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2021/235 New data on quarantine pests and pests of the EPPO Alert List

By searching through the literature, the EPPO Secretariat has extracted the following new data concerning quarantine pests and pests included (or formerly included) on the EPPO Alert List, and indicated in bold the situation of the pest concerned using the terms of ISPM no. 8.

- **New records**

Halyomorpha halys (Heteroptera: Pentatomidae – formerly EPPO Alert List) is reported for the first time from Algeria. A specimen was found in October 2021 in the city centre of Skikda. The insect had been attracted at night by artificial light on the wall of a house. It is noted that *H. halys* had been observed before (in July 2021) in the same area of the city (van der Heyden *et al.*, 2021).

In Iran, symptoms resembling those of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) were first observed in August 2021 in tomato plants (*Solanum lycopersicum*) grown in a greenhouse in Isfahan province. The plants had been grown from imported seed. The identity of the virus was confirmed by RT-PCR. All plants were removed and destroyed (Ghorbani *et al.*, 2021). **Present, under eradication**.

In Saudi Arabia, symptoms resembling those of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) were first observed in January 2021 in tomato plants (*Solanum lycopersicum*) grown in several greenhouses in Riyadh region. The identity of the virus was confirmed by RT-PCR and partial nucleotide sequence. ToBRFV was identified in 25 out of 45 samples taken (Sabra *et al.*, 2021). **Present**

- **Detailed records**

Citrus tristeza virus (*Closterovirus*, CTV – EPPO A2 List) is reported for the first time from Georgia (US). In autumn 2020, asymptomatic leaf samples were collected from 13 orange trees (*Citrus sinensis*) grafted on *Poncirus trifoliata* in an orchard in Tifton. Laboratory analysis (molecular and serological tests) confirmed the presence of CTV (mild strains) in 8 samples out of 13. It is noted that aphid vectors, such as *A. gossypii* and *A. aurantii,* are widely present in the state of Georgia (Ali *et al.*, 2021).

In Ohio (US), *Gymnosporangium yamadae* (EPPO A1 List) was first found in August 2020 on crab apple trees (*Malus* spp.) in a research plot of the Secrest Arboretum in Wooster (Emanuel *et al.*, 2021).

In India the potato apical leaf curl disease caused by tomato leaf curl New Delhi virus (*Begomovirus*, ToLCNDV – EPPO Alert List) is becoming a major disease in potato production in several states: Assam, Bihar, Chhattisgarh, Gujarat, Hayana, Karnataka, Madhya Pradesh, Odisha, Punjab, Uttar Pradesh, Uttarakhand, West Bengal (Kumar *et al.*, 2021).

- **Diagnostics**

Three molecular protocols using qPCR TaqMan probe, SYBR Green, and loop-mediated isothermal amplification (LAMP) methods have been developed for the identification of larvae and adults of the false codling moth, *Thaumatotibia leucotreta* (Lepidoptera: Tortricidae – EPPO A2 List) (Rizzo *et al.*, 2021).

- **Host plants**

Phytophthora ramorum (EPPO A2 List) was recovered from symptomatic foliage of *Vinca minor* (periwinkle) in a botanical garden in Washington state (US). Pathogenicity of *P. ramorum* to *V. minor* was confirmed by completing Koch's postulates (Elliot *et al.*, 2021).

- **New pests and taxonomy**

For more than sixty years, the possible causes of chestnut mosaic disease remained unknown. Since the 1980s, this disease has been observed in chestnut commercial orchards in France and Italy. There were also records from Hungary and Japan. Past studies had shown that this disease was graft-transmissible, eliminated by thermotherapy and transmitted by aphids. Recent studies (HTS, phylogenetic analyses) have demonstrated that a new badnavirus, tentatively called *Chestnut mosaic virus* (ChMV) is associated with this disease. Although Koch's postulates were not fully verified, experiments strongly suggest that ChMV is the causal agent of chestnut mosaic disease. The low diversity of ChMV isolates from France and Italy also indicates that this virus is of recent introduction in Europe (Marais *et al.*, 2021).

Sources:

Ali E, Bennett A, Stackhouse T, Walliullah S, Oliver JE (2021) First report of citrus tristeza virus infecting citrus trees in Georgia, USA. *Plant Disease* **105**(7), p 2024. https://doi.org/10.1094/PDIS-02-21-0365-PDN

Elliott M, Rollins L, Bourret T, Chastagner G (2021) First report of leaf blight caused by *Phytophthora ramorum* on periwinkle (*Vinca minor*) in Washington State, USA. *Plant Disease* **105**(7), p 2023. https://doi.org/10.1094/PDIS-08-20-1721-PDN

Emanuel IB, Ralston TI Chatfield RJ, Draper E, Veil J, Hand FD (2021) First report of *Gymnosporangium yamadae* causing Japanese apple rust on crabapple (*Malus* spp.) in Ohio. *Plant Disease* **105**(7), p 2016. https://doi.org/10.1094/PDIS-12-20-2612-PDN

Ghorbani A, Rostami M, Seifi S, Izadpanah K (2021) First report of *Tomato brown rugose fruit virus* in greenhouse tomato in Iran. *New Disease Report* **44**(2), e12040. https://doi.org/10.1002/ndr2.12040

Kumar R, Tiwari RK, Jeevalatha A, Siddappa S, Shah MA, Sharma S, Sagar V, Kumar M, Chakrabarti SK (2021) Potato apical leaf curl disease: current status and perspectives on a disease caused by tomato leaf curl New Delhi virus. *Journal of Plant Diseases and Protection* **128**, 897-911.

Marais A, Murolo S, Faure C, Brans Y, Larue C, Maclot F, Massart S, Chiumenti M, Minafra A, Romanazzi G, Lefebvre M, Barreneche T, Robin C, Petit RJ, Candresse T (2021) Sixty years from the first disease description, a novel badnavirus associated with chestnut mosaic disease. *Phytopathology* **111**(6), 1051-1058.

Rizzo D, Da Lio D, Bartolini L, Cappellini G, Bruscoli T, Salemi C, Aronadio A, Del Nista D, Pennacchio F, Boersma N, Rossi E (2021) Development of three molecular diagnostic tools for the identification of the false codling moth (Lepidoptera: Tortricidae). *Journal of Economic Entomology* **114**(4), 1796-1807.

Sabra A, Al Saleh MA, Alshahwan IM, Amer MA (2021) First report of tomato brown rugose fruit virus infecting tomato crop in Saudi Arabia. *Plant Disease*. https://doi.org/10.1094/PDIS-05-21-1065-PDN.

van der Heyden T, Saci A, Dioli P (2021) First record of the brown marmorated stink bug *Halyomorpha halys* (Stål, 1855) in Algeria and its presence in North Africa (Heteroptera: Pentatomidae). *Revista gaditana de Entomología* **XII**(1), 147-154.

Additional key words: detailed record, diagnostics, new host plants, new record, taxonomy

Computer codes: ARGPLE, CHNMV0, CTV000, GYMNYA, HALYHA, TOBRFV, TOLCND, DZ, IN, IR, SA, US

2021/236 New and revised dynamic EPPO datasheets are available in the EPPO Global Database

The EPPO Secretariat is in the process of revising the EPPO datasheets on pests recommended for regulation and creating new datasheets. This project is also supported by an EU grant agreement. This revision provides the opportunity to create dynamic datasheets in the EPPO Global Database in which the sections on pest identity, host range and geographical distribution are automatically generated by the database. It is planned that these dynamic datasheets will progressively replace the PDF documents that are currently stored in the database. Since the previous report (EPPO RS 2021/208), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Clavibacter sepedonicus*. https://gd.eppo.int/taxon/CORBSE/datasheet
- Grapevine red blotch virus. https://gd.eppo.int/taxon/GRBAV0/datasheet
- *Pissodes punctatus*. https://gd.eppo.int/taxon/PISOPU/datasheet
- *Pissodes yunnanensis*. https://gd.eppo.int/taxon/PISOYU/datasheet

Source: EPPO Secretariat (2021-11).

Additional key words: publication **Computer codes:** CORBSE, GRBAV0, PISOPU, PISOYU

2021/237 Recommendations from Euphresco projects

The following research project has recently been carried out in the framework of Euphresco (network for phytosanitary research coordination - hosted by EPPO). A report presenting the main objectives and results of this project, as well as recommendations made, can be viewed on the Euphresco website.

Epitrix species, life cycles and detection methods (Epitrix II)

Epitrix Foudras 1860, is a genus of flea beetles that has a worldwide distribution and consists of nearly 180 species. Most species occur in South and Central America and only 12 and 10 species are known from North America and Europe, respectively. In the European Union (EU) emergency measures have been introduced to prevent the introduction of the EPPO A1 listed species *Epitrix tuberis* and *E. subcrinita* and the spread of the EPPO A2 species *E. cucumeris* and *E. papa*, present in Portugal and Spain. This project built on the expertise of a network of scientists developed during the Euphresco project Epitrix I to increase knowledge and preparedness for potential new outbreaks of *Epitrix* spp. affecting potato crops.
Many *Epitrix* spp. were collected on solanaceous plants during a field expedition to Peru in 2020. This material will be used to fill knowledge gaps on poorly-known *Epitrix* species and identify potential pests.
Several diagnostic tests were validated during the project and during this validation, it was noted that the quality and concentration of DNA from the non-destructive extraction method were similar to those from the destructive method, with the additional benefit that the non-destructive extraction enables the specimen to be kept as reference material. It was also noted that specimens caught on sticky traps and stored in 70% ethanol produce DNA of lower quality and caused greater cross reaction in the TaqMan real-time PCR tests. It is therefore advised that specimens are caught using insect aspirators and then stored either by freezing or in ≥95% ethanol.
The use of plant volatile organic compounds (VOCs) as attractants for monitoring *Epitrix* spp. was investigated. Studies on pheromone trapping showed that traps baited with Z3-6:Ac/Linalool (1:1) attracting significantly more *E. papa* and *E. cucumeris* adults than the

control. Adding (E)-ß-ocimene to Z3-6:Ac/Linalool (1:3) increased the attractiveness of the mixture. However, the substances tested were insufficiently attractive for reliable *Epitrix* detection and monitoring in the field. Further research using insect pheromones as lures for *Epitrix* spp. need to be carried out in the future.
Available insecticides and cultural management practices were reviewed and it was concluded that cultural practices (such as crop rotation, modifying dates of planting, use of a trap crop, destruction of crop residues, and control of solanaceous weeds) may be used with promising results to control *Epitrix* spp.

Duration of the project: 2017-10-01 to 2020-12-31.

Authors: Kenyon, David; Highet, Fiona MBE; Caims, Fiona; Nicolaisen, Mogens; Mouttet, Raphaëlle; Loomans, Anton; Boavida, Conceiçao; de Andrade, Eugenia; Douglas, Hume; Deczynski, Anthony.

Link: https://zenodo.org/record/5668350#.YY6EI2DMKUl

Source: Euphresco (2021-11).

Pictures: *Epitrix* spp. https://gd.eppo.int/taxon/EPIXPP/photos

Additional key words: research **Computer codes:** 1EPIXG

2021/238 EPPO report on notifications of non-compliance from the United Kingdom

The EPPO Secretariat has gathered below the notifications of non-compliance received from the United Kingdom and covering the period from January to end of October 2021. When the occurrence of a pest in a given country is not known to the EPPO Secretariat, this is indicated by an asterisk (*).

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Bemisia* sp.**	*Corchorus*	Vegetables	Nigeria	United Kingdom	1
	Corchorus olitorius	Vegetables (leaves)	Sierra Leone	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Israel	United Kingdom	1
	Osteospermum	Cuttings	Costa Rica	United Kingdom	1
	Salvia	Cuttings	Israel	United Kingdom	1
	Solanum melongena	Vegetables	Mexico	United Kingdom	1
Bemisia tabaci	*Amaranthus cruentus*	Vegetables (leaves)	Tanzania	United Kingdom	1
	Ammannia	Cuttings	Malaysia	United Kingdom	1
	Aphelandra squarrosa	Plants for planting	Sri Lanka	United Kingdom	1
	Apium graveolens	Vegetables	Thailand	United Kingdom	1
	Aster	Cut flowers	Kenya	United Kingdom	1
	Capsicum	Vegetables	Egypt	United Kingdom	3
	Capsicum	Vegetables	Gambia	United Kingdom	1
	Capsicum annuum	Plants for planting	Netherlands	United Kingdom	4
	Capsicum annuum	Vegetables	Egypt	United Kingdom	8
	Capsicum annuum	Vegetables	India	United Kingdom	2
	Capsicum annuum	Vegetables	Morocco	United Kingdom	1
	Capsicum annuum	Vegetables	Turkey	United Kingdom	1
	Colocasia esculenta	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Colocasia esculenta	Vegetables (leaves)	India	United Kingdom	4
	Corchorus	Vegetables (leaves)	Malaysia	United Kingdom	1
	Corchorus	Vegetables (leaves)	Nigeria	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Bemisia tabaci* (cont.)**	*Corchorus capsularis*	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Corchorus capsularis	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Corchorus capsularis	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Corchorus capsularis	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Corchorus capsularis	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Corchorus olitorius	Vegetables (leaves)	Bangladesh	United Kingdom	2
	Corchorus olitorius	Vegetables (leaves)	Jordan	United Kingdom	1
	Corchorus olitorius	Vegetables (leaves)	Malaysia	United Kingdom	3
	Corchorus olitorius	Vegetables (leaves)	Nigeria	United Kingdom	2
	Corchorus olitorius	Vegetables (leaves)	Sierra Leone	United Kingdom	1
	Echinodorus	Aquatic plants	Indonesia	United Kingdom	2
	Echinodorus	Aquatic plants	Singapore	United Kingdom	1
	Eryngium	Vegetables (leaves)	Thailand	United Kingdom	2
	Eryngium foetidum	Vegetables (leaves)	Laos	United Kingdom	2
	Eryngium foetidum	Vegetables (leaves)	Thailand	United Kingdom	12
	Eryngium planum	Vegetables (leaves)	Thailand	United Kingdom	1
	Euphorbia	Plants for planting	Netherlands	United Kingdom	1
	Euphorbia pulcherrima	Cuttings	Netherlands	United Kingdom	1
	Euphorbia pulcherrima	Plants for planting	Netherlands	United Kingdom	1
	Eustoma	Cut flowers	Netherlands	United Kingdom	1
	Fragaria	Fruit	Egypt	United Kingdom	1
	Glinus oppositifolius	Vegetables (leaves)	Vietnam	United Kingdom	1
	Hibiscus	Plants for planting	Netherlands	United Kingdom	2
	Hibiscus rosa-sinensis	Plants for planting	Netherlands	United Kingdom	1
	Ipomoea batatas	Vegetables	Sierra Leone	United Kingdom	2
	Lavandula angustifolia	Cuttings	Vietnam	United Kingdom	1
	Limnophila aromatica	Aquatic plants	Singapore	United Kingdom	2
	Limnophila aromatica	Vegetables (leaves)	Laos	United Kingdom	2
	Mandevilla	Cuttings	Netherlands	United Kingdom	1
	Mandevilla	Plants for planting	Netherlands	United Kingdom	4
	Mandevilla	Plants for planting	Spain	United Kingdom	1
	Manihot esculenta	Vegetables	Côte d'Ivoire	United Kingdom	1
	Manihot esculenta	Vegetables	Sri Lanka	United Kingdom	2
	Manihot esculenta	Vegetables	Tanzania	United Kingdom	3
	Ocimum	Vegetables (leaves)	Israel	United Kingdom	1
	Ocimum	Vegetables (leaves)	Thailand	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Israel	United Kingdom	10
	Ocimum basilicum	Vegetables (leaves)	Laos	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Thailand	United Kingdom	7
	Ocimum gratissimum	Vegetables (leaves)	Nigeria	United Kingdom	2
	Ocimum tenuiflorum	Vegetables (leaves)	Laos	United Kingdom	1
	Ocimum tenuiflorum	Vegetables (leaves)	Thailand	United Kingdom	3
	Pentas lanceolata	Plants for planting	Netherlands	United Kingdom	1
	Perilla frutescens	Vegetables (leaves)	Japan	United Kingdom	1
	Perilla frutescens var. acuta	Vegetables (leaves)	Japan	United Kingdom	1
	Persicaria	Vegetables (leaves)	Laos	United Kingdom	1
	Persicaria	Vegetables (leaves)	Thailand	United Kingdom	3
	Piper	Vegetables (leaves)	Thailand	United Kingdom	1
	Piper sarmentosum	Vegetables (leaves)	Thailand	United Kingdom	4
	Sesbania grandiflora	Vegetables	Sri Lanka	United Kingdom	1
	Solanum melongena	Vegetables	Lebanon	United Kingdom	2
	Solanum nigrum	Vegetables	Uganda	United Kingdom	1
	Solanum pseudocapsicum	Plants for planting	Netherlands	United Kingdom	2
	Solidago	Cut flowers	Israel	United Kingdom	1
	Syngonium	Aquatic plants	Thailand	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Bemisia tabaci* (cont.)**	*Syngonium*	Cuttings	Thailand	United Kingdom	2
	Syngonium	Plants for planting	Thailand	United Kingdom	6
	Telfairia occidentalis	Vegetables (leaves)	Nigeria	United Kingdom	1
Chilli veinal mottle virus	*Solanum aethiopicum*	Vegetables	Tanzania	United Kingdom	1
***Colletotrichum* sp.**	*Citrus*	Plants for planting	Netherlands	United Kingdom	1
Columnea latent viroid	*Solanum lycopersicum*	Seeds	Taiwan*	United Kingdom	1
***Curculio* sp.**	*Quercus gambelii*	Seeds	USA	United Kingdom	1
Elasmopalpus lignosellus	*Asparagus officinalis*	Vegetables	Peru	United Kingdom	1
Helicoverpa armigera	*Pisum sp.*	Vegetables	Zimbabwe	United Kingdom	1
	Solanum melongena	Vegetables	Kenya	United Kingdom	1
***Helicoverpa* sp.**	*Capsicum*	Vegetables	Egypt	United Kingdom	1
	Capsicum	Vegetables	Kenya	United Kingdom	3
	Capsicum annuum	Vegetables	Bangladesh	United Kingdom	1
	Capsicum annuum	Vegetables	India	United Kingdom	3
	Capsicum annuum	Vegetables	Senegal	United Kingdom	1
	Capsicum chinense	Vegetables	Mexico	United Kingdom	1
	Capsicum frutescens	Vegetables	Uganda	United Kingdom	2
	Phaseolus vulgaris	Vegetables	Senegal	United Kingdom	1
	Pisum	Vegetables	Zimbabwe	United Kingdom	1
	Pisum sativum	Vegetables	Zambia	United Kingdom	1
	Pisum sativum	Vegetables	Zimbabwe	United Kingdom	1
	Pisum sp.	Vegetables	Zimbabwe	United Kingdom	2
	Solanum melongena	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Kenya	United Kingdom	1
	Zea mays	Vegetables	Morocco	United Kingdom	1
	Zea mays	Vegetables	Senegal	United Kingdom	2
Hirschmanniella caudacrena	*Vallisneria*	Aquatic plants	Malaysia	United Kingdom	1
Lepidoptera	*Luffa acutangula*	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Kenya	United Kingdom	15
Liriomyza huidobrensis	*Chrysanthemum*	Cut flowers	Colombia	United Kingdom	1
	Eryngium	Cut flowers	Kenya	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Kenya	United Kingdom	1
Liriomyza sativae	*Amaranthus viridis*	Vegetables (leaves)	Bangladesh	United Kingdom	1
	Dahlia pinnata	Cuttings	Netherlands*	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	India	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Israel	United Kingdom	1
	Trigonella foenum-graecum	Vegetables (leaves)	India	United Kingdom	1
***Liriomyza* sp.**	*Allium tuberosum*	Vegetables	Thailand	United Kingdom	2
	Apium graveolens	Vegetables	Laos	United Kingdom	1
	Chrysanthemum	Cut flowers	Colombia	United Kingdom	14
	Chrysanthemum morifolium	Cut flowers	Kenya	United Kingdom	1
	Coriandrum	Vegetables	Laos	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Liriomyza* sp. (cont.)**	*Coriandrum sativum*	Vegetables (leaves)	India	United Kingdom	2
	Eryngium	Cut flowers	Ecuador	United Kingdom	1
	Gypsophila	Cut flowers	Israel	United Kingdom	2
	Lisianthius alatus	Cut flowers	Kenya	United Kingdom	1
	Ocimum	Vegetables (leaves)	Israel	United Kingdom	1
	Ocimum	Vegetables (leaves)	Laos	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Colombia	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Ethiopia	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Israel	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Kenya	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Laos	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Lebanon	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Morocco	United Kingdom	2
	Ocimum basilicum	Vegetables (leaves)	Thailand	United Kingdom	3
	Ocimum tenuiflorum	Vegetables (leaves)	Thailand	United Kingdom	1
	Sesbania	Vegetables	Sri Lanka	United Kingdom	1
	Solidago	Cut flowers	Israel	United Kingdom	1
Liriomyza trifolii	*Chrysanthemum*	Cut flowers	Colombia	United Kingdom	4
	Chrysanthemum	Plants for planting	Netherlands	United Kingdom	1
	Chrysanthemum morifolium	Cut flowers	Colombia	United Kingdom	1
	Corchorus	Vegetables	Lebanon	United Kingdom	1
	Dendranthema	Cut flowers	Colombia	United Kingdom	1
Listronotus bonariensis	*Lolium perenne*	Seeds	New Zealand	United Kingdom	2
Meloidogyne enterolobii	*Ipomoea batatas*	Vegetables	USA	United Kingdom	1
Noctuidae	*Ocimum basilicum*	Vegetables (leaves)	Thailand	United Kingdom	1
Opogona sacchari	*Pachira aquatica*	Cut trees (with foliage)	Netherlands	United Kingdom	1
Phytophthora ramorum	*Laurus nobilis*	Cut trees (with foliage)	Belgium	United Kingdom	1
	Magnolia grandiflora	Cut trees (with foliage)	Italy	United Kingdom	1
	Rhododendron	Plants for planting	Belgium	United Kingdom	1
	Rhododendron	Plants for planting	Netherlands	United Kingdom	1
	Rhododendron Repens Hybrids	Plants for planting	Netherlands	United Kingdom	1
Pospiviroid	*Solanum lycopersicum*	Seeds	China	United Kingdom	2
Potato spindle tuber viroid	*Capsicum annuum*	Seeds	China	United Kingdom	9
	Capsicum annuum	Seeds	Italy	United Kingdom	1
	Solanum lycopersicum	Seeds	Bulgaria	United Kingdom	1
	Solanum lycopersicum	Seeds	China	United Kingdom	6
Potato virus Y	*Capsicum*	Vegetables	Rwanda	United Kingdom	9
	Capsicum	Vegetables	Uganda	United Kingdom	2
	Capsicum annuum	Vegetables	Kenya	United Kingdom	1
	Capsicum annuum	Vegetables	Rwanda	United Kingdom	9
	Capsicum annuum	Vegetables	South Africa	United Kingdom	1
	Capsicum annuum	Vegetables	Uganda	United Kingdom	10
	Capsicum chinense	Vegetables	Rwanda	United Kingdom	1
	Capsicum chinense	Vegetables	Rwanda	United Kingdom	3
	Capsicum chinense	Vegetables	Uganda	United Kingdom	3
	Capsicum frutescens	Vegetables	South Africa	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Potato virus Y* (cont.)**	*Capsicum frutescens*	Vegetables	Uganda	United Kingdom	2
Rhynchophorus phoenicis	*Araceae*	Vegetables (leaves)	Nigeria	United Kingdom	1
Spodoptera exigua	*Capsicum chinense*	Vegetables	Dominican Rep.	United Kingdom	1
Spodoptera frugiperda	*Zea mays*	Vegetables	Philippines	United Kingdom	1
	Zea mays	Vegetables	Rwanda	United Kingdom	1
	Zea mays	Vegetables	Senegal	United Kingdom	2
Spodoptera littoralis	*Capsicum frutescens*	Vegetables	Uganda	United Kingdom	1
***Spodoptera* sp.**	*Capsicum chinense*	Vegetables	Bangladesh	United Kingdom	1
	Capsicum frutescens	Vegetables	Uganda	United Kingdom	1
Thaumatotibia leucotreta	*Capsicum*	Vegetables	Ghana	United Kingdom	2
	Capsicum	Vegetables	Kenya	United Kingdom	4
	Capsicum	Vegetables	Rwanda	United Kingdom	3
	Capsicum	Vegetables	Tanzania	United Kingdom	1
	Capsicum	Vegetables	Uganda	United Kingdom	1
	Capsicum annuum	Vegetables	Kenya	United Kingdom	5
	Capsicum annuum	Vegetables	Rwanda	United Kingdom	1
	Capsicum annuum	Vegetables	Tanzania	United Kingdom	2
	Capsicum annuum	Vegetables	Uganda	United Kingdom	1
	Capsicum chinense	Vegetables	Rwanda	United Kingdom	1
	Capsicum chinense	Vegetables	Uganda	United Kingdom	2
	Persea americana	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Kenya	United Kingdom	5
	Zea mays	Vegetables	Tanzania	United Kingdom	1
Thripidae	*Dendrobium*	Cut flowers	Malaysia	United Kingdom	1
	Luffa acutangula	Vegetables	Ghana	United Kingdom	1
	Momordica	Vegetables	Bangladesh	United Kingdom	4
	Momordica	Vegetables	Mexico	United Kingdom	1
	Momordica charantia	Vegetables	Mexico	United Kingdom	3
	Momordica charantia	Vegetables	Pakistan	United Kingdom	1
	Perilla	Vegetables (leaves)	Japan	United Kingdom	1
	Perilla frutescens	Vegetables (leaves)	Japan	United Kingdom	1
	Solanum melongena	Vegetables	Dominican Rep.	United Kingdom	2
	Solanum melongena	Vegetables	Ghana	United Kingdom	1
	Solanum melongena	Vegetables	Mexico	United Kingdom	3
	Telfairia occidentalis	Vegetables (leaves)	Nigeria	United Kingdom	1
Thrips palmi	*Momordica*	Vegetables	Bangladesh	United Kingdom	2
***Thrips* sp.**	*Capsicum annuum*	Vegetables	Ghana	United Kingdom	1
	Momordica	Vegetables	Bangladesh	United Kingdom	3
	Telfairia occidentalis	Vegetables (leaves)	Nigeria	United Kingdom	2
Tomato brown rugose fruit virus	*Capsicum annuum*	Seeds	Bulgaria	United Kingdom	1
	Solanum lycopersicum	Seeds	China	United Kingdom	2
Tomato mottle mosaic virus	*Capsicum annuum*	Seeds	China	United Kingdom	1
	Capsicum annuum	Seeds	Indonesia*	United Kingdom	2
	Solanum lycopersicum	Seeds	Guatemala*	United Kingdom	1
	Solanum lycopersicum	Seeds	Italy*	United Kingdom	1
	Solanum lycopersicum	Seeds	Japan*	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Tomato mottle mosaic virus	*Solanum lycopersicum*	Seeds	USA	United Kingdom	1
Tomato yellow leaf curl virus	*Solanum lycopersicum*	Seeds	Costa Rica	United Kingdom	2
Xanthomonas arboricola	*Prunus lusitanica*	Plants for planting	Netherlands	United Kingdom	1
Xanthomonas arboricola* pv. *pruni	*Prunus laurocerasus*	Plants for planting	Belgium	United Kingdom	1
	Prunus laurocerasus	Plants for planting	Belgium	United Kingdom	1
	Prunus laurocerasus	Plants for planting	Spain	United Kingdom	1
Xanthomonas axonopodis* pv. *phaseoli	*Phaseolus vulgaris*	Seeds	China	United Kingdom	1
Xanthomonas euvesicatoria	*Capsicum annuum*	Seeds	China	United Kingdom	3
	Capsicum baccatum var. baccatum	Seeds	Brazil	United Kingdom	1
Xanthomonas fuscans subsp. fuscans	*Phaseolus*	Seeds	France	United Kingdom	1
Xanthomonas hortorum	*Hydrangea*	Cut trees (with foliage)	Netherlands	United Kingdom	1
	Hydrangea arborescens	Plants for planting	Germany	United Kingdom	2
	Hydrangea arborescens	Plants for planting	Netherlands	United Kingdom	2
	Paeonia	Plants for planting	Netherlands	United Kingdom	1

- **Fruit flies**

Pest	Consignment	Country of origin	Destination	nb
***Bactrocera* sp.**	*Capsicum annuum*	Bangladesh	United Kingdom	1
	Capsicum annuum	Rwanda	United Kingdom	1
	Solanum melongena	Vietnam	United Kingdom	1
Ceratitis capitata	*Capsicum annuum*	Rwanda*	United Kingdom	1
***Dacus* sp.**	*Momordica charantia*	Uganda	United Kingdom	1
Tephritidae	*Capsicum frutescens*	Thailand	United Kingdom	1
	Momordica charantia	Uganda	United Kingdom	1
	Solanum melongena	Sri Lanka	United Kingdom	1
	Trichosanthes cucumerina	Bangladesh	United Kingdom	1
Zeugodacus cucurbitae	*Luffa acutangula*	India	United Kingdom	1
***Zeugodacus* sp.**	*Luffa aegyptiaca*	India	United Kingdom	1
	Momordica charantia	Pakistan	United Kingdom	1
	Trichosanthes	Bangladesh	United Kingdom	1
	Trichosanthes cucumerina	Bangladesh	United Kingdom	1
	Trichosanthes cucumerina	Sri Lanka	United Kingdom	2
	Trichosanthes cucumerina var. anguina	Bangladesh	United Kingdom	1
	Trichosanthes cucumerina var. *anguina*	Sri Lanka	United Kingdom	1

Source: NPPO of the United Kingdom (2021-11).

2021/239 First report of *Ripersiella hibisci* in France

The NPPO of France recently informed the EPPO Secretariat of the first finding of the root mealybug *Ripersiella hibisci* (Hemiptera: Pseudococcidae – EPPO A1 List) on its territory. The pest was found in September 2021 in several nurseries in the Pays-de-la-Loire region. Investigations are being conducted to confirm the origin of the outbreak and determine the extent of the outbreak. Most of the infested plants were linked to imported *Callistemon* sp. and *Callistemon citrinus*. Official measures will be applied to eradicate the outbreak. It may be recalled that *R. hibisci* was first found in the EU in Italy in April 2021 (EPPO RS 2021/081 and RS 2021/124).

The pest status of *Ripersiella hibisci* in France is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of France (2021-10).

Pictures: *Ripersiella hibisci*. https://gd.eppo.int/taxon/RHIOHI/photos

Additional key words: new record **Computer codes:** RHIOHI, FR

2021/240 First report of *Toumeyella parvicornis* in France

The NPPO of France recently informed the Secretariat of the first record of the pine tortoise scale *Toumeyella parvicornis* (Hemiptera: Coccidae – EPPO Alert List) on its territory. The scale was initially found in a private garden on *Pinus pinea* in the peninsula of Saint Tropez (Var department, Provence-Alpes-Côte d'Azur region), after a report was made by a professional operator. Further official inspections resulted in three additional detections in the peninsula. The regional plant protection services are currently defining a survey protocol to evaluate the extent of the infested zone, and phytosanitary measures to prevent the spread of the mealybug.

The pest status of *Toumeyella parvicornis* in France is officially declared as: **Present, only in some parts of the Member State concerned.**

Source: NPPO of France (2021-11).

Pictures: *Toumeyella parvicornis*. https://gd.eppo.int/taxon/TOUMPA/photos

Additional key words: new record **Computer codes:** TOUMPA, FR

2021/241 First report of *Eotetranychus lewisi* in Switzerland

The NPPO of Switzerland recently informed the EPPO Secretariat of the first finding of *Eotetranychus lewisi* (Acari: Tetranychidae - EU Annexes) on its territory. The spider mite was found infesting poinsettias (*Euphorbia pulcherrima*) in a greenhouse of a producer of poinsettia plants in the canton of Zürich at the end of October 2021. The identity of the pest was confirmed in early November 2021. The infested plants were incinerated, and official phytosanitary measures are being taken to eradicate the pest.

The pest status of *Eotetranychus lewisi* in Switzerland is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of Switzerland (2021-11).

Pictures: *Eotetranychus lewisi*. https://gd.eppo.int/taxon/EOTELE/photos

Additional key words: new record **Computer codes:** EOTELE, CH

2021/242 First report of *Eotetranychus lewisi* in the Netherlands

Eotetranychus lewisi (Acari: Tetranychidae - EU Annexes) was recently found in the Netherlands. The spider mite was found infesting mother plants and potted plants of poinsettias (*Euphorbia pulcherrima*) in greenhouses of a breeding company in the province Noord-Holland in August 2021, as well as in a greenhouse of a nursery producing potted plants in the province Gelderland in early September 2021. In the breeding company, two infested lots (in total 400 mother plants) were heavily infested. The nursery had received cuttings from these mother plants. As a result, 360 potted plants were infested.
The infested plants have been destroyed. All *Euphorbia pulcherrima* plants have been treated with acaricides and were not allowed to be moved out of the premises. Trace back and trace forward activities are conducted to identify the origin of the outbreak and avoid further spread of the pest.

The pest status of *Eotetranychus lewisi* in the Netherlands is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of the Netherlands (2021-09). https://english.nvwa.nl/topics/pest-reporting/documents/plant/plant-health/pest-reporting/documents/pest-report-eotetranychus-lewisi-september-2021

Pictures: *Eotetranychus lewisi*. https://gd.eppo.int/taxon/EOTELE/photos

Additional key words: new record **Computer codes:** EOTELE, NL

2021/243 First report of *Diabrotica virgifera virgifera* in Spain

During summer 2021, *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae – EPPO A2 List) was reported for the first time from Spain. In July 2021, the pest was found in maize (*Zea mays*) fields in the area of Pla d'Urgell in Cataluña. In August 2021, it was also found in Aragón, in Bujaraloz (province of Zaragoza). As *D. virgifera virgifera* is no longer regulated in the EU territory, no official control measures will be applied, but growers are recommended to survey their maize crops and apply appropriate control measures (e.g. crop rotation, weed control, and if required insecticide use).
The situation of *Diabrotica virgifera virgifera* in Spain: **Present, not widely distributed and not under official control.**

Source: Anonymous (2021) La plaga de la diabrótica llega a la península. *Phytoma-España* no. 332, p 10.
Generalita de Catalunya. Fact sheet on *Diabrotica virgifera* (2021-07). http://agricultura.gencat.cat/web/.content/ag_agricultura/ag02_sanitat_vegetal/ag02_02_plagues/documents_plagues/fitxers_estatics/fitxa_073_diabrotica-virgifera.pdf

Gobierno de Aragón. Aviso Fitosanitario no. 12 (2021-08) Diabrotica en maíz (*Diabrotica virgifera virgifera*). https://www.aragon.es/documents/20127/77520644/Avisofitosanitario_12_2021+Diabrotica.pdf/4edad3a2-185a-7c6e-4869-f8f5e69db9ca?t=1628490678107

Pictures: *Diabrotica virgifera virgifera*. https://gd.eppo.int/taxon/DIABVI/photos

Additional key words: new record **Computer codes:** DIABVI, ES

2021/244 Update on the situation of *Trioza erytreae* in Portugal

In mainland Portugal, *Trioza erytreae* (Hemiptera: Triozidae – EPPO A2 List, vector of huanglongbing) was first found in the region of Porto in January 2015 (EPPO RS 2015/204) and progressively spread to Norte and Centro regions (RS 2017/167, RS 2018/212, RS 2020/072). At the end of September 2021, as result of the official monitoring, *T. erytreae* was detected for the first time in Algarve region, 115 km south of the closest location that was previously found to be infested, in orange (*Citrus sinensis*) trees on a pavement in the parish of Rogil (municipality of Aljezur). Further monitoring also detected the pest in other parishes of Aljezur and other municipalities of Algarve (Lagos, Monchique, Vila do Bispo), as well as further south in the Alentejo region (municipalities of Grândola, Odemira, Santiago do Cacem, Sines). A map of all demarcated areas is available on the DGAV website.
For all findings, a demarcated area was immediately established to include the parish where *T. erytreae* was detected with a buffer zone of 3 km radius beyond the borders of that parish. The measures in place include treatments, severe pruning, restrictions on the movement and production of hosts plants, except fruits, as well as biological control with *Tamarixia dryi* (Hymenoptera: Eulophidae). These measures are described in the national contingency plan (plano de Ação de controlo). Intensive monitoring is also performed in a surveillance zone of 10 km radius beyond the limits of the demarcated area.

The pest status of *Trioza erytreae* in Portugal is officially declared as: **Present, only in some parts of the Member State concerned, under containment, in case eradication is impossible.**

Source: INTERNET
- DGAV website.https://www.dgav.pt/plantas/conteudo/sanidade-vegetal/inspecao-fitossanitaria/informacao-fitossanitaria/trioza-erytreae/
- DGAV (2021) Plano de Ação de Controlo *Trioza erytreae* (Setembro 2021). 36 pp. https://www.dgav.pt/wp-content/uploads/2021/10/DGAV_planoacao_triozaerytreae.pdf

NPPO of Portugal (2021-11).

Pictures: *Trioza erytreae*. https://gd.eppo.int/taxon/TRIZER/photos

Additional key words: detailed report **Computer codes:** TRIZER, PT

2021/245 First report of *Sophonia orientalis* in Morocco

Sophonia orientalis (Hemiptera: Cicadellidae - two-spotted leafhopper) originates from Asia and has recently spread to other continents, showing an invasive behaviour. In March and April 2020, 3 specimens of *S. orientalis* were found in Casablanca in Morocco. This record was also the first one for the African continent. The invasion history and current geographical distribution of this insect is presented in a paper by Baena & Joseph-Edouard (2021).

In the EPPO region, *S. orientalis* was first recorded in 2004 on the island of Madeira (Portugal), but it is thought that it has been present there at least since 2000. It was then found in Spain, in the Canary Islands (La Palma) in 2006, and on the mainland in the province of Cadiz in 2009 (Andalucía). In subsequent years, it was recorded in other parts of Andalucía (provinces of Granada, Málaga), as well as in Cataluña (province of Tarragona, see EPPO RS 2020/073). In 2010, it was also recorded in Gibraltar. In 2018, *S. orientalis* was observed in various areas of Portugal (Braga, Castelo Branco, and Faro). *S. orientalis* is a highly polyphagous species (associated with more than 300 plant species in 83 plant families), but for the moment no particular damage has been recorded in Portugal and Spain.

According to the literature, its current geographical distribution is as follows:
EPPO region: Gibraltar, Morocco, Portugal (mainland, Madeira), Spain (Canary Islands, mainland).
Africa: Morocco, Saint Helena.
Asia: China (Fujian, Guangdong, Guizhou, Hong Kong), Japan (Honshu, Kuyshu, Ryukyu (Okinawa), Shikoku), Singapore, Taiwan.
North America: USA (Alabama, California, Florida, Georgia, Hawaii (all islands of the archipelago), Louisiana, Mississippi, North Carolina, South Carolina, Texas, Virginia).
Oceania: French Polynesia (Raivavae, Tahiti).

Source: Aguin-Pombo D, Franquinho Aguiar AM, Kuznetsova VG (2007) Bionomics and Taxonomy of leafhopper *Sophonia orientalis* (Homoptera: Cicadellidae), a Pacific pest species in the Macaronesian Archipelagos. *Annals of the Entomological Society of America* **100**(1), 19-26.
Baena M, Joseph-Edouard JP (2021) [First record of *Sophonia orientalis* (Matsumura, 1912) in Africa and Morocco (Hemiptera, Cicadellidae, Evacanthinae, Nirvanini)]. *Boletín de la Asociación Española de Entomología* **45**(3-4), 153-160 (in Spanish).
Wilson M, Bensusan K, Perez C, Torres JL (2011) First records of the exotic leafhopper *Sophonia orientalis* (Matsumura, 1912) (Hemiptera: Auchenorrhyncha: Cicadellidae) for the Iberian Peninsula and mainland Europe. *Boletín de la Sociedad Entomológica Aragonesa* **48**, 435–436.

Additional key words: new record **Computer codes:** SOHOOR, MA

2021/246 Findings of *Elachiptera decipiens* in Germany

The NPPO of Germany recently informed the Secretariat of the record *of Elachiptera decipiens* (Diptera: Chloropidae) on its territory. *E. decipiens* is a North American fly species recorded there on prairie grasses.

In July 2015, pupae of *E. decipiens* were found on one *Zea mays* plant in a field in Brandenburg. No other infested plants or plants with symptoms were detected in the same field or neighbouring fields. The pest was identified by DNA-sequencing. Inspections in the following years (visual inspections of maize and grasses in the vicinity, and trapping with

yellow sticky traps) did not detect the insect in the following years and this outbreak was declared eradicated in June 2021.

In October 2021, one larva of *E. decipiens* was found in an exit hole of *Ostrinia nubilalis* (European maize borer) in one *Z. mays* plant in a maize field in Brandenburg, about 120 km from the previous outbreak. In November 2021, three pupae of *E. decipiens* were found in one *Z. mays* plant in a maize field in Brandenburg (about 18 km away from the field where the insect was found in October), also in a stem damaged by *O. nubilalis*. The field had been already harvested, and no significant damage reported. The insect was identified by DNA-sequencing. The source of both infestations is not yet known. Further surveys will be carried out in 2022 to assess the pest distribution.

An express pest risk assessment had been conducted in 2015 and concluded that *E. decipiens* may establish in Germany or other EU Member States and cause damage to maize. It will be updated when new information is available. The pest status of *Elachiptera decipiens* in Germany has not yet been determined.

Source: JKI (2015) Express – PRA zu *Elachiptera decipiens* – Auftreten. https://pra.eppo.int/pra/e5d9cbee-3b5d-4680-8e3c-c0c3591c1d19

NPPO of Germany (2021-06, 2021-10).

Additional key words: new record **Computer codes:** ELACDE, DE

2021/247 *Dynamis borassi*: an emerging pest of peach palm (*Bactris gasipaes*) in Colombia

Dynamis borassi (Coleoptera: Dryophthoridae) is widely distributed in South America and is an economic pest of commercially important palm species (Arecaceae), such as *Cocos nucifera* (coconut), *Oenocarpus mapora* and *Bactris gasipaes* (peach palm). It has been reported to cause damage to the inflorescence and crown tissue of palm trees and is also considered to be a vector of red ring disease caused by *Bursaphelenchus cocophilus*. According to the literature, *D. borassi* has been found on the following host plants (all Arecaceae): *Astrocaryum carnosum, Astrocaryum chonta, Astrocaryum standleyanum, Bactris gasipaes, Cocos nucifera, Euterpe oleracea, Oenocarpus bataua, Oenocarpus mapora, Oenocarpus minor, Syagrus schizophylla, Syagrus vagans*.
A tentative distribution list is as follows:
EPPO region: Absent.
South America: Argentina, Brazil (at least in Bahia, Espirito Santo, Para), Colombia, Ecuador, French Guiana, Panama, Peru, Venezuela.

In Colombia and since 2010, *D. borassi* has been associated with the death of more than 250 000 palm trees in *B. gasipaes* plantations along the Pacific coast and with a 75% reduction of the national production. *B. gasipaes* is also of significant socio-economic importance as it provides useful food resources to native people. In Colombia, it has been observed that damage was due to a complex of weevils involving *Rhynchophorus palmarum* (EPPO A1 List) and *D. borassi*. *R. palmarum* was initially thought to be the main cause of damage, but recent research has shown that *D. borassi* is the first weevil to attack peach palm trees (*B. gasipaes*), and that *R. palmarum*, acting as a secondary pest, can then successfully attack the palm trees. It is noted that both weevil species share similar morphological characteristics rendering diagnosis difficult, particularly in the larval stage, when damage occurs. *D. borassi* attacks the inflorescences and the crown of *B. gasipaes*. Larvae feed

through the leaf stalk and bore tunnels towards the base of the crown, inflicting serious damage leading to plant death (toppling of the crown).

For the moment, the potential risks that *D. borassi* might present to palms grown in the EPPO region are difficult to assess as this species remains confined to tropical areas and is reported on palm species that are not widely grown in the EPPO region. However, considering the current level of damage observed in Colombia and past experience with the introduction of *R. ferrugineus* around the Mediterranean Basin, this weevil species should not be overlooked.

Source: Bautista-Giraldo MA, Ambrecht I, Vásquez-Ordoñez AA (2020) The weevil *Dynamis borassi* (Coleoptera: Curculionidae: Dryophthorinae) associated with native palms in forests and disturbed areas in Buenaventura, Colombia. *Revista Colombiana de Entomología* **46**(2), e7721. https://doi.org/10.25100/socolen.v46i2.7721

Beserra P, Couturier G, Olivera MPSP (2006) Cultivated Açai palm (*Euterpe oleracea*) and associated weevils: *Foveolus maculatus and Dynamis borassi* (Coleoptera: Dryophthoridae). *Palms* **50**(3), 120-122.

Couturier G, O'Brien CW, Kahn F (1988) *Astrocaryum carnosum* and *A. chonta* (Palmae), new host for the weevil Dynamis borassi (Curculionidae: Rhynchophorinae). *Principes* **42**(4), 227-228.

Couturier G, Padilha de Olivera MS, Beserra P (2000) Besouros nocivos à bacabeira. EMBRAPA Comunicado Técnico no. 19, 5 pp.

Cuellar-Palacios CM, Gaviria-Vega J, Montoya-Lerma J (2020) Life cycle and larval growth of *Dynamis borassi* (Coleoptera: Dryophthoridae), an emerging pest to the peach palm. *Annals of Agricultural Sciences* **65**(2), 218-224

Gaviria J, Montoya-Lerma J, Armbrecht I, Löhr B, Vásquez-Ordóñez AA (2021) *Dynamis borassi* (Coleoptera: Curculionidae), a new potential pest to the palms (Arecaceae): an early warning for the palm producers. *Florida Entomologist* **104**(2), 107-116.

Giblin-Davis RM, Gries R, Gries G, Pena-Rojas E, Pinzón I, Peña JE, Perez AL, Pierce HD Jr, Oehlschlager AC (1997) Aggregation pheromone of palm weevil, *Dynamis borassi*. *Journal of Chemical Ecology* **23**(10), 2287-2297.

Vásquez-Ordoñez AA, Löhr BL, Marvaldi AE (2020) Comparative morphology of the larvae of the palm weevils *Dynamis borassi* (Fabricius) and *Rhynchophorus palmarum* (Linnaeus) (Curculionidae: Dryophthorinae): Two major pests of peach palms in the Neotropics. *Papéis Avulsos de Zoologia. Museu de Zoologia da Universidade de Sao Paulo* **60**(special), e202060, 27. https://doi.org/10.11606/1807-0205/2020.60.special-issue.27

Pictures: *Dynamis borassi*. https://gd.eppo.int/taxon/DYNMBO/photos

Additional key words: geographical distribution, risks **Computer codes:** DYNMBO

2021/248 First report of *Thekopsora minima* in Sweden

The NPPO of Sweden recently informed the EPPO Secretariat of the first finding of blueberry rust *Thekopsora minima* (EPPO A2 List) on its territory. The rust was detected during official surveys conducted in October 2021 on *Vaccinium corymbosum* grown in open air in the municipality of Ekerö (county of Stockholm), and in the municipality of Karlskrona (country of Blekinge län).

The pest status of *Thekopsora minima* in Sweden is officially declared as: **Present.**

Source: NPPO of Sweden (2021-11).

Pictures: *Thekopsora minima*. https://gd.eppo.int/taxon/THEKMI/photos

Additional key words: new record **Computer codes:** THEKMI, SE

2021/249 First report of *Erysiphe corylacearum* in Spain

Native to East Asia, *Erysiphe corylacearum* is a new powdery mildew of hazelnuts (*Corylus* spp.) which was first observed in Turkey in 2013 and has since rapidly extended its distribution range in the Middle East, the Caucasus, as well as in Eastern and Central Europe (EPPO RS 2021/042, RS 2021/049). The fungus was detected in Spain in April 2021 in two commercial hazelnut (*Corylus avellana*) orchards located in the municipality of La Selva del Camp (province of Tarragona, Cataluña). Both the leaves and the nuts were damaged.

Source: Mazzaglia A, Drais MI, Turco S, Silvestri C, Cristofori V, Aymami A, Casadó V, Rovira M (2021) First report of *Erysiphe corylacearum* causing powdery mildew on *Corylus avellana* in Spain. *New Disease Reports* (early view) https://doi.org/10.1002/ndr2.12035.

Pictures: *Erysiphe corylacearum*. https://gd.eppo.int/taxon/ERYSCY/photos

Additional key words: new record **Computer codes:** ERYSCY, ES

2021/250 Tar spot caused by *Phyllachora maydis* found in more US states

Tar spot caused by *Phyllachora maydis* (EPPO Alert List) is an emerging disease of maize (*Zea mays*) in the USA. It was fist found in 2015 in Illinois and Indiana, and then in other states (Florida, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin). More recently, *P. maydis* has also been reported from Georgia, Kentucky, Nebraska, New York, and Pennsylvania.

Georgia
The US Early Detection & Distribution Mapping System indicates that *P. maydis* has been found in Georgia since August 2021 in several locations (counties of Ben Hill, Brooks, Bulloch, Calhoun Clay, Colquitt, Dooly, Evans, Grady, Irwin, Marion, Seminole, Tift, Turner, Wayne, Wilcox).

Kentucky
The first case of tar spot caused by *P. maydis* in Kentucky was confirmed in September 2021. The diseased sample had been collected from a maize plant which was part of a local breeding trial (University of Kentucky, 2021).

Nebraska
In October 2021, *P. maydis* was reported from Nebraska. The disease was confirmed in several eastern Nebraska counties (Dakota, Thurston and Burt). Disease incidence and severity were both reported to be low (University of Nebraska, 2021).

New York
The US Early Detection & Distribution Mapping System indicates that *P. maydis* was found in October 2021 in Erie.

Pennsylvania
In late September 2020, foliar symptoms resembling those of tar spot caused by *P. maydis* were observed in Lancaster county, in a maize (*Zea mays*) field growing several non-commercial hybrids. Disease incidence and severity varied according to the different hybrids from 0 to 100% and from 1 to 40%, respectively. The identity of the fungus was confirmed by morphological and molecular methods. For the moment, the economic impact of tar spot in Pennsylvania remains to be assessed (Collins *et al.*, 2021).

Source: Collins AA, Bandara AY, May SR, Weerasooriya DK, Esker PD (2021) First report of tar spot of maize (*Zea mays*) caused by *Phyllachora maydis* in Pennsylvania. *Plant Disease* (early view). https://doi.org/10.1094/PDIS-11-20-2456-PDN
INTERNET
- EDDMapS (online) Early Detection & Distribution Mapping System. The University of Georgia - Center for Invasive Species and Ecosystem Health. Available online at http://www.eddmaps.org/ (last accessed 2021-11-08).
- University of Kentucky. College of Agriculture, Food and Environment (2021-09-20) Tar spot found in Kentucky corn by K Pratt. https://news.ca.uky.edu/article/tar-spot-found-kentucky-corn
- University of Nebraska-Lincoln (2021-10-21) Tar spot disease of corn confirmed in several Nebraska counties by T Jackson-Ziems and K Broderick. https://cropwatch.unl.edu/2021/tar-spot-disease-corn-confirmed-several-nebraska-counties

Additional key words: detailed record **Computer codes:** PHYRMA, US

2021/251 First report of *Eggplant mottled crinkle virus* in Greece

During winter 2020–2021, a severe virus-like disease outbreak was observed in aubergine (*Solanum melongena*) hybrids growing under protected conditions in Heraklion, Crete, Greece. In three greenhouses, the percentage of infected plants reached 100%, leading to crop abandonment. Symptoms included leaf mottling and yellowing accompanied by plant stunting and apical necrosis. Extensive fruit damage was due to severe malformation and necrotic lesions on the calyx, peduncle, and endocarp. The causal agent was identified as being eggplant mottled crinkle virus (*Tombusvirus*, EMCV). This is the first report of EMCV in Greece. All plants in the greenhouse were destroyed. The origin of the outbreak in Crete is unknown.
EMCV was originally described in eggplant in Lebanon and subsequently reported from Japan (on *Eustoma russellianum*), India (on aubergine and *Solanum capsicastrum)*, Italy (on *Pyrus* trees), Peru (on *Solanum sessiliflorum*), Taiwan (on *Zantedeschia* spp.), Iran (on geranium), Israel (on aubergine). *Tombusvirus* species in general are readily transmitted mechanically in the field. EMCV is reported to be spread through soil, and surface water is a potential pathway, since several tombusviruses have been isolated from rivers and streams. Some

tombusvirus species may be seed transmitted at a very low level, but this has not been reported for EMCV.
It may be noted that the EFSA Plant Health Panel (2019) concluded that EMCV meets all the criteria to be considered as a Union quarantine pest (with an uncertainty linked to its geographical distribution) when assessing non-EU viruses of fruit trees. In addition, the NPPO of the Netherlands conducted a rapid pest risk assessment and concluded that EMCV should be included in the official survey program for the Netherlands.

Note: Pictures of EMCV symptoms were kindly provided by C. Varveri and E. Smaragdakis and are available in EPPO Global Database.

Source: Beris D, Malandraki I, Kektsidou O, Varveri C (2021) First report of eggplant mottled crinkle virus infecting eggplant in Greece. *Plant Disease* online. https://doi.org/10.1094/PDIS-03-21-0611-PDN

EFSA PLH Panel (EFSA Plant Health Panel), Bragard C, Dehnen-Schmutz K, Gonthier P, Jacques M-A, Jaques Miret JA, Justesen AF, MacLeod A, Magnusson CS, Milonas P, Navas-Cortes JA, Parnell S, Potting R, Reignault PL, Thulke H-H, Van der Werf W, Vicent Civera A, Yuen J, Zappala L, Candresse T, Chatzivassiliou E, Finelli F, Winter S, Chiumenti M, Di Serio F, Kaluski T, Minafra A, Rubino L (2019) Scientific Opinion on the pest categorisation of non-EU viruses and viroids of *Cydonia* Mill., *Malus* Mill. and *Pyrus* L. *EFSA Journal* **17**(9), 5590, 81 pp. https://doi.org/10.2903/j.efsa.2019.5590

NPPO of the Netherlands (2021) Quick scan for eggplant mottled crinkle virus (EMCV). 6 pp. Available from https://pra.eppo.int/pra/39135c3b-39db-40a3-8e1a-04408f22f4d9

Pictures: *Eggplant mottled crinkle virus*. https://gd.eppo.int/taxon/EMCV00/photos

Additional key words: new record **Computer codes:** EMCV00, GR

2021/252 Apple necrotic mosaic virus: a new ilarvirus of apple trees in Asia

So far, apple mosaic disease was considered to be caused solely by apple mosaic virus (*Ilarvirus*, ApMV). During studies conducted in 2017 in Japan, HTS analysis of samples collected from a symptomatic apple (*Malus domestica*) tree revealed the presence of a new ilarvirus tentatively called apple necrotic mosaic virus (ApNMV), as well as of three other viruses (apple stem pitting virus, apple stem grooving virus, and apple chlorotic leaf spot virus). Further studies conducted in China in the major apple-producing provinces showed that the majority of apple trees showing mosaic symptoms were infected with ApNMV but not by ApMV. It is speculated that many past Chinese records of ApMV should be re-attributed to ApNMV. In China, ApNMV was also detected on crab apple (*Malus* spp.) and hawthorn (*Crataegus* spp) associated with mosaic symptoms. In addition to China and Japan, ApNMV has been detected in India (Jammu & Kashmir) and the Republic of Korea.

Source: Cho IS, Kwon SJ, Yoon JY, Chung BN, Hammond J, Lim HS (2017) First report of apple necrotic mosaic virus infecting apple trees in Korea. *Journal of Plant Pathology* **99**, p 815.
Hu GJ, Dong YF, Zhang ZP, Fan XD, Ren F (2019) Molecular characterization of Apple necrotic mosaic virus identified in crabapple (*Malus* spp.) tree of China. *Journal of Integrative Agriculture* **18**(3), 698-701.

Nabi SU, Baranwal VK, Yadav MK, Rao GP (2020) Association of Apple necrotic mosaic virus (ApNMV) with mosaic disease in commercially grown cultivars of apple (*Malus domestica* Borkh) in India. *3 Biotech* **10**, p 122.

Noda H, Yamagishi N, Yaegashi H, Xing F, Xie JP, Li SF, Zhou T, Ito T, Yoshikawa N (2017) Apple necrotic mosaic virus, a novel ilarvirus from mosaic-diseased apple trees in Japan and China. *Journal of General Plant Pathology* **83**, 83–90.

Shi W, Yao R, Sunwu R, Huang K, Liu Z, Li X, Yang Y, Wang J (2020) Incidence and molecular identification of apple necrotic mosaic virus (ApNMV) in Southwest China. *Plants* **9**(4), 415. https://doi.org/10.3390/plants9040415

Xing F, Hou W, Massart S, Gao D, Li W, Cao M, Zhang Z, Wang H, Li S (2020) RNA-Seq reveals hawthorn tree as a new natural host for apple necrotic mosaic virus, possibly associated with hawthorn mosaic disease. *Plant Disease* **104**(10), 2713-2719. https://doi.org/10.1094/PDIS-11-19-2455-RE

Xing F, Robe BL, Zhang ZX, Wang HQ, Li SF (2018) Genomic analysis, sequence diversity, and occurrence of apple necrotic mosaic virus, a novel ilarvirus associated with mosaic disease of apple trees in China. *Plant Disease* **102**(9), 1841–1847. https://doi.org/10.1094/PDIS-10-17-1580-RE

Additional key words: taxonomy, new pest

Computer codes: APNMV0, CN, IN, JP, KR

2021/253 First report of *Pontederia cordata* in Southern Spain

Pontederia cordata (Pontederiaceae) is an emergent, aquatic, long-lived perennial plant species native to the Americas. The species has been introduced to a number of regions worldwide as an ornamental species. The species is invasive in parts of Australia and reported as an emerging invasive species in South Africa. In the EPPO region, *P. cordata* has been recorded previously in Spain as a casual in the northeast of the country. It has also been recorded in Belgium, France, Ireland and the Netherlands. The new record in the south of Spain was recorded in June 2019 in a freshwater stream near the city of Dos Hermanas (Seville, Southern Spain). Here, the population formed a dense mat and included flowering and fruiting individuals, covering an area of 100 m^2. Globally, *P. cordata* colonises marshes, streams with standing water, ponds and shallow lakes. In South America, it is also found as a weed of rice fields. The species invasion risk for *P. cordata* in Europe was assessed using the Australian Weed Risk Assessment which resulted in an overall score of 25 (species with a score of > 6 have a high invasion risk). The high score from the weed risk assessment is due to several characteristics related to the species, its invasion process and potential impact. For example, the climatic similarity of the native and potential alien range, the weedy behaviour of the species in agricultural and natural areas, and the repeated history of introductions in waterbodies in temperate regions of the world. Additionally, the fact that the species produces viable seeds which are relatively easy to propagate, and that vegetative reproduction is possible, and propagules are easily dispersed adds to the high score. *P. cordata* exhibits a high potential to become invasive in Europe and populations of the species should be monitored and where they occur in the natural environment eradication measures should be applied.

A new global distribution map has been added to EPPO Global Database: https://gd.eppo.int/taxon/POFCO/distribution

Source: Dana ED, García-de-Lomas J, Verloove F (2021) First record of *Pontederia cordata* L. (Pontederiaceae) in southern Spain and risk assessment for Europe. *BioInvasions Records* **10**(4), 775– 788. https://doi.org/10.3391/bir.2021.10.4.02

Additional key words: new record, invasive alien plant **Computer codes:** POFCO, ES

2021/254 First report of *Juglans ailanthifolia* in Italy and Switzerland

Juglans ailanthifolia (Juglandaceae) is native to Japan and the Russian Far East (Sakhalin Island). The species is invasive in New Zealand and Australia. In this region, *J. ailanthifolia* can grow along waterways, disturbed forests and shrubland, in pastures and along roadsides. The species can spread naturally by seeds which are spread by water and animals and also by humans who can dump garden waste that contains viable seeds. *J. ailanthifolia* can compete with native vegetation and displace native biodiversity and it can block waterways. In the EPPO region, *J. ailanthifolia* has previously been reported as a garden escapee from Germany. *Juglans ailanthifolia* was first found in the Canton of Ticino, Switzerland in 2019. The species was found in the areas of Bellinzona and Mendrisio, in moist lowland environments. The two largest sites are located in Gnosca and Novazzano. The former site is spread over 1 ha, and appears to be an abandoned plantation. There are adult *J. ailanthifolia* trees over 20 m tall with a trunk diameter of up to 45-50 cm, suggesting that they are 60-70 years old. The latter site is more extended, as mature individuals are sparsely spread along a small valley for at least 3 km. In Italy, *J. ailanthifolia* occurs in Lombardy, and the individuals here were previously misidentified as another casual alien species, *J. cinerea*. It was only in 2020 that individuals at a site in Val Seriana (Piario) were checked

and subsequently identified as *J. ailanthifolia*. There appears to be a relatively limited spread of this tree in both Italy and Switzerland and thus at present it does not appear to be exhibiting invasive behaviour.

A new global distribution map has been added to EPPO Global Database: https://gd.eppo.int/taxon/IUGAI/distribution

Source: Marazzi B, Rosselli A, Galasso G, Eggenberg S (2021) *Juglans ailanthifolia* A new alien walnut tree species naturalised in Switzerland and Italy. *Bollettino della Società ticinese di scienze naturali* **109**, 57-68.

Additional key words: invasive alien plant **Computer codes:** IUGAI, CH, IT

2021/255 Impact of *Lupinus polyphyllus* on native biodiversity

Lupinus polyphyllus (Fabaceae: EPPO Observation List) is a short-lived perennial nitrogen-fixing herb, native to North America. It is invasive in a number of EPPO countries as well as Australia and New Zealand. *Lupinus polyphyllus* can form dense stands (70% cover) and thrive in a variety of open habitats. In Finland, it frequently occurs in nutrient-poor, well-drained and ruderal habitats. In the invaded range, *L. polyphyllus* is associated with declines in both vascular plant and insect species richness in various open habitats such as grasslands, sparse forests, road verges and wastelands in Northern Europe. A study was conducted to assess the impact of *L. polyphyllus* on native biodiversity in the Lahti area, southern Finland, where *L. polyphyllus* was first recorded in 1936. In total, 18 gravelly or sandy semi-natural grassland sites were selected, which were partially invaded by *L. polyphyllus* and for which it was possible to estimate time since invasion. The sites were divided as: 7 sites invaded in the last 5 years or less; 7 sites invaded 10 years ago; 4 sites invaded for 15 years or more. At each site, the plant community was recorded using 10 randomly placed 1m^2 quadrats in the invaded and uninvaded vegetation from mid-July to early August 2018. All plants were identified to species level and the abundance of each species was estimated as the percentage cover of a species. *L. polyphyllus* was associated with lower species richness in invaded plant communities but this effect did not change with time since invasion. To conclude, *L. polyphyllus* can reduce plant species richness, but the ecological impact might not dramatically change or accumulate with time since invasion.

A new global distribution map has been added to EPPO Global Database: https://gd.eppo.int/taxon/LUPPO/distribution

Sources: Prass M, Ramula S, Jauni M, Setää H, Kotze DJ (2021) The invasive herb *Lupinus polyphyllus* can reduce plant species richness independently of local invasion age. *Biological Invasions*. https://www.doi.org/10.1007/s10530-021-02652-y

Pictures: *Lupinus polyphyllus*. https://gd.eppo.int/taxon/LUPPO/photos

Additional key words: invasive alien plant **Computer codes:** LUPPO, FI

2021/256 Impact of *Koenigia polystachya* in its native range

Koenigia polystachya (Polygonaceae: EPPO Observation List) is native to the Himalayas (India and Pakistan) and is a non-native species with invasive behaviour in Canada, the EPPO region, North America and New Zealand. In the EPPO region, the species can form monocultures and often spreads along transportation routes (e.g. road and rail embankments). There are no known studies that have scientifically evaluated the impact of *K. polystachya* on native biodiversity and related ecosystem services in the EPPO region. Interestingly, however, several studies have been conducted in the plants' native range, where the effect of the species' expansion on native biodiversity has been assessed. The current study was conducted in the Valley of Flower National Park (VoFNP), Lata-Khark and Hemkund Sahib Trek in Nanda Devi Biosphere Reserve (NDBR) in the Indian western Himalayas. At each site, plots were established where *K. polystachya* was present and these were compared to plots where the species was absent. The expansion of *K. polystachya* was measured over four years (2015-2018) and the effect on plant species richness was studied. A total of 206 species of vascular plants were recorded during the study. In the invaded sites, species richness shows a gradual decrease over the years, while density and abundance of *K. polystachya* increased over the same period of time. Similar ecological studies could also be conducted in the invasive range which may help evaluate the risk the species has to biodiversity and associated ecosystem services.

Source: Negi VS, Maletha A, Pathak R, Maikhuri RK (2021) Expansion of a native species and its impact on alpine ecosystems, Indian Himalaya. *Biologia* **76**, 889–899. https://doi.org/10.1007/s11756-021-00693-1

Pictures: *Koenigia polystachya*. https://gd.eppo.int/taxon/POLPS/photos

Additional key words: invasive alien plant **Computer codes:** POLPS, IN

2021/257 Biological control of *Polygonum perfoliatum* in North America

Polygonum perfoliatum (Polygonaceae: EPPO A2 List) is an herbaceous, terrestrial vine which is native to Asia. It has been introduced as a contaminant of ornamental plants to North America and the EPPO region (see RS 2016/020). In the USA, *P. perfoliatum* can invade open fields, forest edges and ruderal habitats. Due its growth habit, *P. perfoliatum* can smother trees and other vegetation which can have a negative impact on their growth and the growth of other species below the canopy. The biological control agent *Rhinoncomimus latipes* (Coleoptera: Curculionidae) was released against *P. perfoliatum* in the USA in 2004. The feeding damage of adult weevils and the stem boring larvae can substantially inhibit the growth and reproductive potential of the plant. It is estimated that *R. latipes* can disperse 4.3 km per year. An experiment was conducted to assess (1) at what height *P. perfoliata* patches can be detected using aerial images taken from a drone, and (2) the effective release of weevils from a pod attached to an aerial drone. A pod was designed to hold adult weevils and was made using biodegradable polyvinyl alcohol and 3-D printed. The pod's design enabled it to be attached to the drone and ensured that adults could escape from a 3 mm hole at the top of the pod upon release. An experiment was conducted where the drone was flown at 15 different altitudes to determine the detectability of *P. perfoliata* patches using aerial images. The results showed *P. perfoliata* patches were readily detectable on images taken at ≤15 m above the ground. When testing the pod design, more than 98 % of *R. latipes* successfully escaped from the pod within 24 h after the pod was released. The results suggest that aerial detection of *P. perfoliata* and deployment of *R.*

latipes for targeted biological control in hard-to-access areas can be accomplished using drone technology.

Sources: Kim J, Huebner CD, Reardon R, Park YL (2021) Spatially targeted biological control of mile-a-minute weed using *Rhinoncomimus latipes* (Coleoptera: Curculionidae) and an unmanned aircraft system *Journal of Economic Entomology* **114**(5), 1889-1895. https://www.doi.org/10.1093/jee/toab020

Pictures: *Polygonum perfoliatum*. https://gd.eppo.int/taxon/POLPF/photos

Additional key words: invasive alien plant **Computer codes:** POLPF, RHCMLA, US