Establishment/Spread/Impact

TABLE 4 (Continued)

Control measure/risk reduction option (blue underline = Zenodo doc, blue = WIP)	RRO summary	Risk element targeted (entry/establishment/spread/impact)
Use of resistant and tolerant plant species/varieties	Resistant plants are used to restrict the growth and development of a specified pest and/or the damage they cause when compared to susceptible plant varieties under similar environmental conditions and pest pressure Cultivars resistant to *C. castaneicola* have not been identified so far. Nevertheless, there are reports of grapevine varieties with varying resistance levels to *C. diplodiella* (Zhang et al., 2017) also causing white rot of grapes. Furthermore, several candidate genes for *C. diplodiella* resistance were discovered in grapevine varieties (Li et al., 2023; Zhang et al., 2019). Thus, the identification and selection of resistant and tolerant host species/varieties may contribute to the restriction of the growth and development of *C. castaneicola* too	Establishment/Spread/Impact
Roguing and pruning	Roguing is defined as the removal of infested plants and/or uninfested host plants in a delimited area, whereas pruning is defined as the removal of infested plant parts only without affecting the viability of the plant *Coniella castaneicola* is likely to overwinter on infected leaves and fruits, especially those falling onto the soil, serving as potential sources of inoculum. Therefore, pruning and removal of the symptomatic plant organs may be important in reducing the sources of inoculum and spread capacity	Spread/Impact
Biological control and behavioural manipulation	No data are available on the biocontrol of *C. castaneicola*. Nonetheless, some biocontrol agents, such as *Paenibacillus polymyxa* HT16 (Han et al., 2015), *P. peoriae* ZBFS16 (Yuan et al., 2022) and *Bacillus velezensis* GSBZ0 (Yin et al., 2022), were effective in reducing the incidence and development of white rot disease caused by *C. diplodiella* or *C. vitis* in detached grape berries and/or leaves artificially inoculated under laboratory conditions	Entry/Establishment/Spread/Impact
Chemical treatments on crops including reproductive material	No data are available on the chemical control of *C. castaneicola*. Nevertheless, fungicide application, particularly within the first hours following a hailstorm, is recommended for a more effective control of white rot of grapes caused by *C. diplodiella* (Ji et al., 2021). The recommended fungicides against this disease include folpet, captan, tebuconazole and pyraclostrobin (Ji et al., 2021). Moreover, copper-based fungicides can also be used, due to their recognised protective effect against many fungal diseases	Entry/Establishment/Spread/Impact
Chemical treatments on consignments or during processing	Use of chemical compounds that may be applied to plants or to plant products after harvest, during process or packaging operations and storage The treatments addressed in this information sheet are: a. fumigation; b. spraying/dipping pesticides; c. surface disinfectants; d. process additives; e. protective compounds Although not specifically reported for *C. castaneicola,* the post-harvest application of chemical treatments on consignments, during process or packaging operations and storage may contribute to mitigate the likelihood of entry or spread of the fungus	Entry/Spread
Physical treatments on consignments or during processing	This information sheet deals with the following categories of physical treatments: irradiation/ionisation; mechanical cleaning (brushing, washing); sorting and grading, and removal of plant parts (e.g. debarking wood). This information sheet does not address: heat and cold treatment (information sheet 1.14); roguing and pruning (information sheet 1.12) Physical treatments (irradiation, mechanical cleaning, sorting, etc.) may reduce or mitigate the risk of entry/spread, but no specific information for *C. castaneicola* is available. In particular, the use of UV radiation could be very promising to reduce the development of white rot disease caused by *C. castaneicola* in grapes, because of the recognised effect of UV radiation in inhibiting fungal pathogens and/or inducing defence both in plants as well as in harvested products (Darré et al., 2022), including grapes (De Simone et al., 2020; Nigro et al., 1998)	Entry/Spread

(Continues)

TABLE 4 (Continued)

Control measure/risk reduction option (blue underline = Zenodo doc, blue = WIP)	RRO summary	Risk element targeted (entry/establishment/spread/impact)
Cleaning and disinfection of facilities, tools and machinery	The physical and chemical cleaning and disinfection of facilities, tools, machinery, transport means, facilities and other accessories (e.g. boxes, pots, pallets, palox, supports, hand tools). The measures addressed in this information sheet are: washing, sweeping and fumigation *Coniella castaneicola* may also infect its host plants through wounds caused by mechanical damage. Therefore, although no specific information is available on this species, cleaning and surface sterilisation of equipment and facilities (including premises, storage areas) are good cultural and handling practices employed in the production and marketing of any commodity and may mitigate the likelihood of entry or spread of the fungus	Entry/ Spread
Limits on soil	*Coniella castaneicola* is likely to survive in plant debris (e.g. rotted fruits and infected leaf litter) in soil, for many years similarly to other *Coniella* species (Bisiach, 1988). Therefore, plants, plant products and other objects (e.g. used farm machinery) should be free from soil carrying plant debris to ensure freedom from the fungus	Entry/Establishment/Spread
Soil treatment	The control of soil organisms by chemical and physical methods listed below: (a) Fumigation; (b) Heating; (c) Soil solarisation; (d) Flooding; (e) Soil suppression; (f) Augmentative Biological control; (g) Biofumigation Considering that *C. castaneicola* may be able to survive in soil associated with plant debris for many years similar to *C. diplodiella* (Bisiach, 1988), and despite the lack of specific studies for this pathogen, it may be assumed that soil and substrate disinfestation with chemical, biological or physical (heat, soil solarisation) means could potentially reduce the persistence and availability of inoculum sources	Entry/Establishment/Spread/Impact
Use of non-contaminated water	Chemical and physical treatment of water to eliminate waterborne microorganisms. The measures addressed in this information sheet are: chemical treatments (e.g. chlorine, chlorine dioxide, ozone); physical treatments (e.g. membrane filters, ultraviolet radiation, heat); ecological treatments (e.g. slow sand filtration) Considering that *C. castaneicola* may spread via contaminated irrigation water, physical or chemical treatment of irrigation water may be applied in nurseries and greenhouses Water curing, a common antifungal treatment for chestnuts, should be also done with water previously treated (e.g. with chlorine) against contaminants, wherever it is feasible	Entry/Spread/Impact
Waste management	Waste management in authorised facilities and official restriction on the movement of infected plant material prevent the pest from escaping. On-site proper management of plant residues is recommended as an efficient measure	Entry/Establishment/Spread
Heat and cold treatments	Controlled temperature treatments aimed to kill or inactivate pests without causing any unacceptable prejudice to the treated material itself. The measures addressed in this information sheet are: autoclaving; steam; hot water; hot air; cold treatment Considering that *C. castaneicola* conidia germinate and initiate infection slowly at temperatures below 10°C (Ji et al., 2021), cold treatment of plant material/fruits could potentially inactivate the fungus. Moreover, hot water treatment (about 50°C) was reported to reduce decay and microbial growth of table grapes post-harvest (De Simone et al., 2020), and therefore, it is likely that this treatment might be also effective in decreasing white rot of grape berries caused by *C. castaneicola*	Entry/Spread
Conditions of transport	Specific requirements for mode and timing of transport of commodities to prevent escape of the pest and/or contamination. a. physical protection of consignment b. timing of transport/trade If plant material, potentially infected or contaminated with *C. castaneicola* (including waste) must be transported, specific transport conditions (type of packaging/protection, transport means) should be defined to prevent the fungus from escaping. These may include, albeit not exclusively: physical protection, sorting prior to transport, sealed packaging, etc	Entry/Spread

TABLE 4 (Continued)

Control measure/risk reduction option (blue underline = Zenodo doc, blue = WIP)	RRO summary	Risk element targeted (entry/establishment/spread/impact)
Controlled atmosphere	Treatment of plants by storage in a modified atmosphere (including modified humidity, O_2, CO_2, temperature, pressure) Although no specific reports are available on *C. castaneicola*, controlled atmosphere could be employed to achieve prevention/delay of symptoms in infected commodities, particularly fruits. Indeed, the use of modified atmosphere packaging (MAP), cold with high CO_2 percentage, and hypobaric treatments in postharvest grapes has been demonstrated to be effective in lowering microbial populations and to prevent fungal infection (De Simone et al., 2020). Thus, these treatments also hold promise in delaying the development of grape white rot disease caused by *C. castaneicola*	Entry/Spread
Post-entry quarantine and other restrictions of movement in the importing country	This information sheet covers post-entry quarantine (PEQ) of relevant commodities; temporal, spatial and end-use restrictions in the importing country for import of relevant commodities; Prohibition of import of relevant commodities into the domestic country. 'Relevant commodities' are plants, plant parts and other materials that may carry pests, either as infection, infestation or contamination Recommended for plant species known to be hosts of *C. castaneicola*. Nevertheless, this measure does not apply to fruits of host plants	Establishment/ Spread

3.6.1.2 | *Additional supporting measures*

Potential additional supporting measures are listed in Table 5.

TABLE 5 Selected supporting measures (a full list is available in EFSA PLH Panel, 2018) in relation to currently unregulated hosts and pathways. Supporting measures are organisational measures or procedures supporting the choice of appropriate risk reduction options that do not directly affect pest abundance.

Supporting measure (blue underline = Zenodo doc, blue = WIP)	Summary	Risk element targeted (entry/establishment/spread/impact)
Inspection and trapping	ISPM 5 (FAO, 2024) defines inspection as the official visual examination of plants, plant products or other regulated articles to determine if pests are present or to determine compliance with phytosanitary regulations The effectiveness of sampling and subsequent inspection to detect pests may be enhanced by including trapping and luring techniques *Coniella castaneicola* may remain quiescent or latent within the host tissues. Therefore, hosts without symptoms, or with only minor symptoms, may not be detected at routine inspections. On symptomatic hosts, symptoms may be confused with those caused by other pathogens (see Section 3.1.5). Therefore, it is unlikely that *C. castaneicola* could be detected based on visual inspection only	Entry/Establishment/ Spread
Laboratory testing	Examination, other than visual, to determine if pests are present using official diagnostic protocols. Diagnostic protocols describe the minimum requirements for reliable diagnosis of regulated pests In principle, multilocus gene sequencing analysis combined with the observation of cultural and morphological characteristics of fungal colonies allow the reliable detection and identification of *C. castaneicola* (see Section 3.1.5). As highlighted in Section 3.1.5, having a database of curated barcodes for this species would greatly enhance the accuracy of the identification	Entry/Establishment/ Spread
Sampling	According to ISPM 31 (FAO, 2008), it is usually not feasible to inspect entire consignments, so phytosanitary inspection is performed mainly on samples obtained from a consignment. It is noted that the sampling concepts presented in this standard may also apply to other phytosanitary procedures, notably selection of units for testing For inspection, testing and/or surveillance purposes the sample may be taken according to a statistically based or a non-statistical sampling methodology	Entry/Establishment/ Spread
Phytosanitary certificate and plant passport	According to ISPM 5 (FAO, 2024), a phytosanitary certificate and a plant passport are official paper documents or their official electronic equivalents, consistent with the model certificates of the IPPC, attesting that a consignment meets phytosanitary import requirements: a. export certificate (import) b. plant passport (EU internal trade) Recommended for plant species known to be hosts of *C. castaneicola*, including fruits and other plant parts (e.g. foliage, twigs)	Entry/Spread

(Continues)

TABLE 5 (Continued)

Supporting measure (blue underline = Zenodo doc, blue = WIP)	Summary	Risk element targeted (entry/establishment/spread/impact)
Certified and approved premises	Mandatory/voluntary certification/approval of premises is a process including a set of procedures and of actions implemented by producers, conditioners and traders contributing to ensure the phytosanitary compliance of consignments. It can be a part of a larger system maintained by the NPPO in order to guarantee the fulfilment of plant health requirements of plants and plant products intended for trade. Key property of certified or approved premises is the traceability of activities and tasks (and their components) inherent the pursued phytosanitary objective. Traceability aims to provide access to all trustful pieces of information that may help to prove the compliance of consignments with phytosanitary requirements of importing countries Certified and approved premises may reduce the likelihood of the plants and plant products originating in those premises to be infected by *C. castaneicola*	Entry/Spread
Certification of reproductive material (voluntary/official)	Plants come from within an approved propagation scheme and are certified pest free (level of infestation) following testing; Used to mitigate against pests that are included in a certification scheme The risk of entry and/or spread of *C. castaneicola* is reduced if host plants for planting are produced under an approved certification scheme and tested free of the fungus	Entry/Spread
Delimitation of Buffer zones	ISPM 5 (FAO, 2024) defines a buffer zone as 'an area surrounding or adjacent to an area officially delimited for phytosanitary purposes in order to minimise the probability of spread of the target pest into or out of the delimited area, and subject to phytosanitary or other control measures, if appropriate'. The objectives for delimiting a buffer zone can be to prevent spread from the outbreak area and to maintain a pest-free production place (PFPP), site (PFPS) or area (PFA) Delimitation of a buffer zone around an outbreak area can prevent spread of the fungus and maintain a pest-free area, site or place of production	Spread
Surveillance	Surveillance to guarantee that plants and plant products originate in a pest-free area could be an option	Entry/Spread

3.6.1.3 | *Biological or technical factors limiting the effectiveness of measures*

- Latently infected (asymptomatic) host plants and plant products are unlikely to be detected by visual inspection.
- The similarity of symptoms caused by *C. castaneicola* and of signs (e.g. pycnidia with conidia) produced by the fungus with those of other *Coniella* species or other fungi causing leaf spots, leaf blights or fruit rots on the same hosts poses a serious challenge to the detection and identification of the fungus based solely on visual inspection.
- Currently, the lack of type-derived DNA-sequence databases for *C. castaneicola* does not allow the development of molecular tools for proper *in planta* identification of the fungus. In addition, thorough post-entry laboratory analyses may not be feasible for certain commodities as isolation in pure culture is needed prior to DNA extraction as well as molecular identification based on multigene sequencing.
- The association of the fungus with several host plants and its ability to survive endophytically in asymptomatic plants limits the possibility to develop standard diagnostic protocols for all potential hosts.

3.7 | Uncertainty

- Key uncertainty on the geographical distribution of *C. castaneicola* worldwide and in the EU because, in the past, the fungus might have been misidentified as other *Coniella* species, particularly those that affect the same hosts, due to required expertise for morphological identification. In addition, given that *C. castaneicola* may colonise endophytically its host plants, its distribution might be wider than currently reported.
- Key uncertainty on whether *C. castaneicola* would cause impacts in the EU.

4 | CONCLUSIONS

Coniella castaneicola does not satisfy all the criteria that are within the remit of EFSA to assess for this species to be regarded as potential Union quarantine pest (Table 6).

TABLE 6 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	Key uncertainties
Identity of the pest (Section 3.1)	When first described, the identity of *Coniella castaneicola* was clearly defined	–
Absence/presence of the pest in the EU (Section 3.2)	*Coniella castaneicola* is not known to be present in the EU	The presence and geographical distribution of *C. castaneicola* in the EU
Pest potential for entry, establishment and spread in the EU (Section 3.4)	*Coniella castaneicola* could potentially enter, establish in and spread within the EU. The main pathways for the entry of the fungus into the EU are: (i) host plants for planting, other than seeds and pollen, (ii) fresh fruits of host plants, and (iii) soil and other plant growing media contaminated with infected host plant debris, all originating in infested third countries. Both the biotic (host availability) and abiotic (climate suitability) factors occurring in parts of the EU, where susceptible hosts are grown, are favourable for the establishment of the fungus. Following its establishment, the fungus could spread within the EU by both natural and human-assisted means	–
Potential for consequences in the EU (Section 3.5)	The introduction of *C. castaneicola* into the EU is not expected to cause substantial impacts	Whether *C. castaneicola* would cause impacts
Available measures (Section 3.6)	Although not specifically targeted against *C. castaneicola*, existing phytosanitary measures mitigate the likelihood of the fungus introduction and spread in the EU. Potential additional measures also exist to further mitigate the risk of introduction and spread of the fungus in the EU	–
Conclusion (Section 4)	Because of lack of documented impacts, *Coniella castaneicola* does not satisfy all the criteria that are within the remit of EFSA to assess for this species to be regarded as potential Union quarantine pest	
Aspects of assessment to focus on/scenarios to address in future if appropriate:	The main knowledge gap concerns the current worldwide distribution of *C. castaneicola*. To reduce this uncertainty, systematic surveys should be carried out and isolates of *C. castaneicola* and of other *Coniella* species available in culture collections would need to be re-evaluated using appropriate pest identification methods (e.g., multilocus gene sequencing analysis) In addition, the sequences deposited in the GenBank must be re-examined and supported with type material (living cultures) to have a reliable species-based taxonomic system for the genus *Coniella* Moreover, the pathogenic role of *C. castaneicola* when it is isolated from plant tissues, particularly together with known fungal pathogens, should be clarified	

ABBREVIATIONS

EPPO European and Mediterranean Plant Protection Organization
FAO Food and Agriculture Organization
IPPC International Plant Protection Convention
ISPM International Standards for Phytosanitary Measures
MS Member State
PLH EFSA Panel on Plant Health
PZ Protected Zone
TFEU Treaty on the Functioning of the European Union
ToR Terms of Reference

GLOSSARY

Containment (of a pest) Application of phytosanitary measures in and around an infested area to prevent spread of a pest (FAO, 2024).
Control (of a pest) Suppression, containment or eradication of a pest population (FAO, 2024).
Entry (of a pest) Movement of a pest into an area where it is not yet present, or present but not widely distributed and being officially controlled (FAO, 2024).
Eradication (of a pest) Application of phytosanitary measures to eliminate a pest from an area (FAO, 2024).
Establishment (of a pest) Perpetuation, for the foreseeable future, of a pest within an area after entry (FAO, 2024).
Greenhouse A walk-in, static, closed place of crop production with a usually translucent outer shell, which allows controlled exchange of material and energy with the surroundings and prevents release of plant protection products (PPPs) into the environment.
Hitchhiker An organism sheltering or transported accidentally via inanimate pathways including with machinery, shipping containers and vehicles; such organisms are also known as contaminating pests or stowaways (Toy & Newfield, 2010).

Impact (of a pest)	The impact of the pest on the crop output and quality and on the environment in the occupied spatial units.
Introduction (of a pest)	The entry of a pest resulting in its establishment (FAO, 2024).
Pathway	Any means that allows the entry or spread of a pest (FAO, 2024).
Phytosanitary measures	Any legislation, regulation or official procedure having the purpose to prevent the introduction or spread of quarantine pests, or to limit the economic impact of regulated non-quarantine pests (FAO, 2024)
Quarantine pest	A pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled (FAO, 2024)
Risk reduction option (RRO)	A measure acting on pest introduction and/or pest spread and/or the magnitude of the biological impact of the pest should the pest be present. A RRO may become a phytosanitary measure, action or procedure according to the decision of the risk manager.
Spread (of a pest)	Expansion of the geographical distribution of a pest within an area (FAO, 2024).

CONFLICT OF INTEREST

If you wish to access the declaration of interests of any expert contributing to an EFSA scientific assessment, please contact interestmanagement@efsa.europa.eu.

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REFERENCES

Ahn, G. R., Choi, M. A., Kim, J. E., Seo, E. J., Kim, J. Y., & Kim, S. H. (2017). A report of eighteen unrecorded fungal species in Korea. *Korean Journal of Mycology*, *45*, 292–303. https://doi.org/10.4489/KJM.20190037

Alvarez, L. V., Groenewald, J. Z., & Crous, P. W. (2016). Revising the Schizoparmaceae: *Coniella*, *Pilidiella* and *Schizoparme*. *Studies in Mycology*, *85*, 1–34. https://doi.org/10.1016/j.simyco.2016.09.001

Australian Department of Agriculture. (2014). *Draft report for the non-regulated analysis of existing policy for table grapes from Japan* (p. 392). Department of Agriculture. https://www.agriculture.gov.au/sites/default/files/documents/draft-ira-table-grapes-from-japan.pdf

Baker, R. H., Sansford, C. E., Jarvis, C. H., Cannon, R. J., MacLeod, A., & Walters, K. F. (2000). The role of climatic mapping in predicting the potential geographical distribution of non-indigenous pests under current and future climates. *Agriculture, Ecosystems and Environment*, *82*(1–3), 57–71.

Baker, R. H. A. (2002). Predicting the limits to the potential distribution of alien crop pests. In G. J. Hallman & C. P. Schwalbe (Eds.), *Invasive arthropods in agriculture: Problems and solutions* (pp. 207–241). Science Publishers Inc.

Barreto, G. G., Gusmão, L. F. P., & Dianese, J. C. (2022). Checklist of ascomycetes recorded on eucalypts in Brazil (1976–2022). *Asian Journal of Mycology*, *5*(1), 107–129. https://doi.org/10.5943/ajom/5/1/9

Bisiach, M. (1988). White rot. In R. C. Pearson & A. C. Goheen (Eds.), *Compendium of grape diseases* (pp. 22–23). APS Press.

Bissegger, M., & Sieber, T. N. (1994). Assemblages of endophytic fungi in coppice shoots of *Castanea sativa*. *Mycologia*, *86*(5), 648–655.

Castlebury, L. A., Rossman, A. Y., Jaklitsch, W. J., & Vasilyeva, L. N. (2002). A preliminary overview of the Diaporthales based on large subunit nuclear ribosomal DNA sequences. *Mycologia*, *94*(6), 1017–1031.

Chethana, K. W. T., Zhou, Y., Zhang, W., Liu, M., Xing, Q. K., Li, X. H., Yan, J. Y., Chethana, K. W. T., & Hyde, K. D. (2017). *Coniella vitis* sp. Nov. is the common pathogen of white rot in Chinese vineyards. *Plant Disease*, *101*(12), 2123–2136. https://doi.org/10.1094/PDIS-12-16-1741-RE

Crous, P. W., Giraldo, A., Hawksworth, D. L., Robert, V., Kirk, P. M., Guarro, J., Robbertse, B., Schoch, C. L., Damm, U., Trakunyingcharoen, T., & Groenewald, J. Z. (2014). The genera of fungi: Fixing the application of type species of generic names. *IMA Fungus*, *5*(1), 141–160.

Crous, P. W., Knox-Davies, P. S., & Wingfield, M. J. (1989). A list of eucalyptus leaf fungi and their potential importance to south African forestry. *Suid-Afrikaanse Bosboutydskrif*, *149*, 17–29. https://www.fabinet.up.ac.za/publication/pdfs/1045-content.pdf

Crous, P. W., & van der Linde, E. J. (1993). New and interesting records of south African fungi. XI. Eucalyptus leaf fungi. *South African Journal of Botany*, *59*(3), 300–304. https://doi.org/10.1016/S0254-6299(16)30732-3

Darré, M., Vicente, A. R., Cisneros-Zevallos, L., & Artés-Hernández, F. (2022). Postharvest ultraviolet radiation in fruit and vegetables: Applications and factors modulating its efficacy on bioactive compounds and microbial growth. *Food*, *11*(5), 653. https://doi.org/10.3390/foods11050653

De Simone, N., Pace, B., Grieco, F., Chimienti, M., Tyibilika, V., Santoro, V., Capozzi, V., Colelli, G., Spano, G., & Russo, P. (2020). *Botrytis cinerea* and table grapes: A review of the main physical, chemical, and bio-based control treatments in post-harvest. *Food*, *9*, 1138. https://doi.org/10.3390/foods9091138

Dianese, J. C., Medeiros, R. B., Santos, L. T. P., & Sutton, B. C. (1993). *Coniella costae* sp. nov. on leaves of *Myrcia tomentosa* from Brazilian cerrado. *Mycological Research*, *97*(10), 1234–1236. https://doi.org/10.1016/S0953-7562(09)81291-4

EFSA PLH Panel (EFSA Panel on Plant Health), Bragard, C., Baptista, P., Chatzivassiliou, E., Di Serio, F., Jaques Miret, J. A., Justesen, A. F., MacLeod, A., Magnusson, C. S., Milonas, P., Navas-Cortes, J. A., Parnell, S., Potting, R., Reignault, P. L., Stefani, E., Thulke, H. H., Van Der Werf, W., Civera, A. V., Yuen, J., … Gonthier, P. (2023a). Commodity risk assessment of *Acer campestre* plants from the UK. *EFSA Journal*, *21*(7), e08071. https://doi.org/10.2903/j.efsa.2023.8071

EFSA PLH Panel (EFSA Panel on Plant Health), Bragard C, Baptista P, Chatzivassiliou E, Di Serio F, Jaques Miret JA, Justesen AF, MacLeod A, Magnusson CS, Milonas P, Navas-Cortes JA et al. (2023b). Commodity risk assessment of *Acer palmatum* plants from the UK. *21*(7), 8075. https://doi.org/10.2903/j.efsa.2023.8075

EFSA PLH Panel (EFSA Panel on Plant Health), Bragard, C., Baptista, P., Chatzivassiliou, E., Di Serio, F., Jaques Miret, J. A., Justesen, A. F., MacLeod, A., Magnusson, C. S., Milonas, P., Navas-Cortes, J. A., et al. (2023c). Commodity risk assessment of *Acer platanoides* plants from the UK. *EFSA Journal*, *21*(7), e08073. https://doi.org/10.2903/j.efsa.2023.8073

EFSA PLH Panel (EFSA Panel on Plant Health), Bragard, C., Baptista, P., Chatzivassiliou, E., Di Serio, F., Jaques Miret, J. A., Justesen, A. F., MacLeod, A., Magnusson, C. S., Milonas, P., Navas-Cortes, J. A., et al. (2023d). Commodity risk assessment of *Acer pseudoplatanus* plants from the UK. *EFSA Journal*, *21*(7), e08074. https://doi.org/10.2903/j.efsa.2023.8074

EFSA PLH Panel (EFSA Panel on Plant Health), Bragard, C., Baptista, P., Chatzivassiliou, E., Di Serio, F., Jaques Miret, J. A., Justesen, A. F., MacLeod, A., Magnusson, C. S., Milonas, P., Navas-Cortes, J. A., et al. (2023e). Commodity risk assessment of *Quercus petraea* plants from the UK. *EFSA Journal*, *21*(10), e08313. https://doi.org/10.2903/j.efsa.2023.8313

EFSA PLH Panel (EFSA Panel on Plant Health), Bragard, C., Baptista, P., Chatzivassiliou, E., Di Serio, F., Jaques Miret, J. A., Justesen, A. F., MacLeod, A., Magnusson, C. S., Milonas, P., Navas-Cortes, J. A., Parnell, S., Potting, R., Reignault, P. L., Stefani, E., Thulke, H.-H., Vander Werf, W., Civera Vicent, A., Yuen, J., … Gonthier, P. (2023f). Commodity risk assessment of *Quercus robur* plants from the UK. *EFSA Journal*, *21*(10), e08314. https://doi.org/10.2903/j.efsa.2023.8314

EFSA PLH Panel (EFSA Panel on Plant Health), Jeger, M., Bragard, C., Caffier, D., Candresse, T., Chatzivassiliou, E., Dehnen-Schmutz, K., Gregoire, J.-C., Jaques Miret, J. A., MacLeod, A., Navajas Navarro, M., Niere, B., Parnell, S., Potting, R., Rafoss, T., Rossi, V., Urek, G., Van Bruggen, A., Van Der Werf, W., … Gilioli, G. (2018). Guidance on quantitative pest risk assessment. *EFSA Journal*, *16*(8), 5350. https://doi.org/10.2903/j.efsa.2018.5350

EFSA Scientific Committee, Hardy, A., Benford, D., Halldorsson, T., Jeger, M. J., Knutsen, H. K., More, S., Naegeli, H., Noteborn, H., Ockleford, C., Ricci, A., Rychen, G., Schlatter, J. R., Silano, V., Solecki, R., Turck, D., Benfenati, E., Chaudhry, Q. M., Craig, P., … Younes, M. (2017). Scientific opinion on the guidance on the use of the weight of evidence approach in scientific assessments. *EFSA Journal*, *15*(8), 4971. https://doi.org/10.2903/j.efsa.2017.4971

Ellis, J. B., & Everhart, B. M. (1895). New species of fungi from various localities. *Proceedings of the Academy of Natural Sciences of Philadelphia*, *47*, 413–441.

EPPO (European and Mediterranean Plant Protection Organization). (2019). EPPO codes. https://www.eppo.int/RESOURCES/eppo_databases/eppo_codes

EPPO (European and Mediterranean Plant Protection Organization). (online). EPPO Global Database. https://gd.eppo.int

FAO (Food and Agriculture Organization of the United Nations). (1995). ISPM (International standards for phytosanitary measures) No 4. Requirements for the establishment of pest free areas. https://www.ippc.int/en/publications/614/

FAO (Food and Agriculture Organization of the United Nations). (2008). *ISPM (international standards for Phytosanitary measures) No 31. Methodologies for sampling of consignments* (Vol. *19*). FAO. https://www.ippc.int/static/media/files/publication/en/2016/11/ISPM_31_2008_Sampling_of_consignments_EN.pdf

FAO (Food and Agriculture Organization of the United Nations). (2013). *ISPM (international standards for Phytosanitary measures) No 11. Pest risk analysis for quarantine pests* (p. 36). FAO. https://www.ippc.int/sites/default/files/documents/20140512/ispm_11_2013_en_2014-04-30_201405121523-494.65%20KB.pdf

FAO (Food and Agriculture Organization of the United Nations). (2024). *ISPM (international standards for Phytosanitary measures) No 5. Glossary of phytosanitary terms* (Vol. *40*). FAO. https://assets.ippc.int/static/media/files/publication/en/2024/05/ISPM_05_2024_En_Glossary_PostCPM-18_2024-05-15.pdf

Fischl, G., & Bürgés, G. Y. (1983). *The microflora of chestnut fruits* (pp. 449–453). Növényvédelem, XIX. Évfolyam, 10. Szám.

Griessinger, D., & Roy, A.-S. (2015). EPPO codes: a brief description. https://www.eppo.int/media/uploaded_images/RESOURCES/eppo_databases/A4_EPPO_Codes_2018.pdf

Han, J., Chen, D., Huang, J., Li, X., Zhou, W.-W., Gao, W., & Jia, Y. (2015). Antifungal activity and biocontrol potential of *Paenibacillus polymyxa* HT16 against white rot pathogen (*Coniella diplodiella* Speq.) in table grapes. *Biocontrol Science and Technology*, *25*(10), 1120–1132. https://doi.org/10.1080/09583157.2015.1036003

He, Z., Cui, C. Y., & Jiang, J. X. (2017). First report of white rot of grape caused by *Pilidiella castaneicola* in China. *Disease Notes*, *101*(9), 1673. https://doi.org/10.1094/PDIS-02-17-0264-PDN

Jayawardena, R. S., Purahong, W., Zhang, W., Wubet, T., Li, X., Liu, M., Zhao, W., Hyde, K. D., Liu, J., & Yan, J. (2018). Biodiversity of fungi on *Vitis vinifera* L. revealed by traditional and high-resolution culture-independent approaches. *Fungal Diversity*, *90*, 1–84. https://doi.org/10.1007/s13225-018-0398-4

Ji, T., Languasco, L., Li, M., & Rossi, V. (2021). Effects of temperature and wetness duration on infection by *Coniella diplodiella*, the fungus causing white rot of grape berries. *Plants*, *10*(8), 1696. https://doi.org/10.3390/plants10081696

Ji, T., Languasco, L., Salotti, I., Li, M., & Rossi, V. (2024). Temporal dynamics and dispersal patterns of the primary inoculum of *Coniella diplodiella*, the causal agent of grape white rot. *Plant Disease*, *108*(3), 757–768. https://doi.org/10.1094/PDIS-08-23-1600-RE

Jiang, N., Fan, X., & Tian, C. (2021). Identification and characterization of leaf-inhabiting fungi from *Castanea* plantations in China. *Journal of Fungi*, *7*, 64. https://doi.org/10.3390/jof7010064

Kaneko, S. (1981). Fungi inhabiting fagaceous trees III: Coniella leaf blight of *Quercus* and *Castanea* caused by *Coniella castaneicola*. *Annals of the Phytopathological Society of Japan*, *47*, 80–83.

Kehr, R. D., & Wulf, A. (1993). Fungi associated with above-ground portions of declining oaks (*Quercus robur*) in Germany. *European Journal of Forest Pathology*, *23*, 18–27. https://doi.org/10.1111/j.1439-0329.1993.tb00803.x

Kobayashi, T. (2007). *Index of fungi inhabiting woody plants in Japan. Host, distribution and literature* (p. 1227 (cited by the USDA Fungal Databases, online)). Zenkoku-Noson-Kyoiku Kyokai Publishing Co. Ltd. https://fungi.ars.usda.gov/

Kottek, M., Grieser, J., Beck, C., Rudolf, B., & Rubel, F. (2006). World map of the Köppen_Geiger climate classification updated. *Meteorologische Zeitschrift*, *15*, 259–263. https://doi.org/10.1127/0941-2948/2006/0130

Lai, J., Xiong, G., Liu, B., Kuang, W., & Song, S. (2022). First report of *Coniella castaneicola* causing leaf blight on blueberry (*Vaccinium virgatum*) in China. *Plant Disease*, *106*(4), 1298. https://doi.org/10.1094/PDIS-05-21-1122-PDN

Langrell, S. R., Glen, M., & Alfenas, A. C., (2008). Molecular diagnosis of Puccinia psidii (guava rust) – a quarantine threat to Australian eucalypt and Myrtaceae biodiversity. *Plant Pathology*, *57*, 687–701.

Laugale, V., Lepse, L., & Vilka Land Rancāne, R. (2009). Incidence of fruit rot on strawberries in Latvia, resistance of cultivars and impact of cultural systems. *Scientific Works of the Lithuanian Institute of Horticulture and Lithuanian University of Agriculture. Sodininkystė ir daržininkystė*, *28*(3), 125–134.

Li, P., Tan, X., Wanghao, S. L., Jiang, J., Fan, X., Liu, C., & Zhang, Y. (2023). Transcriptome analysis of resistant and susceptible grapes reveals molecular mechanisms underlying resistance of white rot disease. *Horticulture Advances*, *1*, 9. https://doi.org/10.1007/s44281-023-00011-6

Linaldeddu, B. T., Bregant, C., Ruzzon, B., & Montecchio, L. (2020). *Coniella granati* and *Phytophthora palmivora*: The main pathogens involved in pomegranate dieback and mortality in north-eastern Italy. *Italian Journal of Mycology*, *49*, 92–100. https://doi.org/10.6092/issn.2531-7342/11170

Liu, R. T., Wang, Y. M., Li, P., Sun, L., Jiang, J. F., Fan, X. C., Liu, C. H., & Zhang, Y. (2021). Genome assembly and transcriptome analysis of the fungus *Coniella diplodiella* during infection on grapevine (*Vitis vinifera* L). *Frontiers in Microbiology*, *11*, 599150. https://doi.org/10.3389/FMICB.2020.599150

Maas, J. L. (1998). Minor Fruit Rots, Compendium of strawberry diseases. In J. Maas (Ed.), *The American Phytopathological society* (Second ed., p. 43).

Marin-Felix, Y., Groenewald, J. Z., Cai, L., Chen, Q., Marincowitz, S., Barnes, I., Bensch, K., Braun, U., Camporesi, E., Damm, U., de Beer, Z. W., Dissanayake, A., Edwards, J., Giraldo, A., Hernández-Restrepo, M., Hyde, K. D., Jayawardena, R. S., Lombard, L., Luangsa-Ard, J., … Crous, P. W. (2017). Genera of phytopathogenic fungi: GOPHY 1. *Studies in Mycology*, *86*, 99–216. https://doi.org/10.1016/j.simyco.2017.04.002

Melkumov, G. M. (2014). Substrate specialization of causative agents of diseases of the tree component of the park areas of the city of Voronezh. *Bulletin of the Voronezh State Agrarian University*, *1–2*, 57–62. (in Russian).

Mendes, M. A. S. (2019). Fungos em Plantas no Brazil. In *Ministério da Agricultura, Pecuária e Abastecimento Secretaria Executiva Departamento de Governança e Gestão Escola Nacional de Gestão Agropecuária* (2nd ed., p. 979). https://enagro.agricultura.gov.br/gestao-do-conhecimento/livro-fungos-em-plantas-no-brasil/FUNGOS_EM_PLANTAS_NO_BRASIL_2__Edicao_ampliada_e_revisada__2019._978_p.pdf

Mohanan, C., & Yesodharan, K. (2005). *Biodiversity of plant pathogenic fungi in the Kerala part of the Western Ghats* (Final Report of the Project No. KFRI 375/01). (p. 333). Kerala Forest Research Institute. https://docs.kfri.res.in/KFRI-RR/KFRI-RR280.pdf

Nag Raj, T. R. (1993). *Coelomycetous anamorphs with appendage-bearing conidia* (pp. 1–1101 (cited by the USDA Fungal Databases, online)). Mycologue Publications. https://fungi.ars.usda.gov/

NBN Atlas. (online). https://nbnatlas.org/

Nigro, F., Ippolito, A., & Lima, G. (1998). Use of UV-C light to reduce botrytis storage rot of table grapes. *Postharvest Biology and Technology*, *13*(3), 171–181. https://doi.org/10.1016/S0925-5214(98)00009-X

Raabe, R. D. (1981). *Checklist of plant diseases in Hawaii* (p. 319 p. (revised by Scot C. Nelson-May 14, 2009)). University of Hawaii. https://hdl.handle.net/10125/12387

Roux, C., & Van Warmelo, K. T. (1990). *Coniella castaneicola* - a new south African record from *Eucalyptus camaldulensis*. *Phytophylactica*, *22*, 155 (abstract).

Sayers, E. W., Cavanaugh, M., Clark, K., Ostell, J., Pruitt, K. D., & Karsch-Mizrachi, I. (2020). Genbank. *Nucleic Acids Research*, *48*(Database Issue), D84–D86. https://doi.org/10.1093/nar/gkz956

Sutton, B.C. (1980). *The Coelomycetes. In: Fungi Imperfecti with Pycnidia, Acervuli and stromata*. Commonwealth Mycological Institute: . 696 pp. (cited by Crous et al., 1989).

Szendrei, L., Tóth, A., Palkovics, L., Salamon, P., & Petróczy, M. (2022). First report of *Coniella granati* causing leaf spot of pomegranate (*Punica granatum*) in Hungary. *Plant Disease*, *106*(11), 2995. https://doi.org/10.1094/PDIS-10-21-2230-PDN

Thomidis, T. (2015). Pathogenicity and characterization of *Pilidiella granati* causing pomegranate diseases in Greece. *European Journal of Plant Pathology*, *141*(1), 45–50. https://doi.org/10.1007/s10658-014-0520-8

Toy, S. J., & Newfield, M. J. (2010). The accidental introduction of invasive animals as hitchhikers through inanimate pathways: A New Zealand perspective. *Revue Scientifique et Technique (International Office of Epizootics)*, *29*(1), 123–133. https://doi.org/10.20506/rst.29.1.1970

Urtiaga, R. (1986). *Indice de Enfermedades en plantas de Venezuela y Cuba* (p. 325). Nuevo Siglo.

USDA Fungal Databases. (online). https://fungi.ars.usda.gov/

Van Niekerk, J. M., Groenewald, J. Z., Verkley, G. J. M., Fourie, P. H., Wingfield, M. J., & Crous, P. W. (2004). Systematic reappraisal of *Coniella* and *Pilidiella*, with specific reference to species occurring on *Eucalyptus* and *Vitis* in South Africa. *Mycological Research*, *108*, 283–303. https://doi.org/10.1017/S0953756204009268

Vanev, S. G., & van der Aa, H. A. (1998). An annotated list of the published names in Asteromella. *Persoonia*, *17*(1), 47–67. https://repository.naturalis.nl/pub/532110/PERS1998017001003.pdf

Vittal, B. P. R., & Dorai, M. (1994/1995). Studies on litter fungi VIII. Quantitative studies of the mycoflora colonizing. *Eucalyptus tereticornis Sm Litter. Kavaka*, *22*(23), 35–41.

Walker, D. M., & Castlebury, L. A., Rossman, A. Y., & White, J. F., (2012). New molecular markers for fungal phylogenetics: two genes for species-level systematics in the Sordariomycetes (Ascomycota). *Molecular Phylogenetics and Evolution*, *64*, 500–512.

Wijayawardene, N. N., Hyde, K. D., Wanasinghe, D. N., Papizadeh, M., Goonasekara, I. D., Camporesi, E., Bhat, D. J., McKenzie, E. H. C., Phillips, A. J., Diederich, P., Tanaka, K., Li, W. J., Tangthirasunun, N., Phookamsak, R., Dai, D.-Q., Dissanayake, A. J., Weerakoon, G., Maharachchikumbura, S. S. N., Hashimoto, A., … Wang, Y. (2016). Taxonomy and phylogeny of dematiaceous coelomycetes. *Fungal Diversity*, *77*, 1–316.

WI-KNAW Fungal & Yeast Collection. (online). https://wi.knaw.nl/Collection

Yin, X., Li, T., Jiang, X., Tang, X., Zhang, J., Yuan, L., & Wei, Y. (2022). Suppression of grape white rot caused by *Coniella vitis* using the potential biocontrol agent *Bacillus velezensis* GSBZ09. *Pathogens*, *11*(2), 248. https://doi.org/10.3390/pathogens11020248

Yuan, L., Jiang, H., Jiang, X., Li, T., Lu, P., Yin, X., & Wei, Y. (2022). Comparative genomic and functional analyses of *Paenibacillus peoriae* ZBSF16 with biocontrol potential against grapevine diseases, provide insights into its genes related to plant growth-promoting and biocontrol mechanisms. *Frontiers in Microbiology*, *13*, 975344. https://doi.org/10.3389/fmicb.2022.975344

Zhang, S. S., Xiao, R. F., Lin, N. Q., & Ai, H. M. (2002). Diagnosis of Chinese olive fungal diseases in Fujian, China. *Journal of Fujian Agricultural and Forestry University*, *31*(2), 168–173. (in Chinese; only Abstract in English available).

Zhang, Y., Fan, X., Sun, H., Jiang, J. F., & Liu, C. H. (2017). Identification and evaluation of resistance to white rot in grape resources. *Journal of Fruit Science*, *34*, 1095–1105. https://doi.org/10.13925/j.cnki.gsxb.20160281 (Only abstract in English).

Zhang, Y., Yao, J. L., Feng, H., Jiang, J., Fan, X., Jia, Y.-F., Wang, R., & Liu, C. (2019). Identification of the defense-related gene VdWRKY53 from the wild grapevine *Vitis davidii* using RNA sequencing and ectopic expression analysis in Arabidopsis. *Hereditas*, *156*, 14. https://doi.org/10.1186/s41065-019-0089-5

Zhou, S. Y., & Li, B. H. (2020). Genome sequence resource of *Coniella vitis*, a fungal pathogen causing grape white rot disease. *Molecular Plant-Microbe Interactions*, *33*, 787–789. https://doi.org/10.1094/MPMI-02-20-0041-A

Zhuang, W-Y. (Ed.) (2001). *Higher fungi of tropical China*. *Mycotaxon*, Ltd. : 485. (cited by the USDA Fungal Databases, online). https://fungi.ars.usda.gov/

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APPENDIX A

Coniella castaneicola host plants/species affected

Source: systematic literature search integrated with records from the USDA Fungal Database (online; last accessed on 15 February 2024)

Host status	Host name	Plant family	Common name	Reference
Cultivated hosts	*Acer buergerianum*	Sapindaceae	Trident maple	Wijayawardene et al. (2016)**
	Acer sp.[a]	Sapindaceae	Maple	USDA Fungal Databases (online) citing Nag Raj (1993)
	Aesculus hippocastanum	Sapindaceae	Horse chestnut	Melkumov (2014)
	Canarium album	Burseraceae	Chinese olive	Zhang et al. (2002)
	Carya sp.[a]	Juglandaceae	Hickory	USDA Fungal Databases (online) citing Nag Raj (1993)
	Castanea crenata	Fagaceae	Japanese chestnut	Kaneko (1981), USDA Fungal Databases (online) citing Nag Raj (1993)
	C. dentata[a]	Fagaceae	American chestnut	USDA Fungal Databases (online) citing Nag Raj (1993)
	C. mollissima	Fagaceae	Chinese chestnut	USDA Fungal Databases (online) citing Zhuang (2001), Jiang et al. (2021)
	C. sativa (syn. *C. vesca*)	Fagaceae	Sweet chestnut	Bissegger and Sieber (1994), Alvarez et al. (2016)
	Castanea spp.	Fagaceae		Kaneko (1981)
	Chrysolepis chrysophylla (syn. *Castanea chrysophylla*)	Fagaceae	Golden chinquapin	Vanev and van der Aa (1998)*
	Corymbia citriodora (syn. *Eucalyptus citriodora*)[a]	Myrtaceae	Lemon-scented gum	Crous et al. (1989) citing Sutton (1980)
	Eucalyptus camaldulensis	Myrtaceae	River red gum	Roux and Warmelo (1990)
	Eucalyptus grandis	Myrtaceae	Flooded gum	Raabe (1981), Crous et al. (1989) citing Sutton (1980)
	E. pellita	Myrtaceae	Large-fruited red machogany	Langrell et al. (2008)
	E. robusta	Myrtaceae	Swamp mahogany	Raabe (1981)
	E. salygna	Myrtaceae	Sydney blue gum	Urtiaga (1986), Crous et al. (1989) citing Sutton (1980)
	E. tereticornis	Myrtaceae	Forest red gum	Crous et al. (1989) citing Sutton (1980), Vittal and Dorai (1994/1995)
	E. viminalis[a]	Myrtaceae	White gum	Crous et al. (1989) citing Sutton (1980)
	Eucalyptus spp.	Myrtaceae		Raabe (1981), Mendes (2019), Barreto et al. (2022) citing Sutton (1980)
	Fragaria x *ananassa*	Rosaceae	Strawberry	Laugale et al. (2009)
	Fragaria sp.[a]	Rosaceae		USDA Fungal Databases (online) citing Nag Raj (1993)
	Liquidambar styraciflua[a]	Altingiaceae	American Sweetgum	USDA Fungal Databases (online) citing Nag Raj (1993)
	Mangifera indica[a]	Anacardiaceae	Mango	USDA Fungal Databases (online) citing Nag Raj (1993)
	Quercus acutissima	Fagaceae	Sawtooth oak	Kaneko (1981)
	Q. alba[a]	Fagaceae	White oak	USDA Fungal Databases (online) citing Nag Raj (1993)
	Q. lanuginosa	Fagaceae		Vanev and van der Aa (1998)*
	Q. mongolica var. *grosseserrata*	Fagaceae	Mongolian oak	Kaneko (1981), USDA Fungal Databases (online) citing Kobayashi (2007)
	Q. robur	Fagaceae	Pedunculate oak	Kehr and Wulf (1993)
	Q. rubra	Fagaceae	Northern red oak	Kaneko (1981), USDA Fungal Databases (online) citing Kobayashi (2007)
	Q. serrata	Fagaceae	Bao li	Kaneko (1981), USDA Fungal Databases (online) citing Kobayashi (2007)
	Quercus spp.	Fagaceae		Kaneko (1981)

(Continued)

Host status	Host name	Plant family	Common name	Reference
	Rhus copallina[a]	Anacardiaceae	Winged sumac	USDA Fungal Databases (online) citing Nag Raj (1993)
	Rhus sp.[a]	Anacardiaceae		USDA Fungal Databases (online) citing Nag Raj (1993)
	Rosa rugosa[a]	Rosaceae	Japanese rose	USDA Fungal Databases (online) citing Nag Raj (1993)
	Syzygium aromaticum[a]	Myrtaceae	Clove	USDA Fungal Databases (online) citing Kobayashi (2007)
	Syzygium cumini (syn. *S. jambolanum)* [a]	Myrtaceae	Jambolan plum	Dianese et al. (1993) citing Sutton (1980)
	Terminalia canescens	Combretaceae	Winged nut tree	WI-KNAW Fungal & Yeast Collection (online; accessed on 08/03/2024)
	Vaccinium virgatum	Ericaceae	Rabbiteye blueberry	Lai et al. (2022)
	Vitis cordifolia[a]	Vitaceae	Frost grape	USDA Fungal Databases (online) citing Nag Raj (1993)
	V. vinifera	Vitaceae	Grape vine	He et al. (2017)**, USDA Fungal Databases (online) citing Kobayashi (2007)
	Vitis sp.[a]	Vitaceae		Jayawardena et al. (2018) citing Nag Raj (1993) and Kobayashi (2007)
Wild weed hosts	*Anthosachne plurinervis*	Poaceae		WI-KNAW Fungal & Yeast Collection (online; accessed on 08/03/2024)
	Vateria indica	Dipterocarpaceae	White dammar	Mohanan and Yesodharan (2005)
	Lindera obtusiloba	Lauraceae		Ahn et al. (2017)**
Artificial/ experimental host				

[a]Host status could not be checked as the primary literature source was not available to the Panel.

*As *Asteromella castaneicola*.

** As *Pilidiella castaneicola*.

APPENDIX B

Distribution of *Coniella castaneicola*

Distribution records based on systematic literature search integrated with records from the USDA Fungal Database (online; last accessed on 15/02/2024).

Region	Country	Sub-national (e.g. state)	Status	Reference
North America	Canada[b]		Present, no details	USDA Fungal Databases (online), citing Nag Raj (1993)
	USA		Present, no details	Vanev and van der Aa (1998)*
		Hawaii	Present, no details	Raabe (1981)
South America	Brazil		Present, no details	Mendes (2019), Barreto et al. (2022), citing Sutton (1980)
Central America	Cuba		Present, no details	Urtiaga (1986)
	West Indies[b]		Present, no details	Australian Department of Agriculture (2014), citing Nag Raj (1993)
EU			Not known to occur	
Other Europe	Russia		Present, no details	Melkumov (2014)
	Switzerland[c]		Present (as endophyte)	Bissegger and Sieber (1994)
	UK	Elmbridge; Studland; Wandsworth	Present, no details	NBN Atlas (online)
Africa	Nigeria[b]		Present, no details	Australian Department of Agriculture (2014), citing Nag Raj (1993)
	South Africa		Present, no details	Roux and van Warmelo (1990)
Asia	China[a]	Nanchang (Jiangxi Province) Fujian	Present, no details	He et al. (2017)**, Lai et al. (2022), Zhang et al. (2002)
	India	Kerala	Present, no details	Mohanan and Yesodharan (2005)
	Indonesia[b]		Present, no details	USDA Fungal Databases (online) citing Kobayashi (2007)
	Japan[b]		Present, no details	USDA Fungal Databases (online) citing Kobayashi (2007)
	Pakistan[b]		Present, no details	Australian Department of Agriculture (2014), citing Nag Raj (1993)
Oceania	Australia		Present, no details	Crous et al. (1989), citing Sutton (1980); WI-KNAW Fungal & Yeast Collection (online; accessed on 8 March 2024)
		New South Wales, Victoria, Queensland, Northern Territory		Australian Department of Agriculture (2014);
		Toowoomba		WI-KNAW Fungal & Yeast Collection (online; accessed on 8 March 2024)

[a]Records supported by molecular characterisation of the fungus.

[b]Records could not be checked as the primary literature source was not available to the Panel.

[c]A more recent record is available from Switzerland, please see https://www.wsl.ch/map_fungi/search?taxon=12684&start=1991&end=2024&lang=de.

*As *Asteromella castaneicola*.

** As *Pilidiella castaneicola*.