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2019/133 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**

Drosophila suzukii (Diptera: Drosophilidae - EPPO A2 List) is first reported from Georgia. Two specimens were trapped in autumn 2017 in the Ajara region (Japoshvili *et al.*, 2018). **Present, only in some areas.**

Prodiplosis longifila (Diptera: Cecidomyiidae - EPPO A1 List) was first reported from Bolivia in 2016 on the native plant *Jatropha clavuligera* (Euphorbiaceae) during surveys carried out to identify potential biocontrol agents against *J. gossypifolia*, an invasive plant in Australia. *P. longifila* induced rosette galls on shoots, which is different from symptoms observed on other host plants in countries where *P. longifila* occurs. *P. longifila* also induced rosette galls on *J. gossypifolia* during experiments. Surveys were done in fields of tomato, potato, orange, bell pepper and cotton in the vicinity of infested *J. clavuligera*, but no damage was observed. Terminal shoots of tomato, orange and cotton were examined under a stereomicroscope but no larvae of *P. longifila* could be found. It is noted that there is no record of *P. longifila* as a pest on any crops in Bolivia (Dhilepan *et al.*, 2017)

According to the 'FAO map of areas affected by fall armyworm in Africa and Asia', *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) was first found in 2019 in Indonesia (see RS 2019/139 for more details), Laos, Malaysia and Vietnam (FAO, 2019). **Present, no details.**

Trilocho varians (Lepidoptera: Bombycidae) is first reported from Cyprus. This insect was found in 14 *Ficus* trees in a public site (NPPO of Cyprus, 2019-02). This pest of *Ficus* trees originates in Asia and is known to occur in Southern China, India, Indonesia (Java, Sumatra), Myanmar, Nepal, Taiwan, Thailand and Vietnam (Kedar *et al.*, 2014). The pest status of *Trilocho varians* in Cyprus is officially declared as: **Transient, actionable, under surveillance.**

Tuta absoluta (Lepidoptera: Gelechiidae - EPPO A2 List) was first found in Burundi in 2018. The pest was trapped during a survey conducted from March to July 2018 in 3 tomato (*Solanum lycopersicum*) farms and 1 garden in Western Burundi. Damage on tomato leaves and fruit was observed in all studied sites (Ndayizeye *et al.*, 2019). **Present, only in some areas.**

- **Detailed records**

In Italy, *Aleurocanthus spiniferus* (Hemiptera: Aleyrodidae - EPPO A2 List) was first found in 2008 in Puglia region (EPPO RS 2008/092, 2010/147). In 2017, *A. spiniferus* was found in Campania and Lazio regions (EPPO RS 2017/157). In 2018, it was found in Basilicata region on 7 citrus trees in an urban garden in Montalbano Jonico. Phytosanitary treatments were applied (NPPO of Italy, 2019). EFSA (2018) also states that it was found in 2018 in Emilia-Romagna (Bologna).

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

Crisicoccus pini (Hemiptera: Pseudococcidae - EPP0 Alert List) occurs in Hong Kong, China. A single specimen was collected from *Pinus massoniana* in the Tai Lung Experimental Station (Martin and Lau, 2011).

In Portugal *Meloidogyne luci* (EPP0 Alert list) was first detected in 2013 in a potato field near Coimbra (RS 2017-217). In December 2017, it was found in 2 new locations (Figueira da Foz and Montemor-o-Velho) also in the region of Coimbra, infecting tomato (*Solanum lycopersicum*) as well as two new host plants: the ornamental plant *Cordyline australis*, and the weed *Oxalis corniculata* (Santos *et al.*, 2019).

Spodoptera frugiperda (Lepidoptera: Noctuidae - EPP0 A1 List) occurs in Madhya Pradesh, India, where it attacks maize (*Zea mays*) crops (Mahadeva Swamy *et al.*, 2018).

In Poland, an outbreak of *Tomato spotted wilt virus* (*Tospovirus*, TSWV - EPP0 A2 List) was found in a nursery producing plants for planting of chrysanthemum in Rzgów. All plants from contaminated lots were destroyed (burned) (NPPO of Poland, 2018-04).

The pest status of *Tomato spotted wilt virus* in Poland is officially declared as: **Present, only in some parts of the Member State concerned.**

- **Eradication**

An incursion of *Thaumatotibia leucotreta* (Lepidoptera: Tortricidae - EPP0 A2 List) was reported in Germany in June 2018, in a glasshouse producing *Capsicum annuum* fruit (EPP0 RS 2018/160). Surveys were conducted with traps and/or visual inspections of plants and fruit from September 2018 to May 2019 and the pest was no longer detected (NPPO of Germany, 2019).

The pest status of *Thaumatotibia leucotreta* in Germany is officially declared as: **Absent, pest eradicated.**

- **Host plants**

In China, *Ralstonia pseudosolanacearum* (EPP0 A2 List) has been causing severe damage in fields of sacha inchi (*Plukenetia volubilis*, Euphorbiaceae) in Hainan Province since 2016. The cultivation of this perennial plant native to Peru is increasing worldwide because its edible seeds are rich in omega-3 (Wang *et al.*, 2018).

In Brazil, *Tomato chlorosis virus* (*Crinivirus*, ToCV - EPP0 A2 List) was detected for the first time naturally infecting *Nicandra physaloides* plants in Goiás State and Federal District. This weed is often found in tomato fields in Brazil (Souza *et al.*, 2019). It is considered to be an invasive alien plant in some EPP0 countries.

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

Computer codes: ALECSN, ARGPLE, DACLPI, DROSSU, GNORAB, LAPHFR, MELGLC, PRDILO, TOCV00, TRLOVA, TSWV00, BI, BO, CN, CY, DE, GE, ID, IN, IT, LA, MY, PL, PT, VN

2019/134 User's guide to EPPO Global Database

A new user's guide to the EPPO Global Database has recently been published by the EPPO Secretariat. The EPPO Global Database contains all pest-specific information that has been produced or collected by EPPO (e.g. plant and pest names, EPPO Codes, pictures; geographical distributions, and host plants of regulated pests; EPPO Standards, PRAs and datasheets) This guide provides explanations about the general contents of the database and search tips on how to retrieve data in a quick and easy way.

The EPPO Global Database user's guide is available from the database at the following address: https://gd.eppo.int/media/files/general_user-guide.pdf

Source: EPPO Secretariat (2019-07).

Additional key words: publication, EPPO

2019/135 First report of *Agrilus planipennis* in Ukraine and update for European Russia

In a draft paper which is still under review, Orlova-Bienkowskaja *et al.* (2019) report the first occurrence of *Agrilus planipennis* (Coleoptera: Buprestidae - EPPO A2 List) in Ukraine and provide an update of the situation in European Russia with a map of the current pest range in Europe. A survey of ash (*Fraxinus* spp.) trees was conducted from 2017 to 2019 in 25 localities of European Russia, Ukraine and Belarus to verify the possible presence of *A. planipennis*. In most localities, plantations of ash trees (*Fraxinus* spp.) in cities, along roads and motorways, as well as in field shelter belts were inspected for the presence of D-shaped exit holes, larval galleries, larvae and adults of *A. planipennis*.

Ukraine

In June 2019, a survey was conducted in the Starokozjij Forest (Markovka district, Lugansk region) and in a field shelter belt located in its vicinity. 250 ash trees were inspected and 3 *F. pennsylvanica* trees were found to be infested by *A. planipennis*. These trees (7-10 cm diameter) were located at the edge of the forest and had smaller leaves, fewer seeds and dying upper branches. This is the first time that *A. planipennis* is reported from Ukraine. The situation of *A. planipennis* in Ukraine can be described as follows: **Present, only in some areas (first found in 2019 on a small number of trees in the Lugansk region).**

European Russia

In European Russia, *A. planipennis* was first found in the region of Moscow in 2003 (EPPO RS 2007/067, 2017/131). Surveys conducted in 2018 and 2019 have shown that *A. planipennis* currently occurs in 14 regions: Bryansk, Kaluga, Lipetsk, Moscow, Orel, Ryazan, Smolensk, Tambov, Tula, Tver, Vladimir, Volgograd, Voronezh and Yaroslavl. Compared with earlier studies, the pest has mainly spread towards the South, reaching the region of Volgograd (900 km away from Moscow), but the Western border of the range has not significantly changed during the last five years. The Westernmost localities are Semirechje (56 km from the border with Belarus) and Smolensk (both in Smolensk region). The Northernmost infested locality is Yaroslavl and this Northern front is almost the same as in 2013. For the moment, it is not known whether *A. planipennis* has reached its potential Northern border, as Yaroslavl is located at latitude 57.63°N, compared to 47.31°N in North America and 49.42°N in Asia.

A survey was also conducted in the large broad-leaved forest of Tulskie Zaseki (65 000 ha) in Tula region, to study the susceptibility of *F. excelsior* (European ash species) in the centre of the current pest range in European Russia. More than 500 *F. excelsior* trees were inspected, both on the edges and deep inside the forest, but no signs of infestation could be found. It is noted that in the same region, most of the *F. pennsylvanica* (American ash species) trees which were commonly planted in the cities of Tula and Shchekino have been destroyed by *A. planipennis*. In addition, all cases of infestation of *F. excelsior* previously reported in Russia, correspond to trees that are near infested plantations of *F. pennsylvanica*. These observations suggest that *F. excelsior* may be more resistant to the pest than *F. pennsylvanica*, at least in natural forest stands.

The situation of *A. planipennis* in Russia can be described as follows: **Present, only in some areas (native to the Far East, introduced in 14 regions of Southern and Central European Russia).**

Belarus

In 2018, a survey was conducted in the Eastern part of Belarus, in the cities of Mogilev, Orsha and Vitebsk where *F. pennsylvanica* and *F. excelsior* are common, but *A. planipennis* was not found.

The situation of *A. planipennis* in Belarus can be described as follows: **Absent.**

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

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

Additional key words: new record, detailed record, absence

Computer codes: AGRLPL, UA

2019/136 First report of *Spodoptera frugiperda* in Egypt

In June 2019, the NPPO of Egypt declared the first detection of *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) on its territory. During a specific survey which had been carried out in all governorates of Upper Egypt since January 2019, 119 adult specimens of *S. frugiperda* were caught in pheromone traps in two locations (Kom Ombo, Edfo) in the governorate of Aswan. These traps had been placed in maize (*Zea mays*) fields. The pest status of *Spodoptera frugiperda* in Egypt is officially declared as: **Present: only in some areas.**

Source: IPPC website. Official Pest Reports - Egypt (EGY-01/1 of 2019-06-23) Report of first detection of *Spodoptera frugiperda* - Fall armyworm (FAW) in Egypt. <https://www.ippc.int/en/countries/egypt/pestreports/2019/06/report-of-first-detection-of-spodoptera-frugiperda-fall-armyworm-faw-in-egypt/>

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

Additional key words: new record

Computer codes: LAPHFR, EG

2019/137 First report of *Spodoptera frugiperda* in the Republic of Korea

In June 2019, the NPPO of the Republic of Korea declared the first detection of *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) on its territory. Larvae of *S. frugiperda* were identified in 4 maize (*Zea mays*) fields on the island of Jeju (3 in Chujwa-eup and 1 in Jocheon-eup). The damage rate was low (1-5%). The identity of the pest was confirmed by molecular techniques (DNA barcoding). Phytosanitary measures were applied to eradicate the pest.

The pest status of *Spodoptera frugiperda* in the Republic of Korea is officially declared as: **Transient: actionable, under eradication.**

Source: IPPC website. Official Pest Reports - Republic of Korea (KOR-08/2 of 2019-06-21) Report of first detection of fall armyworm (FAW) in Republic of Korea. <https://www.ippc.int/en/countries/republic-of-korea/pestreports/2019/06/report-of-first-detection-of-fall-armyworm-faw-in-republic-of-korea/>

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

Additional key words: new record

Computer codes: LAPHFR, KR

2019/138 First report of *Spodoptera frugiperda* in Japan

In Japan, larvae of *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) were identified in July 2019 by the NPPO in a maize (*Zea mays*) field in Minamikyushu city, Kagoshima Prefecture. This is the first time that this pest is reported from Japan. Official surveys are being conducted to delimit the infested area and control measures have already been taken in the maize field concerned.

The pest status of *Spodoptera frugiperda* in Japan is officially declared as: **Transient: actionable, under eradication.**

Source: IPPC website. Official Pest Reports - Japan (JPN-08/6 of 2019-07-03) Report of first detection of *Spodoptera frugiperda* - Fall armyworm (FAW) in Japan.
<https://www.ippc.int/en/countries/japan/pestreports/2019/07/report-of-first-detection-of-spodoptera-frugiperda-fall-armyworm-faw-in-japan/>

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

Additional key words: new record

Computer codes: LAPHFR, JP

2019/139 First report of *Spodoptera frugiperda* in Indonesia

During official surveys, *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) was first found in April 2019 in a maize (*Zea mays*) field in Sumatra (West Sumatra province), Indonesia. The pest was then found in several localities of West Sumatra and other provinces of the island, as well as in Java (Banten, Central Java, West Java provinces) and Kalimantan (East Kalimantan, North Kalimantan provinces). Official control measures are being applied to limit the spread of *S. frugiperda* and include surveillance activities and public awareness raising campaigns. Research studies are being carried out to better understand the biology and ecology of the pest and to develop Integrated Pest Management strategies.

The pest status of *Spodoptera frugiperda* in Indonesia is officially declared as: **Present: only in some areas.**

Source: IPPC website. Official Pest Reports - Indonesia (IDN-04/1 of 2019-07-11) The occurrence of fall armyworm (*Spodoptera frugiperda*) in Indonesia.
<https://www.ippc.int/en/countries/indonesia/pestreports/2019/07/the-occurrence-of-fall-armyworm-spodoptera-frugiperda-in-indonesia/>

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

Additional key words: new record

Computer codes: LAPHFR, ID

2019/140 First report of *Globodera rostochiensis* in Georgia

In Georgia, production areas of ware potato (*Solanum tuberosum*) in the regions of Samtskhe-Javakheti and Samegrelo-Zemo Svaneti were surveyed for the presence of potato cyst nematodes, *Globodera pallida* and *G. rostochiensis* (both EPPO A2 List) from May to September 2018. In total, 135 samples were collected including soil samples for potato fields and from potentially infested potato plant roots: 80 samples in Samtskhe-Javakheti region and 55 in Samegrelo-Zemo Svaneti region. Identification was performed following the EPPO Diagnostic Protocol PM 7/40(4). Cysts and juveniles of *G. rostochiensis* were found in both regions but *G. pallida* was not found.

The situation of *Globodera rostochiensis* in Georgia can be described as: **Present, restricted distribution.**

Source: Gorgadze O, Gaganidze D, Nazarashvili N, Abashidze E, Aznarashvili M, Gvritishvili E (2019) Identification of potato cyst nematodes (*Globodera rostochiensis*, *Globodera pallida*) spread in Samtskhe-Javakheti and Samegrelo-Zemo Svaneti regions of Georgia. *International Journal of Development Research* 09(05), 27669-27673.

Pictures: *Globodera rostochiensis*. <https://gd.eppo.int/taxon/HETDRO/photos>

Additional key words: new record

Computer codes: HETDPA, HETDRO, GE

2019/141 First report of *Phyllosticta citricarpa* in Tunisia

In March and April 2019, 7 consignments of citrus fruit (*Citrus limon* and *C. sinensis*) imported from Tunisia were intercepted by the NPPO of France (EPPO RS 2019/095) because of the presence of *Phyllosticta citricarpa* (citrus black spot - EPPO A1 List). Following these interceptions, investigations carried out by the NPPO of Tunisia confirmed that the infected lots originated from the Governorate of Nabeul (municipalities of Beni Khalled, Bouargoub and Menzel Bouzelfa). The origin of this outbreak is unknown, but it is suspected that infected plant material has been brought illegally into this area (import of citrus plants for planting is prohibited in Tunisia) and that the floods which occurred in September 2018 in the Governorate of Nabeul facilitated fungal dispersal. Emergency measures are being elaborated in consultation with all stakeholders (e.g. citrus fruit growers, technical institutes, researchers). In the infected area (covering approximately 2 000 ha), a chemical control programme will be applied (including the registration of additional fungicides). A surveillance programme is being developed, samples will be collected and tested using molecular methods to delimit the extent of the disease in Tunisia (as of July 2019, 110 analyses have been requested). Awareness raising activities will be launched to train professionals on symptom recognition and control measures.

At national level, a three-year strategic plan to control *P. citricarpa* is being developed by the NPPO in consultation with all stakeholders and will include: regulatory measures concerning plant movements and certification of citrus plants for planting, increased surveillance in all citrus-growing areas with a focus on the production sites of plants for planting, improvement of the quarantine laboratory infrastructures, application of a control programme using cultural and chemical methods over an area of 10 000 ha (estimated at more than 5.7 million Tunisian Dinars ≈ 1.7 million Euros), launching of awareness raising campaigns targeting growers and the general public, and development of research activities about the epidemiology, biology and control of the disease under Tunisian conditions (a budget of 100 000 Tunisian Dinars per year (≈ 30 000 Euros) has been allocated).

The situation of *Phyllosticta citricarpa* in Tunisia can be described as follows: **Present, only in some areas (first found in 2019 in the Governorate of Nabeul), under official control.**

Source: NPPO of Tunisia (2019-07).

Pictures: *Phyllosticta citricarpa*. <https://gd.eppo.int/taxon/GUIGCI/photos>

Additional key words: new record

Computer codes: GUIGCI, TN

2019/142 First record of *Melampsora medusae* in China

Surveys on rusts of poplars were conducted in China in 2015-2018 in the provinces of Beijing, Gansu, Henan, Inner Mongolia, Qinghai, Shaanxi, Shanxi, and Sichuan. They were triggered by the fact that severe rust symptoms were developing on *Populus deltoides* which were known to be resistant to the native rust *M. larici-populina*. *Melampsora medusae* (EPPO A2 List) was identified (morphologically and by sequencing) in 4 locations in Sichuan (on *P. deltoides*, *P. simonii*, *P. szechuanica* and *P. yunnanensis*) and in 1 location in Shaanxi (on *P. deltoides*). Further surveys also identified *M. medusae* in Henan and in additional locations in Sichuan and Shaanxi. The aecial host of *M. medusae* in China is not yet known. The authors noted that *M. medusae* was often found in proximity to *M. larici-populina*, and that both fungal species could hybridize.

The situation of *Melampsora medusae* in China can be described as follows: **Present, restricted distribution (Henan, Shaanxi, Sichuan).**

Source: Zheng W, Newcombe G, Hu D, Cao Z, Yu Z, Peng Z (2019) The first record of a North American poplar leaf rust fungus, *Melampsora medusae*, in China. *Forests* 10(2), p 182. <https://doi.org/10.3390/f10020182>

Pictures: *Melampsora medusae*. <https://gd.eppo.int/taxon/MELMME/photos>

Additional key words: new record, new host plants

Computer codes: MELMLP, MELMMA, MELMME, CN

2019/143 First report of *Tomato brown rugose fruit virus* in China

In April 2019, tomato plants (*Solanum lycopersicum*) showing brown rugose symptoms on fruit and mild mosaic symptom on leaves were found in 3 tomato greenhouses (approximately 4000 m²) in Yucheng (Shandong province), China. The incidence of diseased plants was estimated at about 50%. Samples were collected and analyzed for virus infection through Western blot, ELISA and RT-PCR. Sequencing confirmed the presence of *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV - EPPO Alert List). This is the first time that ToBRFV is reported from China.

The pest situation of *Tomato brown rugose fruit virus* in China can be described as: **Present, few occurrences.**

Source: Yan Z-Y, Ma H-Y, Han S-L, Geng C, Tian Y-P, Li X-D (2019) First report of *Tomato brown rugose fruit virus* infecting tomato in China. *Plant Disease* (early view). DOI: 10.1094/PDIS-05-19-1045-PDN

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

Additional key words: new record

Computer codes: TOBRFV, CN

2019/144 Update on the situation of *Tomato brown rugose fruit virus* in Sicilia (Italy)

In Italy, *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV - EPPO Alert List) was first observed in 1 tomato greenhouse in Sicilia in December 2018 (EPPO RS 2019/013). During the following official survey carried out in the production area of Ispica (Ragusa province, Sicilia), 7 new infected locations were identified. In the 5 infected greenhouses producing tomato (*Solanum lycopersicum*) fruit, about 15% of plants were infected but symptoms on fruit were not severe. In the 2 nurseries producing tomato seedlings under protected condition 6 lots of seedlings (6000 plants in total) and 7 lots of seed (not of Italian origin) were found to be infected. Phytosanitary measures are being applied to eradicate the outbreak, including incineration of infected plants and disinfection of facilities.

The pest status of *Tomato brown rugose fruit virus* in Italy is officially declared as: **Present, under eradication.**

Source: NPPO of Italy (2019-07).

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

Additional key words: detailed record

Computer codes: TOBRFV, IT

2019/145 Tomato brown rugose fruit virus eradicated from Germany

In Germany, *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV - EPPO Alert List) was first observed in 2018 in several greenhouses producing tomato (*Solanum lycopersicum*) fruit in North Rhine-Westphalia (EPPO RS 2019/012). The sources of these infections are unknown, but it was noted that the young tomato plants had not been produced in Germany. Eradication measures were immediately applied. In May and June 2019, plants in these greenhouses were extensively sampled for the possible presence of ToBRFV. As all results were negative, ToBRFV is now considered to be eradicated from Germany. The pest status of *Tomato brown rugose fruit virus* in Germany is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Germany (2019-07).

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

Additional key words: absence, eradication

Computer codes: TOBRFV, DE

2019/146 First report of Tomato leaf curl New Delhi virus in Estonia

The NPPO of Estonia recently informed the EPPO Secretariat of the first detection of *Tomato leaf curl New Delhi virus* (*Begomovirus*, ToLCNDV - EPPO Alert List) on its territory. During an official survey, ToLCNDV was detected in a fruit production site in the municipality of Halinga. The virus was found in 2 glasshouses (0.1 ha each), one producing tomato (*Solanum lycopersicum*) fruit and the other cucumbers (*Cucumis sativus*). 5 samples had been collected from different cultivars of tomato (2) and cucumber (3) plants. ToLCNDV was detected by PCR and sequencing in one tomato sample (cv. Sakura) and one cucumber sample (cv. Kostas). The seeds had been acquired from a retailer in Estonia. In addition, there were 10 tomato and 10 cucumber plants grown by the grower from seeds bought during a tourist trip to Tenerife (ES). As the seed packages had been discarded, the cultivars could not be ascertained. There were no visible symptoms on tomato plants, but symptoms could be observed on cucumber plants, including those grown from seeds bought in Tenerife. Phytosanitary measures will be taken to eradicate the disease. It will be prohibited to move infected plants from the production site concerned and to collect seeds from diseased plants. Commercialization of fruit will be permitted only for consumption. All plants grown in the infected greenhouses will be destroyed under official supervision after harvest. The greenhouses concerned and all equipment that has been in contact with the infected plants will be disinfected.

The pest status of *Tomato leaf curl New Delhi virus* in Estonia is officially declared as: **Present, only in some parts of the Member State concerned, under eradication.**

Source: NPPO of Estonia (2019-06).

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

Additional key words: new record

Computer codes: TOLCND, EE

2019/147 First report of *Tomato leaf curl New Delhi virus* in Greece

In autumn 2018, virus-like symptoms were observed in courgette (*Cucurbita pepo* hybrid) crops in the Ileia and Messinia regions in Southeastern Greece. Symptoms included short internodes and curling, vein swelling and mosaic in young leaves, resembling those of a begomovirus infection. Leaf samples were collected from 15 symptomatic plants in Tragana (Ileia region). Laboratory analysis (PCR, sequencing, DAS-ELISA) confirmed the presence of *Tomato leaf curl New Delhi virus* (*Begomovirus*, ToLCNDV - EPPO Alert List) in symptomatic samples. This is the first time that ToLCNDV is reported from Greece.

The situation of *Tomato leaf curl New Delhi virus* in Greece can be described as follows: **Present, only in some areas (first detected in 2018 in the region of Ileia).**

Source: Orfanidou CG, Malandraki I, Beris D, Kektsidou O, Vassilakos N, Varveri C, Katis NI, Maliogka VI (2019) First report of tomato leaf curl New Delhi virus in zucchini crops in Greece. *Journal of Plant Pathology* (early view). <https://doi.org/10.1007/s42161-019-00265-y>

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

Additional key words: new record

Computer codes: TOLCND, GR

2019/148 First report of *Erwinia amylovora* in Georgia

In Georgia, *Erwinia amylovora* (EPPO A2 List) was detected in 2016. Samples of *Cydonia oblonga* (quince), *Malus domestica* (apple) and *Pyrus communis* (pear) were collected in the regions of Eastern Georgia (Kakheti, Kvemo Kartli, and Shida Kartli) and Western Georgia (Imereti). *E. amylovora* was detected by real-time and conventional PCR methods in 23 samples of plant material from Shida Kartli region (11 apple, 6 pear and 6 quince samples), in 5 samples from Kvemo Kartli region (1 quince and 4 apple samples), in 2 samples of apple from Kakheti region and 1 sample of pear collected in Imereti region. Further surveys will be conducted in the country.

The situation of *Erwinia amylovora* in Georgia can be described as: **Present, restricted distribution.**

Source: Gaganidze DL, Aznarashvili MA, Sadunishvili TA, Abashidze EO, Gureilidze MA, Gvritishvili ES (2018) Fire blight in Georgia. *Annals of Agrarian Science* 16(1), 12-16. <https://doi.org/10.1016/j.aasci.2018.02.001>.

Pictures: *Erwinia amylovora*. <https://gd.eppo.int/taxon/ERWIAM/photos>

Additional key words: new record

Computer codes: ERWIAM, GE

2019/149 Update on the situation of *Erwinia amylovora* in the Republic of Korea

In the Republic of Korea, the first outbreak of *Erwinia amylovora* (EPPO A2 List) was reported in 2015 (EPPO RS 2015/089) in pear (*Pyrus* sp.) orchards in the cities of Anseong and Cheonan. Other infected areas were subsequently detected in Anseong, Cheonan, and Jecheon (EPPO RS 2015/089, 2016/162, 2017/053, 2017/206) and all were subjected to eradication measures. Results of surveys conducted in 2019 (as of June 2019) confirmed the presence of *E. amylovora* in 17 pear orchards and in 99 apple (*Malus domestica*) orchards using molecular techniques. Infected orchards were located within an area of approximately 15 km diameter

in Anseong city (9 pear orchards) and Cheonan city (6 apple orchards), corresponding to the outbreak area of 2015-2018. Other infected areas were found in Chungju (2 pear orchards, 49 apple orchards) and Jecheon (44 apple orchards) where outbreaks had been detected in 2018, and the bacterium was found for the first time in Eumseong (6 apple orchards). All infected plants have been destroyed and survey activities will continue in 2019, as part of the eradication program.

The pest status of *Erwinia amylovora* in the Republic of Korea is officially declared as: **Transient: actionable, under eradication program**

Source: IPPC website. Official Pest Reports - Republic of Korea (KOR-09/1 of 2019-07-02)
Report of outbreak of *Erwinia amylovora* in Rep. of Korea in 2019.
<https://www.ippc.int/en/countries/republic-of-korea/pestreports/2019/07/report-of-outbreak-of-erwinia-amylovora-in-rep-of-korea-in-2019/>

Pictures: *Erwinia amylovora*. <https://gd.eppo.int/taxon/ERWIAM/photos>

Additional key words: detailed record

Computer codes: ERWIAM, KR

2019/150 Invasive alien plants of Union concern (Regulation 1143/2014) in Croatia

Six invasive alien plants of Union concern (Regulation 1143/2014) are currently recorded as present in Croatia.

***Asclepias syriaca* (Apocynaceae)**

Asclepias syriaca is a perennial herb native to North America. The species was introduced into the EPPO region as a garden ornamental. In Croatia, the first records of the species date back to the second half of the 19th century and it is now a common widespread species distributed primarily in north-western and eastern Croatia.

***Elodea nuttallii* (Hydrocharitaceae)**

Elodea nuttallii (EPPO List of Invasive Alien Plants) is an aquatic submerged perennial species native to North America. The species was introduced into the EPPO region as an ornamental species and has since been accidentally released from aquariums into the natural environment. In Croatia, the species was first found in 2006 in Kopački rit floodplain at the mouth of the river Drava. Subsequently, the species has become established in Baranja where it has spread along drainage networks.

***Heracleum mantegazzianum* (Apiaceae)**

Heracleum mantegazzianum (EPPO List of Invasive Alien Plants) is a monocarpic perennial species native to the Caucasus region. The species has been introduced into other areas within the EPPO region as a garden ornamental species, a species used for fodder and as a food plant for honeybees. In Croatia, the species was first recorded in 2009 near Žabnik, but was not found in this area following the first record. The species was then found in 2014 in Gornja Šemnica where it grows in association with ruderal vegetation.

***Impatiens glandulifera* (Balsaminaceae)**

Impatiens glandulifera (EPPO List of Invasive Alien Plants) is a tall annual species native to the western Himalayas (India and Pakistan). The species was first recorded in Croatia in 1968 along the Sava River upstream of Zagreb. Since then, it has also been recorded in northwest Croatia with rare records in the eastern part of the country.

***Ludwigia peploides* (Onagraceae)**

Ludwigia peploides (EPPO A2 List) is an aquatic perennial species native to the Americas. *L. peploides* is considered to have been introduced into the EPPO region as an ornamental aquatic plant. In Croatia, the species was first recorded in 2018 on the Ilova River, near the village of Kaniška Iva, in the vicinity of the town of Garešnica. Surveys of a 2 km stretch of the river identified a number of scattered populations forming dense floating mats, about 1 square metre in surface area.

***Myriophyllum heterophyllum* (Haloragaceae)**

Myriophyllum heterophyllum (EPPO A2 List) is an aquatic perennial species native to North America. The species was introduced into the EPPO region as an ornamental species for aquaria and has since escaped into the natural environment. The species was first recorded in Croatia in 2000, from a small lake (Ponikve) on Krk island. The second finding was from Lake Desne in the Neretva River Delta in 2016.

Source: Boršić I, Ješovnik A, Mihinjač T, Kutleša P, Slivar S, Cigrovski Mustafić M, Desnica S. (2018) Invasive Alien Species of Union Concern (Regulation 1143/2014) in Croatia. *Natura Croatica* 27, 357-398.

Buzjak S, Sedlar Z. (2018) *Ludwigia peploides* (Kunth.) P.H. Raven - Floating water primrose, a new species in Croatian flora from the list of invasive allochthonous species of Union concern. *Natura Croatica* 27, 351-356.

Additional key words: invasive alien plant

Computer codes: ASCSY, ELDNU, IPAGL, LUDPE, HERMZ, MYPHE, HR

2019/151 *x Reyllopia conollyana*: a hybrid between two non-native *Fallopia* species

Fallopia japonica has been known to form a hybrid with *Fallopia baldschuanica* (Polygonaceae - both EPPO List of IAP) within the EPPO region since seed was collected in Wales (GB) that resulted in the development of the hybrid in 1983. The hybrid was named *Fallopia x conollyana* (later renamed *x Reyllopia conollyana*). The hybrid is formed from an ovule of *F. japonica* and pollen from *F. baldschuanica*. In 1986, an established hybrid was identified on waste ground by a railway in the county of Middlesex (England) and the only other specimen found in the United Kingdom was identified in 2002 from Northamptonshire (England). The hybrid has also been recorded in the environment in Germany, Hungary and Norway, and grown from seed of *Fallopia japonica* collected in the Czech Republic and Belgium. In 2016, *x Reyllopia conollyana* were recorded from two localities in Belgium as established plants. The first observed on a talus slope (scree) in Izegem in 2016 and later in the same year alongside a railway track near Ghent. Unlike the maternal plant, *x Reyllopia conollyana* has a woody stem, although it has rhizomes and scarcely climbing stems with an intermediate leaf shape.

Source: Hoste I, Verloove F, Bailey J (2017) Two recent records from Belgium of established plants of *Fallopia x conollyana*: A low profile alien steps into the open. *Dumortiera* 112, 8-13.
Bailey JP (2001) *Fallopia x conollyana*: The railway-yard knotweed. *Watsonia* 23, 539-541.

Pictures: *Fallopia baldschuanica*. <https://gd.eppo.int/taxon/BIKBA/photos>
Fallopia japonica. <https://gd.eppo.int/taxon/POLCU/photos>

Additional key words: invasive alien plant

Computer codes: POLCU, BIKBA, RYLCO, GB

2019/152 *Rosa rugosa* in Finland

Rosa rugosa (Rosaceae) is native to East Asia and is an established invasive alien plant within the EPPO region. The species was first introduced into the EPPO region as a garden ornamental species at the beginning of the 20th century. In Finland, the species started spreading in the natural environment in the 1930s and now it occurs throughout the coastal areas and the archipelagos up to Bothnian Bay (including Åland Island). On the southern coast, the species occurs in the Archipelago of the Gulf of Finland where it invades shorelines. The species invades natural habitat of conservation value in Finland where it outcompetes native plant species. Further spread of the species was assessed on shores of 665 islands within the Archipelago Sea National Park in the South west of Finland between 2017 and 2018. In total, 96 new occurrences of *R. rugosa* were found with the average size of new stands equally approximately 4 m². The most common habitat colonised was stone shore (48 populations), but shore meadows were also typical habitats (22 populations). Other habitats where new populations were found include shrub heath and rock outcrops.

In total, 301 populations have been found in the National Park. Control measures are being applied to new populations including manual and mechanical uprooting, herbicide treatment and covering plants with tarpaulin. It is likely that these management measures will need repeated applications over a number of years.

Source: Kunttu P, Kunttu SM (2019) New records of the invasive alien *Rosa rugosa* (Rosaceae) in the Archipelago Sea National Park, SW Finland. *Memoranda Societatis Florae Fennicae* 95, 81-88.

Additional key words: invasive alien plant

Computer codes: ROSRG, FI

2019/153 Plant Alert: a citizen science project for gardeners

The majority of invasive alien plant species were originally introduced into regions as plants for planting for horticulture. Although it is only a small minority of ornamental plant species that become invasive, this minority can have significant impacts on native biodiversity and ecosystem services and incur large costs for their control and management as well as having impacts on infrastructure and human health. When predicting potential future problematic plant species, the challenge is to identify these species from the array of species grown in gardens (for example, in the United Kingdom there are approximately 70 000 ornamental plants available to gardeners). To this effect, a citizen science project (Plant Alert) has been established in the United Kingdom and Ireland for gardeners where they can report species that show signs of invasiveness in gardens before they spread into the natural environment. By registering on the website, gardeners can list the ornamental plants that are spreading in gardens and difficult to control. A list of reported plants can be accessed on the Plant Alert website.

Source: Plant Alert webpage: <https://plantalert.org/>

Additional key words: invasive alien plant, citizen science

Computer codes: GB