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2021/166 New data on quarantine pests and pests of the EPP0 Alert List

By searching through the literature, the EPP0 Secretariat has extracted the following new data concerning quarantine pests and pests included (or formerly included) on the EPP0 Alert List, and indicated in bold the situation of the pest concerned using the terms of ISPM no. 8.

- **New records**

In the Democratic Republic of Congo, *Bactrocera latifrons* (Diptera: Tephritidae - EPP0 A1 List) was first recorded in 2020. It was found during a study conducted on *Solanum aethiopicum* fruit collected in Kavimvira (Uvira territory). This fruit fly of Asian origin was first found in Africa in 2006 in Tanzania and in 2016 in Burundi. Further studies will be conducted in the Democratic Republic of Congo to determine the geographical distribution and host range of *B. latifrons* (Ndayizeye & Kataraka Balangaliza, 2021). **Present, not widely distributed.**

In Spain, cucurbit chlorotic yellows virus (*Crinivirus*, CCYV) is reported for the first time. Symptoms of leaf chlorotic spots followed by interveinal chlorosis were observed during winter 2018 in cucumber (*Cucumis sativus*) crops grown in 3 separate glasshouses in Southern Spain. In all cases, *Bemisia tabaci* was also observed in infected crops (Chynoweth *et al.*, 2021).

In Bolivia, potato yellowing virus (*Ilarvirus*, PVY - EPP0 A1 List) has been detected in yacon (*Smallanthus sonchifolius*) collected from 2 locations. This is the first time that PVY has been detected in this host (Silvestre *et al.*, 2020). **Present, not widely distributed.**

In Armenia, *Leptoglossus occidentalis* (Hemiptera: Coreidae) was first observed in March 2020 in the Lodi province (Kalashian *et al.*, 2021).

In Latvia, *Leptoglossus occidentalis* (Hemiptera: Coreidae) was first observed in October 2020 in Salaspils. In 2021, 4 additional specimens were found in 3 other locations (Kolka, Virsīte and between Sīkrags and Mazirbe villages) (van der Heyden & Piterans, 2021).

In Algeria, *Zaprionus indianus* (Diptera: Drosophilidae - formerly EPP0 Alert List) was observed for the first time in two commercial pomegranate (*Punica granatum*) orchards in 2018 in the North-East part of the country (Khaldi *et al.*, 2021). **Present, not widely distributed.**

In Colombia, *Zaprionus indianus* (Diptera: Drosophilidae - formerly EPP0 Alert List) has been observed since 2001 and is now recorded from 9 departments (Bustca, 2021). **Present.**

- **Detailed records**

In Alabama (USA), cucurbit yellow stunting disorder virus (*Crinivirus*, CYSDV - EPP0 A2 List) and cucurbit chlorotic yellows virus (*Crinivirus*, CCYV) were first found in 2020 in commercial fields of cucurbits in single or mixed infections (Mondal *et al.*, 2021).

Fusarium oxysporum f. sp. *lactucae* (formerly EPP0 Alert List) occurs in Florida (US). The disease was first observed in March and April 2017 in commercial lettuce (*Lactuca sativa*) fields in the Everglade's Agricultural Area. Affected lettuce plants showed chlorosis and wilting. Laboratory analysis (molecular and pathogenicity tests) confirmed the identity of the fungus (Murray *et al.*, 2020).

In China, the cyst nematode *Heterodera elachista* (formerly EPPO Alert List) was first recorded from Gansu on maize (*Zea mays*) and Henan on rice (*Oryza sativa*). In Gansu, it was detected during a survey performed in fields of maize seed for propagation in September 2018 in Zhangye City, which is the biggest maize seed production area in China (Xu *et al.*, 2021). In Henan, *H. elachista* was found in rice fields. Damage was much more serious in direct-seeded than in transplanted rice fields (Cui *et al.*, 2021).

In July 2021, a population of *Lycorma delicatula* (Hemiptera: Fulgoridae - EPPO A1 List) was identified in Indiana (US). It was observed near the Ohio River in Switzerland County. Surveys are being conducted to delimit the extent of the infestation and management strategies will be implemented. Members of the public are invited to report any sightings (IN.gov, 2021).

In China, the rice root-knot nematode *Meloidogyne graminicola* (EPPO Alert List) is reported for the first time from Anhui. It was isolated in April 2020 from an irrigated paddy rice (*Oryza sativa*) field in Qianshan City (Ju *et al.*, 2021).

- **Eradication**

In Estonia, an outbreak of tomato leaf curl New Delhi virus (*Begomovirus*, ToLCNDV - EPPO Alert List) was detected in 2019 in a fruit production site (2 glasshouses) where eradication measures were implemented (EPPO RS 2019/146). In July 2021, the NPPO of Estonia informed the EPPO Secretariat that this outbreak had been successfully eradicated (NPPO of Estonia, 2021-07).

The pest status of tomato leaf curl New Delhi virus in Estonia is officially declared as: **Absent, pest eradicated.**

In Slovenia, an outbreak of the root mealybug *Ripersiella hibisci* (Hemiptera: Pseudococcidae - EPPO A1 List) was detected in June 2021 (EPPO RS 2021/150). Official measures were taken and the outbreak is now considered to be eradicated (NPPO of Slovenia, 2021-08).

The pest status of *Ripersiella hibisci* in Slovenia is officially declared as: **Absent, pest eradicated.**

- **Host plants**

Four new palm species: *Brahea edulis*, *Jubaea chilensis*, *Phoenix reclinata*, and *Sabal bermudana* (all Arecaceae) are recorded for the first time as host plants of *Rhynchophorus palmarum* (Coleoptera: Curculionidae - EPPO A1 List). In 2020-2021, mortality was observed on these 4 species in Balboa Park in California (San Diego county, US). In these affected palm species, adult weevils, pupal cocoons and larvae could be collected. In Balboa Park, it was also noted that *Phoenix canariensis* was the most highly attacked palm species, but no infestations were found on *Phoenix dactylifera* (Hoddle *et al.*, 2021).

- **New pests and taxonomy**

In Central and Southern China, a new disease has been observed in commercial orchards of Asian pear (*Pyrus pyrifolia*) since 2015. Affected trees showed small, semi-transparent chlorotic leaf spots on newly developed leaves, necrotic spots on stems and distorted leaves. Studies have showed that this emerging disease is associated with a new *Emaravirus*, tentatively called pear chlorotic leaf spot-associated emaravirus (PCLSaV) (Liu *et al.*, 2020).

In South Africa, a new disease affecting Japanese plums (*Prunus salicina*) has been observed since the 2000s. Symptoms were characterized by a marbling pattern on the fruit skin or corking of fruit flesh, rendering Japanese plums unmarketable. High throughput sequencing has revealed the presence of a new viroid for which the name plum viroid I (PVd-I) was proposed. Field surveys carried out over two growing seasons confirmed its association with disease symptoms and the disease was also shown to be transmissible by grafting (Bester *et al.*, 2020).

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

Computer codes: CCYV00, CCYV00, CYSV00, DACULA, FUSALC, HETDEL, LEPLOC, LYCMDE, MELGGC, PCLSAV, PVDI00, PYV000, RHIOHI, TOLCND, ZAPRIN, AM, BO, CD, CN, CO, DZ, EE, ES, LV, SI, US, ZA

2021/167 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 2021/120), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Anastrepha fraterculus*. <https://gd.eppo.int/taxon/ANSTFR/datasheet>
- Apple fruit crinkle viroid. <https://gd.eppo.int/taxon/AFCVD0/datasheet>
- ‘*Candidatus* Phytoplasma phoenicium’. <https://gd.eppo.int/taxon/PHYPPH/datasheet>
- Coconut cadang-cadang viroid. <https://gd.eppo.int/taxon/CCCVD0/datasheet>
- *Monochamus impluviatus*. <https://gd.eppo.int/taxon/MONCIM/datasheet>
- *Oemona hirta*. <https://gd.eppo.int/taxon/OEMOHI/datasheet>
- *Tomato chlorosis virus*. <https://gd.eppo.int/taxon/TOCV00/datasheet>
- Tomato spotted wilt virus. <https://gd.eppo.int/taxon/TSWV00/datasheet>
- *Trichoferus campestris*. <https://gd.eppo.int/taxon/HESOCA/datasheet>

Source: EPPO Secretariat (2021-07 and 08).

Additional key words: publication

Computer codes: AFCVD0, ANSTFR, CCCVD0, HESOCA, MONCIM, OEMOHI, PHYPPH, TOCV00, TSWV00

2021/168 New IPPC Guidelines: Prevention, preparedness and response guidelines for *Spodoptera frugiperda*

New guidelines have recently been published by the IPPC Secretariat to help NPPOs to prevent or limit the spread of *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List). These guidelines provide:

- 1) General information on the distribution and biology of the pest.
- 2) Technical details on what needs to be included in prevention and preparedness plans when the pest is still absent.

- 3) Technical details on what needs to be included in a response plan when the pest is officially detected and confirmed.

IPPC Secretariat (2021) Prevention, preparedness and response guidelines for *Spodoptera frugiperda*. Rome. FAO on behalf of the Secretariat of the International Plant Protection Convention. <http://www.fao.org/3/cb5880en/cb5880en.pdf>

Source: EPP0 Secretariat (2021-08).

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

Additional key words: publication, IPPC

Computer codes: LAPHFR

2021/169 Recommendations 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 EPP0). A report presenting the main objectives and results of this project, as well as recommendations made can be viewed on the Euphresco website.

Global warming and distribution of root-knot nematode species of the tropical group (MeloTrop)

Root-knot nematodes (*Meloidogyne* spp.) represent a relatively small but economically important group of obligate plant parasites. Damage and yield losses caused by these nematodes are greater in tropical regions than in temperate regions because of more favourable environmental conditions for pest colonization, development, reproduction and dispersal. However, climate change can influence the spread of these pests and their dispersal across temperate regions. The project aimed to organise surveys in the partnering countries in order to map the occurrence and distribution of tropical *Meloidogyne* species, to validate biochemical and molecular diagnostic tests and to study the survival ability of *Meloidogyne* species in open field conditions in continental and Mediterranean/Atlantic climatic conditions.

During monitoring activities, the most commonly found species was *M. incognita*, recorded at 47 locations. The second most common species was *M. arenaria* (21 locations), followed by *M. javanica* (11 locations), *M. hispanica* (7 locations), *M. luci* (6 locations) and *M. enterolobii* (2 locations). Mixed populations were also recorded at 13 locations. Tropical *Meloidogyne* species in open fields were predominantly distributed in areas with Mediterranean climatic conditions. However, some nematodes were located in areas with semi-continental climatic conditions with milder winter conditions.

Several diagnostic methods were used to identify *Meloidogyne* species, including isozyme phenotyping and DNA barcoding. Isozyme phenotyping was found to be the most efficient method for the identification of *Meloidogyne* species.

The survival ability of *M. incognita* and *M. arenaria* under continental climatic conditions was assessed in Slovenia. Both species survived and maintained their infectivity in semi-field conditions during three consecutive winters. Modelling results allowed the consortium to conclude that *M. arenaria* and *M. incognita* represent a threat for Europe, in particular when considering future climate change scenarios.

The research consortium recommended that monitoring programs are strengthened in countries with Mediterranean and semi-continental climatic conditions, that new diagnostic tests are developed, and that staff from national reference laboratories are trained concerning existing and new diagnostic methods.

Duration of the project: 2017-04-01 to 2020-03-31

Authors: Širca, Saša; Folcher, Laurent; Inácio, Maria Lurdes; Karssen, Gerrit; Bačić, Jasmina; Conceição, Isabel.

Link: <https://zenodo.org/record/5171594#.YRC9sY4zaUk>

Source: Euphresco (2021-08).

Additional key words: research

Computer codes: 1MELG

2021/170 EPP0 report on notifications of non-compliance

The EPP0 Secretariat has gathered below the notifications of non-compliance for 2021 received since the previous report (EPP0 RS 2021/077). Notifications have been sent via TRACES for the EU countries and Switzerland, and directly by Bosnia and Herzegovina. The EPP0 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 EPP0 countries have not yet sent their notifications. When the occurrence of a pest in a given exporting country is not known to the EPP0 Secretariat, this is indicated by an asterisk (*).

Pest	Consignment	Type of commodity	Export country	Destination	nb
<i>Aleurothrixus</i> sp.	<i>Psidium guajava</i>	Plants for planting	India	Austria	1
Aleyrodidae	<i>Eryngium foetidum</i>	Vegetables (leaves)	Cambodia	France	1
	<i>Hypericum</i>	Cut flowers	Kenya	France	2
	<i>Ocimum tenuiflorum</i>	Vegetables (leaves)	Laos	France	1
<i>Anthonomus eugenii</i>	<i>Capsicum chinense</i>	Vegetables	Mexico	France	1
Aphididae	<i>Lagenaria siceraria</i>	Vegetables	Pakistan	Spain	1
<i>Bemisia</i>	<i>Moringa</i>	Vegetables (leaves)	Sri Lanka	France	1
<i>Bemisia tabaci</i>	<i>Abelmoschus</i>	Vegetables	Jordan	Netherlands	1
	<i>Alternanthera</i>	Aquatic plants	Morocco	Belgium	1
	<i>Alternanthera</i>	Vegetables (leaves)	Sri Lanka	France	1
	<i>Aster</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Capsicum</i>	Vegetables	Egypt	France	1
	<i>Corchorus</i>	Vegetables	Bangladesh	Sweden	1
	<i>Echinodorus</i>	Aquatic plants	Singapore	Belgium	2
	<i>Echinodorus</i>	Aquatic plants	Singapore	Denmark	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Malaysia	Netherlands	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Thailand	Sweden	2
	<i>Eustoma</i>	Cut flowers	Israel	Belgium	6
	<i>Hibiscus</i>	Vegetables (leaves)	Togo	Belgium	1
	<i>Hibiscus</i>	Vegetables (leaves)	Togo	France	1
	<i>Hibiscus rosa-sinensis</i>	Cuttings	Vietnam	Netherlands	1
	<i>Hibiscus sabdariffa</i>	Vegetables (leaves)	Togo	Belgium	1
	<i>Ipomoea</i>	Vegetables (leaves)	Togo	Belgium	1
	<i>Lisianthus</i>	Cut flowers	Israel	Netherlands	1
	<i>Manihot</i>	Vegetables (leaves)	Thailand	Switzerland	1
	<i>Manihot esculenta</i>	Vegetables (leaves)	Guinea	France	3
	<i>Nomaphila</i>	Cuttings	Côte d'Ivoire	France	1

Pest	Consignment	Type of commodity	Export country	Destination	nb
B. tabaci (cont.)	<i>Ocimum</i>	Vegetables (leaves)	Thailand	Netherlands	1
	<i>Ocimum</i>	Vegetables (leaves)	Vietnam	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Kenya	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	Netherlands	2
	<i>Oxypetalum caeruleum</i>	Cut flowers	Israel	Netherlands	1
	<i>Pachira</i>	Plants for planting	China	Netherlands	1
	<i>Paederia foetida</i>	Vegetables (leaves)	Vietnam	Netherlands	1
	<i>Persicaria</i>	Vegetables (leaves)	Vietnam	Netherlands	1
	<i>Persicaria odorata</i>	Vegetables (leaves)	Thailand	Sweden	1
	<i>Polygonum</i>	Vegetables (leaves)	Thailand	Sweden	1
	<i>Rumex acetosa</i>	Vegetables (leaves)	Congo, Dem. Rep. of	France	1
	<i>Solanum</i>	Vegetables (leaves)	Togo	Belgium	1
	<i>Solanum macrocarpon</i>	Vegetables	Togo	Belgium	1
	<i>Solidago</i>	Cut flowers	Israel	Belgium	1
	<i>Telfairia</i>	Vegetables (leaves)	Nigeria	Belgium	1
	<i>Trachelium</i>	Cut flowers	Israel	Belgium	2
	Unspecified	Plants for planting	Israel	Netherlands	1
	Unspecified	Vegetables (leaves)	Togo	Belgium	1
	<i>Vernonia amygdalina</i>	Vegetables (leaves)	Nigeria	Belgium	1
Bradysia impatiens	<i>Artemisia</i>	Cuttings	Israel	Italy	1
	<i>Cattleya</i>	Other (pot plants?)	Taiwan	Italy	1
	<i>Cymbidium</i>	Other (pot plants?)	Taiwan	Italy	1
	<i>Dendrobium hybrids</i>	Other (pot plants?)	Taiwan	Italy	1
	<i>Phalaenopsis hybrids</i>	Other (pot plants?)	Taiwan	Italy	1
<i>Vanda hybrids</i>	Other (pot plants?)	Taiwan	Italy	1	
Chilopoda	<i>Camellia japonica</i>	Plants for planting	Japan	Italy	1
	<i>Enkianthus perulatus</i>	Plants for planting	Japan	Italy	1
	<i>Ilex crenata</i>	Plants for planting	Japan	Italy	3
Chloridea virescens	<i>Asparagus officinalis</i>	Vegetables	Mexico	Netherlands	1
	<i>Asparagus officinalis</i>	Vegetables	Peru	Netherlands	1
Colletotrichum acutatum	<i>Solanum aethiopicum</i>	Vegetables	Uganda	France	1
Cryphalus sp.	Unspecified	Plants for planting	Malaysia	Netherlands	1
Cryptophlebia ombrodelta	<i>Coccinia grandis</i> , <i>Lagenaria siceraria</i> , <i>Moringa</i>	Vegetables	India	Ireland	1
	<i>Phaseolus</i> , <i>Vigna unguiculata</i>	Vegetables	Vietnam	Ireland	1
	<i>Vigna unguiculata</i>	Vegetables	India	Ireland	2
Diaspididae	<i>Citrus limon</i>	Fruit	Tunisia	Italy	8
	<i>Citrus sinensis</i>	Fruit	Tunisia	Italy	3
Diptera	<i>Cucurbita</i>	Vegetables	South Africa	Italy	1
	<i>Manihot esculenta</i>	Vegetables	Côte d'Ivoire	France	1
	<i>Persea americana</i>	Vegetables	Côte d'Ivoire	France	1
	<i>Phaseolus vulgaris</i>	Vegetables	China	Italy	2
	<i>Solanum tuberosum</i>	Vegetables (leaves)	Côte d'Ivoire	France	1
	<i>Vaccinium corymbosum</i>	Fruit	Morocco	Spain	1
Dysmicoccus neobrevipes	<i>Punica granatum</i>	Fruit	Peru	Italy	1
Elsinoë	<i>Citrus latifolia</i>	Fruit	Brazil	Netherlands	1
Erwinia amylovora	<i>Malus</i>	Plants for planting	Italy	Spain	1
Fungi	<i>Cucurbita</i>	Vegetables	South Africa	Italy	1
Gastropoda	<i>Ceratophyllum</i>	Aquatic plants	Singapore	Belgium	1
	<i>Myriophyllum</i>	Aquatic plants	Singapore	Belgium	1

Pest	Consignment	Type of commodity	Export country	Destination	nb
Globodera pallida	<i>Solanum tuberosum</i>	Vegetables	Cyprus	Croatia	1
	<i>Solanum tuberosum</i>	Ware potatoes	Cyprus	Croatia	2
	<i>Solanum tuberosum</i>	Ware potatoes	Cyprus	Poland	4
	<i>Solanum tuberosum</i>	Ware potatoes	Greece	Poland	1
	<i>Solanum tuberosum</i>	Ware potatoes	Spain	Poland	1
	<i>Solanum tuberosum</i>	Ware potatoes	United Kingdom	France	1
Globodera rostochiensis	<i>Solanum tuberosum</i>	Ware potatoes	Hungary	Bosnia & Herzegovina	1
	<i>Solanum tuberosum</i>	Ware potatoes	Poland	Bosnia & Herzegovina	1
Helicoverpa	<i>Benincasa, Coccinia grandis, Lagenaria siceraria, Moringa, Trichosanthes</i>	Vegetables	India	Ireland	1
	<i>Vigna unguiculata</i>	Vegetables	India	Ireland	1
Hemiptera	<i>Annona muricata</i>	Fruit	Sri Lanka	Italy	1
Hirschmanniella caudacrena	<i>Vallisneria</i>	Aquatic plants	Indonesia	Germany	1
	<i>Vallisneria</i>	Aquatic plants	Malaysia	Netherlands	2
	<i>Vallisneria</i>	Aquatic plants	Thailand	Germany	1
Hypothenemus	<i>Annona</i>	Plants for planting	Spain	Netherlands	1
Insecta	<i>Avena strigosa</i>	Seeds	Uruguay	France	1
Lampides boeticus	<i>Vigna unguiculata</i>	Vegetables	India	Ireland	1
Lepidoptera	<i>Phaseolus vulgaris</i>	Vegetables	United Kingdom	Ireland	1
Leucinodes africensis, Leucinodes pseudorbonalis	<i>Solanum aethiopicum</i>	Vegetables	Cameroon	Belgium	1
Leucinodes orbonalis	<i>Solanum aethiopicum</i>	Vegetables	Togo	France	2
	<i>Solanum melongena</i>	Vegetables	Sri Lanka	Italy	4
	<i>Solanum torvum</i>	Vegetables	Sri Lanka	Italy	1
Leucinodes pseudorbonalis	<i>Solanum aethiopicum</i>	Vegetables	Burundi	Belgium	1
	<i>Solanum aethiopicum</i>	Vegetables	Uganda	Belgium	3
Liriomyza	<i>Ocimum basilicum</i>	Vegetables (leaves)	Morocco	Spain	1
Liriomyza sativae	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	2
	<i>Ocimum x citriodorum</i>	Vegetables (leaves)	Laos*	Denmark	1
	<i>Ocimum x citriodorum</i>	Vegetables (leaves)	Laos*	Sweden	1
Meloidogyne enterolobii	<i>Anubias</i>	Aquatic plants	Singapore*	Belgium	1
Meloidogyne fallax	<i>Solanum tuberosum</i>	Seed potatoes	Netherlands	Sweden	1
Neoleucinodes elegantalis	<i>Solanum melongena</i>	Vegetables	Suriname	Netherlands	5
Odoiporus longicollis	Unspecified	Plants for planting	India	France	1
Papaya leaf curl Guandong virus	<i>Passiflora</i>	Cuttings	Taiwan	Netherlands	1
Paraleyrodes minei	<i>Psidium guajava</i>	Plants for planting	India	Austria	1
Parlatoria ziziphi	<i>Citrus limon</i>	Fruit	Tunisia	Italy	1
Phyllosticta citricarpa	<i>Citrus limon</i>	Fruit	South Africa	Netherlands	1

Pest	Consignment	Type of commodity	Export country	Destination	nb
Planococcus	<i>Annona muricata</i>	Fruit	Sri Lanka	Italy	1
Planococcus minor	<i>Annona muricata</i>	Fruit	Sri Lanka	Italy	1
Plasmopara halstedii	<i>Helianthus annuus</i>	Seeds	Serbia	Greece	1
Potato spindle tuber viroid	<i>Capsicum annuum</i>	Seeds	China	Czech Republic	1
	<i>Capsicum annuum</i>	Seeds	China	Spain	1
	<i>Solanum lycopersicum</i>	Seeds	China	Czech Republic	1
	<i>Solanum melongena</i>	Seeds	Jordan*	Greece	1
Pratylenchus	<i>Imperata</i>	Cuttings	Uganda	France	1
Protospulvinaria pyriformis	<i>Laurus nobilis</i>	Vegetables (leaves)	Tunisia	Italy	1
Pseudococcidae	<i>Annona muricata</i>	Fruit	Sri Lanka	Italy	1
Pseudococcus dendrobiorum	<i>Carica papaya</i>	Fruit	Vietnam	Ireland	1
Pyralidae	<i>Allium cepa</i>	Vegetables	India	Ireland	1
	<i>Coccinia grandis, Lagenaria siceraria, Moringa, Trichosanthes</i>	Vegetables	India	Ireland	1
	<i>Colocasia esculenta</i>	Vegetables	India	Ireland	1
	<i>Mangifera indica, Psidium guajava</i>	Fruit	India	Ireland	1
Ralstonia solanacearum	<i>Solanum tuberosum</i>	Ware potatoes	Egypt	Estonia	1
	<i>Solanum tuberosum</i>	Ware potatoes	Egypt	Italy	1
Ripersiella hibisci	<i>Callistemon</i>	Plants for planting	Germany	Austria	1
	<i>Callistemon</i>	Plants for planting	Italy	Netherlands	1
Scirtothrips dorsalis	<i>Asparagus</i>	Vegetables	Thailand	Netherlands	2
	<i>Asparagus officinalis</i>	Vegetables	Thailand	Netherlands	1
	<i>Capsicum annuum</i>	Vegetables	Israel	France	1
Spodoptera	<i>Limnophila</i>	Vegetables (leaves)	Laos	France	1
Spodoptera exigua	<i>Amaranthus</i>	Plants for planting	Nigeria	Ireland	1
Spodoptera frugiperda	<i>Asparagus officinalis</i>	Vegetables	Peru	Netherlands	1
	<i>Eryngium</i>	Cut flowers	Zimbabwe	Netherlands	7
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Xanthosoma</i>	Vegetables	Suriname	Netherlands	1
Spodoptera litura	<i>Limnophila aromatica</i>	Vegetables (leaves)	Thailand	Netherlands	1
	<i>Momordica</i>	Vegetables	Bangladesh	Italy	1
	<i>Oncidium</i>	Cut flowers	Taiwan	France	1
	<i>Oncidium</i>	Cut flowers	Taiwan	Netherlands	2
Sternochetus mangiferae	<i>Mangifera indica</i>	Fruit	Uganda	Italy	1
Thaumatotibia leucotreta	<i>Capsicum</i>	Vegetables	Rwanda	Sweden	1
	<i>Capsicum</i>	Vegetables	Uganda	Netherlands	2
	<i>Capsicum</i>	Vegetables	Zimbabwe	Netherlands	1
	<i>Capsicum annuum</i>	Vegetables	Kenya	Netherlands	1
	<i>Capsicum annuum</i>	Vegetables	Uganda	Belgium	2
	<i>Capsicum chinense</i>	Vegetables	Kenya	Germany	1
	<i>Capsicum chinense</i>	Vegetables	Rwanda	Belgium	2
	<i>Citrus paradisi</i>	Fruit	South Africa	Netherlands	2
	<i>Citrus paradisi</i>	Fruit	Zimbabwe	Netherlands	3
	<i>Citrus reticulata</i>	Fruit	South Africa	Netherlands	2
	<i>Fortunella margarita</i>	Fruit	South Africa	Netherlands	1

Pest	Consignment	Type of commodity	Export country	Destination	nb
<i>T. leucotreta</i> (cont.)	<i>Rosa</i>	Cut flowers	Ethiopia	Belgium	1
	<i>Rosa</i>	Cut flowers	Ethiopia	Netherlands	1
	<i>Rosa</i>	Cut flowers	Kenya	Netherlands	13
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	3
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	1
	<i>Rosa gymnocarpa</i>	Cut flowers	Kenya	Netherlands	2
Thripidae	<i>Momordica</i>	Vegetables	Bangladesh	Italy	1
Thrips	<i>Dianthus</i>	Cut flowers	Colombia	France	1
<i>Thrips palmi</i>	<i>Dendrobium</i>	Cut flowers	Singapore	Netherlands	1
	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	3
	<i>Dianthus</i>	Cut flowers	Ecuador	France	2
	<i>Gypsophila</i>	Cut flowers	Ecuador	France	1
	<i>Momordica</i>	Vegetables	Bangladesh	France	2
	<i>Momordica</i>	Vegetables	Bangladesh	Italy	1
	<i>Solanum melongena</i>	Vegetables	Dominican Republic	France	1
	<i>Solanum melongena</i>	Vegetables	India	France	2
Thysanoptera	<i>Lagenaria siceraria</i>	Vegetables	Pakistan	Spain	1
Tomato brown rugose fruit virus	<i>Capsicum</i>	Plants for planting	Italy	Malta	1
	<i>Capsicum</i>	Plants for planting	Netherlands	Malta	1
	<i>Capsicum annuum</i>	Plants for planting	Italy	Malta	1
	<i>Capsicum annuum</i>	Seeds	China	Czech Republic	4
	<i>Capsicum annuum</i>	Seeds	China	Slovenia	2
	<i>Capsicum annuum</i>	Seeds	Japan*	Spain	1
	<i>Capsicum annuum</i>	Seeds	Mexico	Belgium	1
	<i>Capsicum annuum</i>	Seeds	Slovakia*	Czech Republic	1
	<i>Capsicum annuum, Solanum lycopersicum</i>	Plants for planting	Bosnia and Herzegovina*	Croatia	1
	<i>Solanum lycopersicum</i>	Plants for planting	Italy	Malta	9
	<i>Solanum lycopersicum</i>	Seeds	China	Czech Republic	3
	<i>Solanum lycopersicum</i>	Seeds	China	Netherlands	4
	<i>Solanum lycopersicum</i>	Seeds	China	Slovakia	1
	<i>Solanum lycopersicum</i>	Seeds	China	Slovenia	2
	<i>Solanum lycopersicum</i>	Seeds	China	Spain	1
	<i>Solanum lycopersicum</i>	Seeds	India*	Czech Republic	1
	<i>Solanum lycopersicum</i>	Seeds	India*	Netherlands	1
	<i>Solanum lycopersicum</i>	Seeds	Israel	Greece	1
	<i>Solanum lycopersicum</i>	Seeds	Israel	Spain	1
	<i>Solanum lycopersicum</i>	Seeds	Italy	Malta	1
<i>Solanum lycopersicum</i>	Seeds	Japan	Spain	1	
<i>Solanum lycopersicum</i>	Seeds	Slovakia*	Czech Republic	1	
<i>Solanum lycopersicum</i>	Seeds	Thailand	Netherlands	1	
<i>Trialeurodes vaporariorum</i>	<i>Hypericum</i>	Cut flowers	Kenya	France	1
<i>Xanthomonas</i>	<i>Capsicum annuum</i>	Seeds	China	Czech Republic	1
<i>Xanthomonas citri</i> pv. <i>citri</i>	<i>Citrus hystrix</i>	Fruit	Indonesia	Netherlands	1
	<i>Citrus latifolia</i>	Fruit	Brazil	Netherlands	1
	<i>Citrus latifolia</i>	Fruit	Brazil	Spain	1
<i>Xylella fastidiosa</i>	<i>Olea europaea</i>	Plants for planting	Spain	Cyprus	1

- Fruit flies

Pest	Consignment	Export country	Destination	nb
Anastrepha	<i>Annona cherimola</i>	Peru	Italy	1
	<i>Annona cherimola</i>	Peru	Switzerland	1
	<i>Mangifera indica</i>	Dominican Republic	France	1
	<i>Psidium guajava</i>	Dominican Republic	France	1
Anastrepha ludens	<i>Mangifera indica</i>	Mexico	Belgium	1
Bactrocera	<i>Annona muricata</i>	Vietnam	Switzerland	1
	<i>Capsicum annuum</i>	Vietnam	Netherlands	1
	<i>Mangifera indica</i>	Burkina Faso	Netherlands	1
	<i>Mangifera indica</i>	Côte d'Ivoire	France	2
	<i>Mangifera indica</i>	Côte d'Ivoire	Netherlands	3
	<i>Mangifera indica</i>	India	Netherlands	1
	<i>Mangifera indica</i>	Mali	Netherlands	1
	<i>Mangifera indica</i>	Philippines	Switzerland	1
	<i>Psidium guajava</i>	Sri Lanka	Switzerland	1
	<i>Solanum torvum</i>	Thailand	Netherlands	1
	<i>Trichosanthes</i>	Sri Lanka	Switzerland	1
Bactrocera correcta	<i>Mangifera indica</i>	India	France	1
	<i>Ziziphus mauritiana</i>	India	Ireland	1
Bactrocera dorsalis	<i>Mangifera indica</i>	Burkina Faso	Belgium	1
	<i>Mangifera indica</i>	Cameroon	Belgium	4
	<i>Mangifera indica</i>	Cameroon	France	1
	<i>Mangifera indica</i>	Côte d'Ivoire	Belgium	11
	<i>Mangifera indica</i>	Côte d'Ivoire	France	1
	<i>Mangifera indica</i>	Guinea	France	1
	<i>Mangifera indica</i>	India	France	2
	<i>Mangifera indica</i>	Mali	Belgium	1
	<i>Mangifera indica</i>	Uganda	Austria	1
	<i>Psidium guajava</i>	Bangladesh	Sweden	1
	<i>Psidium guajava</i>	Sri Lanka	Italy	1
Bactrocera latifrons	<i>Solanum melongena</i>	Laos	France	2
	<i>Solanum torvum</i>	Thailand	Netherlands	1
Bactrocera zonata	<i>Mangifera indica</i>	India	France	1
Ceratitis	<i>Capsicum frutescens</i>	Uganda	France	1
	<i>Mangifera</i>	Côte d'Ivoire	Netherlands	1
	<i>Mangifera indica</i>	Côte d'Ivoire	France	1
	<i>Mangifera indica</i>	Mali	Netherlands	1
Ceratitis cosyra	<i>Mangifera indica</i>	Burkina Faso	Belgium	1
	<i>Mangifera indica</i>	Burkina Faso	Netherlands	1
	<i>Mangifera indica</i>	Côte d'Ivoire	Belgium	3
	<i>Mangifera indica</i>	Mali	France	2
Dacus	<i>Cucumis melo</i>	Jordan	Netherlands	1
Dacus ciliatus	<i>Coccinia grandis</i>	India	France	1
Tephritidae (non-European)	<i>Amaranthus, Benincasa, Luffa, Trichosanthes, Lagenaria siceraria</i>	Bangladesh	Ireland	1
	<i>Benincasa, Coccinia grandis, Lagenaria siceraria, Moringa, Trichosanthes</i>	India	Ireland	1
	<i>Capsicum</i>	Senegal	France	1

Pest	Consignment	Export country	Destination	nb
Tephritidae (non-European)	<i>Citrus reticulata</i>	Egypt	Spain	1
	<i>Citrus unshiu</i>	South Africa	Netherlands	1
	<i>Mangifera indica</i>	Burkina Faso	Belgium	1
	<i>Mangifera indica</i>	Cambodia	France	1
	<i>Mangifera indica</i>	Colombia	France	1
	<i>Mangifera indica</i>	Côte d'Ivoire	Belgium	2
	<i>Mangifera indica</i>	Dominican Republic	Spain	1
	<i>Mangifera indica</i>	Ghana	Netherlands	1
	<i>Mangifera indica</i>	Mali	Belgium	1
	<i>Mangifera indica</i>	Mali	Netherlands	1
	<i>Mangifera indica</i>	Peru	France	1
	Solanaceae	Uganda	Ireland	1
	<i>Solanum aethiopicum</i>	Senegal	France	1
Zeugodacus cucurbitae	<i>Coccinia grandis</i>	India	France	1
	<i>Coccinia grandis</i>	India	Sweden	1
	<i>Dolichos lablab</i>	India	Sweden	1
	<i>Trichosanthes</i>	Bangladesh	Sweden	1

• **Wood**

Pest	Consignment	Type of commodity	Export country	Destination	nb
Arhopalus unicolor	Unspecified	Wood packaging material	China	Belgium	1
Bostrichidae	Unspecified	Wood packaging material	India	Austria	1
Buprestidae	<i>Pinus sylvestris</i>	Wood	Ukraine	Italy	1
Bursaphelenchus mucronatus	Unspecified	Dunnage	Belarus	Lithuania	1
	Unspecified	Wood packaging material	Belarus	Poland	3
Cerambycidae	<i>Pinus sylvestris</i>	Wood	Ukraine	Italy	1
Cerambycidae (suspect <i>Menesia</i>)	Unspecified	Wooden object	China	Austria	1
Coleoptera	<i>Acer rubrum</i>	Wood	USA	Italy	1
	<i>Juglans nigra</i>	Wood (logs)	USA	Italy	4
	<i>Ulmus</i>	Wood (sawn wood)	USA	Italy	1
	<i>Ulmus rubra</i>	Wood (logs)	USA	Italy	1
	Unspecified	Wood	India	Germany	1
	Unspecified	Wood packaging material	China	Italy	1
	Unspecified	Wood packaging material	India	Italy	4
	Unspecified	Wooden object	China	Austria	3
Dicerca lurida	<i>Juglans nigra</i>	Wood (logs)	USA	Italy	1
Formica	<i>Juglans nigra</i>	Wood (logs)	USA	Italy	3
Heterobostrychus pileatus	Unspecified	Wood packaging material	China	Germany	1
Insecta	<i>Juglans</i>	Wood (logs)	USA	Italy	1
	<i>Juglans nigra</i>	Wood (logs)	USA	Italy	2
	Pinales	Wooden object	India	France	1
	<i>Pinus</i>	Dunnage	India	France	1
	<i>Quercus alba</i>	Wood (sawn wood)	USA	France	3
Lepidoptera	<i>Ulmus rubra</i>	Wood (logs)	USA	Italy	1
Monochamus sp.	Pinales	Dunnage	Belarus	Latvia	1
	Unspecified	Wood packaging material	Belarus	Poland	1
Phloeosinus	Unspecified	Wood	China	Netherlands	1

Pest	Consignment	Type of commodity	Export country	Destination	nb
Scolytidae	Unspecified	Wood packaging material	India	Italy	1
Sinoxylon	Unspecified	Wood	India	Germany	1
	Unspecified	Wood	Vietnam	Germany	1
	Unspecified	Wood packaging material	India	Bulgaria	1
	Unspecified	Wood packaging material	Thailand	Germany	1
	Unspecified	Wooden object	India	Germany	1
Sinoxylon anale	Pinales	Wooden object	India	France	2
	Unspecified	Wood	India	Belgium	1

Source: EPPO Secretariat (2021-07).

European Commission. EUROPHYT. Interceptions of harmful organisms in imported plants and other objects. Plant Interceptions - Monthly reports 2021
https://ec.europa.eu/food/plants/plant-health-and-biosecurity/europhyt/interceptions_en

NPPO of Bosnia and Herzegovina (2021-03, 2021-07).

2021/171 First report of *Garella musculana* in Romania

Garella musculana (Lepidoptera: Noctuidae - EPPO A2 List) is an important walnut pest originating in Central Asia. It was found in 2008 in Ukraine, and more recently in Turkey (EPPO RS 2019/008) and Bulgaria (EPPO RS 2019/009). The Asian walnut moth was also observed in Romania on *Juglans regia* during studies conducted in Albesti province in 2018 and in Arsa province in 2020. In the first case, damage was observed in 3-year-old walnut saplings, and in the second case in the nuts and shoots of a 50-year-old tree. The authors consider that the most likely pathway for spread of this pest are logs with bark of *Juglans regia* and *J. nigra*.

Source: Bostancı C, Yıldırım İ, Aydoğan O, Yıldız Y, Kiss IK, Albas E (2021) First report of walnut (*Juglans regia*) pest *Garella musculana* in Romania. *EPPO Bulletin* 51(2) <https://doi.org/10.1111/epp.12753>

Pictures: *Garella musculana*. <https://gd.eppo.int/taxon/ERSHMU/photos>

Additional key words: new record

Computer codes: ERSHMU, RO

2021/172 First report of *Trichoferus campestris* in Sweden

The NPPO of Sweden recently informed the EPPO Secretariat of the first detection of the mulberry longhorn beetle *Trichoferus campestris* (Coleoptera: Cerambycidae - EPPO A2 List) on its territory. In July 2021 a private citizen reported to the NPPO an active insect infestation of fences made of willow (*Salix* sp.) canes. The signs of infestation included exit holes and frass. The fences had recently been purchased from a retail chain store and originated from China. Inspection and destructive sampling of canes revealed both adult insects and larvae. While awaiting laboratory diagnostics, the NPPO issued phytosanitary measures prohibiting the movement of the willow fences, for both the private citizen and the retail store chain. On the 4th of August 2021, the official laboratory confirmed a mixed infestation of *Heterobostrychus* sp. (most likely *H. hamatipennis*, Coleoptera: Bostrichidae) and *Trichoferus campestris*. The NPPO decided to continue prohibiting the movement of material while investigating whether the pest can be considered to provisionally qualify as a Union quarantine pest according to Article 29 of Regulation (EU) 2016/2031.

The pest status of *Trichoferus campestris* in Sweden has not yet been determined.

Note by the Secretariat: the EPPO datasheet for *Trichoferus campestris* has been recently revised and is now available online <https://gd.eppo.int/taxon/HESOCA/datasheet>

Source: NPPO of Sweden (2021-08).

Pictures: *Trichoferus campestris*. <https://gd.eppo.int/taxon/HESOCA/photos>

Additional key words: new record

Computer codes: HESOCA, SE

2021/173 Polygraphus proximus found in Udmurtia, Russia

The native range of *Polygraphus proximus* (Coleoptera: Scolytinae - EPPO A2 List) includes the Russian Far East, but this species has been introduced in Central European Russia and Siberia where it has become a serious pest of *Abies sibirica* in taiga forests. In 2019, *P. proximus* was found for the first time in Udmurtia (Central European Russia). The pest was discovered simultaneously in 4 districts (Zavyalovsky, Malopurginsky, Kiyasovsky and Sarapulsky) in the central and southern parts of Udmurtia. Infested *Abies sibirica* trees were located near railway tracks and highways, as well as in the depths of natural forests suggesting that the introduction is not recent. It is noted that surveys should be implemented to delimit the extent of the outbreak of *P. proximus* in Udmurtia and adjacent regions and that management measures should be applied.

The situation of *Polygraphus proximus* in Russia can be described as follows: **Present, only in some areas (native to the Far East, introduced into Central European Russia, Western and Eastern Siberia).**

Source: Dedyukhin SV, Titova VV (2021) [Finding of the bark beetle *Polygraphus proximus* Blandford, 1894 (Coleoptera, Curculionidae: Scolytinae) in Udmurtia]. *Russian Journal of Biological Invasions* no. 2, 32-39 (in Russian).

Pictures: *Polygraphus proximus*. <https://gd.eppo.int/taxon/POLGPR/photos>

Additional key words: detailed record

Computer codes: POLGPR, RU

2021/174 First report of Erasmoneura vulnerata in Romania and Switzerland and record of damage on grapevine in Italy

The North American grape leafhopper *Erythroneura vulnerata* (Hemiptera: Cicadellidae) was first recorded in North-eastern Italy in 2004, first in Veneto region and then in Friuli-Venezia Giulia. It was also trapped in Emilia-Romagna and Trentino-Alto Adige regions. *E. vulnerata* remained a minor pest for more than ten years but since 2016 it has caused severe leaf symptoms in commercial vineyards (*Vitis vinifera*), despite insecticide applications. In Northern Italy, the pest has 3 generations per year. Organic vineyards were more heavily infested by *E. vulnerata* than conventional vineyards, probably due to the low effectiveness of natural insecticides typically used in organic farms.

In Romania, *E. vulnerata* was first observed in 2016 on *Vitis* hybrids and wild *Vitis* in the Bucharest area and in 2018 in vineyards in the region of Moldova Hills in the eastern part of Romania. It was not trapped in the Western part of the country. In addition, other invasive species were recorded in association with *Vitis* plants: the Japanese grape leafhopper *Arboridia kakogawana* (EPPO Alert List), and the Asian leafhopper *Phlogotettix cyclops*.

In Switzerland, *E. vulnerata* was trapped in 2019 in vineyards in the southern and central parts of Ticino canton (Southern Switzerland) during surveys for *Scaphoideus titanus*. Damage on leaves was also observed.

This species was also recorded recently from Serbia (EPPO RS 2021/084).

Source: Chireceanu C, Bosoi M, Podrumar T, Ghica M, Teodoru A, Chiriloaie-Palade A, Zaharia R (2020) Invasive insect species detected on grapevines in Romania during

2016-2019 and first record of *Erasmoneura vulnerata* (Fitch, 1851) (Hemiptera: Cicadellidae). *Acta Zoologica Bulgarica* 72(4), 649-659.

Duso C, Zanettin G, Gherardo P, Pasqualotto G, Raniero D, Rossetto F, Tirello P, Pozzebon A (2020) Colonization patterns, phenology and seasonal abundance of the Nearctic leafhopper *Erasmoneura vulnerata* (Fitch), a new pest in European vineyards. *Insects* 11, 731.

Rizzoli A, Battelli R, Conedera M, Jermini M (2020) First record of *Erasmoneura vulnerata* Fitch, 1851 (Hemiptera, Cicadellidae, Typhlocybinæ) in Switzerland. *Alpine Entomology* 4, 151-156. <https://doi.org/10.3897/alpento.4.53967>

Tirello P, Marchesini E, Gherardo P, Raniero D, Rossetto F, Pozzebon A, Duso C (2021) The control of the American Leafhopper *Erasmoneura vulnerata* (Fitch) in European vineyards: impact of synthetic and natural insecticides. *Insects* 12(2), 85. <https://doi.org/10.3390/insects12020085>

Additional key words: new record, detailed records

Computer codes: ERYTVU, PHTTYC, CH, IT, RO

2021/175 *Aclees taiwanensis*: a new pest of *Ficus carica* in Southern Europe

Aclees taiwanensis (Coleoptera: Curculionidae), native to Asia, is a pest of *Ficus* species. In Europe, it was first found in 1997 in France and in 2005 in Italy attacking fig trees (*Ficus carica*). However, due to difficulties in the insect identification, it was initially recorded under other names (*Aclees cribratus*, *Aclees* sp. cf. *foveatus*). Damage is caused by larvae which bore galleries within the trunk and surface roots, causing disruption in the sap flow, wilting, and tree mortality. Adult weevils feed on unripe fruit, leaves and buds of young plants without causing severe damage.

Using several citizen-science platforms and insect forums, it could be established that records of *A. taiwanensis* have been made in 7 Italian regions (Lazio, Toscana, Liguria, Lombardia, Veneto, Marche, and Umbria) and 1 French region (Provence-Alpes-Côte d'Azur). The highest numbers of observations were made in Lazio, Toscana and Liguria.

Field studies were also carried out in Italy on the biology and host range of *A. taiwanensis*. In these experiments made on seedlings, all studied *Ficus* species (*F. pandurata*, *F. carica*, *F. benjamina*, *F. macrocarpa*) were susceptible to *A. taiwanensis*. Field observations showed that *A. taiwanensis* was detectable all-year round, although during winter adult weevils moved to soil or bark crevices. Trapping data showed that the species seem to have two major peaks of population density, in June-July and September-October.

The authors consider that *A. taiwanensis* is an invasive species that is currently spreading in Southern Europe. As *A. taiwanensis* is a threat to *F. carica*, and potentially other *Ficus* species cultivated for ornamental purposes, efficient control strategies should be developed against it.

Source: Farina P, Mazza G, Benvenuti C, Cutino I, Giannotti P, Conti B, Bedini S, Gargani E (2021) Biological notes and distribution in Southern Europe of *Aclees taiwanensis* Kôno, 1933 (Coleoptera: Curculionidae): a new pest of the fig tree. *Insects* 12, 5. <https://dx.doi.org/10.3390/insects12010005>

Additional key words: new pest, new record

Computer codes: ACEETW, FR, IT

2021/176 First report of tomato brown rugose fruit virus in Estonia

The NPPO of Estonia recently informed the EPPO Secretariat of the first detection of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV - EPPO A2 List) on its territory. The virus was detected in a greenhouse producing tomato fruit (*Solanum lycopersicum*) in the municipality of Saue vald, during an official survey. Samples were taken in May 2021 and the identity of the virus was confirmed in July 2021. Eradication measures are being taken and include the destruction of all plants in the greenhouse, as well as the disinfection of the greenhouse and associated equipment at the end of the growing season. Fruit can be marketed for food.

The pest status of tomato brown rugose fruit virus in Estonia is officially declared as: **Present, in specific parts of the Member State, where host crop(s) are grown, under eradication.**

Source: NPPO of Estonia (2021-08).

Pictures: tomato brown rugose fruit virus. <https://gd.eppo.int/taxon/TOBRFV/photos>

Additional key words: new record

Computer codes: TOBRFV, EE

2021/177 First report of tomato brown rugose fruit virus in Slovenia

The NPPO of Slovenia recently informed the EPPO Secretariat of the first detection of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV - EPPO A2 List) on its territory. The virus was detected in a greenhouse producing tomato fruit (*Solanum lycopersicum*) at the end of July 2021 in the municipality of Grosuplje (region of Osrednjeslovenska). Eradication measures are being taken and include the destruction of all host plants in the infected area at the end of the harvest, as well as hygiene measures for packing material and production site structures, materials, machinery, tools, equipment and means of transport. The marketing of non-symptomatic fruits is allowed.

The pest status of tomato brown rugose fruit virus in Slovenia is officially declared as: **Present, under eradication.**

Source: NPPO of Slovenia (2021-08).

Pictures: tomato brown rugose fruit virus. <https://gd.eppo.int/taxon/TOBRFV/photos>

Additional key words: new record

Computer codes: TOBRFV, SI

2021/178 First report of tomato brown rugose fruit virus in Switzerland

The NPPO of Switzerland recently informed the EPPO Secretariat of the first detection of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV - EPPO A2 List) on its territory. The virus was detected in a greenhouse (7.1 ha) producing tomato fruit (*Solanum lycopersicum*) in July 2021 in the region of Ostschweiz. Eradication measures are being taken and include the destruction of all symptomatic plants in the greenhouse as well as strict hygiene measures in the production site. Fruit can be marketed for the end consumer if they are packed at the production site. The production site will be monitored throughout this season as well as the next two seasons.

The pest status of tomato brown rugose fruit virus in Switzerland is officially declared as: **Present, in specific parts of the country, where host crop(s) are grown, under eradication.**

Source: NPPO of Switzerland (2021-07).

Pictures: tomato brown rugose fruit virus. <https://gd.eppo.int/taxon/TOBRFV/photos>

Additional key words: new record

Computer codes: TOBRFV, CH

2021/179 *Ralstonia pseudosolanacearum* in the Netherlands

Ralstonia pseudosolanacearum (EPPO A2 List) was first found in the Netherlands in 2015 in glasshouse companies producing *Rosa* plants for planting and subsequently eradicated (EPPO RS 2020/040). In August 2020, the bacterium was isolated from two water samples taken during the regular official survey for *Ralstonia* spp. in surface water, one from the province of Utrecht, and one from the province of Overijssel. The identity of the bacterium was confirmed in March 2021. The source of the infection is unclear. The NPPO noted that no greenhouses with host plants are located within 5 km radius of the point where the water samples were taken. It is questionable whether the bacterium can survive winter conditions in the Netherlands. New water samples will be taken in June and August 2021, to check whether the organism can be detected again in the surface water. No specific official phytosanitary measures have been taken, as it is already prohibited to use surface water to irrigate seed potatoes in the Netherlands and it is also prohibited to use surface water to irrigate ware potatoes in areas where EU-regulated *Ralstonia* species are known to occur in specific surface water areas.

The pest status of *Ralstonia pseudosolanacearum* in the Netherlands is officially declared as: **Transient, actionable, under surveillance.**

Source: NPPO of the Netherlands (2021-07).

Additional key words: detailed record

Computer codes: RALSPS, NL

2021/180 *Euphorbia heterophylla* in the EPPO region: addition to the EPPO Alert List**Why**

The Panel on Invasive Alien Plants decided to add *Euphorbia heterophylla* to the EPPO Alert List due to recent interceptions in Russia of seeds of *E. heterophylla* in soybean from the Americas. The aim of listing *E. heterophylla* on the EPPO Alert List is to gather additional information on its occurrence and impacts (both economic and ecological) and to serve as an early warning for the EPPO region.

Geographical distribution

Euphorbia heterophylla is native to the Americas.

EPPO region: Cyprus, Greece, Israel, Italy, Spain (Canary Islands).

Africa: Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Congo (Democratic Republic of), Djibouti, Ethiopia, Gabon, Ghana, Liberia, Malawi, Maldives, Mozambique, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, Zambia, Zimbabwe.

Asia: Bangladesh, Cambodia, China (Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hainan, Hebei, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Shandong, Sichuan, Yunnan, Zhejiang), India, Oman, Saudi Arabia, Taiwan, Thailand.

North America: Mexico, United States (Arizona, California, Kentucky, Louisiana, Mississippi, Alabama, Georgia, Florida, New Mexico, Texas).

Central and South America: Argentina, Bahamas, Belize, Bermuda, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, French Guiana, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Suriname, Trinidad and Tobago, Uruguay.

Oceania: Australia, New Caledonia.

Morphology

Stem: erect 20-100 cm often with a red tinge towards the apex.

Leaves: usually alternate, occasionally opposite, petiole 10-50 mm, blade narrowly lanceolate to elliptic or broadly obovate. Leaf shape can be highly polymorphic within individuals and populations.

Inflorescence: compact axillary or terminal cyme consisting of clusters of flowers, each with basal bracts

Flowers (cyathia): inconspicuous, consist of small cup-like structures (2-2.5 mm long) each containing several small male flowers and one female flower. The cyathia are greenish or yellowish and each one is borne on a separate stalk.

Seeds: brown to grey, broadly deltoid, 2.4-2.8 × 1.9-2.4 mm, angular in cross section.

All parts of the plant contain a milky sap.

Biology and Ecology

Euphorbia heterophylla is a monoecious C4 annual species with a taproot. Seeds germinate over an extended period and over a wide range of environmental conditions. Each plant can produce over 4 500 seeds during a growing year. The species is a problematic weed in its native and non-native range.

Habitats

Euphorbia heterophylla is often found growing in agricultural habitats (crops, orchards), roadsides, gardens, waste areas and disturbed sites in tropical, sub-tropical, semi-arid and occasionally temperate regions. It can grow in a wide range of soil conditions and prefers shaded habitats. In Greece (Anthochori, Kopaida plain and Viotia regions), the species infests cotton and processing tomato fields.

Pathways for movement

Euphorbia heterophylla can be spread as a contaminant of grain and potentially seed. Interceptions in Russia in recent years have showed the presence of *E. heterophylla* seeds in soybeans shipments transported from the Americas for oil and meal production. Occasionally, *E. heterophylla* is utilised as an ornamental species. It was introduced in Europe in 1806, in botanic gardens and as an ornamental plant. Seed can be spread by water and by contaminated agricultural produce and soil attached to vehicles and animals.

Impacts

Euphorbia heterophylla is a weed of a number of crops throughout the world. It is a major weed in cocoa, coffee, cotton, cowpeas, maize, papaya, groundnut, sorghum, soybean, sugarcane, tea and upland rice. Its rapid growth enables it to compete for valuable resources early in the life of crops, when its population can form a dense monoculture. *Euphorbia heterophylla* is a host of several crop viruses, including Euphorbia mosaic virus (Begomovirus), tomato yellow leaf curl virus (Begomovirus) and mungbean yellow mosaic virus (Begomovirus). Additionally, *E. heterophylla* can be poisonous to livestock.

Control

Control using chemicals only is difficult and there are a number of reports of herbicide resistance. In most crops, mechanical and manual control measures are effective if done on a timely basis several times a season. The integration of mechanical, manual, cultural and herbicide use into well planned management systems is the best approach to *E. heterophylla* control.

Sources:

- Chachalis D (2015) Wild poinsettia (*Euphorbia heterophylla*): an emerging weed in cotton and processing tomato in Greece. *Hellenic Plant Protection Journal* 8, 27-32
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- Wilson CE, Castro KL, Thurston GB, Sissons A (2016) Pathway risk analysis of weed seeds in imported grain: a Canadian perspective. In: Daehler CC, van Kleunen M, Pyšek P, Richardson DM (Eds) Proceedings of 13th International EMAPi conference, Waikoloa, Hawaii. *NeoBiota* 30, 49-74.

Additional key words: invasive alien plant, alert list

Computer codes: EPHHL

2021/181 First report of *Senecio brasiliensis* naturalised in Europe

Senecio brasiliensis (Asteraceae) is an erect glabrous herbaceous perennial (100-200 cm tall) native to South America (Argentina, Bolivia, Brazil, Paraguay and Uruguay). Outside its native range it has been recorded in the United States (Florida but no longer present) and it was recorded as a casual in the United Kingdom in the second half of the 19th century. A

naturalized population of *S. brasiliensis* was recorded in the Matosinhos port area (Porto district, Santa Cruz do Bispo, Portugal) in May 2017. This is the first time a naturalised population of this species has been recorded in Europe. Seedlings, juvenile and adult flowering and fruit-bearing individuals were present. In 2017, 10-20 individuals were recorded in several habitat types, specifically hygrophilous woodlands, in the fringe of mixed plantations and on disturbed ground dominated by small shrubs, perennial grasses and forbs. In 2018, the hygrophilous woodland was clear-cut and the number of *S. brasiliensis* individuals increased to 50 or more specimens. The authors hypothesise that the most likely pathway of entry is via seed material contaminating imported wood material. The port receives shipments of logs of eucalyptus imported from Brazil and Uruguay. Climatic matching between the native range of the species and Europe shows that over 25 % of Europe has climatic conditions that are compatible with the requirements of the species. This includes areas in 14 countries: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, France, Greece, Italy, Macedonia, Montenegro, Portugal, Slovenia, Spain and the United Kingdom (England). The authors conducted a risk assessment on the species using the Australian Weed Risk Assessment System (RS 2008/113) and concluded the species should be considered as a high risk as the results of the risk assessment give the species a score of 18 (any score over 6 highlights potential invasiveness). Control measures should be implemented against *S. brasiliensis* in Portugal and further surveys should assess if there are additional satellite populations in the wider vicinity.

Source: Dana ED, Verloove F, Alves P, Heiden G (2021) *Senecio brasiliensis* (Spreng.) Less. (Asteraceae), another potentially invasive alien species in Europe. *BioInvasions Records* 10(3), 521-536. 536, <https://doi.org/10.3391/bir.2021.10.3.02>

Pictures *Senecio brasiliensis*. <https://gd.eppo.int/taxon/SENBR/photos>

Additional key words: new record, invasive alien plant

Computer codes: SENBR, PT

2021/182 *Sporobolus cryptandrus* in Hungary

Sporobolus cryptandrus (Poaceae) is an invasive C4 grass species native to North America (United States, Southern Canada and Northern Mexico). The species is drought tolerant and often grows on dry sandy soils. In the EPPO region, *S. cryptandrus* is reported as occurring in isolated populations in a number of countries (e.g. Austria, France, Germany, Russia). In Hungary, *S. cryptandrus* was first recorded near the city of Győr in the 1920s. In 2016, several small populations of *S. cryptandrus* were discovered in two sandy regions of Hungary, in the city of Debrecen (Nyírség region) and near the town Kiskunhalas (Kiskunság region). Further surveys recorded 620 individual locations in central and east Hungary with most locations in the Kiskunság region. Within these locations, *S. cryptandrus* is recorded in a number of different habitats including urban areas (car parks, road verges, and tramlines), disturbed or degraded areas of open sand grassland, ploughed fire buffer zones, old field sites of various ages and species composition, grassland used for livestock feeding and, the species was recorded encroaching into natural open sandy grassland. The authors show that in invaded areas *S. cryptandrus* can have a negative impact on the species richness and abundance of native vegetation. *S. cryptandrus* can produce an abundance of small seeds (up to 10 000 seeds per panicle) which can form a persistent seed bank (over 3 000 seeds per m²). This facilitates establishment of the species in new areas and complicates the control of the species as the seed bank will need to be exhausted to achieve successful control.

Source: Török P, Schmidt D, Bátori Z, Aradi E, Kelemen A, Hábcenczyus AA, Diaz CP, Tölgyesi C, Pál RW, Balogh N, Tóth E, Matus G, Táboriská J, Sramkó G, Laczkó L, Jordán S, Sonkoly J (2021) Sand dropseed (*Sporobolus cryptandrus*) - a new pest in Eurasian sand areas? *BioRxiv*. <https://doi.org/10.1101/2021.07.05.451115>

Pictures *Sporobolus cryptandrus*. <https://gd.eppo.int/taxon/SPZCR/photos>

Additional key words: invasive alien plant

Computer codes: SPZCR, HU

2021/183 Identification of *Pennisetum* cultivars available in trade in Europe

A number of *Pennisetum* cultivars are traded in the EPP0 region, including Cherry Sparkler, Fireworks, Rubrum, Sky Rocket, and Summer Samba. There has been a debate to whether these cultivars belong to a separate species, *Pennisetum advena* (only known from cultivation), or to the broader species concept: *Pennisetum setaceum*, or they are cultivars of a hybrid (derived from *P. setaceum* and *P. macrostachyon*). This discussion has a renewed interest with the inclusion of *P. setaceum* on the EU List of Union concern (Regulation 1143/2014), where the species, and all its lower taxa or hybrids are subject to the same prohibitions (e.g. ban from sale). Provisional molecular research indicating that these cultivars are distinct from *P. setaceum*, has led to them being currently excluded from listing. An additional study was conducted where live *Pennisetum* species and the above-named cultivars were collected from trade. Additionally, over 160 herbarium specimens belonging to 10 *Pennisetum* species were examined for the study. Naturalized *P. setaceum* plants were collected from the Canary Islands and Catalonia, Spain. Ornamental *P. setaceum* were collected in New Zealand. A morphological and molecular comparison of all material showed that all cultivars that are currently in trade in Western Europe belong to a separate species *P. advena*. Distinct differences were shown in morphological comparisons (e.g. inflorescence, width of the leaf blade, the leaf blade being flat or involute, the central vein being swollen or not, and the length of the stipe) and molecular comparisons (the chloroplast markers *rbcl* and *trnH-psbA*, differ in 2 and 4 base pairs, respectively, and there is only a 90% overlap of the nuclear ITS sequence between the two species). These results further justify the exclusion of the above named *Pennisetum* cultivars from the EU List of Union concern.

Source: Van Valkenburg JLCH, Costerus M, Westenberg M (2021) *Pennisetum setaceum* or *Pennisetum advena* cultivars, what ornamental do we have in our garden. *Ecology and Evolution* 11(6), 11216-11222. <https://doi.org/10.1002/ece3.7908>

Additional key words: invasive alien plant

Computer codes: PESSA, PESAD

2021/184 Invasion pattern of *Solanum elaeagnifolium* in Greece

Solanum elaeagnifolium (Solanaceae: EPP0 A2 List) is a herbaceous perennial or a small shrub, native to the Americas and an alien invasive plant in parts of Asia, Africa and the EPP0 region. Each plant can produce 40-60 fruits with each fruit containing 60-120 seeds which are spread both naturally (via wind and through water movement) and through human assisted spread (dispersal via agricultural machinery). Negative impacts include outcompeting native species, reducing crop yields in agricultural systems and impacts on ecosystem services (for example pollinators). In Greece, *S. elaeagnifolium* has spread over the last few decades due to intensive human activities such as constructions of new roads,

building or agricultural activities. A drive-by survey was carried out during the period 2000 to 2020. In total, 150 road routes were surveyed connecting 54 Greek cities. Most routes started in the center of a specific city and finished in the center of a settlement or another city. The survey covered all administrative regions of Greece (except Mount Athos). Each of the routes were surveyed at least 3-5 times during 2000-2020 (resulting in a total sampling effort of approximately 100 000 km). The altitudinal range of the surveyed area was 0-2200 m. The data collected from the survey was overlaid with GIS (Geographic Information System) data. The results showed that the range of *S. elaeagnifolium* has increased by 1750 % during the last decades, and the species has reached higher elevations. *S. elaeagnifolium* is associated with higher maximum temperatures and precipitation in summer and low precipitation in winter, as well as with soil disturbance related to agricultural activities, settlements and road networks, which facilitate its spread mainly at low altitudes. Preventative measures should be implemented quickly to avoid further spread of the species in Greece.

Source: Krigas N, Tsiadouli MA, Katsoulis G, Votsi NE, van Kleunen, M (2021) Investigating the invasion pattern of the alien plant *Solanum elaeagnifolium* Cav. (Silverleaf nightshade): environmental and human-induced drivers. *Plants* 10(4), 805. <https://doi.org/10.3390/plants10040805>

Pictures *Solanum elaeagnifolium*. <https://gd.eppo.int/taxon/SOLEL/photos>

Additional key words: invasive alien plant

Computer codes: SOLEL, GR