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2019/154 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**

The NPPO of Greece recently informed the EPPO Secretariat of the first record of *Corythucha arcuata* (Hemiptera: Tingidae - formerly EPPO Alert List) on its territory. During a survey, the pest was found in the municipality of Xanthi on oak (*Quercus robur*) trees. No official phytosanitary measures will be taken.
The pest status of *Corythucha arcuata* in Greece is officially declared as: **Present, only in some parts of the Member State concerned.**

Corythucha ciliata (Hemiptera: Tingidae) is reported for the first time from Uzbekistan. It was observed in April 2017 in sycamore trees (*Platanus orientalis*) in the botanical garden in Tashkent (Grebennikov and Mukhanov, 2019). **Present, no detail.**

In Jordan, *Dactylopius opuntiae* (Hemiptera: Dactylopiidae) was first found during surveys carried out in February/March 2018. This scale was found in several localities in the northern part of the country attacking *Opuntia ficus-indica*. *D. opuntiae* is considered to be a serious threat to *O. ficus-indica* which is widely planted in Jordan at the edges of farms and gardens as a fence, as well as for fruit production (Katbeh Bader and Abu-Alloush, 2019). **Present, only in some areas.**

In Colombia, *Fusarium oxysporum* f. sp. *cubense* Tropical race 4 was confirmed in banana plantations in August 2019. This first record of Tropical race 4 in Colombia is also the first one from South America. Eradication measures have been implemented (IPPC and ProMed, 2019). **Present, only in some areas.**

- **Detailed records**

In Bulgaria, *Garella musculana* (Lepidoptera: Noctuidae - EPPO A2 List) was first found in 2016 in the province of Varna (RS 2019/009). In July 2019, the NPPO of Bulgaria officially reported the presence of the pest in the province of Burgas (municipality of Kableshkovo) in a plot of 2.3 ha of *Juglans regia*. About 20% of trees showed symptoms, mainly on the young shoots. Surveys will be carried out to determine the presence of the pest in Bulgaria (NPPO of Bulgaria, 2019).
The pest status of *Garella musculana* in Bulgaria is officially declared as: **Present, only in some parts of the Member State concerned.**

- **Absence**

One adult of *Aromia bungii* (Coleoptera: Cerambycidae – EPPO A2 List) was found in a drift net placed in the river Caselas in Northwestern Spain (Caldelas de Miño, province of Pontevedra, Galicia) in July 2018 (Otero & Cobo, 2018). No other specimens or damage on plants were observed. Official surveys conducted by the NPPO of Spain did not detect the pest (NPPO of Spain 2019-08).
The pest status of *Aromia bungii* in Spain is officially declared as: **Absent**.

- **Host plants**

'*Candidatus* Phytoplasma aurantifolia' (EU Annexes) is causing phyllody disease on strawflower, *Xerochrysum (Helichrysum) bracteatum*, an ornamental plant belonging to family Asteraceae, native to Australia (Ashwathappa *et al.*, 2019)

In Sweden, *Synchytrium endobioticum* (EPPO A2 List) was first reported in 2017 in 3 counties (EPPO RS 2018/061). Eradication measures are applied and include the prohibition of planting potatoes in the infected plots, and the requirements to grow resistant potato varieties in the other fields in the infected places of production. Further laboratory analyses determined that the pathotypes present were 40 (BN1) in the county of Skåne, and 8(F1) in the county of Blekinge (Sölvesborg) (NPPO of Sweden, 2019).
The pest status of *Synchytrium endobioticum* in Sweden is officially declared as: **Present, only in some parts of the Member State concerned.**

- **Epidemiology**

Tomato chlorotic dwarf viroid (*Pospiviroid*, TCDVd) was isolated for the first time from asymptomatic, cultivated *Solanum melongena* (aubergine) plants in Spain. Additionally, TCDVd was transmitted vertically by seed and pollen of *S. melongena* in experimental conditions. This is the first report of TCDVd naturally infecting *S. melongena* and of seed and pollen transmission in *S. melongena* (Gramazio *et al.*, 2019).

Sources:

Ashwathappa KV, Venkataravanappa V, Lakshminarayana Reddy CN, Swarnalatha P, Krishna Reddy M (2018) First report of '*Candidatus* Phytoplasma aurantifolia'(16SrII-A) associated with strawflower phyllody. *Australasian Plant Disease Notes* **14**, 28. https://doi.org/10.1007/s13314-019-0359-0

Bhuvitarkorn S, Reanwarakorn K (2019) Pollen and seed transmission of *Columnea latent viro*id in eggplants. *European Journal of Plant Pathology* **154**(4), 1067-1075. https://doi.org/10.1007/s10658-019-01728-9

Gramazio P, Lerma MD, Villanueva G, Vilanova S, García-Fortea E, Mangino G, Figas MR, Arrones A, Alonso D, San Bautista A, Soler S, Prohens J, Plazas M. (2019). Detection, molecular characterisation and aspects involving the transmission of tomato chlorotic dwarf viroid in eggplant. *Annals of Applied Biology* **175**(2), 172–183. https://doi.org/10.1111/aab.12527

Grebennikov KA, Mukhanov SY (2019) *Corythucha ciliata* (Say, 1932) (Hemiptera: Heteroptera: Tingidae) – new alien species of true bugs in Uzbekistan fauna. *Russian Journal of Biological Invasions* 2019(1), 25-28.

IPPC website. Official Pest Reports – Colombia (COL-01/1 of 2019-08-09) https://www.ippc.int/en/countries/colombia/pestreports/2019/08/primera-deteccion-de-marchitez-por-fusarium-oxysporum-fsp-cubense-raza-4-tropical-foc-r4t-recientemente-clasificado-como-fusarium-odoratissimum-maryani-lombard-kema-crous-2019/

Katbeh Bader AM, Abu-Alloush AH (2019) First record of the cochineal scale insect, *Dactylopius opuntiae* (Cockerell) (Hemiptera: Dactylopiidae), in Jordan. *Journal of Biological Sciences* **12**(2), 155-159. http://jjbs.hu.edu.jo/files/vol12/n2/Paper%20number%205.pdf

NPPO of Bulgaria (2019-07).

NPPO of Greece (2019-07).

NPPO of Spain (2019-08).

NPPO of Sweden (2019-06).

Otero JC, Cobo F (2018) Primer cita de *Aromia bungii* (Faldermann, 1835) (Coleoptera, Cerambycidae) una nueva especie alóctona en el NW de la Península Ibérica. *Boletín de la Asociación española de Entomología* **42** (3-4), 437-441. http://www.entomologica.es/index.php?d=publicaciones&num=73

ProMed posting (no. 20190820.6630576) of 2019-08-20. Panama disease TR4, banana - Americas (02): (Colombia) conf. http://www.promedmail.org/post/6630576

Additional key words: absence, detailed record, epidemiology, new host plant, new record

Computer codes: AROMBU, CRTHAR, DACLOP, ERSHMU, FUSACB, FUSAC4, SYNCEN, BG, CO, ES, GR, JO, SE, UZ

2019/155 The International Year of Plant Health website has been launched

In December 2018, the United Nations General Assembly declared 2020 as the International Year of Plant Health (IYPH). A specific website dedicated to this major event has just been published. It provides key messages, visual material and guidelines on how to prepare IYPH events and promotional material.

International Year of Plant Health website: https://www.ippc.int/en/iyph/

Source: EPPO Secretariat (2019-08).

Additional key words: FAO, IPPC, communication

2019/156 *Agrilus planipennis* does not occur in Ukraine

The NPPO of Ukraine recently informed the EPPO Secretariat that contrary to the information stated in the paper from Orlova-Bienkowskaja *et al.* (2019), *Agrilus planipennis* (Coleoptera: Buprestidae – EPPO A2 List) is still absent from Ukraine (EPPO RS 2019/135). Official surveys of forest plantations, including ash (*Fraxinus* spp.) trees, are regularly conducted in Ukraine, to verify the possible presence of regulated pests and of *A. planipennis*. Until now, *A. planipennis* has not been detected during these regular surveys.
Immediately following the appearance of the above paper on the Internet on 2019-07-02, a specific survey was carried out in the Lugansk region at the same location (Starokozhiv district of the Markiv forest area – according to the GPS-coordinates indicated in the paper) to verify the possible presence of the pest. Pheromone traps were installed and from 2019-07-11 to 2019-07-22, a total of 2019 samples of damaged wood (taken from *F. pennsylvanica*) and insect specimens were collected. All collected samples, together with insect specimens caught in pheromone traps were sent to the Kharkov phytosanitary laboratory, accredited under ISO/IEC 17025. Results confirmed the absence of any *A. planipennis* life stages or signs of its presence on collected wood. The other pests that could be found were *Hylesinus varius* (in damaged wood samples) and *Lymantria dispar* (in pheromone traps).
In addition, the NPPO of Ukraine noted that some facts presented in the paper are incorrect. The number of ash trees declared as surveyed in the paper (250 - with specific GPS coordinates), when verified in the forest amounted to 50 only. Most of the trees in the area concerned are oak trees (about 90%), and ash trees are only present in a transition area between the forest and protective forest belts, where 2 trees damaged by other forest pests were found. Finally, when requested by the NPPO, no specimens or images (pictures, videos) could be produced by the authors for further confirmation. The NPPO concluded that according to regular and specific surveys conducted on its territory, current results show that *A. planipennis* has not been detected in Ukraine. The surveillance programme will continue.
The situation of *Agrilus planipennis* in Ukraine can be described as: **Absent, confirmed by surveys.**

Source: NPPO of Ukraine (2019-07).

Orlova-Bienkowskaja MJ, Drogvalenko AN, Zabaluev IA, Sazhnev AS, Peregudova HY, Mazurov SG, Komarov EV, Andrzej O, Bieńkowski AO (2019) Bad and good news for ash trees in Europe: alien pest *Agrilus planipennis* has spread to the Ukraine and the south of European Russia, but does not kill Fraxinus excelsior in the forests. *BioRxiv* (unpublished pre-print). doi: https://doi.org/10.1101/689240

Pictures: *Agrilus planipennis*. https://gd.eppo.int/taxon/AGRLPL/photos

Additional key words: absence, denied record **Computer codes:** AGRLPL, UA

2019/157 Update on the situation of *Popillia japonica* in Switzerland

In Switzerland, *Popillia japonica* (Coleoptera: Rutelidae – EPPO A2 List) was first found in Ticino in June 2017 (EPPO RS 2017/160) in a trap near to the demarcated area in Italy, and is subject to phytosanitary measures. Adults have been trapped repeatedly since that date. In 2019 a total of 23 adults have been trapped so far, over a period of 4 weeks in the municipalities of Stabio and Novazzano. For the first time on the Swiss territory, 10 adult individuals were also found next to (but not caught in) one pheromone trap on plants of

Parthenocissus quinquefolia. Immediate measures have been taken such as the intensification of the surveillance in the region, the inventory of potential hotspots, the continuation of raising public awareness and providing farmers and producers with specific information about the harmful organism. Monitoring traps within the 3 km radius around traps that captured *P. japonica* will be removed to reduce the risk of attraction into pest free areas further north. Efforts undertaken to localize the site of reproduction of *P. japonica* on the Swiss territory have so far been unsuccessful. No adults were detected in the near vicinity or other hotspots in the region.
The pest status of *Popillia japonica* in Switzerland is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of Switzerland (2019-07).

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

Additional key words: detailed record **Computer codes:** POPIJA, CH

2019/158 Update of the situation of *Popillia japonica* in Portugal (Azores)

The NPPO of Portugal recently informed the EPPO Secretariat of the first detection of *Popillia japonica* (Coleoptera: Rutelidae – EPPO A2 List) in the Island of Graciosa (Azores) in February 2019. The insect was already known to occur on other islands of the archipelago (Terceira, Faial, Flores, Pico, Sao Jorge, and Sao Miguel) but not on the mainland. As part of an official survey, 41 pheromone traps were placed throughout the Island and 902 visual inspections were carried out. As a result, 9 adults were captured in 5 of the traps (in the municipalities of Luz and São Mateus). No damage was detected on plants. Official phytosanitary measures have been implemented to eradicate the pest.
The pest status of *Popillia japonica* in Portugal is officially declared as: **Present, only in some parts of the Member State concerned, under containment, in case eradication is impossible.**

Source: NPPO of Portugal (2019-08).

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

Additional key words: detailed record **Computer codes:** POPIJA, PT

2019/159 Update on the situation of *Aromia bungii* in Campania and Lombardia, Italy

In Italy, *Aromia bungii* (Coleoptera: Cerambycidae – EPPO A2 List) was first found in Campania region (province of Napoli) in 2012 on *Prunus* spp. (EPPO RS 2012/204) and subject to phytosanitary measures. In 2018, the pest was also found on the island of Procida (province of Napoli). Official measures have been taken to contain the pest in the main demarcated area of the province of Napoli (since October 2018), and to eradicate it on the island of Procida. During the 2018 official survey conducted in private and public areas, 210 *Prunus* plants were found to be infested (128 *P. armeniaca*, 63 *P. domestica*, 9 *P. avium*, 1 *P. persica* and 9 other *Prunus* species) in 13 municipalities and the island of Procida. All infested trees were destroyed. In 2018, no adult specimens were caught in traps and official

inspections of garden centres (located in the demarcated area) were negative. During 2018, four seminars were organized to raise awareness of professionals about this pest.
In 2013, *A. bungii* was also detected in Lombardia region (EPPO RS 2013/187). Two adult specimens were observed next to the trunk of a peach tree which had been felled. Phytosanitary measures have been taken since 2014 to eradicate the pest. During the 2018 official survey conducted in private and public areas, 43 *Prunus* plants in the demarcated area presented suspicious symptoms and 19 of them were confirmed to be infested (12 *P. domestica*, 5 *P. persica*, 1 *P. armeniaca* and 1 *P. serotina*) in 3 municipalities. All infested trees have been destroyed.
The pest status of *Aromia bungii* in Italy is officially declared as: **Present, only in some parts of the Member State concerned, under eradication (under containment, in case eradication is impossible).**

Source: NPPO of Italy (2019-05-07 and 2019-05-08).

Pictures: *Aromia bungii*. https://gd.eppo.int/taxon/AROMBU/photos

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

2019/160 Update on the situation of *Aromia bungii* in Japan

In Japan, *Aromia bungii* (Coleoptera: Cerambycidae – EPPO A2 List) was first found in 2013 in Honshu (Aichi prefecture) (RS 2013/188). Since then, the beetle spread to new areas in Honshu: it has been confirmed in Tokyo (municipality of Fussa, 2015), Saitama (municipality of Soka in 2014, and more than 150 sites in 2018), Osaka (11 municipalities), Gunma (municipality of Tatebayashi, 2015), Tochigi prefectures. It was also found on Shikoku (Tokushima prefecture) in July 2015. It was subsequently found in Honshu in Wakayama Prefecture in 2017, and in Nara Prefecture in June 2019. Local authorities are taking measures to prevent further spread of the pest and encourage early detection by citizens. In Tatebayashi city, a soft drink or 50 yen (≈0.4 euro) in cash is provided for each dead adult longhorn beetle brought in. More than 2 000 red-necked longhorn beetles have been collected so far under the initiative, according to Tatebayashi officials.
The situation of *Aromia bungii* in Japan can be described as follows: **Present, only in some areas (Honshu and Shikoku).**

Source: Yasui H, Fujiwara-Tsujii N, Yasuda T, Fukaya M, Kiriyama S, Nakano A, Waranabe T, Mori K (2019) Electroantennographic responses and field attraction of an emerging invader, the red-necked longicorn beetle *Aromia bungii* (Coleoptera: Cerambycidae), to the chiral and racemic forms of its male-produced aggregation-sex pheromone. *Applied Entomology and Zoology* **54**, 109-114. https://doi.org/10.1007/s13355-018-0600-x

INTERNET
Destructive, invasive beetle spreading around Japan (2019-08-02). The Asahi Shimbun. http://www.asahi.com/ajw/articles/AJ201908020009.html
National Institute for Environmental studies: Map available at https://www.nies.go.jp/biodiversity/invasive/DB/detail/60560e.html

Pictures: *Aromia bungii*. https://gd.eppo.int/taxon/AROMBU/photos

Additional key words: detailed record **Computer codes:** AROMBU, JP

2019/161 *Polygraphus proximus* found in Irkutsk province, Russia

In Russia, *Polygraphus proximus* (Coleoptera: Scolytidae – EPPO A2 List) is a Far Eastern species which has been introduced in Central European Russia, and in Siberia where it has become a serious pest of *Abies sibirica* in taiga forests. In July 2017, *P. proximus* was found for the first time in the Irkutsk province (Eastern Siberia). Specimens were collected on *A. sibirica* trees showing signs of infestation in the Utulik village which is near a major freight terminal of the Trans-Siberian railway. In Russia, the native range of *P. proximus* covers Khabarovsk and Primorsky territories, Sakhalin and Kuril Islands (Far East). The invaded range now includes the following regions: Leningrad, Moscow (Central European Russia); Altai Republic and Territory, Kemerovo, Khakassia, Novosibirsk, Tomsk (Western Siberia); Irkutsk, Krasnoyarsk (Eastern Siberia).
The situation of *Polygraphus proximus* in Russia can be described as follows: **Present, only in some areas (native to the Far East, introduced into Central European Russia, Western and Eastern Siberia).**

Source: Bystrov SO, Antonov IA (2019) First record of the four-eyed fir bark beetle *Polygraphus proximus* Blandford, 1894 (Coleoptera, Curculionidae: Scolytinae) from Irkutsk Province, Russia. *Entomological Review* **99**(1), 54–55.

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

Additional key words: detailed record **Computer codes:** POLGPR, RU

2019/162 *Cryphalus eriobotryae*: a new pest of loquat in China

In April 2018, several loquat (*Eriobotrya japonica*) trees were attacked and killed by an unknown bark beetle in a commercial plantation in Suzhou (Jiangsu province), China. This was initially considered as an incidental and natural mortality, but more trees growing nearby were also killed by the same pest from August to October 2018. Investigations revealed the presence of a previously undescribed bark beetle species, *Cryphalus eriobotryae* sp. nov. (Coleoptera: Curculionidae: Scolytinae). Surveys carried out from May 2018 to May 2019 in the area of Suzhou showed that *C. eriobotryae* occurred in several localities and has already killed more than 1000 loquat trees. Attacks by *C. eriobotryae* can be detected by the presence of small (< 0.8 mm) circular entrance holes (sometimes hidden in bark crevices) and frass, followed by the development of surrounding necrotic tissue (cankers) on the bark of the trunk and branches around these entrance holes. It is noted that there were no obvious signs of a fungal pathogen, but that the presence of pathogens has not been systematically investigated.
A study of plantation records in the area of Suzhou has suggested that this beetle was introduced from another area not long before 2017. Given the distribution of the plant genus *Eriobotrya* and the distribution of similar *Cryphalus* species, it is suspected that the beetle is native to East or Southeast Asia. According to local farmers, rootstocks were imported from other regions of China in 2017, which could have been a pathway for introducing *C. eriobotryae* in the area of Suzhou.

Source: Zheng S, Johnson AJ, Li Y, Chu C, Hulcr J (2019) *Cryphalus eriobotryae* sp. nov. (Coleoptera: Curculionidae: Scolytinae), a new insect pest of loquat *Eriobotrya japonica* in China. *Insects* **10**(6), 180. https://doi.org/10.3390/insects10060180

Additional key words: new pest **Computer codes:** CRYHER, CN

2019/163 First report of *Tomato brown rugose fruit virus* in the United Kingdom

The NPPO of the United Kingdom recently informed the EPPO Secretariat of the first detection of *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV – EPPO Alert List) on its territory. The presence of ToBRFV was confirmed in July 2019 in a tomato *(Solanum lycopersicum*) production site in Kent. Samples had been submitted for official testing after a positive result was received from a commercial laboratory in the Netherlands. Action has been taken to remove all plants from the affected glasshouse and disinfect the glasshouse, followed by a 14-week period of the glasshouse being kept clear of plants with the aim of eradication.
The pest status of *Tomato brown rugose fruit virus* in the United Kingdom is officially declared as: **Transient, statutory action is being taken, actionable, under eradication.**

Source: NPPO of the United Kingdom (2019-07).

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

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

2019/164 First report of *Tomato leaf curl New Delhi virus* in Portugal

The NPPO of Portugal recently informed the EPPO Secretariat of the first detections of *Tomato leaf curl New Delhi virus* (*Begomovirus*, ToLCNDV – EPPO Alert List) on its territory. In July 2019, during an official survey, ToLCNDV was detected in one plant of *Cucurbita pepo* (cv. Brilhante), in a greenhouse located in the Algarve region (county of Olhão). In this greenhouse (17 000 m^2), the following cucurbit crops were grown: *Cucurbita pepo* (4 000 m^2), *Cucumis melo* (9 000 m^2) and *Cucumis sativus* (4 000 m^2). Samples had been taken from all different crops, but the only positive result was obtained from the *C. pepo* sample.
The presence of ToLCNDV was also detected in a greenhouse located in the Azores (São Miguel Island, county of Ponta Delgada) in plants of *C. pepo*. In the greenhouse (10 000 m^2), the following plants were grown: *C. pepo* (500 m^2), tomato (*Solanum lycopersicum* - 1 800 m^2), and cucumber (*Cucumis sativus* – 1 200 m^2) and non-host plants (6 500 m^2). About 20% of *C. pepo* plants showed symptoms. Other hosts did not show any symptoms. Leaf samples were collected from symptomatic *C. pepo* and tested positive for ToLCNDV.
Phytosanitary measures aiming at eradication will be taken in both cases.
The pest status of *Tomato leaf curl New Delhi virus* in Portugal is officially declared as: **Present, only in some parts of the Member State concerned, under eradication.**

Source: NPPO of Portugal (2019-07, 2019-08).

Pictures: *Tomato leaf curl New Delhi virus*. https://gd.eppo.int/taxon/TOLCND/photos

Additional key words: new record **Computer codes:** TOLCND, PT

2019/165 First report of *Citrus bark cracking viroid* in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the first detection of *Citrus bark cracking viroid* (CBCVd - EPPO A2 List) in Germany. The viroid was found in two hop (*Humulus lupulus*) fields in Bavaria in July 2019 after a report by a grower. Infected plants (150 in the two fields) showed reduced growth. The identity of the pathogen was confirmed by RT-PCR and sequencing. A survey is being performed to determine the extent of the outbreak and official phytosanitary measures will be applied to eradicate the outbreak.
The pest status of *Citrus bark cracking viroid* in Germany is officially declared as: **Transient, only at one location, actionable, under eradication.**

Source: NPPO of Germany (2019-08).

INTERNET
JKI. https://pflanzengesundheit.julius-kuehn.de/dokumente/upload/CBCVd_pr2019-08by.pdf

Pictures: *Citrus bark cracking viroid*. https://gd.eppo.int/taxon/CBCVD0/photos

Additional key words: new record **Computer codes:** CBCVD0, DE

2019/166 Update of the situation of *Citrus bark cracking viroid* in Slovenia

In Slovenia *Citrus bark cracking viroid* (CBCVd - EPPO A2 List) was first recorded causing a damaging disease on hop (*Humulus lupulus*) in 2015 (RS 2015/111). Since then, official phytosanitary measures are applied but the disease is still progressing and threatens hop production in Slovenia. In 2018, CBCVd was confirmed on 23 farms (17 in 2016) in 70 hop gardens (42 in 2016) with a total area of 145 ha (92.3 ha in 2016).
Therefore, stricter phytosanitary measures were adopted in March 2019 (Uradni list RS, št. 16/19). As a consequence more plants around an infected plant will be destroyed (typically 5 rows in a hop garden), it will be prohibited to plant new hop plants in an infected place of production, and stricter hygienic measures will be required.
The pest status of *Citrus bark cracking viroid* in Slovenia is officially declared as: **Present, under eradication.**

Source: NPPO of Slovenia (2019-06).

INTERNET
Ministry of Agriculture, Forestry and Food of Slovenia.
http://www.uvhvvr.gov.si/si/delovna_podrocja/zdravje_rastlin/nevarni_skodljivci_in_bolezni_rastlin/karantenski_skodljivi_organizmi/posebno_nadzorovani_skodljivi_organizmi/huda_viroidna_zakrnelost_hmelja/

Pictures: *Citrus bark cracking viroid*. https://gd.eppo.int/taxon/CBCVD0/photos

Additional key words: detailed record **Computer codes:** CBCVD0, SI

2019/167 Eradication of *Pseudomonas syringae* pv. *actinidiae* from Germany

In 2013, *Pseudomonas syringae* pv. *actinidiae* (EPPO A2 List) was found in Germany for the first time (EPPO RS 2013/239). Infected *Actinidia* plants had been detected in a nursery in Bayern and in a garden centre in Schleswig-Holstein. Infected plants were destroyed and as the bacterium was not detected during surveys conducted in 2016, 2017 and 2018, the NPPO of Germany officially declared in July 2019 that the outbreak has been eradicated.
The pest status of *Pseudomonas syringae* pv. *actinidiae* in Germany is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Germany (2019-07).

Pictures: *Pseudomonas syringae* pv. *actinidiae*. https://gd.eppo.int/taxon/PSDMAK/photos

Additional key words: absence, eradication **Computer codes:** PSDMAK, DE

2019/168 First report of *Neocosmospora falciformis* in Spain

In the framework of a research project, surveys were carried out in 2018 and 2019 to study soil fungal pathogens affecting cucurbit crops in Spain. Diseased melon (*Cucumis melo*) plants were observed in the localities of Carrizales (Elche, Alicante province) and La Punta (Valencia). Affected plants showed leaf yellowing, vascular rot at the root collar and stem base. In some cases, plant collapse and death was observed. However, the incidence of the disease in the surveyed areas was low. Laboratory analysis of symptomatic plant samples revealed the presence of *Neocosmospora falciformis* (=*Fusarium falciforme*). *N. falciformis* is a clinically important species (associated with infections in humans and animals), belonging to the *Fusarium solani* complex, which can be present in agricultural environments. There have been earlier reports of this fungus causing diseases on lima bean (*Phaseolus lunatus*) in Brazil, soybean (*Glycine max*) in the USA, and *Pinus maximinoi* in Colombia. This is the first time that *N. falciformis* is detected in Spain on *C. melo*.
The pest status of *Neocosmospora falciformis* in Spain is officially declared as: **Present, only in some parts of the Member State concerned, at low prevalence.**

Source: NPPO of Spain (2019-06).

Chitrampalam P, Nelson B (2016) Multilocus phylogeny reveals an association of agriculturally important *Fusarium solani* species complex (FSSC) 11, and clinically important FSSC 5 and FSSC 3 + 4 with soybean roots in the north central United States. *Antonie van Leeuwenhoek* **109**(2), 335-347. https://doi.org/10.1007/s10482-015-0636-7

Herron DA, Wingfield MJ, Wingfield BD, Rodas CA, Marincowitz S, Steenkamp ET (2015) Novel taxa in the *Fusarium fujikuroi* species complex from *Pinus* spp. *Studies in Mycology* **80**, 131-150. https://doi.org/10.1016/j.simyco.2014.12.001

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

2019/169 Update of the situation of *Fusarium circinatum* in Spain

In Spain, *Fusarium circinatum* (EPPO A2 List) was first officially confirmed in 2004 (RS 2005/097) and later found in Asturias, Cantabria, Castilla y León, and Galicia (RS 2006/050), and País Vasco (RS 2007/137 and 2016/162).

As a result of official surveys carried out in 2017-2018, the fungus was found in several locations:

- in October 2017, seedlings of *Pinus radiata* were found to be infected in a nursery located in the municipality of Vilaboa (Galicia). Plants were asymptomatic. The 25 758 plants of the infected lots were destroyed.
- between August and November 2017, 9 new outbreaks were detected in forests on *Pinus radiata* in Asturias. Trees showed symptoms (dried tips and resinous cankers in trunks and branches).
- in January 2018, seedlings of *Pinus pinaster* were found to be infected in a greenhouse nursery located in the municipality of Silleda (Galicia). Plants were asymptomatic. The 3600 plants of the infected lots were destroyed.
- in June 2018, seedlings of *Pinus radiata* were found to be infected in the municipalities of Pontevedra and Vilaboa (Galicia) in a nursery and a trial plot both under protected conditions. The 500 infected plants were destroyed, and demarcated areas were established.
- in November 2018, 9 new outbreaks were detected in Asturias, 8 in forests of *Pinus radiata* and 1 in a forest of *Pinus pinaster*. They were located in the following municipalities: Cangas de Onís, Ibias, Llanes, Pravia, Tineo and Vegadeo.

In all cases, official phytosanitary measures according to Decision 2007/433/EC were applied, and further surveys carried out.
The pest status of *Fusarium circinatum* in Spain is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Spain (2017-12, 2018-01, 2018-04, 2018-06, 2019-01).

Pictures: *Fusarium circinatum*. https://gd.eppo.int/taxon/GIBBCI/photos

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

2019/170 Update of the situation of *Fusarium circinatum* in Portugal

In Portugal, *Fusarium circinatum* (EPPO A2 List) was first found in 2007 (RS 2009/196). It was later detected in October 2017 in 2 locations in Centro region (Pombal and Anadia counties) during official surveys. In both cases, it was found in a forest nursery (open air). Seedlings of *Pinus radiata* were asymptomatic, but samples were collected and laboratory analyses (according to EPPO Diagnostic Protocol PM 7/91) confirmed the presence of the fungus.
In November 2018, the presence of *F. circinatum* was confirmed in Norte region in Souto (county of Arcos de Valdevez) on two *Pinus pinaster*. The infected area is surrounded by eucalyptus stands, agricultural areas and urban areas. No host plants with symptoms were found in the vicinity.
In all cases, official phytosanitary measures were implemented according to national and EU legislation.
The pest status of *Fusarium circinatum* in Portugal is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Portugal (2017-10, 2017-12, 2019-07).

INTERNET
http://www.icnf.pt/portal/florestas/prag-doe/plan-rel/p-acao/pa-cancr-res-pinh

Pictures: *Fusarium circinatum*. https://gd.eppo.int/taxon/GIBBCI/photos

Additional key words: detailed record **Computer codes:** GIBBCI, PT

2019/171 *Bidens frondosa:* new record for the Republic of North Macedonia

Bidens frondosa (Asteraceae: EPPO Observation List) is an annual herbaceous species native to North America. It is introduced into the EPPO region where it is widespread and reported from ruderal habitats, shorelines of lakes, rivers, and wetlands. The species has also been reported as a problem in agricultural crops such as maize and sugarbeet. The species is also recorded as invasive in New Zealand. In the Republic of North Macedonia, *B. frondosa* was recorded from Prespa Lake in the South West of the country in gravel and muddy habitats along the shoreline. The population is relatively sparse in occurrence. The authors suggest *B. frondosa* should be considered as a naturalised alien plant species in the Republic of North Macedonia since the observed population exists without any known human intervention. It is likely that *B. frondosa* is more widespread in the Republic of North Macedonia than currently described. In neighbouring countries, (e.g. Bulgaria and Croatia), the species shows invasive behaviour and therefore, more abundant populations could be seen in the future.

Source: Vladimirov V, Bancheva S, Delcheva M, Lambevska-Hristova A, Kostadinovski M, Custerevska R, Matevski V (2019) A new record of *Bidens* (Asteraceae) to the flora of the Republic of North Macedonia. *Comptes rendus de l'Académie bulgare des Sciences* **72**, 906-909.

Additional key words: new record **Computer codes:** BIDFR, MK

2019/172 Evolutionary impact of invasive *Cardiospermum* species on native *Leptocoris* bugs in South Africa

Cardiospermum halicacabum and *C. grandiflorum* (Sapindaceae) were introduced into South Africa approximately 100 years ago and are classified as minor and major invasive species, respectively. Within the EPPO region, *C. grandiflorum* is included in the EPPO A2 list of pests recommended for regulation and it is an invasive alien species of Union concern (EU). In South Africa, *Leptocoris* soapberry bugs (Hemiptera: Rhopalidae) are specialised predators of seed of the Sapindaceae family and feed on both native species and the two aforementioned species. They use their elongated proboscis to pierce the fruits and feed on the seeds within. To evaluate if there is a potential evolutionary impact of the two invasive plant species on native soapberry bugs, individuals of *L. mutilatus* were collected from *C. halicacabum* and *C. grandiflorum* populations in the Kruger National Park and phylogenetic and morphological analyses were conducted. In addition, fruits and soapberry bugs feeding on those fruits, were collected from *C. halicacabum* and *C. grandiflorum* populations and fruit size and proboscis length were measured. Soapberry bugs associated with *C. halicacabum* were genetically different and morphologically distinct from those associated with *C. grandiflorum*. This suggests that soapberry bugs in the Kruger National Park show host preference for the non-native *Cardiospermum* species and this may have some evolutionary consequences for the insects.

Source: Foster JD, Ellis AG, Foxcroft LC, Carroll SP, Le Roux JJ (2019) The potential evolutionary impact of invasive balloon vines on native soapberry bugs in South Africa. *NeoBiota* **49**, 19–35. https://doi.org/10.3897/neobiota.49.34245

Pictures: *Cardiospermum grandiflorum*. https://gd.eppo.int/taxon/CRIGR/photos
Cardiospermum halicacabum. https://gd.eppo.int/taxon/CRIHA/photos

Additional key words: invasive alien plant **Computer codes:** CRIGR, CRIHA, ZA

2019/173 Impacts of *Impatiens glandulifera* on plant species diversity in the Tatra Mountains (Poland)

Impatiens glandulifera (Balsaminaceae: EPPO List of Invasive Alien Plants) is an annual species native to the Himalayas and widespread within the EPPO region. The species can form dense monocultures in damp woodlands and along the banks of rivers which can have negative impacts on native plant species and ecosystem services. Although there are a number of studies that have evaluated the impact of the species along rivers and in woodlands, there are only a few studies that have assessed the impact of the species in mountain regions within Europe. To evaluate the potential impact of *I. glandulifera* on plant species richness and diversity, invaded and uninvaded sites were compared in the northern foothills of the Tatra Mountains, southern Poland. In total, 65 plots invaded by *I. glandulifera* were compared to 65 uninvaded plots. The percentage cover of *I. glandulifera* was estimated for each invasive plot and in all plots the number and abundance of native plant species was estimated. Invaded plots had reduced plant species richness and diversity compared to uninvaded plots. Uninvaded plots had on average 19 species plant species compared to 12 in invaded plots. Plant species diversity was negatively affected by percentage cover of *I. glandulifera*. Based on these findings, the current authors highlight that the spread of *I. glandulifera* should be monitored and controlled in the Tatra Mountains.

Source: Kieltyk P, Delimat A (2019) Impact of the alien plant *Impatiens glandulifera* on species diversity of invaded vegetation in the northern foothills of the Tatra Mountains, Central Europe. *Plant Ecology* **220**, 1-12.

Pictures: *Impatiens glandulifera*. https://gd.eppo.int/taxon/IPAGL/photos

Additional key words: invasive alien plant **Computer codes:** IPAGL, PL

2019/174 Update of the list of invasive alien species of Union concern (European Union)

The Regulation (EU) 1143/2014 on Invasive Alien Species entered into force on the 1st January 2015. At the core of the Regulation is a list of invasive alien species of Union concern. On the 14th July 2016, the European Commission published the Commission Implementing Regulation 2016/1141 which adopted a list of 37 invasive alien species of Union concern of which 14 species were invasive alien plants. In July 2017, a further 12 invasive alien species were added to the list, of which 8 were invasive plant species. In July 2019, an additional 17 invasive alien species were added to the list, of which 13 are invasive alien plants. In total, 35 invasive alien plants are included on the list of invasive alien species of Union concern. For each species on the list, Member States will need to implement the following measures: (1) prevention, (2) early detection and rapid eradication of new invasions, (3) management of populations that are already widely spread.

Table 1. Thirty-five invasive alien plants included in the List of Union (EU) concern. Species with an EPPO PRA are highlighted in bold. Distribution information for each species is included in the EPPO Global Database.

Species	Form	Addition to the List of Union concern	EPPO List
Acacia saligna (Fabaceae)	Tree	2019	None
Ailanthus altissima (Simaroubaceae)	Tree	2019	Invasive Alien Plants
Alternanthera philoxeroides (Amaranthaceae)	Aquatic perennial herb	2017	A2
Andropogon virginicus (Poaceae)	Perennial grass	2019	A2
Baccharis halimifolia (Asteraceae)	Deciduous shrub	2016	A2
Cabomba caroliniana (Cabombaceae)	Aquatic perennial herb	2016	Invasive Alien Plants
Cardiospermum grandiflorum (Sapindaceae)	Annual or perennial vine-like climber	2019	A2
Cortaderia jubata (Poaceae)	Perennial grass	2019	A1
Ehrharta calycina (Poaceae)	Perennial grass	2019	A2
Eichhornia crassipes (Pontederiaceae)	Aquatic floating perennial herb	2016	A2
Elodea nuttallii (Hydrocharitaceae)	Aquatic perennial herb	2017	Invasive Alien Plants
Gunnera tinctoria (Gunneraceae)	Perennial	2017	Invasive Alien Plants
Gymnocoronis spilanthoides (Asteraceae)	Aquatic perennial herb	2019	A2
Heracleum mantegazzianum (Apiaceae)	Monocarpic perennial	2017	Invasive Alien Plants
Heracleum persicum (Apiaceae)	Perennial herb	2016	A2
Heracleum sosnowskyi (Apiaceae)	Biennial/perennial herb	2016	A2
Humulus scandens (Cannabaceae)	Annual vine	2019	A2
Hydrocotyle ranunculoides (Apiaceae)	Perennial aquatic herb	2016	A2
Impatiens glandulifera (Balsaminaceae)	Annual herb	2017	Invasive Alien Plants
Lagarosiphon major (Hydrocharitaceae)	Submerged aquatic	2016	Invasive Alien Plants
Lespedeza cuneata (Fabaceae)	Perennial herbaceous legume	2019	A1
Ludwigia grandiflora (Onagraceae)	Emergent perennial aquatic	2016	A2
Ludwigia peploides (Onagraceae)	Emergent perennial aquatic	2016	A2
Lygodium japonicum (Lygodiaceae)	Perennial climbing fern	2019	A1
Lysichiton americanus (Araceae)	Perennial	2016	Observation
Microstegium vimineum (Poaceae)	Annual grass	2017	A2
Myriophyllum aquaticum (Haloragaceae)	Aquatic herb	2016	Invasive Alien Plants
Myriophyllum heterophyllum (Haloragaceae)	Aquatic herb	2017	A2
Parthenium hysterophorus (Asteraceae)	Annual herb	2016	A2
Pennisetum setaceum (Poaceae)	Perennial grass	2017	Invasive Alien Plants
Persicaria perfoliata (Polygonaceae)	Annual herbaceous vine	2016	A2
Prosopis juliflora (Fabaceae)	Perennial woody shrub/tree	2019	A2
Pueraria montana* var. *lobata (Fabaceae)	Deciduous vine	2016	A2
Salvinia molesta (Salviniaceae)	Perennial floating aquatic	2019	A2
Triadica sebifera (Euphorbiaceae)	Deciduous tree	2019	A1

Source: European Commission website: http://ec.europa.eu/environment/nature/invasivealien/

Additional key words: invasive alien plant, regulations

Computer codes: ACASA, AILAL, ALRPH, ANOVI, BACHA, CABCA, CDTJU, CRIGR, EHRCA, EICCR, ELDNU, GUATI, GYNSP, HERMZ, HERPE, HERSO, HUMJA, HYDRA, IPAGL, LESCU, LGAMA, LUDUR, LUDPE, LSYAM, LYFJA, MCGVI, MYPHE, MYPBR, PESSA, PRCJU, PTNHY, POLPF, PUELO, SAVMO, SAQSE, EU

2019/175 Mapping invasive alien plants along riverbanks in Slovakia

Due to their high levels of disturbance and acting as natural corridors for spread, riverbanks can become inundated with invasive alien plants. Species like *Fallopia japonica* (Polygonaceae: EPPO List of Invasive Alien Plants) and *Impatiens glandulifera* (Balsaminaceae: EPPO List of Invasive Alien Plants) can form dense monocultures along riverbanks where they outcompete native biodiversity and can restrict access to the water for recreation purposes. In addition, these species die back in the winter months and plant material can become incorporated into the water body which can increase the risk of flooding. The current study focused on the riverbank vegetation of the stream Blatina in Slovakia. Sites where *F. japonica* and *I. glandulifera* had been recorded between 1988-2016 (Database of State Nature Conservancy of the Slovak Republic) were surveyed. Each invasive population was measured, and each stand was documented with photographs. Locations where the invasive species were more widespread than previously recorded were measured and the database was updated with new localities when found. Laboratory experiments were conducted for *F. japonica*, where stem fragments of about 3-10 cm were collected and wet conditions were simulated to observe growth of the fragments. The results showed that even small stem fragments if kept damp have high regeneration potential.

Source: Vasekova B, Nemetova Z, Keszeliova A, Stefunkova Z (2019) Mapping invasive plants in riverbank vegetation. *Earth and Environmental Science* **221**, 012109.

Pictures: *Fallopia japonica*. https://gd.eppo.int/taxon/POLCU/photos
Impatiens glandulifera. https://gd.eppo.int/taxon/IPAGL/photos

Additional key words: invasive alien plant

Computer codes: IPAGL, POLCU, SK