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2021/049 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**

Dendroctonus micans (Coleoptera: Scolytinae, EU Annexes) is recorded for the first time from Spain (NPPO of Spain, 2021). The pest has been detected on ten *Picea abies* trees from a forest located in the municipality of Vielha e Mijaran (Lleida province, Autonomous Region of Cataluña) in summer 2020. The pest status of *Dendroctonus micans* is officially declared as: **Present, only in some parts of the Member State concerned**.

Dothistroma septosporum (EU RNQP) occurs in Turkey. In 2013, symptoms of the disease were observed on *Pinus brutia* in South-Western Turkey (Isparta province). Further surveys in 2013-2015 confirmed the presence of the pathogen in several young forests in Isparta and Antalya provinces). *Dothistroma pini* (EU RNQP) was not detected (Oskay *et al.*, 2020). **Present.**

Erysiphe corylacearum, causing an emerging powdery mildew of hazelnuts, was first observed in Romania in 2019-2020 on hazelnut trees (*Corylus avellana*) in forests in the Eastern and Southern Carpathian Mountains (Chinan and Mânzu, 2021). **Present.**

Phytophthora ramorum (EPPO A2 List) is first reported from Japan. During surveys in 2017-2018 in forest ecosystems on Shikoku and Kyushu islands, 17 stream and river catchments were sampled. *P ramorum* was isolated from 3 places in Shikoku and 4 in Kyushu (from naturally fallen leaves in forest streams or from leaf baits deployed in the streams). During the same study, *P. ramorum* was also found in Vietnam. The authors conclude that this species probably originates from the laurosilva forests between Indochina and South-West Japan. *Phytophthora lateralis* (EPPO A2 List) was also isolated from Shikoku and Kyushu (Jung *et al.*, 2021). **Present**.

- **Detailed records**

Lopholeucaspis japonica (Hemiptera: Diaspididae – EPPO A2 List) is present in Texas (US). It was observed on *Lagerstroemia* spp. (Gilder *et al*. 2020).

In July 2020, *Spodoptera frugiperda* (Lepidoptera: Noctuidae – EPPO A1 List) was found feeding on banana plants (*Musa* sp.) in Kerala, India (Gavas Ragesh and Sanju Balan, 2020).

In China, during surveys on tomato (*Solanum lycopersicum*) and pepper (*Capsicum* sp.) in 2013-2017, the following viruses were first detected in the Yunnan province on these crops: tomato chlorosis virus (*Crinivirus*, ToCV – EPPO A2 List), tomato mottle mosaic virus (Tobamovirus, ToMMV – EPPO Alert list) (Li *et al.*, 2021).

In Brazil, *Xylosandrus crassiusculus* (Coleoptera: Curculionidae: Scolytinae - EPPO Alert List) is reported to spread rapidly inland. It was recently trapped in the following states: Acre, Espirito Santo, Goias, Para, Rio Grande do Sul (de Souza Covre *et al.*, 2021).

- **Eradication**

Lecanosticta acicola (EPPO A2 List) was first recorded in Sweden in 2018 on one tree in the Alnarp arboretum (EPPO RS 2019/041). The infested tree has been removed and destroyed. *L. acicola* is now (since 2019) a Regulated Non-Quarantine Pest (RNQP) for the EU. The pest status of *L. acicola* in Sweden is officially declared as: **Absent, pest eradicated** (NPPO of Sweden, 2021)

Phytophthora fragariae (EPPO A2 List) was detected in Sweden in one strawberry production site in May 2018 (EPPO RS 2018/204). Phytosanitary measures applied included destruction of the infested plants, substrate and cultivation materials. The pest status of *Phytophthora fragariae* in Sweden is officially declared as: **Absent, pest eradicated** (NPPO of Sweden, 2021).

Phytophthora ramorum (EPPO A2 List) was found in Italy in 2013 in two nurseries located in Toscana (municipalities of Pescia and Pistoia) on *Viburnum* plants (RS 2013/146 and RS 2013/245). Eradication measures were carried out in accordance with Decision 2002/757/CE, including the destruction of the infected lots. Subsequent official investigations in the nurseries concerned and in the surrounding area did not detect the pest. The pest status of *Phytophthora ramorum* in Italy is officially declared as: **Absent, pest eradicated** (NPPO of Italy, 2021).

- **New pests and taxonomy**

The use of high throughput sequencing (HTS) methodologies has recently revealed a significant number of new viruses in forest trees and urban parks. In 2014, leaf samples showing symptoms of leaf mottle and deformation were collected from an *Acer pseudoplatanus* tree in the Berlin-Grunewald urban forest, Germany. HTS revealed the presence of a new *Emaravirus* which has tentatively been called maple mottle-associated virus (MaMaV) The authors (Rumbou *et al.*, 2021) also recalled that since 2018, the following 4 new emaraviruses have been discovered in forest and urban tree species:

- aspen mosaic-associated virus (AsMaV) in *Populus tremula*.
- European mountain ash ringspot-associated virus (EMARaV) in *Sorbus aucuparia*. and *Amelanchier* sp.
- common oak ringspot-associated virus (CORaV) in *Quercus robur*.
- maple mottle-associated virus (MaMaV) in *Acer pseudoplatanus*.

Sources: Chinan V-C, Mânzu CC (2021) Occurrence of *Erysiphe corylacearum* causing powdery mildew of *Corylus avellana* in Romania. *Forest Pathology*, e12681. https://doi.org/10.1111/efp.12681

de Souza Covre L, Arrué Melo A, Flechtmann CAH (2021) Flight activity and spread of Xylosandrus crassisuculus (Motschulsky) (Coleoptera: Curculionidae) in Brazil. *Trees, Forests and People* **4**, 100076. https://doi.org/10.1016/j.tfp.2021.100076.

Gavas Ragesh, Sanju Balan (2020) The first report on fall armyworm, *Spodoptera frugiperda* (J. E. Smith (Lepidoptera: Noctuidae) as an invasive pest in banana from Kerala, South India and notes on its behaviour. *Insect Environment* **23**, 19-23.

Gilder K, Masloski KE, Woolley JB, Gu M, M, Merchant ME, Heinz M (2020) Discovery of a non-native parasitoid, *Marlattiella prima* Howard (Hymenoptera, Aphelinidae) and its non-native host, *Lopholeucaspis japonica* Cockerell (Hemiptera, Diaspididae) in Central Texas. *Journal of Hymenoptera Research* **77**, 213–217. https://doi.org/10.3897/jhr.77.53827

Jung T, Horta Jung M, Webber JF, Kageyama K, Hieno A, Masuya H, Uematsu S, Pérez-Sierra A, Harris AR, Forster J, Rees H, Scanu B, Patra S, Kudláček T, Janoušek J, Corcobado T, Milenković I, Nagy Z, Csorba I, Bakonyi J, Brasier CM (2021) The destructive tree pathogen *Phytophthora ramorum* originates from the

laurosilva forests of East Asia. *Journal of* Fungi **7**(3),226. https://doi.org/10.3390/jof7030226
Li Y, Tan G, Xiao L, Zhou W, Lan P, Chen X, Liu Y, Li R, Li F (2021) A multiyear survey and identification of pepper- and tomato-infecting viruses in Yunnan Province, China. *Fronters in Microbiology* **12**, 623875. https://doi.org/10.3389/fmicb.2021.623875
NPPO of Italy (2021-01).
NPPO of Spain (2021-02).
NPPO of Sweden (2021-03).
Oskay F, Tunalı Z, Lehtijärvi AT, Doğmuş-Lehtijärvi HT, Woodward S, Mullett M (2020) Distribution and genetic diversity of *Dothistroma septosporum* in *Pinus brutia* forests of south-western Turkey. *Plant Pathology* **69**(8), 1551–1564.

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

Computer codes: DENCMI, ERYSCY, LAPHFR, MAMAV0, PHYTFR, PHYTLA, PHYTRA, SCIRAC, SCIRPI, TOCV00, XYLBCR, BR, CN, ES, IN, IT, JP, RO, SE, TR

2021/050 New and revised dynamic EPPO datasheets are available in the EPPO Global Database

The EPPO Secretariat is in the process of revising the EPPO datasheets on pests recommended for regulation and creating new datasheets. This project is also supported by an EU grant agreement. This revision provides the opportunity to create dynamic datasheets in the EPPO Global Database in which the sections on pest identity, host range and geographical distribution are automatically generated by the database. It is planned that these dynamic datasheets will progressively replace the PDF documents that are currently stored in the database. Since the previous report (EPPO RS 2021/028), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Bretziella fagacearum*. https://gd.eppo.int/taxon/CERAFA/datasheet
- *Homalodisca vitripennis*. https://gd.eppo.int/taxon/HOMLTR/datasheet
- *Ips sexdentatus*. https://gd.eppo.int/taxon/IPSXSE/datasheet
- Pepino mosaic virus. https://gd.eppo.int/taxon/PEPMV0/datasheet
- *Potato spindle tuber viroid*. https://gd.eppo.int/taxon/PSTVD0/datasheet
- *Scirtothrips aurantii*. https://gd.eppo.int/taxon/SCITAU/datasheet
- *Tetranychus evansi*. https://gd.eppo.int/taxon/TETREV/datasheet

Source: EPPO Secretariat (2021-03).

Additional key words: publication

Computer codes: CERAFA, HOMLTR, IPSXSE, PEPMV0, PSTVD0, SCITAU, TETREV

2021/051 EPPO GD Desktop: a new version has been released

EPPO GD Desktop is the 'off-line' version of the EPPO Global Database (GD). It is a piece of software which first needs to be installed on personal computers. Once installed, no Internet connection is needed to run it. A new version of EPPO GD Desktop was released on the 2021-03-23.

Contents of GD Desktop
This software contains the following data which is directly extracted from GD:

- Basic information for many species (more than 90 000) that are of interest to agriculture, forestry and plant protection (scientific names, synonyms, common names, taxonomic position and EPPO Codes).
- Geographical distribution for more than 1 700 pests of regulatory interest (including invasive alien plants) with world maps.
- List of host plants of regulated pests.
- Categorization (quarantine status) of pests.
- Articles of the EPPO Reporting Service (since 1974).
- Photos of plants and pests (more than 11 000).

Important notes:

- EPPO GD Desktop does not contain EPPO Standards, PRAs and other EPPO pest-specific documents (these are only available via GD https://gd.eppo.int or the EPPO website www.eppo.int).
- EPPO GD Desktop can be downloaded as a FULL or LITE version. The FULL version contains all available images of plants and pests (same as in GD), and as a consequence is a heavier installation file. The LITE version only contains 1 selected image for each plant or pest to reduce the size of the installation file.

How to install and update GD Desktop
To install and update GD Desktop, an Internet connection will be needed. In the EPPO Global Database (https://gd.eppo.int):

1. Click on 'EPPO GD Desktop' in the green menu bar.
2. Choose the version you wish to install: FULL or LITE / Install package (.exe) or Zip package (.zip).
3. Follow the instructions.

Once installed, you will be able to run GD Desktop on your computer without any Internet connection. The date of your current version of the software will be indicated on the first screen. When an Internet connection is available and if a newer version of the software has been released, you will be automatically proposed to update GD Desktop.

Users should recall that as GD Desktop cannot be updated in real-time, the online version (EPPO Global Database) should be used to obtain the latest information.

Source: EPPO Secretariat (2021-03).

Additional key words: database

2021/052 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, oilseed 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 the EPPO Council for use in EPPO countries, thus replacing the previously recommended EPPO growth stage keys. New BBCH scales have recently been published to describe the growth stages of the following plants:

- *Anacardium occidentale* (cashew tree) (Adiga *et al.*, 2019)
- *Garcinia mangostana* (mangosteen) (Chandrakant *et al.*, 2020)
- *Maranta arundinacea* (arrowroot) (Brito *et al.*, 2019)
- *Medicago polymorpha, Trifolium alexandrinum, Trifolium subterraneum, Vicia benghalensis* (Mediterranean forage crops) (Enriquez-Hidalgo *et al.*, 2020)
- *Pachyrhizus erosus* (yam bean) (Pati *et al.*, 2020)
- *Phaseolus vulgaris* (common bean) (Cavalcante *et al.*, 2020)
- *Stevia rebaudiana* (stevia) (Le Bihan *et al.*, 2020)
- *Zizania palustris* (northern wild rice) (Duquette and Kimball, 2020)

* 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: Adiga JD, Muralidhara BM, Preethi P, Savad, S (2019) Phenological growth stages of the cashew tree (*Anacardium occidentale* L.) according to the extended BBCH scale. *Annals of Applied Biology* **175**(2), 246–252. https://doi.org/10.1111/aab.12526

Awachare CM, Upreti KK (2020) Phenological growth stages in mangosteen (*Garcinia mangostana* L.) according to the extended BBCH scale. *Annals of Applied Biology* 176(1), 16–25. https://doi.org/10.1111/aab.12552

Brito V, Godoy-Casagrande V, Narcisa-Oliveira J, Tomielis I, Cereda M, Steinfort U, Costa R (2019) Phenological stages of arrowroot (*Maranta arundinacea* L.) according to the Biologische Bundesanstalt Bundessortenamt und Chemische Industrie scale. *Annals of Applied Biology* **175**(1), 119–128. https://doi.org/10.1111/aab.12509

Cavalcante AG, Lemos LB, Meirelles FC, Cavalcante ACP, de Aquino LA (2020) Thermal sum and phenological descriptions of growth stages of the common bean according to the BBCH scale. *Annals of Applied Biology* **176**(3), 342–349. https://doi.org/10.1111/aab.12571

Duquette J, Kimball JA (2020) Phenological stages of cultivated northern wild rice according to the BBCH scale. *Annals of Applied Biology* **176**(3), 350–356. https://doi.org/10.1111/aab.12588

Enriquez-Hidalgo D, Cruz T, Teixeira DL, Steinfort U (2020) Phenological stages of Mediterranean forage legumes, based on the BBCH scale. *Annals of Applied Biology* **176**(3), 357–368. https://doi.org/10.1111/aab.12578

Le Bihan Z, Cosson P, Rolin D, Schurdi-Levraud V (2020) Phenological growth stages of stevia (*Stevia rebaudiana* Bertoni) according to the Biologische Bundesanstalt Bundessortenamt and Chemical Industry (BBCH) scale. *Annals of Applied Biology* **177**(3), 404–416. https://doi.org/10.1111/aab.12626

Pati K, Kaliyappan R, Chauhan VBS, Bansode V, Nedunchezhiyan M, Hedge V, Koundinya AVV (2020) Phenological growth stages of underutilised crop yam bean (*Pachyrhizus erosus* L. Urban) according to the extended BBCH scale. *Annals of Applied Biology* **177**(3), 417–423. https://doi.org/10.1111/aab.12637

Additional key words: growth stage keys

2021/053 First report of *Spodoptera frugiperda* in the Canary Islands, Spain

During faunistic studies, *Spodoptera frugiperda* (Lepidoptera: Noctuidae – EPPO A1 List) was detected for the first time on the island of Tenerife (Canary Islands, Spain) in July 2020. In these studies, 2 male specimens were caught in pheromone traps (Vives Moreno and Gastón, 2020).
Following this initial discovery, the Regional Plant Health Service of Canary Islands carried out surveys on all the islands of the archipelago (Lanzarote, Fuerteventura, Gran Canaria, Tenerife, La Palma, El Hierro and La Gomera). As of February 2021, *S. frugiperda* was detected in all islands, but with a restricted distribution and only in maize (*Zea mays*) fields without causing damage to the plants. It is noted that in the Canary Islands, maize is used for self-consumption, mostly fresh, and is not exported. There have been no detections of the pest in other potential hosts (e.g. capsicum, pelargonium and *Dianthus*) despite intensive surveys with delta traps and two types of pheromones. It is hypothezised that *S. frugiperda* has been introduced into the Canary Islands from the African continent by the strong winds (more than 100 km/h) which occurred at the end of March 2020 and affected all the islands. Since *S. frugiperda* has been detected, emergency measures in accordance with the EU Decision 2018/638 are being applied.
The situation of *Spodoptera frugiperda* in Spain can be described as follows: **Present, only in the Canary Islands, under official control.**

Source: NPPO of Spain (2021-03).

Vives Moreno A, Gastón J (2020) [Five new species for the fauna of Spain and other interesting lepidopterological information for Spain and Sudan (Insecta: Lepidoptera)]. *SHILAP Revista de lepidopterología* **48**(192), 717-731 (in Spanish).

Pictures: *Spodoptera frugiperda*. https://gd.eppo.int/taxon/LAPHFR/photos
Additional key words: new record **Computer codes:** LAPHFR, ES

2021/054 First report of *Spodoptera frugiperda* in New Caledonia

Spodoptera frugiperda (Lepidoptera: Noctuidae – EPPO A1 List) is reported for the first time from New Caledonia. In December 2020, numerous larvae of the pest were found in a single maize (*Zea mays*) field in Boulouparis. As eradication is not considered feasible, a management programme is under development with all stakeholders.
The pest status of *Spodoptera frugiperda* in New Caledonia is officially declared as: **Present: only in some areas.**

Source: IPPC website. Official Pest Reports – New Caledonia (NCL-04/1 of 2021-01-20) Detection of *Spodoptera frugiperda* (fall armyworm) in New Caledonia. https://www.ippc.int/fr/countries/new-caledonia/pestreports/2021/01/-0/

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

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

2021/055 First report of *Blissus insularis* in Portugal and in Europe

The southern chinch bug *Blissus insularis* (Hemiptera: Blissidae), is an insect pest of St. Augustine grass, *Stenotaphrum secundatum* (Poaceae), a grass widely used for turf and pasture. *B. insularis* was so far only known from parts of the Southern USA where it is considered as causing economic damage. In 2019 it was detected for the first time in Europe, in Portugal, in the area of Lisbon.
The NPPO of Portugal conducted an official survey and the presence of *B. insularis* was confirmed in 4 different locations in Lisboa e Vale do Tejo Region. A scientific survey in Lisbon and Setubal (also in Lisboa e Vale do Tejo Region), detected the pest in 10 additional locations showing suspicious symptoms, indicating that this chinch bug is already established. A nationwide survey programme will be implemented. The possible adoption of official phytosanitary measures is currently under evaluation.

The situation of *Blissus insularis* in Portugal can be described as: **Present, restricted distribution.**

Source: Lima A, Valada T, Caetano MF, Franco JC, Ramos AP (2021) First record of the lawn chinch bug *Blissus insularis* Barber (Hemiptera: Blissidae) in Europe. *Phytoparasitica* https://doi.org/10.1007/s12600-021-00903-1

NPPO of Portugal (2021-03).

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

2021/056 First report of *Arboridia kakogawana* in Bulgaria

The Japanese grape leafhopper, *Arboridia kakogawana* (Hemiptera: Cicadellidae, EPPO Alert List) was first reported in the EPPO region in Southern Russia in 1999, and later in Ukraine and Romania (EPPO RS 2020/007). The pest was detected on *Vitis* sp. during field surveys conducted in September-November 2019 at 16 localities in Bulgaria at altitudes from 15 to 350 m a.s.l. in the following geographical zones: Black Sea coast, Danube Plain, Prebalkana Mountains, Zadbalkanski Kotlovini Plain. The species was detected on plants in private gardens and plantations in urban and suburban areas only. The survey showed that *A. kakogawana* is still in the expansion phase of its invasion process in Bulgaria and has a limited distribution, mainly in Northern Bulgaria and on the Black Sea coast. Plants were generally infested at low levels, but heavy infestations were observed in towns along the Danube River. The current distribution pattern of *A. kakogawana* suggests that its dispersal in Bulgaria is most probably human-mediated and the main pathways are the transport of infested nursery material or as a hitchhiker on/in vehicles as towns and villages where the species was detected are located next to major roads.

The situation of *Arboridia kakogawana* in Bulgaria can be described as: **Present, restricted distribution.**

Source: Tomov R (2020) First record of the Japanese grape leafhopper *Arboridia kakogawana* (Matsumura, 1932) (Homoptera: Cicadellidae, Erythroneurini) in Bulgaria. *Acta Zoologica Bulgarica* **72**(4), 691-695. http://www.acta-zoologica-bulgarica.eu/00SIO_1_17.

Pictures: *Arboridia kakogawana*. https://gd.eppo.int/taxon/ARBOKA/photos

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

2021/057 First report of *Eutetranychus orientalis* in Serbia

During surveys conducted in Serbia in 2013-2017 and in 2018 and, the citrus brown mite *Eutetranychus orientalis* (Acari: Tetranychidae – EPPO A2 List) was detected for the first time. In Serbia, it was found in 13 locations (out of the 34 locations sampled) on 7 host plant species (*Cydonia oblonga, Malus domestica, M. pumila, Prunus cerasus, P. domestica, P. persica, P. spinosa)*. Sour cherry (*P. cerasus*) and blackthorn (*P. spinosa*) are new host records for *E. orientalis*. This species was recorded on fruit trees both in plantations and small orchards, usually with visible symptoms of infestation. Symptoms of heavy infestation were observed in several locations.

The situation of *Eutetranychus orientalis* in Serbia can be described as: **Present, restricted distribution.**

Additional note: The following species of potential economic importance are also reported for the first time in Serbia: *Oligonychus bicolor, Oligonychus platani, Tetranychus canadensis, Tetranychus ludeni*.

Source: Marić I, Među I, Marčić D, Petanović R, Jovanović S, Ueckermann EA (2021) Spider mites (Acari: Tetranychidae) from Serbia: new species for the country and the Balkan Peninsula, with a key to all known Serbian species. *Systematic & Applied Acarology* 26(1), 304–316.

Pictures: *Eutetranychus orientalis*. https://gd.eppo.int/taxon/EUTEOR/photos

Additional key words: new record **Computer codes:** EUTEOR, OLIGBC, TETRCA, TETRLU, RS

2021/058 Update on the situation of *Anoplophora glabripennis* in Germany

In Germany, the first outbreak of *Anoplophora glabripennis* (Coleoptera: Cerambycidae - EPPO A1 list) was detected in Bavaria in 2004 (EPPO RS 2004/072). Since then, other outbreaks have been detected in Bavaria as well as in Baden Württemberg, Nordrhein-Westfalen, Sachsen-Anhalt. Eradication measures have been applied in all cases, in line with EU Implementing Decision 2015/893/EU and the German guidelines 'Leitlinie zur Bekämpfung des Asiatischen Laubholzbockkäfers *Anoplophora glabripennis*'. Surveillance includes monitoring of host plants twice a year, pheromone traps and use of sniffer dogs. The NPPO of Germany recently declared the eradication of several outbreaks and updated the situation of others:

- **Baden Württemberg: the region is now free from *A. glabripennis***

- the outbreak in Grenzach-Wyhlen, detected in 2011, is considered eradicated as no signs of the pest has been detected in 2015-2019.
- the outbreak in Hildrizhausen is considered eradicated. It had been detected in 2016: in total 20 infested trees and 15 adult beetles were found. In the period 2017-2020, no sign of the pest has been detected.

- **Bavaria**

- the following outbreaks are declared eradicated as no sign of the pest has been detected for the last four years: Feldkirchen (detected in 2012, RS 2013/138), Neubiberg (detected in 2014), Kelheim (detected in 2016, RS 2016-116) and Murnau (detected in 2016 RS 2017/006).

- the outbreak in Ziemetshausen, near Augsburg, detected in 2014 (RS 2014/184) covered 66.6 ha in 2016 and 118 trees and shrubs were found to be infested since the initial finding. One female was caught in a pheromone trap in 2018 but no infested trees have been found in 2017-2020. Monitoring will continue at least until December 2022.
- a new outbreak was detected in August 2019 in Miesbach. Surveys conducted in 2019 detected 34 infested plants in the genera *Acer*, *Betula* and *Aesculus*. Eradication carries on.

- **Nordrhein-Westfalen**

An outbreak had been detected in 2005 in a commercial zone in the municipality of Bornheim (RS 2008/095). Further infested trees (only *Acer* spp.) were found as a result of the official survey in Bornheim-Hersel in November 2007; then in August 2009 in the municipality of Alfter (within the demarcated area), in May 2010 in Bornheim-Roisdorf, and in 2012 in a school yard in Bonn-Tannenbusch. The demarcated area was therefore extended from 2900 to 3096 ha. In the period 2005-2012, 40 infested trees have been detected during official surveys in the demarcated area, and 1432 trees have been destroyed as a precautionary measure. Since 2012, only 2 infested trees have been detected (one in 2015, and one in 2017). Based on the survey results, it is expected that eradication of *A. glabripennis* in the demarcated area could be achieved in the near future.

- **Sachsen-Anhalt**

An outbreak was detected in 2014 in Madgdeburg (RS 2014/184). A demarcated area was established. From April 2015 to March 2016, 18 infested plants were detected in the quarantine area, from April 2016 to March 2017, 12 (*Salix* spp., *Acer* spp., *Populus* spp.), from April 2017 to March 2018, 1 (*Populus* sp.), from April 2019 to March 2020, 15 (mainly *Acer* spp. but also some *Fraxinus* spp.). Eradication measures continue. In 2020, the demarcated area covered 60.8 km^2.

The pest status of *Anoplophora glabripennis* in Germany is officially declared as: **Transient, actionable, under eradication**.

Source: NPPO of Germany (2020-10, 2021-01, 2021-02, 2021-03).
Pest reports are available at https://pflanzengesundheit.julius-kuehn.de/en/pest-reports.html

Pictures: *Anoplophora glabripennis*. https://gd.eppo.int/taxon/ANOLGL/photos

Additional key words: detailed record **Computer codes:** ANOLGL, DE

2021/059 New finding of *Euwallacea fornicatus* in Germany

The NPPO of Germany recently informed the Secretariat of the new finding of *Euwallacea fornicatus sensu lato* (Coleoptera: Scolytinae, EPPO A2 List) on its territory. The pest was first found in January 2021 in a tropical greenhouse in Thüringen (EPPO RS 2021/033). The pest was found again in a tropical greenhouse in Berlin. The identity of the pest was confirmed in March 2021. *E. fornicatus* was found in 136 shrubs and trees of *Ficus* sp., *Mangifera indica*, *Clusia rosea* and *Heteropanax* sp. The infested plants showed bore holes, resin flow, small tubes of compacted sawdust. Many of the infested plants had been delivered from another EU Member State one year ago. Eradication measures are applied, and further monitoring will be conducted.

The pest status of *Euwallacea fornicatus* in Germany is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of Germany (2021-03).

Additional key words: detailed record **Computer codes:** XYLBFO, DE

2021/060 Update on the situation of *Aleurocanthus spiniferus* in Italy

In Italy, *Aleurocanthus spiniferus* (Hemiptera: Aleyrodidae – EPPO A2 List) was first found in Puglia region (province of Lecce) in 2008 (EPPO RS 2008/092), in Campania and Lazio regions (RS 2017/157) in 2017, and in Basilicata and Emilia-Romagna regions in 2018 (RS 2019/133). In 2020-2021, the pest was also found in Toscana and Sicilia.

- **Toscana**

A. spiniferus was found in September 2020 in the municipality of Prato. Surveys were conducted in the surrounding area and showed that the infestation is currently limited to the urban area of Prato. The pest was found on ornamental plants (*Citrus* sp., *Rosa* sp., *Hedera* sp., *Malus* sp., *Prunus laurocerasus*, *Pyracantha* sp., *Pyrus* sp., *Fortunella* sp.). A demarcated area has been officially established, with a buffer zone of 1 km radius. Containment measures are applied as eradication is not considered feasible. The monitoring activity will continue in the demarcated area, with particular attention to the buffer zone, and nurseries.

- **Sicilia**

A. spiniferus was detected in January 2021 in the province of Catania:
- in the municipality of Catania on five ornamental citrus trees (*C. aurantium*) in an urban area.
- in the municipality of Caltagirone and Grammichele in 7 ha of citrus orchards.
An awareness campaign has been initiated. In both cases a demarcated area has been officially established, with a buffer zone of 1 km radius. Phytosanitary measures applied include the pruning and burning of infested plants, the prohibition of movement of citrus fruits with peduncles/leaves outside the demarcated areas, and insecticide treatments in orchards.

The pest status of *Aleurocanthus spiniferus* in Italy is officially declared as: **Present, only in some parts of the Member State concerned, under containment, in case eradication is impossible**.

Source: NPPO of Italy (2020-12, 2021-01, 2021-03).

INTERNET:
- Toscana: https://www.regione.toscana.it/-/ritrovato-per-la-prima-volta-in-toscana-l-aleurodide-spinoso
- Sicilia: http://pti.regione.sicilia.it/portal/page/portal/ver-STAGE/PIR_PORTALE/PIR_LaStrutturaRegionale/PIR_AssessoratoregionaledelleRisorseAgricoleeAlimentari/PIR_DipAgricoltura/PIR_AreeTematiche/PIR_Servizi/PIR_ServizioFitosanitarioRegionale/PIR_Organisminocivi/PIR_Decretiregionali/PIR_Pubblicaallegati/drs%20n.%20850%20del%201-03-2021%20misure%20aleurocanthus.pdf

Pictures: *Aleurocanthus spiniferus*. https://gd.eppo.int/taxon/ALECSN/photos

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

2021/061 *Lambdina fiscellaria* (Lepidoptera: Geometridae, hemlock looper): addition to the EPPO Alert List

Why: *Lambdina fiscellaria* was recently identified as a potential threat to Sitka spruce plantations in Ireland, and to Nordic coniferous forests when screening for potential pests associated with trade of ornamental plants. The EPPO Panel on Phytosanitary Measures recommended its addition to the EPPO Alert List.

The hemlock looper is split into three subspecies, on the basis of differences in feeding preferences of the larval stages, but there are no morphological differences:

- *Lambdina fiscellaria fiscellaria* – eastern hemlock looper
- *Lambdina fiscellaria lugubrosa* – western hemlock looper
- *Lambdina fiscellaria somniaria* – western oak looper

Where: *L. fiscellaria* occurs North America (Canada and USA). The different subspecies of *L. fiscellaria* vary in their distribution. *Lambdina fiscellaria fiscellaria* is found in Eastern Canada and USA, *Lambdina fiscellaria lugubrosa* is found from Oregon north through to British Columbia and South-East Alaska, and *Lambdina fiscellaria somniaria* is found in Oregon, Washington and the south coast of British Columbia.
EPPO Region: Absent.
North America: Canada (British Columbia, New Brunswick, Newfoundland, Nova Scotia, Ontario, Prince Edward Island, Quebec), USA (Alaska, California, Connecticut, Georgia, Idaho, Maine, Massachusetts, Michigan, Minnesota, Montana, New Hampshire, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, Washington, Wisconsin).

On which plants: The hemlock looper is very polyphagous, and its known hosts include both coniferous and deciduous trees. The preferred larval host plants vary depending on the subspecies and the diet of the first instars is more restricted than later instars. Major hosts include *Abies balsamea* (balsam fir), *Picea glauca* (white spruce), *Tsuga* spp. (hemlock), *Picea sitchensis* (Sitka spruce), *Acer* spp. and *Quercus garryana*. During outbreak years, larvae can be found feeding on a significant number of tree species as well as understory plants.

Damage: Damage to plants is caused by the larvae that feed on needles and leaves. During severe outbreaks, trees can be completely defoliated over large areas.

Pictures of *L. fiscellaria* can be viewed on the Internet:
https://www.forestryimages.org/browse/subthumb.cfm?sub=8662
https://www.forestryimages.org/browse/subthumb.cfm?sub=893
https://www.forestryimages.org/browse/subthumb.cfm?sub=159

Dissemination: Adults can fly short distances. First instar larvae are capable of moving to find a suitable host, as eggs are often laid on old stumps, in mosses or on the forest ground. Pupae and egg masses may be present on wood, as well as on mosses and lichens that are harvested in forest. As the pest is mainly associated with forest areas, its introduction in the EPPO region with plants for planting is considered unlikely by the Irish Pest Risk Analysis.

Pathway: Plants for planting, wood, mosses and lichens harvested in forests? from areas where *L. fiscellaria* occurs.

Possible risks: *L. fiscellaria* occurs in regions with similar climates to the EPPO region, it has a wide host range and some host plants are widespread in the region. If it was introduced,

it could cause similar outbreaks as in its area of origin. Current phytosanitary measures on wood of major hosts can mitigate the risk of entry but, during outbreaks, the pest may be associated with many plant species that are not regulated. The trade of mosses and lichens from USA to the EPPO region has recently increased and is not covered by any phytosanitary regulation.

Sources

CABI (2021) *Lambdina fiscellaria* (eastern hemlock looper). Invasive Species Compendium. CABI, Wallingford (GB). https://www.cabi.org/isc/datasheet/29749

Marinova-Todorova M, Björklund N, Boberg J, Flø D, Tuomola J, Wendell M, Hannunen S (2020) Screening potential pests of Nordic coniferous forests associated with trade in ornamental plants. *EPPO Bulletin* **50**(2), 249–267.

Tuffen MG (2018) Rapid Pest Risk Analysis (PRA) for *Lambdina fiscellaria*. Teagasc Dublin, Ireland. 79 pp.

Tuffen MG, Grogan HM (2019) Current, emerging and potential pest threats to Sitka spruce plantations and the role of pest risk analysis in preventing new pest introductions to Ireland. *Forestry: An International Journal of Forest Research* **92**(1), 26–41. https://doi.org/10.1093/forestry/cpy036

EPPO RS 2020/061

Panel review date - Entry date 2021-03

Additional key words: Alert List **Computer codes:** LAMBFI, LAMBFL, LAMBFS

2021/062 Studies on potato cyst nematodes in Algeria

In Algeria, the presence of potato cyst nematodes was first noticed in 1953 in a few fields in the Algiers region. It is thought that these nematodes had been introduced in the 1940s, soon after World War II, with seed potatoes imported from England (GB). Studies conducted in the late 2010s confirmed the presence of both *Globodera pallida* and *G. rostochiensis* (EPPO A2 List). Recent morphological and molecular studies were conducted to determine the identity of potato cyst nematodes in the main potato-growing regions of Algeria. Soil samples were collected from 2014 to 2018 in potato fields from 17 regions. 44% of the studied samples contained *G. pallida* alone, 28% *G. rostochiensis* alone and 28% mixtures of the two species.

In terms of distribution, results were as follows:

- *Globodera pallida* (alone) was found in some samples from the regions of Ain Defla, Algiers, Blida, Bouira, Boumerdès, Djelfa, Mostaganem, Relizane, Tipaza.
- *Globodera rostochiensis* (alone) was found in some samples from the regions of Chlef, El Oued, Mascara, Mostaganem, Sétif, and Tlemcen.
- Mixed infections were found in some samples from the regions of Ain Defla, Guelma, Mascara, Mila, Mostaganem, and Tébessa.

Most nematode isolates found in the central part of the studied area belonged to *G. pallida*, while *G. rostochiensis* isolates were more frequent in the southern part. In the eastern part, the two *Globodera* species were often found in mixed populations. Most of the samples identified in the western part corresponded to *G. rostochiensis* alone or mixed populations. The authors considered that these results show that *Globodera* species are widely distributed in the main potato-growing regions of Algeria.

The situation of both *Globodera pallida* and *Globodera rostochiensis* in Algeria can be described as follows: **Present, widespread in the main potato-production areas.**

Source: Djebroune A, Chakali G, de Andrade E, Camacho MJ, Rusinque L, Inácio ML (2021) Integrative morphometric and molecular approach to update the impact and distribution of potato cyst nematodes *Globodera rostochiensis* and *Globodera pallida* (Tylenchida: Heteroderidae) in Algeria. *Pathogens* **10**, 216. https://doi.org/10.3390/pathogens10020216

Pictures: *Globodera pallida*. https://gd.eppo.int/taxon/HETDPA/photos
Globodera rostochiensis. https://gd.eppo.int/taxon/HETDRO/photos

Additional key words: detailed record **Computer codes:** HETDPA, HETDRO, DZ

2021/063 First report of pepino mosaic virus in Serbia

During a survey on tomato viruses conducted in Serbia, virus-like symptoms were observed in July 2019 in tomato plants (*Solanum lycopersicum*) grown in 2 separate plastic tunnels in Bogojevce village (Jablanica district). Affected plants showed yellow angular spots on the leaves accompanied by necrosis and distortion, as well as fruit discoloration. In these 2 tomato crops, disease incidence was estimated at 80%. Laboratory analysis (serological, molecular, and biological tests) confirmed the presence of pepino mosaic virus (*Potexvirus*, PepMV – EPPO A2 List) in all tested symptomatic samples. Sequence analysis of the CP gene revealed that all Serbian PepMV isolates were identical (among themselves) and shared the highest nucleotide identity with an isolate from Spain. Phylogenetic analysis also showed that Serbian isolates belonged to CH2 (Chile-2 strain) but formed a separate subgroup within CH2.
The situation of pepino mosaic virus in Serbia can be described as follows: **Present, only in some areas (first found in 2019 in 1 locality, Jablanica district).**

Source: Stankovic I, Vucurovic A, Zecevic K, Petrovic B, Ristic D, Vucurovic I, Krstic B (2020) Pepino mosaic virus, a new threat for Serbia's tomatoes. *Spanish Journal of Agricultural Research* **18**(4), e10SC05. https://doi.org/10.5424/sjar/2020184-16244

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

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

2021/064 First report of *Lecanosticta acicola* in Turkey and new host records

In March 2017, severe blight symptoms resembling those caused by *Lecanosticta acicola* (EPPO A2 List) were observed in the Atatürk Arboretum in Istanbul, Turkey. The disease was observed on needles of *Pinus nigra* subsp. *pallasiana* (Anatolian black pine – including two endemic varieties of this subspecies: *fastigiata* and *pallasiana*), as well as on *Pinus sylvestris* (Scots pine). Following these initial observations, a survey was conducted in 2017/2018 on a total of 37 trees from 28 taxa (4 *Cedrus* and 24 *Pinus*) in the arboretum. The presence of the fungus in samples of symptomatic needles was confirmed by isolation followed by molecular identification (sequencing of the ITS region). *L. acicola* was isolated from symptomatic needles of 10 trees belonging to the following 7 taxa: *Cedrus libani*, *Pinus sylvestris*, *P. nigra* subsp. *nigra*, *P. nigra* subsp. *laricio*, *P. nigra* subsp. *pallasiana*, *P. nigra* subsp. *pallasiana* var. *fastigiata* and *P. nigra* subsp. *pallasiana* var. *pallasiana* f. *şeneriana*. Disease severity, assessed by estimating the percentage of symptomatic crown volume, ranged between 10% and 100%. Infection severity was highest on the endemic varieties of *P. nigra* subsp. *pallasiana* (80%-100%) and lowest on *C. libani*. This is the first time that *L. acicola* is reported from Turkey, as well as on a non-pine species *Cedrus libani* and on two varieties of *P. nigra* subsp. *pallasiana* under natural conditions. The authors also noted that the introduction of *L. acicola* may accelerate the disappearance of already endangered Turkish *Pinus* taxa (*P. nigra* subsp. *pallasiana var. fastigiata* and *var. pallasiana f. şeneriana*).
The situation of *Lecanosticta acicola* in Turkey can be described as follows: **Present, few occurrences (first observed in the Atatürk Arboretum, Istanbul in 2017).**

Source: Oskay F, Laas M, Mullett M, Lehtijärvi A, Doğmuş-Lehtijärvi HT, Woodward S, Drenkhan R (2020) First report of *Lecanosticta acicola* on pine and non-pine hosts in Turkey. *Forest Pathology* **50**, e12654. https://doi.org/10.1111/efp.12654

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

Additional key words: new record, host plants **Computer codes:** SCIRAC, TR

2021/065 Update on the situation of *Lecanosticta acicola* in Bulgaria

In Bulgaria, *Lecanosticta acicola* (EPPO A2 List) was reported for the first time in 2017 in a 50-year-old plantation of *Pinus sylvestris* near the village of Svetulka (Ardino municipality, Kardzhali district). This plantation is part of a State forest and is located in the Rhodope mountains. In 2018, all infected pine trees were cut down and removed from the site and the outbreak was thought to be eradicated. However, during spring 2018 symptoms were observed again in the same area and in November 2019 a survey was carried out in the Kardzhali district. As a result, *L. acicola* was detected on *Pinus sylvestris* and *Pinus nigra* in several locations, mainly along the Arda river valley and at a distance of approximately 25 km from the initial outbreak site.
The situation of *Lecanosticta acicola* in Bulgaria can be described as follows: **Present, only in some areas (Kardzhali district).**

Source: Georgieva M (2020) Spread of the invasive pathogen *Lecanosticta acicola* on species of *Pinus* in Bulgaria. *Silva Balcanica* **21**(1), 83–89. https://doi.org/10.3897/silvabalcanica.21.e54610

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

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

2021/066 Rose leaf rosette-associated virus, a new virus reported from China and California (US)

In China, a severe virus-like disease characterized by leaf rosette or witches' broom symptoms has recently been observed on *Rosa multiflora*. Affected plants showed dieback, severe decline, and eventually die after a few years. Described symptoms differed from those associated with other known viruses infecting roses, in particular from *Rose rosette virus* (e.g. no excessive production of reddish thorns). In 2015, high throughput sequencing (HTS) revealed the presence of a new closterovirus tentatively called 'rose leaf rosette-associated virus' (RLRaV) in a symptomatic *R. multiflora* sample. In this tested sample, three other known viruses (*Apple stem grooving virus, Blackberry chlorotic ringspot virus, Prunus necrotic ringspot virus*) were also detected (He *et al.*, 2015).

More recently, RLRaV has been reported from California (US). The virus was detected by HTS in an asymptomatic sample collected in 2019 from a rose plant (cv. Roses Are Red). This plant had been introduced in the rose germplasm collection of the University of California-Davis in 2013 and originated from a private rose breeder collection located in California. The HTS analysis has also shown that RLRaV occurred in mixed infection with two mycoviruses (rose cryptic virus and rose partitivirus). It is noted that further research is needed to determine the prevalence of RLRaV in California and its impact on rose production (Soltani *et al.*, 2021).

Source: He Y, Yang Z, Hong N, Wang G, Ning G, Xu W (2015) Deep sequencing reveals a novel closterovirus associated with wild rose leaf rosette disease. *Molecular Plant Pathology* **16**(5), 449-458. https://doi.org/10.1111/mpp.12202

Soltani N, Golino DA, Al Rwahnih M (2021) First report of rose leaf rosette-associated virus infecting rose (*Rosa* spp.) in California, USA. *Plant* Disease **105**(early view). https://doi.org/10.1094/PDIS-10-20-2268-PDN

Additional key words: new record, new pest **Computer codes:** RLRAV0, CN, US

2021/067 Further studies on beech leaf disease and *Litylenchus crenatae mccannii* in Canada and the USA

Beech leaf disease (EPPO Alert List) is an emerging disease of beech (*Fagus* spp.) in North America, which can lead to tree mortality in some cases. It was first observed in 2012 in Lake County, Ohio (US) in 2012 and is currently known to occur in other US states (Connecticut, New York, Pennsylvania,), as well as in Ontario in Canada. Although the possible causes of beech leaf disease are still being investigated, the presence of a foliar nematode *Litylenchus crenatae mccannii* has been associated with disease symptoms (see EPPO RS 2018/178, 2019/083, 2020/082, 2020/083, 2020/202).
Further studies were conducted in 2018/2019 across the range of the disease (i.e. Connecticut, New York, Ohio, Pennsylvania, and Ontario). Leaves and buds were collected in selected areas affected by beech leaf disease (with one control site without any symptomatic trees) and nematodes were extracted using a modified 'pan method' (i.e. plant tissues are soaked in water before extracting nematodes). Monthly collections of symptomatic and asymptomatic leaves during the growing season (May-October), and of leaves and buds between growing seasons (November–March), revealed that *Litylenchus crenatae mccannii* was present in all tissue types. In symptomatic leaves from Ohio and Ontario, it was also found that numbers of nematodes progressively increased over time with the greatest number of detections being made at the end of the growing season. Smaller numbers of *L. crenatae mccannii* were detected in asymptomatic leaves collected from diseased trees, typically at the end of the growing season. In addition, *L. crenatae mccannii* was found overwintering in buds and detached leaves (in the leaf litter). Other nematode species (*Plectus* and *Aphelenchoides* spp.) were detected, but infrequently and only in small numbers. The authors concluded that these results further support the involvement of *L. crenatae mccanii* in beech leaf disease.

Source: Reed SE, Greifenhagen S, Yu Q, Hoke A, Burke DJ, Carta LK, Handoo ZA, Kantor MR, Koch J (2020) Foliar nematode, *Litylenchus crenatae* ssp. *mccannii*, population dynamics in leaves and buds of beech leaf disease-affected trees in Canada and the US. *Forest Pathology* **50**, e12599.

Additional key words: etiology, biology **Computer codes:** LITYSP, CA, US

2021/068 First report of *Brugmansia suaveolens* in Italy

Brugmansia suaveolens (Solanaceae) is native to South America (Eastern Brazil) and has been cultivated in many tropical and temperate regions of the world for traditional medicine and ornamental purposes. In its native range, *B. suaveolens* grows in the margins of forests and rivers and can colonise fields at altitudes below 1 000 m. In the EPPO region, *B. suaveolens* has been reported only from the Macaronesia islands (Canary, Madeira and Azores). Following field surveys in the Campania region of Italy between 2015-2019, *B. suaveolens* was discovered in Portici and Positano in September 2015 and August 2017, respectively. In Portici, the species was found in the Royal Park in the Bay of Naples on the foothills of Mt Vesuvius (5 individuals). In Positano, the population was located between Grotte and Laurito on the slopes of the Lattari Mt. at 122 m a.s.l. (7 individuals). In both locations, plants were flowering. The author suggests that *B. suaveolens* should be regarded as a casual alien in Italy.

Source: Stinca A (2020) *Brugmansia suaveolens* (Humb. & Bonpl. ex Willd.) Sweet (Solanaceae): an alien species new to continental Europe. *BioInvasions Records* **9**(4), 660–669.

Additional key words: new record, invasive alien plants Computer codes: DATSU, IT

2021/069 First report of *Corydalis linstowiana* in Belgium

Corydalis linstowiana (Papaveraceae) is native to the western part of Sichuan Province in China where it grows in forest margins, at altitudes of between 1 300 – 3 400 m a.s.l. In the EPPO region, the species is an uncommon ornamental species with only one supplier recorded in Belgium and the Netherlands. In the München Botanical Gardens in Germany, the species is regarded as an invasive weed. In Belgium, *C. linstowiana* was recorded in April 2019 along a former railway track in Bruges (province of West Flanders) approximately 100 m from a garden centre. The population has been present in this area for at least five years. It is not clear how *C. linstowiana* arrived in this area, though the authors suggest it was probably introduced as a contaminant of other pot plants. Although there is no information available on its potential invasiveness, the congener *C. incisa* has shown invasive behaviour in the USA, where in just a few years since its detection, it has become a problematic species that can invade nature reserves.

Source: Verloove F, Devos L (2021) The Chinese weed *Corydalis linstowiana* (Papaveraceae) recorded for the first time in Belgium. *Dumortiera* **117**, 36-39.

Additional key words: new record, invasive alien plants **Computer codes:** COYLW, BE

2021/070 First report of *Solanum viarum* in France

In the EPPO region, *Solanum viarum* was recently reported in the South of France. The first discovery was made in September 2018 by an amateur botanist and then independently in 2019 by the authors of the current publication. *Solanum viarum* was discovered in the Gorges du Gardon a little way downstream from the regional nature reserve (Gard department). In February 2019, approximately 21 individuals covering 20 m^2 were recorded in semi-shade, at the edge of a holm oak (*Quercus ilex*) forest dominated by the flowering vine *Smilax aspera*. The *Solanum viarum* plants had fruits at varying stages of maturity and winter frosts

did not appear to have affected the plants. *S. viarum* is native to South America and is an invasive alien species in Asia, North and Central America and South Africa. It produces thousands of seeds per plant that are dispersed by small mammals and livestock. Throughout its invasive range, *S. viarum* has a number of negative impacts including forming dense monospecific stands that outcompete native plant species. In addition, it can invade pastures, plantations and agricultural fields.

Source: Christians JF, Maglio M (2020) *Solanum viarum* Dunal (Solanaceae) dans le département du Gard (France): une espèce exotique nouvelle pour la flore de France continentale. *Bulletin de la Société Linnéenne de Lyon* **89**(7-8), 196-204.

Additional key words: new record, invasive alien plants **Computer codes:** SOLVI, FR

2021/071 First report of *Erigeron sumatrensis* in Bosnia and Herzegovina

Erigeron sumatrensis (Asteraceae) is an annual herb native to South America and is widespread within the EPPO region. It can produce up to 200 000 seeds per plant which are wind dispersed. In surveys conducted in 2019-2020, *E. sumatrensis* was recorded from 38 locations (ranging from 200 m – 900 m a.s.l.) with some populations consisting of several hundred individuals. The first record of *E. sumatrensis* in Bosnia and Herzegovina dates from 2019, when it was discovered on the Klek peninsula near the town of Neum in Southern Herzegovina. *E. sumatrensis* grows in open, sunny to partly shaded places, mainly in disturbed or man-made habitats – road embankments, railroad tracks, urban areas, waste lands, arable land, vineyards and orchards. It may become invasive in natural sparsely vegetated habitats. The species is an important and highly aggressive weed in agricultural land.

Source: Maslo, S, Šarić Š (2020) *Erigeron sumatrensis* Retz. (Compositae), a recently recognized invasive alien species in Bosnia and Herzegovina. *Glasnik Hrvatskog Botanickog Društva* **8**(2), 88-93.

Additional key words: new record, invasive alien plants **Computer codes:** ERISU, BA

2021/072 Alien *Hydrocotyle* species in Belgium

In Belgium, there is one native species of *Hydrocotyle* (*Araliaceae*): *H. vulgaris*, and three alien species, *H. ranunculoides*, *H. sibthorpioides* and *H. verticillata*.

Hydrocotyle ranunculoides was first recorded in Belgium in 1992 north of Gent. It is now a widespread invasive species and is common in Flanders though it also occurs in Wallonia. The species can cover slow moving water bodies and outcompetes vulnerable native aquatic vegetation and hinders human use of water bodies (for instance fishing or recreation).

Hydrocotyle sibthorpioides is believed to have been introduced into Belgium as a contaminant of bonsai plants from China. It is present in the Antwerp zoo since the 1980s where it grows on lawns and between pavement slabs. The species was originally identified as *H. novae-zelandiae*.

Hydrocotyle verticillata is morphologically very similar and often confused with the native, *H. vulgaris*. A well-established population of *H. verticillata* occurs in a recently created pond

in the nature reserve D'Heye in Bredene (province of West Flanders). Here, *H. verticillata* completely covers the surface of the pond. *H. verticillata* is sold in plant nurseries and is likely to be more widely present in Europe than previously thought due to the misidentification with the native species.

Source: Verloove F, Heyneman G (2021) A note on some alien species of *Hydrocotyle* (Araliaceae) in Belgium. *Dumortiera* **117** 26-29.

Additional key words: invasive alien plants Computer codes: HYDRA, HYDSI, HYDVE, BE

2021/073 *Asclepias syriaca* in Lithuania

Asclepias syriaca (Apocynaceae) is a perennial herb native to North America, and in the EPPO region it is an invasive alien plant and a species of Union concern (EU Regulation 1143/2014). It was introduced into the EPPO region as a garden ornamental and has since become a problematic species negatively impacting biodiversity and ecosystem services. In the boreal biogeographic region of Europe, *A. syriaca* has been recorded in Sweden and recently in Latvia. In Lithuania, *A. syriaca* was first recorded in cultivation in 1930 and it was first recorded in the natural environment in 1991. Until 2015, 7 established populations of *A. syriaca* had been recorded. Following surveys between 2018-2020, an additional 31 populations were identified, and most populations were located in the southern, eastern, and northeastern parts of the country. Population size generally varies from small (occupying up to 20 m^2) to larger stands (up to 500 m^2). However, some stands were very large, with the largest known stand present near Meškučiai village which occupied 7390 m^2 in 2018. When this latter site was first discovered in 1994, the stand occupied 2130 m^2. Thus, in 24 years the size of the stand increased by 5260 m^2. In Lithuania, *A. syriaca* commonly invades anthropogenic herbaceous vegetation and unmanaged xeric grasslands. Some populations have been seen to spread into arable land.

Source: Gudžinskas Z, Petrulaitis L, Taura L (2021) *Asclepias syriaca* L. (Apocynaceae) and its invasiveness in the southern part of the Boreal region of Europe – evidence from Lithuania. *BioInvasions Records* 10 (In Press).

Pictures: *Asclepias syriaca*. https://gd.eppo.int/taxon/ASCSY/photos

Additional key words: invasive alien plants Computer codes: ASCSY, LT