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2022/076 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 8.

- **New records**

In Kenya, *Drosophila suzukii* (Diptera: Drosophilidae – EPPO A2 List) was first detected in 2019, in one fruit farm during a survey. A follow-up survey conducted in 2020 in 14 locations in 6 counties, in the main berry-growing areas in Kenya, indicated that so far *D. suzukii* is restricted to Nakuru county where it was initially detected. This is the first record for continental Eastern Africa (Kwadha *et al.*, 2021). **Present, not widely distributed**.

Chinese wheat mosaic virus (*Furovirus,* CHMV, formerly EPPO Alert List) has been reported from limited areas in Northern Japan on wheat (*Triticum aestivum*) since 2008. It has also been identified in barley (*Hordeum vulgare*) (Kondo *et al.*, 2022).

Thrips parvispinus (Thysanoptera: Thripidae – formerly EPPO Alert List) was found on *Hibiscus* spp. in Brandenburg at the end of 2021. It is considered unlikely to establish because of climatic conditions (JKI, 2021).

- **Detailed records**

In China, during surveys conducted in the main stone fruit production regions in 2008-2018, plum pox virus (*Potyvirus*, PPV – EPPO A2 List) was detected on *Prunus mume* in the provinces of Beijing, Hubei, Jiangsu, Shanghai, and on *Prunus armeniaca* in Shanxi (Zhou *et al.*, 2021).

In Brazil the citrus blackfly *Aleurocanthus woglumi* (Homoptera: Aleyrodidae – EPPO A1 List) was first reported in citrus orchards from Rio Grande do Sul in March 2021 (Secretaria da Agricultura, Pecuária e Desenvolvimento Rural - Rio Grande do Sul, Brazil, 2022).

In Colombia, '*Candidatus* Liberibacter asiaticus' (associated with huanglongbing – EPPO A1 List) was first detected in 2015 (EPPO RS 2016/062) in La Guajira department. According to ICA (2021), citrus huanglongbing is now present in the departments of Atlántico, Bolívar, Cesar, La Guajira, Magdalena and Norte de Santander. A pest-free area is established in the Suroeste de Antioquia.

In France, the tiger longicorn beetle *Xylotrechus chinensis* (Coleoptera: Cerambycidae – EPPO Alert List) was first found in 2018 in the Hérault and Gironde departments (EPPO RS 2018/220, 2019/098). Since then, reports from private individuals have been received regularly by the regional service in Gironde. In 2022, an official delimiting survey will be conducted.
The pest status of *Xylotrechus chinensis* in France is officially declared as: **Transient, actionable, under surveillance.**

- **Absence**

In Denmark *Monochamus alternatus* (Coleoptera: Cerambycidae – EPPO A1 List, vector of *Bursaphelenchus xylophilus)* was detected in wood packaging material in June 2021 (EPPO RS 2021/155). The NPPO of Denmark informed the EPPO Secretariat that surveillance has confirmed that this finding did not result in establishment of the pest. This past finding should be considered as an interception.
The pest status of *Monochamus alternatus* in Denmark is officially declared as: **Absent.**

Prodiplosis longifila (Diptera: Cecidomyiidae - EPPO A1 List) was reported from Bolivia on the native plant *Jatropha clavuligera* (Euphorbiaceae) (EPPO RS 2019/133). However, further surveys by Kolesik *et al*. (2022) showed that the gall midge present on *Jatropha gossypiifolia* and *J. clavuligera* in Paraguay and Bolivia is not *P. longifila* but a new species, called *Prodiplosis hirsuta* Kolesik **sp. nov.** As the record on *J. clavuligera* was the only one for Bolivia, *P. longifila* is now considered absent from Bolivia.

In Brazil, a record of *Tilletia indica* (EPPO A2 List) in Rio Grande do Sul was published in 1993 (Da Luz *et al*., 1993). This single record was associated with wheat grain and there was no confirmation of establishment of the fungus. The NPPO of Brazil recently informed the EPPO Secretariat that *T. indica* has been officially recognized as absent from Brazil since 1999 (NPPO of Brazil, 2022).
The pest status of *Tilletia indica* in Brazil is officially declared as: **Absent, pest no longer present.**

- **New pests and taxonomy**

Rhagoletis merzi sp. nov. has recently been described as a new species of *Rhagoletis* (Diptera: Tephritidae). It was found on *Juniperus sabina* in Switzerland (Korneyev *et al*., 2022).

Sources:

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Additional key words: absence, detailed record, new record, taxonomy

Computer codes: DROSSU, LIBEAS, MONCAL, NEOVIN, PPV000, PRDILO, RHAGBA, THRIPV, WCHMV0, XYLOCH, BO, BR, CN, CO, DE, DK, FR, JP, KE

2022/077 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 2022/053), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *'Candidatus* Phytoplasma pruni'. https://gd.eppo.int/taxon/PHYPPN/datasheet
- *Choristoneura conflictana*. https://gd.eppo.int/taxon/ARCHCO/datasheet
- *Helicoverpa zea*. https://gd.eppo.int/taxon/HELIZE/datasheet
- *Monochamus alternatus*. https://gd.eppo.int/taxon/MONCAL/datasheet
- *Platynota stultana*. https://gd.eppo.int/taxon/PLAAST/datasheet
- Satsuma dwarf virus. https://gd.eppo.int/taxon/SDV000/datasheet

Source: EPPO Secretariat (2022-04).

Additional key words: publication

Computer codes: ARCHCO, HELIZE, MONCAL, PHYPPN, PLAAST, SDV000

2022/078 International Day of Plant Health on the 12th of May

The United Nations has designated the **12th of May** as the **International Day of Plant Health** (IDPH). This International Day is one of the main legacies of the International Year of Plant Health 2020. The main objective of the IDPH is to raise global awareness on how protecting plant health can help end hunger, reduce poverty, protect biodiversity and the environment, and boost economic development. A virtual event will take place on the 12th of May, and everyone is invited to make a #PlantHealth commitment on this #PlantHealthDay!

Useful links on the International Day of Plant Health:

- International Day of Plant Health webpage: https://www.fao.org/plant-health-day/en
- Practical guide 'Get Involved!': https://www.fao.org/3/cb9453en/cb9453en.pdf
- Useful resources (e.g. key messages, videos, images): https://trello.com/b/3Q6b26IO/international-day-of-plant-health
- Activity book for kids: https://www.fao.org/3/ca9327en/ca9327en.pdf

Source: FAO (2022-04) International Day of Plant Health. https://www.fao.org/plant-health-day/en

2022/079 EPPO report on notifications of non-compliance: Norway and the United Kingdom

The EPPO Secretariat has gathered below the notifications of non-compliance received from Norway and the United Kingdom for 2022 (with a few remaining notifications made at the end of 2021).

- **2021 Notifications**

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Bemisia tabaci	*Capsicum annuum*	Vegetables	Egypt	United Kingdom	1
	Euphorbia pulcherrima	Plants for planting	Netherlands	United Kingdom	2
	Solanum pseudocapsicum	Plants for planting	Netherlands	United Kingdom	1
***Helicoverpa* sp.**	*Zea mays*	Vegetables	Senegal	United Kingdom	1
Potato spindle tuber viroid	*Capsicum annuum*	Seeds	China	United Kingdom	1
	Solanum lycopersicum	Seeds	China	United Kingdom	1
Tomato mottle mosaic virus	*Capsicum annuum*	Seeds	Vietnam	United Kingdom	1
Xanthomonas arboricola* pv. *pruni	*Prunus laurocerasus*	Plants for planting	Netherlands	United Kingdom	1
Xanthomonas hortorum	*Hydrangea quercifolia*	Plants for planting	Netherlands	United Kingdom	1

- **2022 Notifications**

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Bemisia tabaci	*Alternanthera ficoidea*	Plants for planting	Singapore	United Kingdom	1
	Anubias barteri	Aquatic plants	Malaysia	United Kingdom	1
	Bacopa	Aquatic plants	Malaysia	United Kingdom	1
	Capsicum	Vegetables	Egypt	United Kingdom	1
	Capsicum annuum	Vegetables	Egypt	United Kingdom	1
	Corchorus	Vegetables (leaves)	Malaysia	United Kingdom	1
	Corchorus olitorius	Vegetables (leaves)	Malaysia	United Kingdom	2
	Corchorus olitorius, *Gymnanthemum amygdalinum*	Vegetables (leaves)	Nigeria	United Kingdom	1
	Corchorus olitorius, *Ocimum gratissimum*	Vegetables (leaves)	Nigeria	United Kingdom	1
	Eryngium foetidum	Vegetables (leaves)	Thailand	United Kingdom	3
	Eryngium foetidum, *Ocimum basilicum*	Vegetables (leaves)	Thailand	United Kingdom	1
	Eustoma	Cut flowers	Costa Rica	United Kingdom	1
	Gymnanthemum amygdalinum	Vegetables (leaves)	Nigeria	United Kingdom	2
	Hibiscus sabdariffa	Vegetables (leaves)	Tanzania	United Kingdom	1
	Hygrophila polysperma	Aquatic plants	Malaysia	United Kingdom	1
	Manihot	Vegetables	Thailand	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	United Kingdom	1
	Piper sarmentosum	Vegetables (leaves)	Thailand	United Kingdom	1
Helicoverpa armigera	*Solanum aethiopicum*	Vegetables	Uganda	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
***Helicoverpa* sp.**	*Capsicum*	Vegetables	Kenya	United Kingdom	1
	Capsicum annuum	Vegetables	Kenya	United Kingdom	2
	Capsicum frutescens	Vegetables	Uganda	United Kingdom	1
	Pisum sativum	Vegetables	Kenya	United Kingdom	1
	Rubus	Fruit	Kenya	United Kingdom	1
	Solanum melongena	Vegetables	Kenya	United Kingdom	2
	Solanum melongena var. serpentinum	Vegetables	Kenya	United Kingdom	1
	Solanum torvum	Vegetables	Ghana	United Kingdom	1
	Zea mays	Vegetables	Senegal	United Kingdom	9
Lepidoptera	*Solanum melongena*	Vegetables	Kenya	United Kingdom	1
Liriomyza huidobrensis	*Ocimum basilicum*	Vegetables (leaves)	Kenya	United Kingdom	3
***Liriomyza* sp.**	*Amaranthus viridis*	Vegetables (leaves)	Sri Lanka	United Kingdom	1
	Dendranthema	Cut flowers	Colombia	United Kingdom	1
	Eryngium	Cut flowers	Ecuador	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Ethiopia	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Kenya	United Kingdom	1
	Ocimum basilicum	Vegetables (leaves)	Thailand	United Kingdom	1
Liriomyza trifolii	*Solidago*	Cut flowers	Colombia	United Kingdom	1
Noctuidae	*Capsicum annuum*	Vegetables	Kenya	United Kingdom	1
Phytophthora ramorum	*Rhododendron catawbiense*	Plants for planting	Belgium	Norway	1
***Spodoptera* sp.**	*Momordica charantia*	Vegetables	Tanzania	United Kingdom	1
Thaumatotibia leucotreta	*Capsicum annuum*	Vegetables	Kenya	United Kingdom	1
Thaumetopoea pityocampa	*Pinus nigra, Pinus sylvestris*	Plants for planting	France	United Kingdom	1
Thripidae	*Luffa acutangula*	Vegetables	Ghana	United Kingdom	3
	Moringa oleifera	Vegetables	India	United Kingdom	2
	Solanum melongena	Vegetables	Bangladesh	United Kingdom	2
Tomato brown rugose fruit virus	*Capsicum annuum*	Seeds	Israel	United Kingdom	1
	Solanum lycopersicum	Seeds	Israel	United Kingdom	1
	Solanum lycopersicum	Seeds	Thailand	United Kingdom	1
Tomato mottle mosaic virus	*Capsicum annuum*	Seeds	China	United Kingdom	1
	Capsicum annuum	Seeds	Czech Republic	United Kingdom	1
	Capsicum annuum	Seeds	India	United Kingdom	1
	Solanum lycopersicum	Seeds	India	United Kingdom	3
	Solanum lycopersicum	Seeds	Netherlands	United Kingdom	1
Xanthomonas arboricola* pv. *pruni	*Prunus laurocerasus*	Plants for planting	Netherlands	United Kingdom	1
Xanthomonas fuscans* subsp. *fuscans	*Phaseolus vulgaris*	Seeds	Italy	United Kingdom	1
Xanthomonas hortorum	*Hydrangea quercifolia*	Plants for planting	Netherlands	United Kingdom	2

- **Fruit flies**

Pest	Consignment	Country of origin	Destination	nb
***Bactrocera* sp.**	*Capsicum chinense*	Bangladesh	United Kingdom	1
Tephritidae (non-European)	*Momordica charantia*	Uganda	United Kingdom	1
***Zeugodacus* sp.**	*Momordica charantia*	Kenya	United Kingdom	1

Source: EPPO Secretariat (2022-04).

2022/080 New findings of *Ripersiella hibisci* in Italy

The root mealybug *Ripersiella hibisci* (Hemiptera: Pseudococcidae – EPPO A1 List) was detected for the first time in Italy in April 2021 in a nursery in the province of Catania, Sicilia (EPPO RS 2021/081), and in other production sites in the same province (RS 2021/124). All outbreaks were considered eradicated in December 2021 (RS 2022/007).
The NPPO of Italy recently informed the Secretariat that the pest was found again in plants of *Chamaerops humilis* variety 'Compacta' grown in a cold greenhouse in a nursery located in the municipality of Pescia (Pistoia province, Toscana) in April 2022.
Trace back investigations were conducted, and the presence of the pest was also detected in plants of *C. humilis* in a nursery located in Calatabiano (Province of Catania – Sicilia). In both outbreaks phytosanitary measures are applied in order to eradicate the pest.

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

Source: NPPO of Italy (2022-04).

Regional decree n.2794 of 23/07/2021 Misure fitosanitarie per l'eradicazione di *Ripersiella hibisci* in vivaio Regione Siciliana.
https://www.regione.sicilia.it/sites/default/files/2021-08/DD%202794%20del%2023-07-2021%20Ripersiella%20%281%29.pdf

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

Additional key words: detailed record- **Computer codes:** RHIOHI, IT

2022/081 Update of the situation of *Popillia japonica* in Italy

In Italy, an outbreak of *Popillia japonica* (Coleoptera: Rutelidae – EPPO A2 List) is under official control in the Ticino Valley Natural Park (in Lombardia and Piemonte regions) (EPPO RS 2020/116). As this pest may easily be transported as a hitchhiker, the Italian NPPO established a trapping network in the regions surrounding the outbreak since 2020 (RS 2020/166). In total 4 adult specimens were caught in traps in the provinces of Parma and Piacenza (Emilia-Romagna region) in 2020 and 5 (4 dead and 1 alive) in 2021, as well as 1 male in a trap located near a motorway service area, 45 km away from the known outbreak in the municipality of Pollein, (Valle d'Aosta region). No signs of the pest on plants were detected.
In July 2021, 1 female was caught in a trap in Sardinia (near the main airport of the island). Additional traps were installed. This finding is considered as an incursion without any establishment to date.
As a result of the 2021 survey, the demarcated area has been increased: the infested zone now covers 14 257 km² and includes a small part of Emilia-Romagna region and the buffer zone includes a part of Valle d'Aosta region. The following phytosanitary measures were applied in the infested zone in 2021:

- adult attract-and-kill traps (4 800 traps);
- identification, assessment, and management of the risk of pest spread by human activities in logistics sites, parking lots, airports, etc. Measures applied include insecticide treatments, removal of host vegetation, prohibition of access (551 sites);
- restriction on movement of rooted plants with attached soil;
- implementation of a communication campaign to raise public awareness;
- training programme for officials and professionals.

The pest status of *Popillia japonica* in Italy is officially declared as: **Present, only in some parts of the Member State concerned, under eradication.**

Source: NPPO of Italy (2021-12).

Pictures: *Popillia japonica*. https://gd.eppo.int/taxon/POPIJA/photos

Additional key words: detailed record- **Computer codes:** POPIJA, IT

2022/082 Update on the situation of *Euwallacea fornicatus sensu lato* in the Netherlands

In the Netherlands, *Euwallacea fornicatus sensu lato* (Coleoptera: Scolytinae, EPPO A2 List) was first found in March 2021 in a greenhouse (EPPO RS 2021/078). The NPPO of the Netherlands recently informed the Secretariat that this outbreak has been eradicated in February 2022. It may be noted that *E. fornicatus s.l.* had been found in a second greenhouse (1.3 ha) in May 2021 and this outbreak had been eradicated in July 2021. In total 27 plants were found to be infested with *Euwallacea fornicatus s.l.* in the two greenhouses. Monitoring was conducted with traps, and other non-European Scolytinae (notably *Hypothenemus* spp.) were frequently caught by these traps.
Hypothenemus spp. (Coleoptera: Scolytinae) are regulated as quarantine pests in the EU Annexes as 'non-European Scolytinae spp.'. It was not possible to identify the species present, but DNA barcoding showed that they were not *H. hampei* or *H. obscurus*, two *Hypothenemus* species known to cause economic damage.
The NPPO of the Netherlands also informed the EPPO Secretariat that *Euwallacea fornicatus s.l.* was found again in July 2021 on one plant for planting of *Ficus lyrata* in a greenhouse for commercial retail (7 ha). Eradication measures were applied. This last outbreak is not yet eradicated.

The pest status of *Euwallacea fornicatus sensu lato* in the Netherlands is officially declared as: **Transient: actionable, under eradication**.

Source: NPPO of the Netherlands (2022-04).

NVWA (2021) Quick scan answer for *Hypothenemus* spp. Available at https://pra.eppo.int/pra/7705a2ad-29a3-41e1-ba5a-96d0872d95b5

Pictures: *Euwallacea fornicatus sensu lato*. https://gd.eppo.int/taxon/XYLBFO/photos

Additional key words: detailed record, eradication- **Computer codes:** XYLBFO, 1HYOTG, NL

2022/083 Update on the situation of *Toumeyella parvicornis* in Italy

In Italy, the pine tortoise scale *Toumeyella parvicornis* (Hemiptera: Coccidae - EPPO Alert List) was first found in Campania region in 2014 and in 2018 in the city of Rome (Lazio region) (EPPO RS 2021/082). It was found in one locality in Abruzzo and Puglia region in 2021 (RS 2021/191). In March 2022, it was found in recent plantations of *Pinus pinea* located in Firenze (Toscana region). Phytosanitary measures are applied, as defined by the Ministerial decree of 3 June 2021.

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

Source: NPPO of Italy (2022-04).

Decreto ministeriale 3 giugno 2021 - Misure fitosanitarie di emergenza ai fini del contrasto dell'organismo nocivo Toumeyella parvicornis (Cockerell) (Cocciniglia tartaruga). Gazzetta Ufficiale n.173 del 21-07-2021. http://www.agricoltura.regione.campania.it/difesa/files/DM-03-06-21.pdf

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

Additional key words: detailed record- **Computer codes:** TOUMPA, IT

2022/084 Update of the situation of *Scirtothrips aurantii* in Spain

The South African citrus thrips *Scirtothrips aurantii* (Thysanoptera: Thripidae – EPPO A1 List) was first reported in the EPPO region in Spain in Andalucía (province of Huelva) in September 2020 (EPPO RS 2021/008). Surveys were conducted in 2021 (May-October) to determine the presence of the thrips in this region. As a result, *S. aurantii* has been detected in 2 new hosts: avocado (*Persea americana*) and persimmon (*Diospyros kaki*), and new infested plots of blueberry, citrus, strawberry, and raspberry have been detected. On avocado, citrus and persimmon, no significant damage has been observed. In berries, the impact was limited by treatments.
Demarcated areas have been established and include the infested plots and a buffer zone of 100 m around them. These areas are located in 20 municipalities in the province of Huelva: Almonte, Alosno, Ayamonte, Cartaya, Escacena del Campo, Gibraleón, Isla Cristina, Lepe, Lucena del Puerto, Manzanilla, Moguer, Palos de la Frontera, Paterna del Campo, Punta Umbría, San Bartolomé de la Torre, Sanlúcar de Guadiana, Villablanca, Villalba del Alcor, Villarrasa, Zalamea la Real.
Phytosanitary measures aiming for eradication are applied and include insecticide treatments during crop production, inspections and treatment to guarantee absence of the pest on any plant material leaving the demarcated area.

The pest status of *Scirtothrips aurantii* in Spain is officially declared as: **Present, only in some parts of the Member State concerned, under eradication.**

Source: NPPO of Spain (2022-01).

Boletín Oficial de la Junta de Andalucía (2022) Resolución de 8 de febrero de 2022, de la Dirección General de la Producción Agrícola y Ganadera, por la que se establecen nuevas zonas demarcadas del organismo nocivo *Scirtothrips aurantii* y las medidas fitosanitarias obligatorias para su control en la Comunidad autónoma de Andalucía.

Pictures: *Scirtothrips aurantii*. https://gd.eppo.int/taxon/SCITAU/photos

Additional key words: detailed record- **Computer codes:** SCITAU, ES

2022/085 First record of *Draeculacephala robinsoni* in the EPPO region

Draeculacephala robinsoni (Hemiptera: Cicadellidae) is a native and widespread leafhopper in North America (Canada and the USA), east of the Rocky Mountains. In 2021, it was recorded for the first time in the EPPO region, in France and Spain. This was also the first record for the genus *Draeculacephala* in the Palaearctic region. In the EU, *Draeculacephala minerva* and *Draeculacephala* sp. are listed as A1 quarantine pests, as '*Cicadomorpha* known to be vectors of *Xylella fastidiosa*'.

- In France, *D. robinsoni* was found in the department of Pyrénées-Orientales (Occitanie region) in 4 different sites located in the municipalities of Argelès, Banyuls, and Collioure. Specimens were collected in dry riverbeds on ruderal vegetation. Regional phytosanitary services are working in order to officially confirm this detection.
- In Spain, *D. robinsonii* was found in 6 sites in the neighbouring region of Cataluña, in the municipalities of Aiguamolls de l'Empordà, Estany de Banyoles, and Estany de Sils. The species occurred in large permanent wetland sites, as well as in pastures and meadows which are periodically flooded.

Specimens (adults and nymphs) were collected between May and October 2021. In France and Spain, the different sites are relatively close to each other, the maximum distance between these sites being 86 km.

Recorded host plants of *D. robinsoni* in North America are mostly grasses and sedges including: *Echinochloa muricata*, *Elymus virginicus*, *Leersia oryzoides*, *Muhlenbergia glomerata*, *Muhlenbergia frondosa*, *Phalaris arundinacea*, *Saccharum* sp., *Zea mays* (all Poaceae), and *Carex* sp. (Cyperaceae). In France and Spain, the potential host plants observed were: *Agrostis stolonifera, Arundo donax, Avena sterilis, Bromus catharticus, Cynodon dactylon, Paspalum distichum, Polypogon maritimus, Polypogon viridis* (all Poaceae), and *Cyperus eragrostis, Cyperus esculentus, Scirpoides holoschoenus* (all Cyperaceae).

The authors noted that since the genus *Draeculacephala* includes species that are vectors of plant pathogens, including *Xylella fastidiosa*, the situation of *D. robinsoni* in Europe should be closely monitored.

Source: Rösch V, Marques E, Miralles-Núñez AD, Zahniser JN, Wilson MR (2022) *Draeculacephala robinsoni* Hamilton, 1967 (Hemiptera: Auchenorrhyncha: Cicadellidae), a newly introduced species and genus in Europe with comments on its identification. *Zootaxa* **5116**(3), 439-448.

NPPO of France (2022-04).

Additional key words: new record **Computer codes:** DRAERO, FR, ES

2022/086 Eradication on tomato brown rugose fruit virus in Estonia

In Estonia, tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) had been detected in a greenhouse producing tomato fruit (*Solanum lycopersicum*) in the municipality of Saue vald, during an official survey in May 2021 (EPPO RS 2021/176). Eradication measures were taken: all plants in the infected greenhouse have been destroyed (incinerated) and the greenhouses disinfected. The operator terminated all agricultural activities at the production site, for reasons not related to ToBRFV.

The pest status of tomato brown rugose fruit virus in Estonia is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Estonia (2022-04).

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

Additional key words: eradication, absence **Computer codes:** TOBRFV,EE

2022/087 *Trichoderma afroharzianum* causing ear rot on maize: addition to the EPPO Alert List

Why: *Trichoderma* species are filamentous fungi associated with many different substrates such as soil, rhizosphere, decaying plant debris, foliar environment, and some species have been isolated as endophytes. Several strains of *Trichoderma* have been shown to be beneficial to plants and are being used in agriculture to promote nutrient uptake and plant growth, or to control a wide range of soilborne plant pathogens (e.g *Fusarium, Phytophthora, Rhizoctonia*) on various crops. Interactions between *Trichoderma* species, plants and other soil microorganisms are complex and have an influence on their effectiveness as biocontrol agents or biostimulants. In addition, the taxonomy of *Trichoderma* has undergone many changes, and in particular several marketed *Trichoderma* strains have been recently reclassified (e.g. several *T. harzianum* strains have now been identified as *T. afroharzianum*). In most cases, the identification of *Trichoderma* species on the basis of morphological characteristics is difficult, and molecular tools are needed for a reliable detection and identification.
In 2018, severe fungal infestations on maize (*Zea mays*) cobs were observed in several experimental fields in Southern Germany and surprisingly, the causal agent was identified as *T. afroharzianum*. The presence of *T. afroharzianum* causing ear rot symptoms was also detected in a few cases in France and Italy. As this is the first time that a *Trichoderma* species is associated with a maize disease in Europe, JKI (Germany) suggested that *T. afroharzianum* is added to the EPPO Alert List.

Where: *T. afroharzianum* is generally considered to be a widespread species present on several continents. As it is used as a biological control agent, its geographical distribution is rather difficult to establish precisely. Its association with a disease on maize has been reported in a limited number of countries. In the USA, similar symptoms of cob rot have been described in maize crops in association with *Trichoderma* species.
In 2018 *T. afroharzianum* has been detected in three localities in Southern Germany (Bernburg in Saxony-Anhalt; Kuenzing, and Pocking in Bavaria). During the same studies, *T. afroharzianum* was also detected in symptomatic maize cobs from one locality in Southern France (Croix de Pardies, Landes department).

In Italy, *T. afroharzianum* has been detected on maize kernels showing cob rot symptoms. These infected kernels had been collected in September 2020 in an experimental field in Carmagnola (Piemonte region).
Countries where symptoms have been observed on maize in association with *Trichoderma* spp. are listed below:
EPPO region: Italy, France, Germany (as *T. afroharzianum*).
North America: USA (as *Trichoderma* spp.).

On which plants: So far, *T. afroharzianum* has been associated with disease symptoms on maize only.

Damage: On maize, *Trichoderma* ear rot disease is characterized by the presence of white mycelium growing between the kernels and on the husks, with a massive production of green to grey-green conidia. In the field, symptoms are visible from the base to the middle part of the cob, affecting all kernels, and all layers of the husks. In some cases, premature ripening of the kernels has been observed. In inoculation experiments conducted in Germany, it was shown that *T. afroharzianum* could readily infect maize plant tissues and did not need prior mechanical injuries. Tested fungal strains presented variable levels of pathogenicity, and it could be shown that some strains currently used in biological control (Trichodex T39, and strain T12) could induce minor infection on maize.

Dissemination: The epidemiology of *T. afroharzianum* is largely unknown. In particular, it is not known how the conidia of Trichoderma reach and infect maize ears under field conditions, what are the sources of inoculum, and whether there are any alternative hosts.

Pathways: To be determined, unknown for the moment.

Possible risks: Maize is an economically important crop that is widely grown in the EPPO region. The emergence of a new disease associated with a fungus which is usually considered as a useful biological control agent or plant biostimulant suggests that there is a need for caution. Risks are currently difficult to assess considering the general lack of information about the biology and epidemiology of *T. afroharzianum*. Field monitoring to assess the distribution of the disease in the EPPO region and its economic impact on maize production would be needed. Further studies are also needed to better understand the pathogenicity of these *T. afroharzianum* strains, to provide relevant information for the registration process of these as biological control agents and to avoid potential risks that could occur from their use.

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EPPO RS 2022/087

Panel review date – Entry date 2022-04

2022/088 Biological control agents: a new section in the EPPO Reporting Service

In order to raise the profile of its activities on biological control, the EPPO Secretariat has decided to include a new section in the EPPO Reporting Service on biological control agents (BCAs). The objective will be to collect information about BCAs used against regulated and emerging pests and invasive alien plants.

Source: EPPO Secretariat (2022-04).

Additional key words: biological control

2022/089 New biocontrol agents added to PM 6/3(5) in 2021

In 2021, the following three species were added to the EPPO Standard PM 6/3(5) Biological control agents safely used in the EPPO region, Appendix 1 – commercially or officially used biological control agents.

***Anastatus bifasciatus* (Hymenoptera: Eupelmidae)**
Anastatus bifasciatus is a hymenopteran egg parasitoid of various pests of agronomic interest, mostly heteropterans, including the newly introduced brown marmorated stink bug *Halyomorpha halys*. *A. bifasciatus* is indigenous and widespread in the EPPO region.

***Heterorhabditis downesi* (Heterohabdtitidae: Heterohabditis)**
Heterorhabditis downesi is a nematode used for the biological control of black vine weevil larvae (*Otiorhynchus* spp.) in nurseries, soft fruit farms and home gardens, for the control of chafer grubs (*Phyllopertha horticola, Hoplia philanthus, Melolontha melolontha*) on golf courses and sport fields and for the control of pine weevil larvae (*Hylobius abietis*) in spruce and pine stumps. *H. downesi* is indigenous and widespread in the EPPO region.

***Eupeodes corollae* (Diptera: Syrphidae)**
Eupeodes corollae is a hover fly whose larvae are predators of aphids and other small insects. It is marketed for aphid control and is commercially available in the EPPO region. The species is indigenous and widespread in the EPPO region.

Source: EPPO (2021) PM 6/3(5) Biological control agents safely used in the EPPO region. *EPPO Bulletin* **51**, 451-451. https://www.eppo.int/media/uploaded_images/RESOURCES/eppo_standards/pm6/pm6-03(5)-2021-en.pdf

Additional key words: biological control Computer codes: ANAUBI, HETODO, METYCR

2022/090 Potential for the classical biological control of *Drosophila suzukii* using the parasitoid *Ganaspis brasiliensis*

Drosophila suzukii (Diptera: Tephritidae – EPPO A2) is a frugivorous fly native to East Asia. It has spread to many regions worldwide, including other parts of Asia, the Americas, Africa and the EPPO region. Surveys have been conducted in the native range of the pest to explore natural enemies that could be used as classical biological control agents in the introduced, invasive range. A parasitoid *Ganaspis brasiliensis* (Hymenoptera: Figitidae) is the most specific natural enemy of *D. suzukii*, though host specificity varies between different *G.*

brasiliensis populations. In laboratory experiments, one particular genetic group, G1 *G.* cf. *brasiliensis* almost exclusively parasitized *Drosophila* spp. larvae feeding on ripening fruits. In invaded areas, *D. suzukii* is the only drosophilid that can lay eggs in fresh fruits, the ecological host range of G1 *G.* cf. *brasiliensis* is very likely to be restricted to this species. In Switzerland, based on the host range results in the laboratory, experimental field cage releases were approved by the Swiss government in June 2021. The aim of these caged releases was to (1) to test releases of a parasitoid into large-arena field cages as a method for confirming its host specificity under semi-field conditions, and (2) to verify the host specificity of G1 *G.* cf. *brasiliensis* to *Drosophila* spp. in fresh fruits under more natural conditions. Released parasitoids had the choice to parasitize either *D. suzukii* larvae in fresh fruits (blueberries or elderberries) or the non-target native species *D. melanogaster* in decomposing fruits. The results were unequivocal in that apparent parasitism of *D. suzukii* larvae feeding in fresh fruits was on average 15%, whereas only one parasitoid emerged from *D. melanogaster* feeding on decomposing fruits (0.02% parasitism). The authors conclude that open field releases should not pose significant risks to non-target organisms.

Source: Seehausen ML, Valenti R, Fontes J, Meier M, Marazzi C, Mazzi D, Kenis M (2022) Large-arena field cage releases of a candidate classical biological control agent for spotted wing drosophila suggest low risk to non-target species. *Journal of Pest Science*. https://doi.org/10.1007/s10340-022-01487-3

Pictures *Drosophila suzukii*. https://gd.eppo.int/taxon/DROSSU/photos

Additional key words: biological control Computer codes: DROSSU, CH

2022/091 *Spanolepis selloanae* as a potential biological control agent for *Cortaderia selloana*

A newly described gall midge *Spanolepis selloanae* Gagné (Diptera, Cecidomyiidae) was discovered in a large population of *Cortaderia selloana* (Poaceae – EPPO List of Invasive Alien Plants) in the outskirts of the city of A Coruña in Galicia, North-West Iberian Peninsula (Spain). The gall midge is morphologically quite distinctive and can easily be separated from other gall midge species found on grasses. In 2016, larvae and adults of *S. selloanae* were found feeding on the developing ovaries and their feeding behaviour acted to limit the number of seeds at the time of dispersal. As *C. selloana* reproduces and spreads by wind dispersed seed it could be an interesting biocontrol agent. *S. selloanae* was only found on female plants, and plants that were infected with the gall midge had 25 % less seed production. Viability of the remaining seeds was not affected by the presence of *S. selloanae*. This report is the first known report of a natural enemy feeding on *C. selloana* in Spain.

Source: Fagúndez J, Gagné RJ, Vila M (2020) A new gall midge species (Diptera, Cecidomyiidae) as a potential candidate for biological control of the invasive plant *Cortaderia selloana* (Poaceae). *Phytoparasitica* **49**, 229-241.

Pictures: *Cortaderia selloana*. https://gd.eppo.int/taxon/CDTSE/photos

Additional key words: biological control **Computer codes**: CDTSE, ES

2022/092 Economic impacts of invasive alien plants in France

Invasive alien species can have an array of negative impacts including direct impacts on biodiversity, habitats and ecosystem services. In addition, invasive alien species can have high economic costs which can be associated with damage and loss (e.g. reduced crop yield, damage to infrastructure) and/or prevention and management (e.g. education, biosecurity, control and eradication). France has a long history of global trade and tourism which can lead to the entry of invasive alien species. Data on observed and potential costs of invasive alien species in France were collected from literature searches and targeted data collection from experts and stakeholders. From a list of 14 of the costliest invasive alien species in France, six entries were invasive alien plants: *Ambrosia artemisiifolia* (Asteraceae – EPPO List of Invasive Alien Plants), *A. polystachya* (Asteraceae), *Baccharis halimifolia* (Asteraceae – EPPO A2), *Lagarosiphon major* (Hydrocharitaceae - EPPO List of Invasive Alien Plants), *Ludwigia* spp. and *Reynoutria* (*Fallopia*) spp. Costs related to invasive alien plants can vary depending on the species. For example, for *A. artemisiifolia* much of the associated costs (estimated to be over EUR 500 million between 1993-2018 for mainland France and the French overseas territories) are related to the impact the species can have on human health. The pollen of *A. artemisiifolia* can cause allergic reactions in humans, e.g. pollinosis (hay fever). Medical care costs will significantly rise in France if mitigation measures aimed at limiting the proliferation of *A. artemisiifolia* are not further increased. For *L. major*, the majority of the estimated costs (almost EUR 1.5 million between 1993-2018 for mainland France and the French overseas territories) are due to management costs, the removal of the species from waterbodies using specialized mechanical equipment is expensive.

Source: Renault D, Manfrini E, Leroy B, Diagne C, Ballesteros-Mejia L, Angulo E, Courchamp F (2021) Biological invasions in France: Alarming costs and even more alarming knowledge gaps. In: Zenni RD, McDermott S, García-Berthou E, Essl F (Eds) The economic costs of biological invasions around the world. *NeoBiota* **67**, 191–224. https://doi.org/10.3897/neobiota.67.59134

Additional key words: invasive alien plants

Computer codes: AMBEL, AMBPO, BACHA, 1FOPG, LGAMA, 1LUDG, FR

2022/093 Potential distribution of *Humulus scandens* along rivers in Romania

Humulus scandens (Cannabaceae: EPPO A2 List) is native to Asia and in the EPPO region the species is present in Austria, Belgium, the Czech Republic, France, Germany, Italy, Hungary, Romania, Serbia, Slovakia, Slovenia, Switzerland, and Ukraine. The species thrives along riversides, where the seeds easily enter the waterbody and are transported throughout the river catchment. In Romania, *H. scandens* was first observed in 1942 in disturbed habitats in the south of the country. Several other occurrences from the west and south-west regions were reported along the Danube and some of its tributaries. Later observations were collected from North-Western Romania, along water channels and shrubbery forest edges. To gain a better understanding of the potential distribution of *H. scandens* in the southern and central parts of the Danube basin, landscape and climatic variables (bioclimatic variables from WorldClim) were collected along with data on occurrences and inputted into a species distribution model. *H. scandens* is highly influenced by milder climates and areas with constant flooding events and the model showed that the distance to a water body was an important factor. The model showed that the Tisa basin and its tributaries can be areas of high invasion risk. The Danube can act as a dispersion corridor for major river systems in Southern Romania, though the dispersion capability dropped in steppe areas with higher

aridity and limited water course network. Predicting the potential areas of high invasion risk is an important approach when preventing or managing invasive alien plants with limited resources. This can help focus prevention efforts in areas of high risk.

Source: Urziceanu, MM, Cîs lariu AG, Nagoda E, Nicolin AL, Măntoiu DS, Anastasiu P (2022) Assessing the invasion risk of *Humulus scandens* using ensemble species distribution modeling and habitat connectivity analysis. *Plants* **11**, 857. https://doi.org/10.3390/plants11070857

Pictures: *Humulus scandens*. https://gd.eppo.int/taxon/HUMJA/photos

Additional key words: invasive alien plants **Computer codes:** HUMJA, RO

2022/094 Mislabelling of aquatic plant species in trade

In 2020, a survey was conducted at 11 garden centres in Belgium specialized in water gardening. During this survey, 285 plant taxa were identified as being traded and of these, 118 taxa were mislabelled. Mislabelling may be a result of misidentification, misspelling of the species name and/or the use of a synonym. Mislabelling can cause problems as invasive alien plant species may be imported and sold in the EPPO region. The European Regulation 1143/2014 which entered into force in 2015 imposes legal bans on a number of plant taxa. In addition, in Belgium, a voluntary Code of conduct intended to prevent introduction of invasive plants through the horticultural trade has been implemented since 2009. The Belgium voluntary Code of conduct contains two lists of species (1) a Consensus list – species with a high negative impact which should not be sold and (2) a Communication List – species where caution is advised. The survey revealed that four Belgian Consensus List species and one Communication List species were available for sale (Table 1). In addition, three species from the European Regulation 1143/2014 (listed as species of Union concern) were still being sold (Table 1). All of the species listed in table 1, were consistently mislabelled with a synonym, or in the case of *Cabomba caroliniana* the epithet was missing. The study shows that surveys are essential to assess the effectiveness of the regulations and voluntary codes of conduct.

Table 1. Eight plant species found to be mislabelled in trade (* = EPPO Observation List; ^ = EPPO List of Invasive Alien Plants; ** EPPO A2 List)

Species	Mislabelled as	Belgium/EU Listing
Azolla filiculoides (Salviniaceae)*	*A. caroliniana*	Communication List
Cabomba caroliniana (Cabombaceae)^	*Cabomba*	EU Regulation
Crassula helmsii (Crassulaceae)**	*C. recurva*	Consensus List
Cyperus eragrostis (Cyperaceae)	*C. alternifolius*	Consensus List
Egeria densa (Hydrocharitaceae)^	*Elodea densa*	Consensus List
Erythranthe guttata (Phrymaceae)	*Mimulus luteus*	Consensus List
Gunnera tinctoria (Gunneraceae)^	*G. manicata*	EU Regulation
Salvinia molesta (Salviniaceae)**	*S. natans*	EU Regulation

Source: Van den Neucker T, Scheers K (2022) Mislabelling may explain why some prohibited invasive plants are still being sold in Belgium. *Knowledge and Management of Aquatic Ecosystems* **423**, 8.

Additional key words: invasive alien plants Computer codes: AZOFI, CABCA, CSBHE, CYPER, ELDDE, GUATI, SAVMO, BE

2022/095 The invasive *Celastrus orbiculatus* has impacts on the native *C. scandens* through hybridization in the USA

Celastrus orbiculatus (Celastraceae – EPPO A2 List) 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 part of the USA and it has been observed to have impacts on native biodiversity and associated ecosystem services. In the EPPO region, *C. orbiculatus* is reported in a number of countries and it is established in Lithuania and Poland. In the USA, *C. orbiculatus* can grow in similar areas and habitats to the native *C. scandens*. In these areas, there has been a decline in *C. scandens* occurrence while *C. orbiculatus* has shown an increase, especially in areas with older *C. orbiculatus* populations. Both species have been shown to be able to hybridize though asymmetrical hybridization with pollen coming primarily from *C. orbiculatus*. In North-Western Indiana (US), field studies showed that *C. orbiculatus* had an extreme advantage in both male and female floral production, producing nearly 200 times more flowers per staminate plant and 65 times more flowers per pistillate plant than the native species. Such hybridization between native and invasive species can act to reduce the reproductive effort of the native one. Using nuclear microsatellite DNA markers, it was shown that 39% of the *C. scandens* seeds were hybrids, compared to only 1.6% of *C. orbiculatus* seeds. In areas where such species overlaps occur, management of the invasive species should be a priority to reduce the impact on the native species.

Source: Zaya DN, Leicht-Young SA, Pavlovic NB, Ashley MV (2021) Heterospecific pollination by an invasive congener threatens the native American bittersweet, *Celastrus scandens*. *PLoS ONE* **16**(3), e0248635.

Additional key words: invasive alien plants Computer codes: CELOR, CELSC, US