



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLU Risk Assessment of Plant Pests

SLU.ua.2021.2.6-2603

July 2, 2021

Feedback on a list of plant pests with candidates for risk assessments

1 Terms of reference

A number of plant pests found in EFSA's media and literature horizon scanning have been scored using EFSA's PeMoScoring tool (EFSA 2021). The pests were scored regarding their potential risk and compared to a set of reference pests resulting in "positive" and "negative" pests (EFSA 2021). Which plant pests that would require further action, e.g. risk categorisation needs to be decided. A list of other plant pests that recently have been the subject of risk management action in different MS were also included. Table 1 below provides a list of all pests including their synonymous names.

SLU Risk Assessment of Plant Pests was requested by the Swedish Board of Agriculture to provide feedback in terms of whether these pests are present in Sweden and to provide other information that is relevant for which of the pests that should be chosen for risk assessments.

Due to extreme time constraints the work focused on i) verifying whether the pests are reported to be present in Sweden and ii) to provide additional information about some of the pests scored 'negative' in the PeMoScoring and some of the recently managed pests that may be relevant for the further discussions.

2 Presence of the listed plant pests in Sweden

The scientific names in the species list, including synonyms, were matched against the Swedish Taxonomic Database (Dyntaxa 2021). Synonyms were obtained mainly from EPPO Global Database (EPPO 2021), but also through literature searches. Note that, two of the names in the list, i.e. "*Erysiphe corylacearum*", was assumed to be a misspelling of "*Erysiphe corylacearum*" and "*Meloidogyne enterlobii*", was assumed to be "*Meloidogyne enterlobii*". None of the species names were found represented in Dyntaxa. For the taxa only listed at the genus level a match was made for *Curculio* sp. since there are several species of that genus in Sweden (Dyntaxa 2021).

The insect species were also matched against Beetlebase (2021) and the fungal and oomycete species were searched in USDA Fungal database (Farr & Rossman 2021). In Beetlebase there was one record of a finding of *Trichoferus campestris* but that was referring to one specimen reared from wood packaging material originating in China (Beetlebase 2021; Dascălu et al. 2013; Europhyt 2021).

A search was conducted for all the scientific names and filtering for “Sweden” in Web of Science (2021). Further, a search for all the scientific names was conducted using the search engine Google but restricting the search to Swedish webpages. No additional information was obtained with these searches.

In conclusion: No evidence was found for that any of the pests in the species list is established in Sweden (but see below for the genus level, i.e. *Curculio* sp.).

3 “Negative species” from the PeMoScoring

Without having the information of why the pests were scored as ‘negative’ we suggest that the following pests may need further consideration before their relevance can be excluded.

3.1 *Coleosporium montanum*

Coleosporium montanum is a rust fungus infecting *Pinus* spp. (causing pine needle rust) and species of the Asteraceae. It is closely related to *C. asterum* and *C. solidaginis* and has previously been considered conspecific with these species (McTaggart & Aime 2018). It is suggested to be native to North America but reported not only from Canada and USA, but also from China, Japan and Korea (McTaggart & Aime 2018). *Coleosporium montanum* was found in Austria in 2017, but may have been found earlier and misidentified as *C. asterum* (Voglmayr et al. 2020). The distribution in the EU is thus uncertain.

The risk to California from *C. montanum* was recently rated (CDFA, 2020). Risk assessments have been done for the related species. A PRA for *C. asterum* has been performed for the UK (Sansford 2015). The *C. asterum* – *C. solidaginis* species complex was also assessed in a commodity risk assessment of ornamental plants in the Nordic countries (Marinova-Todorova et al. 2020). It was e.g. concluded that “Based on the spread history, the likelihood of invasion was assessed as rather high but the impact on *Pinus sylvestris* in the area at risk was assessed to be lower than that of many other ranked pests.” It should be noted that *P. sylvestris* is not a known host of *C. montanum* (McTaggart & Aime 2018; Farr & Rossman, 2021).

3.2 *Erysiphe corylacearum*

Highlighted as an emerging pest of hazel in the EPPO region earlier this year (EPPO 2021 - <https://gd.eppo.int/reporting/article-6981>). In the EU it is reported from Austria, Italy and Romania (EPPO 2021). *Corylus avellana* and *C. colurna* are listed as major hosts by EPPO.

3.3 *Raffaelea quercivora*

Raffaelea quercivora vectored by the ambrosia beetle *Platypus quercivorus* is reported to cause high mortality of oak in Japan (EPPO 2008; EPPO 2021). The pathogen was previously listed on EPPO Alert list but was deleted in 2008 due to insufficient data to assess the risk to the

EPPO region (EPPO 2008; EPPO 2021). However, there may be more data available now to further assess the risk (see e.g. Masuya 2018).

4 Pests for which some EU MS have conducted national measures against

Several of the pests are listed on the EPPO Alert list, i.e. *Thekopsora minima*, *Meloidogyne ethiopica*, *Leucinodes orbonalis*, *Leucinodes pseudorbonalis* and *Meloidogyne enterolobii*.

There are also EPPO PRAs performed for *Thekopsora minima* (EPPO 2017), *Meloidogyne enterolobii* (EPPO 2010) and for *Trichoferus campestris* under the synonym name *Hesperophanes campestris* (EPPO 2005).

Curculio is a genus that includes several hundreds of species of which some are native to Sweden. Presumably “*Curculio* sp.” here refers to the North American species that are pests on oaks since there is a German Express-PRA on that group of pests where they conclude that it constitute a considerable phytosanitary risk to the EU member States (Wilstermann and Schrader 2019). Destruction or rejection of a consignment where *Curculio* sp. was found has been conducted with a reference to that this group of pests is considered to constitute a “potential quarantine pest”. It thus seems to make sense to evaluate this group further to be able to determine if they qualify as quarantine pests or not.

Table 1. List of plant pests included in the assignment and synonyms included in the search for the potential presence in Sweden. The list of synonyms was obtained using an inclusive approach, all mentioned synonyms found was included and was not verified for the searches.

Species name	Potential synonyms
“Positive” pests from PeMoScoring	
Citrus yellow vein clearing virus	CYVCV, Citrus yellow vein agent, yellow vein of citrus
Pepper vein yellows virus	Pepper vein yellows virus 1, Pepper yellows virus, PeVYV
Rose spring dwarf-associated virus	RSDaV
<i>Neocosmospora falciformis</i>	<i>Acremonium falciforme</i> , <i>Cephalosporium falciforme</i> , <i>Fusarium falciforme</i> , <i>Fusarium paranaense</i>
<i>Neoscytalidium novaehollandiae</i>	<i>Neoscytalidium hyalinum</i>
<i>Peronospora aquilegiicola</i>	
<i>Phytophthora pistaciae</i>	
<i>Aphis illinoisensis</i> (vector for GVCV)	<i>Aphis ampelophila</i> , <i>Macrosiphum illinoisensis</i> , <i>Siphonophora viticola</i>
<i>Blissus insularis</i>	
<i>Empoasca fabalis</i>	
<i>Erasmoneura vulnerata</i>	<i>Erythroneura vulnerata</i>
<i>Orosanga japonica</i>	<i>Ricania japonica</i>
<i>Sophonia orientalis</i>	<i>Nirvana orientalis</i> , <i>Pseudonirvana rufofascia</i> , <i>Sophonia rufofascia</i>

Species name	Potential synonyms
“Negative” pests from PeMoScoring	
Bougainvillea spectabilis chlorotic vein-banding virus	BsCVBV
Cacao mild mosaic virus	CaMMV
Lettuce necrotic leaf curl virus	LNLCV
Pineapple mealybug wilt-associated virus 1, 2 and 3	PMWaV
Sesame curly top virus	SeCTV, Turncurtovirus
Triticum mosaic virus	TriMV
<i>Xanthomonas cucurbitae</i>	<i>Xanthomonas campestris</i>
<i>Calonectria cerciana</i>	
<i>Coleosporium montanum</i>	
<i>Curvularia pseudobrachyspora</i>	
<i>Cytospora pistaciae</i>	
<i>Erysiphe corylacearum</i>	<i>Erysiphe corylacaearum*</i> , <i>Erysiphe hommae</i> , <i>Microsphaera hommae</i>
<i>Hemileia vastatrix</i>	
<i>Neofusicoccum batangarum</i>	
<i>Neofusicoccum stellenboschiana</i>	
<i>Raffaelea lauricola</i> (*)	
<i>Raffaelea quercivora</i>	
<i>Brachyplatys subaeneus</i>	
<i>Pulvinaria polygonata</i>	<i>Chloropulvinaria polygonata</i>

Species name	Potential synonyms
Plant pests subjected to risk management action for some MS	
<i>Thekopsora minima</i>	
<i>Meloidogyne ethiopica</i>	
<i>Leucinodes</i> sp.	
<i>Leucinodes orbonalis</i>	<i>Pycnarmon discerptalis</i>
<i>Leucinodes pseudorbonalis</i>	
<i>Meloidogyne enterolobii</i>	<i>Meloidogyne enterlobii*</i> , <i>Meloidogyne mayaguensis</i>
<i>Arhopalus unicolor</i>	<i>Cephalallus unicolor</i> , <i>Criocephalus unicolor</i> , <i>Megasemum projectum</i>
<i>Curculio</i> sp.	
<i>Atherigona orientalis</i>	<i>Atherigona excisa</i>
<i>Dialeuropora decempuncta</i>	
<i>Trichoferus campestris</i>	<i>Callidium campestris</i> , <i>Hesperophanes campestris</i> , <i>Hesperophanes flavopubescens</i> , <i>Hesperophanes rusticus</i> , <i>Stromatium turkestanicum</i> , <i>Trichoferus flavopubescens</i> , <i>Trichoferus rusticus</i> , <i>Trichoferus turkestanicus</i>
<i>Resseliella citrifrugis</i>	

* Presumably misspelled name used in the original list of pests.

Authors

This report was prepared by SLU Risk Assessment of Plant Pests at the Swedish University of Agricultural Sciences:

Niklas Björklund, Dept. of Ecology, Swedish University of Agricultural Sciences, P.O. Box 7044, SE-750 07 Uppsala, Sweden. Visiting address: Ullsväg 16, E-mail: Niklas.Bjorklund@slu.se

Johanna Boberg, Dept. of Forest Mycology and Plant Pathology, Swedish University of Agricultural Sciences, PO Box 7026, SE-750 07 Uppsala, Sweden. Visiting address: Almas allé 5, E-mail: Johanna.Boberg@slu.se

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