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2020/065 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. This revision was 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.

A pilot project with the aim of revising datasheets for 11 pests of importance to the Mediterranean area was launched in 2019, in the framework of the preparation of an Euphresco/Ciheam Compendium. The following datasheets have been revised by specialists and are now available in the EPPO Global Database in their new dynamic format (more will be published in the coming weeks):

- *Bursaphelenchus xylophilus:* https://gd.eppo.int/taxon/BURSXY/datasheet
- *Erwinia amylovora:* https://gd.eppo.int/taxon/ERWIAM/datasheet
- *Fusarium oxysporum* f. sp. *albedinis:* https://gd.eppo.int/taxon/FUSAAL/datasheet
- '*Candidatus* Liberibacter solanacearum': https://gd.eppo.int/taxon/LIBEPS/datasheet
- *Plum pox virus:* https://gd.eppo.int/taxon/PPV000/datasheet
- *Rhynchophorus ferrugineus*: https://gd.eppo.int/taxon/RHYCFE/datasheet

In addition, new datasheets recently published in the EPPO Bulletin have also been transferred into the EPPO Global Database:

- *Agrilus bilineatus:* https://gd.eppo.int/taxon/AGRLBL/datasheet
- *Agrilus fleischeri:* https://gd.eppo.int/taxon/AGRLFL/datasheet
- 14 datasheets on Invasive Alien Plant (see EPPO RS 2020/087, in this issue)

Finally, as the revision of the datasheets is a major project, a grant agreement was signed in March 2020 between the European Commission and EPPO. A list of approximately 400 pests has been agreed and the revision process is planned over a period of 4.5 years. The EPPO Secretariat will keep you informed in the EPPO Reporting Service when new and revised datasheets are published in the EPPO Global Database.

Source: EPPO Secretariat (2020-04).

Additional key words: database

Computer codes: AGRLBL, AGRLFL, BURSXY, ERWIAM, FUSAAL, LIBEPS, PPV000, RHYCFE

2020/066 Recommendations to policy makers from Euphresco projects

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

Development and implementation of early detection tools and effective management strategies for invasive non-European and other selected fruit fly species of economic importance (FLY DETECT)
The project focussed on monitoring of fruit fly species in Austria, Bulgaria and Greece and on the study of volatiles produced by infested fruits, in order to develop a volatile(s)-based diagnostic tool (e-nose).
The potential of fruit flies to be introduced and further spread in Europe is shown by the recent outbreaks of *Bactrocera dorsalis* in Italy and the fact that *Ceratitis capitata* has become a major pest of apples in the area of Trentino, Italy, jeopardising the integrated pest management (IPM) programme applied against codling moth, *Cydia pomonella*. Therefore, monitoring activities for fruit fly species (e.g. *B. dorsalis, B. zonata, C. capitata, Myiopardalis pardalina* would greatly facilitate the early detection of any new occurrence. Volatiles that can be used to distinguish between infested and healthy fruits have been identified during the project. Efforts should be made to explore in detail the effect of other variables such as the cultivar or storage conditions on the emission of these compounds. Odorant-based detection tools (e-noses) are available and could be assessed for their ability to detect infested fruits.

Authors: Milonas, Panagiotis; Egartner, Alois; Ivanova, Ivanka
Duration of the project: from 2016-04-01 to 2019-03-31.
Link: https://zenodo.org/record/3732297#.XoGzV4gzbIV

Source: Euphresco (2019-04). https://www.euphresco.net/projects/

Additional key words: research **Computer codes:** CERTCA, CARYPA, DACUDO, DACUZO

2020/067 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**

'*Candidatus* Phytoplasma solani' (EPPO A2 List) is reported for the first time from Japan. In June 2017, *Capsicum annuum* plants showing chlorosis on leaves and fruit were observed in Susaki city (Kochi Prefecture, Shikoku). The identity of the pathogen was confirmed by molecular methods (Shimomoto *et al.*, 2019). **Present, only in some areas (first found in 2017 in Kochi Prefecture).**

During a survey conducted from 2017 to 2019 in the Western part of Burkina Faso, adult specimens of *Ceratitis rosa* (Diptera: Tephritidae – EPPO A1 List) were trapped in natural areas and in one agricultural field (Zida *et al.*, 2020). **Present, no details.**

The NPPO of Finland recently informed the EPPO Secretariat of the first record of *Drosophila suzukii* (Diptera: Tephritidae – EPPO A2 List) on its territory. It was trapped in a field in Pohjois-Savo in July 2019. The pest status of *Drosophila suzukii* in Finland is officially declared as: **Present.**

Sweet potato chlorotic stunt virus (Crinivirus, SPCSV, EU Annexes) is first reported from Taiwan on sweet potato (*Ipomoea batatas*) (Cheng *et al.*, 2020). **Present, no details.**

- **Detailed records**

During a survey conducted in February 2019 in eucalyptus plantations in the municipality of Dom Eliseu, Pará state, Brazil, *Ralstonia pseudosolanacearum* (EPPO A2 List) was detected in *Eucalyptus urophylla* trees. Affected trees were showing wilt symptoms and discoloration of internal tissue (Freitas *et al.*, 2020).

In Russia, *Ips amitinus* (Coleoptera: Curculionidae: Scolytinae – EU Annexes) occurs in the European part (Central Russia: Bryansk, Leningrad, Pskov – Northern Russia: Karelia, Novgorod, Murmansk), with a tendency for range expansion (Økland *et al.*, 2019), and it has recently reached the north of the Kola Peninsula and the Arkhangelsk province (Northern Russia). In addition, its presence was confirmed in Western Siberia in 2019, although symptoms had already been noticed in 2014. Abundant populations of *I. amitinus* were observed on *Pinus sibirica* in pine forests near human settlements in Tomsk and Kemerovo provinces, and the pest was also sporadically found on *Picea obovata* (Kerchev *et al.*, 2019).

- **Host plants**

In India, during surveys conducted in the Kashmir valley (Jammu and Kashmir), quince (*Cydonia oblonga*) trees were found to be infested by *Bactrocera dorsalis* (Diptera: Tephritidae – EPPO A1 List). The host suitability of *C. oblonga* was verified by cage experiments, and it was shown that adult *B. dorsalis* could emerge from harvested quince fruit (Akbar *et al.*, 2019).

In Brazil, *Gymnandrosoma aurantianum* (Lepidoptera: Tortricidae - EPPO Alert List) has been observed feeding on pecan (*Carya illinoinensis*) in two orchards, one in the municipality of Uraí (Paraná) and the other in the municipality of Chapada (Rio Grande do Sul). Larvae damaged pecan fruit by perforating the husk (pericarp) and making deep galleries. Frass could also be observed between the pericarp and endocarp, but damage did not reach the endocarp (Nava *et al.*, 2020).

In Indonesia, *Xanthomonas perforans* (EPPO A2 List) causes leaf blight on nursery plants and young trees of *Eucalyptus pellita*. This is the first report of *X. perforans* causing a leaf disease on a woody host (Bophela *et al.*, 2019).

- **New pests**

During a study on begomoviruses conducted in Uganda in March 2015, symptomatic leaf samples were collected from 6 wild and cultivated plants of *Ocimum gratissimum* (African basil) from different sites in the Central and Western regions of the country. As a result, 3 new bipartite begomoviruses were characterized and tentatively called: Ocimum yellow vein virus (OcYVV), Ocimum mosaic virus (OcMV), and Ocimum golden mosaic virus (OcGMV). It is

noted that more work is needed to determine the geographical distribution of these new begomoviruses in Africa, and their potential impact on *Ocimum* species (Mollel *et al.*, 2020).

In Austria, viroid-like symptoms were observed on apple fruit (*Malus domestica* cv. Ilzer Rose) in 2016 in southern Burgenland. Molecular studies, including the use of next-generation sequencing revealed the presence of a new viroid, belonging to the genus *Apscaviroid*, which was tentatively called 'apple chlorotic fruit spot viroid' (Leichtfried *et al.*, 2019).

Sources:

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Shimomoto Y, Ikeda K, Asahina Y, Yano K, Oka M, Oki T, Yamasaki J, Takeuchi S, Morita Y (2019) First report of '*Candidatus* Phytoplasma solani' associated with pepper chlorosis of sweet pepper, *Capsicum annuum* L., in Japan. *Journal of General Plant Pathology*. https://doi.org/10.1007/s10327-019-00889-z

Zida I, Nacro S, Dabiré R, Somda I (2020) Seasonal abundance and diversity of fruit flies (Diptera: Tephritidae) in three types of plant formations in western Burkina Faso, West Africa. *Annals of the Entomological Society of America*. https://doi.org/10.1093/aesa/saaa004 (via PestLens).

Additional key words: detailed record, new host plant, new pest, new record

Computer codes: 1BEGOG, ACFSVD, CERTRO, DACUDO, DROSSU, ECDYAU, EUCPJ, IPSXAM, PHYPSO, RALSPS, SPCSV0, XANTPF, AT, BF, BR, FI, IN, JP, RU, TW, UG

2020/068 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2020 received since the previous report (EPPO RS 2020/049). Notifications have been sent via Europhyt for the EU countries and Switzerland. The EPPO Secretariat has selected notifications of non-compliance made because of the detection of pests. Other notifications of non-compliance due to prohibited commodities, missing or invalid certificates are not indicated. It must be pointed out that the report is only partial, as many EPPO countries have not yet sent their notifications. When a consignment has been re-exported and the country of origin is unknown, the re-exporting country is indicated in brackets. 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
Anthonomus eugenii	*Capsicum annuum*	Vegetables	Mexico	United Kingdom	1
Aphis, Cryptomphalus aspersus, Frankliniella occidentalis, Tetranychus	*Cynara scolymus*	Vegetables	Morocco	Spain	1
Bemisia	*Ipomoea aquatica*	Vegetables (leaves)	Malaysia	United Kingdom	2
Bemisia tabaci	*Amaranthus*	Cut flowers	Israel	Netherlands	1
	Annona	Vegetables (leaves)	Nigeria	United Kingdom	1
	Anubias barteri var. *glabra*	Aquatic plants	Singapore	United Kingdom	1
	Begonia	Cuttings	Brazil	Netherlands	1
	Capsicum	Vegetables	Turkey	United Kingdom	1
	Capsicum annuum	Vegetables	Morocco	France	1
	Capsicum annuum	Vegetables	Turkey	United Kingdom	1
	Cestrum	Vegetables (leaves)	Suriname	Netherlands	3
	Cestrum latifolium	Vegetables (leaves)	Suriname	Netherlands	1
	Colocasia esculenta	Vegetables	India	United Kingdom	2
	Corchorus olitorius	Vegetables (leaves)	Malaysia	United Kingdom	2
	Corchorus olitorius	Vegetables (leaves)	Sierra Leone	United Kingdom	1
	Hibiscus, Ipomoea	Vegetables (leaves)	Congo, Dem. Rep.	Belgium	1
	Hibiscus, Ipomoea, Solanum macrocarpon	Vegetables (leaves)	Togo	Belgium	1
	Ipomoea aquatica	Vegetables (leaves)	Malaysia	United Kingdom	3
	Ipomoea batatas, Solanum macrocarpon	Vegetables (leaves)	Togo	Belgium	1
	Manihot esculenta	Vegetables (leaves)	Togo	Germany	1
	Ocimum basilicum	Vegetables (leaves)	Israel	Netherlands	3
	Ocimum basilicum	Vegetables (leaves)	Netherlands Antilles	Netherlands	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	Germany	1
	Ocimum tenuiflorum	Vegetables (leaves)	India	France	1
	Origanum	Vegetables (leaves)	Israel	Netherlands	1
	Persicaria	Vegetables (leaves)	Thailand	United Kingdom	1
	Persicaria odorata	Vegetables (leaves)	Cambodia	Netherlands	1
	Piper betle	Vegetables (leaves)	Thailand	Sweden	2
	Rumex	Vegetables (leaves)	Nigeria	United Kingdom	2
	Salvia	Vegetables (leaves)	Israel	Netherlands	1
	Solanum macrocarpon	Vegetables (leaves)	Togo	Belgium	2
	Solanum melongena	Vegetables	Mexico	United Kingdom	1
	Solidago	Cut flowers	Zambia	Netherlands	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***B. tabaci* (cont.)**	*Telfairia occidentalis*	Vegetables (leaves)	Nigeria	Netherlands	1
	Telfairia occidentalis	Vegetables (leaves)	Nigeria	United Kingdom	3
Chloridea virescens	*Physalis*	Fruit	Colombia	Netherlands	1
Duponchelia fovealis	*Fragaria x ananassa*	Fruit	Egypt	Ireland	1
Elasmopalpus lignosellus	*Asparagus*	Vegetables	Peru	United Kingdom	1
	Asparagus officinalis	Vegetables	Peru	United Kingdom	4
Elsinoë australis	*Citrus medica*	Fruit	Bangladesh*	United Kingdom	1
Elsinoë fawcettii	*Citrus latifolia*	Fruit	Guatemala	United Kingdom	2
	Citrus medica	Fruit	Bangladesh	United Kingdom	2
Frankliniella occidentalis	*Pelargonium*	Cuttings	Israel	Poland	1
Helicoverpa	*Ocimum basilicum*	Vegetables (leaves)	Morocco	France	1
	Solanum aethiopicum	Vegetables	Senegal	France	1
Helicoverpa armigera	*Fragaria x ananassa*	Fruit	Egypt	Ireland	1
	Zea mays	Vegetables	Morocco	France	1
Helicoverpa armigera, Spodoptera littoralis	*Zea mays*	Vegetables	Morocco	France	1
Hirschmanniella	*Chenopodium album*	Vegetables (leaves)	Pakistan	United Kingdom	1
Insecta	*Fernaldia pandurata, Mangifera indica, Terminalia catappa*	Fruit and Vegetables	El Salvador	Italy	1
Lepidoptera	*Solanum melongena*	Vegetables	Sri Lanka	Italy	1
	Solanum torvum	Vegetables	Sri Lanka	France	2
Leucinodes	*Solanum aethiopicum*	Vegetables	Uganda	Italy	2
	Solanum aethiopicum	Vegetables	Uganda	Netherlands	2
Leucinodes orbonalis	*Solanum*	Vegetables	Sri Lanka	Italy	1
Liriomyza	*Allium tuberosum*	Vegetables	Thailand	United Kingdom	1
	Brassica rapa subsp. sylvestris	Plants for planting	South Africa	United Kingdom	1
	Centella asiatica	Vegetables (leaves)	Sri Lanka	United Kingdom	1
	Chenopodium album	Vegetables (leaves)	Pakistan	United Kingdom	1
	Chrysanthemum	Cut flowers	Colombia	United Kingdom	3
	Chrysanthemum	Cut flowers	South Africa	United Kingdom	1
	Dendranthema x grandiflorum	Cut flowers	Colombia	United Kingdom	3
	Ocimum	Vegetables (leaves)	Kenya	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	South Africa	United Kingdom	1
Liriomyza sativae	*Ocimum basilicum*	Vegetables (leaves)	Thailand	Netherlands	1
Lonchaeidae	*Psidium guajava*	Fruit	Brazil	Portugal	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Maruca vitrata	*Vigna*	Vegetables	Malaysia	Ireland	1
	Vigna unguiculata subsp. cylindrica	Vegetables	Malaysia	Ireland	1
Neoleucinodes elegantalis	*Solanum melongena*	Vegetables	Suriname	Netherlands	8
Neoleucinodes elegantalis, Spodoptera frugiperda	*Solanum melongena*	Vegetables	Suriname	Netherlands	1
Noctuidae	*Asparagus officinalis*	Vegetables	Peru	United Kingdom	2
Phyllosticta citricarpa	*Citrus maxima*	Fruit	China	Italy	1
	Citrus sinensis	Fruit	Uruguay	Spain	3
Phyllosticta citricarpa, Xanthomonas citri* pv. *citri	*Citrus maxima*	Fruit	China	Italy	1
Potato virus Y	*Capsicum*	Vegetables	Kenya	United Kingdom	4
	Capsicum	Vegetables	Tanzania	United Kingdom	1
	Capsicum annuum	Vegetables	Kenya	United Kingdom	1
	Capsicum chinense	Vegetables	Kenya	United Kingdom	2
	Capsicum chinense	Vegetables	Rwanda	United Kingdom	1
Ripersiella hibisci	*Syzygium buxifolium*	Plants for planting	China	Netherlands	1
Scirtothrips dorsalis	*Asparagus*	Vegetables	Thailand	Netherlands	1
Spodoptera	*Asparagus officinalis*	Vegetables	Peru	Netherlands	1
Spodoptera exigua	*Fragaria x ananassa*	Fruit	Egypt	Ireland	1
Spodoptera frugiperda	*Apium*	Vegetables	Suriname	Netherlands	1
	Asparagus officinalis	Vegetables	Peru	Netherlands	1
	Capsicum	Vegetables	Suriname	Netherlands	4
	Capsicum chinense	Vegetables	Suriname	Netherlands	1
	Capsicum frutescens	Vegetables	Suriname	Netherlands	1
	Eryngium	Cut flowers	Zimbabwe	Netherlands	1
	Zea mays	Vegetables	Senegal	United Kingdom	3
Spodoptera litura	*Dendrobium*	Cut flowers	Thailand	Netherlands	2
Spodoptera ornithogalli	*Asparagus officinalis*	Vegetables	Mexico	Netherlands	2
	Asparagus officinalis	Vegetables	USA	Netherlands	1
Thaumatotibia leucotreta	*Capsicum*	Vegetables	Kenya	United Kingdom	2
	Capsicum annuum	Vegetables	Tanzania	Netherlands	1
	Citrus reticulata	Fruit	Israel	France	1
	Rosa	Cut flowers	Kenya	Netherlands	3
	Rosa	Cut flowers	Tanzania	Netherlands	1
	Rosa	Cut flowers	Uganda	Netherlands	46
	Rosa	Cut flowers	Zambia	Netherlands	1
	Rosa	Stored products	Uganda	Netherlands	1
	Rosa	Stored products	Zambia	Netherlands	1
Thripidae	*Capsicum*	Vegetables	India	United Kingdom	1
	Capsicum annuum	Vegetables	India	United Kingdom	1
	Corchorus	Vegetables	Vietnam	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Thripidae (cont.)	*Luffa acutangula*	Vegetables	Dominican Rep.	United Kingdom	3
	Luffa acutangula	Vegetables	Ghana	United Kingdom	1
	Momordica charantia	Vegetables	India	United Kingdom	1
	Solanum macrocarpon	Vegetables	Sri Lanka	United Kingdom	1
	Solanum melongena	Vegetables	Dominican Rep.	United Kingdom	3
	Solanum melongena	Vegetables	Mexico	United Kingdom	3
Thrips palmi	*Dendrobium*	Cut flowers	Malaysia	Italy	1
	Dendrobium	Cut flowers	Malaysia	Netherlands	1
	Dendrobium hybrids	Cut flowers	Malaysia	Switzerland	1
	Perilla	Vegetables (leaves)	Vietnam	Netherlands	1
	Solanum melongena	Vegetables	Mexico	Netherlands	2
	Solanum melongena	Vegetables	Suriname	Netherlands	3
	Solanum melongena	Vegetables	Thailand	Netherlands	1
Tobacco ringspot virus	*Salvia (Rosmarinus)*	Plants for planting	Israel	Germany	1
Tomato brown rugose fruit virus	*Capsicum*	Seeds	Israel	United Kingdom	1
	Solanum lycopersicum	Seeds	Israel	United Kingdom	1
	Solanum lycopersicum	Seeds	Peru	Netherlands	1
Tomato spotted wilt tospovirus	*Impatiens*	Plants for planting	Israel	Poland	1
Xanthomonas citri* pv. *aurantifolii	*Citrus latifolia*	Fruit	Vietnam	Netherlands	1
Xanthomonas citri* pv. *citri	*Citrus maxima*	Fruit	China	Netherlands	1
Xanthomonas euvesicatoria* pv. *alfalfae	*Capsicum*	Seeds	USA	United Kingdom	1
Xiphinema	*Ophiopogon jaburan*	Aquatic plants	Malaysia	France	1

- **Fruit flies**

Pest	Consignment	Country of origin	Destination	nb
Anastrepha	*Mangifera indica*	Peru	Netherlands	1
Anastrepha obliqua	*Spondias tuberosa*	Brazil	Portugal	1
Bactrocera	*Capsicum frutescens*	Cambodia	Netherlands	1
	Citrus maxima	China	Netherlands	2
	Psidium guajava	India	United Kingdom	1
Bactrocera dorsalis	*Mangifera indica*	Uganda	Austria	1
Tephritidae (non-European)	*Annona cherimola*	Peru	Italy	1
	Carica papaya, Mangifera indica	Uganda	Italy	1
	Luffa aegyptiaca	Thailand	United Kingdom	1
	Mangifera indica	Peru	France	1
	Prunus persica	South Africa	France	1
	Psidium guajava	Egypt	France	2
	Psidium guajava	Sri Lanka	France	1

Pest	Consignment	Country of origin	Destination	nb
Tephritidae (non-European)	*Solanum torvum*	Cambodia	France	1
	Trichosanthes dioica	India	United Kingdom	1
Zeugodacus cucurbitae	*Trichosanthes dioica*	India	Sweden	1

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Brentidae	Unspecified	Wood packaging (pallet)	China	Austria	1
Buprestidae, Cerambycidae	*Juglans nigra*	Wood and bark	USA	Italy	1
Bursaphelenchus mucronatus	Unspecified	Wood packaging (pallet)	Belarus	Poland	1
	Unspecified	Wood packaging material	Belarus	Lithuania	1
	Unspecified	Wood packaging material	Turkey	Latvia	1
Bursaphelenchus mucronatus, Tylenchus	Unspecified	Wood packaging (pallet)	Belarus	Germany	1
Cartodere nodifer	*Quercus alba*	Wood and bark	USA	Italy	1
Coleoptera	Unspecified	Wood packaging (pallet)	China	Austria	1
Insecta	Unspecified	Wood packaging material	China	Switzerland	1
Lyctidae	Unspecified	Wood packaging (crate)	China	Germany	1
	Unspecified	Wood packaging (pallet)	China	Slovenia	1
Monochamus	*Picea abies*	Wood and bark	Ukraine	Spain	1
Rhabditis	Unspecified	Wood packaging (pallet)	Belarus	Germany	1
Sinoxylon	Unspecified	Wood packaging (crate)	Indonesia	Germany	1
Tylenchus	Unspecified	Wood packaging (pallet)	Belarus	Germany	1
Xyleborinus	Unspecified	Wood packaging (pallet)	China	Austria	1
Xyleborinus saxeseni	Unspecified	Wood packaging (pallet)	China	Austria	1
Xylotrechus	Unspecified	Wood packaging (pallet)	China	Austria	2

Source: EPPO Secretariat (2020-04).

INTERNET
EUROPHYT. Annual and monthly reports of interceptions of harmful organisms in imported plants and other objects.
http://ec.europa.eu/food/plant/plant_health_biosecurity/europhyt/interceptions/index_en.htm

Additional key words: interceptions

2020/069 *Chionaspis pinifoliae* (Hemiptera: Diaspididae - pine leaf scale): addition to the EPPO Alert List

Why: *Chionaspis pinifoliae* was recently identified as a potential threat to Nordic coniferous forests when screening for potential pests associated with trade of ornamental plants, and the Nordic PRA Network has proposed its addition to the EPPO Alert List. The pest was assessed to potentially fulfil the criteria to become regulated as a quarantine pest in the European Union territory and Norway. In addition, the EPPO Panel on Quarantine Pests for Forestry also supported the addition of *C. pinifoliae* to EPPO Alert List in March 2020.

Where: *C. pinifoliae* is assumed to be native to North America and it has been introduced in a few countries in Central America and the Caribbean, and in Africa. In the literature, there are unconfirmed records of the pest from Germany and the United Kingdom (it can be noted that in the UK Plant Health Risk Register, *C. pinifoliae* is considered absent from the UK).
EPPO region: Absent.
Africa: Egypt, Libya.
North America: Canada (Alberta, British Columbia, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Québec, Saskatchewan), Mexico, USA (Alabama, Arizona, California, Colorado, Connecticut, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming).
Central America and the Caribbean: Cuba, El Salvador, Honduras.

On which plants: *C. pinifoliae* is a pest of conifers with known hosts in the genera *Pinus* (main host genus), *Abies*, *Cedrus*, *Cupressus*, *Juniperus*, *Picea, Pseudotsuga, Taxus, Torreya* and *Tsuga*.

Damage: *C. pinifoliae* feeds by sucking the sap from the needles, which causes the foliage to turn yellow and drop. During heavy infestations the lower branches of the tree usually die first and eventually the whole tree may be killed.
Picture of C. pinifoliae can be viewed on the Internet!
https://www.forestryimages.org/browse/subthumb.cfm?sub=297

Dissemination: The first instar (crawler) of *C. pinifoliae* is mobile and may walk a few metres to a new host tree. Over longer distances, *C. pinifoliae* may be dispersed by wind and animal vectors. All stages of the pest may be transported over longer distances on infested plant material. It can be noted that pest has been intercepted on imported pine trees on several occasions in Bermuda.

Pathways: Plants for planting, cut branches and bark from areas where *C. pinifoliae* occurs.

Possible risks: Host plants of *C. pinifoliae* are widely planted and cultivated across the EPPO region. *C. pinifoliae* is considered a common pest of conifers in its native area, but damage seems to usually be limited to nurseries, Christmas tree plantations and ornamental conifer trees. *C. pinifoliae* is considered to be a serious pest of ornamental pine trees in USA, especially on *Pinus mugo* and *Pinus sylvestris,* and heavy outbreaks have been recorded after widespread spraying against mosquitoes, which presumably eliminated the natural enemies. Thus, natural antagonists are considered important in controlling *C. pinifoliae* in its native range. If natural antagonists are lacking in the EPPO region, the pest could potentially build up large populations and heavy outbreaks might lead to severe economic and environmental

impacts in nurseries, ornamental and Christmas tree plantations, as well as in natural and planted forests.
C. pinifoliae can be associated with coniferous nursery plants and it is uncertain whether the current phytosanitary measures would prevent its introduction into the EPPO region. For example, plants for planting of two of its known host genera, *Cupressus* and *Torreya*, can be imported to the European Union territory according the current EU plant health legislation. Finally, the pest is established in climate types that are widely distributed in the EPPO region suggesting that it has a potential to establish throughout the EPPO region.

Acknowledgments
The EPPO Secretariat warmly thanks Juha Tuomola (Finnish Food Authority) and the Nordic PRA Network who have kindly provided most of the information presented above.

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EPPO RS 2020/069

Panel review date – Entry date 2020-04

Additional key words: Alert List **Computer codes:** PHECPI

2020/070 Update on the situation of *Agrilus planipennis* in Ukraine

The NPPO of Ukraine recently informed the EPPO Secretariat of the current situation of *Agrilus planipennis* (Coleoptera: Buprestidae - EPPO A2 List) on its territory. After the first detection of *A. planipennis* in the area of Starokozhiv (Markivske forest, Luhansk region), phytosanitary measures were immediately taken on an area of 5 ha to eradicate the pest (EPPO RS 2019/202). As a result, the first outbreak of *A. planipennis* in Luhansk region was eradicated in October 2019.
Additional monitoring surveys were conducted in adjacent territories, and 2 small outbreaks of *A. planipennis* (covering a total area of 8.3 ha) were found at the end of 2019. Eradication measures were taken and during March and April 2020, all infested trees were destroyed (cut at the base of the trunk, milled and burnt). An area of 13.3 ha has been delimited and subjected to quarantine measures. Surveys for *A. planipennis* will be conducted in this area and its surroundings during 2020. The NPPO also noted that official surveys carried out in 2019 in other regions of Ukraine did not detect the pest. In 2020, specific surveys for *A. planipennis* using pheromone traps and visual inspections will be carried out in ash tree plantations in all regions of Ukraine.
The pest status of *Agrilus planipennis* in Ukraine is officially declared as: **Transient: subject to official control; several outbreaks have been detected in one area; appropriate phytosanitary measures have been applied for its eradication.**

Source: NPPO of Ukraine (2020-04).

Pictures: *Agrilus planipennis*. https://gd.eppo.int/taxon/AGRLPL/photos

Additional key words: detailed record **Computer codes:** AGRLPL, UA

2020/071 *Spodoptera frugiperda* detected in Northern Territory, Australia

In Australia, *Spodoptera frugiperda* (Lepidoptera: Noctuidae – EPPO A1 List) was first found in January 2020 in the Torres Strait (Saibai and Erub islands), and then detected on the mainland at Bamaga, in the Northern part of Queensland (EPPO RS 2020/031). In February and March 2020, further detections were made at several locations in Queensland (Gulf of Carpentaria, South Johnstone, Tolga, Lakeland, Bowen and Burdekin). In March 2020, *S. frugiperda* was also caught in traps in Katherine, in Northern Territory. Considering that eradication is probably no longer feasible, the NPPO of Australia will collaborate with the agricultural industry to develop appropriate management methods for the growers and will identify research priorities.
The pest status of *Spodoptera frugiperda* in Australia is officially declared as: **Present: only in some areas, but managed.**

Source: IPPC website. Official Pest Reports – Australia (AUS-97/2 of 2020-03-20) Detections of *Spodoptera frugiperda* (fall armyworm) on mainland Australia https://www.ippc.int/en/countries/australia/pestreports/2020/03/detections-of-spodoptera-frugiperda-fall-armyworm-on-mainland-australia/

Pictures: *Spodoptera frugiperda*. https://gd.eppo.int/taxon/LAPHFR/photos

Additional key words: detailed record **Computer codes:** LAPHFR, AU

2020/072 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). The NPPO of Portugal is conducting official monitoring. As a result of new detections, the demarcated areas have been enlarged. A buffer zone of 3 km has been established around the parishes where the pest was found. The measures in place include insecticide treatments, severe pruning, prohibition to produce, commercialize or move hosts plants, except fruits, within the whole demarcated area. Surveillance zones of 10 km radius beyond the limits of the demarcated areas were also established, where intensive monitoring takes place. An updated map of the demarcated areas is available on the Internet. Outbreaks have been reported mainly along the coast in Norte and Centro regions, as well as in the Área Metropolitana de Lisboa. The parasitoid *Tamarixia dryi* has been released to attempt biological control in several sites in Portugal as well as in Galicia (Spain).
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: Arenas-Arenas FJ, Duran-Vila N, Quinto J Hervalejo A (2019) Geographic spread and inter-annual evolution of populations of *Trioza erytreae* in the Iberian Peninsula. *Journal of Plant Pathology* **101,**1151–1157. https://doi.org/10.1007/s42161-019-00301-x

NPPO of Portugal (2019-09).

Pérez-Rodríguez J, Krüger K, Pérez-Hedo M, Ruíz-Rivero O, Urbaneja A, Tena A (2019) Classical biological control of the African citrus psyllid *Trioza erytreae*, a major threat to the European citrus industry. *Science Report* **9,** 9440. https://doi.org/10.1038/s41598-019-45294-w

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- IVIA website. L'IVIA contribueix al seguiment de la solta de 'Tamarixia dryi', l'insecte que frena l'expansió del vector del 'greening' en els cítrics http://www.agroambient.gva.es/va/inicio/area_de_prensa/not_detalle_area_prensa?id=836317

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

Additional key words: detailed record **Computer codes:** TRIZER, TAMRDR, PT

2020/073 New pests recorded in Spain

The NPPO of Spain informed the EPPO Secretariat of the findings of several new pests on its territory.

- *Sophonia orientalis* (Hemiptera: Cicadellidae), two-spotted leafhopper

In the framework of the official surveys for *Xylella fastidiosa* (EPPO A2 List) and its vectors, two nymphs of *Sophonia orientalis* were caught in February 2020 on herbaceous and bushy plants of a plot (without buildings) belonging to an industrial site located in the municipality of l'Aldea, Tarragona province, in the Autonomous Region of Cataluña. This is the first official record this insect in Spain.
Note: *S. orientalis* is a very polyphagous pest, originating in Asia. It was recorded in Madeira and Canary Islands in 2007. Wilson *et al.* (2011) previously recorded its presence in Gibraltar as well as in one location (Sierre del Arca) in Andalucía.
The pest status of *Sophonia orientalis* in Spain is officially declared as: **Present, only in some parts of the Member State concerned, at low prevalence.**

- *Pulvinaria polygonata* (Hemiptera: Coccidae), cottony citrus scale

This scale of Asian origin has been detected in 13 orchards of Citrus trees (*Citrus sinensis, C. clementina, C. limon, C. aurantifolia, C paradisi, C. reticulata* as well as on Citrus hybrids) located in 5 municipalities of Alicante province, in the Autonomous Region of Comunidad Valenciana in September 2019.
The pest status of *Pulvinaria polygonata* in Spain is officially declared as: **Present, only in some parts of the Member State concerned.**

- *Paracolopha morrisoni* (Hemiptera: Aphidoidea: Pemphigidae)

The aphid *P. morrisoni* was found in the roots of bamboo plants (*Phyllostachys viridiglaucescens, Sasa palmata*) in a private garden located in the municipality of Almenar, Lleida province, in the Autonomous Region of Cataluña in January 2020. Nearly 200 plants were infested. A phytosanitary treatment was applied on the roots.
The pest status of *Paracolopha morrisoni* in Spain is officially declared as: **Transient, actionable, under eradication.**
Note: This Asian aphid alternates hosts between leaf galls on *Zelkova serrata* (primary host) and bamboo roots (secondary hosts). Malumphy (2012) considered that this aphid was established in the United Kingdom and probably in other European countries (Belgium, Italy, and the Netherlands).

Source: NPPO of Spain (2019-10, 2020-04)
Malumphy C (2012) *Paracolopha morrisoni* (Hemiptera: Aphididae, Pemphiginae), an Asian aphid established in Britain. *British Journal of Entomology and Natural History* **25**(2), 79-83.
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 http://sea-entomologia.org/Publicaciones/PDF/BOLN_48/435436BSEA48PhoronSophoniarufofascia.pdf

Additional key words: new record **Computer codes:** BYRSMO, SOHOOR, PULVPO, ES

2020/074 First report of *Artona martini*, bamboo moth, in Italy

The NPPO of Italy recently informed the EPPO Secretariat of the first finding of the bamboo moth *Artona martini* (Lepidoptera: Zygaenidae) on its territory. The pest was reported by the Municipality of San Colombano Certenoli (Liguria region) in October 2019 in an area where bamboo (*Phyllostachys* sp.) is naturalized. This insect feeds on different species of bamboo (e.g. *Bambusa multiplex, Shibataea kumasasa, Pleiobastus viridistriatus, Phyllostachys edulis, P. makinoi, P. nigra*) and on *Miscanthus sinensis*). It is native to China, Japan, Taiwan and Vietnam, and was introduced in New-Zealand and South Korea at the end of the 1990s and in 2010, respectively.
The pest status of *Artona martini* in Italy is officially declared as: **Present.**

Source: NPPO of Italy (2020-03).

Additional key words: new record **Computer codes:** ARTOMA, IT

2020/075 *Callidiellum villosulum* found on imported wooden equipment for pets in Poland and France

In 2019, 10 live specimens of *Callidiellum villosulum* (Coleoptera: Cerambycidae) were observed in 2 pet stores in the cities of Cracow and Warsaw, Poland. *C. villosulum* (brown fir longhorn beetle) is native to Southeastern China and its known host plants mainly belong to the Taxodiaceae family (*Cunninghamia lanceolata, Cryptomeria japonica, Taiwania cryptomeriodes*), but also to Cupressaceae (*Chamaecyparis formosensis*) and Pinaceae (*Pinus taiwanensis*). In January 2019, 1 live male specimen of *C. villosulum* was found on the floor of a pet store in Cracow. Despite further searching, no other specimens could be found in the store and it was assumed that the beetle had emerged from wooden elements of animal cages for sale. In February 2019, 4 live male specimens of *C. villosulum* were found in another pet store in Warsaw. Beetles were found on an inadequately sealed package of wooden bridges for rodents (probably made of *Cryptomeria japonica*). Five exit holes could be observed on wooden parts. After placing these wooden items in isolated and suitable breeding conditions, 5 live beetles (all females) emerged from them. This is the first time that *C. villosulum* is intercepted on imported wooden equipment in Poland. It can be recalled that *C. villosulum* had also been intercepted in 2013 on wooden commodities imported in Malta (EPPO RS 2014/162). In other parts of the world, interceptions have also been reported from Australia (on wood packaging material), Canada, Japan, and the USA (in real trunks of artificial Christmas trees from China).

Interestingly, similar findings were made in France in 2019 on wooden cages for rodents in two pet shops located in the Meurthe-et-Moselle and Moselle departments.
The pest status of *Callidiellum villosulum* in France is officially declared as: **Transient, actionable, under eradication.**

These recent findings from Poland and France clearly indicate that *C. villosulum* has the potential to be moved between continents via rather unusual pathways, such as wooden items for pets, in addition to wood and wood packaging material.

Source: Kurzawa J, Stępień S, Bobrek M, Borek R (2020) [Two interceptions of *Callidiellum villosulum* (Fairmaire, 1900) (Coleoptera: Cerambycidae) in continental Europe]. *Acta entomologica silesiana* **28**, 1-6 (in Polish). https://zenodo.org/record/3726708#.Xp77tsgzbIU
NPPO of France (2019-05).

Additional key words: interception **Computer codes:** CLLLVI, FR, PL

2020/076 First report of '*Candidatus* Phytoplasma phoenicium' in Italy

Up to now '*Candidatus* Phytoplasma phoenicium' (EPPO A1 List) was currently known to occur only in Lebanon and in Iran. In spring 2017, symptoms resembling those of phytoplasmas were reported on 25% of 15-year-old almond plants (*Prunus dulcis*), cultivars Filippo Ceo and Genco grafted onto GF677, in a commercial orchard (20 ha) located in Grottaglie (Puglia region, southeast Italy). The development of many axillary buds with small and yellowish leaves, and witches' brooms developing from the trunk, were the most frequent symptoms, followed by leaf rosetting, proliferation of slender shoots, tree decline, and dieback. Twenty-six leaf samples were collected in the symptomatic orchard, from both symptomatic (19) and asymptomatic (7) plants. Moreover, additional leaf samples (5) from asymptomatic almond orchards (comprising the same cultivars), located 80 km away from the infected fields at Valenzano (Province of Bari, Puglia), were also collected. Molecular analysis (PCR, nested-PCR, BLASTn, sequencing) identified '*Ca*. P. phoenicium' in all the symptomatic and two of the seven asymptomatic plants from Grottaglie. Samples from Valenzano tested negative.
The situation of '*Candidatus* Phytoplasma phoenicium' in Italy can be described as: **Present, found in one orchard in southeast Italy (Puglia).**

Source: Nigro F, Sion V, Antelmi I, Choueiri E, Habib W, Bruno A, Boscia D (2020) First report of '*Candidatus* Phytoplasma phoenicium' on almond in Southern Italy. *Plant Disease* **104**(1),278. https://doi.org/10.1094/PDIS-01-19-0157-PDN

Pictures: '*Candidatus* Phytoplasma phoenicium'. https://gd.eppo.int/taxon/PHYPPH/photos

Additional key words: new record **Computer codes:** PYYPPH, IT

2020/077 First report of citrus leprosis in South Africa

In South Africa, symptoms resembling those of citrus leprosis disease (EPPO A1 List) were observed in May 2018 in the Eastern Cape province. *Citrus leprosis N dichorhavirus* (CiLV-N) was detected on 2 sweet orange (*Citrus sinensis*, Valencia and Navel type) trees in the Addo area (municipality of Sundays River Valley, Sarah Baartman District). The virus was then also detected on another farm in the Gamtoos River Valley. For the moment, the pest status has not been determined by the NPPO of South Africa.
The situation of citrus leprosis disease in South Africa can be described as follows: **Present, only in some areas (first found in 2018 in the Eastern Cape province).**

EPPO note: Citrus leprosis disease can cause severe defoliation, girdled limbs, premature fruit drop, twig dieback, reduction in both fruit quality and yield, as well as tree death. It is a complex disease, transmitted by mites belonging to the genus *Brevipalpus*. Disease symptoms are associated with two taxonomically distinct classes of viruses, and at least 5 different viruses:

- positive-sense RNA and cytoplasmic viruses: Citrus leprosis virus C (Cilevirus, CiLV-C), Citrus leprosis virus C2 (Cilevirus, CiLV-C2) and Hibiscus green spot virus 2 (Higrevirus, HGSV-2);
- negative-sense RNA and nuclear viruses: Citrus leprosis virus N (Dichoravirus, CiLV-N), Citrus necrotic spot virus (Dichoravirus, CiNSV).

Source: IPPC website. Official Pest Reports – South Africa (ZAF-51/2 of 2019-12-17) First detection of Citrus leprosis-N in South Africa.

https://www.ippc.int/en/countries/south-africa/pestreports/2019/12/first-detection-of-citrus-leprosis-n-in-south-africa/

Pictures: *Citrus leprosis sensu lato*. https://gd.eppo.int/taxon/CILV00/photos

Additional key words: new record **Computer codes:** CILV00, ZA

2020/078 New outbreaks of tomato brown rugose fruit virus in the United Kingdom

Tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO Alert List) was first detected in July 2019 in a tomato greenhouse in Kent. The NPPO of the United Kingdom recently informed the EPPO Secretariat that this virus has been found in two new sites as part of the official surveillance programme. In March 2020, the presence of tomato brown rugose fruit virus has been confirmed at two tomato (*Solanum lycopersicum*) production sites in Worcestershire (West Midlands) in glasshouses of 1.62 ha and 8 ha respectively. Eradication measures are being applied (removing and incinerating all plants from the affected glasshouses, enhancing biosecurity procedures on the infected sites).
The pest status of *Tomato brown rugose fruit virus* in the United Kingdom is officially declared as: **Transient, statutory action is being taken, actionable, under eradication.**

Source: NPPO of the United Kingdom (2020-04).

Pictures: *Tomato brown rugose fruit virus*. https://gd.eppo.int/taxon/TOBRFV/photos

Additional key words: detailed record **Computer codes:** TOBRFV, GB

2020/079 New outbreaks of tomato brown rugose fruit virus report in Greece

The *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV – EPPO Alert List) was first detected in Greece in August 2019 in one greenhouse growing tomatoes (*Solanum lycopersicum*) on the island of Crete (EPPO RS 2019/210). Official surveys in the region of Chania detected seven additional greenhouses infected by ToBRFV in the municipality of Paleochora (Anidri and Koudoura) where the first outbreak had been detected. These greenhouses either belonged to the same grower or were in the vicinity of another infested greenhouse. It is considered that secondary infestations may be due to mechanical transmission (via the workers). In November 2019, a new outbreak was detected in Crete, in the municipality of Kissamo (also in the region of Chania but on the Northern coast of the Island) in a tomato greenhouse (1500 m^2). All plants were destroyed, and the grower started growing cucumber (a non-host plant) instead of tomato. ToBRFV was also detected on the mainland, in the Peloponnese in tomato greenhouses. It was detected in a greenhouse (1000 m^2) in the municipality of Kiparissia in November 2019, and in a greenhouse (8000 m^2) in the municipality of Gargaliani. Trace back of the source of the infestations is still in progress. Eradication measures are being applied in all cases.
The pest status of *Tomato brown rugose fruit virus* in Greece is officially described as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Greece (2020-04).

Pictures: *Tomato brown rugose fruit virus*. https://gd.eppo.int/taxon/TOBRFV/photos

Additional key words: detailed record **Computer codes:** TOBRFV, GR

2020/080 Findings of tomato brown rugose fruit virus on *Capsicum* in the EPPO region

Tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO Alert List) has caused outbreaks in tomato production in several EPPO countries since 2019. Until recently, there were no reports of damage on *Capsicum* in the EPPO region whereas this virus is damaging *Capsicum* crops in Mexico. However, two articles have now been published, mentioning the finding of ToBRFV in *Capsicum annuum* crops in the EPPO region.
In Jordan in 2016, a mixed infection of *C. annuum* by tobacco mild green mosaic virus and tomato brown rugose fruit virus resulted in stunting of young plants, puckering, and yellow mottling of leaves.
In Sicily (Italy), in January 2020, about 85% of a crop of *C. annuum* showed symptoms including slight mosaic and discoloration of young leaves, mosaic and distortion of the fruits. The year before, the same greenhouse was cultivated with tomato, which had been removed due to extensive infection caused by ToBRFV. The presence of ToBRFV in *C. annuum* was confirmed by RT-PCR.
In both cases, it is important to note that the *Capsicum* variety grown did not harbour a L resistant gene (which provides resistance to tobamoviruses).

Source: Panno S, Caruso AG, Blanco G, Davino S (2020) First report of *Tomato brown rugose fruit virus* infecting sweet pepper in Italy. *New Disease Reports* **41**, 20. http://dx.doi.org/10.5197/j.2044-0588.2020.041.020
Salem NM, Cao MJ, Odeh S, Turina M & Tahzima R (2020) First report of tobacco mild green mosaic virus and tomato brown rugose fruit virus infecting *Capsicum annuum* in Jordan. *Plant Disease* **104**(2), 601. https://doi.org/10.1094/PDIS-06-19-1189-PDN
Personal communication with Dr Davino (2020-04) and Dr Salem (2019-11).

Pictures: *Tomato brown rugose fruit virus*. https://gd.eppo.int/taxon/TOBRFV/photos

Additional key words: detailed record **Computer codes:** TOBRFV, IT, JO

2020/081 First report of *Sweet potato chlorotic stunt virus* in Portugal

The NPPO of Portugal recently informed the EPPO Secretariat of the first official report of *Sweet potato chlorotic stunt virus* (*Crinivirus*, SPCSV, EU Annexes) on its territory. During an export phytosanitary inspection of a consignment consisting of 9 lots of sweet potato (*Ipomoea batatas*) tubers, 27 samples were collected from the 9 lots and tested. SPCSV was detected in 2 samples collected in one of the lots (Murasaki variety, 1850 kg). The crop was grown in open field (0.22 ha, part of a total 12 ha of sweet potato production for the company). This plot had been inspected before harvest and no symptoms of SPCSV were found on the plants. This is the first detection of the virus in Portugal which has been officially confirmed. It may be noted that the occurrence of SPCSV had already been recorded in 2018 by scientists but not notified to the NPPO. Official phytosanitary measures were implemented. The infected lot has been destroyed and a nationwide survey program for SPCSV will be implemented in 2020. The origin of the outbreak is being investigated. Mother plants (in vitro) had been received from Ireland and were further propagated under greenhouse in Portugal before being planted outdoors.
The pest status of *Sweet potato chlorotic stunt virus* in Portugal is officially declared as: **Present, under eradication, only in the specific parts of the area concerned.**

Source: NPPO of Portugal (2020-03).

Teixeira-Santos M, Sousa E, Ferreira ME (2019). Vírus e produção competitiva e sustentável de batata-doce. *Frutas, Legumes & Flores* 194, 42-43. Available at https://projects.iniav.pt/BDMIRA/index.php/divulgacao/artigos-tecnicos

Additional key words: new record **Computer codes:** SPCSV0, PT

2020/082 Studies on the possible cause of Beech leaf disease in North America

Beach leaf disease (EPPO Alert List) was first observed in 2012 in the Lake county in Ohio (US) on *Fagus grandifolia* (American beech) and has since spread across Northern Ohio, Western and Northern Pennsylvania, New York, Ontario (Canada) and Southwestern Connecticut (EPPO RS 2018/178, 2019/083, 2020/083). This disease has also been observed on *Fagus sylvatica* (European beech) in Ohio. Beech leaf disease is characterized by dark interveinal banding of leaves appearing soon after spring flush, and in advanced stages results in canopy thinning, followed in some cases by tree mortality. Although the cause of this disease remains uncertain, nematodes could be extracted from symptomatic leaves of *F. grandifolia* and *F. sylvatica* from North America and were initially found to be most similar to *Litylenchus crenatae*. This nematode species was first described in 2019 in Japan in association with leaf galls symptoms on *Fagus crenata* (Japanese beech).

More studies have been conducted in North America to try to elucidate the cause of beech leaf disease. Nematode populations isolated from symptomatic beech leaves (*F. grandifolia* and *F. sylvatica*) collected in Ohio (initially identified as *L. crenatae*), Pennsylvania and Ontario were further studied. Results showed that North American nematode populations differed in morphology, host range, and ribosomal DNA marker from those in Japan. Therefore, it was proposed to consider the North American nematode associated with beech leaf disease as a new subspecies of *L. crenatae*, and to call it: *Litylenchus crenatae mccannii*. Inoculation of beech (*F. grandifolia*) seedlings with freshly isolated *L. crenatae mccannii* nematodes resulted in beech leaf disease symptoms, thus confirming that the nematode plays a role in the disease observed in North America (Carta *et al.*, 2020).

Because the presence of *L. crenatae mccannii* has been observed on both symptomatic and asymptomatic bud and leaf tissue, the question as to whether nematode is the sole cause of the disease or is only a vector of unknown pathogens, remains largely unanswered. Studies have been conducted on the fungal and bacterial communities that can be found on leaves and buds of *F. grandifolia* (asymptomatic and symptomatic). The lack of differences between the fungal communities occurring on symptomatic and asymptomatic tissues suggested that fungi do not play a role in the disease symptomatology. However, it was observed that bacterial communities were significantly different between symptomatic and asymptomatic leaves, in particular for the genera *Wolbachia* (many species are known as insect symbionts) and *Mucilaginibacter* (known as saprophytic bacteria able to degrade pectin). The differences observed in *Wolbachia* populations might suggest the possible involvement of an insect vector that could spread the nematode between leaves and trees. Concerning differences observed in *Mucilaginibacter*, this might suggest the possible involvement of an endosymbiont that could facilitate nematode feeding and establishment on leaves. Following these preliminary results, it is acknowledged that further studies should be carried out to determine what is the role of these bacteria in the colonization of leaves by *L. crenatae mccanni* and the progression of the disease in beech trees (Burke *et al.*, 2020).

Source: Burke DJ, Hoke AJ, Koch J (2020) The emergence of beech leaf disease in Ohio: probing the plant microbiome in the search of the cause. *Forest Pathology*, e12580. https://doi.org/10.1111/efp.12579
Carta LK, Handoo ZA, Li S, Kantor M, Bauchan G, McCann D, Gabriel CK, Yu Q, Reed S, Koch J, Martin D, Burke DJ (2020) Beech leaf disease symptoms caused by newly recognized nematode subspecies *Litylenchus crenatae mccannii* (Anguinata) described from *Fagus grandifolia* in North America. *Forest Pathology*, e12580. https://doi.org/10.1111/efp.12580

Additional key words: etiology **Computer codes:** LITYCR, CA, US

2020/083 First report of beech leaf disease in Connecticut (US)

During summer 2019, symptoms of beech leaf disease (EPPO Alert List) were observed on *Fagus grandifolia* (American beech) trees in Connecticut (US). For the moment, the disease was only found in Greenwich, Stamford, and New Canaan (Fairfield county), but it is noted that given the rapid spread and mortality observed in Ohio, it was important to document the distribution of beech leaf disease in Connecticut. In addition, laboratory analysis (morphological, sequencing) of symptomatic leaf tissue revealed the presence of females, males and juveniles of *Litylenchus crenatae mccannii*.

Source: Marra RE, LaMondia J (2020) First report of beech leaf disease, caused by the foliar nematode, *Litylenchus crenatae mccannii*, on American beech *(Fagus grandifolia*) in Connecticut. *Plant Disease* (early view). https://doi.org/10.1094/PDIS-02-20-0442-PDN

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

2020/084 Woody alien species along the Danube river in Austria

Urban environments have become hotspots for invasive alien species due mainly to high levels of anthropogenic disturbance and increased propagule pressure. Although the proportion of woody invasive alien species (trees and shrubs) is relatively low (0.5 % and 0.7 % of the global number of woody species), they can cause significant negative impacts on native biodiversity and ecosystem services. Once established these species can be difficult and expensive to eradicate. A case study was conducted at three sites (urban, semi urban and rural) along the Danube river in and near Vienna. Four key questions were addressed: (1) What is the proportion of alien woody species in different sections of the Danube River in eastern Austria? (2) Which alien woody species are the most common ones? (3) How does alien woody species abundance change along the urban-rural gradient? (4) Which factors explain the distribution of alien woody species? At each site, 25 plots were established at the riverbank and data were collected on the occurrence of native and alien woody species. In total, 44 native and 25 woody species were recorded in the 75 plots. The highest proportions of alien woody species were found in the urban site and in several plots in the semi-urban site. The rural site had lower proportions of alien woody species. Five of the most common woody species observed during the study were alien species: *Fraxinus pennsylvanica* (Oleaceae), *Populus* x *canadensis* (Salicaceae), *Acer negundo* (Sapindales), *Robinia pseudoacacia* (Fabaceae) and *Ailanthus altissima* (Simaroubaceae: EPPO List of Invasive Alien Plants). Through modelling, it was shown that human population density is significantly correlated with the presence of *A. negundo* and *A. altissima*. Management practices should be prioritized for the alien woody species along the Danube to mitigate their negative impacts.

Source: Wagner S, Moser D, Essl F (2020) Urban rivers as dispersal corridors: which factors are important for the spread of alien woody species along the Danube? *Sustainability* **12** https://doi.org/10.3390/su12062185

Additional key words: invasive alien plant **Computer codes:** ACRNE, AILAL, FRXPE, POPCA, ROBPS, AT

2020/085 *Celastrus orbiculatus* in Lithuania

Celastrus orbiculatus (Celastraceae) is a fast-growing woody vine species native to East Asia (China, Central and North Japan, Korean Peninsula and Far East Russia). The species is invasive in North America where is has spread extensively in the eastern US and it has been observed to have impacts on native biodiversity and associated ecosystem services. Birds and small mammals eat the fruit and spread the seeds. *C. orbiculatus* was introduced into the EPPO region for ornamental purposes in the mid 1800s and has since been recorded in a number of EPPO countries as an alien species (see https://gd.eppo.int/taxon/CELOR/distribution). In Lithuania, *C. orbiculatus* occurs in six locations in southeastern (Paneriai and Viscoriai, Vilnius city), central (Vandžiai, Raseiniai district and Girionys, Kaunas district) and western (Babrungėnai, Plungė district and environs of Palanga city) regions. From a study of four populations in Lithuania, it was found that all sampled individuals were monoecious, although with dominant either functionally female or male flowers. The species occurs at the edges and in forest habitats where it can form dense populations: in the Paneriai Forest, a dense stand with mature individuals occupies an area of 2 600 m^2 (3 640 m^2 including all recorded seedlings and saplings). The authors note that current climatic conditions are suitable for the growth, reproduction, and further invasion of the species in Lithuania and other parts of Europe. Increased public awareness of the potential negative impacts of *C. orbiculatus* is required in order to reduce the spread of the species from gardens into the natural habitat.

It should be noted that a risk assessment on *C. orbiculatus* for the European Union was published by Radboud University, the Netherlands with an overall risk score of medium.

Source: Gudžinskas Z, Petrulaitis L, Žalneravičius E (2020) Emerging invasion threat of the liana *Celastrus orbiculatus* (Celastraceae) in Europe. *NeoBiota* **56**, 1-25.
C. orbiculatus risk assessment: https://www.nvwa.nl/documenten/plant/planten-in-de-natuur/exoten/risicobeoordelingen/risicoanalyserapport-boomwurger

Additional key words: invasive alien plants, detailed record **Computer codes:** CELOR, LT

2020/086 Impact of *Lemna minuta* on biodiversity

Lemna minuta (Lemnoideae) is a small free-floating plant species no more than 3 mm in length. It is native to the Americas and is a widespread non-native species in the EPPO region. The species grows in slow moving freshwater, including streams, canals, lakes and drainage ditches. Surveys were conducted in 17 paired aquatic sites in central Italy in 2017 and 2018. Each paired site consisted of one site with more than 80 % surface coverage of *L. minuta* and one site from which the species was absent. The paired sites were less than 2 km apart and both belonged to the same hydrographic network. At each paired site, sampling of the water chemical properties and the aquatic plant and invertebrate community was conducted. Overall, sites with *L. minuta* had lower levels of dissolved oxygen, and dissolved oxygen was negatively correlated with the coverage of *L. minuta* and the thickness of the mats. Light penetration into the water was also reduced compared to sites without *L. minuta*. As a result, plant species richness was lower in the sites with *L. minuta* compared to sites without *L. minuta*. The composition of the aquatic invertebrate community also showed differences. Invertebrate groups which are tolerant of low oxygen levels (Ostracoda, Copepoda and Isopoda) were found in more abundance under mats of *L. minuta* whereas groups which are less tolerant (Ephemeroptera, Amphipoda, *Chironomus* and *Notonecta*) were rare or absent. Due to its small size, the habitats it invades, and its high dispersal capacity, the control of *L. minuta* is a major challenge. Full removal of the species is difficult, and it is likely that the waterbody could be reinvaded even if removal is achieved. However, removal of the species over the season can help to prevent mat forming and reduce the impact of the species.

Source: Ceschin S, Ferrante G, Mariani F, Traversetti L, Ellwood NTW (2020) Habitat change and alteration of plant and invertebrate communities in waterbodies dominated by the invasive alien macrophyte *Lemna minuta* Kunth. *Biological Invasions* **22**, 1325-1337.

Additional key words: new record, invasive alien plants **Computer codes:** LEMMT, IT

2020/087 Datasheets on invasive alien plants

EPPO has published 14 dynamic datasheets on invasive alien plants in the EPPO Global database. This new dynamic format will enable the database to automatically update the pest identity and geographical distribution sections within the datasheets. All of the 14 listed datasheets were originally developed as part of a DG Environment, LIFE funded project LIFE15 PRE-FR 001: Mitigating the threat of invasive alien plants in the EU through pest risk analysis to support the EU Regulation 1143/2014.

- *Ambrosia confertiflora* https://gd.eppo.int/taxon/FRSCO/datasheet
- *Andropogon virginicus* https://gd.eppo.int/taxon/ANOVI/datasheet
- *Cardiospermum grandiflorum* https://gd.eppo.int/taxon/CRIGR/datasheet
- *Cortaderia jubata* https://gd.eppo.int/taxon/CDTJU/datasheet
- *Ehrharta calycina* https://gd.eppo.int/taxon/EHRCA/datasheet
- *Gymnocoronis spilanthoides* https://gd.eppo.int/taxon/GYNSP/datasheet
- *Hakea sericea* https://gd.eppo.int/taxon/HKASE/datasheet
- *Humulus scandens* https://gd.eppo.int/taxon/HUMJA/datasheet
- *Lespedeza cuneata* https://gd.eppo.int/taxon/LESCU/datasheet
- *Lygodium japonicum* https://gd.eppo.int/taxon/LYFJA/datasheet
- *Pistia stratiotes* https://gd.eppo.int/taxon/PIIST/datasheet
- *Prosopis juliflora* https://gd.eppo.int/taxon/PRCJU/datasheet
- *Salvinia molesta* https://gd.eppo.int/taxon/SAVMO/datasheet
- *Triadica sebifera* https://gd.eppo.int/taxon/SAQSE/datasheet

Source: EPPO Secretariat (2020-04).

Additional key words: invasive alien plants, database

Computer codes: ANOVI, CDTJU, CRIGR, EHRCA, FRSCO, GYNSP, HKASE, HUMJA, LESCU, LYFJA, PIIST, PRCJU, SAQSE, SAVMO