ORGANISATION EUROPEENNE ET MEDITERRANEENNE
POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN
PLANT PROTECTION ORGANIZATION

INTERNATIONAL YEAR OF PLANT HEALTH 2020

EPPO Reporting Service

NO. 5 PARIS, 2020-05

21 Bld Richard Lenoir
75011 Paris

Tel: 33 1 45 20 77 94
E-mail: hq@eppo.int

Web: www.eppo.int
GD: gd.eppo.int

2020/088 Recruitment of a Coordinator for the Minor Uses Coordination Facility (MUCF)

The Minor Uses Coordination Facility (MUCF) is recruiting a Coordinator for its facility. The job will be based in Paris at the EPPO headquarters where the MUCF is hosted. A full job description and requirements can be found on the MUCF website: https://jobs.eppo.int/minoruses_coordinator

Applications must be sent before 15th June 2020 (midnight Paris time) according to the indicated procedure.

Source: EPPO Secretariat (2020-05).

2020/089 Recommendations to policy makers from Euphresco projects

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

The biology and epidemiology of '*Candidatus* Liberibacter solanacearum' and potato phytoplasmas and their contribution to risk management in potato and other crops (PhyLib II)

The project had several goals, including the improvement of knowledge on the epidemiology and the risks associated with '*Candidatus* Liberibacter solanacearum' and potato phytoplasma species, as well as on the validation of diagnostic tests. Surveillance activities conducted during the project allowed knowledge to be gathered on the presence of '*Candidatus* Liberibacter solanacearum' and potato phytoplasmas in the partner countries (long-term presence vs recent outbreaks), and on the pathogens' genetic diversity and epidemiology. The project has shown that the genetic diversity of '*Candidatus* Liberibacter solanacearum' present in wild plants, crops and insects is much wider than previously known. '*Candidatus* Liberibacter solanacearum' was found in several new psyllid species and their impact on agriculture needs to be better understood. The transmission of '*Candidatus* Liberibacter solanacearum' and potato phytoplasmas from seed to seedlings was studied, but it was concluded that more research is needed in this area. Several methods for the extraction of '*Candidatus* Liberibacter solanacearum' from different matrices and for its diagnosis were evaluated. CTAB and NucleoMag Plant Kit with Macherey-Nagel™ buffer are recommended for DNA extraction from plant matrices. The real-time PCR from Li *et al.*, 2009 proved to be the most robust and sensitive test for the diagnosis of the bacterium.

Authors: Sumner-Kalkun, Jason; Jeffries, Colin; Gottsberger, Richard; Lethmayer, Christa; De Jonghe, Kris; Li, Sean; Lasner, Helena; Loiseau, Marianne; Nissinen, Anne; Ilardi, Vincenza; Tiou-Tam-Sin, Napoleon; Schneyder, Yury; Cermak, Vaclav; Le Roux, Anne-Claire; Bertaccini, Assunta; Karahan, Aynur; de le Rosa, Felipe Siverio; Dreo, Tanja; Lehtonen, Mikko; Pirhonen, Minna.

Duration of the project: 2016-04-01 to 2019-09-30.

Link: https://zenodo.org/record/3819420#.Xrg9uGgzbIU

Source: Euphresco (2020-05). https://www.euphresco.net/projects/

Additional key words: research **Computer codes:** LIBEPS

2020/090 New and revised dynamic EPPO datasheets are available in the EPPO Global Database

The EPPO Secretariat is in the process of revising the EPPO datasheets on pests recommended for regulation. This 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. In May 2020, the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Drosophila suzukii* (new): https://gd.eppo.int/taxon/DROSSU/datasheet
- *Xylella fastidiosa* (revised): https://gd.eppo.int/taxon/XYLEFA/datasheet

Source: EPPO Secretariat (2020-05).

Additional key words: publication **Computer codes:** DROSSU, XYLEFA

2020/091 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**

Corythauma ayyari (Heteroptera: Tingidae – jasmine lace bug) is reported for the first time from Egypt. In June 2017, a first specimen was photographed in Cairo on *Jasminum sambac* (van der Heyden, 2020a).

Eutypella parasitica (formerly EPPO Alert List) is reported for the first time from Italy. Disease symptoms were first observed in autumn 2016 on *Acer campestre* trees (approximately 30-year-old) in a mixed ash-maple seminatural forest in Northeastern Italy. Authors concluded that *E. parasitica* represents a serious threat to maple ecosystems in the Alpine region (Jurc *et al.*, 2020).

Grapevine Pinot gris virus (*Trichovirus*, GPGV) is reported for the first time from Armenia. During a survey conducted in 2018 near Yerevan and Merzddavan, GPGV was detected in several grapevine cultivars (Ararati, Arevabuyr, Eraskheni, Garan Dmak, Itsaptuk, Mskhali). Preliminary results showed a high prevalence of GPGV (approximately 35%) in studied vineyards (Eichmeier *et al.*, 2020).

Leptoglossus occidentalis (Hemiptera: Coreidae) is reported for the first time from Guatemala. Pictures of an adult specimen in the city of Antigua Guatemala (Department of Sacatepéquez) were posted in December 2019 on an online database (van der Heyden, 2020b).

Leptoglossus occidentalis (Hemiptera: Coreidae) is reported for the first time from Finland. A specimen was photographed in November 2018 near Turku. Another specimen was found in Kotka in October 2019. Prior to these findings, an article had been published in a newspaper in 2017 about a live specimen of *L. occidentalis* found alive under the engine hood of a car (van der Heyden, 2020c).

Lettuce chlorosis virus (*Crinivirus*, LCV - formerly EPPO Alert List) is reported for the first time from Brazil. In 2018, symptoms of mosaic and leaf malformation were observed on *Catharanthus roseus* plants in a residential garden in Piracicaba, São Paulo. The presence of LCV was revealed by High Throughput Sequencing (HTS) (Favara *et al.*, 2020).

Melanagromyza sojae (Diptera: Agromyzidae) was first reported from Turkey in 2018, damaging soybean crops (*Glycine max)* in the province of Adana (Özgür *et al.*, 2020). **Present**.

Tomato chlorosis virus (*Crinivirus,* ToCV - EPPO A2 List) is first reported from Kenya. Symptomatic tomato (*Solanum lycopersicum*) leaves were collected in September 2017 from 4 regions and ToCV was detected by RT-PCR in samples from two regions (Kiambu and Kirinyaga) (Kimathi *et al.*, 2020). **Present.**

Tomato chlorosis virus (*Crinivirus,* ToCV - EPPO A2 List) is first reported from Pakistan. In March 2019, a survey of tomato (*Solanum lycopersicum*) was conducted in the Multan district (Punjab). ToCV was detected in 27 out of the 30 samples taken from symptomatic plants. Tomato infectious chlorosis virus (TICV) was not detected. The authors note that ToCV and its vector *Bemisia tabaci* are widespread in tomato crops in this region (Raza *et al.,* 2020). **Present.**

- **Detailed records**

Grapevine red blotch virus (*Grablovirus*, GRBV – EPPO Alert List) was detected on symptomatic grapevine (*Vitis vinifera*) in Tennessee (US) during surveys conducted in 2016-2017. Grapevine leafroll-associated viruses (GLRaV-1, GLRaV-2, GLRaV-3, all listed in EU Annexes) were also detected (Soltani *et al.*, 2020).

Xylotrechus chinensis (Coleoptera: Cerambycidae, EPPO Alert List) was first recorded in Greece in Crete in 2017 (RS 2018/156). The pest is now also present in the mainland. In February 2020, the municipality of Athens reported that 1300 *Morus* trees in the city were found to be infested by *X. chinensis* and more than 300 had died. Highly infested trees will be cut down (Ekathimerini, 2020).

During surveys conducted in 2016, the presence of *Tomato leaf curl New Delhi virus* (*Begomovirus*, ToLCNDV – EPPO Alert List) was detected in five eggplant (*Solanum melongena*) plants of cultivar Violetta di Napoli that showed yellowing and light curling of the apical leaves in Campania region, Italy. A few *Bemisia tabaci* individuals (Hemiptera: Aleyrodidae - EPPO A2 List) were noticed associated with the crop.

- **Host plants**

Beet curly top virus (*Curtovirus*, BCTV – EU Annexes) has been detected in industrial hemp (*Cannabis sativa*) in Colorado (US). Affected plants showed stunted growth and leaf yellowing (Giladi *et al.*, 2020).

Tomato chlorosis virus (*Crinivirus*, ToCV - EPPO A2 List) was first detected on cucumber (*Cucumis sativus*). Plants exhibiting chlorosis and mottling symptoms on young leaves were found in a commercial greenhouse, in State of São Paulo, Brazil, in February 2019 (Bello *et al.*, 2020).

Tomato leaf curl New Delhi virus (Begomovirus- EPPO Alert List) has been detected in *Crossandra infundibuliformis* (Acanthaceae) in Tamil Nadu, India. Infected plants showed symptoms of leaf yellowing, mottling, curling, and distortion, as well as stunted growth and flower abortion (Deepan Sundararaj *et al.*, 2020).

Meloidogyne enterolobii (EPPO A2 List) was found infesting *Elaeocarpus decipiens* (Elaeocarpaceae) in Florida (US) (Moore *et al.*, 2020).

In China, during a survey carried out in July 2019 in stone fruit orchards in Wuhan (Hubei province), *Monilinia fructicola* (EPPO A2 List) was detected in *Prunus mume* (Yin *et al.*, 2020).

- **Taxonomy**

Following studies on the genetic diversity of *Fusarium oxysporum* f.sp. *cubense* isolates (Panama disease of banana) from Indonesia, new species of *Fusarium* have been described: *Fusarium cugenangense, F. duoseptatum, F. grosmichelii, F. hexaseptatum, F. kalimantanense, F. odoratissimum, F. phialophorum, F. purpurascens, F. sangayamense, F. tardichlamydosporum, F. tardicrescens*. In particular, it is proposed that *F. oxysporum* f.sp. *cubense* Tropical race 4 (TR4) should now be considered as a distinct species called *Fusarium odoratissimum* sp. nov. (Maryani *et al.*, 2019).
EPPO note: A distribution map of *F. odoratissimum* is now available from the EPPO Global Database: https://gd.eppo.int/taxon/FUSAC4/distribution

The taxonomy of the genus *Neocosmospora* (*Fusarium solani* species complex) has been revised. Several *Fusarium* species have consequently been transferred to the genus *Neocosmospora*. This is the case of *Fusarium euwallaceae* (EPPO A2 List) for which the valid name is now *Neocosmospora euwallaceae* (Sandoval-Denis *et al.*, 2019).

Sources:
Bello VH, Gorayeb ES, Watanabe LFM, De Marchi BR, Ribeiro-Junior MR, Vicentin E, da Silva FB, Krause-Sakate R (2020) First report of Tomato chlorosis virus infecting cucumber in Brazil. *Plant Disease* **104(**2), p 603. https://doi.org/10.1094/PDIS-07-19-1490-PDN
Deepan Sundararaj, Michael Immanuel Jesse Denison, Dharanivasan Gunasekaran, Mohammed Riyaz Savas Uma, Raja Muthuramalingam Thangavelu, Krishnan Kathiravan (2020) First report of Tomato leaf curl New Delhi virus infecting *Crossandra infundibuliformis* in India. *Plant Disease* **104**(3), p 999. https://doi.org/10.1094/PDIS-08-19-1764-PDN
Eichmeier A, Penazova E, Nebish A (2020) First report of grapevine Pinot gris virus on grapevines in Armenia. *Plant Disease* **104**(3), p 1000. https://doi.org/10.1094/PDIS-09-19-1944-PDN
Favara GM, Camelo-Garcia VM, Spadotti DMA, Silva JMF, Nagata T, Kitajima EW, Rezende JAM (2020) First report of Lettuce chlorosis virus infecting periwinkle in

Brazil. *Plant Disease* **104**(4), p 1263. https://doi.org/10.1094/PDIS-08-19-1789-PDN

Giladi Y, Hadad L, Luria N, Cranshaw W, Lachman O, Dombrovsky A (2020) First report of beet curly top virus infecting *Cannabis sativa* in Western Colorado. *Plant Disease* **104**(3), p 999. https://doi.org/10.1094/PDIS-08-19-1656-PDN

Jurc D, Piškur B, Ogris N, Brglez A, Linaldeddu BT, Bregant C, Montecchio L (2020) First report of *Eutypella* canker caused by *Eutypella parasitica* on *Acer campestre* in Italy. *Plant Disease* **104**(4), p 1257. https://doi.org/10.1094/PDIS-08-19-1631-PDN

INTERNET

Ekathimerini (2020-02-12) Wood borer insect threatens Athens' mulberry trees, says municipality. http://www.ekathimerini.com/249449

Kimathi RH, Wilisiani F, Mashiko T, Neriya Y, Miinda AE, Nishigawa H, Natsuaki T (2020) First report of Tomato chlorosis virus infecting tomato in Kenya. *Scientific African* ***7***, 4–9. https://doi.org/10.1016/j.sciaf.2020.e00286

Maryani N, Lombard L, Poerba YS, Subandiyah S, Crous PW, Kema GHJ (2019) Phylogeny and genetic diversity of the banana Fusarium wilt pathogen *Fusarium oxysporum* f. sp. *cubense* in the Indonesian centre of origin. *Studies in Mycology* **92**, 155-194. https://doi.org/10.1016/j.simyco.2018.06.003

Moore MR, Brito JA, Qiu S, Roberts CG, Combee LA (2020) First report of *Meloidogyne enterolobii* infecting Japanese blue berry tree (*Elaeocarpus decipiens*) in Florida, USA. *Journal of Nematology* **52**, 1-3. https://doi.org/10.21307/jofnem-2020-005

Özgür O, Bademci M, Büyüköztürk HD (2020) A new pest on soybean in Turkey: *Melanagromyza sojae* Zehntner (Diptera: Agromyzidae). *EPPO Bulletin* **50**(1), 186-190. https://doi.org/10.1111/epp.12637

Parrella G, Troiano E, Lee S, Kil EJ (2020) Tomato leaf curl New Delhi virus found associated with eggplant yellowing disease in Italy. *Plant Disease*. https://doi.org/10.1094/PDIS-12-19-2635-PDN

Raza A, Shakeel MT, Umar U, Tahir MN, Hassan AA, Katis N, Wang X (2020) First report of tomato chlorosis virus infecting tomato in Pakistan. *Plant Disease*. https://doi.org/10.1094/PDIS-12-19-2732-PDN

Sandoval-Denis M, Lombard L, Crous PW (2019) Back to the roots: a reappraisal of *Neocosmospora*. *Persoonia - Molecular Phylogeny and Evolution of Fungi* **43,** 90-185. https://doi.org/10.3767/persoonia.2019.43.04

Soltani N, Hu R, Hensley DD, Lockwood DL, Perry KL, Hajimorad MR (2020) A survey for nine major viruses of grapevines in Tennessee vineyards. *Plant Health Progress* 157-161. https://doi.org/10.1094/PHP-03-20-0018-RS

van der Heyden T (2020a) First record of *Corythauma ayyari* (Drake, 1933) (Hemiptera: Heteroptera: Tingidae) in Egypt. *Journal of the Heteroptera of Turkey* **2**(1), 1-2.

van der Heyden T (2020b) First record of *Leptoglossus occidentalis* Heidemann, 1910 in Guatemala (Hemiptera, Heteroptera, Coreidae). *Boletín de la Asociación Española de Entomologia* **44** (1-2), 2 pp.

van der Heyden T (2020c) First records of *Leptoglossus occidentalis* Heidemann (Heteroptera: Coreidae: Coreinae: Anisoscelini) in Finland. *Revista Chilena de Entomología* **46**(1), 73-74.

Yin LF, Mo W, Guo DY, Luo CX (2020) First report of brown rot of *Prunus mume* caused by *Monilinia fructicola* in China. *Plant Disease* **104**(4), p 1253. https://doi.org/10.1094/PDIS-09-19-1847-PDN

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

Computer codes: BCTV00, COTMAY, FUSAC4, FUSACB, FUSAEW, FUSASO, GLRAV1, GLRAV2, GLRAV3, GPGV00, GRBAV0, LCV000, LEPLOC, MEAGSO, MELGMY, MONIFC, TOCV00, TOLCND, XYLOCH, AM, BR, CN, EG, FI, GR, GT, IN, IT, KE, PK, TR, US

2020/092 First report of *Spodoptera frugiperda* in the United Arab Emirates

During a specific survey conducted in the United Arab Emirates, *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) was detected for the first time in several maize (*Zea mays*) fields. The pest was found in several areas (Al Ain, Al Dafrah, Abu Dhabi) in the Emirate of Abu Dhabi. Phytosanitary measures are being implemented to eradicate the pest. Infested maize plants and weeds will be destroyed and intensive specific surveys (field inspections and use of pheromone traps) will be carried out in all agricultural regions. Public awareness campaigns will also be launched.
The pest status of *Spodoptera frugiperda* in the United Arab Emirates is officially declared as: **Present, under eradication.**

Source: IPPC website. Official Pest Reports – United Arab Emirates (ARE-01/1 of 2020-05-10) The first detection of fall armyworm (FAM), *Spodoptera frugiperda*, in United Arab Emirates. https://www.ippc.int/en/countries/united-arab-emirates/pestreports/2020/05/the-first-detection-of-fall-armywormfam-spodoptera-frugiperda-in-united-arab-emirates/

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

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

2020/093 *Spodoptera frugiperda* continues to spread in Australia

In Australia, *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) was first found in January 2020 in the islands of the Torres Strait and then detected on the mainland in the Northern part of Queensland (EPPO RS 2020/031). During the following months, the pest continued to spread in mainland Australia (EPPO RS 2020/071). As of May 2020, it was detected in Torres Strait, Queensland (Bamaga, Gulf of Carpentaria, Johnstone, Tolga, Lakeland, Bowen, Burdekin, Emerald, Richmond and Clermont regions), Northern Territory (Katherine, Darwin and Douglas Daly regions), and Western Australia (Kununurra, Broome and Carnarvon region). The eradication of *S. frugiperda* is no longer considered to be feasible and efforts will be directed at limiting its impact.
The pest status of *Spodoptera frugiperda* in Australia is officially declared as: **Present: only in some areas.**

Source: IPPC website. Official Pest Reports – Australia (AUS-98/1 of 2020-05-07) Further detections of *Spodoptera frugiperda* (fall armyworm) on mainland Australia. https://www.ippc.int/en/countries/australia/pestreports/2020/05/further-detections-of-spodoptera-frugiperda-fall-armyworm-on-mainland-australia/

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

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

2020/094 First report of *Euwallacea fornicatus* in Italy

In April 2020 in the botanical gardens of Trauttmansdorff Castle, in the municipality of Merano (Autonomous Province of Bolzano, Trentino-Alto Adige region, Italy), symptoms caused by *Euwallacea fornicatus* (Coleoptera: Scolytinae, EPPO A2 List) were observed in a greenhouse. The infested plants were tropical crop plants, 2 specimens of each of the following species were found to be infested: *Annona muricata, Bixa orellana, Theobroma cacao, Debregeasia edulis, Cananga odorata*. The plants showed bore holes and ejected wooden debris. Official phytosanitary measures are being taken: all infested plants will be felled and incinerated. Visual inspections will be conducted in the area and, if necessary, lure traps will be installed.
The pest status of *Euwallacea fornicatus* in Italy is officially declared as: **Present, under eradication.**

Source: NPPO of Italy (2020-04).

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

2020/095 Eradication of *Anthonomus eugenii* in Italy

Anthonomus eugenii (Coleoptera: Curculionidae – EPPO A1 List) was first recorded in Italy in November 2013 in *Capsicum annuum* crops in Lazio region (EPPO RS 2014/009). An intensive delimiting survey was carried out by visual inspections on crops, fruit wastes and host weeds and a demarcated area including an infested zone of 115 km^2 and a buffer zone was officially established. Severe damage to *Capsicum* fruit production was observed, but *A. eugenii* was not recorded on other solanaceous species such as aubergine (*Solanum melongena*). Emergency measures were implemented in the demarcated area to eradicate the pest, and surveys were conducted in other areas growing *Capsicum* to verify the absence of the pest. These measures included a prohibition to grow *Capsicum* spp. During the official annual surveys carried out through visual inspections and pheromone traps, the pest was found in the infested area in 2014, 2015 and 2016 but never in the buffer zone. Since 2016, the pest has not been found in the demarcated area. Therefore, the NPPO considered that *A. eugenii* has been successfully eradicated from Italy.
The pest status of *Anthonomus eugenii* in Italy is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Italy (2020-05).

Pictures: *Anthonomus eugenii*. https://gd.eppo.int/taxon/ANTHEU/photos

Additional key words: eradication **Computer codes:** ANTHEU, IT

2020/096 New host plants of *Xylella fastidiosa*

EFSA has recently published an update of its database on host plants of *Xylella fastidiosa* (EPPO A2 List). The following 37 plant species have been found infected by the bacterium.

Plant species	Family
Amaranthus retroflexus	Amaranthaceae
Artemisia sp.	Asteraceae
Calicotome sp.	Fabaceae
Calicotome spinosa	Fabaceae
Campsis radicans	Bignoniaceae
Chamaesyce canescens	Euphorbiaceae
Cistus albidus	Cistaceae
Cistus x *incanus*	Cistaceae
Convolvulus cneorum	Convolvulaceae
Dimorphotheca ecklonis	Asteraceae
Dimorphotheca fruticosa	Asteraceae
Diospyros kaki	Ebenaceae
Elaeagnus angustifolia	Elaeagnaceae
Erigeron karvinskianus	Asteraceae
Erigeron sp.	Asteraceae
Euryops pectinatus	Asteraceae
Hebe elliptica	Plantaginaceae
Helichrysum sp.	Asteraceae
Helichrysum stoechas	Asteraceae
Hibiscus sp.	Malvaceae
Ilex aquifolium	Aquifoliaceae
Lavandula latifolia	Lamiaceae
Ligustrum sinense	Oleaceae
Medicago arborea	Fabaceae
Phlomis fruticosa	Lamiaceae
Pistacia vera	Anacardiaceae
Prunus serotina	Rosaceae
Robinia pseudoacacia	Fabaceae
Santolina chamaecyparissus	Asteraceae
Strelitzia reginae	Strelitziaceae
Teucrium capitatum	Lamiaceae
Ulex europaeus	Fabaceae
Ulex minor	Fabaceae
Vaccinium ashei	Ericaceae
Vaccinium corymbosum	Ericaceae
Vaccinium darrowii	Ericaceae

In some cases, the subspecies present could be identified.

***Xylella fastidiosa* subsp. *multiplex*:** *Artemisia* sp., *Cistus x incanus, Convolvulus cneorum, Calicotome spinosa, Elaeagnus angustifolia, Erigeron karvinskianus, Euryops pectinatus, Hebe elliptica, Helichrysum* sp., *Helichrysum stoechas, Ilex aquifolium, Medicago arborea, Dimorphotheca ecklonis, Phlomis fruticosa, Pistacia vera, Robinia*

pseudoacacia, Santolina chamaecyparissus, Strelitzia reginae, Ulex europaeus, Ulex minor, Vaccinium ashei.

***Xylella fastidiosa* subsp. *pauca*:** *Amaranthus retroflexus, Chamaesyce canescens, Erigeron* sp., *Hibiscus fragilis, Hibiscus* sp., *Dimorphotheca fruticosa*.

These new host plant records have been transferred to the EPPO Global Database.

Source: EFSA (2020) Scientific report on the update of the *Xylella* spp. host plant database – systematic literature search up to 30 June 2019. *EFSA Journal* **18**(4), 6114, 61 pp. https://doi.org/10.2903/j.efsa.2020.6114

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

Additional key words: host plant **Computer codes:** XYLEFA, XYLEFM, XYLEPA

2020/097 First report of citrus canker in Mexico

In April 2020, the presence of citrus canker (*Xanthomonas citri* subsp. *citri* – EPPO A1 List) was officially confirmed by the NPPO of Mexico. During official surveys, 4 plants of Mexican lime (*Citrus aurantiifolia*), less than three-years old, were found to be infected by *Xanthomonas citri*. These plants were growing in a non-commercial, communal land in the municipality of Matamoros (Tamaulipas state).
The pest status of *Xanthomonas citri* in Mexico is officially declared as: **Transient, actionable, and under eradication.**

Source: NAPPO Phytosanitary Alert System. Official Pest Reports. Mexico (2020-04-21) Detection of *Xanthomonas citri*, on a non-commercial, communal land of El Sabino, Municipality of Matamoros, State of Tamaulipas. https://www.pestalerts.org/official-pest-report/detection-xanthonomas-citri-non-commercial-communal-land-el-sabino

Pictures: *Xanthomonas citri* subsp. *citri*. https://gd.eppo.int/taxon/XANTCI/photos

Additional key words: new record **Computer codes:** XANTCI, MX

2020/098 *Ralstonia solanacearum* detected in *Pelargonium* in Canada

In May 2020, the NPPO of Canada confirmed the detection of *Ralstonia solanacearum* race 3 biovar 2 (EPPO A2 List) in a symptomatic geranium (*Pelargonium* sp. Fantasia 'Pink Flare') sample collected from a greenhouse in Ontario. This geranium variety had been imported from a production facility in Guatemala. All geranium plants belonging to this variety have been destroyed and the glasshouse disinfected. Official inspections are being carried out in all greenhouses which had received Fantasia 'Pink Flare' geranium cuttings.
The pest status of *Ralstonia solanacearum* (race 3 biovar 2) in Canada is officially declared as: **Transient: actionable, under eradication.**

Source: NAPPO Phytosanitary Alert System. Official Pest Reports. Canada (2020-05-11) *Ralstonia solanacearum* race 3 biovar 2: detection in a Canada greenhouse. https://www.pestalerts.org/official-pest-report/ralstonia-solanacearum-race-3-biovar-2-detection-canada-greenhouse

Pictures: *Ralstonia solanacearum*. https://gd.eppo.int/taxon/RALSSO/photos

Additional key words: detailed record **Computer codes:** RALSSO, CA

2020/099 *Ralstonia solanacearum* detected in *Pelargonium* in the USA

In April 2020, the NPPO of the USA confirmed the detection of *Ralstonia solanacearum* race 3 biovar 2 (EPPO A2 List) in a symptomatic geranium (*Pelargonium* sp. Fantasia 'Pink Flare') sample collected from a greenhouse in Michigan. This geranium variety had been imported from a production facility in Guatemala. Eradication measures were immediately taken. Tracing-forward studies are also being carried out in all greenhouses that had received Fantasia 'Pink Flare' geranium cuttings.
The pest status of *Ralstonia solanacearum* (race 3 biovar 2) in the USA is officially declared as: **Transient: actionable, under eradication.**

Source: NAPPO Phytosanitary Alert System. Official Pest Reports. USA (2020-04-22) *Ralstonia solanacearum* race 3 biovar 2: detection in a United States greenhouse. https://www.pestalerts.org/official-pest-report/ralstonia-solanacearum-race-3-biovar-2-detection-united-states-greenhouse

Pictures: *Ralstonia solanacearum*. https://gd.eppo.int/taxon/RALSSO/photos

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

2020/100 First report of '*Candidatus* Liberibacter africanus' in Nigeria

In Nigeria, a specific survey on huanglongbing (associated with '*Candidatus* Liberibacter spp.'; EPPO A1 List) was carried out in citrus orchards in April 2018. Twenty sites were surveyed in Benue and Nasarawa states, and symptomatic trees were observed in 11 sites. Five symptomatic trees per site were randomly selected, and leaf samples were collected from sweet orange (*Citrus sinensis*) plants showing typical huanglongbing symptoms, including mild to severe yellowing on the shoots and mottling and chlorosis on the leaves. Laboratory tests (PCR, sequencing) confirmed the presence of '*Ca.* Liberibacter africanus' in all leaf samples collected from 4 sites in Benue state. All samples from Nasarawa state gave negative results. This is the first record of '*Ca.* Liberibacter africanus' in Nigeria.
The situation of 'Candidatus Liberibacter africanus' in Nigeria can be described as follows: **Present, only in some areas (first found in 2018 in Benue state).**

Source: Ajene IJ, Khamis F, Mohammed S, Adediji AO, Atiri GI, Kazeem SA, Ekesi S (2020) First report of '*Candidatus* Liberibacter africanus' associated with citrus greening disease in Nigeria. *Plant Disease* **104**(5), p 1535. https://doi.org/10.1094/PDIS-11-19-2380-PDN

Pictures: '*Candidatus Liberibacter africanus*'. https://gd.eppo.int/taxon/LIBEAF/photos

Additional key words: new record **Computer codes:** LIBEAF, NG

2020/101 First report of '*Candidatus* Liberibacter solanacearum' in Ecuador

Bactericera cockerelli (Hemiptera: Triozidae - EPPO A1 List), vector of zebra chip disease, was first reported in several provinces of Ecuador in March 2019 (EPPO RS 2019/92) but at that time '*Candidatus* Liberibacter solanacearum' (Solanaceae haplotypes are listed in the EPPO A1 List) had not been detected. In June 2019, symptoms such as yellowing and upward rolling in leaves and browning of vascular tissues and streaks at the medullary area in tubers were observed in potato (*Solanum tuberosum*) fields located in the Pichincha province. High population levels of *B. cockerelli* were associated with the occurrence of these symptoms. '*Ca*. L. solanacearum' haplotype A was detected in two potato samples taken from symptomatic potato plants as well as from specimens of *B. cockerelli* using conventional PCR. The identity of the pathogen was confirmed by DNA sequencing.
The situation of '*Candidatus* Liberibacter solanacearum' in Ecuador can be described as: **Present.**

Source: Caicedo JD, Simbaña LL, Calderón DA, Lalangui KP, Rivera-Vargas LI (2020) First report of '*Candidatus* Liberibacter solanacearum' in Ecuador and in South America. *Australasian Plant Disease Notes* **15,** 6. https://doi.org/10.1007/s13314-020-0375-0

Pictures: '*Candidatus* Liberibacter solanacearum'. https://gd.eppo.int/taxon/LIBEPS/photos

Additional key words: new record **Computer codes:** LIBEPS, PARZCO, EC

2020/102 First report of tomato brown rugose fruit virus in Egypt

In June 2019 leaf samples from hybrid tomato (*Solanum lycopersicum*) were collected in 4 sites in Fayoum and Ismailia Governorates. Twenty samples were collected from plants with viral symptoms and 9 from asymptomatic plants. The diseased samples showed leaf mosaic, deformation and necrosis, as well as discoloration and deformations on fruits. Samples were tested by DAS-ELISA for the presence of viruses that induce similar symptoms on tomato plants. Out of the 20 diseased samples, 4 tested positive for *Tomato spotted wilt virus* (*Orthotospovirus*, TSWV – EPPO A2 List), 3 for *Pepino mosaic virus** (*Potexvirus*, PepMV - EPPO A2 List), 3 for *Tomato mosaic virus* (*Tobamovirus*, ToMV), 2 for *Tomato chlorosis virus** (*Crinivirus*, ToCV - EPPO A2 List), 6 for *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV – EPPO Alert List), and 3 samples had a mixed infection with TSWV and ToBRFV. The identity of ToBRFV was confirmed by RT-PCR. This is the first report of ToBRFV in Egypt.
The situation of *Tomato brown rugose fruit virus* in Egypt can be described as: **Present.**

* The EPPO Secretariat had no previous reports of the presence of PepMV and ToCV in Egypt.

Source: Amer MA, Mahmoud SY (2020) First report of *Tomato brown rugose fruit virus* on tomato in Egypt. *New Disease Reports* **41**, 24. http://dx.doi.org/10.5197/j.2044-0588.2020.041.024

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

Additional key words: new record **Computer codes:** TOBRFV, TOCV00 , TSWV00, PEPMV0, EG

2020/103 First report of tomato chlorosis virus in Egypt

In autumn 2013, tomato plants (*Solanum lycopersicum*) presenting symptoms of leaf yellowing were observed both in the greenhouses and fields of the experimental station of the Faculty of Agriculture at Giza governorate. The presence of *Tomato chlorosis virus* (*Crinivirus*, ToCV - EPPO A2 List) in tomato plants was confirmed by RT-PCR. Plants in the vicinity of the infected sites were tested for the presence of ToCV. Out of 52 different plant species tested within 22 families, 44 tested postive for ToCV. Thirty seven out of these 44 plant species were considered as new hosts for ToCV. In another survey in 2017-2018, symptomatic and asymptomatic tomato samples were collected from open fields from Fayoum, Giza and Nobaria regions in Egypt (north of the country) and tested for a number of viruses. ToCV was detected in 5 out of 36 samples.
The situation of *Tomato chlorosis virus* in Egypt can be described as: **Present.**

Source: Amer MA, YE Ibrahim, AA Kheder, AH Hamed, AA Farrag, MA Al-Saleh (2020). Confirmation incidence of *Tomato chlorosis virus* naturally infecting tomato crop in Egypt. *International Journal of Agriculture and Biology* **23**, 963–969.

Mamoun Abdel-Salam AM, Rezk AA, Dawoud RA (2019) Biochemical, serological, molecular and natural host studies on Tomato chlorosis virus in Egypt. *Pakistan Journal of Biological Sciences* **22**, 83-94. https://doi.org/10.3923/pjbs.2019.83.94

Pictures: *Tomato chlorosis virus*. https://gd.eppo.int/taxon/TOCV00/photos

Additional key words: new record **Computer codes:** TOCV00, EG

2020/104 First report of *Pepino mosaic virus* in Israel

The NPPO of Israel recently informed the EPPO Secretariat of the first record of *Pepino mosaic virus* (*Potexvirus*, PepMV – EPPO A2 List) on its territory. In late 2019, PepMV was incidentally found in commercial tomato (*Solanum lycopersicum*) crops in Ramat HaNegev (Northwestern Negev). The presence of the virus was confirmed by testing tomato leaves and fruit by ELISA, RT-PCR and sequencing. The origin of this outbreak is unknown.
The pest status of *Pepino mosaic virus* in Israel is officially declared as: **Present in Ramat Negev.**

Source: NPPO of Israel (2020-03).

Pictures: *Pepino mosaic virus*. https://gd.eppo.int/taxon/PEPMV0/photos

Additional key words: new record **Computer codes:** PEPMV0, IL

2020/105 First report of *Plum pox virus* in Uzbekistan

In Uzbekistan, plum (*Prunus domestica* cv. Ispanskiy) trees showing foliar symptoms (pale green rings and spots) were observed in 2019, in a 21-year-old orchard located in the Tashkent region. Samples were collected from 4 trees (1 symptomatic leaf per tree) located at the 4 corners of the orchard, and tested by DAS-ELISA and RT-PCR. *Plum pox virus* (*Potyvirus*, PPV – EPPO A2 List) was detected in all samples. All four isolates were identified as PPV-D. No positive reaction was observed with primers specific to the PPV strains M, W and C. This is the first time that plum pox virus is reported from Uzbekistan. It is concluded that further studies are needed to determine the prevalence, host range and genetic variability of PPV in Uzbekistan.
The situation of plum pox virus in Uzbekistan can be described as follows: **Present, only in some areas (detected in 2019 in 1 plum orchard, Tashkent region).**

Source: Sattorov M, Sheveleva A, Fayziev V, Chirkov S (2020) First report of *Plum pox virus* on plum in Uzbekistan. *Plant Disease* (early view). https://doi.org/10.1094/PDIS-03-20-0456-PDN

Pictures: *Plum pox virus*. https://gd.eppo.int/taxon/PPV000/photos

Additional key words: new record **Computer codes:** PPV000, UZ

2020/106 First report of *Monilinia fructicola* in Bulgaria

In Bulgaria, symptoms of brown rot were noticed during surveys conducted in 2017 in the region of Plovdiv, in a small orchard of peach (*Prunus persica*) and nectarine (*P. persica* var. *nectarina*) trees. Numerous, greyish conidial pustules were observed on the surface of unripe and mature fruits. During summer 2018, similar symptoms were observed on cherry (*P. avium*) and plum (*P. domestica*) fruit in 2 additional orchards of the same region. Laboratory studies (PCR, sequencing, pathogenicity tests) confirmed the presence of *Monilinia fructicola* in diseased fruit (cherry, nectarine, peach, and plum). This is the first time that *M. fructicola* is reported from Bulgaria.
The situation of *Monilinia fructicola* in Bulgaria can be described as: **Present, only in some areas (first found in 2017 near Plovdiv).**

Source: Bobev SG, Angelov LT, Van Poucke K, Maes M (2020) First report of brown rot on peach, nectarine, cherry, and plum fruits caused by *Monilinia fructicola* in Bulgaria. *Plant Disease* **104**(5), p 1561. https://doi.org/10.1094/PDIS-10-19-2094-PDN

Pictures: *Monilinia fructicola*. https://gd.eppo.int/taxon/MONIFC/photos

Additional key words: new record **Computer codes:** MONIFC, BG

2020/107 First report of *Amaranthus tuberculatus* in Bosnia and Herzegovina

Amaranthus tuberculatus (Amaranthaceae) is a small-seeded, summer annual species native to North America. The species has become a major weed of agricultural fields and other disturbed habitats and it has been introduced in parts of North America far outside its original range. The species has many weedy traits including high seed production, an extended emergence pattern and high growth rates that makes it highly competitive and harmful to crops and difficult to control. At present, transient and established occurrences of the species are known from a number of EPPO countries, mainly on ruderal sites and along riverbanks, and to a lesser extent in crop fields. In Italy, alongside the river Po, *A. tuberculatus* has invaded native riparian herbaceous habitats. *A. tuberculatus* was discovered in 2019 in Bosnia and Herzegovina in the vicinity of Tuzla city (northestern Bosnia) making this the first record of the species in the Balkans. In total three mature female plants were found at different locations around the city. One plant had ripening fruit though it is important to note the species is dioecious. The authors suggest it is likely that male plants are present in the area but were not observed during the survey.

Source: Maslo S, Šaric Šarajlic N (2020) Rough-fruit amaranth *Amaranthus tuberculatus* (Amaranthaceae): a new alien species in the flora of Bosnia and Herzegovina and the Balkans. *Phytologia Balcanica* **26**, 25-28.

Additional key words: new record **Computer codes:** AMATU, BA

2020/108 *Senna alata* in Mexico

Senna alata (Fabaceae) is a shrub native to South America. The species has been used as an ornamental plant and is currently introduced and naturalised in tropical areas of Africa, Asia, Oceania and North America, where it is widespread. The species can impede access to waterways and is poisonous to livestock. It can form dense stands which outcompete native plant species and can outcompete biodiversity. In Mexico, the species has been introduced to a number of areas (Veracruz, Sinaloa, Morelos, Michoacán, Tamaulipas, Nayarit, Jalisco, Colima, Puebla, Guerrero, Oaxaca, Tabasco, Chiapas, Campeche, Yucatán and Quintana Roo) with the earliest records from the 1890s. *S. alata* was discovered in the Baja California peninsula, in the Cape region (Mexico) for the first time in 2013. The plant was first noticed in gardens, along valleys, and in tropical deciduous forest vegetation along waterways. In total, 294 plants were recorded in both the Santiago and San José del Cabo oases (small, fragile relict mesic habitats in the arid desert ecosystem). In the oasis of Santiago, populations of *S. alata* were scattered, and consisted mainly of mature plants. In the oasis of San José del Cabo, density was higher, but individuals were less than 10 cm in height. 60% of the population consisted of seedlings and young plants. Mature plants were mostly in full bloom and early fruiting stages. In Los Barriles and Santa Anita, a few plants were recorded, some of which were found in gardens. The authors highlight that the current invasion appears to have started from propagules escaped from gardens and moved through the valleys by flood events. Management of the species should occur in the in the natural habitats where it is invading.

Source: Navarro JJP, Rodriguez-Estrella R (2020) The exotic invasive candle bush *Senna alata* (L.) Roxb. In Baja California Peninsula, Mexico, a new threat for relictual oasis. *BioInvasions Records* **9**, 29-36.

Additional key words: invasive alien plants **Computer codes:** CASAL, MX

2020/109 Impacts of *Arundo donax* in southern California (USA)

Arundo donax (Poaceae) is a perennial grass species native to Southern and Central Asia and has been cultivated for hundreds of years. The species is expanding rapidly along riparian habitats in Mediterranean-climate habitats where it can have negative impacts on native plants and associated invertebrate species. In southern California (USA), riparian habitats are extremely endangered and are prone to invasion by *A. donax*. As *A. donax* can grow rapidly and form mono-specific stands, it can alter the habitat structure which can have implications on all trophic levels including carnivores on which little research has been carried out. A study was conducted along a 27 km stretch of the Santa Clara River in California. Three sites were selected, and three habitat types were selected within each study site: native (< 30 % *A. donax*), mixed (30-70 % *A. donax*) and dominated (> 70 % *A. donax*). Camera traps were placed in each site and were active during three periods: August to November 2016 (dry season); March-June 2017 (wet season) and March to June 2018 (wet season). In total, 8 carnivores were captured on the camera traps throughout the whole study and included coyotes (*Canis latrans*), bobcats (*Lynx rufus*), striped skunks (*Mephitis mephitis),* Virginia opossums (*Didelphis virginiana*), raccoons (*Procyon lotor*), long-tailed weasels (*Mustela frenata*), grey foxes (*Urocyon cinereoargenteus*), and mountain lions (*Puma concolor*). Small prey mammals were also trapped during the study. Detections of all large mammals were significantly lower in the dominated habitat type compared to the other two, which suggests a decreased preference for *A. donax* habitats. Small mammal abundance was similar if not higher in *A. donax* habitats, suggesting the possibility of the grass acting as a refuge for prey species.

Source: Hardesty-Moore M, Orr D, McCauley DJ (2020) Invasive plant *Arundo donax* alters habitat use by carnivores, *Biological Invasions* **22**, 1983-1995.

Pictures: *Arundo donax*: https://gd.eppo.int/taxon/ABKDO/photos

Additional key words: invasive alien plants **Computer codes:** ABKDO, US

2020/110 Weed seed contaminant of bird seed in the USA

Bird seed can be a pathway for invasive alien plant species into new regions. Seeds of invasive plants can be included in bird seed as a contaminant and spread within an area due to humans and birds spreading seed. Although some studies have already been carried out on the possible risks associated with trade of bird seeds (EPPO RS 2007/122), information is generally lacking on the frequency and volume of movement along this pathway. In a study from the USA, conducted between 2016-17, 98 commercially available bird seed mixes were examined for the presence of weed seeds. In 94 seed mixes, *Amaranthus* (Amaranthaceae) species were present. 74 % of seed mixes had viable *Amaranthus* seed and 84 % of these *Amaranthus* contaminated mixes had more than one *Amaranthus* species present. *Amaranthus* seeds were germinated, and the developing plants were identified to species level. These species included *Amaranthus tuberculatus* (present in 23 % of seed mixtures), *Amaranthus retroflexus* (50 %), *Amaranthus palmeri* (EPPO Alert List) (28 %), *Amaranthus hybridus* (4 %), and *Amaranthus albus* (34 %). Seed of *Ambrosia artemisiifolia* (Asterales: EPPO List of Invasive Alien plants), *Bassia scoparia* (Amaranthaceae), *Sorghum bicolor* (Poaceae), *Fallopia convolvulus* (Polygonaceae), *Chenopodium album* (Amaranthaceae), *Digitaria sanguinalis* (Poaceae), and *Setaria* species were also present in bird feed mixes.

Note: EPPO has recently carried out Pest Risk Analysis (PRA) on *A. tuberculatus* and *A. palmeri* for the EPPO region. Both PRAs are currently under review.

Source: Oseland E, Bish M, Spinka C, Bradley K (2020) Examination of commercially available bird feed for weed seed contaminants. *Invasive Plant Science Management* **13**, 14-22.

Additional key words: invasive alien plants **Computer codes:** AMAAL, AMAPA, AMATU, AMACH, AMBEL, AMARE, CHEAL, DIGSA, KCHSC, POLCO, SORVU, 1SETG, US

2020/111 *Cortaderia selloana* in southern France

Cortaderia selloana (Poaceae: EPPO List of Invasive Alien Plants) is a South American native species and a popular garden ornamental which has also been utilised as a windbreak and a sand bank stabiliser species. The species has been commonly planted along roadsides in the Mediterranean region. In the current study, the authors set out to evaluate if urban areas are a source of *C. selloana* propagules which then spread into natural habitats. The study was conducted in Camargue in southern France in a 600 km^2 area of the delta of the Rhone river. Between 2002 and 2013 (September to November each year) *C. selloana* was surveyed using distance sampling techniques (a method to estimate the density of biological populations using measured distances to individuals in the population). A total of 1 285 points were sampled, and from each point the recorder searched for *C. selloana* stands using binoculars. In 2002, 216 planted stands were recorded growing in home gardens, parks and roundabouts along with 853 naturalised stands which were closely associated with anthropogenic habitats around urban areas. In 2013, the distribution of planted stands was similar to 2002, with 241 planted stands observed and 1074 naturalised stands (with over 85 % of these associated with anthropogenic habitats around urban areas). Therefore, in 2002 and 2013, less than 15 % of the naturalised individuals occurred in natural habitats. This highlights that in this study, spread of *C. selloana* from urban areas to natural habitats is low and remains closely associated with anthropogenic habitats.

Source: Charpentier A, Kreder M, Besnard A, Gauthier P, Bouffet C (2020) How *Cortaderia selloana*, an ornamental plant considered highly invasive, fails to spread from urban to natural habitats in Southern France. *Urban Ecosystems*. https://doi.org/10.1007/s11252-020-01003-4

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

Additional key words: invasive alien plants **Computer codes:** CDTSE, FR