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2022/028 New data on quarantine pests and pests of the EPPO Alert List

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

- **New records**

Cucurbit chlorotic yellows virus (*Crinivirus*, CCYV) is reported for the first time in India. From August 2020 to January 2021, stunted pumpkin plants (*Cucurbita moschata*), showing chlorotic patches, mosaic, and vein banding on leaves, were observed in the experimental fields of the Indian Agricultural Research Institute (IARI), New Delhi, India (Kumar *et al.*, 2021). The identity of the virus was confirmed by RT-PCR and sequencing. **Present**.

Hercinothrips dimidiatus (Thysanoptera: Thripidae) was first found in Sicilia (Italy) on two plants of *Aloe arborescens* in a private garden (Schifani & Mazza, 2021). This thrips was first observed in the EPPO region in Portugal in 2015, the Netherlands in 2016, and in Corse (France) in 2018. **Present, few occurrences**.

The root-knot nematode *Meloidogyne enterolobii* (EPPO A2 List) is reported for the first time from Taiwan, infecting a new host plant *Euphorbia pulcherrima* in a commercial greenhouse located in Nantou County (Liang & Chen, 2021). **Present**.

In 2020, tar spot of maize caused by *Phyllachora maydis* (EPPO Alert List) was first found in Southern Ontario, Canada (Rocco da Silva *et al.*, 2021). **Present, not widely distributed**.

In Albania symptoms of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) were first observed in October 2021 on greenhouse tomato crops (*Solanum lycopersicum*) in the regions of Fier and Berat. The identity of the virus was confirmed by RT-PCR. **Present**.

In Lebanon, virus symptoms have been observed in early 2020 on greenhouse-cultivated sweet pepper (*Capsicum annuum*) plants in the coastal region of Byblos. The virus was identified as tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) following the EPPO Diagnostic Protocol PM 7/146. The article also reports the presence of ToBRFV on sweet peppers in Syria (region of Tartous). **Present**.

- **Detailed records**

In South Africa, several male specimens of *Bactrocera dorsalis* (Diptera: Tephritidae – EPPO A1 List) were detected in the Sundays River Valley area in Eastern Cape Province, between May and August 2021. After several delimiting surveys and eradication campaigns, it has been decided that eradication of the pest within the affected area was no longer feasible. The movement of host plants out of this area to other areas of the Eastern Cape Province, which are still free from *B. dorsalis* will be regulated to prevent its spread.
The pest status of *Bactrocera dorsalis* in South Africa is officially declared as: **Present: not widely distributed and under official control (2021-12).**

In Ukraine, *Arboridia kakogawana* (Hemiptera: Cicadellidae – EPPO Alert List) was first recorded in Crimea. It is now also recorded in Southern Ukraine in the regions of Kherson, Mykolaiv, and Odessa where it is noted as abundant in vineyards (*Vitis vinifera*). Two other invasive cicadas are also recorded *Metcalfa pruinosa* (Hemiptera: Flatidae) and *Stictocephala bisonia* (Hemiptera: Membracidae) (Gulyaeva *et al.*, 2021).

In Russia, *Drosophila suzukii* (Diptera: Drosophilidae – EPPO A2 List) was found in 2017 and 2020 in the city of Sochi, Krasnodar territory. The identity of the pest was confirmed in 2021. This is the first time that this pest is found in the Russian Caucasus (Bieńkowski & Orlova-Bienkowskaja, 2020; Orlova-Bienkowskaja *et al*., 2021).

In Turkey, the root-knot nematode *Meloidogyne chitwoodi* (EPPO A2 List) was first recorded in 2006 from the Niğde Province (Central Anatolia) (EPPO RS 2009/063). *M. chitwoodi* is noted as the most common root-knot nematode in potato crops in Nevşehir Province (Central Anatolia) and Izmir Province (Aegean Region) (Evlice *et al*., 2022; Pehlivan *et al*., 2020).

- **Eradication**

In the Netherlands, two outbreaks of *Eotetranychus lewisi* (Acari: Tetranychidae - EU Annexes) on poinsettias (*Euphorbia pulcherrima*) occurred at the end of the summer 2021 (EPPO RS 2021/242). Eradication measures were successfully applied (NPPO of the Netherlands 2021-12).
The pest status of *Eotetranychus lewisi* in the Netherlands is officially declared as: **Absent, pest eradicated**.

- **Host plants**

Natural infection of courgette (*Cucurbita pepo*) by tomato chlorosis virus (*Crinivirus*, ToCV – EPPO A2 List) is reported from the first time. ToCV was detected in samples taken from several greenhouses in Shandong (China) in single or mixed infection with cucurbit chlorotic yellows virus. Symptoms were first observed in September 2018 and 2019 (Sun *et al*., 2021).

- **New pests and taxonomy**

The fungus initially described as *Ceratocystis wageneri* and then as *Ophiostoma wageneri* (EPPO A1 List) has been transferred to the genus *Grosmannia* (Zipfel *et al*., 2006; de Beer *et al*., 2013).

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

Computer codes: ARBOKA, CCYV00, DACUDO, DROSSU, EOTELE, HERCDI, LEPGWA, MELGCH, MELGMY, PHYRMA, STICBI, TOCV00, CA, CN, IN, IT, NL, RU, TR, TW, UA, ZA

2022/029 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 2022/002), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Clavibacter michiganensis* subsp. *michiganensis*. https://gd.eppo.int/taxon/CORBMI/datasheet
- *Dendrolimus sibiricus*. https://gd.eppo.int/taxon/DENDSI/datasheet
- Grapevine vein clearing virus. https://gd.eppo.int/taxon/GVCV00/datasheet
- Peach rosette phytoplasma. https://gd.eppo.int/taxon/PHYP30/datasheet
- *Phytophthora fragariae*. https://gd.eppo.int/taxon/PHYTFR/datasheet

Source: EPPO Secretariat (2022-02).

Additional key words: publication

Computer codes: CORBMI, DENDSI, GVCV00, PHYP30, PHYTFR

2022/030 Changes made to the EU list of regulated pests

The EU list of regulated pests included in the Annexes II to IV of Implementing Regulation (EU) 2019/2072 has recently been modified and published in the Commission Implementing Regulation 2021/2285 14 December 2021. This Regulation should apply from 11 April 2022. The EPPO Secretariat has summarized below the main changes.

- **Additions to Annex II A (A1 Quarantine pests)**

- Citrus chlorotic spot virus
- '*Candidatus* Phytoplasma hispanicum' (as causal agent of Strawberry witches' broom disease instead of *Strawberry witches' broom phytoplasma* which was previously listed)
- *Euwallacea fornicatus sensu lato* and the associated symbionts *Neocosmospora ambrosia* and *Neocosmospora euwallaceae*
- *Apriona germari*
- *Apriona rugicollis*
- *Apriona cinerea*
- *Ceratothripoides claratris*
- *Massicus raddei*
- *Meloidogyne enterolobii*
- *Prodiplosis longifila*
- *Trirachys sartus*

In the first version of the list (2019), in some instances all species in a genus were regulated; they are now specified. This is the case for the following species:

- *Acleris* spp.: *A. gloverana, A. issikii, A. minuta, A. nishidai, A. nivisellana, A. robinsoniana, A. semipurpurana, A. senescens, A. variana;*
- Choristoneura spp. (non-European): *C. carnana, C. conflictana, C. fumiferana, C. lambertiana, C. occidentalis biennis, C. occidentalis occidentalis, C. orae, C. parallela, C. pinus, C. retiniana, C. rosaceana;*
- *Cicadellidae* known to be vectors of *Xylella fastidiosa: Acrogonia citrina, Acrogonia virescens, Aphrophora angulata, Aphrophora permutata, Bothrogonia ferruginea, Bucephalogonia xanthopis, Clastoptera achatina, Clastoptera brunnea, Cuerna costalis, Cuerna occidentalis, Cyphonia clavigera, Dechacona missionum, Dilobopterus costalimai, Draeculacephala minerva, Draeculacephala sp., Ferrariana trivittata, Fingeriana dubia, Friscanus friscanus, Graphocephala atropunctata, Graphocephala confluens, Graphocephala versuta, Helochara delta , Homalodisca ignorata, Homalodisca insolita, Homalodisca vitripennis, Lepyronia quadrangularis , Macugonalia cavifrons, Macugonalia leucomelas, Molomea consolida , Neokolla hieroglyphica, Neokolla severini, Oncometopia facialis, Oncometopia nigricans, Oncometopia orbona, Oragua discoidula, Pagaronia confusa, Pagaronia furcata, Pagaronia tredecimpunctata, Pagaronia triunata, Parathona gratiosa, Plesiommata corniculata, Plesiommata mollicella, Poophilus costalis, Sibovia sagata, Sonesimia grossa, Tapajosa rubromarginata, Xyphon flaviceps, Xyphon fulgida, Xyphon triguttata;*
- *Margarodes,* non-European species: *Dimargarodes meridionalis, Eumargarodes laingi, Eurhizococcus brasiliensis, Eurhizococcus colombianus, Margarodes capensis, Margarodes greeni, Margarodes prieskaensis, Margarodes trimeni, Margarodes vitis, Margarodes vredendalensis, Porphyrophora tritici*;

- Andean potato weevil complex: *Phyrdenus muriceus, Premnotrypes* spp.*, Rhigopsidius tucumanus;*
- Palm lethal yellowing phytoplasmas: '*Candidatus* Phytoplasma cocostanzania' – subgroup16SrIV-C, '*Candidatus* Phytoplasma palmae' – subgroups 16SrIV-A, 16SrIV-B, 16SrIV-D, 16SrIV-E, 16SrIV-F, '*Candidatus* Phytoplasma palmicola' – 16SrXXII-A, *Candidatus* Phytoplasma palmicola-related strain 16SrXXII-B, New *Candidatus* Phytoplasma causing palm lethal yellowing from 16SrIV group – 'Bogia coconut syndrome';
- Tephritidae (non-European): *Acidiella kagoshimensis, Acidoxantha bombacis, Acroceratitis distincta, Adrama* spp.*, Anastrepha ludens, Anastrepha* spp.*, Asimoneura pantomelas, Austrotephritis protrusa, Bactrocera dorsalis, Bactrocera latifrons, Bactrocera* spp. (except *Bactrocera oleae), Bactrocera zonata, Bistrispinaria fortis, Bistrispinaria magniceps, Callistomyia flavilabris, Campiglossa albiceps, Campiglossa californica, Campiglossa duplex, Campiglossa reticulata, Campiglossa snowi, Carpomya incompleta, Carpomya pardalina, Ceratitis* spp. (except *Ceratitis capitata), Craspedoxantha marginalis, Dacus* spp.*, Dioxyna chilensis, Dirioxa pornia, Euleia separata, Euphranta camelliae, Euphranta canadensis, Euphranta cassia, Euphranta japonica, Euphranta oshimensis, Eurosta solidaginis, Eutreta* spp.*, Gastrozona nigrifemur, Goedenia stenoparia, Gymnocarena spp., Insizwa oblita, Marriottella exquisita, Monacrostichus citricola, Neaspilota alba, Neaspilota reticulata, Paracantha trinotata, Parastenopa limata, Paratephritis fukaii, Paratephritis takeuchii, Paraterellia varipennis, Philophylla fossata, Procecidochares spp., Ptilona confinis, Ptilona persimilis, Rhagoletis pomonella, Rhagoletis* spp. (except *Rhagoletis alternata, Rhagoletis batava, Rhagoletis berberidis, Rhagoletis cerasi, Rhagoletis cingulata, Rhagoletis completa, Rhagoletis meigenii, Rhagoletis suavis, Rhagoletis zernyi), Rioxoptilona dunlopi, Sphaeniscus binoculatus, Sphenella nigricornis, Strauzia* spp. (except *Strauzia longipennis), Taomyia marshalli, Tephritis leavittensis, Tephritis luteipes, Tephritis ovatipennis, Tephritis pura, Toxotrypana curvicauda, Toxotrypana recurcauda, Trupanea bisetosa, Trupanea femoralis, Trupanea wheeleri, Trypanocentra nigrithorax, Trypeta flaveola, Urophora christophi, Xanthaciura insecta, Zacerata asparagi, Zeugodacus* spp.*, Zonosemata electa.*

- Addition of non-European viruses, viroids and phytoplasmas of *Solanum tuberosum* and other tuber-forming *Solanum* spp.: Andean potato mild mosaic virus, '*Candidatus* Phytoplasma americanum', *Candidatus* Phytoplasma aurantifolia–related strains (GD32; St_JO_10, 14, 17; PPT-SA; Rus- 343F; PPT-GTO29, -GTO30, -SINTV; Potato Huayao Survey 2; Potato hair sprouts), *Candidatus* Phytoplasma fragariae-related strains (YN-169, YN-10G), *Candidatus* Phytoplasma pruni-related strains (Clover yellow edge, Potato purple top Akpot7, MT117, Akpot6; PPT-COAHP, -GTOP), Chilli leaf curl virus, Potato virus B, Potato virus H, Potato virus P, Potato yellow dwarf virus, Potato yellow mosaic virus, Potato yellow vein virus, Potato yellowing virus, Tomato mosaic Havana virus, Tomato mottle Taino virus, Tomato severe rugose virus, Tomato yellow vein streak virus.

- Addition of non-European viruses, viroids and phytoplasmas of *Cydonia, Fragaria, Malus, Prunus, Pyrus, Ribes, Rubus* and *Vitis*: *Apple fruit crinkle viroid*, apple necrotic mosaic virus, *Buckland valley grapevine yellows phytoplasma*, *Candidatus* Phytoplasma aurantifolia-related strains (Pear decline Taiwan II, Crotalaria witches' broom phytoplasma, Sweet potato little leaf phytoplasma), '*Candidatus* Phytoplasma australiense', '*Candidatus* Phytoplasma fraxini', '*Candidatus* Phytoplasma hispanicum', '*Candidatus* Phytoplasma phoenicium', *Candidatus* Phytoplasma pruni-related strain (North American grapevine yellows, NAGYIII), *Candidatus* Phytoplasma pyri-related strain (Peach yellow leaf roll), '*Candidatus* Phytoplasma ziziphi', cherry rosette virus, cherry rusty mottle associated virus, cherry twisted leaf associated virus, grapevine berry inner necrosis virus, grapevine red blotch virus, grapevine vein-clearing virus, raspberry latent virus, strawberry chlorotic fleck-associated virus, strawberry leaf curl virus, strawberry necrotic shock virus, temperate fruit decay-associated virus.

- **Additions to Annex IV (RNQPs)**

- *Pseudomonas syringae* pv. *actinidiae*
- *Phytophthora ramorum* (EU isolates)
- *Citrus bark cracking viroid*

- **Transfers**

- '*Candidatus* Phytoplasma australiense' is transferred from the RNPQ list to the A1 List,
- *Anoplophora glabripennis* is transferred from the A1 to the A2 list.

The following pests are no longer regulated as quarantine pests:
- Non-European isolates of potato viruses A, M, V and Y,
- Arracacha virus B oca strain,
- Papaya leaf crumple virus,
- *Rhagoletis suavis*.

Emergency measures for *Agrilus planipennis, Phytophthora ramorum, Pseudomonas syringae* pv. *actinidiae* are repealed as their provisions are taken over by Implementing Regulation 2019/2072.

Other changes to the EU Annexes were made in relation to regulated host plants and plant products.

Source: EU (2021) Commission Implementing Regulation (EU) 2021/2285 of 14 December 2021 amending Implementing Regulation (EU) 2019/2072 as regards the listing of pests, prohibitions and requirements for the introduction into, and movement within, the Union of plants, plant products and other objects, and repealing Decisions 98/109/EC and 2002/757/EC and Implementing Regulations (EU) 2020/885 and (EU) 2020/1292. Official Journal of the European Union, L 458,173-283, 22 December 2021. http://data.europa.eu/eli/reg_impl/2021/2285/oj

Additional key words: regulation, quarantine list **Computer codes:** EU

2022/031 Recommendations from Euphresco projects

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

Assessment of a generic method for the detection of begomoviruses

Early diagnosis of begomoviruses based on symptoms is not reliable as abiotic and other biotic factors may induce similar symptoms. As the genus *Begomovirus* is the largest genus of plant viruses (with more than 400 species), tests for the generic detection of begomoviruses are needed. The aim of the project was to validate diagnostic tests for the detection of a large range of begomoviruses. Nine laboratories from Austria, France, Greece, Guatemala, Italy, the Netherlands, Peru, Slovenia, and the United Kingdom, registered for the test performance study. The tests that were evaluated during the test performance study are:

1. Conventional PCR from Accotto *et al*. (2000);
2. Conventional PCR from Wyatt and Brown (1996) modified in 2002 according to M Botermans (pers. comm.);
3. Conventional PCR from Li *et al*. (2004) (adapted);
4. Conventional PCR from Saison and Gentit (2015).

The modified test from Wyatt and Brown (1996) was able to detect all tested isolates (25 targets, up to a 10^{-3} dilution) with a high repeatability and reproducibility. The test from Saison and Gentit (2015) allowed the detection of all begomovirus isolates selected for the test performance study, but with a clear lower analytical sensitivity (up to a 10^{-2} dilution). The tests of Li *et al*. (2004) and of Accotto *et al*. (2000) did not show good analytical sensitivity and did not allow detection of all isolates included in the test performance study panel.
An EPPO diagnostic protocol for detection and identification of begomoviruses on cucurbits, eggplants, pepper, and tomato has been prepared considering the results of the project and has been sent for country consultation recently.

Duration of the project: 2019-10-01 to 2021-03-16.

Authors: Gentit, Pascal; Cousseau, Pascaline; Grausgruber-Groger, Sabine; De Ronde, Dryas; Vassilakos, Nikon; Kreuze, Jan; Tomassoli, Laura; Mehle, Nataša; Margarita Palmieri, Margarita; Monger, Wendy.

Link: https://zenodo.org/record/5909640#.YfJbkurMKUm

Source: Euphresco (2022-02).

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

2022/032 First report of *Diaphorina citri* in Israel

The NPPO of Israel recently informed the EPPO Secretariat of the first report of *Diaphorina citri* (vector of '*Candidatus* Liberibacter asiaticus' - Hemiptera: Liviidae, EPPO A1 List) on its territory. During a routine survey conducted in August 2021, *D. citri* was observed on trees of *Citrus reticulata* and *Citrus sinensis*, in groves within a limited area, in the Hefer Valley region of the Sharon plain in Central Israel. The identification of the psyllid was confirmed by morphological and molecular analysis. The entry pathway is unknown, though illicit import of prohibited plant material is suspected as there is no regulated import that could allow the entry of this pest in Israel.
Psyllids were sampled and tested for presence of '*Candidatus* Liberibacter asiaticus' (associated with huanglongbing – EPPO A1 List) using a Taqman multiplex real-time PCR. The pathogen was not detected in collected psyllids. Additionally, all host trees in the area of infestation were surveyed for symptoms of huanglongbing and no symptomatic trees were detected. Samples were taken from asymptomatic host trees in the area infested with *D. citri* and tested by Taqman multiplex real-time PCR. '*Candidatus* Liberibacter asiaticus' was not detected in the plant samples.
Phytosanitary measures are being implemented to eradicate the pest in the infested area. In addition surveys are conducted in citrus groves in the vicinity of the infested area, as well as in the rest of the country, to ensure the absence of any new outbreak. Citrus growers have been instructed to report any new detection of the pest or any suspicious symptoms in citrus trees.

The pest status of *Diaphorina citri* in Israel is officially declared as: **Transient (only in one location), actionable, under eradication.**

Source: NPPO of Israel (2022-02).

Pictures: *Diaphorina citri*. https://gd.eppo.int/taxon/DIAACI/photos

Additional key words: new record **Computer codes:** DIAACI, IL

2022/033 First report of *Spodoptera frugiperda* in Saudi Arabia

Spodoptera frugiperda (Lepidoptera: Noctuidae – EPPO A2 List) was first reported in Saudi Arabia in October 2021. Low level infestations were detected in maize (*Zea mays*) crops in the governorates of Najran and Al-Kora. Phytosanitary measures have been taken including destroying the infested maize crops, installing traps around the two infested sites, and spraying neighboring crops with appropriate pesticides.

The situation of *Spodoptera frugiperda* in Saudi Arabia can be described as follows: **Present, not widely distributed.**

Source: IPPC News (2022-02-04) Fall armyworm detected in the Kingdom of Saudi Arabia. https://www.ippc.int/en/news/fall-armyworm-detected-in-the-kingdom-of-saudi-arabia/

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

Additional key words: new record **Computer codes:** LAPHFR, SA

2022/034 First report of *Garella musculana* in Italy

The NPPO of Italy recently informed the EPPO Secretariat of the first report of *Garella musculana* (Lepidoptera: Noctuidae - EPPO A2 List) on its territory. *G. musculana* 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), Bulgaria (EPPO RS 2019/009), Romania (RS 2021/171), and Southern Russia (RS 2021/207).
A specimen was found in an entomological trap placed in a private garden in an urban area in the municipality of Venezia - Mestre (Province of Venezia, region of Veneto) in October 2021. The identity of the insect was confirmed by the University of Padua.
The NPPO will carry out a specific survey during the spring-summer period 2022 to verify the distribution of the pest.

The pest status of *Garella musculana* in Italy is officially declared as: **Transient, actionable, under surveillance.**

Source: NPPO of Italy (2022-01).

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

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

2022/035 Spread of *Cacyreus marshalli* within the EPPO region

The pelargonium butterfly *Cacyreus marshalli* (Lepidoptera: Lycaenidae - EPPO A2 List) is spreading within the EPPO region. However, it may be noted that no major damage is reported in *Pelargonium* production.

- In Greece, where it was first recorded in 2010, it is now considered widespread from Macedonia to the Peloponnese, but not in the western part of Greece. In addition it was first recorded from Kriti in 2018.
- In Turkey, it was first observed in 2011 in the Aegean region. It is now also present in the region of Istanbul as well as in the Mediterranean region.
- In Bulgaria, it was first observed in the lower Struma valley in 2014, as well as in one location in the North-west of Bulgaria in 2018.
- In Albania, Bosnia and Herzegovina, and Montenegro *C. marshalli* was first reported in 2016.
- In the Republic of North Macedonia, *C. marshalli* was first reported in 2017 in several locations and seems to be established.
- In Egypt, *C. marshalli* was first reported in 2017 and is now widespread in Alexandria Governorate.
- In Israel, *C. marshalli* was first reported in 2019.
- In Serbia, one specimen of *C. marshalli* was observed in October 2020 in the city of Niš (Southern Serbia).

Source:
Başbay O, John E (2021) A review of current range expansion of *Cacyreus marshalli* Butler, 1898 (Lepidoptera: Lycaenidae, Polyommatinae) in western Turkey. *Entomologist's Gazette* **72**(1), 59-63.
Franeta F (2018) Checklist of the butterflies (Lepidoptera: Papilionoidea) of Montenegro. *Zootaxa* **4392**(1), 128.

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Langourov SM, Simov NP (2017) New data on the expansion of the geranium bronze, *Cacyreus marshalli* Butler, 1898 (Lepidoptera, Lycaenidae) in the Eastern part of the Balkan Peninsula, with some biological notes. *Acta Zoologica Bulgarica* **9** (suppl.), 301-304.
Micevski N, Micevski B (2017) *Cacyreus marshalli* (Butler, 1898) (Lepidoptera: Lycaenidae) confirmed for the Republic of Macedonia. *Bulletin of the Natural History Museum – Plovdiv* **2,** 17-20.
Milojković S, Vujić M, Đurić M, Tot I (2021) Geranium bronze, *Cacyreus marshalli* Butler, 1897–new butterfly species for fauna of Serbia (Papilionidea: Lycaenidae). *Acta Entomologica Slovenica* **29**(1), 121-124.
Tawfeek ME, Aboughonim MA, Ramadan HM, Abu-shall AM (2021) Description of the pelargonium butterfly *Cacyreus marshalli* Butler (Lepidoptera: Lycaenidae: Polyommatinae). *Alexandria Science Exchange Journal* **42**(4), 951-960.

Pictures: *Cacyreus marshalli*. https://gd.eppo.int/taxon/CACYMA/photos

Additional key words: new record, detailed record **Computer codes:** CACYMA, AL, GR, MK, TR

2022/036 First report of *Thekopsora minima* in the United Kingdom

In September 2021, rust-like symptoms were observed on northern highbush blueberry plants (*Vaccinium corymbosum* cv. 'Liberty') in a nursery in Perthshire, Scotland (GB). Two of the five plants appeared to be infected, with less than ten leaves on each plant showing symptoms. Laboratory analysis (morphology, molecular tests) confirmed the presence of *Thekopsora minima* (syn. *Pucciniastrum minimum* – EPPO A2 List). A BLAST analysis revealed 99.8% identity similarity to an isolate from Germany. Inoculation experiments showed that detached leaves of *Vaccinium myrtillus* (European blueberry) could be infected by *T. minima* (Latham *et al.*, 2022).
Following this first record published by scientists, the NPPO of the United Kingdom added that *T. minima* has been detected in 8 instances, including at a growing site, retail premises, a landscaper, plant nurseries and a research institute. So far, the fungus has been detected in Kent, Dorset, Devon, Lincolnshire, Buckinghamshire and Perthshire. *T. minima* is under containment at the growing site in Perthshire with hygiene measures in place as well as fungicide sprays to be recommended next year. For plants moving in trade, it is recommended that leaves are removed and destroyed. Fungicide recommendations are being considered.

The pest status of *Thekopsora minima* in the United Kingdom is officially declared as: **Present: not widely distributed and under official control.**

Source: Latham RL, Beal EJ, Clarkson JP, Nellist CF (2022) First report of *Pucciniastrum minimum* (syn. *Thekopsora minima*) causing leaf rust on *Vaccinium corymbosum* (blueberry) in the United Kingdom and pathogenicity on *Vaccinium myrtillus* (bilberry). *New Disease Reports* **45**, e12057. https://doi.org/10.1002/ndr2.12057

NPPO of the United Kingdom (2022-02).

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

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

2022/037 First report of *Hymenoscyphus fraxineus* in Spain

In August 2021, mature and young *Fraxinus excelsior* trees with typical symptoms of ash dieback (shoot dieback, wilting of leaves, necrotic rachises and lenticels, and fungal fruiting bodies) were observed in the localities of Oviedo and Bulnes in the autonomous region of Asturias in North-Western Spain. Symptomatic samples were collected and tested in the laboratory (morphological and molecular methods). Results confirmed the presence of *Hymenoscyphus fraxineus* (formerly EPPO Alert List).

The situation of *Hymenoscyphus fraxineus* in Spain can be described as follows: **Present, only in some areas, first found in 2021 in 2 sites in Asturias.**

Source: Stroheker S, Queloz V, Nemesio-Gorriz M (2021) First report of *Hymenoscyphus fraxineus* causing ash dieback in Spain. *New Disease Report* 44, e12054. https://doi.org/10.1002/ndr2.12054

Pictures: *Hymenoscyphus fraxineus*. https://gd.eppo.int/taxon/CHAAFR/photos

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

2022/038 Update on the situation of *Lecanosticta acicola* in Spain

In Spain, brown spot needle blight caused by *Lecanosticta acicola* (EPPO A2 List) was first recorded damaging forests in North-Western Spain in 2015, mainly on *Pinus radiata* and *P. nigra*. In Pais Vasco, a large outbreak (more than 30 000 ha) began in 2018 and is resulting in mortality of *Pinus* forests. A study in three arboreta identified the fungus on a new host (*Pinus brutia*), and for the first time in Spain on *Pinus elliottii* and *P. ponderosa*. It may be noted that, since 2019, *Lecanosticta acicola* is a regulated non-quarantine pest for the EU. Official measures are applied in nurseries to ensure the production of pest free *Pinus* plants for planting but official measures are not applied in forests.

The situation of *Lecanosticta acicola* in Spain can be described as follows: **Present.**

Source: Mesanza N, Raposo R, Elvira-Recuenco M, Barnes I, van der Nest A, Hernandez M, Pascual MT, Barrena I, San Martin U, Cantero A, Hernandez-Escribano L, Iturritxa E (2021) New hosts for *Lecanosticta acicola* and *Dothistroma septosporum* in newly established arboreta in Spain. *Forest Pathology* **51**, e12650. https://doi.org/10.1111/efp.12650

Mesanza N, García-García D, Raposo ER, Raposo R, Iturbide M, Pascual M, Barrena I, Urkola A, Berano N, Sáez de Zerain A, Iturritxa E (2021) Weather variables associated with spore dispersal of *Lecanosticta acicola* causing pine needle blight in Northern Spain. *Plants* **10**(12), 2788. https://doi.org/10.3390/plants10122788

Pascual EA (2020) La enfermedad de la mancha marrón, *Lecanosticta acicola*: gran amenaza desde 2018 para las repoblaciones de *Pinus radiata* en el País Vasco. *Revista Montes* **140**, 23-28.

Pictures: *Lecanosticta acicola*. https://gd.eppo.int/taxon/SCIRAC/photos

Additional key words: detailed record **Computer codes:** SCIRAC, ES

2022/039 First report of *Ceratocystis ficicola*, a pathogen of *Ficus carica*, in Greece and the EPPO region

In Greece, fig trees (*Ficus carica*) showing wilting symptoms and extensive crown defoliation were observed in 2018 in two neighbouring orchards in the municipality of Markopoulo Mesogaias, Attica region. In the affected orchards, tree mortality was also observed. A *Ceratocystis* species was isolated from diseased trees and its morphological characteristics were similar to those of *Ceratocystis ficicola*, a fungus which was first described in Japan in 2011 causing a severe disease of fig trees. In Greece, further studies were conducted in 2019 and 2020 and *C. ficicola* was isolated from symptomatic fig trees at four distinct localities (villages) in the municipality of Aidipsos, on the Euboea Island. On this island, severe damage and tree mortality was observed. In particular, in a young orchard (6 ha), approximately 40 to 50% of the trees were dead or dying three years after their plantation, on a plot which had not previously been used for fig tree cultivation. This observation strongly suggests that human activities are playing an important role in the disease spread.
The identity of the fungus was confirmed by morphological and molecular methods. In inoculation experiments, Greek isolates were found to be pathogenic to *F. carica*, and to a lesser extent to *F. benjamina*. *C. ficicola* was consistently isolated from infected *F. carica* wood and rhizosphere soil. The origin of the disease in Greece is unknown, but most probably results from an accidental introduction either from Japan or another unknown source. This is the first time that *C. ficicola* is reported from Greece and from the EPPO region.

The authors consider that this fungus may represent a serious threat to fig-producing countries around the Mediterranean Basin and that efforts should be made to avoid its further spread via infected planting material or contaminated soil.
The situation of *Ceratocystis ficicola* in Greece can be described as follows: **Present, not widely distributed (Attica and Euboea Island).**

Source: Tsopelas P, Soulioti N, Wingfield MJ, Barnes I, Marincowitz S, Tjamos EC, Paplomatas EJ (2021) *Ceratocystis ficicola* causing a serious disease of *Ficus carica* in Greece. *Phytopathologia Mediterranea* **60**(2), 337-349. https://doi.org/10.36253/phyto-12794

Kajitani Y, Masuya H (2011) *Ceratocystis ficicola* sp. nov., a causal fungus of fig canker in Japan. *Mycoscience* **52**, 349–353.

Personal communication with Eris Tjamos (Professor Emeritus in Plant Pathology, at the Agricultural University of Athens, 2022-01).

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

2022/040 *Ceratocystis ficicola*: addition to the EPPO Alert List

Why: *Ceratocystis ficicola* was first described in Japan in 2011 causing a serious wilt disease on fig trees (*Ficus carica*). Disease symptoms had been observed since the 1980s but were initially attributed to *C. fimbriata* or to a forma specialis *C. fimbriata* f. sp. *caricae*. In 2018, the disease was observed for the first time in Greece in fig trees orchards in Attica and the fungus was also detected on the Euboea Island in 2019. As *C. ficicola* can cause mortality to *F. carica* which is an important cultivated species around the Mediterranean Basin, the EPPO Secretariat considered that this fungus should be added to the EPPO Alert List.

Where: Until 2018, *C. ficicola* had only been reported from Japan where it now affects all fig-producing areas. The recent emergence of this disease in Japan suggests that *C. ficicola* is an introduced pathogen, but its area of origin is unknown. In 2018, *C. ficicola* was recorded for the first time in Greece, and origin of this introduction is also unknown.
EPPO region: Greece.
Asia: Japan (Honshu, Kyushu).

On which plants: In the field, the only known host is *F. carica*. In inoculation experiments conducted in Greece, it was found that *F. benjamina* could become infected but was found to be less susceptible than *F. carica*.

Damage: Affected plants show reduced shoot growth and leaf yellowing, wilting, poor growth of new branches, and eventually die. Brown discoloration can be observed in xylem tissues. In Japan, severe outbreaks have been observed and it is reported that some growers have abandoned their orchards because of the extensive damage caused by *C. ficicola*. In Greece, severe damage and tree mortality have also been observed.

Dissemination: *C. ficicola* is thought to be soil-borne, as fig trees planted in contaminated soil easily become infected, and the fungus can be found in the plant rhizosphere. The disease is also spread by infected planting material. In Japan, it has been suggested that an ambrosia beetle *Euwallacea interjectus* (Coleoptera: Curculionidae: Scolytinae) might be a vector. However, recent studies concluded that as *C. ficicola* could not be found in the mycangia of *E. interjectus* it was not a potential vector; although this insect is probably able to passively transport fungal spores on its exoskeleton which possesses numerous pits and setae. Interestingly, these studies identified a new symbiotic relationship between *E. interjectus* and *Fusarium kuroshium* which might also play a role in the disease in Japan.

Pathways: Plants for planting of *F. carica*, contaminated soil from countries where *C. ficicola* occurs.

Possible risks: *F. carica* is widely cultivated for fruit production and ornamental purposes in the EPPO region, and more particularly around the Mediterranean Basin. Once *C. ficicola* is established within an orchard it is difficult to eradicate it as fungal spores can survive in the soil. In Japan, resistance genes have been found in *F. erecta* and research is being carried out to produce resistant hybrids. Although there are still uncertainties about the biology and epidemiology of *C. ficicola*, this fungus can cause tree mortality and it is desirable to prevent its further spread in the EPPO region.

Sources

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Kajii C, Morita T, Jikumaru S, Kajimura H, Yamaoka Y, Kuroda K (2013) Xylem dysfunction in *Ficus carica* infected with wilt fungus *Ceratocystis ficicola* and the role of the vector beetle *Euwallacea interjectus*. *International Association of Wood Anatomists Journal* **34**, 301–312. https://doi.org/10.1163/22941932- 00000025

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Tsopelas P, Soulioti N, Wingfield MJ, Barnes I, Marincowitz S, Tjamos EC, Paplomatas EJ (2021) *Ceratocystis ficicola* causing a serious disease of *Ficus carica* in Greece. *Phytopathologia Mediterranea* **60**(2), 337-349. https://doi.org/10.36253/phyto-12794

Yakushiji H, Morita T, Jikumaru S (2019) Ceratocystis canker resistance in BC1 populations of interspecific hybridization of fig (*Ficus carica*) and *F. erecta*. *Scientia Horticulturae* **252**, 71-76 (abst.).

EPPO RS 2022/040

Panel review date – Entry date 2022-02

2022/041 Detection and eradication of tobacco ringspot virus in Slovakia

The NPPO of Slovakia recently informed the EPPO Secretariat of a new report* of Tobacco ringspot virus (*Nepovirus*, TRSV – EPPO A2 List) on its territory. TRSV was detected in plants of *Capsicum annuum* grown in a greenhouse in the town of Snina in June 2021. All plants of *Capsicum* grown in the greenhouse (1890 plants in total) were incinerated. The origin of the seed could not be traced back. Surveys will be carried out in 2022 and 2023 in the greenhouse and a surrounding area of 100 m radius to confirm the absence of the virus.

The pest status of tobacco ringspot virus in Slovakia is officially declared as: **Absent, pest eradicated.**

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* TRSV had been found in fruit crops in 2002 but no occurrence in fruit crops has been registered by the NPPO in recent years.

Source: NPPO of Slovakia (2021-12).

Šubíková V, Kollerová E, Slováková L (2002) Occurrence of nepoviruses in small fruits and fruit trees in Slovakia. *Plant Protection Science* **38**, 367-369.

Pictures: tobacco ringspot virus. https://gd.eppo.int/taxon/TRSV00/photos

Additional key words: detailed record, eradication **Computer codes:** TRSV00, SK

2022/042 Update on the situation of tobacco ringspot virus in the Netherlands

In the Netherlands, tobacco ringspot virus (*Nepovirus*, TRSV – EPPO A2 List) has been found since 2000 in different ornamental plants: *Bacopa, Portulaca* (EPPO RS 2001/045), *Celosia, Hemerocallis, Iris ensata, Iris siberica* (RS 2007/007), *Iris germanica* (RS 2018/228) and *Phlox subulata* (RS 2011/087). TRSV was last detected in August 2019 in a company producing plants for planting of *Ajuga reptans*. This detection was made during a specific survey whereby asymptomatic plants in 30 locations have been sampled and tested. This survey specifically targeted *Ajuga*, following two positive testing records (non-official) of two lots during 2018, of which one originated in a non-EU country and the other in the Netherlands. Following this outbreak a specific survey was carried out for all clonally-related lots of *A. reptans*. Four out of five lots of rooted cuttings (at five wholesale nurseries) have been traced in the Netherlands and have been destroyed. Five lots have been delivered to two other EU Member States, which have been duly informed. Following the surveys in 2019 and 2020, no further findings of TRSV in *A. reptans* were detected and this outbreak is considered eradicated.

The NPPO of the Netherlands, considering the large number of findings of TRSV on their territory and elsewhere in the EU, presumes that TRSV is more widespread in the EU than currently known, both in terms of geographical distribution and in terms of host plants. In case of future findings, measures will be taken for infected lots (destruction) to prevent spread of the virus. Following a finding, the Netherlands will no longer test all other (potential) host plants at a company. Specific TRSV surveys will only be carried out in the case of new findings.

The pest status of tobacco ringspot virus in the Netherlands is officially declared as: **Present, [other] findings in multiple species of ornamental plants for planting.**

Source: NPPO of the Netherlands (2021-12). https://english.nvwa.nl/topics/pest-reporting/documents/plant/plant-health/pest-reporting/documents/pest-report-tobacco-ringspot-virus-trsv-new-pest-status-nl

Pictures: tobacco ringspot virus. https://gd.eppo.int/taxon/TRSV00/photos

Additional key words: detailed record **Computer codes:** TRSV00, NL

2022/043 Cucurbit chlorotic yellows virus, an emerging virus of cucurbits spreading worldwide

Cucurbit chlorotic yellows virus (Crinivirus, CCYV) is a virus transmitted by *Bemisia tabaci* (Hemiptera: Aleyrodidae – EPPO A2 List) which was first identified in Asia in 2004 and was causing damage to melon (*Cucumis melo*), watermelon (*Citrullus lanatus*) and cucumber (*Cucumis sativus*) crops in China, Japan, and Taiwan (EPPO RS 2011/007). It then spread to Africa (RS 2012/038), the Middle East (RS 2015/119) and has recently been reported from several countries in the EPPO region: Greece (Islands of Rhodos and Kriti) in 2014, Turkey in 2015, Israel in 2016, Algeria in 2018 (RS 2020/048), Spain in 2018 (RS 2021/166). It was also recently reported from the Islas Canarias (Spain) on watermelon and courgette (*Cucurbita pepo)* on Tenerife Island.
CCYV was first reported in the USA in 2018 in California, and in 2021 in Alabama, Florida, Georgia, Texas causing damage in fields of melon (*Cucumis melo*) watermelon and squash (*Cucurbita pepo*).
In Asia, it was further reported in 2021 from the Philippines (RS 2021/185), South Korea on melon (*Cucumis melo* and *Cucumis melo* var. *makuwa*) and on cucumber, and from India on pumpkin (*Cucurbita moschata*).

An updated distribution map is available at:
https://gd.eppo.int/taxon/CCYV00/distribution.

Source:

Alfaro-Fernández A, Espino A, Botella-Guillen M, Font MI, Sanahuja E, Galipienso L, Rubio L (2021) First report of cucurbit chlorotic yellows virus infecting watermelon and zucchini in the Canary Islands, Spain. *Plant disease* (early view). https://doi.org/10.1094/PDIS-10-21-2296-PDN

Cho IS, Kim T-B, Yoon J-Y, Chung BN, Hammonf J, Lim H-S (2021) First report of Cucurbit chlorotic yellows virus infecting *Cucumis melo* (muskmelon and oriental melon) in Korea. *Plant Disease* **105**(9) 2740. https://doi.org/10.1094/PDIS-11-20-2375-PDN

Jailani AA, Iriarte F, Hochmuth R, Willis SM, Warren MW, Dey KK, Velez-Climent M, McVay J, Bag S, Paret ML (2022) First report of cucurbit chlorotic yellows virus affecting watermelon in USA. *Plant Disease* (early view). https://doi.org/10.1094/PDIS-03-21-0639-PDN

Hernandez RN, Isakeit T, Al Rwahnih M, Hernandez R, Alabi OJ (2021) First report of Cucurbit chlorotic yellows virus infecting cantaloupe (*Cucumis melo* L.) in Texas. *Plant Disease* **105**(10), 3313 https://doi.org/10.1094/PDIS-02-21-0378-PDN.

Kavalappara SR, Milner H, Sparks AN, McGregor C, Wintermantel WM, Bag S (2021) First report of cucurbit chlorotic yellows virus in association with other whitefly-transmitted viruses in squash (*Cucurbita pepo*) in Georgia. *Plant Disease* **105**(6), 1862. https://doi.org/10.1094/PDIS-11-20-2429-PDN

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infecting pumpkin in India. *Plant Disease* (early view). https://doi.org/10.1094/PDIS-07-21-1473-PDN
Kwak H-Rn Byun H-S, Choi H-S, Han J-W, Kim C-S, Wintermantel WM, Kim JE, Kim M (2021) First report of cucurbit chlorotic yellows virus infecting cucumber in South Korea. *Plant Disease* **105**(6), 1862. https://doi.org/10.1094/PDIS-11-20-2375-PDN

Additional key words: detailed record, new record **Computer codes:** CCYV00, ES, IN, KR

2022/044 First report of sweet potato chlorotic stunt virus in Hungary

The NPPO of Hungary recently informed the EPPO Secretariat of the first finding of sweet potato chlorotic stunt virus (*Crinivirus*, SPCSV, EU Annexes) on its territory. The virus was identified during a scientific survey (Kiemo *et al.*, 2022a). In summer 2020, 62 symptomatic and 38 asymptomatic sweet potato vines (*Ipomoea batatas*) were randomly collected in farmers' fields in the south (Ásotthalom, Szeged) and central (Galgahévíz) parts of Hungary and transplanted into an insect-proof greenhouse. Six of the plants expressed SPCSV-like symptoms, including stunting, vein clearing and leaf purpling. The presence of SPCSV was confirmed in four plants in July 2020 and reported to the NPPO in November 2021. The plants had been sampled in a field in Ásotthalom. The identification could not be confirmed by the NPPO as all the sweet potatoes grown in the infested field had been destroyed (by feeding to animals) before the virus was reported to the NPPO. Investigations are conducted to identify the source of the outbreak.

The pest status of sweet potato chlorotic stunt virus in Hungary is officially declared as: **Present**.

It may be noted that in another article, Kiemo *et al.* (2022b) report the presence of the following viruses from sweet potatoes grown in Hungary (often in mixed infections): SPCSV, sweet potato feathery mottle virus (SPFMV), sweet potato virus 2 (SPV2), sweet potato virus C (SPVC), sweet potato virus G (SPVG), sweet potato leaf curl virus (SPLCV), and sweet potato pakakuy virus (SPPV). They note that 30% to 80% of sweet potato plants in the fields showed viral symptoms and support the implementation of a certification scheme for virus-free propagation material.

Source: NPPO of Hungary (2022-01).

Kiemo FW, Tóth Z, Salamon P, Szabó Z (2022a) First report of sweet potato chlorotic stunt virus infecting sweet potatoes in Hungary. *Plant Disease* (early view). https://doi.org/10.1094/PDIS-05-21-0944-PDN

Kiemo FW, Salamon P, Jewehan A, Tóth Z, Szabó Z (2022b) Detection and elimination of viruses infecting sweet potatoes in Hungary. *Plant Pathology* (early view). https://doi.org/10.1111/ppa.13519

Additional key words: new record **Computer codes:** SPCSV0, SPV200, SPPV00, SPFMV0, HU

2022/045 Absence of *Xylella fastidiosa* in Morocco

A nation-wide survey for *Xylella fastidiosa* (EPPO A2 List) was conducted in Morocco from March 2020 to July 2021 in areas planted with olive (*Olea europaea*), almond (*Prunus dulcis*) and *Citrus* spp. trees in seven regions of Morocco by El Handi *et al.* (2022). In total 51 commercial orchards were inspected, and 1007 symptomatic plants sampled: 657 olive trees from five regions (Tanger, Béni Mellal, Marrakech, Errachidia, and Meknès), 170 citrus trees from two regions (Azilal and Meknès) and 180 almond trees from three regions (Meknès, Haouz, and Gharb). Samples were tested by ELISA and PCR. No positive samples were found.

In addition, surveys on potential vectors were conducted by Haddad *et al.* (2021) in 2019 and 2020 in 85 sites in 25 provinces (in 7 regions) across the country. Using sweeping nets, 2604 specimens belonging to the Auchenorrhyncha suborder (Hemiptera) were collected. A total of 213 samples from different crops (almond, olive, citrus, grapevine) and two ornamental plants (*Nerium oleander* and *Polygala* spp.) were collected and tested for the presence of *X. fastidiosa* by ELISA and PCR during the same period and within the same surveyed provinces (plus two additional ones, i.e. 27 provinces). All test results were negative. The surveys on vectors showed that five potential insect vectors occur, namely *Philaenus tesselatus, P. maghresignus, Philaenus* sp., *Neophilaenus campestris* and *N. lineatus*. They were mainly present in the northern part of Morocco. *Philaenus tesselatus* was the most commonly found spittlebug and should be considered the main potential vector of *X. fastidiosa* in Morocco. *Philaenus spumarius* was not found during these surveys.

The situation of *Xylella fastidiosa* in Morocco can be described as follows: **Absent, confirmed by survey.**

Source: El Handi K, Hafidi M, Sabri M, Frem M, El Moujabber M, Habbadi K, Haddad N, Benbouazza A, Abou Kubaa R, Achbani EH (2022) Continuous pest surveillance and monitoring constitute a tool for sustainable agriculture: case of *Xylella fastidiosa* in Morocco. *Sustainability* **14**(3), 1485. https://doi.org/10.3390/su14031485.

Haddad N, Afechtal M, Streito JC, Ouguas Y, Benkirane R, Lhomme P, Smaili MC (2021) Occurrence in Morocco of potential vectors of Xylella fastidiosa that may contribute to the active spread of the bacteria. *Annales de la Société entomologique de France* **57**(4), 359-371.

Pictures: *Xylella fastidiosa*. https://gd.eppo.int/taxon/XYLEFA/photos

Additional key words: Absence **Computer codes:** XYLEFA, PHILSU, PHILTE, NEOPCA, NEOPLI, MA

2022/046 First report of *Ambrosia tenuifolia* in Romania

In total, to-date three *Ambrosia* species have been reported from Romania. *Ambrosia artemisiifolia* (Asteraceae: EPPO List of Invasive Alien Plants) was first reported between the years 1907 and 1912, in the Banat province, and it is now widespread throughout Romania. *A. trifida* (EPPO A2 List) was first recorded in Romania in 1976 in the city of Constanța (Dobrogea) and its distribution is currently limited to the south-eastern provinces (Dobrogea and Muntenia). *A. psilostachya* has been reported in Romania from the Danube Delta. In addition, several voucher specimens (University of Agronomical Sciences and Veterinary Medicine (UASVM), Bucharest) were collected from the villages of C. A. Rosetti and Sfiștofca. However, upon studying the voucher specimens, it was revealed that *A. psilostachya* has been erroneously reported from Romania, and the correct identity of this plant is *A. tenuifolia*. In Romania, *A. tenuifolia* occurs along roadsides and in ruderal sandy places in the village of C. A. Rosetti. *A. tenuifolia* is native to South America and it has been introduced to North America, South Africa and Australia. In the EPPO region it is present in France, Germany, Spain, Israel and Italy.

Source: Karrer G, Sîrbu C, Oprea A, Doroftei M, Covaliov S, Georgescu M (2021) *Ambrosia tenuifolia*, instead of *A. psilostachya*, in Romania. *Scientific Annals of the Danube Delta Institute* **26**, 17-26.

Additional key words: new record, invasive alien plant **Computer codes:** AMBEL, AMBTR, AMBPS, AMBTE, RO

2022/047 *Lepidium oblongum* along railway lines in Hungary

Lepidium oblongum (Brassicaceae) is an annual species which spread by small seeds. It has been recently recorded in Hungary where it was first discovered in 2018. Previously, in the EPPO region, *L. oblongum* was found in 2011, at a single locality, in the railway station of Râmnicu Sărat, Buzău County, Romania. *Lepidium oblongum* is native to North America (USA and Mexico) and Central America (El Salvador, Guatemala, Honduras). Outside of its native range, it occurs in Hawaii, where it occurs as a naturalized alien, in dry, disturbed sites, between 0 and 200 m above sea level. In Hawaii it can become a dominant species. It is considered a rare casual species in Australia. In Hungary, a small stand of *L. oblongum* was found by the first author in 2018 next to the railway station of Jánosháza (Kisalföld, Northwest Hungary) on a railway loading bay. Further observations have been recorded along the rail system in West Hungary (Szombathely) and Southwest Hungary (Gyékényes). In these locations, most populations of *L. oblongum* are monospecific stands covering several metres in width and several hundred metres in length. Further spread of the species is likely and it may have the potential to spread along other ruderal sites such as roadsides.

Source: Schmidt D, Mesterházy A, Csiky J (2022) *Lepidium oblongum* (Brassicaceae) appeared on Hungarian railways: the beginning of a wider European conquest? *Acta Botanica Croatica* (early view). https://doi.org/10.37427/botcro-2021-030

Additional key words: invasive alien plant **Computer codes:** LEPOB, HU

2022/048 First report of *Verbena brasiliensis* in Turkey

Verbena brasiliensis (Verbenaceae) is a perennial species native to South America (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay) and is reported as an invasive alien plant in North America, Oceania, Africa and Asia. In the EPPO region, the species is recorded as naturalised in Spain, Italy, Portugal and Georgia. *V. brasiliensis* can cause ecological damage to the areas it invades by outcompeting native plant species. Before now, only two species of *Verbena* have been recorded in Turkey, *V. officinalis* and V. supina. In June 2020, during field surveys in the Bartin province in Northern Turkey, *V. brasiliensis* was recorded from Karasu village in the Black Sea region where it grows along roadsides and in ruderal areas. In this area, the species was recorded as flowering from May to July. The population has spread along roadsides and small populations occur over a 20-hectare area.

Sources: Tunçkol B (2022) *Verbena brasiliensis* Vell.: a new record of an invasive alien species in the flora of Turkey. *BioInvasions Records* **11**, 57–61. https://doi.org/10.3391/bir.2022.11.1.06

Additional key words: invasive alien plant **Computer codes**: VEBBS, TR

2022/049 Biological control of *Crassula helmsii*

Crassula helmsii (Crassulaceae) is a semi-aquatic plant species which can grow in a number of forms (submerged, emergent or semi-terrestrial) depending on environmental conditions. The species is native to Australia and has been introduced into the USA and the EPPO region as an oxygenating plant for aquaria and ponds. The species has become a major problem in aquatic habitats in the United Kingdom and North-West Europe where it can have negative impacts on ecosystem services. A biological control programme was conducted against the species and a mite (*Aculus crassulae*), native to Australia, was identified as a promising biological control agent. Host range studies revealed that *A. crassulae* has a very narrow host range and it is unlikely to pose a risk to the flora of the United Kingdom and Europe. Additionally, impact studies of *A. crassulae* on *C. helmsii* showed that the mite has a negative impact on the plant compared to control plants without the mite. Plants infested with the mite had lower height, and a reduction in the number of new leaf pairs, new nodes and secondary shoots. The biological control agent shows great potential to negatively affect *C. helmsii* growth under natural field conditions.

Sources: Varia S, Wood SV, Allen RMS, Murphy ST (2022) Assessment of the host-range and impact of the mite, *Aculus crassulae*, a potential biological control agent for Australian swamp stonecrop, *Crassula helmsii*. *Biological Control* **167**. https://doi.org/10.1016/j.biocontrol.2022.104854

Pictures: *Crassula helmsii*. https://gd.eppo.int/taxon/CSBHE/photos

Additional key words: invasive alien plant **Computer codes**: CSBHE, GB

2022/050 12th International Conference on Biological Invasions: Biological Invasions in a Changing World

The 12th International Conference on Biological Invasions: Biological Invasions in a Changing World (NEOBIOTA) will take place between 13th – 16th September 2022 in Tartu, Estonia. Early registration is open until 2022-06-27. Abstracts for oral and poster presentations can be submitted between 28th February – 8th April.

Topics include:

- Trends in the introduction, spread and evolution of biological invasions at different spatial and temporal scales,
- Past, current and future drivers responsible for biological invasions,
- Biological invasions and climate change,
- Novel ecosystems in the Anthropocene,
- Impacts of invasions on native species, communities and ecosystems,
- Biotic interactions in invaded communities and ecosystems, including interactions between invaders,
- Economic and social impacts of biological invasions,
- Non-native pests and pathogens. Pests and pathogens spread by invasive alien species,
- Novel tools and methods for detection, mapping, monitoring and control of invasive alien species,
- Engaging the public and stakeholders –from landowners to scientists, practitioners and decision makers and back,
- Effectiveness of past and current control measures and native communities restoration efforts.

Sources: Conference website: https://www.elus.ee/index.php/en/neobiota-tartu-2022/

Additional key words: Conference **Computer codes:** EE

2022/051 22nd International Conference on Aquatic Invasive Species (ICAIS)

The 22nd International Conference on Aquatic Invasive Species will take place between 18th – 22nd April 2022 in Oostende, Belgium. The theme of ICAIS 2022 is Global climate change amplifies aquatic invasive species' impacts and aims to demonstrate the interconnectedness of invasive species issues and inspire international collaboration on research projects at a global scale. The program includes a wide range of presentations that address aquatic invasive species issues in freshwater and marine environments to benefit managers, practitioners and other stakeholders worldwide. ICAIS 2022 is a hybrid event involving sessions that integrate in-person and virtual presentations.

Sources: Conference website: https://icais.org/

Additional key words: Conference **Computer codes:** BE