ORGANISATION EUROPEENNE
ET MEDITERRANEENNE
POUR LA PROTECTION DES PLANTES

EUROPEAN AND
MEDITERRANEAN
PLANT PROTECTION
ORGANIZATION

EPPO Reporting Service

NO. 2 PARIS, 2018-02

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2018/024 New data on quarantine pests and pests of the EPPO Alert List

By searching through the literature and collecting official pest reports, 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**

Cherry necrotic rusty mottle virus (*Robigovirus,* CNRMV – formerly EPPO A2 List) was found for the first time in Spain in October 2017. During a research project on emerging diseases of stone fruit trees, CNRMV was detected in cherry (*Prunus avium*) orchards in the municipality of Planes (province of Alicante, Comunidad Valenciana) (NPPO of Spain, 2017). **Present, only in some parts of the Member State concerned.**

In New Zealand, *Glycaspis brimblecombei* (Hemiptera: Aphalaridae – formerly EPPO Alert List) was first observed on 5-year-old eucalyptus trees (*Eucalyptus camaldulensis*) in the Northern part of Canterbury region (South Island) in early winter 2017. As the psyllid population seemed to be well established, eradication was not considered possible (Anonymous, 2017). **Present, only in some areas (Canterbury region).**

Meloidogyne enterolobii (EPPO A2 List) has been reported for the first time from India. The nematode was detected in guava (*Psidium guajava*) orchards showing sudden decline in Tamil Nadu (Poornima *et al*., 2016). **Present, only in some areas (Tamil Nadu).**

During a survey conducted in October 2016, *Singhiella simplex* (Hemiptera: Aleyrodidae – EPPO Alert List) was found on *Ficus microcarpa* in Antalya province, Turkey. This is the first time that the ficus whitefly is reported from Turkey (Yükselbaba *et al*., 2017). **Present, only in some areas (Antalya province).**

- **Detailed records**

In Portugal, two outbreaks of *Citrus tristeza virus* (*Closterovirus*, CTV – EPPO A2 List) were reported in 2017. During official surveys, CTV was detected in June 2017 in 7 citrus trees (*Citrus sinensis* and *C. reticulata*) growing in a private garden in the municipality of São Pedro de Merelim (Norte region). In October 2017, CTV was also detected in an urban area in the municipality of Sepins (Centro region) on asymptomatic citrus trees planted as ornamentals along a road. In both cases, eradication measures were taken (NPPO of Portugal, 2017). **Present, only in some parts of the Member State concerned, under eradication.**

In Spain, *Epitrix cucumeris* (Coleoptera: Chrysomelidae - EPPO A2 List) was first found in 2017 on *Solanum nigrum* plants growing in the borders of a potato (*Solanum tuberosum*) field in the municipality of Jerez de la Frontera (province of Cádiz, Andalucía) (EPPO RS 2017/163). In November 2017, more adult specimens were collected (sweep net) in the municipality of Medina-Sidonia (province of Cádiz, Andalucía) in a field where potatoes had been grown and harvested in June 2017. Eradication continues (NPPO of Spain, 2017). **Present, only in some parts of the Member State concerned, under eradication.**

In Portugal, *Epitrix cucumeris* and *Epitrix papa* (Coleoptera: Chrysomelidae – both EPPO A2 List) were found in 2017 in 3 potato fields located in the municipality of Santa Susana (county of Alcácer do Sal, Alentejo region) (EPPO RS 2017/165). In August 2017, another outbreak (a few beetles of both species) was detected in 1 potato field in the municipality of Ferreirim

(Lemago county, Norte region). Official phytosanitary measures are being taken (NPPO of Portugal, 2017). **Present, only in some parts of the Member State concerned.**

In Spain, *Epitrix papa* (Coleoptera: Chrysomelidae - EPPO A2 List) was first found in 2009 in Galicia (at that time identified as *E. similaris*). In 2017, official surveys on *Epitrix* species were conducted and several new outbreaks of *E. papa* were detected (see also EPPO RS 2017/164) in several localities of Andalucía, in the provinces of Cádiz (Arcos de la Frontera, Jerez de la Frontera, Villanueva del Río y Minas) and Sevilla (Alcalá de Guadaíra, Arahal, Aznalcázar, Carmona, Écija, El Viso del Alcor, Guillena, La Puebla de los Infantes, La Puebla del Río, Mairena del Alcor, Olivares). Official phytosanitary measures are being taken in all demarcated areas. The measures previously applied in the demarcated area of Coria del Rio have been lifted as no *Epitrix* spp. have been found during the last 2 years (NPPO of Spain, 2017 & 2018). **Present, only in some parts of the Member State concerned, under eradication**

During an official survey conducted in Portugal, a new outbreak of '*Candidatus* Phytoplasma pyri' (pear decline - EPPO A2 List) was detected in a pear orchard (*Pyrus communis* cv. Rocha) located in the parish of Jorumenha (Alentejo region). Phytosanitary measures will be taken to eradicate the disease. These measures will include: destruction of infected trees, intensive surveys on host plants and vectors, treatments against vectors (NPPO of Portugal, 2017). **Present, under eradication.**

During summer 2016, one specimen of *Xylosandrus germanus* (Coleoptera: Scolytidae) was caught in a trap placed in the port of Kalmar (a 'timber-port' in the county of Småland), Southeastern Sweden. *X. germanus* had previously been found once in Sweden. In 1996, a single specimen had been caught in Småland, in an industrial area where a major wooden floor manufacturer was situated. These isolated findings are not sufficient to consider that *X. germanus* is established in Sweden (NPPO of Sweden, 2017).

- **Eradication**

In Sweden, 1 specimen of *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae - EPPO A2 List) was found in 2017-08-10 by a private individual. The insect was trapped and killed on the North pier of the old harbour of Skanör (Scania county, Southern Sweden). In 2017-08-15, a phytosanitary inspector went to the area to search for more specimens of *L. decemlineata* but found none, neither in the near vicinity of the finding nor in the closest potato fields (NPPO of Sweden, 2017). **Absent, pest eradicated.**

In the United Kingdom, *Diabrotica virgifera virgifera* (EPPO A2 List) occurred from 2003 to 2007. After several years of absence, a small number of specimens were caught in a maize field in 2013 (EPO RS 2013/240). As subsequent surveys did not detect the pest, the NPPO considers that *D. virgifera virgifera* has been eradicated (NPPO of the United Kingdom, 2017). **Absent, pest eradicated.**

In the United Kingdom, *Eotetranychus lewisi* (Acari: Tetranychidae – EU Annexes) was first found in August 2014 in Northwestern England on poinsettias grown in a nursery (EPPO RS 2014/187). A treatment programme was undertaken to eradicate the mite. As since the end of November 2014 no other mites were found, the NPPO considers that this outbreak has been eradicated (NPPO of the United Kingdom, 2017). **Absent, pest eradicated.**

In the United Kingdom, *Xanthomonas arboricola* pv. *pruni* (EPPO A2 List) was detected for the first time in October 2013, and again in August/September 2014 on young plants of

Prunus laurocesus in 3 nurseries (EPPO RS 2014/193). Phytosanitary measures were taken to eradicate the bacterium. In October 2017, the NPPO of the United Kingdom officially declared the eradication of *X. arboricola* pv. *pruni* from its territory (NPPO of the United Kingdom, 2017). **Absent, pest eradicated.**

Sources:

Anonymous (2017) New eucalypt feeding insect established in New Zealand. *Forest Health News* no. 277, 2 pp. https://www.scionresearch.com/__data/assets/pdf_file/0007/62845/FHNews-November2017.pdf

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NPPO of Spain (2017-10, 2017-12, 2018-02).

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NPPO of the United Kingdom (2017-08, 2017-09, 2017-10).

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Yükselbaba U, Topakcı N, Göçmen H (2017) A new record of Turkey Aleyrodidae fauna, ficus whitefly *Singhiella simplex* (Singh) (Hemiptera: Aleyrodidae). *Phytoparasitica* **45(5)**, 715-717.

Additional key words: new record, detailed record

Computer codes: BLYSBR, CRNRM0, CTV000, DIABVI, EOTELE, EPIXCU, EPIXPA, LPTNDE, MELGMY, SINLSI, XANTPR, XYLBGE, ES, GB, IN, NZ, PT, SE, SE, TR

2018/025 New BBCH growth stage keys

The BBCH* growth stage keys aim to provide a standard and uniform description of the visible growth stages of plants, using a two-digit decimal code. This system has been developed for many important crops, such as cereals, rice, maize, rape, potato, fruit trees, small fruits, vegetables (see EPPO RS 2016/204). In 1997, the BBCH growth stage keys were recommended by the EPPO Working Party on Plant Protection Products and by Council for use in EPPO countries, thus replacing the previously recommended EPPO growth stage keys. The following new BBCH scales have recently been published to describe the growth stages of the following plants:

- *Aegle marmelos* (bael) (Kishore *et al*., 2017).
- *Morus* sp. (mulberry trees) (Sánchez-Salcedo *et al*., 2017).
- *Parthenium hysterophorus* (parthenium weed) *(*Kaur *et al*., 2017).

* The abbreviation BBCH derives from the first letters of the German names of ***B***iologische Bundesanstalt (Federal Biological Research Centre), ***B***undessortenamt (Federal Plant Variety Office) and ***Ch***emical industry.

Source:

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JKI. BBCH Scale: http://pub.jki.bund.de/index.php/BBCH/issue/view/161

Kaur A, Batish DR, Kaur S, Singh HP, Kohli RK (2017) Phenological behaviour of *Parthenium hysterophorus* in response to climatic variations according to the extended BBCH scale. *Annals of Applied Biology* **170**(3), 316-326.

Kishore K, Mahanti KK, Samant D (2017) Phenological growth stages of bael (*Aegle marmelos)* according to the extended Biologische Bundesanstalt, Bundessortenamt und Chemische Industrie scale. *Annals of Applied Biology* **170**(3), 425-433.

Sánchez-Salcedo EM, Martínez-Nicolás JJ, Hernandez F (2017) Phenological growth stages of mulberry trees (*Morus* sp.) codification and description according to the BBCH scale. *Annals of Applied Biology* **170**(3), 441-450.

Additional key words: publications, growth stage keys

2018/026 Regulated non-quarantine pests (RNQPs): methodology for preparing lists of RNQPs

The concept of 'regulated non-quarantine pest' (RNQP) was introduced in the revised text of the FAO International Plant Protection Convention (IPPC) approved in 1997. In this context, a RNQP has been defined as a '*non-quarantine pest whose presence in plants for planting affects the intended use of those plants with an economically unacceptable impact and which is therefore regulated within the territory of the importing contracting party*'. In line with available international standards, the concept of RNQP has been introduced in the new EU plant health regulation. In April 2016, EPPO undertook a 2-year EU funded project on RNQPs: the EU Quality Pest Project. The objective of this project was to develop a methodology and then to apply this methodology to a list of about 1400 pest–host combinations to identify which should be recommended as RNQPs.

A paper has recently been published in the EPPO Bulletin to present the methodology which has been used to prepare lists of RNQPs, and is freely accessible from the Internet: http://onlinelibrary.wiley.com/doi/10.1111/epp.12420/epdf

Source: Picard C, Ward M, Benko-Beloglavec A, Matthews-Berry S, Karadjova O, Pietsch M, Van Der Gaag DJ (2017) A methodology for preparing a list of recommended regulated non-quarantine pests (RNQPs). *Bulletin OEPP/EPPO Bulletin* **47**(3), 551-558.

Additional key words: publication

2018/027 *Naupactus xanthographus* (Coleoptera: Curculionidae): addition to the EPPO Alert List

Why: *Naupactus xanthographus* (Coleoptera: Curculionidae - South American fruit tree weevil) is a weevil which has been reported to cause economic damage in grapevine and fruit trees. During the EU-funded project DROPSA (Strategies to develop effective, innovative and practical approaches to protect major European fruit crops from pests and pathogens), *N. xanthographus* was identified as a pest of fruit which may present a risk for the EPPO region, in particular for grapevine.

Where: *N. xanthographus* occurs only in South America. It is widespread in Argentina and was introduced into Chile. Limited information is available about its situation in Uruguay, and there are unconfirmed records in Southern Brazil and Paraguay (possibly due to some taxonomic confusion with other related *Naupactus* species).
South America: Argentina, Chile (including Easter Island, and Juan Fernandez islands), Uruguay.

On which plants: *N. xanthographus* is a polyphagous weevil which feeds on numerous cultivated plant species and weeds (e.g. *Sorghum halepense*). Its economically important hosts include grapevine (*Vitis vinifera*), and fruit trees such as: apple (*Malus domestica*), stone fruit (*Prunus* spp.), lemon and orange (*Citrus lemon, C. sinensis),* pear (*Pyrus communis*), kiwifruit (*Actinidia* spp.) and avocado (*Persea americana*). Other recorded host plants include: *Annona cherimola, Diospyros kaki, Eriobotrya japonica, Glycine max, Juglans regia, Medicago sativa, Mespilus germanica, Olea europaea, Phaseolus vulgaris, Populus nigra, Rubus idaeus, Solanum lycopersicum, Solanum tuberosum, Vaccinium* spp.

Damage: direct damage is caused by larvae feeding on roots. Adult feeding causes superficial damage to leaves (irregular leaf margins) and fruit. *N. xanthographus* may also alter fruit quality due to the presence of excrements on fruit. In Chile where it was introduced, *N. xanthographus* is considered to be one of the most important pests of grapevine and of economic importance on stone fruit and citrus.
Adults are dark brown to grey weevils (2 to 2.5 cm long) with greenish yellow bands on the thorax and abdomen. Larvae are white and approximately 1.5 cm long. Adults emerge from the soil over a period of 5-6 months between spring and early autumn. They are most abundant in November and February and live for about 8 months. A generation is completed in 16-21 months. Females are capable of producing offspring in the absence of males for up to 6 months. Eggs are laid in late summer and autumn in the aerial parts of the plants, newly hatched larvae then fall to the ground in search of roots. The insect overwinters as larvae in the soil. Pupation takes place in the soil.
Images of *N. xanthographus* can be viewed on the Internet:
https://www.invasive.org/browse/subinfo.cfm?sub=4959
https://commons.wikimedia.org/wiki/File:Naupactus_xanthographus.jpg
https://www.flickr.com/photos/49679700@N07/5577489568
https://gd.eppo.int/taxon/NAUPXA/photos

Dissemination: Adults are flightless, therefore natural spread is probably limited to short distances. Over long distances, trade of infested plants can spread the pest, as well as movements of infested soil attached to plants or machinery. Adults of *N. xanthographus* may be concealed within bunches of table grapes and have been intercepted on grapes from Chile in the USA and Peru. Interestingly, the peaks of adult emergence in Chile are in September-October and December-February, periods which overlap with the main harvesting season of

table grapes. *N. xanthographus* has also been found on apples imported into France from Uruguay.

Pathway: Plants for planting, fruit, soil from countries where the pest occurs.

Possible risks: *N. xanthographus* is a polyphagous pest which can attack many fruit crops that are of economic importance in the EPPO region. It can be noted that *N. xanthographus* is listed as a quarantine pest in Canada, Japan, Jordan, and the USA. In Argentina and Chile, it is considered to be an economically important pest of grapevine and fruit crops. Chemical control of *N. xanthographus* is difficult as its larvae live concealed in the ground. However, barriers placed on the trunk (with insecticides or organically acceptable alternatives formulated in a viscous substrate) can help prevent adult weevils moving from the soil to the foliage. Research on the use of biocontrol agents has also been carried out (e.g. entomopathogenic nematodes). More studies would be needed to evaluate the potential of introduction and establishment of *N. xanthographus* in the EPPO region, but considering its current geographical distribution and interception history, it seems likely that it has the potential to be moved via international trade and that it could establish in the EPPO region.

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Vera W, Parra L, Quiroz A, Bergmann J (2016) Attraction to host plant volatiles and feeding performance of *Naupactus xanthographus* (Coleoptera: Curculionidae) is affected by starvation. *Journal of Insect Behavior* **29**(1), 48-56 (abst.).

EPPO RS 2018/027

Panel review date - Entry date 2018-02

Additional key words: EPPO Alert List **Computer codes:** NAUPXA

2018/028 First report of *Xylosandrus crassiusculus* in Slovenia

In August 2017, *Xylosandrus crassiusculus* (Coleoptera, Scolytidae - EPPO Alert List) was detected for the first time in Slovenia in the municipality of Brda, close to the Italian border. In total, 121 beetles were trapped at one location in a single trap. This trap was part of an official survey for another pest (*Pityophthorus juglandis*, vector of *Geosmithia morbida* the thousand cankers disease), and was placed at the edge of a deciduous forest and near a vineyard. A survey within a radius of 100 m around the trapping site was carried out, but no infested plants or signs of *X. crassiusculus* have been observed. Surveys will be intensified and enlarged around the initial trapping site to detect possible signs of the pest. Additional traps with ethanol will also be placed in the surroundings to detect *X. crassiusculus*.
The pest status of *Xylosandrus crassiusculus* in Slovenia is officially declared as: **Transient, actionable, under surveillance.**

Source: NPPO of Slovenia (2017-08).

Pictures: *Xylosandrus crassiusculus*. https://gd.eppo.int/taxon/XYLBCR/photos

Additional key words: new record **Computer codes:** XYLBCR, SI

2018/029 *Anoplophora chinensis* detected in Pistoia (Toscana, IT)

The NPPO of Italy recently informed the EPPO Secretariat that a new outbreak of *Anoplophora chinensis* (Coleoptera: Cerambycidae – EPPO A2 List) was found in the municipality of Pistoia (Toscana region) in October 2017. During official inspections, signs of the presence of *A. chinensis* were observed in 4 ornamental nurseries, as well as in a few private gardens, on 166 plants (covering an area of 10 380 m²). Infested plants showed exit holes and sawdust at the collar, but no adult beetles were found. The following plants were showing signs of infestation: *Acer* (109 plants), *Carpinus* (28), *Corylus* (6), *Fagus* (6), *Lagerstroemia indica* (7), *Malus* (1), *Platanus* (1), *Salix* (1). Tracing-back investigations have been carried out, but the source of this outbreak could not be determined. Molecular analysis has shown that the genetic features of the pest found in Pistoia were different from the ones of other outbreaks in Italy. In accordance with Decision 2012/138/EU, phytosanitary measures were taken to eradicate the pest. These measures include a ban on the movements of host plants from the demarcated area, and the destruction of all host plants within a radius of 100 m around the infested plants.
The pest status of *Anoplophora chinensis* in Italy is officially declared as: **Present, only in some parts of the member state concerned, under eradication.**

Source: NPPO of Italy (2017-11).

Pictures: *Anoplophora chinensis*. https://gd.eppo.int/taxon/ANOLCN/photos

Additional key words: detailed record **Computer codes:** ANOLCN, IT

2018/030 Eradication of *Sternochetus mangiferae* in Spain

In November 2013, *Sternochetus mangiferae* (Coleoptera: Curculionidae – EPPO A1 List) was detected for the first time on mangoes (*Mangifera indica*) in Spain in the municipality of Velez-Málaga (province of Málaga, Andalucía). The pest was found in 1 plot of approximately 1 ha where more than 70 % of the mangoes were damaged. As a consequence, a demarcated area with a radius of 1 km around the infested plot was established, and eradication measures were taken. In 2014, an intensive survey was carried out in mango production sites located inside the demarcated area, as well as in nurseries and centres selling fruits and vegetables. In 2015, *S. mangiferae* was detected again in the same plot. On this infested plot, all mango fruits were destroyed, and insecticide treatments were applied. As since 2016, *S. mangiferae* has not been detected, the NPPO of Spain considered that the pest has been eradicated from its territory.
The pest status of *Sternochetus mangiferae* in Spain is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Spain (2018-01).

Pictures: *Sternochetus mangiferae.* https://gd.eppo.int/taxon/CRYPMA/photos

Additional key words: first report, eradication, absence **Computer codes:** CRYPMA, ES

2018/031 First report of *Meloidogyne chitwoodi* in Sweden

During surveillance activities, *Meloidogyne chitwoodi* (EPPO A2 List) was found for the first time in Sweden. In October 2017, the nematode was detected in soil samples collected from a field of potatoes (*Solanum tuberosum*) grown for starch production. This potato field was located in the municipality of Sölvesborg (Blekinge province). Further investigations confirmed the presence of *M. chitwoodi* in 3 potato fields (12 ha) of the same grower. Official phytosanitary measures will be taken.
The pest status of *Meloidogyne chitwoodi* in Sweden is officially declared as: **Present, in specific parts of the Member State.**

Source: NPPO of Sweden (2017-12).

Pictures: *Meloidogyne chitwoodi*. https://gd.eppo.int/taxon/MELGCH/photos

Additional key words: new record **Computer codes:** MELGCH, SE

2018/032 First report of *Aphelenchoides besseyi* in Romania

During an official inspection to issue a phytosanitary certificate for export, a sample was taken from a rice lot (*Oryza sativa*) and tested for the presence of *Aphelenchoides besseyi* (EPPO A2 List). At the time of inspection, this rice lot (5 040 tonnes) was stored in a warehouse located in Stăncuța (Brăila county, Southeastern Romania). In October 2017, the presence of *A. besseyi* was confirmed in the rice sample. The origin of the infestation is unknown. As a consequence, the phytosanitary certificate was refused to the whole lot, and it was decided that the rice should be husked under official control. Rice seeds that will be used for sowing in 2018 will be tested in the laboratory.
The pest status of *Aphelenchoides besseyi* in Romania is officially declared as: **Present, only in some parts of the Member State concerned.**

Source: NPPO of Romania (2017-11).

Pictures: *Aphelenchoides besseyi*. https://gd.eppo.int/taxon/APLOBE/photos

Additional key words: new record **Computer codes:** APLOBE, RO

2018/033 *Bursaphelenchus xylophilus*: eradication of the outbreak in Sancti-Spíritus (Spain)

In Spain, the first outbreak of *Bursaphelenchus xylophilus* (EPPO A2 List) was found in 2008 in Villanueva de la Sierra (Cáceres). This outbreak was then successfully eradicated. However, three other outbreaks were subsequently detected in the municipalities of As Neves (Pontevedra - Galicia, 2010), Valverde del Fresno (Cáceres - Extremadura, 2012) and Sancti-Spíritus (Salamanca – Castilla y León, December 2013). In all cases, eradication measures were taken. The NPPO of Spain recently informed the EPPO Secretariat that the outbreak in Sancti-Spíritus is now considered to be eradicated, as no further detections have been made in the demarcated area since 2014.
The pest status of *Bursaphelenchus xylophilus* in Spain is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of Spain (2018-02).

Ministerio de Agricultura y Pesca, Alimentación y Medio Ambiente. Nematodo de la madera del pino. http://www.mapama.gob.es/es/agricultura/temas/sanidad-vegetal/nematodo-de-la-madera-del-pino/

Pictures: *Bursaphelenchus xylophilus*. https://gd.eppo.int/taxon/BURSXY/photos

Additional key words: detailed record, eradication **Computer codes:** BURSXY, ES

2018/034 First report of '*Candidatus* Liberibacter solanacearum' on carrot crops in Belgium

In the framework of a research project, '*Candidatus* Liberibacter solanacearum' (potato haplotypes are listed in the EPPO A1 List) was detected in October 2017 in 2 carrot (*Daucus carota*) fields in Belgium. These fields were located in the municipalities of Ingelmuster (West-Vlaanderen province) and Deinze (Oost-Vlaanderen province). Further studies are being carried out to characterize the haplotypes present. This is the first time that '*Ca*. L. solanacearum' is reported from Belgium.
The pest status of '*Candidatus* Liberibacter solanacearum' in Belgium is officially declared as: **Present**.

Source: NPPO of Belgium (2017-11).

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

Additional key words: new record **Computer codes:** LIBEPS, BE

2018/035 First report of '*Candidatus* Liberibacter solanacearum' on carrot crops in Estonia

During an official survey for '*Candidatus* Liberibacter solanacearum' (potato haplotypes are listed in the EPPO A1 List) carried out in carrot (*Daucus carota*) production sites in Estonia, insects were caught with sticky traps and tested for the presence of the pathogen. The psyllid vector, *Trioza apicalis,* was found in 4 locations in the municipality of Saue. In September 2017, the presence of '*Ca*. L. solanacearum' haplotype C was confirmed in 4 out of 7 samples of *T. apicalis*. No official phytosanitary measures will be taken. This is the first time that '*Ca*. L. solanacearum' is reported from Estonia.
The pest status of '*Candidatus* Liberibacter solanacearum' in Estonia is officially declared as: **Present, only in some parts of the Member State concerned.**

Source: NPPO of Estonia (2017-11).

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

Additional key words: new record **Computer codes:** LIBEPS, EE

2018/036 First report of '*Candidatus* Liberibacter solanacearum' on carrot crops in Italy

During a study, Ilardi *et al*. (2016) detected '*Candidatus* Liberibacter solanacearum' (potato haplotypes are listed in the EPPO A1 List) in 6 lots of carrot seeds which had been purchased in Italy during 2015 (*Daucus carota* cvs. Berlicum, Nantese, Flakkèe, and Mezza Lunga Nantese). During a subsequent study conducted in spring 2017, Catara *et al.* (2017), confirmed the presence of the bacterium in carrot crops in Sicilia. Leaves showing yellowing and purple discolouration were observed in 3 out of 5 carrot fields visited, although with a very low incidence. Molecular tests confirmed the presence of '*Ca*. L. solanacearum' in symptomatic carrot samples. It is noted that numerous psyllids (under identification) have also been collected from the carrot fields studied. This is the first time that '*Ca*. L. solanacearum' is reported from Italy.

The situation of '*Candidatus* Liberibacter solanacearum' in Italy can be described as follows: **Present, only in some areas on carrot crops (Sicilia).**

Source: Catara V, Licciardello G, Linguaglossa M, Salonia F, Rapisarda C, La Rosa R, Cocuzza Massimino GE (2017) First report of '*Candidatus* Liberibacter solanacearum' in carrot in Italy. *Phytopathologia Mediterranea* **56**(2), p 296.

Ilardi V, Di Nicola E, Tavazza M (2016) First report of '*Candidatus* Liberibacter solanacearum' in commercial carrot seeds in Italy. *Journal of Plant Pathology* **98**(2), p 374.

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

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

2018/037 First report of *Tomato chlorosis virus* in the Netherlands

In November 2017, *Tomato chlorosis virus* (*Crinivirus*, ToCV – EPPO A2 List) was detected for the first time in the Netherlands. The virus was initially found in 1 tomato (*Solanum lycopersicum*) fruit production company. Infected plants showed distinctive interveinal yellowing on fully-grown leaves. During investigations carried out to identify the possible sources of infection, ToCV was also detected in 2 other tomato fruit producing companies which had received plants from the same nursery. As there is a high density of tomato greenhouses in the vicinity of the infected sites, phytosanitary measures will be taken to eradicate the virus. These will include control measures against whiteflies and immediate removal of symptomatic plants. In addition, a survey for ToCV in at least 20 other Dutch tomato fruit production companies is ongoing and will be completed by the end of January 2018. For the moment, TocV has not been detected in tomato greenhouses located in the vicinity of the infected sites.
The pest status of *Tomato chlorosis virus* in the Netherlands is officially declared as: **Transient, actionable, under eradication**

Source: NPPO of the Netherlands (2018-01).

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

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

2018/038 Detection of *Pantoea stewartii* in Friuli-Venezia Giulia, Italy

In Italy, *Pantoea stewartii* (EPPO A2 List) was detected during official surveys carried out in maize (*Zea mays*) fields in Friuli-Venezia Giulia region. In June 2017, a total of 8-10 symptomatic leaves were sampled from 1-5 maize plants growing in the same field (sample size varied according to the plant size). In August 2017, the identity of the bacterium was confirmed in symptomatic leaf samples. Further surveys are being carried out to determine the distribution of the bacterium in Friuli-Venezia Giulia region. It is noted that in the infected area (7 ha) and its surroundings, maize is grown for forage only. The source of this outbreak is still unknown, but investigations are being carried out to clarify the origin of the seeds which have been used.
The pest status of *Pantoea stewartii* in Italy is officially declared as: **Present**.

Source: NPPO of Italy (2017-08).

Pictures: *Pantoea stewartii*. https://gd.eppo.int/taxon/ERWIST/photos

Additional key words: detailed record **Computer codes:** ERWIST, IT

2018/039 *Xanthomonas arboricola* pv. *pruni*: two new outbreaks in Spain

In 2017, the NPPO of Spain reported two new outbreaks of *Xanthomonas arboricola* pv. *pruni*: (EPPO A2 List) on its territory, in Andalucía and Cataluña.

In Andalucía: *X. arboricola* pv. *pruni* was detected in June 2017 in an almond (*Prunus dulcis*) orchard located in the municipality of Lebrija (province of Sevilla). This is the first time that the bacterium is reported from the province of Sevilla. The source of infection is being investigated and phytosanitary measures were taken to prevent any further spread. These measures included: destruction of almond fruit at harvest and of plant debris (remains after pruning, leaves, branches), preventive treatments in the infected plot and its vicinity, disinfection of agricultural tools and machinery.

In Cataluña: *X. arboricola* pv. *pruni* was detected in August 2017 in a nursey (16.7 ha) located in the municipality of Galvet de la Conca (province of Lleida). The bacterium was detected in 38 seedlings of different peach (*Prunus persica*) varieties and in 1 apricot (*Prunus armeniaca*) tree. The infection was delimited to 17 lots composed of 26 564 seedlings. Samples were collected and tested for the bacterium, but all results were negative. Phytosanitary measures were taken to eradicate the disease.

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

Source: NPPO of Spain (2017-08, 2017-11)

Pictures: *Xanthomonas arboricola* pv. *pruni*. https://gd.eppo.int/taxon/XANTPR/photos

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

2018/040 *Prosopis* species in the EPPO region: three additions to the EPPO Alert List

Why
Three species of *Prosopis* (*Prosopis chilensis*, *P. velutina* and *P. glandulosa)* have been added to the EPPO Alert List. In Jordan and Israel, since the mid-1900s all three species have been planted. In Almeria (South-eastern Spain), *P. chilensis* and *P. velutina* have shown to naturally regenerate (self-sown seedlings) from planted individuals. In 2017, a Pest Risk Assessment was conducted on the congener *P. juliflora* and the Expert Working Group highlighted the potential threat of *P. chilensis, P. velutina* and *P. glandulosa* to the EPPO region, noting these species to be more frost tolerant than *P. juliflora*.

Geographical distribution
Prosopis chilensis
EPPO region: Israel, Jordan and Spain.
North America: USA (Texas).
South America: Argentina, Chile, Peru.
Oceania: Australia.

Prosopis velutina
EPPO region: Israel, Jordan, Morocco and Spain.
Asia: India.
Africa: Botswana, Namibia, South Africa.
North America: Mexico, USA (Arizona, California, Nevada, New Mexico, Texas).
Oceania: Australia.

Prosopis glandulosa
EPPO region: Israel, Jordan.
Asia: India, Kuwait, Myanmar, Pakistan, Qatar, Saudi Arabia, United Arab Emirates
Africa: Botswana, Namibia, South Africa, Sudan.
North America: Mexico, USA (Arizona, California, Colorado, Kansas, Louisiana, Nevada, New Mexico, Oklahoma, Texas, Utah).
Caribbean: Cuba.
Oceania: Australia.

Biology and ecology
Prosopis is a taxonomically complex genus and due to hybridization, the distinction of species can prove difficult. Species in the genus can survive in regions with very low rainfall due to deep tap roots. Seeds have a high level of dormancy and germination requires the hard seed coat to be damaged to allow water to enter.

Habitats
All three *Prosopis* species are adapted to dry conditions and can dominate in dry or seasonally dry watercourses. *P. velutina* has escaped from cultivation and naturalised along a dry river bed in Zagora, Morocco. *Prosopis* species can invade roadsides and disturbed habitats.

Pathways for movement
Prosopis species have been widely moved around the world and planted as fodder, shade trees and for erosion control. Seeds are sometimes available via mail order and via horticultural suppliers.

Impacts
All three *Prosopis* species are reported as having similar ecological and socio-economic impacts. They can form dense monocultures which can have negative impacts on water availability and alter nutrient sources and flows within the invaded habitat. *Prosopis* species can negative impacts on native plant biodiversity and the impacts can cascade to higher trophic levels. In Africa and Asia, *Prosopis* species have been shown to have a negative impact on human livelihoods by reducing areas for livestock feeding.

Control
Trees can be felled, and stumps can be uprooted but this method would only be suitable for small areas of infestation. Mechanical control can be effective for *Prosopis* species where roots are severed below ground level. Stem and aerial application of chemical herbicides are also applied to kill trees.

Source: Pasiecznik N, Peñalvo E (2017) 25 year results of a dryland tree trial, and an invasive risk assessment of introduced species. *Zonas Áridas* **16**, 52-71.
Sukhorukov AP, Verloove F, Ángeles Alonso M, Belyaeva IV, Chapano C, Crespo MB, El Aouni MH, El Mokni R, Maroyi A, Shekede MD, Vicente A, Dreyer A, Maria Kushunina (2017) Chorological and taxonomic notes on African plants, 2. *Botany Letters* **164** (2), 135-153.

Additional key words: invasive alien plants, alert list **Computer codes:** PRCCH, PRCJV, PRCJG

2018/041 First report of *Proboscidea louisianica* in Turkey

Proboscidea louisianica (Martyniaceae) is reported as a new alien species for the flora of Turkey. Specimens were collected during the flowering period in 2017 between Güleçköy and Yeniçiftlik along the roadside. The species is native to South America and Mexico and has been introduced into the EPPO region where it is naturalised in Portugal, South East Russia, France, Greece and Italy. *P. louisianica* is a low growing annual species which can compete with summer crops. The hard-woody fruits are curved in shape giving the species its common English name 'common devils-claw', and these can attach to animals and aid its spread. In addition, the fruits can injure the mouth and feet of livestock. The species is also recorded as an alien species in Australia.

Source: Sevgi E, Kizilarslan-Hançer C, Yilmaz H, Akkaya M (2017) A new alien species record for the flora of Turkey: *Proboscidea louisianica* (Miller) Thell. *Eurasian Journal of Forest Science* **5**, 19-25.
EPPO Reporting Service no. 2 -2009. Num. article: 2009/039.

Additional key words: invasive alien plants, new record **Computer codes:** PROLO, TR

2018/042 New Code of conduct for invasive alien trees

A Code of conduct for Invasive Alien Trees has been adopted with the Recommendation n. 194 (2017) of the Standing Committee (Bern Convention), on the 8th of December 2017. This Code of conduct is addressed to all relevant stakeholders and decision makers in the 47 Member States of the Council of Europe. It is intended to provide guidance to reduce the negative impacts that might originate from an unregulated use and spread of invasive alien trees, i.e. those alien tree species whose introduction or spread has been found to threaten or adversely impact upon biodiversity and related ecosystem services. Alien trees and well-

managed planted forests of alien tree species can be useful in providing various forest goods and services and helping to reduce the pressure on natural forests or provide opportunities for adaptation to climate change and global change. However, a small number of alien trees are invasive or might become invasive – i.e. they spread from planting sites into adjoining areas, and sometimes cause substantial damage to biodiversity and related ecosystem services. This document complements the Code of conduct on Horticulture and Invasive Alien Plants published by the Council of Europe and EPPO which was aimed at the horticultural industry and trade and the European Code of conduct for Botanic Gardens on Invasive Alien Species.

Source: Council of Europe/Bern Convention Group of experts on Invasive Alien Species (IAS), https://www.coe.int/en/web/bern-convention/on-invasive-alien-species

Additional key words: invasive alien plants, code of conduct

2018/043 First report of *Datura inoxia* in Serbia

Datura inoxia (Solanaceae) is reported as a new alien species for the flora of Serbia. The species is native to Central America and has been introduced into the EPPO region where it is established as an alien species in France, Italy, Portugal, Spain and Turkey. The species is recorded as a casual alien in Romania and has been recorded in Greece, Croatia and Montenegro. On a more global scale, the species is invasive in China, Africa (Namibia and South Africa), the Galapagos islands and New Caledonia. In Serbia, *D. inoxia* is reported from seven localities in Srem, Bačka, Banat, Šumadija and North-East regions where the species has escaped cultivation and established small populations in surrounding ruderal habitats including natural and planted forests, waste land and arable fields. The species is toxic to animals and humans.

Source: Lakušić D, Rat M, Anačkov G, Jovanović S (2017) *Datura inoxia* Mill. (Solanaceae), a new alien species in Serbia. *Biologica Nyssana* **8**, 47-51.

Additional key words: invasive alien plants, new record **Computer codes:** DATIN, RS

2018/044 Spread of *Abutilon theophrasti* in Central Europe

Abutilon theophrasti (Malvoideae) is a major weed in many European countries where it is widespread and invades agricultural systems, competing with crops for resources. It is native from China and was originally introduced into other parts of the world as a potential fibre crop. The species has also entered regions as a contaminant of imported seed. Using distribution datasets up to 2013, the spread patterns of *A. theophrasti* were studied in Austria, the Czech Republic and Slovakia. In total, 389 records of the species were used in the analysis and the distribution was mapped for three-time periods (before 1970, 1971 – 1990, 1991 – 2013). In the initial invasion phase, *A. theophrasti* had a distribution limited to several isolated locations in the three countries. Up until 1970, spread was slow, and it was only from 1990 to 2013 that a significant spread was seen (238 records). Since 2000, distribution records have shown that *A. theophrasti* has invaded agricultural fields more frequently (78 % of all records in fields collected after 2000), including spring-grown crops sugar beet, maize, sunflower, soybean, and other crops such as potatoes, pumpkin and vegetables. The authors of the study predict that the spread of *A. theophrasti* will continue and control options should include the prevention of the movement of species into previously

uninfested fields by avoiding seed spread through harvesting and movement of contaminated soil.

Source: Follak S, Aldrain U, Schwarz M (2014) Spread dynamics of *Abutilon theophrasti* in Central Europe. *Plant Protection Science* **50**, 157-163.

Pictures: *Abutilon theophrasti.* https://gd.eppo.int/taxon/ABUTH/photos

Additional key words: invasive alien plants **Computer codes:** ABUTH, AT, CZ, SK

2018/045 First report of *Amaranthus spinosus* in Tunisia

Amaranthus spinosus (Amaranthaceae) is reported as a new alien species for the flora of Tunisia. The species is native to the tropical region of the Americas, and is naturalised throughout other regions of the tropics. The species is widespread throughout China. In the EPPO region, *A. spinosus* has been recorded as a casual species in several countries, and in Spain it is reported as invasive. *A. spinosus* is an annual plant and a prolific seed producer where each plant can produce over 200 000 seeds which are dispersed by wind, water and animals. In Tunisia, *A. spinosus* has been identified between 2012 – 2016, occurring along roadsides, public gardens and cultivated areas between 6 – 41 metres above sea level. In total, four populations were found in Bizerta, Bir Bouregba, Hammamet and Nabeul, where in the case of the latter, the largest population covers 25 m^2. The authors of the current study consider the four populations are casual occurrences at present in Tunisia.

Source: Iamonico D, El Mokni R (2018) A new addition to the alien flora of Tunisia, *Amaranthus spinosus* L. (Amaranthaceae s.l.), with notes on *A. diacanthus* Raf. *Acta Botanica Croatica*, DOI: 10.2478/botcro-2018-0009.

Additional key words: invasive alien plants, new record **Computer codes:** AMASP, TN