**EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION**
**ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES**

**25-30307** (24-29316)

# Report of a Pest Risk Analysis for

## *Pochazia shantungensis* and *Pochazia chinensis*

Adult of *Pochazia shantungensis* on *Ligustrum lucidum*. Courtesy: Erdem Hızal, Istanbul University – Cerrahpaşa (TR) – EPPO Global Database (EPPO Code: POCZSH)

It is worth noting that EPPO recommendations for regulation are made either on the basis of EPPO Pest Risk Analyses (PRAs) prepared by Expert Working Groups (EWGs), PRAs developed by EPPO member countries for the EPPO region, or PRA reports based on national or EFSA PRAs.

The aim of this PRA report is to assess the status of *Pochazia shantungensis* and *P. chinensis* as candidates for listing on the EPPO A1 and A2 lists of pests recommended for regulation as quarantine pests. An EFSA pest categorisation for *Pochazia shantungensis* was prepared in 2023 (EFSA PLH Panel, 2023). The Panel on Phytosanitary Measures considered that the EFSA pest categorisation, along with a few additional publications, would be sufficient to consider inclusion of the pest on the EPPO A1 or A2 List. Originally from China, this pest has spread to Republic of Korea, Japan; and in the EPPO Region to Bulgaria, France, Hungary, Italy, the Netherlands, the Russian Federation and Türkiye. It is polyphagous, feeding on over 200 plant species, including economically important crops like apples, citrus, and ornamental plants. *Pochazia shantungensis* damages plants through egg-laying and feeding by larvae and adults, reducing yield and quality. It was concluded by EFSA that the pest meets criteria assessed by EFSA to be considered as a potential European Union quarantine pest (EFSA PLH Panel, 2023). This PRA report has been prepared to cover not only *P. shantungensis* but also *P. chinensis*, as a recent study (Lee *et al*., 2024) has revealed the presence of these two closely related species in Asia. A pest risk assessment for tree species from the Republic of Korea (USDA, 2020), an express pest risk analysis for *P. shantungensis* (JKI, 2021) and a quick scan for *P. shantungensis* (NVWA, 2023) were also consulted. Later in the process of preparing this PRA report, a comprehensive DEFRA PRA was made available (DEFRA PRA, 2025) and used to update the PRA report. More recent publications have been used to make it more representative to the whole EPPO region (see *References*). The probabilities of entry, establishment, spread, and potential impact have been established by the Panel on Phytosanitary Measures for the EPPO region on a five-level scale (very low, low, moderate, high, very high) with a three-level scale of uncertainty (low, moderate, high). Given present situation in the EPPO region i.e. limited economic impact reported so far, geographic distribution which may be underestimated, absence of control measures implemented in many EPPO countries, together with the rapidity of spread, and difficulty to control in public areas due to its polyphagous habit, the pest was not recommended for listing on the EPPO A2 List.

**Pest:** *Pochazia shantungensis,* brown winged planthopper.
*Pochazia chinensis*

**PRA area:** EPPO region.

**Assessors:** EFSA Panel on Plant Health (PLH, 2023: pest categorisation); Julius Kühn-Institute, Institute for National and International Plant Health (JKI, 2021: express PRA); Netherlands Food and Consumer Product Safety Authority (NVWA, 2023: quick scan); DEFRA (2025: rapid PRA); with subsequent discussions in the EPPO Panel on Phytosanitary Measures.

**Dates:** The EFSA pest categorisation was adopted by the EFSA Panel on Plant Health on 19 September 2023. The PRA report was prepared in September 2024 by the EPPO Secretariat, reviewed by the EPPO Panel on Phytosanitary Measures in April 2025 and presented to the Working Party on Phytosanitary Regulations in June 2025. The EPPO Working Party on Phytosanitary Regulations (2025-06) and Council agreed that *P. shantungensis* and *P. chinensis* are not added to the EPPO A2 List of pests recommended for regulation as quarantine pests.

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EPPO (2025) Report of a pest risk analysis for *Pochazia shantungensis* and *Pochazia chinensis*. EPPO, Paris. Available at https://gd.eppo.int/taxon/POCZSH\documents

**Based on this PRA report, no measures were recommended. *Pochazia shantungensis* should only be maintained one additional year on the EPPO Alert List.**

## STAGE 1: INITIATION

**Reason for doing initial PRA**: As per the International Standard for Phytosanitary Measures 11, this PRA process has been initiated as a result of the identification of several pathways that present a potential pest hazard for entry into the EPPO region and the identification of a pest that requires phytosanitary measures.

*Pochazia shantungensis* is extremely polyphagous. It can damage fruit trees (e.g. *Malus domestica*), ornamental trees (e.g. *Cercis chinensis*) and forest trees (e.g. *Acer campestre*). It is native in China and invasive in the Republic of Korea since 2009 (where it has rapidly spread) and Japan since 2015 (Baek *et al*., 2019). In the EPPO region, it was first recorded in 2018, both in Türkiye and in France (Bourgoin *et al*., 2020; Hizal *et al*., 2019). In 2021, it was detected in a private garden in Baden-Württemberg, Germany, but subsequently eradicated (JKI, 2021), and added to the EPPO Alert List. In 2022, it was reported in Toscana, Italy (Stroiński *et al*., 2022), as well as in Krasnodar Territory (Sochi) in southern Russian Federation (Zhuravleva *et al*., 2023). In 2024, it was reported in Hungary (Schlitt *et al*., 2024) and in 2025, in Bulgaria (Gjonov and Simov, 2025). More recent information is available in the section Geographical distribution. The EFSA Panel on Plant Health evaluated *P. shantungensis* following its identification in commodity risk assessments related to plants from Türkiye. The DEFRA PRA (2025) was prepared following rapid screening of the risk register (2023) and several interceptions in consignments (2024, see *Pathways*).

**Taxonomic position of pest:** Insecta: Hemiptera: Auchenorrhyncha: Fulgoromorpha: Ricaniidae: *Pochazia shantungensis* (Chou & Lu, 1997).
Other scientific names: *Ricania shantungensis* Chou & Lu, 1997.

Insecta: Hemiptera: Auchenorrhyncha: Fulgoromorpha: Ricaniidae: *Pochazia chinensis* (H. Lee, G.S. Lee, Y. Li & W. Lee, 2024).

Note that recently, specimens collected in 2011–2023 in the Republic of Korea and in China were re-examined and based on morphological and molecular characteristics two distinct species were identified: *P. shantungensis* and a new species called *P. chinensis* (DNA barcodes available) (Lee *et al*., 2024). This study showed that both *P. shantungensis* and *P. chinensis* occur in the Republic of Korea and in China and are largely sympatric in distribution, share many host plant species, and overlap in the timing of adult emergence. It was noted that *P. chinensis* is distributed in the Republic of Korea and in China (Lee *et al*., 2024), and that *P. shantungensis* is distributed in the Republic of Korea, China, Europe (Bourgoin *et al*., 2020; Lee *et al*., 2024) and in Japan (Kobayashi *et al*., 2024). Note that the specimens from Japan and Europe were not re-examined in that study and identity of the pest present in these regions should be confirmed. It is not known whether one or two of these *Pochazia* species are present in Japan and/or Europe. So far, no European *Pochazia* specimens have been observed to differ morphologically from *P. shantungensis* (Mr Stroiński, pers. comm., 2025). As of 16 May 2025, there have been 67 diagnoses of *Pochazia* on imported plants for planting in the Great Britain. Of these, 62 have been confirmed as *P. shantungensis* with the remaining five identified to generic level. Many of the diagnoses have been confirmed by DNA sequencing.

This PRA report covers both *P. shantungensis* and *P. chinensis*. These species together are hereafter referred to as 'the two *Pochazia* species'. '*Pochazia* sp.' refers to only one of two species[1]. The term 'pest' is used when one or both species are meant.

## STAGE 2: PEST RISK ASSESSMENT

### PROBABILITY OF INTRODUCTION

*Entry*

Geographical distribution:

**Asia:** The two *Pochazia* species are native to East Asia (Figs 1 and 2; Bourgoin *et al*., 2020; Lee *et al*., 2024). However, the exact current distribution of each species is uncertain. Together, *P. shantungensis* and *P. chinensis* have been reported in China (Fujian, Guangxi, Hubei, Shaanxi, Shandong and Zhejiang), Japan (Honshu and Kyushu) and the Republic of Korea (Jiang *et al*., 2023, Lee *et al*., 2024). The pest has one generation per year in the Republic of Korea (Baek *et al*., 2019) and two in China (Baek, 2019). Eggs are capable of overwintering (Baek *et al.*, 2019).

**EPPO region**: France, Italy, the Netherlands, the Russian Federation (southern Russia), and Türkiye (EPPO, 2025a). The latest record of *P. shantungensis* within the EPPO region confirmed the presence (few occurrences) of the pest in Hungary (Schlitt *et al*., 2024). Online citizen science platforms, e.g. iNaturalist and GBIF, provide information suggesting that *P. shantungensis* is present in some other countries, e.g. in Austria, Spain, Switzerland and the United Kingdom; this information, however is not verified and/or confirmed by NPPOs. Unpublished records exist from Belgium (in a greenhouse) (Mr Stroiński, pers. comm., 2025). Based on this information, the current distribution may be underestimated.

In 2024, NPPOs of and experts in France, Italy, the Russian Federation, the Netherlands and Türkiye were requested by the EPPO Secretariat to provide updates on the current distribution of the two *Pochazia* species. NPPOs of France, Italy, the Netherlands and Ms Karpun (Chief Researcher of the Federal Research Centre the Subtropical Scientific Centre of the Russian Academy of Sciences, Sochi) confirmed the presence of *P. shantungensis* in their countries. All cases but the Italian one were confirmed by morphological and also DNA analysis (only morphological identification was done in Italy). Eradication measures are implemented in France, but not in most other EPPO countries where the pest is reported (see *Spread*).

Updated geographical distribution is available in the EPPO GD (EPPO, 2025a&b). *Pochazia* sp. has been eradicated in Germany.

[1] Mr Stroiński (Museum and Institute of Zoology, Polish Academy of Sciences; pers. comm., 2025) indicated that *Pochazia sublimata* and *P. albomaculata*, which, although superficially are similar to *P. shantungensis* and *P. chinensis*, have been identified as distinct taxa; these species were not included into the molecular analysis of Lee *et al*. (2024). Further taxonomic studies would be needed on these two taxa.

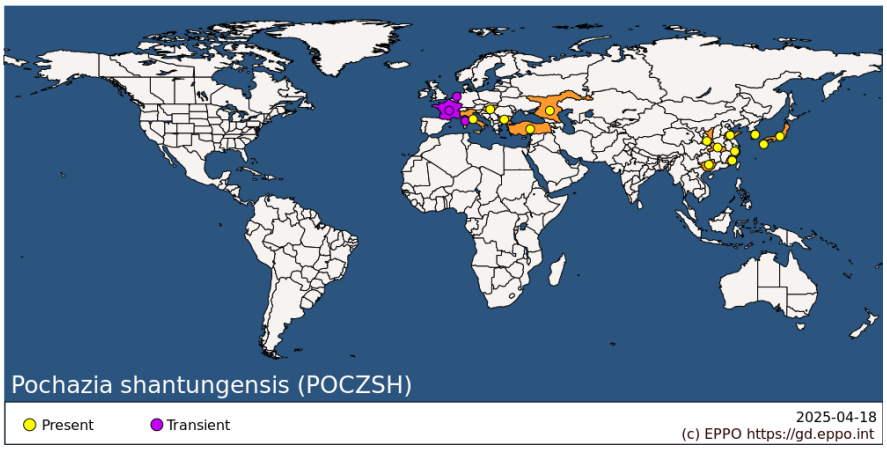


**Fig. 1**. Distribution of *Pochazia shantungensis* (EPPO, 2025a).

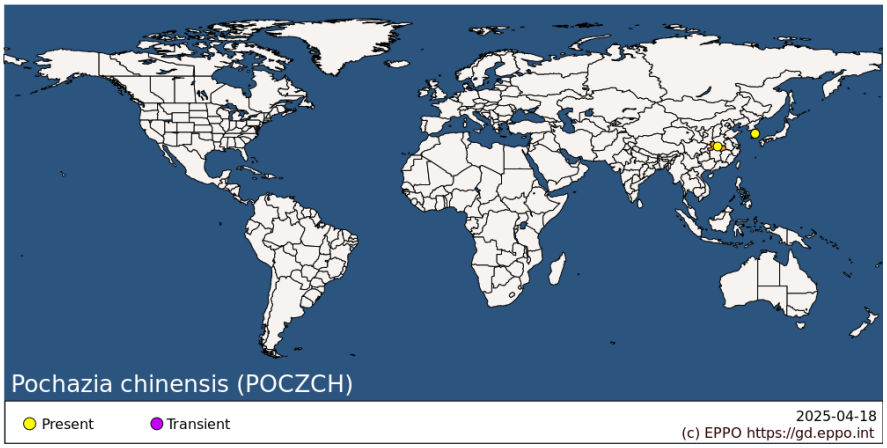


**Fig. 2**. Distribution of *Pochazia chinensis* (EPPO, 2025b).

Major host plants or habitats:

*Pochazia shantungensis* is a very polyphagous pest, with records on more than 200 plant species in 81 families (Bourgoin *et al*., 2020). Economically important hosts include fruit tree species as well as deciduous forest and ornamental tree species. Host plants of *P. shantungensis* include apple (*Malus domestica*), blueberries (*Vaccinium* spp.), chestnuts (*Castanea* spp.), stone fruits (*Prunus* spp.), persimmons (*Diospyros* spp.), black locust (*Robinia pseudoacacia*), oaks (*Quercus* spp.), maples (*Acer* spp.) and elms (*Ulmus* spp.). The host plant list of *P. chinensis* is poorly known as the species is only recently described, but it already covers 17 plant families (Lee *et al*., 2024). For these species the larvae do generally not move between plants. Only plants on which eggs and larvae are found should be considered as 'confirmed host plants'. Adults have been observed to utilise a wider range of plants (Mr Stroiński, pers. comm., 2025).
Some preferred host plants have been identified: In a survey of fruit orchards in Republic of Korea, over 75% of both eggs and adults showed a preference for apple (*Malus domestica*) and peach (*Prunus persica*) orchards, with much smaller numbers detected on other trees (Lee *et al*., 2023). In Türkiye, higher populations are observed on *Ligustrum* spp., laurel (*Laurus*), lilac (*Syringa*) and *Quercus ilex* (Ms Ertaş, pers. comm, 2025).

Updated lists of host plants of the two *Pochazia* species are available in the EPPO Global Database (https://gd.eppo.int/taxon/POCZSH/hosts and https://gd.eppo.int/taxon/POCZCH/hosts).

Which pathway(s) is the pest likely to be introduced on:

At least one of the two *Pochazia* species has already been introduced in the EPPO region. Although it is not known on which pathway(s) the pest was introduced, introduction is possible with plants for planting. The potential

entry pathways for the two *Pochazia* species into the EPPO region are listed below and are based on the EFSA pest categorisation for *P. shantungensis* (EFSA PLH Panel, 2023). Three key pathways (with indication of the associated relevant life stages of the pest) were identified:

**Plants for planting (except seeds, pollen)**: Eggs, larvae, and adults. All stages of the two *Pochazia* species can be present on/in host plants for planting (female adults scratch branches with their legs, and then lay eggs inside the scratched cracks; Baek *et al*., 2022). Eggs are invariably deposited within the plant itself (Mr Stroiński, pers. comm., 2025). When plants are handled, adults will fly away, while eggs and nymphs will remain. The pest was considered to be able to survive on *Acer* spp. during transport and/or storage and arrive to suitable habitats with this pathway (USDA, 2020). There is no scientific data available on how time, temperature and storage conditions affect the survival of the pest.

Within a few years prior to its detection in the Russian Federation, a large number of plants for planting destined for the same location as where to outbreak was recorded were imported from Italy (Zhuravleva *et al*., 2023). As of May 2025, *P. shantungensis* has been detected in 5 nurseries in Tuscany (Italy) (Mr Infantino, pers. comm, 2025).
In 2024, at least 59 interceptions of both larvae and eggs of *P. shantungensis* on plants for planting were recorded in the United Kingdom (DEFRA, 2024). The pest was intercepted in twigs of woody plants from Italy on a variety of species and genera, including *Arbutus unedo, Camellia japonica, Elaeagnus* × *submacrophylla, Euonymus japonicus, Ilex, Laurus, Ligustrum, Magnolia, Photinia and Prunus lusitanica* (DEFRA, 2025).

*In all PRAs reviewed, host plants for planting are considered to be the main pathway for entry of the two* Pochazia *species.*

**Above-ground fresh plant parts (including cut branches, cut flowers and cut foliage)**: Eggs, larvae, and adults. When plants are handled, adults will fly away, while eggs and nymphs will remain. For a new infestation to be initiated, the pest would need to be able to transfer from this host commodity to a living host after entry. Due to the climate suitability in the EPPO region and the large number of hosts, if trade is not prohibited, there is a high probability that transfer occurs and that new infestations are initiated. The risk is lower than for plants for planting as full development might not be possible (plant material needs to be fresh enough; DEFRA, 2025). However, the Panel on Phytosanitary Measures considered that the likelihood of entry with this pathway was higher for the EPPO region compared to the UK (possibility to complete development and higher risk of transfer).

*Cut branches of hosts are considered to be a likely pathway for entry of the two* Pochazia *species in the EPPO region.*

**Hitchhiking**: Adults and nymphs are very mobile (DEFRA, 2025). They can move in containers or vehicles (EFSA PLH Panel, 2023) that contain or have contained host plants (DEFRA, 2025; see previous pathways identified), e.g. mated females. The two *Pochazia* species do not lay eggs on inert objects (such as stones, constructions, cars, containers, etc.); eggs are only inserted in the host plants (Mr Bourgoin, National Museum of Natural History, France, pers. comm., 2025).

*Hitchhikers could be considered to be an unlikely pathway for entry of the two* Pochazia *species into the EPPO region.*

**Fresh fruits of host plants** are not a pathway, except when accompanied with plant parts e.g. *Citrus* fruits with leaves.

**Wood and bark** are also not a pathway as the two *Pochazia* species lay eggs only in/on young host branches (EFSA PLH Panel, 2023).

**Natural spread (flight)** is not a pathway for entry. However, members of this family are good flyers, more agile than *Lycorma* spp. (Mr Bourgoin, pers. comm., 2025); and use this ability to move short distances between plants (Mr Stroiński, pers. comm., 2025) (see also *Spread*).

**Establishment**

Plants at risk in the PRA area:

Establishment of the two *Pochazia* species in the PRA area is facilitated by the wide host range of the pests. Most of the hosts are widely present or grown within the EPPO region, for example:

- **fruit trees:** *Malus domestica* (apple), *Pyrus calleryana* (pear), *Prunus avium* (cherry), and other fruit-bearing woody plants;
- **ornamental woody plants**: many ornamental woody plants, such as *Rosa multiflora* (rose), *Rhododendron indicum* (azalea), and *Camellia japonica* (camellia);
- **agricultural and horticultural crops**: crops that are important for agriculture and horticulture in the EPPO region, such as *Vitis vinifera* (grapevine) and various vegetable crops, could also be at risk;
- **native non-cultivated flora**: European and Mediterranean native wild woody plants.

Climatic similarity of present distribution with PRA area (or parts thereof):

The EFSA pest categorisation map shows seven climatic zones that occur both in the EPPO region and in the countries where the pest is present (Fig. 3; EFSA PLH Panel, 2023).

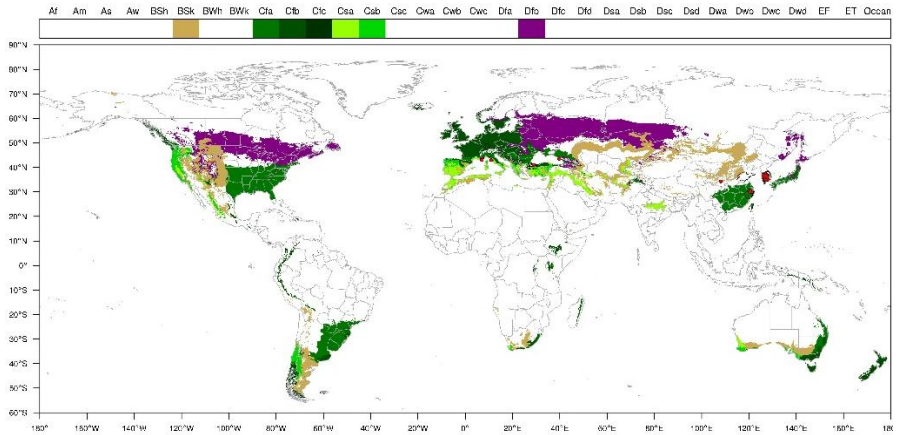


**Fig. 3**. World distribution of seven Köppen-Geiger climate types that occur in the EPPO region and in countries where *Pochazia shantungensis* has been reported (EFSA PLH Panel, 2023; see 'Taxonomic position of pest': it is not known which of the two *Pochazia* species, or both, is/are distributed in Europe).

The pest's native range in East Asia includes several Köppen-Geiger climatic zones, which are also present in the EPPO region (Fig. 3). The primary zones include:

- **Cfa** (temperate, hot summer, no dry season): This is the predominant climate in the pest's native range in Eastern China and corresponds to some areas where the pest has been introduced so far in the EPPO region. Similar climatic conditions exist in parts of Southern and Eastern Europe,

particularly in Italy, Greece, Portugal, Spain, parts of the Balkans, and in Southern Russia;
- **Csa** (temperate, dry, hot summer): Found in regions like Marmara in Türkiye, this climate is also prevalent in parts of southern Europe, such as coastal areas of the Mediterranean (e.g., Greece, Italy, Portugal, and Spain);
- **Csb** (temperate, dry, warm summer): This zone is present in certain parts of the Alpes-Maritimes in southern France, which could potentially support the establishment of the pest.

In 2023, an updated version of the Köppen-Geiger climatic zones for the period 1991–2020 was published. According to this update, the two *Pochazia* species are distributed in the Cfa, Dwa, Cwa and Dfa climatic zone, but not in the Csa and Csb climatic zones. However, only Cfa and Dfa are present in the EPPO region. This update would exclude Portugal, Morocco, Algeria, Tunisia, Israel and Jordan from the climatic range of the pest while it would add Slovakia, Slovenia, Switzerland and Austria (Beck *et al*., 2023; Koppen.earth, 2024).

Mistry *et al*. (2019) focuses on using degree-day (thermal unit) modelling to predict the life cycle and population dynamics. Overall, the data seems to suggest that temperatures around 10–12°C are too cool to permit any significant development of *P. shantungensis*, and 14–16°C allow some development at slow rates. Although it should not be interpreted as a strict threshold, degree day accumulation over 18°C can be used to highlight areas where the pest would develop well in the EPPO region (Fig. 4; DEFRA, 2025).

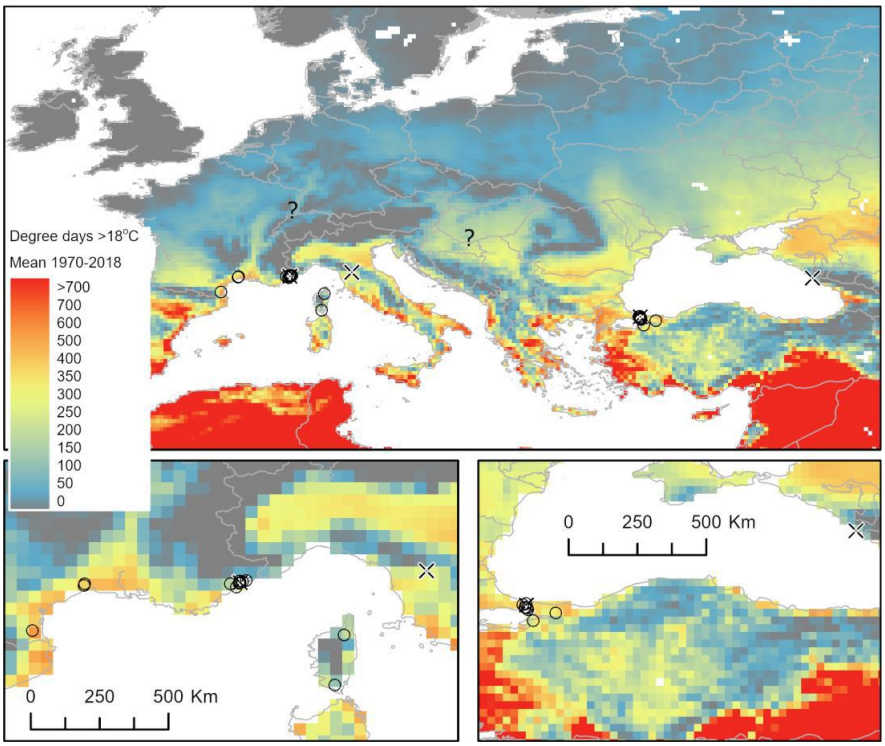


**Fig. 4.** Degree day accumulation over a threshold of 18°C in Europe using data from Mistry *et al*. (2019) (source: DEFRA, 2025).

The climatic conditions in Southern European and Central Asian regions, particularly those with temperate climate and hot summers, align with the climate within the native range of the pest. In particular, it is reported to have established in Hungary (Pécs), Italy, Türkiye and the Russian Federation. Protected environments such as glasshouses could provide conditions that are suitable for *P. shantungenis* development in countries where the outdoor conditions are unsuitable.

| | |
|---|---|
| Characteristics (other than climatic) of the PRA area that would favour establishment: | Other than climate and host presence, there are no other characteristics highlighted by EFSA PLH Panel (2023), JKI (2021), and NVWA (2023) that would influence the likelihood of establishment. |
| Which part of the PRA area is the area of potential establishment: | The presence of climatic zones Cfa and Dfa in southern Europe suggests that these areas are at higher risk of establishment. The pest is likely to thrive in regions with temperate climates that have hot or warm summers, particularly where there is no pronounced dry season. Additionally, the pest has shown tolerance to winter temperatures in its native regions (e.g., Shandong Province of China, with a Cfa climate). This suggests that the pest could survive winters in temperate regions in the EPPO region. |
| **Spread** | Data is missing on the distance the pest could fly. *Ricania* sp. likely to be *P. shantungensis* were reported to fly over 30 m; and a different ricaniid, *Scolypopa australis*, mostly travelled less than 40 m in release-recapture experiments (maximum 70 m for a small number of individuals) (DEFRA, 2025). Mr Bourgoin (pers. comm., 2025) indicated that it has been observed and reported in the United States of America that *Lycorma* spp. engages in mass flights (described as swarms) over trees. This period is very brief but could facilitate longer-distance dispersal. Mr Stroiński (pers. comm., 2025) concluded with assertion that flight does not represent the primary mode of locomotion. These insects are capable of short-distance flight, but are not proficient fliers, and primarily utilise this ability to move between plants. Larvae are also mobile by walking. Over long distances, the movement of plants for planting and cut branches can transport the pest in all stages (adults, larvae, and eggs). Baek *et al*. (2019) reported that hitchhikers could play a key role on the spreading of *P. shantungensis*, as the pest was detected around resting areas of highways in newly invaded locations (see *Pathways*).<br><br>NPPOs of France, Italy, the Russian Federation, the Netherlands and Türkiye were requested to describe the control measures currently implemented to eradicate or limit the distribution of the two *Pochazia* species, if present. The NPPO of France communicated in January 2025 that since 2021 *P. shantungensis* (both adults and larvae) has been detected a total of 60 times across Corse, Occitanie and Provence-Alpes-Côte d'Azur, on citrus and kiwifruit plants, with peaks observed in July and October for adults. Control measures have been implemented in order to limit the development of the species in production plots (application of phytosanitary treatments). In communication with the NPPO of the Netherlands (2024), it was confirmed that as several findings were recorded by citizens, the NPPO decided to adjust the pest status to 'present, few occurrences'. No eradication or containment measures are implemented in the Netherlands; nor in Türkiye (Ms Ertaş, pers. comm, 2025) and Italy (Mr Infantino, pers. comm., 2025).<br><br>Ms Karpun (Federal Research Centre the Subtropical Scientific Centre of the Russian Academy of Sciences, Sochi, pers. comm., 2025) confirmed that currently, *P. shantungensis* is distributed in the Russian Federation along the Black Sea coast from the border with the Republic of Abkhazia to the village of Lazarevskoye (Krasnodar Territory), which is approximately 89 km along the seashore. The area of the species' invasive range in Russia is about 220 km$^2$. *Pochazia shantungensis* has not yet been recorded in the Tuapse town and in the Republic of Abkhazia. Since the species is not included in the list of quarantine pests in the Russian Federation, official control measures are not implemented. |

The lack of implemented phytosanitary measures contributes to the rapid spread of the pest throughout the EPPO region.

## POTENTIAL ECONOMIC CONSEQUENCES

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

The pest damages plants by sucking sap and promoting sooty mold via honeydew secretion, and by obstructing the vascular system through egg-laying in young branches (EFSA PLH Panel, 2023). It is particularly harmful to fruit plants and roadside trees in Zhejiang Province, China (Shen *et al*., 2007).

In the Republic of Korea, populations of the pest increased by over 100% annually between 2015 and 2017, leading to fruit drop and tree mortality in apple and chestnut orchards (in a small number of orchards, all trees died during early stages of invasion) (Baek *et al*., 2023). Although high populations were observed, there is no evidence that a second generation can complete the life cycle despite larvae being found in Autumn. When 10 or more eggs are laid on a persimmon plant, 100% of the new shoots died (Baek *et al*., 2019, 2024). Chemical treatments, mostly with plant extracts, are recommended to be used in Republic of Korea to repel or kill the pest (EFSA PLH Panel, 2023).

In other parts of the invasive range, impacts have apparently not been recorded e.g. even in Japan (where present since 2015) locally under high densities (DEFRA, 2015). Economic impacts in protected environments have not been recorded in the scientific literature.

**Describe damage to potential hosts in PRA area:**

The two *Pochazia* species have a wide host range which includes economically important fruit and ornamental crops for the EPPO region, such as *Vitis vinifera* (grapevine) and *Olea europea* (olive tree). Similarly, to the situation in the Republic of Korea and in parts of China, the two *Pochazia* species could pose a potentially serious phytosanitary risk in the EPPO region.

However, communication with the NPPOs of France and Italy (2024) confirmed that to date, *P. shantungensis* has not caused significant damage to private gardens, nurseries or fruit orchards. In Türkiye where *P. shantungensis* is known to be present since 2018 and reported to have two generations (low populations in production areas, higher in ornamental/forestry), no relevant economic impact was found (Ms Ertaş, pers. comm, 2025). Although not authorized yet, treatments with products based on acetamiprid, deltamethrin or azadirachtin were reported to be effective (Cetin *et al*., 2025).

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

Potential economic losses are difficult to estimate although it is known that the two *Pochazia* species have a wide host range (mostly high-value fruit crops). Infection by *P. shantungensis* could result in reduced yields and lower fruit quality, which could directly affect the marketable produce, and reduce the value of ornamental plants (USDA, 2020). This potential impact is equally applicable to the PRA area.

## CONCLUSIONS OF PEST RISK ASSESSMENT

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

Estimate the probability of entry:

**Entry to and within the EPPO region:** high likelihood with low uncertainty as the number of hosts and amount of trade are high. China and

Japan are notable sources of plants for planting and above-ground fresh plant parts in the EPPO region. Thus, only in 2023, the EU imported these commodities (codes 2926, 29269 and 29272) with a total value of 109 and 11 million euros, respectively (EUROSTAT, 2024). In 2022, Germany and the Netherlands were two of the three top importers of ornamental plants (Hinsley *et al*., 2023). Interception of the pest with ornamental plants for planting between countries of the EPPO region is already reported.

Estimate the probability of establishment: High likelihood with low uncertainty, as the pest is already established in part of the EPPO region.

Estimate the magnitude of spread: High likelihood with low uncertainty. In Italy, the pest is present in an area with several nurseries. *P. shantungensis* is hypothesised to have moved from Italy to the Russian Federation (Zhuravleva *et al*., 2023). It is also likely that there will be new outbreak foci that are the result of spread on plants for planting or cut branches due to international trade and the susceptibility for establishment in the EPPO region (diverse range of climates and host plants that could potentially support the establishment of *P. shantungensis*). The spread is more probable via host plants with inserted eggs (Mr Bourgoin, pers. comm., 2025).

Estimate the potential economic impact: In areas with climates similar to the locations where the pest has been found in France, Italy, the Netherlands, the Russian Federation (Southern Russia) or Türkiye, the impact is likely to be low to moderate with high uncertainty. The impact is likely to be progressively lower further north because the potential for the pest to have high population density and cause damage will decrease.

Degree of uncertainty: Main uncertainties have been identified.

- It is not clear if *P. chinensis* is already present in Europe.
- The pest has one generation per year in the Republic of Korea (Baek *et al*., 2019) and two in China (Baek, 2019). However, how many annual generations the pest would have in different parts of the EPPO region is unknown (except Türkiye where 2 generations are reported).
- Regarding flying distance, lack of available data does not allow estimating an accurate flying distance.
- Species are polyphagous, but knowledge on trophic preferences are limited.
- Low thermal threshold and other ecophysiological parameters are not known.
- Reasons for economic impact mainly reported in South Korea are unclear.

**OVERALL CONCLUSIONS** *Considering*

- *its limited economic impact reported so far in the EPPO region (where present) as well as in its invasive range outside South Korea,,*
- *its geographic distribution which may be underestimated*
- *the absence of control measures implemented in many EPPO countries, together with the rapidity of spread, and*
- *the difficulty to control in public areas due to its polyphagous habit,*

*the Panel concluded that the pest should not be recommended for listing on the EPPO A2 List.*

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