ORGANISATION EUROPEENNE
ET MEDITERRANEENNE
POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN
PLANT PROTECTION
ORGANIZATION

EPPO Reporting Service

NO. 1 PARIS, 2021-01

21 Bld Richard Lenoir
75011 Paris

Tel: 33 1 45 20 77 94
E-mail: hq@eppo.int

Web: www.eppo.int
GD: gd.eppo.int

2021/001 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**

Ceratothripoides brunneus (Thysanoptera: Thripidae – EPPO A1 List) is reported for the first time from Colombia and from South America. Surveys were conducted between 2013 and 2016, in different region of Colombia to determine the presence of thrips in various crops. *C. brunneus* was found in Andean, Caribbean and Orinoquia regions in avocado and coffee crops (Ebratt-Ravelo *et al.*, 2019). **Present, widespread.**

Leptoglossus occidentalis (Hemiptera: Coreidae) is reported for the first time in Estonia and Belarus. In Estonia, an adult specimen was photographed in September 2020 on the island of Saaremma. In Belarus, an adult specimen was photographed near the town of Biazora (van der Heyden, 2021). **Present, few records**.

Liriomyza huidobrensis (Diptera: Agromyzidae – EPPO A2 List) is reported for the first time from Australia. In October 2020, the pest was found in a market garden in the peri-urban area of Western Sydney, New South Wales (New South Wales Government, 2020). In December 2020, *L. huidobrensis* was also reported in commercial celery and green bean crops (*Apium graveolens, Phaseolus vulgaris*) in the Fassifern Valley in Queensland (Queensland Government, 2020). In both Australian states, eradication was no longer considered possible. **Present, only in some areas**.

Pantoea stewartii subsp. *stewartii* (EPPO A2 List) is first reported as causing leaf blade bleaching and blight and necrotic lesions on sugarcane (*Saccharum* sp.) in the Guangdong province of China (Cui *et al.*, 2020). **Present**.

Thekopsora minima (EPPO A2 List) is first reported from Peru causing blueberry leaf rust on *Vaccinium corymbosum*. The disease was first observed in 2018 in 9 commercial fields in La Libertad in the north of Peru (Huarhua *et al.*, 2020). **Present**.

- **Detailed records**

In Brazil, the foliar nematode *Aphelenchoides besseyi* (EPPO A2 List) was isolated from symptomatic leaf samples of Guinea yam (*Dioscorea cayenensis*). Symptoms had been observed during a field inspection of yam commercial fields from 2017 to 2019 in the states of Alagoas and Sergipe: yam plants showed angular dark brown lesions on leaves, associated with severe defoliation (Noronha *et al.*, 2020).

In India, potato cyst nematodes *Globodera rostochiensis* and *G. pallida* (both EPPO A2 List) are first reported from Northern India on potato (*Solanum tuberosum*). Surveys conducted in 2011-2016 detected the nematodes in several districts of Jammu & Kashmir, Uttarakhand, and Himachal Pradesh. Potato cyst nematodes were prevalent only in locations at elevations more than 1950 m above sea level. Official measures are implemented for seed potatoes in these states to prevent further spread of the nematodes (Chandel *et al.*, 2020).

- **Absence**

The NPPO of Switzerland recently informed the EPPO Secretariat that *Trogoderma granarium* (Coleoptera: Dermestidae – EPPO A2 List) is absent from its territory. This absence is also confirmed by a recent faunistic survey (Chittaro & Sanchez, 2019). *T. granarium* has occasionally been recorded, but always in association with imports of grain which have not led to its establishment (NPPO of Switzerland, 2020).

- **Eradication**

The NPPO of Ireland recently informed the EPPO Secretariat that *Thaumetopoea processionea* (Coleoptera: Notodontidae – EU Annexes) is absent from its territory. In June 2020, *T. processionea* was found on an oak tree (*Quercus* sp.) in a public park in Dublin (EPPO RS 2020/184). Tracing investigations showed that this tree had been imported from Belgium in spring 2020 by an Irish nursery. All trees which were part of the batch imported from Belgium were destroyed. An intensive survey, including traps and visual inspections, was carried out in the Dublin Park and surrounding areas and no other findings of the pest were made. Based on the destruction of trees and survey activities, the NPPO of Ireland considers that *T. processionea* has been eradicated (NPPO of Ireland, 2021). **Absent: pest eradicated.**

- **Phytosanitary regulations**

In December 2020, USDA-APHIS officially declared that it was changing its approach against *Agrilus planipennis* (Coleoptera: Buprestidae – EPPO A2 List). Considering that the pest is now widespread in the USA, the domestic quarantine measures have been lifted. USDA-APHIS will focus its efforts on the development of non-regulatory options for the management and containment of the pest. These options may include rearing and releasing biological control agents, and managing firewood movements in association with stakeholders (NAPPO, 2020).

Sources:

Chandel YS, Singh Bhadu S, Salalia R, Thakur S, Kumar S, Singh Somvanshi V, Mukherjee A, Walia RK (2020) Prevalence and spread of potato cyst nematodes, *Globodera* spp. in northern hilly areas of India. *Current Science* **118**(12) 1946-1952.

Chittaro Y, Sanchez A (2019) Liste commentée des Bostrichoidea et Derodontoidea de Suisse (Coleoptera: Bostrichiformia, Derodontiformia). *Alpine Entomology* **3**, 175-205. https://doi.org/10.3897/alpento.3.38582

Cui D, Huang MT, Hu CY, Su JB, Lin LH, Javed T, Deng ZH, Gao SJ (2020) First report of *Pantoea stewartii* subsp. *stewartii* causing bacterial leaf wilt of sugarcane in China. *Plant Disease*. https://doi.org/10.1094/PDIS-09-20-2015-PDN

Ebratt-Ravelo EE, Castro-Avila AP, Vaca-Uribe JL, Corredor-Pardo D, Hance T, Goldarazena A (2019) Composition and structure of Thripidae populations in crops of three geographical regions in Colombia. *Journal of Insect Science* **19**(1), 27. https://doi.org/10.1093/jisesa/iez009

Government of New South Wales. Department of Primary Industries (2020-11) Serpentine leafminer. https://www.dpi.nsw.gov.au/biosecurity/plant/insect-pests-and-plant-diseases/exotic-leaf-miners

Government of Queensland. The Beatsheet. Pest management for Australia's Northern Grains region (2020-12) Serpentine leafminer – another exotic leaf-mining fly now in Australia. https://thebeatsheet.com.au/serpentine-leafminer-another-exotic-leaf-mining-fly-now-in-australia/

Huarhua M, Acuña R, Aragón L, Soto J, Landeo S, Martínez de la Parte E, Apaza W (2020) First report of blueberry leaf rust caused by *Thekopsora minima* on *Vaccinium corymbosum* in Peru. *Plant Disease* **104**(11), 3077. https://doi.org/10.1094/PDIS-03-20-0585-PDN

Noronha MA, Assunção MC, Costa MGS, Muniz MFS, Favoreto L, Sercero BC, Machado ACZ (2020) First report of *Aphelenchoides besseyi* causing leaf spot on yam

(*Dioscorea cayenensis*) in Brazil. Plant Disease **104**(11), 3083. https://doi.org/10.1094/PDIS-03-20-0511-PDN
NAPPO Pest Alert System. Official Pest Reports. USA (2020-12-14). APHIS changes approach to fight Emerald Ash Borer (EAB). https://www.pestalerts.org/official-pest-report/aphis-changes-approach-fight-emerald-ash-borer-eab
NPPO of Ireland (2021-01).
NPPO of Switzerland (2020-11).
van der Heyden T (2021) First records *of Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae) in Estonia and Belarus. *Heteroptera Poloniae - Acta Faunistica* **15**, 5–6.

Additional key words: absence, detailed record, eradication, new record, phytosanitary regulations

Computer codes: AGRLPL, CRTZBR, ERWIST, HETDPA, HETDRO, LEPLOC, LIRIHU, THAUPR, TROGGA, AU, BY, CH, CN, CO, EE, IE, IN, US

2021/002 Update on the situation of quarantine pests in the Russian Federation

The Coordinating Plant Quarantine Council of the Commonwealth of Independent States prepared a report gathering information on the situation of quarantine pests in their member countries as of January 1st, 2020. The EPPO Secretariat summarized the relevant information below for the Russian Federation and the associated data has been updated into EPPO Global Database. The country is divided in 85 federal subjects. For each pest, the number of federal subjects where it is present, and the surface of the established quarantine zones (these zones include the infested zones and the surrounding buffer zones) are given. When the occurrence of a pest in the country was not previously known to the EPPO Secretariat, this is indicated by an asterisk (*).

Insects

- *Agrilus planipennis* (Coleoptera: Buprestidae - EPPO A2 List): present in 7 federal subjects (19574 ha).
- *Bemisia tabaci* (Hemiptera: Aleyrodidae - EPPO A2 List): present in 2 federal subjects (1.1 ha).
- *Carposina sasakii* (Lepidoptera: Carposinidae – EPPO A2 list): present in 4 federal subjects (1145 ha).
- *Comstockaspis perniciosa* (Hemiptera: Diaspididae – EPPO A2 List): present in 14 federal subjects (89 683 ha).
- *Corythucha arcuata* (Heteroptera: Tingidae – formerly EPPO Alert List, EAEU A1 List): present in 2 federal subjects (51 062 ha).
- *Corythucha ciliata* (Heteroptera: Tingidae – EAEU A2 List): present in 3 federal subjects (10 753 ha).
- *Daktulosphaira vitifoliae* (Hemiptera: Phylloxeridae - EPPO A2 List): present in 9 federal subjects (17381 ha).
- *Dendrolimus sibiricus* (Lepidoptera: Lasicampidae, EPPO A2 List): present in 20 federal subjects (180 753 301 ha).
- *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae – EPPO A2 List): present in 1 federal subject (22351 ha).
- *Frankliniella occidentalis* (Thysanoptera: Thripidae – EPPO A2 List): present in 33 federal subjects (524 ha).
- *Grapholita molesta* (Lepidoptera: Tortricidae – formerly A2 EPPO List): present in 16 federal subjects (38 350 ha).
- *Halyomorpha halys* (Hemiptera: Pentatomidae – formerly EPPO Alert List): present in 2 federal subjects (185 233 ha).

- *Hyphantria cunea* (Lepidoptera: Erebidae - formerly EPPO A2 List): present in 15 federal subjects (447 196 ha).
- *Leptoglossus occidentalis* (Hemiptera: Coreidae- EAEU A1 List): present in 1 federal subject (2440 ha).
- *Liriomyza sativae** (Diptera: Agromyzidae - EPPO A2 List): first detected in 2019, present in 1 federal subject (14 ha).
- *Lymantria dispar asiatica* (Lepidoptera: Lymantriidae – EAEU A2 List): present in 9 federal subjects (49 565 084 ha).
- *Monochamus galloprovincialis* (Coleoptera: Cerambycidae – EAEU A2 List): present in 46 federal subjects (273 832 482 ha).
- *Monochamus impluviatus* (Coleoptera: Cerambycidae– EAEU A2 List): present in 5 federal subjects (122 573 786 ha).
- *Monochamus saltuarius* (Coleoptera: Cerambycidae– EAEU A2 List): present in 7 federal subjects (76 017 578 ha).
- *Monochamus sutor* (Coleoptera: Cerambycidae– EAEU A2 List): present in 48 federal subjects (330 915 587 ha).
- *Monochamus urussovi* (Coleoptera: Cerambycidae – EAEU A2 List): present in 45 federal subjects (364 272 025 ha).
- *Phthorimaea operculella* (Lepidoptera: Gelechiidae, formerly EPPO A2 List, EAEU A2 List): present in 8 federal subjects (1732 ha).
- *Polygraphus proximus* (Coleoptera: Scolytidae – EPPO A2 List): present in 5 federal subjects (71 870 138 ha).
- *Popillia japonica* (Coleoptera: Rutelidae – EPPO A2 List): present in 1 federal subject (in Russian far East, where it is native) (2000 ha).
- *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A2 List): present in 7 federal subjects (856 ha).

Pathogens

- *Cercospora kikuchii* (EAEU A2 List): present in 1 federal subject (1825 ha).
- *Colletotrichum acutatum* (EAEU A2 List): present in 2 federal subjects (39 ha).
- *Diaporthe helianthi* (EAEU A2 List): present in 9 federal subjects (160 416 ha).
- *Erwinia amylovora* (EPPO A2 List): present in 15 federal subjects (247 163 ha).
- *Globodera rostochiensis* (EPPO A2 List): present in 58 federal subjects (1 078 830 ha).
- *Heterodera glycines* (EPPO A2 List): present in 2 federal subjects (47 173 ha).
- *Pantoea stewartii* subsp. *stewartii** (EPPO A2 List): present in 1 federal subject (234 ha).
- Plum pox virus (*Potyvirus*, PPV – EPPO A2 List): present in 18 federal subjects (14 473 ha).
- *Puccinia horiana* (EPPO A2 List): present in 2 federal subjects (0.56 ha).
- *Stagonosporopsis chrysanthemi** (syn. *Didymella ligulicola*, EPPO A2 List): present in 1 federal subject (0.05 ha).
- *Synchytrium endobioticum* (EPPO A2 List): present in 9 federal subjects (1175 ha).
- *Xylophilus ampelinus**(EPPO A2 List): present in 2 federal subjects (741 ha).

Plants

- *Acroptilon repens* (Asteraceae, EPPO List of Invasive Alien Plants, EAEU A2 List): present in 18 federal subjects (1 528 316 ha).
- *Ambrosia artemisiifolia* (Asteraceae, EPPO List of Invasive Alien Plants, EAEU A2 List): present in 31 federal subjects (7 257 651 ha).

- *Ambrosia psilostachya* (Asteraceae, EAEU A2 List): present in 7 federal subjects (27 954 ha).
- *Ambrosia trifida* (Asteraceae, EPPO A2 List): present in 20 federal subjects (2 707 887 ha).
- *Cenchrus longispinus* (Poaceae, EAEU A2 List): present in 5 federal subjects (640 ha).
- *Cuscuta* sp. (Convolvulaceae, EAEU A2 List): present in 64 federal subjects (2 946 135 ha).
- *Solanum rostratum* (Solanaceae, EAEU A2 List): present in 6 federal subjects (49 014 ha).
- Solanum triflorum (Solanaceae, EAEU A2 List): present in 3 federal subjects (705 179 ha).

Source: Anonymous (2020) Справочник по карантинному фитосанитарному состоянию территорий государств - участников СНГ на 01.01.2020 г. [Handbook of quarantine phytosanitary conditions in the territories of the CIS Member States as of 2020-01-01]. All-Russian Plant Quarantine Center. 92pp.
Russian ministry of Agriculture (2020) Rapport national sur le statut phytosanitaire de quarantaine le territoire de la Fédération de Russie en 2019, 28 pp (in Russian) https://fsvps.gov.ru/fsvps-docs/ru/usefulinf/files/nd2020.pdf

Additional key words: detailed record, new record

Computer codes: 1CVCG, AGRLPL, AMBEL, AMBPS, AMBTR, BEMITACARSSA, CCHLO, CENRE, CERCKI, COLLAC, CRTHAR, CRTHCI, DENDSI, DIAPHE, DRYCKU, ERWIAM, ERWIST, FRANOC, HALYHA, HETDGL, HETDRO, LASPMO, LEPLOC, LIRISA, LYMADA, LYMADI, MONCGA, MONCIM, MONCSL, MONCSU, MONCUR, MYCOLG, PHTOOP, POLGPR, POPIJA, PPV000, PUCCHN, QUADPE, SOLRS, SOLTR, SYNCEN, VITEVI, XANTAM, RU

2021/003 Update on the situation of quarantine pests in Tajikistan

The Coordinating Plant Quarantine Council of the Commonwealth of Independent States prepared a report gathering information on the situation of quarantine pests in their member countries as of January 1st, 2020. The EPPO Secretariat summarized the relevant information below for Tajikistan and the associated data has been updated into EPPO Global Database. The country is divided in 4 administrative regions, which includes 65 districts). For each pest, the number of regions and districts where it is present, and the surface of the infested area are given.

Insects

- *Comstockaspis perniciosa* (Hemiptera: Diaspididae – EPPO A2 List): present in 4 regions, 29 districts (529 ha).
- *Dialeurodes citri* (Hemiptera: Aleyrodidae): present in 3 regions, 18 districts (64 ha).
- *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae - EPPO A2 List): present in 4 regions, 25 districts (4993 ha).
- *Pseudococcus comstocki* (Hemiptera: Pseudococcidae - formerly A2 EPPO List): present in 4 regions, 39 districts (7571 ha).

Nematodes

- *Globodera rostochiensis* (EPPO A2 List): present in 2 regions, 6 districts (234 ha).

Plants

- *Acroptilon repens* (EPPO List of Invasive Alien Plants): present in 4 regions, 45 districts (39 303 ha).
- *Cuscuta* sp. on herbaceous plants: present in 4 regions, 46 districts (27 842 ha).
- *Cuscuta* sp. on woody plants: present in 4 regions, 24 districts (170 ha).

Source: Anonymous (2020) Справочник по карантинному фитосанитарному состоянию территорий государств - участников СНГ на 01.01.2020 г. [Handbook of quarantine phytosanitary conditions in the territories of the CIS Member States as of 2020-01-01]. All-Russian Plant Quarantine Center. 92pp.

Additional key words: detailed record, new record **Computer codes:** 1CVCG, CENRE, DIALCI, HETDRO, LPTNDE, PSECCO, QUADPE , TJ

2021/004 Update on the situation of quarantine pests in Uzbekistan

The Coordinating Plant Quarantine Council of the Commonwealth of Independent States prepared a report gathering information on the situation of quarantine pests in their member countries as of January 1st, 2020. The EPPO Secretariat summarized the relevant information below for Uzbekistan and the associated data has been updated into EPPO Global Database. The country is divided in 14 administrative provinces. For each pest, the number of provinces where it is present, and the surface of the infested area are given. When the occurrence of a pest in the country was not previously known to the EPPO Secretariat, this is indicated by an asterisk (*).

Insects

- *Comstockaspis perniciosa* (Hemiptera: Diaspididae – EPPO A2 List): present in 9 provinces (423 ha).
- *Dialeurodes citri* (Hemiptera: Aleyrodidae): present in 8 provinces (67 ha).
- *Grapholita molesta* (Lepidoptera: Tortricidae – formerly A2 EPPO List): present in 5 provinces (975 ha).
- *Leptinotarsa decemlineata* (Coleoptera: Chrysomelidae - EPPO A2 List): present in 10 provinces (1542 ha).
- *Phthorimaea operculella** (Lepidoptera: Gelechiidae, formerly EPPO A2 List): present in 8 provinces (581 ha).
- *Phyllocnistis citrella** (Lepidoptera, Gracillariidae): present in 10 provinces (50 ha).
- *Pseudococcus comstocki* (Hemiptera: Pseudococcidae - formerly A2 EPPO List): present in 14 provinces (2819 ha).

Plants

- *Acroptilon repens* (EPPO List of Invasive Alien Plants): present in 14 provinces (5821 ha).
- *Cuscuta* sp.: present in 14 provinces (7045 ha).

Source: Anonymous (2020) Справочник по карантинному фитосанитарному состоянию территорий государств - участников СНГ на 01.01.2020 г. [Handbook of quarantine phytosanitary conditions in the territories of the CIS Member States as of 2020-01-01]. All-Russian Plant Quarantine Center. 92pp.

Additional key words: detailed record, new record **Computer codes:** 1CVCG, CENRE, DIALCI, LASPMO, LPTNDE, PHTOOP, PHYNCI, PSECCO, QUADPE, UZ

2021/005 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 2020/260), the following new and revised EPPO datasheets have been published in the EPPO Global Database:

- *Agrilus planipennis*. https://gd.eppo.int/taxon/AGRLPL/datasheet
- *Anastrepha ludens*. https://gd.eppo.int/taxon/ANSTLU/datasheet
- *Anastrepha obliqua*. https://gd.eppo.int/taxon/ANSTOB/datasheet
- *Anastrepha suspensa*. https://gd.eppo.int/taxon/ANSTSU/datasheet
- *Dendroctonus micans*. https://gd.eppo.int/taxon/DENCMI/datasheet
- *Ips cembrae*. https://gd.eppo.int/taxon/IPSXCE/datasheet
- *Meloidogyne chitwoodi*. https://gd.eppo.int/taxon/MELGCH/datasheet
- *Venturia nashicola*. https://gd.eppo.int/taxon/VENTNA/datasheet

Source: EPPO Secretariat (2021-01).

Additional key words: publication

Computer codes: AGRLPL, ANSTLU, ANSTOB, ANSTSU, DENCMI, IPSXCE, MELGCH, VENTNA

2021/006 *Anoplophora glabripennis* eradicated from Austria

In January 2021, The NPPO of Austria informed the EPPO Secretariat that *Anoplophora glabripennis* (Coleoptera: Cerambycidae – EPPO A1 List) has been eradicated from its territory. It can be recalled that *A. glabripennis* was first found in Braunau am Inn in July 2001, and subsequently in St. Georgen bei Obernberg in 2012 and Gallspach in 2013. In all cases, eradication measures were taken. The outbreaks of Braunau am Inn and St. Georgen bei Obernberg were eradicated in 2012 and 2016 respectively, but an eradication campaign was continuing in Gallspach (EPPO RS 2018/080). In the demarcated area in Gallspach, an intensive monitoring has been carried out since 2013. As a result of this intensive surveillance programme, no further live or dead stages of *A. glabripennis* have been detected since the end of 2016 (i.e. 4 years and corresponding to at least 2 complete development cycles of the pest). In accordance with the requirements of the EU legislation (Implementing Decision (EU) 2015/893 of 9 June 2015), the NPPO considers that the outbreak in Gallspach has been eradicated and that *A. glabripennis* has been successfully eradicated from Austria.
The situation of *Anoplophora glabripennis* in Austria can be described as: **Absent, pest eradicated.**

Source: NPPO of Austria (2021-01).

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

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

2021/007 *Popillia japonica* is absent from Germany

In Germany, *Popillia japonica* (Coleoptera: Scarabaeidae - EPPO A2 List) was detected in North Rhine-Westphalia in 2014 by an amateur entomologist who did not inform the responsible authorities. This finding was then published in 2018 and according to this publication, one specimen of *P. japonica* was found near the city of Paderborn (North Rhine-Westphalia). From 2018 to 2020, a monitoring survey was conducted by the Plant Protection Service of North Rhine-Westphalia using visual inspections and 5 pheromone traps. Monitoring was carried out in a public green next to a British military base, and results showed that there was no evidence of larvae or adults of *P. japonica*.
In summer 2018, a walker found one specimen of *P. japonica* near Oberstdorf in Bavaria, an area close to the border with Austria. However, the person could neither correctly identify the location nor the country. In 2019 and 2020, monitoring surveys were conducted by the Plant Protection Service of Bavaria in the county of Oberallgaeu (Bavaria) using visual inspections and 10 pheromone traps. There was no evidence of larvae or adults of *P. japonica*. Based on the results of these surveys, the NPPO of Germany consider that the pest is absent from its territory.
The pest status of *Popillia japonica* in Germany is officially declared as: **Absent, pest records unreliable.**

Source: NPPO of Germany (2020-12).

Urban P (2018) [Discovery of the Japanese beetle *Popillia japonica* (Newman, 1841) near Paderborn (North Rhine-Westphalia) – first record for Germany]. *Mitteilungen der Arbeitsgemeinschaft Westfälischer Entomologen* **34**(1), 21-24 (in German).
Urban P, Schulze W, Zorn C (2019) Ein Fund des Japankäfers *Popillia japonica* Newman, 1838 in Bayern mit Anmerkungen zum Auftreten in Europa (Coleoptera:

Scarabaeidae: Rutelinae). *Nachrichtenblatt der Bayerischen Entomologen* **68**(3/4), 117-119 (in German).

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

Additional key words: absence, incursion **Computer codes:** POPIJA, DE

2021/008 First report of *Scirtothrips aurantii* in Spain

The NPPO of Spain recently informed the EPPO Secretariat of the first report of *Scirtothrips aurantii* (Thysanoptera: Thripidae – EPPO A1 List) on its territory. *S. aurantii* is native to Africa, and so far, it had only been recorded from outside this continent in Yemen. In the framework of the Citrus Phytosanitary Surveillance Plan of Andalucía, on 28th September 2020, individuals of *Scirtothrips* were detected on yellow traps located in citrus plots (*Citrus* sp.) of the municipalities of Cartaya and Lepe (Huelva province, Andalucía). At the same time, a company located in the same area reported the presence of adults and larvae of *Scirtothrips* on strawberry (*Fragaria x ananassa*), raspberry (*Rubus idaeus*), blackberry (*Rubus* sp.) and blueberry (*Vaccinium* sp.) plants. These insects were later identified as *Scirtothrips aurantii* by the Regional Laboratory and the National Reference Laboratory on arthropods. A demarcated area composed of infested plots and their surroundings has been established and includes 12 municipalities in the province of Huelva. Official phytosanitary measures will be taken in accordance with Regulation (EU) 2016/2031 and will include insecticide treatments of the crops.
The pest status of *Scirtothrips aurantii* in Spain is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Spain (2020-11).

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

2021/009 *Agrilus planipennis* found in Saint Petersburg, Russia

In August 2020, signs of the presence of *Agrilus planipennis* (Coleoptera: Buprestidae – EPPO A2 List) were noticed on declining ash trees (*Fraxinus pennsylvanica* and *F. excelsior*) in Saint Petersburg (Martyshkino settlement, Petrodvorets district), Russia. Affected trees had dying branches, D-shaped exit holes and larval galleries. In early September 2020, entomologists confirmed the identity of the pest. Considering the abundance of exit holes and larval galleries, it was estimated that the insect has been present in this area for at least 3 years. Until this finding in Saint Petersburg, it was thought that the Northwestern border of the pest range in European Russia was in Tver province. The authors considered that the presence of *A. planipennis* in Saint Petersburg is a threat to the nearby palace gardens of Peterhof (immediate vicinity) and Oranienbaum (5 km away). In addition, the presence of the pest in Saint Petersburg represents a significant shift towards the borders with Estonia and Finland. The authors also concluded that surveys should be carried out in Saint Petersburgh historical centre, as well as in adjacent areas of the Leningrad province, and that infested ash trees should be removed before the onset of adult flight activity (end of May 2021).

Source: Volkovitsh MG, Suslov DV (2020) The first record of the emerald ash borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), in Saint Petersburg signals a real threat to the palace and park ensembles of Peterhof and Oranienbaum. In: Musolin DL, Kirichenko NI, Selikhovkin AV (eds.) Dendrobiotic invertebrates and fungi and their role in forest ecosystems. Saint Petersburg State Forest Technical University, Saint Petersburg, Russia. pp. 121-122. DOI: 10.21266/SPBFTU.2020.KATAEV

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

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

2021/010 First report of *Spodoptera frugiperda* in Syria

In December 2020, the NPPO of Syria officially reported the presence of *Spodoptera frugiperda* (Lepidoptera: Noctuidae – EPPO A1 List) on its territory. Larvae were found for the first time in maize (*Zea mays*) plants grown in 4 rural farms in the southwestern governorate of Dara'a. Affected maize plants showed typical symptoms of the pest. It is thought that the pest spread naturally from nearby Jordan, where it has been found recently (EPPO RS 2020/213).
The pest status of *Spodoptera frugiperda* in Syria is officially declared as: **Present: only in some areas.**

Source: IPPC website. Official Pest Reports – Syria (SYR-01/2 of 2020-12-27) First record of Fall Armyworm in Syria. https://www.ippc.int/fr/countries/syrian-arab-republic/pestreports/2020/12/first-record-of-army-warm-in-syria/

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

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

2021/011 *Spodoptera frugiperda* found in New South Wales, Australia

In Australia, *Spodoptera frugiperda* (Lepidoptera: Noctuidae – EPPO A1 List) was first found in January 2020 in Torres Strait islands and soon after in the Northern part of Queensland (EPPO RS 2020/031). The pest was then found in other parts of Queensland and in the states of Northern Territory and Western Australia (EPPO RS 2020/071, 2020/093). In September 2020, *S. frugiperda* was also detected in New South Wales, at first near Moree and then in other locations (Narrabri, Wee Waa, Dubbo, Breeza and Maitland).

Source: New South Wales Government. Department of Primary Industries (2020-11-06) Fall armyworm. https://www.dpi.nsw.gov.au/biosecurity/plant/insect-pests-and-plant-diseases/fall-armyworm

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

Additional key words: detailed record **Computer codes:** LAPHFR, AU

2021/012 *Spodoptera ornithogalli* (Lepidoptera Noctuidae - yellow-striped armyworm): addition to the EPPO Alert List

Why: As repeated interceptions of *Spodoptera ornithogalli* (Lepidoptera: Noctuidae) were made in 2020, particularly on consignments of *Asparagus* from the Americas, the NPPO of the Netherlands suggested that this pest should be added to the EPPO Alert List. This proposal was also supported by the Panel on Phytosanitary Measures.

Where: Recent taxonomic studies have concluded that *S. marima* (present in South America) is a synonym of *S. ornithogalli* (North and Central America and the Caribbean), therefore the geographical distribution of this pest now covers the whole American continent. *S. ornithogalli* has not been reported in other parts of the world.
EPPO Region: Absent.
North America: Canada (Ontario, Quebec), Mexico, USA (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin).
Central America and the Caribbean: Antigua and Barbuda, Bermuda, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Puerto Rico,
South America: Argentina, Bolivia, Brazil (Acre, Bahia, Distrito Federal, Espirito Santo, Mato Grosso, Mato Grosso do Sul, Para, Parana, Rio Grande do Sul, Roraima, Tocantins), Colombia, Ecuador, French Guiana, Peru, Suriname, Venezuela.

On which plants: *S. ornithogalli* is a highly polyphagous pest which can damage economically important crops such as asparagus, bean, beet, cotton, maize, tomato, pepper, potato, sunflower, sorghum, soybean, wheat, as well as ornamentals such as chrysanthemums and roses. It can also be found on weeds (e.g. *Amaranthus retroflexus, Chenopodium album, Datura stramonium, Erigeron canadensis, Plantago lanceolata, Rumex*). A list of hosts can be viewed in the EPPO Global Database.

Damage: Damage is mainly caused by larvae of *S. ornithogalli* feeding on aerial plant parts. The small gregarious larvae tend to skeletonize leaves, and later stages consume irregular patches of foliage or entire leaves. Larvae can also feed on fruits of plants such as tomato, and cotton (capsules), or on flowers. In the USA, *S. ornithogalli* is considered to be a pest of economic importance mainly in the southeastern parts of the USA, however significant damage may occasionally be reported from northern parts.
In North America, 3 to 4 generations have been observed. Eggs are laid in clusters (200 to 500 eggs), usually on the underside of leaves. There are generally thought to be 6 larval instars, although up to 7 have been reported. Larvae grow from about 2 to 35 mm throughout their development. Larvae pupate in the soil. Adult moths have a wing-span of 34 to 41 mm. Their front wings are brownish grey with a complicated pattern of light and dark markings. Hind wings are opalescent white, with a narrow brown margin. Pictures of the pest can be viewed on the Internet.
https://bugguide.net/node/view/198595
https://www.butterfliesandmoths.org/species/Spodoptera-ornithogalli
http://entnemdept.ufl.edu/creatures/veg/leaf/yellowstriped_armyworm.htm

Dissemination: Adult moths can fly. In North America, the pest overwinters in warmer areas and migrates northwards each year. No detailed data could be found on the flight abilities of *S. ornithogalli*, but other *Spodoptera* species (e.g. *S. frugiperda*) are known to be strong

fliers. Over short distances, larvae can also balloon on silk threads blown by the wind. Over longer distances, *S. ornithogalli* can be spread with its host plants or with soil (as pupae).

Pathways: Fruits and vegetables, plants for planting, cut flowers of host plants, soil, from countries where *S. ornithogalli* occurs.

Possible risks*: S. ornithogalli* has many hosts that are major crops in the EPPO region. It can be recalled that *S. ornithogalli* had been screened in the EPPO study on 'Pest Risks associated with the import of tomato fruit' as a pest posing potential risks to tomato production in the EPPO region. Recent interceptions of infested consignments of asparagus clearly show that the pest has a pathway to enter the EPPO region. In the 2000s, Japan had also reported interceptions of infested asparagus from Mexico and the USA. In addition, in the EPPO Study, it had been shown that climatic conditions in the EPPO region were favourable to the establishment of the pest, although the northern limit of overwintering remained uncertain. In its risk assessment of American species of *Spodoptera*, the Netherlands Food and Consumer Product Safety Authority concluded that *S. ornithogalli* (as was also the case for *S. eridania, S. frugiperda* and *S. praefica*) presented risks for the European Union. The introduction of *S. ornithogalli* is likely to cause significant losses in various crops, especially in the Southern parts of the European Union. Although further assessment is needed, this conclusion could most probably be extended to the Southern part of the EPPO region.

Sources

Brito R, Specht A, Gonçalves GL, Moreira GRP, Carneiro E, Santos FL, Roque-Specht VF, Mielke OHH, Casagrande MM (2019) *Spodoptera marima*: a new synonym of *Spodoptera ornithogalli* (Lepidoptera: Noctuidae), with notes on adult morphology, host plant use and genetic variation along its geographic range. *Neotropical Entomology* **48**(3), 433-448.

Capinera JL (2020) Yellowstriped army worm, *Spodoptera ornithogalli* (Guenée) (Insecta: Lepidoptera: Noctuidae). University of Florida/IFAS Extension. Publication EENY-216. https://edis.ifas.ufl.edu/pdffiles/IN/IN37300.pdf

Dumas P, Barbut J, Le Ru B, Silvain JF, Clamens A-L, d'Alençon E, Kergoat GJ (2015) Phylogenetic molecular species delimitations unravel potential new species in the pest genus *Spodoptera* Guenée, 1852 (Lepidoptera, Noctuidae). *PLoS ONE* **10**(4), e0122407. https://doi.org/10.1371/journal.pone.0122407

EPPO (2015) EPPO Technical Document No. 1068, EPPO Study on Pest Risks Associated with the Import of Tomato Fruit. EPPO Paris. https://www.eppo.int/media/uploaded_images/RESOURCES/eppo_publications/td_1068_tomato_study.pdf

Fernandez LS, Fernandez CR, Mejia JE (2004) [Life cycle of *Spodoptera ornithogalli* (Guenée) in cotton in the mid Sinu valley]. *Temas Agrarios* **9**(1), 30-36 (in Spanish).

INTERNET

- North American Moth Photographers Group. Mississippi Entomological Museum. Mississippi State University. *Spodoptera ornithogalli*. http://mothphotographersgroup.msstate.edu/large_map.php?hodges=9669
- PennState Extension. Pennsylvania Insect Alert for September 2, 2020: Yellow-Striped Armyworm Outbreak. https://extension.psu.edu/pennsylvania-insect-alert-for-september-2-2020-yellow-striped-armyworm-outbreak

Heppner JB (1998) Spodoptera armyworms in Florida (Lepidoptera: Noctuidae). Entomology Circular (Gainesville) no. 390, 1-5.

Pogue M (2002) A world revision of the genus Spodoptera Guenée (Lepidoptera: Noctuidae). *Memoirs of the American Entomological Society, Philadelphia*, 202 pp.

Takahashi G (2002) Notes on some Noctuid species intercepted on asparagus produced in America and Mexico at import plant quarantine of Narita Airport in Japan. *Research Bulletin of the Plant Protection Service, Japan* no.38, 105-110.

Van der Gaag DJ, van der Straten M (2017) Assessment of the potential impact of American *Spodoptera* spp. Netherlands Food and Consumer Product Safety Authority, 42 pp. https://english.nvwa.nl/binaries/nvwa-en/documents/plant/plant-health/pest-risk-analysis/documents/american-spodoptera-species-risk-assessment/risk-assessment-american-spodoptera-species.pdf

EPPO RS 2021/012

Panel review date – Entry date 2021-01

2021/013 First report of *Xylosandrus compactus* in mainland Spain

The NPPO of Spain recently informed the EPPO Secretariat of the first report of *Xylosandrus compactus* (Coleoptera: Scolytidae – EPPO Alert List) on the mainland. The beetle had previously been observed in Mallorca (Baleares, EPPO RS 2020/010). In mainland Spain, the pest was found in two municipalities in Cataluña region.

- *X. compactus* was detected in laurel plants (*Laurus nobilis*) planted as a hedge in a private garden located in the municipality of Banyoles (Girona province). About half of the laurel plants showed decline. Samples were taken in August and September 2020, and the identification was confirmed by the Regional Laboratory.
- *X. compactus* was detected on carob trees (*Ceratonia siliqua)* and hazelnut trees (*Corylus avellana*) in a farm located in the municipality of Salou (Tarragona province, Cataluña) in October 2020. The identification was confirmed by the Regional Laboratory.

In both cases, eradication measures are implemented. The areas concerned are being surveyed to assess the extent of the outbreaks. The plants were pruned to remove the affected twigs and the twigs were destroyed.
The pest status of *Xylosandrus compactus* in Spain is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Spain (2020-12).

Pictures: *Xylosandrus compactus*. https://gd.eppo.int/taxon/XYLSCO/photos

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

2021/014 First report of *Eotetranychus lewisi* in mainland Portugal

In Portugal, *Eotetranychus lewisi* (Acari: Tetranychidae - EU Annexes) had so far only been recorded from Madeira (EPPO RS 2020/246). The NPPO of Portugal recently informed the EPPO Secretariat of the first detection of the pest in continental Portugal. As a result of a national official survey, the presence of *E. lewisi* was detected in Algarve region (Loulé county), on leaves of two *Euphorbia pulcherrima* plants in a flower bed in a private yard. The identity of the pest was confirmed by the national reference laboratory in cooperation with the French National Research Institute for Agriculture, Food and Environment (INRAE). Phytosanitary measures will be implemented, including destruction of the infested plants, an intensified survey on any potential host growing in their vicinity and, if necessary, preventive treatments.

The pest status of *Eotetranychus lewisi* in Portugal is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Portugal (2021-01).

Pictures: *Eotetranychus lewisi*. https://gd.eppo.int/taxon/EOTELE/photos

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

2021/015 First report of *Meloidogyne chitwoodi* in Spain

The NPPO of Spain recently informed the EPPO Secretariat of the first report of the root knot nematode *Meloidogyne chitwoodi* (EPPO A2 List) on its territory. In the framework of annual official surveys, symptomatic potato tubers (*Solanum tuberosum*) were collected from a field (2.32 ha) in the municipality of Santa Croya de Tera (Zamora province, Castilla y León). The identity of the nematode was confirmed by the National Reference Laboratory on nematodes. In the meantime, the potato field had been harvested and the potatoes were stored in a warehouse in the locality of Mozar de Valverde (Zamora province). All potatoes coming from the infested field will be destroyed (104 boxes, approximately 1 000 kg each). A demarcated area will be established, and official phytosanitary measures will be taken in accordance with Regulation (EU) 2016/2031.
The pest status of *Meloidogyne chitwoodi* in Spain is officially declared as: **Present, under eradication, only in some parts of the Member State concerned.**

Source: NPPO of Spain (2020-11).

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

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

2021/016 Update on the situation of the potato cyst nematodes *Globodera rostochiensis* and *G. pallida* in Portugal

In Portugal, *Globodera rostochiensis* (EPPO A2 List) was first reported in 1956 and is currently present in all potato producing regions, including Madeira and Azores islands. *G. pallida* (EPPO A2 List) was first found in Portugal in 1987. As part of the official control programme against potato cyst nematodes, surveys based on soil sampling (1500 mL/ha) were conducted from 2013 to 2019 in mainland Portugal; 748 soil samples were collected throughout the country. Potato cyst nematodes were identified in 168 samples, representing 22.5% of the tested samples. Of the positive samples, forty-eight tested positive for *G. rostochiensis* populations alone (28.6%), and 83 for *G. pallida* populations alone (49.4%), while mixed populations were found in 37 samples (22%). Both species are currently present in all potato producing regions of the country. The authors noted that the proportion of *G. pallida* has increased because of the use of potato varieties that are resistant to *G. rostochiensis*.
The situation of *Globodera rostochiensis* and *G. pallida* in Portugal can be described as: **Present in all potato-growing regions, under official control.**

Source: Camacho MJ, de Andrade E, Mota M, Nobrega F, Vicente C, Rusinque L, Inácio ML (2020) Potato Cyst Nematodes: geographical distribution, phylogenetic relationships

and integrated pest management outcomes in Portugal. *Frontiers in Plant Science* **11**, 606178. https://doi.org/10.3389/fpls.2020.606178

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

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

2021/017 First report of tomato brown rugose fruit virus in Belgium

The NPPO of Belgium recently informed the EPPO Secretariat of the first detection of tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) on its territory. ToBRFV was first detected in August 2020 following trace-back activities conducted by the NPPO of the Netherlands on a seed lot of tomato (*Solanum lycopersicum*). These seeds were used to grow tomato plants for experiments in a greenhouse (biosafety level 2) in a University. ToBRFV was detected in one tomato plant. All tomato plants and the remaining seeds were destroyed. ToBRFV was detected again in December 2020 in a greenhouse for tomato fruit production. Symptoms were observed in some scattered plants. The grower had bought plantlets from a nursery in the Netherlands where the virus had earlier been detected. As the plants were in the middle of their growth cycle, strict hygiene measures have been imposed at the greenhouse and at the packing station (including cleaning and disinfection of packaging material) to allow trade of tomatoes. The greenhouse will have to be thoroughly cleaned and disinfected after removal of the crop (under strict conditions). The following crop in this production site will be inspected, sampled and tested at least six months after planting, to verify the absence of the virus, before measures could be lifted.
The pest status of tomato brown rugose fruit virus in Belgium is officially declared as: **Present, under eradication.**

Source: NPPO of Belgium (2020-11, 2020-12).

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

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

2021/018 Update on the situation of tomato brown rugose fruit virus in Spain

Tomato brown rugose fruit virus (*Tobamovirus*, ToBRFV – EPPO A2 List) was first detected in Spain in October 2019 in one greenhouse producing tomato fruits (*Solanum lycopersicum*) in the municipality of Vícar, Almería province (Andalucía) (EPPO RS 2019/238), and later in the neighbouring municipalities of Vicar and El Ejido (RS 2020/039). In the framework of its official surveys conducted in 2020, the NPPO of Spain reported further cases of ToBRFV.

- As part of the following up investigations on the outbreak detected in El Ejido, the NPPO of Spain detected the presence of ToBRFV in sweet pepper seeds (*Capsicum annuum*) in a research centre in the municipality of El Ejido. A sampling procedure was designed for the 3 495 seed lots (research lines) to identify which lots were infected by ToBRFV. All seed from the 41 lots that made up the positive grouped sample were destroyed. The remaining lots tested negative. Investigations to identify the origin of infected seeds are being carried out.
- In October 2020, a new outbreak of ToBRFV was found in a tomato crop in the municipality of Almeria (Almería province, Andalucía) in a greenhouse for research. Official phytosanitary measures have been applied, including the destruction of all tomato plants.
- As part of official surveys, in November 2020, ToBRFV was detected in asymptomatic sweet pepper (*Capsicum annuum*) mother plants by group sampling in two municipalities: 1) in 2 units of a breeding company (one dedicated to commercial seed production, and one for research) in the municipality of Vicar; 2) in another company producing commercial seed in the municipality of El Ejido. All the seed stock produced from these mother plants was held on site. Mother plants will be tested individually and the mother plants (along with the seeds derived from them) will be destroyed if they are found to be infected.

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

Source: NPPO of Spain (2020-10, 2020-12, 2021-01).

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

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

2021/019 Update on the situation of *Acidovorax citrulli* in Greece with findings on tomato

Acidovorax citrulli (EPPO A1 List) is the causal agent of bacterial fruit blotch disease of cucurbits. In Greece, it was first detected causing fruit blotch in watermelon (*Citrullus lanatus*) in 2005 and further outbreaks were then detected in 2006 and 2008 (EPPO RS 2009/216). In a recent scientific article, Malliarakis *et al*. (2020) report the detection of *A. citrulli* in symptomatic tomato seedlings (*Solanum lycopersicum*) in two transplant houses in June 2019 and April 2020. Tomato leaves presented necrotic black spots, often with chlorotic haloes. Economic losses were considered to be serious as 20-30% of seedlings were diseased. *A. citrulli* had previously been detected on tomato and eggplant (*S. melongena*) in Israel (Chalupowicz *et al.*, 2020). The NPPO of Greece recently informed the EPPO Secretariat that in watermelon cultivation, only sporadic infections have been reported. It also added that the finding on tomato occurred in the regional unit of Imathia (region of Central Macedonia), and that all tomato seedlings were destroyed. Tracing back studies are being conducted to identify the origin of this outbreak. The NPPO of Greece considers that *A. citrulli* is transient. The pest status of *Acidovorax citrulli* in Greece is officially declared as: **Transient, few occurrences.**

Source: NPPO of Greece (2021-01).

Malliarakis D, Mpalantinaki E, Pagoulatou MG, Lorenzou K, Goumas DE (2020) First report of *Acidovorax citrulli* causing a leaf spot disease on tomato plants in Greece. *Journal of Plant Pathology*. https://doi.org/10.1007/s42161-020-00677-1

Chalupowicz L, Reuven M, Dror O, Sela N, Burdman S, Manulis-Sasson S (2020) Characterization of *Acidovorax citrulli* strains isolated from solanaceous plants. *Plant Pathology* **69**(9), 1787–1797. https://doi.org/10.1111/ppa.13239

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

Additional key words: detailed record, new host plant **Computer codes:** PSDMAC, GR

2021/020 New records of vascular plants for Tenerife and the Canary Islands (ES)

Following field work conducted in Tenerife (Canary Islands, Spain) between 2014-2019, 30 taxa are reported for the first time. Among these species, 17 species are reported for the first time in the Canary Islands.

Species	Family	First report in	Native range
Acacia decurrens	Fabaceae	Canary Islands	Australia
Acacia mearnsii	Fabaceae	Canary Islands	Australia
Atriplex nummularia	Amaranthaceae	Tenerife	Australia
Bellis perennis	Asteraceae	Tenerife	North Africa
Brachychiton diversifolius	Malvaceae	Canary Islands	Australia
Caesalpinia pulcherrima	Fabaceae	Canary Islands	Americas
Chenopodium probstii	Amaranthaceae	Tenerife	possibly North America
Coccoloba uvifera	Polygonaceae	Tenerife	Americas
Commelina benghalensis	Commelinaceae	Tenerife	Asia/Africa
Cuphea hyssopifolia	Lythraceae	Tenerife	Central and North America
Ensete ventricosum	Musaceae	Canary Islands	East Africa
Eragrostis virescens	Poaceae	Tenerife	Americas
Eucalyptus camaldulensis subsp. *arida*	Myrtaceae	Canary Islands	
Eucalyptus cladocalyx	Myrtaceae	Canary Islands	Australia
Euryops chrysanthemoides	Asteraceae	Canary Islands	South Africa
Ficus elastica	Moraceae	Canary Islands	Asia
Lemna minuta	Araceae	Tenerife	Americas
Lippia alba	Verbenaceae	Canary Islands	Americas
Malvastrum corchorifolium	Malvaceae	Tenerife	Americas
Pavonia sepioides	Malvaceae	Canary Islands	South America
Pittosporum tobira	Pittosporaceae	Canary Islands	Asia
Plerandra elegantissima	Araliaceae	Tenerife	New Caledonia
Populus × *canadensis*	Salicaceae	Canary Islands	
Psidium guajava	Myrtaceae	Tenerife	Americas
Pyrostegia venusta	Bignoniaceae	Canary Islands	South America
Ruellia dipteracanthus	Acanthaceae	Canary Islands	North America
Soleirolia soleirolii	Urticaceae	Canary Islands	western Mediterranean
Thunbergia alata	Acanthaceae	Tenerife	East Africa
Urochloa subquadripara	Poaceae	Tenerife	Asia/Australia
Wigandia kunthii	Boraginaceae	Canary Islands	Central America and the Caribbean

Source: Verloove F (2021) New records in vascular plants alien to Tenerife (Spain, Canary Islands). *ARPHA Preprints* DOI: https://doi.org/10.3897/arphapreprints.e62882

Additional key words: invasive alien plants

Computer codes: ACADC, ACAMR, ATXNM, BELPE, BYHDF, CAEPU, CHEPB, CODUV, COMBE, CPHHY, ENSVE, ERAVI, EUCCM, EUCCL, EYOCH, FIUEL, LEMMT, LIPAL, MAVCF, PTUTO, DZYEL, POPCN, PSIGU, PYRVE, RUEDP, SQLSO, THNAL, ES

2021/021 *Artemisia princeps* in Western Europe

The genus *Artemisia* (Asteraceae) comprises of more than 500 species which are widely distributed, predominately in the Northern hemisphere. More than 20 species of *Artemisia* are considered global weed species. In parts of the EPPO region, *Artemisia verlotiorum,* native to China, is considered to be an invasive alien species. In August 2011, an *Artemisia* species was observed in the Antwerp port area in Belgium which resembled *A. verlotiorum*. However, individuals were flowering, two months earlier than the species normally does in Western Europe. Upon closer examination, the population in the port area, and another population 750 m away, were identified as *Artemisia princeps*, another species native to Asia (Far East). In the following years, the species was recorded from several additional locations in Belgium and the Netherlands. In Western Europe, habitats include roadsides, embankments, railway embankments, and rough ground, often in port areas, between 0 and 20 m altitude. In Asia, *A. princeps* is utilised for a number of purposes including for medicinal purposes, and as a culinary herb. The species may have been introduced into the region for these purposes or, as the species is found near entry points (ports), it could have arrived as a contaminant of goods. In its native range *A. princeps* is regarded as a 'harmful weed' in many regions of South East Asia, where it can dominate areas. In Belgium and the Netherlands, the species has been shown to form large monospecific stands and is capable of spreading via rhizomes and seed.

Source: Verloove F, Andeweg R (2020) *Artemisia princeps* L. (Asteraceae), an overlooked invasive Far Eastern weed in Western Europe. *Gorteria* **42**, 1-18.

Verloove F, Janssens SB, Andeweg R, Zooneveld BJM, Van der Beeten I (2020) Morphological, genome-size and molecular evidence for the presence of another invasive East Asian *Artemisia* (Asteraceae) in Western Europe. *BioInvasions Records* **9**(4), 685–701, https://doi.org/10.3391/bir.2020.9.4.03

Pictures *Artemisia princeps*. https://gd.eppo.int/taxon/ARTPC/photos

Additional key words: invasive alien plants **Computer codes:** ARTPC, BE, NL

2021/022 The increase of plant invasions in cultural heritage sites in Italy

Cultural heritage sites such as historic sites or sacred areas can be important habitats for a range of plant and animal species due to their size, heterogeneity and moderate human disturbance. However, they can also harbour invasive alien species which can degrade structures over time. In particular, woody species can grow in crevices and in walls where the roots can displace stonework. The flora of 26 heritage sites in the city of Rome, Italy was surveyed at the same sites over three periods in 1988–1990, 1994–1995 and 2004–2005. The 26 sites were chosen from a larger sample of 40 sites which had been surveyed by a botanist between 1946 and 1950. A total of 119 woody species, of which 35 (29.4%) were non-native, were detected on the walls of the 26 heritage sites from 1950 to 2019; 27 of the total number of species were trees, 55 were shrubs, 20 were dwarf shrubs and 17 were vines. The study showed that although the species richness remained relatively constant over time, the composition of species changed with a decrease in native species and an increase of non-native species (30 occurrences in 1950 compared to 224 in 2019). *Acer negundo* (Sapindaceae), *Ailanthus altissima* (Simaroubaceae: EPPO List of Invasive Alien Plants), *Ligustrum lucidum* (Oleaceae), *Lonicera japonica* (Caprifoliaceae), *Parthenocissus quinquefolia* (Vitaceae), *Platanus hispanica* (Platanaceae) and *Robinia pseudoacacia* (Fabaceae) were the non-native species that showed the highest increase in occurrences.

Additionally, the study showed that there was an increase over time of non-native species that had originally been introduced into the region for ornamental purposes, and species that are dispersed by birds and wind.

Source: Celesti-Grapow L, Ricotta C (2020) Plant invasions as an emerging challenge for the conservation of heritage sites: the spread of ornamental trees on ancient monuments in Rome, Italy. *Biological Invasions*, https://doi.org/10.1007/s10530-020-02429-9

Additional key words: invasive alien plants **Computer codes:** ACRNE, AILAL, LIGLU, LONJA, PRTQU, PLTHY, ROBPS, IT

2021/023 Negative impacts of *Ailanthus altissima* in the EPPO region

Ailanthus altissima (Simaroubaceae - EPPO List of Invasive Alien Plants) commonly known as the tree of heaven is an invasive alien plant species in the EPPO region and native to Asia. It can invade a variety of habitats including managed and unmanaged grasslands, forests, riverbanks/canal-sides, rail/roadsides, wasteland and urban areas. The present study was conducted in the sub-Mediterranean region of Central Italy at altitudes between 10 and 500 m above sea level. The study set out to assess the impacts of *A. altissima* on the environment by comparing 19 paired sites of native forests to invaded forests. Native sites were forest habitat dominated by *Quercus pubescens*, *Pinus nigra*, and *Ulmus minor* and were all within 500 m of the paired invasive site. Invaded sites had *A. altissima* present for at least 20 years. Vegetation surveys were conducted in each site including the number of species, abundance, vegetation structure and the cover of each species. Additionally, environmental variables were collected at each site, and included soil parameters, and light penetration inside the site. *A. altissima* had an impact on the associated plant community where invaded stands had a higher number of annual ruderal plant species and an absence of herbaceous species commonly found in forest environments. Invaded stands had lower total nitrogen and carbon and a lower carbon/nitrogen ratio. This effect demonstrates that plant litter in the invaded stands can accelerate the nutrient cycling process which can have negative effects for understory plants. Invaded stands also altered light conditions compared to native stands, due to the dense layer of young *A. altissima* saplings. This effect can also have negative impacts on native plant species of forest habitats.

Source: Montecchiari S, Tesei G, Allegrezza M (2020) *Ailanthus altissima* forests determine a shift in herbaceous layer richness: a paired comparison with hardwood native forest in sub-Mediterranean Europe. *Plants* **9**(10), 1404. https://doi.org/10.3390/plants9101404

Pictures *Ailanthus altissima*. https://gd.eppo.int/taxon/AILAL/photos

Additional key words: invasive alien plants **Computer codes:** AILAL, IT

2021/024 Cold winter temperatures affect biological control agents of *Pontederia crassipes* in South Africa

Pontederia crassipes (Pontederiaceae – listed as *Eichhornia crassipes*, EPPO A2 List) is one of the world's most invasive aquatic plants. Native to South America, *P. crassipes* has been introduced to countries throughout the world where it causes significant negative impacts including blocking water channels, degrading biological diversity and providing breeding grounds for mosquitoes. Biological control against *P. crassipes* has been implemented in many countries using a number of biocontrol agents with the most common being the weevils *Neochetina eichhorniae* and *N. bruchi* (Coleoptera: Erirhinidae). In South Africa, a further 7 biocontrol agents have been released with limited success compared to other countries. Reasons for this can be due to the high nutrient status of rivers and dams in South Africa which enhance the growth rate of *P. crassipes*, the improper or overuse of non-specific chemical herbicides, and cold winter temperatures. In the case of the latter, new biocontrol agents have been sought which have shorter generation times and can build up the population rapidly post-winter. *Megamelus scutellaris* (Hemiptera: Delphacidae) is a host specific natural enemy of *Pontederia crassipes* with short and overlapping generations and was approved for release in South Africa in 2013. Over a 15-month period (May 2017-August 2018) the population dynamics of *M. scutellaris* was studied along the Kubusi River. Upon the onset of the winter, *M. scutellaris* incurred a severe population decline when *Pontederia crassipes* became frost damaged. This decline coupled with the low minimum winter temperatures (6.1°C) caused a post-winter lag in the density increase of the biological agent population. *M. scutellaris* population density only recovered to its maximum level at the end of the following summer growing season which allowed the *P. crassipes* population to recover. Supplementary releases of *M. scutellaris* from mass-reared cultures at the beginning of the growing season (spring) could act as a potential method of reducing the lag-period in field populations in colder areas.

Source: Miller BE, Coetzee JA, Hill MP (2020) Mind the gap: the delayed recovery of a population of the biological control agent *Megamelus scutellaris* Berg. (Hemiptera: Delphacidae) on water hyacinth after winter. *Bulletin of Entomological Research* **111**(1), 1–9. https://doi.org/10.1017/S0007485320000516

Pictures *Pontederia crassipes*. https://gd.eppo.int/taxon/EICCR/photos

Additional key words: invasive alien plants **Computer codes:** EICCR, ZA

2021/025 Modelling the potential for the biological control of *Alternanthera philoxeroides*

Alternanthera philoxeroides (Amaranthaceae, EPPO A2 List) is an emergent aquatic plant that can be found growing in both aquatic and terrestrial habitats. The species originates from South America and it is invasive in Australia, the USA, New Zealand and numerous countries of Asia (e.g. India, Thailand). In the EPPO region it has a limited distribution and is only recorded in Italy, France, and Spain where it has recently been found in the northwest of the country. *A. philoxeroides* can have several negative impacts including outcompeting native plant species and negatively affecting ecosystem services. Globally, in regions where the species is invasive, classical biological control has been utilised as a management tool using the specialist insect *Agasicles hygrophila* (Coleoptera: Chrysomelidae). However, two factors limit the effectiveness of the biocontrol agent: temperature and plant ecotype (the terrestrial form lacks the hollow stem necessary for *A. hygrophila* to complete its lifecycle). A model was built that included growth parameters of *A. philoxeroides* along with population

dynamics of *A. hygrophila*. Modelling of climatic variables was based on the climate where the species is present in Spain. The model simulation period was 10 years. Without biocontrol, the model predicts that the population of *A. philoxeroides* will increase to 600 % of its initial surface area after 10 years. With the introduction of the biocontrol agent, the model predicts that control of *A. philoxeroides* is possible, if several releases of the biocontrol agent are made over time. The model also predicts that the optimal time of year for releasing the biocontrol agent is April as before this period, eggs may die due to low temperatures. The authors considered that the proposed model is a dynamic tool which can be adjusted to different contexts and in particular to different local management specificities. Hence, this approach could be used to guide eradication efforts of new invasive species, to improve the applicability of biocontrol, and to support decision-making by testing several alternative management scenarios.

Source: Portela R, Vicente JR, Roiloa SR, Cabral JA (2020) A dynamic model-based framework to test the effectiveness of biocontrol targeting a new plant invader– the case of *Alternanthera philoxeroides* in the Iberian Peninsula. *Journal of Environmental Management* **264**, 110349. https://doi.org/10.1016/j.jenvman.2020.110349

Pictures: *Alternanthera philoxeroides*. https://gd.eppo.int/taxon/ALRPH/photos

Additional key words: invasive alien plants **Computer codes:** AGAIHY, ALRPH, ES

2021/026 Herbarium scans of invasive alien plants now available in Q-bank Invasive Plant database

EPPO-Q-bank is a database to support plant pest diagnostic activities. It comprises genomic sequences data of properly documented species and specimens. Currently, data on 283 plant specimens belonging to 80 plant species are available, including 533 sequences. Most of these specimens are held in the collection of the NPPO-NL in Wageningen, the Netherlands. These 283 specimens are also included in the Q-bank Invasive Plant database, which covers a wider range of information when compared to EPPO-Q-bank. In the Q-bank Invasive Plant database extensive information on invasive plant species is available including electronic identification keys, species factsheets and border inspection tools. Recently, all herbarium vouchers held at Wageningen have been scanned at a high resolution (6400 × 9600 pixels) and these images can now be viewed in the database. For specimens not in Wageningen, but at Naturalis Biodiversity Centre in Leiden, links will be made available to these scans. In this way users can study morphological traits as complementary information to the molecular ones.

Source: NPPO Netherlands. Q-bank Invasive Plant database: https://q-bankplants.eu/

Additional key words: invasive alien plant, database