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2020/184 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**

In Canada, *Aproceros leucopoda* (Hymenoptera: Argidae – formerly EPPO Alert List) was first found in August 2020 on elm trees (*Ulmus* spp.) in a rural property located in Ste Martine, Québec. It is the first time that detection of this pest has been reported in North America (NAPPO, 2020). **Present, few occurrences.**

Dothistroma septosporum (EU RNQP) occurs in Belarus. It was first found in 2012 on young trees of *Pinus strobus* in the Verhnedvinsk arboretum (Vitebsk region). In 2013, symptoms of the disease were observed on *P. sylvestris* near Minsk. In 2013, the presence of the fungus was confirmed by molecular methods on *P. sylvestris* in Vitebsk region, and subsequently on *P. mugo* in botanical gardens in Vitebsk and Minsk (Markovskaja *et al.*, 2020). **Present, only in some areas.**

In Italy, *Singhiella simplex* (Hemiptera: Aleyrodidae – formerly EPPO Alert List) was first found in summer 2019, on *Ficus benjamina* trees planted in a public garden in the historical centre of the city of Reggio Calabria (Calabria region). The pest was then found in most of the urban green areas of the city. Infested trees were markedly defoliated and presented branch dieback (Laudani *et al.*, 2020). **Present, only in some areas.**

The oak processionary moth *Thaumetopoea processionea* (Lepidoptera: Notodontidae – EU Annexes) was first found in Ireland in June 2020 on one tree in a park in South Dublin. All caterpillars have been removed from the tree. Further surveys are ongoing. Ireland has a Protected Zone status for *Thaumetopoea processionea* (NPPO of Ireland, 2020). **Under eradication.**

Tuta absoluta (Lepidoptera: Gelechiidae – EPPO A2 List) was first found in Togo in 2018. The pest was trapped during a survey conducted from November 2018 to February 2019 in 15 tomato (*Solanum lycopersicum*) farms located in the different regions of Togo. Damage on tomato leaves and fruit was observed in all studied sites with a lower incidence in the Northern regions (Fiaboe *et al.*, 2020). **Present, widespread.**

- **Detailed records**

In Brazil, surveys on huanglongbing were carried out from 2011 to 2014 in the state of Bahia to verify the absence of the disease. However, '*Candidatus* Liberibacter asiaticus' (EPPO A1 List) was detected by PCR in 3 samples of the insect vector (*Diaphorina citri* – Hemiptera: Liviidae – EPPO A1 List) collected, on *Murraya paniculata* in the city of Seabra, in the region of Chapada Diamantina (Abreu *et al.*, 2020).

In Paraguay, *Anastrepha obliqua* (Diptera: Tephritidae, EPPO A1 List) is reported as present in the departments of Boquerón, Central, Cordillera, Concepción, Ñeembucú (Silva *et al.*, 2020).

- **Eradication**

The NPPO of Switzerland informed the EPPO Secretariat that *Synchytrium endobioticum* (EPPO A2 List) has not been detected over the last 25 years. The pathogen is therefore considered to be absent from Switzerland (pest eradicated, under official surveillance).
The pest status of *Synchytrium endobioticum* in Switzerland is officially declared as: **Absent, pest eradicated.**

- **Absence**

In 2011, a serious disease was observed in nutmeg (*Myristica fragrans*) plantations in Kerala, India, causing leaf and nut fall. At that time, the disease was reported to be caused by *Phytophthora ramorum* (EPPO A2 List) (Mathew and Beena, 2012). Further investigations using morphological, molecular, and biological methods have shown that other *Phytophthora* species were involved in this disease, but not *P. ramorum*. It was found that isolates from nutmeg were hybrid species: *P. citrophthora x P. meadii* and *P. citrophthora x P. tropicalis* for which the names *P. citromeadii* and *P. citrocaptalis* have been proposed, respectively (Anandaraj *et al.*, 2020).

- **Host plants**

Listronotus bonariensis (Coleoptera: Curculionidae – EPPO A1 List) is primarily a pest of grasses (Poaceae), but adults can feed on some Brassicaceae and Fabaceae. In October 2016, an infestation of pea (*Pisum sativum* - Fabaceae) seedlings was observed in a farm in New Zealand. Symptoms included wilting and yellowing of new growth. Visual inspection of infested plants found entry and exit points, mining of the stem and a single larva per seedling. Peas had been sown in a field previously grown with Italian ryegrass (*Lolium multiflorum*). The authors consider that this is a new host plant record of *L. bonariensis* (McNeill *et al.*, 2020).

Citrus leaf blotch virus (*Citrivirus,* CLBV, EU Annexes) was detected on symptomatic Kaido crab apple (*Malus micromalus*) in China (Li *et al.*, 2020). This is the first report of CLBV infecting plant species in the *Malus* genus.

- **New pests**

In Italy, a new blunervirus has been isolated from symptomatic tomato plants grown in an open field in autumn 2018. Affected plants exhibited fruit dimpling and uneven ripening. The complete genome sequence of this new virus has been sequenced, and it is proposed to name it tomato fruit blotch virus (ToFBV). A distinct isolate of the same virus was also detected in Australia (Ciuffo *et al.*, 2020).

In Portugal, a new pathogen species, *Pestalotiopsis pini,* has been isolated from symptomatic stone pines (*Pinus pinea*) in pine plantations and urban areas. It causes shoot blight and stem necrosis. Four other species of *Pestalotiopsis* were identified in association with symptomatic stone pines, namely, *Pe. australis*, *Pe. biciliata*, *Pe. disseminata* and *Pe. hollandica* (Silva *et al.,* 2020).

Sources: Abreu EFM, Lopes AC, Fernandes AM, Silva SWB, Barbosa CJ, Nascimento AS, Laranjeira FF, Andrade EC (2020) First report of HLB causal agent in psyllid in State of Bahia, Brazil. *Neotropical Entomology* (abst.). https://doi.org/10.1007/s13744-020-00783-w

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Rodriguez PAC, Miret LM, Norrbom AL, Garay LC, Coronel BE, Peñaranda EA (2020) New records of *Anastrepha* (Diptera: Tephritidae) from Paraguay. *Zootaxa,* **4809**(1), 141–155. https://doi.org/10.11646/zootaxa.4809.1.8
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Additional key words: absence, detailed record, eradication, new host plant, new pest, new record

Computer codes: 1PESPG, ANSTOB, APRCLE, CLBV00, DIAACI, GNORAB, HYROBO, LIBEAS, PESTDI, PHYTRA, SCIRPI, SINLSI, SYNCEN, THAUPR, TOFBV0, AU, BR, BY, CA, CH, IE, IN, IT, IT, NZ, PT, PY, TG

2020/185 Modifications of regulation in the EU

The European Union has recently revised the emergency measures applied against three pests:

- *Pseudomonas syringae* pv. *actinidiae* (EPPO A2 List): Commission implementing regulation 2020/885 replaces Implementing Decision (EU) 2017/198. It includes requirements for live pollen and plants intended for planting, other than seeds, of *Actinidia* for import and movement within the EU.
- Tomato brown rugose fruit virus (EPPO A2 List): Commission Implementing Regulation (EU) 2020/1191 repeals Implementing Decision (EU) 2019/1615. This new regulation includes requirements for seed sampling and testing.
- *Xylella fastidiosa* (EPPO A2 List): Commission Implementing Regulation (EU) 2020/1201 repeals Decision (EU) 2015/789. The Regulation defines eradication and containment measures, how surveys should be conducted, and measures for import of host plants from third countries. Measures are explained in detail in a dedicated webpage https://ec.europa.eu/food/plant/plant_health_biosecurity/legislation/emergency_measures/xylella-fastidiosa_en

All EU Emergency control measures are available at:
https://ec.europa.eu/food/plant/plant_health_biosecurity/legislation/emergency_measures_en

Source: Commission Implementing Regulation (EU) 2020/885 of 26 June 2020 as regards measures to prevent the introduction into and the spread within the Union of *Pseudomonas syringae* pv. *actinidiae* Takikawa, Serizawa, Ichikawa, Tsuyumu & Goto. http://data.europa.eu/eli/reg_impl/2020/885/oj

Commission Implementing Regulation (EU) 2020/1191 of 11 August 2020 establishing measures to prevent the introduction into and the spread within the Union of *Tomato brown rugose fruit virus* (ToBRFV) and repealing Implementing Decision (EU) 2019/1615. http://data.europa.eu/eli/reg_impl/2020/1191/oj

Commission Implementing Regulation (EU) 2020/1201 of 14 August 2020 as regards measures to prevent the introduction into and the spread within the Union of *Xylella fastidiosa* (Wells et al.) http://data.europa.eu/eli/reg_impl/2020/1201/oj

Additional key words: regulation

Computer codes: PSDMAK, TOBRFV, XYLEFA, XYLEFF, XYLEFO, XYLEFM, XYLEFP, XYLEFS, XYLEFT, EU

2020/186 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 2020/160), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Aleurocanthus spiniferus*. https://gd.eppo.int/taxon/ALECSN/datasheet
- *Apriona rugicollis*. https://gd.eppo.int/taxon/APRIJA/datasheet
- *Cherry rasp leaf virus*. https://gd.eppo.int/taxon/CRLV00/datasheet
- *Diaphorina citri*. https://gd.eppo.int/taxon/DIAACI/datasheet
- *Ips typographus*. https://gd.eppo.int/taxon/IPSXTY/datasheet
- *Meloidogyne enterolobii*. https://gd.eppo.int/taxon/MELGMY/datasheet
- *Rhagoletis pomonella*. https://gd.eppo.int/taxon/RHAGPO/datasheet
- *Rhynchophorus palmarum*. https://gd.eppo.int/taxon/RHYCPA/datasheet
- *Synchytrium endobioticum*. https://gd.eppo.int/taxon/SYNCEN/datasheet
- *Trioza erytreae*. https://gd.eppo.int/taxon/TRIZER/datasheet

Source: EPPO Secretariat (2020-09).

Additional key words: publication

Computer codes: ALECSN, APRIJA, CRLV00, DIAACI, IPSXTY, MELGMY, RHAGPO, RHYCPA, SYNCEN, TRIZER

2020/187 Recommendations to policy makers from Euphresco projects

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

Risk-based strategies to prepare for and manage invasive tree borers - Pest Risk Evaluation and Pest management SYStems (PREPSYS)

The PREPSYS project addressed the question 'How can we best prepare for and manage the risks and impacts of *Agrilus planipennis* (emerald ash borer) and *Agrilus anxius* (bronze birch borer)?' Research activities aimed to fill-in the gaps in the knowledge on the pests' biology, dispersal, economic/environmental impacts and control methods in order to support preparedness of European countries.
Given the limited resources available for surveillance activities, the consortium recommends that liaison with the European Food Safety Authority (EFSA) should be further encouraged (e.g. use of *A. anxius* and *A. planipennis* pest survey cards, and of Ribess+ modelling for surveys). Coordination of trapping effort, including selection of trap type and lures should also be given high priority by EU Member States.
Concerning the management of both pests, it is now clear from ongoing usage and research in North America that trunk injection of emamectin benzoate is an effective treatment to manage infestations of EAB and allow more time to find other options for those managing

the pest. Urgent steps should be taken in the EU to test and register emamectin benzoate for this purpose.
Some biological control agents used in North America showed promising results in successfully establishing and reducing *Agrilus* populations: *Spathius agrili*, *Tetrastichus planipennisi*, *Spathius galinae* and *Oobius agrili*. The consortium recommends fast-tracking of safety testing for release of the biological control agents and capacity building for commercial scale production and release of the most promising candidate species.

Authors: Evans, Hugh; Hoch, Gernot; Douglas, Gerry; Loomans, Antoon; Meissner, Heike.

Duration of the project: 2016-10-01 to 2019-09-30.

Link: https://zenodo.org/record/4014893#.X2Duvmgzbct

Source: Euphresco (2020-09). https://www.euphresco.net/projects/

Additional key words: research

2020/188 *Anoplophora glabripennis* is absent from Russia

In August 2014, a single specimen of *Anoplophora glabripennis* (Coleoptera: Cerambycidae – EPPO A1 List) was found in Primorsky Krai, Russia, close to China (EPPO RS 2017/145). The NPPO of Russia recently informed the EPPO Secretariat that annual surveys have confirmed the absence of *A. glabripennis* from the Russian territory.
The pest status of *Anoplophora glabripennis* in Russia is officially declared as: **Absent**.

Source: NPPO of Russia (2020-08).

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

Additional key words: absence **Computer codes:** ANOLGL, RU

2020/189 Eradication of *Anoplophora glabripennis* from Montenegro

In Montenegro, *Anoplophora glabripennis* (Coleoptera: Cerambycidae – EPPO A1 List) was first found in October 2015 in the municipality of Budva on a willow tree (*Salix* sp.) (EPPO RS 2017/004). The infested plant was destroyed, and all susceptible host plants within a radius of 100 m (11 plants) were cut down. Careful inspection did not detect any *A. glabripennis* or signs of it on these plants. A demarcated area was established, comprising the infested area, plus a buffer zone of 2 km around the infested area. Surveillance was conducted in this demarcated area for 4 consecutive years and did not detect the pest or signs of its presence. In addition to the specific surveillance in the demarcated area, specific monitoring is also carried out in other sites in Montenegro. Surveys conducted showed that *A. glabripennis* is not present in the territory of Montenegro.
The pest status of *Anoplophora glabripennis* in Montenegro is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Montenegro (2020-09).

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

Additional key words: absence, eradication **Computer codes:** ANOLGL, ME

2020/190 First report of *Spodoptera frugiperda* in Papua New Guinea

The presence of *Spodoptera frugiperda* (Lepidoptera: Noctuidae – EPPO A1 List) in Papua New Guinea was confirmed in September 2020. The pest was initially found in February 2020 on young maize (*Zea mays*) plants in two localities (Mari village in Morobe province, Daru township in Western province). *S. frugiperda* currently occurs in the following provinces of Papua New Guinea: Jiwaka, Madang, Morobe, Western, and Western highlands. It is noted that the provinces of Morobe and Madang provinces are particularly at risk, as they are commercial maize and sugarcane production areas. The Pacific Community (SPC) is working closely with stakeholders on research, surveillance and monitoring (using pheromone traps), as well as on the development of IPM strategies to control the pest. The recent spread of *S. frugiperda* to Australia and Papua New Guinea raises concern in the Pacific region.
The situation of *Spodoptera frugiperda* in Papua New Guinea can be described as follows: **Present, only in some areas (Jiwaka, Madang, Morobe, Western, Western highlands provinces).**

Source: Pacific Community (SPC). News (2020-09-03) Armyworm infestation breaches the Pacific. https://www.spc.int/updates/news/media-release/2020/09/armyworm-infestation-breaches-the-pacific

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

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

2020/191 Update on the situation of *Aromia bungii* in Italy

In Italy, *Aromia bungii* (Coleoptera: Cerambycidae – EPPO A1 List) was first found in Campania region (province of Napoli) in 2012 on *Prunus* spp. (EPPO RS 2012/204) and in 2018, on the island of Procida (province of Napoli). It was also detected in 2013 in Lombardia region (EPPO RS 2013/187). All outbreaks are under eradication.
The NPPO of Italy recently informed the Secretariat of the finding of *A. bungii* in Lazio region, in the municipality of Civitavecchia. Following a citizen report, two apricot trees (*Prunus armeniaca*) were found to be infested in two small private gardens located in an urban area in June 2020. No adults were found. An adult specimen had been crushed by the owner of the garden and the remains were used to carry out a molecular analysis to confirm the identity of the pest. Eradication measures in accordance with Decision (EU) 2018/1503 are being applied, including the felling of infested plants and all specified plants within a radius of 100 meters from infested plants. Few *Prunus* trees are grown for nearby private gardens, but there are no nurseries near the outbreak.
The pest status of *Aromia bungii* 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 (2020-07).

Commission Implementing Decision (EU) 2018/1503 of 8 October 2018 establishing measures to prevent the introduction into and the spread within the Union of Aromia bungii (Faldermann) OJL 254, 9-18
http://data.europa.eu/eli/dec_impl/2018/1503/oj

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

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

2020/192 Update on the situation of *Aromia bungii* in Germany

Aromia bungii (Coleoptera: Cerambycidae – EPPO A1 List) was first found in July 2011 in an old damson plum tree (*Prunus domestica* subsp. *insititia*), in a private garden in Rosenheim (near Kolbermoor) in the southern part of Bayern (EPPO RS 2012/090), and later in another garden in Rosenheim (RS 2017/056). Two demarcated zones had been established (2 km radius each), and official monitoring has been conducted since then.
In 2019, a total of 204 infested and suspicious trees have been felled, inspected, chopped up, and burned. In total, 131 woody plants were found to be infested. The demarcated area was extended and the control measures according to EU Implementing Decision 2018/1503 were implemented. This included monitoring of host plants, felling of woody plants with symptoms, examination of the wood to check for the presence of larvae, destruction of

infested plants by incineration. In addition, the public was informed of the measures taken, and restrictions on movement of host material were issued. The two demarcated areas were extended and merged, the merged zone consists of infested zones (100 m radius around infested woody plants) and a buffer zone (4 km radius around infested zones). In 2020, further infested woody plants were found, and the demarcated area has been extended accordingly. Official measures continue.
The pest status of *Aromia bungii* in Germany is officially declared as: **Present at one location, under containment, in case eradication is impossible.**

Source: NPPO of Germany (2020-09).

Commission Implementing Decision (EU) 2018/1503 of 8 October 2018 establishing measures to prevent the introduction into and the spread within the Union of Aromia bungii (Faldermann) OJL 254, 9-18
http://data.europa.eu/eli/dec_impl/2018/1503/oj

A map of the demarcated area is available at
https://www.lfl.bayern.de/mam/cms07/ips/dateien/av_lfl_kl_200724.pdf

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

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

2020/193 First report of *Tuta absoluta* in China

Considering the risks posed by *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A2 List) to tomato (*Solanum lycopersicum*) production, surveys have been conducted in China since 2014, and in 2017 the pest was detected for the first time in Xinjiang province. In August 2017, male adult specimens of *T. absoluta* were caught in pheromone traps in Huocheng county (Ili Kazakh Autonomous Prefecture), and leaf mines were observed in household tomato crops. Further investigations in 2017 detected *T. absoluta* at 4 locations in the same county on tomato, as well as on aubergine (*S. melongena*), potato (*S. tuberosum*) and black nightshade (*S. nigrum*). In surveyed tomato fields, *T. absoluta* infested 100% of the plants. It is concluded that further studies are required to better understand its distribution, host plants, natural enemies, population dynamics and to develop management measures against *T. absoluta* to prevent its further spread in China.
The situation of *Tuta absoluta* in China can be described as follows: **Present, only in some areas (first found in 2017 in several localities in Xinjiang province).**

Source: Zhang GF, Ma DY, Wang YS, Gao YH, Liu WX, Zhang R, Fu WJ, Xian XQ, Xang J, Kuang M, Wan FH (2020) First report of the South American tomato leafminer, *Tuta absoluta* (Meyrick), in China. *Journal of Integrative Agriculture* **19**(7), 1912–1917.

Pictures: *Tuta absoluta*. https://gd.eppo.int/taxon/GNORAB/photos

Additional key words: new record **Computer codes:** GNORAB, CN

2020/194 *Parasaissetia nigra* in Italy: an update

In the literature, there have been several records about the presence of *Parasaissetia nigra* (Hemiptera: Coccidae - formerly EU Annexes) in Italy, but some of these were considered controversial. In continental Italy, the last report was made by Pellizzari (2010) and stated that *P. nigra* was found in Sanremo (Sicilia) in 2006 and in Ventimiglia (Liguria region) in 2008. Further studies (Mazzeo *et al.*, 2020) have confirmed the establishment of *P. nigra* in Sicilia and its association with a new host plant, *Syzygium myrtifolium*.
A survey on scale insects was conducted in 2016-2017 in the city of Catania (Sicilia) and *P. nigra* was detected on potted plants of *Syzygium myrtifolium* in a urban park. Other potential host plants (e.g. *Aloe* spp., *Citrus* spp.) growing in the vicinity of infested *S. myrtifolium* were found to be free of the pest. Infested *S. myrifolium* plants were covered with honeydew and sooty mould, and they were chlorotic and weakened. Parasitoids (*Scutellista caerulea* and *Metaphycus* spp.) were commonly observed on female *P. nigra*. So far, the Sicilian population of the scale seems to be restricted to *S. myrtifolium*, but considering the polyphagy of *P. nigra*, there is a risk of spread to other plants and areas of Sicilia.

Source: Mazzeo G, Nucifora S, Longo S (2020) Definitive confirmation of establishment of *Parasaissetia nigra* (Nietner) (Hemiptera, Coccidae) in Sicily (Italy), with notes on its association with a new host, *Syzygium myrtifolium* Walp. *EPPO Bulletin* **50**(2), 295–298.

Pellizzari G (2010) New data on the Italian scale insect fauna (Hemiptera, Coccoidea). *Acta Phytopathologica et Entomologica Hungarica* **45**(1), 89–92.

Pictures: *Parasaissetia nigra*. https://gd.eppo.int/taxon/SAISNI/photos

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

2020/195 First report of *Clavibacter sepedonicus* in Georgia

Studies on *Clavibacter sepedonicus* (EPPO A2 List) have been conducted in Georgia. Potato (*Solanum tuberosum*) plants and tubers were collected from potato fields in several production areas. In addition, tubers were collected from private potato storage facilities, markets, and border checkpoints. Specific PCR tests and bioassays were conducted on 124 potato samples. *C. sepedonicus* was detected in 10 potato tuber samples that expressed ring rot symptoms and in 1 asymptomatic sample. All 11 samples had been collected from private storage facilities, purchased from markets, or obtained from border checkpoints (imports). The bacterium was not detected in samples collected from potato fields. A total of 20 isolates could be obtained from these diseased samples and were further characterized according to their cell morphology, cultural and biochemical properties, and virulence. Four isolates could be obtained from potato tubers harvested in Georgia, for all other isolates no country indication could be given as they were isolated from tubers bought in markets or imported from other countries and their origin could not be ascertained. This is the first time that *C. sepedonicus* is detected in potato tubers that have been produced in Georgia.
The situation of *Clavibacter sepedonicus* in Georgia can be described as follows: **Present, only in some areas (detected in a few samples of stored potato tubers).**

Source: Sadunishvili T, Węgierek-Maciejewska A, Arseniuk E, Gaganidze D, Amashukeli N, Sturua N, Amiranashvili, Kharadze S, Kvesitadze G (2020) Molecular, morphological and pathogenic characterization of *Clavibacter michiganensis* subsp. *sepedonicus* strains of different geographic origins in Georgia. *European Journal of Plant Pathology* **158**(1), 195–209.

Pictures: *Clavibacter sepedonicus*. https://gd.eppo.int/taxon/CORBSE/photos

Additional key words: new record **Computer codes:** CORBSE, GE

2020/196 First report of '*Candidatus* Liberibacter africanus' in Angola

In Angola, a survey on huanglongbing (associated with '*Candidatus* Liberibacter spp.' – EPPO A1 List) was conducted in July 2019 in 2 citrus nurseries in Luanda and Caxito, and in different orchards in 7 farms surrounding Calulo and Quibala. Yellow sticky traps for insects were placed at the various localities and collected after approximately 3 weeks. Leaf galls suggesting the presence of *Trioza erytreae* (Hemiptera: Triozidae – EPPO A2 List – vector of huanglongbing) were observed on citrus in some locations, but no specimens were caught on traps. Citrus trees were inspected for symptoms of huanglongbing and signs of its vectors. Leaves and shoots showing suspect symptoms were sampled and tested in the laboratory (43 samples). Molecular tests (real-time PCR, sequencing) confirmed the presence of '*Ca.* Liberibacter africanus' in 6 samples which had been collected from symptomatic citrus trees in a commercial farm near Calulo (2 *Citrus reticulata* and 3 *C. sinensis* trees) and in a nursery in Luanda (1 *C. aurantifolia* tree). This is the first time that '*Ca.* L. africanum' is reported from Angola. It is concluded that further surveys are needed to determine the occurrence of huanglongbing and its vectors in Angola, and that measures should be taken to prevent further spread of the disease.
The situation of '*Candidatus* Liberibacter africanus' in Angola can be described as follows: **Present, only in some areas (first found in 2019, near Calulo and Luanda).**

Source: Fourie P, Kirkman W, Cook G, Steyn C, de Bruyn R, Bester R, Roberts R, DM Bassimba D, José CM, Maree HJ (2020) First report of '*Candidatus* Liberibacter africanus'

associated with African greening of citrus in Angola. *Plant Disease* (in press). https://doi.org/10.1094/PDIS-06-20-1392-PDN

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

2020/197 Finding of *Xylella fastidiosa* subsp. *multiplex* in the Occitanie region (France)

In France, *Xylella fastidiosa* (EPPO A2 List) was first reported in 2015 (EPPO RS 2015/144). It currently occurs in Corse, as well as the Provence-Alpes-Côte d'Azur region (RS 2016/193, 2019/187). Eradication and monitoring measures are conducted.
The NPPO of France recently informed the EPPO Secretariat of the finding of *Xylella fastidiosa* subsp. *multiplex* in a nursery in the Occitanie region. The bacterium was detected during routine monitoring on 4 plants of hybrid lavender (*Lavandula x intermedia*) in a nursery. Traceback studies are being conducted to find the origin of the outbreak. Eradication measures are applied according to EU Commission Implementing Regulation (EU) 2020/1201.
The pest status of *Xylella fastidiosa* subsp. *multiplex* in France is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of France (2020-09).

Ministère de l'Agriculture et de l'Alimentation (2020-09-04) Santé des végétaux : un premier foyer de la bactérie *Xylella fastidiosa* détecté en Occitanie https://agriculture.gouv.fr/sante-des-vegetaux-un-premier-foyer-de-la-bacterie-xylella-fastidiosa-detecte-en-occitanie

Commission Implementing Regulation (EU) 2020/1201 of 14 August 2020 as regards measures to prevent the introduction into and the spread within the Union of *Xylella fastidiosa* (Wells *et al.*).

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

Additional key words: new record **Computer codes:** XYLEFM, XYLEFA, FR

2020/198 First report of *Acidovorax citrulli* in North Macedonia

During August 2019, fruit blotch symptoms were observed on mature fruits of watermelon (*Citrullus lanatus*) in a 5 ha-field in Sopot Kavadarci, North Macedonia. Samples were collected from diseased fruit and tested in the laboratory (physiological, biochemical, pathogenicity, and PCR tests according to the EPPO Diagnostic Protocol PM 7/127). Results confirmed the presence of *Acidovorax citrulli* (EPPO A1 List). This is the first time that *A. citrulli* causing bacterial fruit blotch on watermelon is reported from North Macedonia. Important economic losses (up to 90%) were observed. As *A. citrulli* is a regulated pest, the Ministry of Agriculture was informed of the results of this research study so that measures can be implemented to prevent disease spread.
The situation of *Acidovorax citrulli* in North Macedonia can be described as follows: **Present, first found in 2019 in 1 production site.**

Source: Mitrev S, Arsov E (2020) First report of bacterial fruit blotch on watermelon caused by *Acidovorax citrulli* in the Republic of North Macedonia. *Plant Disease* (in press) https://doi.org/10.1094/PDIS-01-20-0204-PDN

Pictures: *Acidovorax citrulli*. https://gd.eppo.int/taxon/PSDMAC/photos

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

2020/199 New finding of tomato brown rugose fruit virus in Germany

In Germany, tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO Alert List) was found for the first time in Nordrhein-Westfalen in July 2018 in seven greenhouses producing tomato fruit (*Solanum lycopersicum*) and eradicated in July 2019 (EPPO RS 2019/012, 2019/145).
The NPPO of Germany recently informed the EPPO Secretariat of a new finding of ToBRFV in another region, Brandenburg. The virus was detected in tomato (*Solanum lycopersicum*, variety San Marzano) grown in a foil tunnel on an organic farm. The tomato plants did not show typical leaf symptoms, but fruits were unevenly coloured with streaky red coloration and showed rugose-like symptoms. Samples of directly adjacent tomato varieties and aubergines were tested negative. Trace-back studies showed that the infested tomato variety had been grown from seed originating in another EU Member State. Further testing is planned on remaining seed of the seed lot used for the infected crop. Official eradication measures are being taken and include the destruction by incineration of the infected plant material and the compost that is possibly infected, the prohibition of movement of fruit and plant material, hygiene measures, disinfection of transport boxes.
The pest status of *Tomato brown rugose fruit virus* in Germany is officially declared as: **Present, under eradication.**

Source: NPPO of Germany (2020-09).

JKI. Finding on tomato *(Solanum lycopersicum)* in Germany (Brandenburg) https://pflanzengesundheit.julius-kuehn.de/index.php?menuid=86&downloadid=2851&reporeid=223

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

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

2020/200 Eradication of tomato brown rugose fruit virus in Poland

In Poland, tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO Alert List) was found for the first time in March 2020 in a greenhouse producing tomato fruit (*Solanum lycopersicum*) (EPPO RS 2020/122). The infected seedlings used in this greenhouse were of the variety Tomimaru Muchoo grafted on the variety Maxifort. Official investigations showed that these seedlings had been grow from seed originating in Peru* and imported via the Netherlands. The Polish NPPO investigated all (119) companies where both seed varieties had been purchased and tested 101 samples. All tested negative for ToBRFV. The NPPO of the Netherlands tested additional seed lots in the Dutch company that had originally imported the seed from Peru and the variety Maxifort tested positive. It is concluded that the origin of the infection in Poland is seed from Peru* of the variety Maxifort.

Official measures were applied in the infected greenhouse as well as in greenhouses where tomatoes of the same variety were planted. They included surveillance for symptoms, strict hygiene during growing, harvesting and fruit packaging. No further symptoms were observed on plants and fruits. At the end of the season, tomato plants will be destroyed under the supervision of the NPPO and greenhouses disinfected. The infected seed lot was also withdrawn from the market to be destroyed. Surveillance will continue in these greenhouses in the next growing season.
The pest status of *Tomato brown rugose fruit virus* in Poland is officially declared as: **Absent, pest eradicated.**

* Note of the Secretariat: ToBRFV is not officially reported as present in Peru but the Netherlands has reported an interception on tomato seed (EPPO RS 2020/068).

Source: NPPO of Poland (2020-09).

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

Additional key words: absence, eradication **Computer codes:** TOBRFV, PL

2020/201 *Cryphonectria parasitica* detected in abandoned galls of *Dryocosmus kuriphilus*

In the literature, it has been suggested that exit holes produced by *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae – EPPO A2 List) could be entry points for *Cryphonectria parasitica* (EPPO A2 List), the causal agent of chestnut blight. In the United Kingdom, during surveys for *C. parasitica* conducted in 2018-2019, both pests were detected on 26 sites in London and West Sussex. Sweet chestnut (*Castanea sativa*) twigs bearing abandoned galls of *D. kuriphilus* were collected to verify the possible presence of *C. parasitica* (isolation, molecular testing). Out of 17 collected twigs, 10 tested positive for *C. parasitica* and all had been collected from London. In 3 cases, it was possible to isolate *C. parasitica* from the galls in pure culture. In one of the samples, the twig with *D. kuriphilus* galls also showed a typical canker of *C. parasitica*. These results show that abandoned galls of *D. kuriphilus* can be colonized by *C. parasitica*. However, it is noted that further studies are needed to determine the interaction between *D. kuriphilus* and *C. parasitica*, and how this relates to the disease incidence.

Source: Pérez-Sierra A, van der Linde S, Romón-Ochoa P, Jones B, Gorton C (2020) First report of *Cryphonectria parasitica* on abandoned galls of *Dryocosmus kuriphilus* on sweet chestnut in the United Kingdom. *New Disease Reports* **41**, 34. http://dx.doi.org/10.5197/j.2044-0588.2020.041.034

Pictures: *Cryphonectria parasitica*. https://gd.eppo.int/taxon/ENDOPA/photos

Additional key words: detailed record **Computer codes:** DRYCKY, ENDOPA, GB

2020/202 Beech leaf disease found in Massachusetts and Rhode Island (US)

Beech leaf disease (EPPO Alert List) is a new disease of beech trees (e.g. *Fagus grandifolia, Fagus sylvatica*) which has increasingly been observed in forest and urban areas in Eastern USA and Canada since the 2010s. The disease was first reported on *Fagus grandifolia* in Ohio in 2012, and it rapidly spread to Pennsylvania, New York, Ontario (Canada) and Connecticut (EPPO RS 2018/178). It has been shown that a leaf nematode *Litylenchus crenatae mccannii* was associated with beech leaf disease, although it is still unsure whether other factors (including pathogens) could also play a role in the disease (EPPO RS 2020/082, 2020/083). Beech leaf disease damages beech foliage, leading to reduced vigour and eventually tree mortality.

During summer 2020, symptoms of beech leaf disease have been reported from two additional US States. In Massachusetts, beech leaf disease was first observed in June 2020 in the town of Plymouth (Plymouth county) and then in Worcester (Worcester county) and Blandford (Hampden county). In Rhode Island, beech leaf disease was first observed in June 2020 in the village of Ashaway (near Hopkinton). In both US states, the general public has been invited to report any sightings of beech leaf disease symptoms.

Source: INTERNET

Government of Massachusetts. Mass.gov (undated) Beech Leaf Disease in Massachusetts. https://www.mass.gov/guides/beech-leaf-disease-in-massachusetts

Government of Rhode Island. RI.gov. Press Release (2020-07-13) DEM asks public to be aware of Beech Leaf Disease. https://www.ri.gov/press/view/38824

USDA National Invasive Species Information Center. What's New. https://www.invasivespeciesinfo.gov/whats-new

Additional key words: detailed record

Computer codes: LITYCR, US

2020/203 *Pseudosasa japonica* in the EPPO region: addition to the EPPO Alert List

Why
Pseudosasa japonica is a species of bamboo commonly grown as a garden ornamental species in the EPPO region. It is increasingly recorded in natural and semi-natural environments in the EPPO region (for example in Belgium and the Netherlands). The species has a wide climatic suitability which may aid the spread of the species in the EPPO region in the future.

Geographical distribution
EPPO region: Belgium, France, Georgia, Italy, the Netherlands, Spain (Canary Islands), United Kingdom.
Asia: China, Japan, Korea (Republic of).
North America: USA (Alabama, California, Connecticut, Delaware, Florida, Maryland, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Tennessee).
South America: Brazil.
Oceania: New Zealand.

Morphology
Pseudosasa japonica is a perennial, leptomorph bamboo species, 3-5 m tall.

Culms: erect or nodding, 1–3(–5) m tall, up to 1.5 cm thick; internodes long, finely ridged, finely mottled, with light ring of wax below each node; nodes slightly raised; sheath scar large.

Branches: usually 1 per node, without basal buds or branches on that branch, sometimes rebranching from distal branch nodes. Culm sheaths persistent, to 25 cm, basally glabrous, distally appressed hispid; auricles and oral setae absent; blade erect, 2–5 cm, abaxially glabrous.

Leaf sheaths: glabrous, margins membranous, not ciliate, auricles absent or small, erect; oral setae scarce, erect, or lacking; ligule oblique, long, slightly pubescent, eroded; abaxial ligule glabrous to finely ciliate.

Leaf blade: labaxially light green to glaucous, adaxially dark green, 15–37 × 1.5–5 cm, glabrous.

Inflorescence: panicle, open, obovate, 10-20 cm long.

Spikelets: curving, narrowly terete, 3.5–10 cm; florets 5–20(–25). Lemma 1.2–1.5 cm, glabrous.

Biology and Ecology
Pseudosasa japonica mainly reproduces vegetatively reproduction. Running rhizomes can act to facilitate the spread of the species. It prefers moist, fertile, well drained soils and it can tolerate full shade and a broad climatic suitability. If the species flowers, seed may be spread by wind.

Habitats
Ruderal habitats, roadsides, riverbanks, urban habitats (gardens), woodland.

Pathways for movement
The main pathway for movement into and within the EPPO region is via the horticultural trade. The species is a popular garden plant which is also grown in amenity areas.

Impacts
Pseudosasa japonica can form dense thickets which have the potential to outcompete native plant species. The dense structure may also impede access. In the USA (Pennsylvania, Maryland and West Virginia), the species is considered invasive. In the EPPO region, the species has been recorded growing in natural and semi-natural habitats.

Control
Pseudosasa japonica can be controlled by manual control ensuring that the rhizomes are removed. However, this is often very difficult due to the habitats where the species grows. Physical barriers may help to control unwanted spread. Chemical control options may be applied to above ground foliage and/or cut stems.

Sources
Flora of China (2020) *Pseudosasa japonica* (Siebold & Zuccarini ex Steudel) Makino ex Nakai, Available at: http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=200026099
Lieurance D, Cooper A, Young AL, Gordon DR, Flory SL (2018) Running bamboo species pose a greater invasion risk than clumping bamboo species in the continental United States. *Journal of Nature Conservation* **43**, 39-45.

Additional key words: invasive alien plant, alert list **Computer codes:** PSSJA

2020/204 First published records of alien plants in Switzerland and the Canton of Ticino

Botanical surveys conducted in Switzerland between 2015 and 2019 identified five alien plant species growing in natural habitats. *Salpichroa origanifolia* (Solanaceae), *Salvinia molesta* (Salviniaceae: EPPO A2) and *Soliva sessilis* (Asteraceae) are recorded for the first time in Switzerland whereas *Celastrus orbiculatus* (Celastraceae) and *Veronica cymbalaria* (Plantaginaceae) are recorded for the first time in the Canton of Ticino.

Salpichroa origanifolia is a perennial woody plant with a climbing stem up to 3 m long. Native to South America, it has been introduced into Africa, North America, Australia and the EPPO region. In the latter, it is reported in Croatia, France, Ireland, Italy, Portugal, Spain and the United Kingdom. The first occurrence of the species in Switzerland was in Minusio where it grows on a grassy slope between a road and a lake. It covers an area of approximately 100 m² where it makes up 50 % of the vegetation in the area. In the Canary Islands and in Italy it is regarded as invasive as it is able to spread via seed which is abundantly produced.

Salvinia molesta is an aquatic floating plant, native to Brazil and has been reported from several EPPO countries (see https://gd.eppo.int/taxon/SAVMO/distribution). *S. molesta* can form dense mats which can reduce access to the water for recreation; interfere with various engineering structures such as weirs, block drains and cause flooding. In Switzerland, it has been reported from water bodies In Chiasso, Coldrerio, Novazzano and Breggia between 2018/19. Some herbarium specimens which are preserved at the Cantonal Museum of Natural History attest the presence of this species in Novazzano and Coldrerio already in the summers of 2009 and 2015.

Soliva sessilis is a low growing annual herbaceous species native to South America and considered invasive in Australia, North America and New Zealand. In the EPPO region, it is naturalised in France, Italy, Norway, Portugal, the United Kingdom and Spain, around coastal

areas. In Switzerland, two populations were identified in 2018 and 2020 respectively: (1) close to Agno, in a meadow population approximately 100 m², and (2) Melano, in a camp site close to a lake.

Celastrus orbiculatus is native to Asia and is a fast-growing woody vine species native to East Asia (China, Central and North Japan, Korean Peninsula and Far East Russia). The species is invasive in North America. In the EPPO region, it is recorded as alien in a number of countries (see https://gd.eppo.int/taxon/CELOR/distribution). In the Canton of Ticino, *C. orbiculatus* was found in two locations: (1) in Orselina near a private garden in 2015, and (2) in Croglio growing in an alluvial forest close to the river Tresa in 2017. The latter individual was removed as a precautionary measure.

Veronica cymbalaria is an annual herbaceous plant which is native to the Mediterranean part of the EPPO region. It was first reported in Switzerland in the late 1990s and further observations have been made since then. One population was identified close to Lugano, along a footpath in 2019.

Source: Mangili S, Schoenenberger N, Selldor P, Sasu I, Haritz C, Borsari A, Marazzi B, Frey D (2020) Ticino floristic notes 2020: discovery of three new neophytes for Switzerland. *Bulletin of the Ticino Society of Natural Sciences* **108**, 83-91.

Additional key words: new record **Computer codes:** CELOR, SAPOR, SAVMO, SOVSE, VERCY, CH

2020/205 Ornamental plants as aliens in Bulgaria

Hemerocallis fulva **(**Asphodelaceae) is an herbaceous perennial species native to Asia (China and Korean peninsula). The species is reported as naturalised in Asia, Australia, the EPPO region and North America (recorded as invasive in many states). Where the species is invasive, dense stands can form displacing native plants. In Bulgaria, it is widely cultivated as it is a robust garden ornamental which can withstand a wide range of environmental conditions. Over the last ten years *H. fulva* has been recorded as an escaped garden ornamental in eight floristic regions (Northeast Bulgaria, Forebalkan, Zneploe, Sofia, Vitosha, River Mesta, Rhodopi mountains west and central and Thracian lowland region) throughout Bulgaria where it occurs in urban and semi-urban environments, along roadsides, riverbanks and grassland. The populations consist of one to several dense areas that cover one to more than 100 m². *H. fulva* spreads vegetatively, as cultivated plants are sterile.

Oxalis articulata (Oxalidaceae) is a rhizomatous herbaceous perennial species native to South America (Argentina, Brazil, Paraguay and Uruguay). It is naturalised in many parts of the world with a temperate or Mediterranean climate including Europe, Australia, North America, Africa and Asia. In Bulgaria *O. articulata* is recorded in three floristic regions (Black Sea coast, Sofia, river Struma) where it grows in urban and semi-urban environments. Near the river Struma, the species grows in a natural habitat where 3 small groups of 3-7 plants grow in scrubland. *O. articulata* is not a common ornamental plant in Bulgaria but it can be found as a pot or balcony plant grown outside in the warmer summer months.

Source: Petrova A, Vladimirov V (2019) Reports of some ornamental plants as aliens for the Bulgarian flora. *Phytologia Balcanica* **25**, 387-394.

Additional key words: invasive alien plant **Computer codes:** HEGFU, OXAAR, BG

2020/206 Benefits of biological control of invasive alien plants

Ambrosia artemisiifolia (Asteraceae - EPPO List of Invasive Alien Plants) is native to North America and was accidentally introduced into the EPPO region in the 19th century. It is a major problem in spring-grown crops and causes allergic rhinitis and asthma in sufferers due to its allergenic pollen. In China, *Ophraella communa* (Coleoptera, Chrysomelidae) has been utilised against *A. artemisiifolia* as a classical biological control agent. In 2013, it was found to have accidentally established in Northern Italy and Southern Switzerland where it has been shown to inflict significant damage on *A. artemisiifolia* populations. In particular, ragweed pollen concentrations in Northern Italy have been shown to decrease with the presence of the biocontrol agent. Using data on *Ambrosia* pollen exposure from across Europe, data on *Ambrosia* sensitisation among the population, and data on the impact of *O. communa* on pollen production, projections are made of positive benefits of the biocontrol agent. Prior to the establishment of *O. communa* in Europe it is estimated that some 13.5 million people suffered from *Ambrosia* induced allergies causing costs of approximately 7.4 billion Euros annually. Once *O. communa* has colonised its environmental niche, the number of patients is expected to reduce by approximately 2.3 million with a saving in economic terms of 1.1 billion Euros a year.

Source: Schaffner U, Steinbach S, Sun Y, Skjøth CA, Weger LA, Lommen STE, Augustinus BA, Bonini M, Karrer G, Sikoparija B, Thibaudon M, Müller-Schärer H (2020) Biological weed control to relieve millions from *Ambrosia* allergies in Europe. *Nature Communications*, DOI: 10.1038/s41467-020-15586-1

Pictures: *Ambrosia artemisiifolia*. https://gd.eppo.int/taxon/AMBEL/photos
Ophraella communa. https://gd.eppo.int/taxon/OPHLCO/photos

Additional key words: new record **Computer codes:** AMBEL, OPHLCO, CH, IT

2020/207 National and regional regulations for non-native plants in Italy

International, national, and local regulations are one of the most important aspects to adopt and implement to prevent and control invasive alien species. In Italy, the most stringent legislation on non-native plants is the Regulation (EU) 1143/2014 which entered into force on the 1st January 2015. At the core of the Regulation is a list of invasive alien species of Union concern, which currently includes 36 invasive alien plants. For these species prohibitions and control strategies are applied at the national level. In addition, 111 taxa (95 plant species and 16 collective taxa) are regulated under Italian legislation at the regional level for five regions (Friuli Venezia Giulia, Lombardia, Piemonte, Toscana, Valle d'Aosta). Most of the regionally regulated species are woody species (23 trees, 9 shrubs and 6 woody vines), followed by 29 herbs and 11 aquatic plants. According to the type of list on which the species has been included (e.g. Black List, Warning List) and the regions, legal obligations may vary. These obligations may include commitments to monitor plant populations, compulsory control, containment and eradication measures. The regional lists include species which have significant negative impacts but are not currently species of Union concern (e.g. *Reynoutria* spp., and *Carpobrotus* spp.) or species which are not applicable to Regulation (EU) 1143/2014 due to predominantly having negative impacts on agriculture (e.g. *Ambrosia artemisiifolia* and *A. trifida*).

Source: Brundu G, Armeli Minicante S, Barni E, Bolpagni R, Caddeo A, Celesti-Grapow L, Cogoni A, Galasso G, Iiriti G, Lazzaro L, Loi MC, Lozano V, Marignani M, Montagnani C, Siniscalco C (2020) Managing plant invasions using legislation tools: an analysis of the

national and regional regulations for non-native plants in Italy. *Annali Di Botanica*, **10**, 1-12.

Pictures *Ambrosia artemisiifolia*. https://gd.eppo.int/taxon/AMBEL/photos
Ambrosia trifida. https://gd.eppo.int/taxon/AMBTR/photos

Additional key words: invasive alien plant **Computer codes:** 1CBSG, 1REYG, AMBEL, AMBTR, IT

2020/208 Ability of *Impatiens* seed to float increases invasion success

Both *Impatiens glandulifera* (EPPO List of Invasive Alien plants) and *I. balfourii* (Balsaminaceae) were introduced into the EPPO region from the Western Himalayas as garden ornamentals. Since then, they have both spread within the region though *I. glandulifera* is by far the more successful invader. In the EPPO region, both species sometimes grow near to rivers, and upon maturity seed can become incorporated into the water body and moved with the flow of water. The floating ability of seeds of the two *Impatiens* species were tested following seed field collections from young and old populations of both species in September/October. Floating ability was determined under controlled conditions and both still water conditions and moving water conditions were tested. Seeds of *I. balfourii* floated less well than seeds of *I. glandulifera*. Seeds of *I. balfourii* from the younger population have a higher floating ability compared to seeds from the older population. The results for *I. glandulifera* were the opposite, with decreased floating ability in the younger population. These differences were associated with seed surface, shape and coat structure. The results suggest that the floating ability of *I. balfourii* seeds may increase over time following its introduction into a given area, while in the case of *I. glandulifera*, this ability may gradually decrease. The ability of seeds to float may promote the invasiveness of alien plant species. *I. balfourii* may have undergone changes in terms of the floating ability of its seeds and therefore although it is commonly regarded as a poor disperser, its lag phase maybe coming to an end. Consequently, the rate of its spread may significantly increase, and it may become a truly invasive alien species in Europe.

Source: Najberek K, Olejniczak P, Berent K, Gąsienica-Staszeczek M, Solarz W (2020) The ability of seeds to float within water currents contributes to the invasion success of *Impatiens balfourii* and *I. glandulifera*. *Journal of Plant Research* **133**, 649-664.

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

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