



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLU Risk Assessment of Plant Pests

SLU.ua.2023.2.6-342

February 17, 2023

Feedback on a list of plant pests with candidates for risk assessments – Batch 7

Background

During the period October 2022 to January 2023 eighteen of the plant pests that were found in EFSA's media and literature horizon scanning (EFSA 2023) were evaluated with EFSA's PeMoScoring tool (EFSA 2022; EFSA 2023 unpublished). Based on the PeMoScoring the pests were either rated as above a threshold value (= positive) or below it (= negative), where further actions are proposed for the former group of pests.

The evaluated pests were:

- Citrus virus A
- Dasheen mosaic virus
- Pothos latent virus
- *Erasmoneura vulnerata*
- Basella rugose mosaic virus
- *Idriella lunata*
- *Phaeobotryon negundinis*
- Plum viroid I
- *Syllepte derogata*
- *Acanalonia conica*
- *Aculops cannabicola*
- Ash shoestring-associated virus
- Cactus virus X
- *Colletotrichum pandanicola*
- *Phytophthora alticola*
- Tomato yellow mottle-associated virus
- *Clavibacter tessellarius* (previously *Clavibacter michiganensis* subsp. *tessellarius*)
- Southern rice black-streaked dwarf virus

SLU Risk Assessment of Plant Pests was requested by the Swedish Board of Agriculture to provide feedback in terms of (i) whether any of these pests are present in Sweden and (ii)

whether there are some special reasons to exclude or prioritize any of the pests for further pest categorizations (i.e., in addition to those provided by an EFSA PeMoScoring evaluation of these species (EFSA 2022, unpublished)). This report is the 7th of similar reports provided on the topic.

Methods

A broad approach was used to find information about observations of the pests in Sweden. Searches were performed in: Web of Science (2023) (filtering for “Sweden”), the search engine Google (restricting the search to Swedish webpages and the top 100 hits), Google Scholar (including “Sweden” in the search string and restricting the review to the top 100 hits), and in different specific databases, i.e., CABI Compendium Crop Protection (CABI 2023), Descriptions of Plant Viruses (DPVweb.net 2023), EPPO Global Database (EPPO 2023a), EPPO Platform on PRAs (EPPO 2023b), EUROPHYT (2020) (at the species level), TRACES NT (2023), Fauna Europaea (2023), SLU Artfakta (SLU Swedish Species Information Center 2023a), iNaturalist (2023), GBIF (2023), UK Plant Health Risk Register (FERA 2023), Svampar i Sverige (2023) and USDA Fungal databases (Farr & Rossman 2022).

The searches included the following preferred names and synonyms (EPPO codes within brackets):

- Citrus virus A, CiVA
- Dasheen mosaic virus [DSMV00] = Dasheen mosaic potyvirus, DsMV
- Pothos latent virus [POLV00] = PoLV
- *Erasmoneura vulnerata* [ERYTVU] = *Erythroneura vulnerata*,
- Basella rugose mosaic virus [BARMV0] = BarMV
- *Idriella lunata*
- *Phaeobotryon negundinis*
- Plum viroid I [PVDI00] = PVd-I,
- *Syllepte derogata* [SYLEDE] = *Haritalodes derogata*, *Natarcha derogata*, *Notarcha derogata*, *Phalaena derogata*, *Phalena derogata*, *Pleuroptya derogata*, *Sylepta derogata*, *Sylepta multilinealis*, *Syllepte annuligeralis*, *Syllepte derogata*, *Syllepte multilinealis*, *Syllepte otysalis*, *Syllepte salomealis*, *Synclera multilinealis*
- *Acanalonia conica* [ACNLCO] = *Flata conica*
- *Aculops cannibicola* [ACUPCN] = *Aculops cannabicola*
- Ash shoestring-associated virus, ASaV
- Cactus virus X [CVX000] = Cactus virus 1, Cactus X potexvirus, Cactus (zygocactus) potexvirus, CVX, Kakteen-Virus.
- *Colletotrichum pandanicola* [COLLPK]
- *Phytophthora alticola* [PHYTAC]
- Tomato yellow mottle-associated virus, *Cytorhabdovirus lycopersici*
- *Clavibacter tessellarius* [CLABMT] = *Clavibacter michiganense* subsp. *tessellarius*, *Clavibacter michiganensis* subsp. *tessellarius*, *Corynebacterium michiganense* subsp. *tessellarium*, *Corynebacterium michiganense* subsp. *tessellarius*

- Southern rice black-streaked dwarf virus [SRBSDV] = SRBSDV

The synonymous names listed above were obtained from the following sources: Aurivillius 1897; CABI 2023; Descriptions of Plant Viruses (DPVweb.net 2023); EPPO 2023a; Farr & Rossman 2023; International Committee on Taxonomy of Viruses (ICTV 2023); Svanella-Dumas et al. 2019).

Results and discussion

- **Citrus virus A (Viruses and viroids) Negative PeMoScoring**
 - No reports of observations of Citrus virus A in Sweden were found.
- **Dasheen mosaic virus [DSMV00] (Viruses and viroids) Positive PeMoScoring**
 - Additional information to the information provided in EFSA (2023 unpublished): the aphid species *Myzus persicae* is also found in Sweden (SLU Swedish Species Information Center 2023b) meaning that all three known vectors of the virus are found in Sweden.
 - No reports of observations of Dasheen mosaic virus in Sweden were found.
- **Pothos latent virus [POLV00] (Viruses and viroids) Negative PeMoScoring**
 - No reports of observations of Pothos latent virus in Sweden were found.
- ***Erasmoneura vulnerata* [ERYTVU] (Insecta) Positive PeMoScoring**
 - No reports of observations of *Erasmoneura vulnerata* in Sweden were found.
- **Basella rugose mosaic virus [BARMV0] (Viruses and viroids) Negative PeMoScoring**
 - No reports of observations of Basella rugose mosaic virus in Sweden were found.
- ***Idriella lunata* (Fungi) Positive PeMoScoring**
 - The cultivated host plant surface in the PRA area for *Idriella lunata* was underestimated (see the section “Comment on the PeMoScoring model” above).
 - Additional information to the distribution and host list considered in EFSA (2023 unpublished): The fungus has also been isolated twice from soil in the Netherlands and from the root of *Tilia petiolaris* in Germany. Cultures are available at the fungal biodiversity centre (CBS) of the Netherlands (KNAW 2023). There are many records in GBIF (2023) associated with *I. lunata* (c.f. “species hypothesis”) (PlutoF. 2023). Although these records does not represent certain records of this fungus they indicate that the pest may already be widely distributed but e.g. surveys are necessary to confirm this.

- No reports of observations of *Idriella lunata* in Sweden were found.

- ***Phaeobotryon negundinis* (Fungi) Positive PeMoScoring**
 - Additional information the country records in EFSA (2023 unpublished): The fungus has also been isolated from Ukraine where it was found on dead branches and stems of *Acer nigrum* (Zhang et al. 2021 (Table S1)).
 - No reports of observations of *Phaeobotryon negundinis* in Sweden were found.

- **Plum viroid I [PVDI00] (Viruses and viroids) Negative PeMoScoring**
 - Additional information to the information provided in EFSA (2023 unpublished): A recently published article indicate that this viroid does not only have host plants belonging to one genus but two, i.e., isolates were identified in pomegranate (*Punica granatum*) (Ruiz-García et al. 2023).
 - No reports of observations of Plum viroid I in Sweden were found.

- ***Syllepte derogata* [SYLEDE] (Insecta) Negative PeMoScoring**
 - Additional information to the information provided in EFSA (2023 unpublished): There is empirical support for that there is one open pathway since the pest has been intercepted at least once, i.e. on *Hibiscus* from Sri Lanka in the Netherlands 2008 (PPC The Netherlands 2009).
 - No reports of observations of *Syllepte derogata* in Sweden were found.

- ***Acanalonia conica* [ACNLCO] (Insecta) Positive PeMoScoring**
 - No reports of observations of *Acanalonia conica* in Sweden were found.

- ***Aculops cannabicola* [ACUPCN] (Arachnida) Negative PeMoScoring**
 - No reports of observations of *Aculops cannabicola* in Sweden were found.

- **Ash shoestring-associated virus (Viruses and viroids) Negative PeMoScoring**
 - According to a recent publication, the ash shoestring-associated virus appears to infect both ash and pea (Kuhn et al. 2022).
 - The currently known range of this pest extends from southern Sweden to northern Italy, i.e. it is widely distributed in EU and it has *only* been found in EU-countries. We are therefore surprised that a PeMoScoring of this pest was performed.

- **Cactus virus X [CVX000] (Viruses and viroids) Negative PeMoScoring**
 - No reports of observations of Cactus virus X in Sweden were found.

- ***Colletotrichum pandanicola* [COLLPK] (Fungi) Negative PeMoScoring**
 - No reports of observations of *Colletotrichum pandanicola* in Sweden were found.
- ***Phytophthora alticola* [PHYTAC] (Oomycota) Negative PeMoScoring**
 - No reports of observations of *Phytophthora alticola* in Sweden were found.
- **Tomato yellow mottle-associated virus (Viruses and viroids) Negative PeMoScoring**
 - We suggest that the name tomato yellow mottle-associated virus is replaced with *Cytorhabdovirus lycopersici* since all species in this family have been changed to binominals as required by the recently amended ICVCN (Turina et al. 2022).
 - No reports of observations of Tomato yellow mottle-associated virus in Sweden were found.
- ***Clavibacter tessellarius* [CLABMT] (Bacteria) Negative PeMoScoring**
 - No reports of observations of *Clavibacter tessellarius* in Sweden were found.
- **Southern rice black-streaked dwarf virus [SRBSDV] (Viruses and viroids) Negative PeMoScoring**
 - No reports of observations of Southern rice black-streaked dwarf virus in Sweden were found.

Conclusion

Some new information of significance for the PeMoScoring was found for some of the pests, e.g. a wider host range and distribution for some pests.

As was noted by EFSA (2023 unpublished) one of the pests, i.e. Ash shoestring-associated virus, is already present in Sweden (Gaskin et al. 2021). No evidence was found for that any of the other pests is present in Sweden.

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