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2019/199 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**

During surveys for fruit flies conducted in Bangladesh in 2013-2018, *Bactrocera carambolae* (Diptera: Tephritidae – EPPO A1 List) was first detected in traps. The presence of *Bactrocera latifrons* (Diptera: Tephritidae – EPPO A1 List), and *Dacus ciliatus* (Diptera: Tephritidae – EPPO A2 List) in Bangladesh was also confirmed (LeBlanc *et al.*, 2019). **Present, no detail**.

In India, *Blitopertha orientalis* (Coleoptera: Scarabaeidae - EPPO A1 List) is considered as an important pest of rose cultivation in Wayanad district (Kerala). The beetles damage flower buds and leaves. The authors also mentioned damage on rose flowers due to *Popillia japonica* (Coleoptera: Rutelidae – EPPO A2 List) (Smitha *et al.*, 2017). **Present, no detail**.

In Thailand, *Columnea latent viroid* (Pospiviroid, CLVd) causes damage to tomato (*Solanum lycopersicum*) seed production. It is also reported as damaging in plants of *Solanum stramoniifolium* (Bhuvitarkorn *et al.*, 2019). **Present, no details**.

The NPPO of Austria recently informed the EPPO Secretariat of the first record of *Corythucha arcuata* (Hemiptera: Tingidae - formerly EPPO Alert List) on its territory. During a survey, the pest was found on *Quercus* trees in southeastern Styria and southern Burgenland at 21 locations in the districts of Hartberg-Fürstenfeld, Leibnitz, Südoststeiermark, Güssing and Jennersdorf (NPPO of Austria, 2019).
The pest status of *Corythucha arcuata* in Austria is officially declared as: **Present.**

In France, *Thrips parvispinus* ((Thysanoptera: Thripidae – formerly EPPO Alert List) has recently been reported for the first time. This polyphagous species of Asian origin has been found in two sites on *Mandevilla* plants in the Southwestern part of the country. It is also noted that its control is difficult (Anonymous, 2019). **Present, no details.**

In Ghana, 'rasta' is a virus-like disease of unknown etiology affecting tomato (*Solanum lycopersicum*) plants. Symptoms include stunting; epinasty, crumpling and chlorosis of leaves; and necrosis of leaf veins, petioles and stems. Leaf samples with rasta symptoms were collected from 17 commercial tomato fields in Ghana in October 2012 and were shown to be infected with *Potato spindle tuber viroid* (*Pospiviroid*, PSTVd – EPPO A2 List) and *Tomato apical stunt viroid* (*Pospiviroid*, TASVd – formerly EPPO Alert List). PSTVd and TASVd isolates were seed-associated and possibly seed transmitted. The authors noted that, in Mali, rasta-like symptoms in tomato plants were associated with *Columnea latent viroid* (Batuman *et al.*, 2019). **Present, no details**.

In Ecuador, *Xylosandrus compactus* (Coleoptera: Scolytidae - EPPO Alert List) was found in primary and secondary forests together with *Xylosandrus morigerus* (Martínez *et al.*, 2019). **Present, no details**.

- **Detailed records**

In China, *Acidovorax citrulli* (EPPO A1 List) was first observed in Jiangxi in July 2017 causing severe fruit blotch on watermelon (*Citrullus lanatus)* (Yang *et al.*, 2019).

In Canada, *Heterodera glycines* (EPPO A2 List) was first reported in Ontario in 1988, and then in Quebec in 2014 (EPPO RS 2014/216). It was recently reported from Manitoba. Surveys conducted in 2017 and 2019 detected it in 4 out of 106 soybean fields and 4 out of 18 municipalities sampled across all surveys. Cyst populations found in these 4 fields were extremely low and consistent with recent establishment of this pest (Manitoba Agriculture, 2019).

In China, *Meloidogyne enterolobii* (EPPO A2 List) was found in June 2017 in a field of *Gardenia jasminoides* grown for medicinal purposes in Hezhou city, Guangxi province. Affected plants showed stunting, leaf yellowing and numerous root knots. Inoculation trials confirmed the pathogenicity of *M. enterolobii* to *G. jasminoides* (Lu *et al.*, 2019).

In Italy, *Myzus mumecola* (Hemiptera: Aphididae) was detected for the first time in 2016 in apricot (*Prunus armeniaca*) orchards in Emilia-Romagna (EPPO RS 2018/090). The NPPO of Italy recently informed the Secretariat that this aphid is not considered of phytosanitary concern according to a national Pest Risk Analysis. No phytosanitary measures were applied and the infestations were controlled with available pesticides (NPPO of Italy, 2019-09).
The pest status of *Myzus mumecola* in Italy is officially declared as: **Present, only in some parts of the Member State concerned**.

In Germany *Thrips setosus* (Thysanoptera: Thripidae – formerly EPPO Alert List) was first found in 2015 near Hamburg and later in other landers (see EPPO RS 2018/095). As it is considered widespread in neighbouring EU Member States and no phytosanitary measures are taken, the NPPO of Germany considers that the thrips is probably also widespread in many areas of Germany. Therefore, phytosanitary measures are no longer taken (NPPO of Germany, 2019-10).

In France, *Xylosandrus crassiusculus* (Coleoptera: Scolytidae - EPPO Alert List) was first found in Alpes-Maritimes (EPPO RS 2014/185 and 2017/028). Subsequently, it was also found in Occitanie region (Gignac, Hérault department in 2018), and in Nouvelle-Aquitaine region (Guiche, Pyrénées-Atlantiques department in 2018 and Saint-Michel-sur-Adour, Landes department in 2019) (Roques *et al.*, 2019).

In France, *Xylosandrus compactus* (Coleoptera: Scolytidae - EPPO Alert List) is present along the Southern coast, in Var and Alpes-Maritimes departments (Roques *et al.*, 2019).

In Italy, *Xylosandrus compactus* (Coleoptera: Scolytidae - EPPO Alert List) occurs on the mainland (EPPO RS 2013/130 and 2017/031) but it is reported for the first time from Sicilia where it attacks not only twigs but also large branches and trunks of carob tree (*Ceratonia siliqua*). Up to now, this insect was considered to only infest twigs and small branches (Guliuzzo *et al.*, 2019a). Studies on flight capacities estimated that the insect can spread over more than 8 km in a flying season (Guliuzzo *et al.*, 2019b).

- **Eradication**

On 2018-10-19, USDA officially declared the pink bollworm, *Pectinophora gossypiella* (Lepidoptera: Gelechiidae), eradicated from all commercial cotton-producing areas in the continental United States (USDA, 2019) and all remaining restrictions on the movement of cotton were removed. The pest was first detected in Texas in 1917 and quarantine regulations had been applied for more than 60 years in Southern USA.
The pest status of *Pectinophora gossypiella* in the USA is officially declared as: **Absent, pest eradicated from cotton-production areas of the continental states.**

Sources:

Anonymous (2019) Ce qu'il faut retenir. Thrips. Bulletin de Santé du Végétal. Grand Sud-Ouest. Horticulture / Pépinière, nos 1 and 6. http://draaf.nouvelle-aquitaine.agriculture.gouv.fr/IMG/pdf/BSV_NA_HORTI_GSO_1_20190513_cle071a4f.pdf http://draaf.occitanie.agriculture.gouv.fr/IMG/pdf/bsv_na_horti_gso_1_20190513_cle03f5e8.pdf

Batuman O, Çiftçi ÖC, Osei MK, Miller SA, Rojas MR, Gilbertson RL (2019) Rasta disease of tomato in Ghana is caused by the pospiviroids *Potato spindle tuber viroid* and *Tomato apical stunt viroid*. *Plant Disease* **103**(7), 1525-1535.

Bhuvitarkorn S, Klinkong S and Reanwarakorn K (2019) Enhancing *Columnea latent viroid* detection using reverse transcription loop-mediated isothermal amplification (RT-LAMP). *International Journal of Agricultural Technology* **15**(2), 215-228.

Gugliuzzo A, Criscione G, Siscaro G, Russo A, Tropea Garzia G (2019) First data on the flight activity and distribution of the ambrosia beetle *Xylosandrus compactus* (Eichhoff) on carob trees in Sicily. *EPPO Bulletin* **49**(2), 340–351. https://doi.org/10.1111/epp.12564

Gugliuzzo A, Criscione G, Tropea Garzia G (2019) Unusual behavior of *Xylosandrus compactus* (Coleoptera: Scolytinae) on carob trees in a Mediterranean environment. *Insects* ***10***, 82. DOI: https://doi.org/doi:10.3390/insects10030082

LeBlanc L, Hossain MA, Doorenweerd C, Khan SA, Momen M, San Jose M, Rubinoff R (2019) Six years of fruit fly surveys in Bangladesh: A new species, 33 new country records and discovery of the highly invasive *Bactrocera carambolae* (Diptera, Tephritidae). *ZooKeys* **876**, 87-109. https://zookeys.pensoft.net/article/38096/

Lu XH, Solangi GS, Li DJ, Huang JL, Zhang Y, Liu ZM (2019) First report of root-knot nematode *Meloidogyne enterolobii* on *Gardenia jasminoides* in China. *Plant Disease* **103**(6), p 1434.

Manitoba Agriculture (2019) Recent field findings of soybean cyst nematode in Manitoba. September 16, 2019. https://www.manitobapulse.ca/wp-content/uploads/2019/03/soybean-cyst-nematode-notice.pdf

Martínez M, Cognato AI, Guachambala M, Boivin T (2019) Bark and ambrosia beetle (Coleoptera: Curculionidae: Scolytinae) diversity in natural and plantation forests in Ecuador. *Environmental Entomology* **48**(3), 603–613. https://doi.org/10.1093/ee/nvz037

NPPO of Austria (2019-10).

NPPO of Germany (2019-10).

NPPO of Italy (2019-09).

Roques A, Bellanger R, Daubrée JB, Ducatillion C, Urvois T, Auger-Rozenberg MA (2019) Les scolytes exotiques : une menace pour le maquis. *Phytoma* **727**, 16-21.

Smitha R, Rajendran P, Sandhya PT, Aparna VS, Rajees PC (2017) Insect pest complex of rose at Regional Agricultural Research Station, Ambalavayal, Wayanad. *Acta Horticulturae* **1165**, 39-44. ISHS 2017. DOI: https://doi.org/10.17660/ActaHortic.2017.1165.6

USDA (2018) Eradication of Pink bollworm https://www.usda.gov/sites/default/files/documents/usda-pink-bollworm-proclamation.pdf

USDA (2019) Plant protection and quarantine: helping U.S. agriculture thrive - Across the country and around the world. Annual report 2018. 44 pp. https://www.aphis.usda.gov/publications/plant_health/report-ppq-2018.pdf

Yang YQ, Lan B, Sun Q, Chen HF, Huang YH, Chen J, Huang JH, Guo YH, Li XM (2019) First report of *Acidovorax avenae* subsp. *citrulli* causing bacterial fruit blotch of watermelon in Jiangxi, China. *Plant Disease* **103** (9), 2468-2468.

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

Computer codes: ANMLOR, BCTRCB, CLVD00, CRTHAR, DACUCI, DACULA, HETDGL, MELGMY, MELGMY, MYZUMU, PECTGO, POPIJA, PSDMAC, PSTVD0, TASVD0, THRISE, THRIPV, XYLBCR, XYLSCO, AT, BD, CA, CN, DE, EC, FR, GH, IN, IT, TH, US

2019/200 New EU Regulations

- **Emergency measures against *Tomato brown rugose fruit virus***

The EU Commission has established emergency measures to prevent the introduction into, and the spread within the EU of *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV-EPPO Alert List). This Decision will apply from 1 November 2019 until 31 March 2022 (EU, 2019a).

- **List of priority pests**

The EU recently published a list of 20 priority pests (as defined in Article 6(2) of Regulation (EU) 2016/2031). For these specific pests, EU Member States will have to adopt enhanced provisions: information campaigns to the public if the pests are present in their territory, implement annual surveys, prepare contingency plans, simulation exercises and action plans for eradication. The priority pests are as follows: *Agrilus anxius, Agrilus planipennis, Anastrepha ludens, Anoplophora chinensis, Anoplophora glabripennis, Anthonomus eugenii, Aromia bungii, Bactericera cockerelli, Bactrocera dorsalis, Bactrocera zonata, Bursaphelenchus xylophilus, Candidatus* Liberibacter spp. causal agents of Huanglongbing disease of citrus/citrus greening, *Conotrachelus nenuphar, Dendrolimus sibiricus, Phyllosticta citricarpa, Popillia japonica, Rhagoletis pomonella, Spodoptera frugiperda, Thaumatotibia leucotreta, Xylella fastidiosa* (EU, 2019b).

- **Other Implementing Regulations**

Other Implementing Regulations were published earlier in 2019 and will apply from 14 December 2019:

- All plants (including living parts of plants) will need to be accompanied by a phytosanitary certificate to enter into the EU, unless they are listed in Commission Implementing Regulation (EU) 2018/2019.
- Commission Implementing Regulation (EU) 2018/2019 establishes the list of high risk plants, the introduction of these plants into the EU territory will be provisionally prohibited from 14 December 2019 until a full risk assessment has been carried out.

Sources:

EU (2016) Regulation (EU) 2016/2031 of the European Parliament of the Council of 26 October 2016 on protective measures against pests of plants, amending Regulations (EU) No 228/2013, (EU) No 652/2014 and (EU) No 1143/2014 of the European Parliament and of the Council and repealing Council Directives 69/464/EEC, 74/647/EEC, 93/85/EEC, 98/57/EC, 2000/29/EC, 2006/91/EC and 2007/33/EC. http://data.europa.eu/eli/reg/2016/2031/oj

EU (2018) Commission Implementing Regulation (EU) 2018/2019 of 18 December 2018 establishing a provisional list of high risk plants, plant products or other objects, within the meaning of Article 42 of Regulation (EU) 2016/2031 and a list of plants for which phytosanitary certificates are not required for introduction into the Union, within the meaning of Article 73 of that Regulation. OJ L 323, 10–15, http://data.europa.eu/eli/reg_impl/2018/2019/oj

EU (2019a) Commission Implementing Decision (EU) 2019/1615 of 26 September 2019 establishing emergency measures to prevent the introduction into and the spread within the Union of Tomato brown rugose fruit virus (ToBRFV). OJ L 250, 91-94, http://data.europa.eu/eli/dec_impl/2019/1615/oj

EU (2019b) Commission Delegated Regulation (EU) 2019/1702 of 1 August 2019 supplementing Regulation (EU) 2016/2031 of the European Parliament and of the Council by establishing the list of priority pests. OJ L 260, 8–10, http://data.europa.eu/eli/reg_del/2019/1702/oj

New EU plant health rules:
https://ec.europa.eu/food/plant/plant_health_biosecurity/legislation/new_eu_rules_en

Additional key words: regulation

Computer codes: EU, AGRLAX, AGRLPL, ANOLCN, ANOLGL, ANSTLU, ANTHEU, ARGPLE, AROMBU, BURSXY, CONHNE, DACUDO, DACUZO, DENDSI, GUIGCI, LAPHFR, LIBEAF, LIBEAM, LIBEAS, PARZCO, POPIJA, RHAGPO, TOBRFV, XYLEFA

2019/201 International Year of Plant Health: Don't Risk It! poster in six different languages

In order to help its member countries in preparing activities related to the International Year of Plant Health (IYPH), the EPPO poster 'Don't Risk it' has been translated into the six official FAO languages (English, French, Russian, Spanish, Chinese and Arabic) and the IYPH logo has been inserted.

All necessary files (native format and PDF exports) can be obtained from the EPPO website:
https://www.eppo.int/ABOUT_EPPO/special_events/IYPH_posters

Source: EPPO Secretariat (2019-10).

Additional key words: communication

2019/202 Presence of *Agrilus planipennis* confirmed in Ukraine

In October 2019, the NPPO of Ukraine informed the EPPO Secretariat of the presence of *Agrilus planipennis* (Coleoptera: Buprestidae - EPPO A2 List) on its territory. In June 2019, *A. planipennis* had been suspected in the Luhansk region, but official surveys did not confirm previous observations made by scientists (EPPO RS 2019/135 and 2019/156). From the 12th to the 13th of September 2019, additional official surveys were conducted in a forest area near the village of Markivka (Luhansk region) where insect larvae and damaged ash trees had previously been reported by scientists. Over a total area of 100 ha, phytosanitary inspectors thoroughly examined ash (*Fraxinus* spp.) trees of different ages, and signs of the pest (e.g. insect galleries) were observed within an area of 5 ha. Insect larvae were collected from symptomatic *Fraxinus pennsylvanica* trees and sent for diagnosis to the Luhansk Regional Phytosanitary Laboratory which confirmed the identity of the collected specimens as *A. planipennis*. On 2019-09-16, an infested area (5 ha) was delimited, and phytosanitary measures were implemented to eradicate *A. planipennis*. During the survey, 50 ash trees had been found to be infested but in order to prevent the possible spread of the pest outside the quarantine zone, all ash trees were destroyed within a radius of 100 m around each infested tree. On 2019-10-11, all infested and surrounding ash trees were felled. Branches were burnt, trunks were further processed and then burnt under the supervision of phytosanitary inspectors. In total, 220 ash trees of various ages (2 to 10-years old) were destroyed. The NPPO also underlined that official surveys for *A. planipennis* that are regularly conducted across the country have not detected the pest in any other parts of Ukraine.
The pest status of *Agrilus planipennis* in Ukraine is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of Ukraine (2019-10).

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

Additional key words: new record **Computer codes:** AGRLPL, UA

2019/203 *Chrysobothris femorata* (flat-headed apple tree borer): addition to the EPPO Alert List

Why: The EPPO Panel on Phytosanitary Measures suggested that *Chrysobothris femorata* (Coleoptera: Buprestidae), the flat-headed apple tree borer, should be added to the EPPO Alert List. This pest was identified as a potential threat by a Norwegian Pest Risk Analysis (PRA) on wood chips, by a German express PRA conducted after an interception on *Juglans nigra* logs imported from the USA, and by the UK Risk register.

Where: *C. femorata* is native to North America.
EPPO region: Absent.
North America: Canada (Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Quebec, Saskatchewan), USA (reported to be present in all continental states, except Alaska).
Note: *C. femorata* is considered to be part of a group of species that are very difficult to distinguish morphologically. The '*Chrysobothris femorata* species group' includes up to 12 species (*C. femorata, C. quadriimpressa, C. viridiceps, C. rugosiceps, C. adelpha, C. sloicola, C. caddo, C. comanche, C. mescalero, C. seminole, C. shawnee*, and *C. wintu*) whose distribution and host range overlap. There is some genetic evidence that

interbreeding may be occurring between different species. In practice, it seems that most records are made for the 'flat-headed apple tree borer', and pooled as *C. femorata*.

On which plants: This species is highly polyphagous and can attack more than 30 species of deciduous trees, including most fruit, forest and shade trees. Maples, apples and poplar are the most common hosts. Hosts include *Acer rubrum* (red maple), *A. saccharinum* (silver maple), *Amelanchier* spp. (serviceberry), *Carya* spp. (hickory), *Castanea* spp. (chestnut), *Celtis occidentalis* (hackberry), *Cercis* spp. (redbud), *Cornus* spp. (dogwood), *Cotoneaster* spp., *Crataegus* spp. (hawthorn), *Cydonia* spp. (quince), *Diospyros* spp. (persimmon), *Fagus* spp. (beech), *Fraxinus* spp. (ash), *Juglans* spp. (walnut), *Malus* spp. (apple), *Platanus occidentalis* (American sycamore), *Populus* spp. (poplar), *Prunus americana* (common apricot), *P. domestica* (garden plum), *P. persica* (peach), *Pyrus* spp. (pear), *Quercus* spp. (oak), S*alix* spp. (willow), *Sorbus* spp. (rowan), *Tilia americana* (American basswood), and *Ulmus* spp. (elm).

Damage: Larvae develop mainly in the cambium and sapwood of infested trees. Feeding activity disrupts the transportation of water and nutrients in the tree. A single larva is capable of girdling a young tree within one season. Evidence of larval activity can be found under the bark of infested trees as sinuous feeding tunnels packed with frass. Portions of the trunk may show signs of infestation by noticeable oozing of sap.
Throughout its range, *C. femorata* usually completes its life cycle in one year although 2-3 years may be necessary in some northern areas. *C. femorata* overwinters as mature larvae. The adult beetles emerge from April to October but are most abundant in late May to June. Adults are metallic olive-grey to brown beetles with a broad oval shape, about 7–16 mm long and up to 5-7 mm wide. They are marked with dull grey spots or bands. Females lay approximately 100 eggs, singly, in cracks or crevices of bark. Eggs (approximately 1.5 mm diameter) are pale yellow, flattened, disk-like, wrinkled. Larvae are pale yellow, legless with a flattened, sclerotized (hardened) thoracic area. The last instar is 18-25 mm long. As soon as larvae are fully developed, they tunnel from the cambium deeper into sapwood where pupation occurs in late spring to early summer. Pupation lasts 1-2 weeks, after which the adult emerges by cutting a distinctive D-shaped exit hole in the bark.
Pictures can be viewed in EPPO GD: https://gd.eppo.int/taxon/CHRBFE/photos and on Bugwood: https://www.forestryimages.org/search/action.cfm?q=Chrysobothris+femorata

Dissemination: Adults can fly but there is no data on the natural spread of the insect. Over long distances, trade of infested plants, wood and wood products can disseminate *C. femorata*.

Pathways: plants for planting, wood, wood chips from countries where *C. femorata* occurs.

Possible risks: *C. femorata* is highly polyphagous and host plants are widely present in the EPPO region, in forests and plantations, as well as in parks and gardens. The wide geographical distribution of *C. femorata* in North America, under various climates, strongly suggests that this insect has the potential to establish throughout the EPPO region. *C. femorata* is reported as a pest in ornamental and forest nurseries but can also damage mature trees. Young trees can be killed in a single year and larger trees can be damaged and killed in successive years. Stressed trees (e.g. by drought) are more prone to damage but the insect can attack healthy trees. Control of wood borers is generally difficult as most of the life cycle occurs within the trees. In North America, several control methods have been recommended, such as cultural control options, chemical control (drench treatment against larvae, sprays against adults). Several natural enemies of *C. femorata* have been reported in the literature but are not available commercially. Considering the known host

range, it is considered that *C. femorata* could further extend its host range and damage deciduous species present in the EPPO region if it was introduced.

Sources

Beddes T (2014) Pacific Flatheaded Borer and Flatheaded Appletree Borer. Factsheet (ENT-170-14PR) published by Utah State University Extension and Utah Plant Pest Diagnostic Laboratory. https://utahpests.usu.edu/uppdl/files-ou/factsheet/flatheaded-borers.pdf

Coyle DR, Nebeker TE, Hart ER, Mattson WJ (2005) Biology and management of insect pests in North American intensively managed hardwood forest systems. *Annual Review of Entomology* **50,** 1-29.

DEFRA (2019) *Chrysobothris femorata* in the Pest Risk Register. https://planthealthportal.defra.gov.uk/data/pests/14220

Hansen J, Moulton JK, Klingeman WE, Oliver JB, Windham MT, Trigiano RN, Reding ME (2015) Molecular phylogeny of the *Chrysobothris femorata* species group (Coleoptera: Buprestidae). *Annals of the Entomological Society of America* **108**(5), 950-963

JKI (2017) Express PRA for *Chrysobothris femorata*. 3 pp. https://pflanzengesundheit.julius-kuehn.de/index.php?menuid=57&downloadid=2405&reporeid=76

Oliver JB, Fare DC, Youssef N, Scholl SS, Reding ME, Ranger CM, Moyseenko, Halcomb MA (2010) Evaluation of a single application of neonicotinoid and multi-application contact insecticides for flatheaded borer management in field grown red maple cultivars. *Journal of Environmental Horticulture* **28**(3),135-149.

Paiero SM, Jackson MD, Jewiss-Gaines A, Kimoto T, Gill BD, Marshall SA (2012) Field guide to the jewel beetles of northeastern North America. Canadian Food Inspection Agency, Ottawa, Ontario, Canada.

Steed BE, Burton DA (2015) Field guide to diseases and insects of quaking aspen in the West - Part I: wood and bark boring insects. U.S. Department of Agriculture, Forest Service, Forest Health Protection, Missoula MT. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3833855.pdf

Sundheim L, Flø D, Magnusson C, Rafoss T, Solheim H, ØklandImport B (2013) Import of deciduous wood chips from eastern North America – pathway-initiated risk characterizations of relevant plant pests. Opinion of the Panel on Plant Health of the Norwegian Scientific Committee for Food Safety, VKM Report 2013: 25.

EPPO RS 2019/203

Panel review date – Entry date 2019-10

Additional key words: Alert List **Computer codes:** CHRBFE

2019/204 First report of *Thrips parvispinus* in Spain

Thrips parvispinus (Thysanoptera: Thripidae – formerly EPPO Alert List) is a species originating from South East Asia. It was reported from Greece in 2000 (EPPO RS 2000/061). This thrips has recently been reported from Spain as a pest of ornamental plants. In September 2017, *T. parvispinus* was observed in a greenhouse producing *Gardenia* and *Mandevilla* plants. During further monitoring between September 2017 and June 2019, larvae and adults were also observed on ornamental *Citrus* species. Adult feeding on *Gardenia*, *Mandevilla* and *Citrus* plants causes damage to leaves and flowers, which depreciate their ornamental value. *T. parvispinus* can be controlled by plant protection products, such as those applied against *Frankliniella occidentalis*. It is considered that *T. parvispinus* has probably been introduced into Spain via international trade of plants. It may be noted that over the last 15 years, this species has spread to new areas (e.g. India, Hawaii, Tanzania and Uganda). *T. parvispinus* is polyphagous and is an important pest of fruits (e.g. mango, papaya) and vegetables (e.g. capsicum, aubergine) in tropical countries. It is also noted that this species may overwinter in the coastal areas of Spain and may present a risk for greenhouse ornamentals.

Source: Lacasa A, Lorca M, Martinez MC, Bielza P, Guirao P (2019) *Thrips parvispinus* (Karny, 1922), un nuevo trips en cultivos de plantas ornamentales. *Phytoma España* **311**, 62-69.
Moritz G, Brandt S, Triapitsyn S, Subramanian S (2013) Identification and information tools for pest thrips in East Africa. CBIT Publishing, Queensland. http://thripsnet.zoologie.uni-halle.de/key-server-neu/data/0a0b0a0e-0d03-4106-8306-08060a080902/media/Html/Thrips%20parvispinus.html

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

2019/205 First report of *Thrips parvispinus* in the Netherlands

The NPPO of the Netherlands recently informed the EPPO Secretariat of the first record of *Thrips parvispinus* (Thysanoptera: Thripidae – formerly EPPO Alert List) on its territory. In 2019-07-10, the pest was found during an official survey in a greenhouse on potted plants of *Ficus benjamina*. The origin of the finding is unknown, but the species has been intercepted in several European countries on shipments of cut flowers from Asia. In the Netherlands, *T. parvispinus* had also been intercepted on plants for planting from Thailand and Indonesia in the past. So far, damage has been minor in the Netherlands and there is uncertainty on the potential presence of the pest in other EU countries (where no phytosanitary measures have been reported). For these reasons, no official phytosanitary measures have been taken in the Netherlands. However, the finding of *T. parvispinus* has been communicated to growers with the recommendation to take eradication measures in greenhouses if found. The Dutch NPPO also noted that *T. parvispinus* is a polyphagous pest on mainly vegetable and ornamental crops in different families. It is widespread in South East Asia and has been recorded in Australia and Africa. In the EPPO region, it has been reported in Greece (EPPO RS 2000/061), Spain (EPPO RS 2019/204), and France (EPPO RS 2019/199).
The pest status of *Thrips parvispinus* in the Netherlands is officially declared as: **Present: only in protected cultivation.**

Source: NPPO of the Netherlands (2019-10).

Additional key words: new record **Computer codes:** THRIPV, NL

2019/206 First report of *Rhynchophorus ferrugineus* in Bulgaria

In Bulgaria *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae - EPPO A2 List) was identified in the beach resort of Slanchev briag (municipality of Nesebar) on a *Phoenix* sp. palm. *Phoenix* and other palm species present in the resort were inspected and no pests or symptoms were found.
The pest status of *Rhynchophorus ferrugineus* in Bulgaria is officially declared as: **Transient, actionable, under surveillance.**

Source: NPPO of Bulgaria (2018-11).

Pictures: *Rhynchophorus ferrugineus*. https://gd.eppo.int/taxon/RHYCFE/photos

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

2019/207 Update on the situation of *Aculops fuchsiae* in the Netherlands

In the Netherlands, *Aculops fuchsiae* (Acari: Eriophyidae – EPPO A2 List) was found in July 2017 in a private garden in Hoeven (EPPO RS 2017/190). The NPPO of the Netherlands recently informed the Secretariat that this outbreak had been eradicated. About 150 Fuchsia plants were destroyed and a survey conducted in summer 2018 in the garden and its vicinity did not detected the pest (NPPO of the Netherlands, 2019). However, a new outbreak was found in July 2019 in a private garden in the municipality of Terneuzen. Eradication measures will be applied and a specific survey conducted.
The pest status of *Aculops fuchsiae* in the Netherlands is officially declared as: **Transient: actionable, under eradication**.

Source: NPPO of the Netherland (2019-07). https://english.nvwa.nl/binaries/nvwa-en/documents/plant/plant-health/pest-reporting/documents/pest-report-july-2019---outbreak-of-aculops-fuchsiae-in-plants-of-fuchsia-in-a-private-garden-in-municipality-terneuzen-province-zeeland/pest-report-outbreak-aculops-fuchsiae-private-garden-sluiskil-holland-nvwa-20190801.pdf

Pictures: *Aculops fuchsiae*. https://gd.eppo.int/taxon/ACUPFU/photos

Additional key words: detailed record **Computer codes:** ACUPFU, NL

2019/208 Eradication of *Tetranychus mexicanus* from the Netherlands

In the Netherlands, *Tetranychus mexicanus* (Acari: Tetranychidae – EPPO Alert List) was first found on *Beaucarnea recurvata* plants in a greenhouse in October 2018 (EPPO RS 2018/223). Eradication measures were applied. Following the completion of measures at the company concerned and subsequent surveys, the NPPO of the Netherlands confirmed in October 2019 that this pest has been eradicated.
The pest status of *Tetranychus mexicanus* is officially declared as: **Absent, pest eradicated**.

Source: NPPO of the Netherlands (2019-10).

Additional key words: absence, eradication **Computer codes:** TETRME, NL

2019/209 First report of *Tomato brown rugose fruit virus* in the Netherlands

The NPPO of the Netherlands recently informed the EPPO Secretariat of the first record of *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV - EPPO Alert List) on its territory. Suspicious symptoms were observed on the 1st of October 2019 during an official survey amongst tomato (*Solanum lycopersicum*) fruit producing companies in the Netherlands. Approximately 8% of the plants at one site (a greenhouse of 2.8 ha) in the municipality of Westland presented symptoms. Fruits of affected plants showed a delay in ripening. Leaf samples were tested for ToBRFV by DAS-ELISA, bioassay and real-time PCR and gave positive results. However, sequencing is ongoing to definitely confirm the identity of the virus. It is noted that plants were also infected with *Pepino mosaic virus* (PepMV) and that the symptoms observed may be caused by PePMV alone or in mixed infection with ToBRFV.
Phytosanitary measures have been taken to eradicate the disease, in line with EU Implementing Decision 2019/1615. Trace-back studies will be conducted to identify the origin of this infection. Specific surveillance will be intensified targeting both tomato fruit producing companies located in the vicinity of the infected greenhouse, as well as companies making use of the same packaging station.
The pest status of *Tomato brown rugose fruit virus* in the Netherlands is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of the Netherlands (2019-10).
Official suspicion of Tomato brown rugose fruit virus (ToBRFV) in *Solanum lycopersicum* at one professional fruit production company in municipality Westland.
https://english.nvwa.nl/topics/pest-reporting/contents/pest-reports

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

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

2019/210 First report of *Tomato brown rugose fruit virus* in Greece

The NPPO of Greece recently informed the EPPO Secretariat of the first detection of *Tomato brown rugose fruit virus* (*Tobamovirus*, ToBRFV – EPPO Alert List) on its territory. Symptomatic plants of tomato (*Solanum lycopersicum)* grown for fruit production in a greenhouse (1500 m^2) were observed by a grower in August 2019 on the island of Crete in the regional unit of Chania. The identity of the virus was confirmed in September. Phytosanitary measures, including the destruction of the plants in the greenhouse, have been adopted with the aim to eradicate the outbreak. Official surveys are carried out in the area. The origin of the outbreak is still under investigation, but it is considered that the virus was probably introduced through infected plants for planting.
The pest status of *Tomato brown rugose fruit virus* in Greece is officially declared as: **Present, under eradication.**

Source: NPPO of Greece (2019-10).

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

Additional key words: new record **Computer codes:** TORBFV, GR

2019/211 First report of *Strawberry vein banding virus* in the United Kingdom

The NPPO of the United Kingdom recently informed the EPPO Secretariat of the first record of *Strawberry vein banding virus* (SVBV, Caulimovirus – EPPO A2 List) on its territory. SVBV was first found on strawberry (*Fragaria x ananassa*) plants for planting in South East England (Kent) in August 2019. The infected plants were in an insect-proof structure. Phytosanitary measures to eradicate the outbreak have been applied.
The pest status of *Strawberry vein banding virus* in the United Kingdom is officially declared as: **Present**.

Source: NPPO of the United Kingdom (2019-09).

Additional key words: new record **Computer codes:** SVBV00, GB

2019/212 Eradication of *Plum pox virus* from the USA

On 2019-10-17, USDA officially declared *Plum pox virus* (EPPO A2 List) eradicated from the USA (USDA, 2019; NAPPO, 2019). The disease was first detected in Pennsylvania in 1999. It was found in Michigan and New York in 2006 (EPPO RS 2002/020, RS 2006/140). The disease was eradicated from Pennsylvania and Michigan in 2009 and western New York in 2012. By the end of 2018, three consecutive years of stone fruit field surveys in eastern New York were completed with no further detections.
The pest status of *Plum pox virus* in the USA is officially declared as: **Absent, pest eradicated**.

Source: NAPPO Phytosanitary Alert System – Official Pest Reports. *Plum pox virus*: APHIS removes regulated areas in Orange and Ulster counties, New York (2019-10-18) https://www.pestalerts.org/oprDetail.cfm?oprID=808
USDA (2019) USDA declares United States free from *Plum pox virus*. https://www.aphis.usda.gov/aphis/newsroom/news/sa_by_date/sa-2019/plum-pox-declaration

Pictures: *Plum pox virus*. https://gd.eppo.int/taxon/PPV000/photos

Additional key words: absence, eradication **Computer codes:** PPV000, US

2019/213 Update on the situation of *Synchytrium endobioticum* in Georgia

Potato wart disease caused by *Synchytrium endobioticum* (EPPO A2 List) was first detected during observations of potato in home gardens in 2009–2013 in Khulo district (EPPO RS 2014/146). In 2016–2018 more outbreaks were detected in different home gardens of 17 villages in Khulo district and 2 villages of Mestia district in northern Georgia. Isolates of *S. endobioticum* were tested to identify the pathotype present in Georgia. The authors concluded that the pathotype found in Georgia is not known in Europe. In its reactions, this pathotype resembles pathotype 38 (Nevşehir), which was detected in the non-European part of Turkey.

Source: Sikharulidze ZV, Ghoghoberidze SY, Mentink NM., Meparishvili GV, Tsetskhladze TM, Leeuwen GCM (2019) Identification of the pathotype of *Synchytrium endobioticum*, causal agent of potato wart disease, present in Georgia. *EPPO Bulletin* **49**, 314– 320. DOI: https://doi.org/10.1111/epp.12582

Additional key words: detailed record **Computer codes:** SYNCEN, GE

2019/214 New fungal species associated with blueberry stem blight in China

Recently, two new fungal species associated with blueberry stem blight have been described from China. Blueberry commercial cultivation (*Vaccinium* spp.) in China started in 1981 and it is estimated that in 2017 it covered an area of approximately 31 000 ha and reached a production of more than 114 000 tonnes. The main blueberry-growing areas are located in the Guizhou, Liaoning and Shandong provinces.

In 2017, stem blight symptoms were observed on *Vaccinium corymbosum* plants in commercial greenhouses near Beijing, China. This disease seriously affected the growth of blueberry plants, as well as their fruit quality and productivity. The causal agent of this disease was identified as *Lasiodiplodia vaccinii* sp. nov.. The distribution and host range of this new fungal species remains to be further studied (Zhao *et al.*, 2019b).

During a study conducted in 2018 in the suburban area of Nanping (Fujian province), 20 diseased or dead stems were collected at a blueberry (*Vaccinium corymbosum x V. darrowii*) production site. Molecular studies and pathogenicity tests showed that isolates obtained from blueberry plants showing stem blight lesions corresponded to a new fungal species, *Macrophomina vaccinii* sp. nov. (Zhao *et al.*, 2019a).

Source: Zhao L, Cai J, He W, Zhang Y (2019a) *Macrophomina vaccinii* sp. nov. causing blueberry stem blight in China. *MycoKeys* **55**, 1-14. DOI: https://doi.org/10.3897/mycokeys.55.35015

Zhao L, Wang Y, He W, Zhang Y (2019b) Stem blight of blueberry caused by *Lasiodiplodia vaccinii* sp. nov. in China. *Plant Disease* **103**(8), 2041-2050. DOI: https://doi.org/10.1094/PDIS-01-19-0079-RE

Additional key words: new pest

Computer codes: MCPHSP, LSDPSP, CN

2019/215 Update on the situation of *Thekopsora minima* in Germany

In Germany, *Thekopsora minima* (EPPO A2 List) was first reported in 2015 (EPPO RS 2016/057) in Lower-Saxony. In July 2019, *T. minima* was found on *Vaccinium* plants in a garden centre in Brandenburg during inspections for the national monitoring programme. The plants were intended for final consumers. Official phytosanitary measures have been taken. The infected lot will be destroyed and samples have been taken from a second lot in the same premises.
The pest status of *Thekopsora minima* in Germany is officially declared as: **Present, only in some parts of the Member State concerned**.

Source: NPPO of Germany (2019-10).

Pictures: *Thekopsora minima*. https://gd.eppo.int/taxon/THEKMI/photos

Additional key words: detailed record

Computer codes: THEKMI, DE

2019/216 Non-native flora from the province Tarragona (Catalonia, Spain)

New records of non-native plant species are reported from a field survey conducted in the province of Tarragona (Spain). Table 1 lists 22 species recorded for the first time in the province of Tarragona, Catalonia or the whole country of Spain.

Table 1.

Species	Family	Native range	First record for:	Observation
Aloe ferox	Asphodelaceae	S. Africa	Tarragona	Limited occurrence
Canna ×generalis	Cannaceae		Catalonia	Naturalised
*Cenchrus orientalis**	Poaceae	N. Africa/Asia	Spain	Single individual / Potentially invasive
*Cenchrus setaceus***	Poaceae	Africa / Asia	Tarragona	Naturalised potentially invasive
Convolvulus farinosus	Convolvulaceae	Africa	Tarragona	Naturalised
Ficus rubiginosa	Moraceae	Australia	Catalonia	Single individual
Jarava plumosa	Poaceae	S. America	Tarragona	Naturalised
Koelreuteria paniculata	Sapindaceae	E. Asia	Tarragona	Naturalising
Lycianthes rantonnetii	Solanaceae	S. America	Catalonia	Locally naturalising
Manihot grahamii	Euphorbiaceae	S. America	Spain	Single individual
Melica chilensis	Poaceae	S. America	Spain	Locally naturalising
Nassella tenuissima	Poaceae	S. America	Tarragona	Naturalising
Panicum capillare subsp. *hillmanii*	Poaceae	N. America	Spain	Few individuals
Paraserianthes lophantha	Fabaceae	Australia	Tarragona	Single individual/ Potentially invasive
Plumbago auriculata	Plumbaginaceae	S. Africa	Tarragona	Naturalising
Podranea ricasoliana	Bignoniaceae	S. Africa	Tarragona	Naturalised
Proboscidea louisianica	Martyniaceae	N. America	Tarragona	Naturalising
Sedum palmeri	Crassulaceae	N. America	Tarragona	Single individual
Solanum bonariense	Solanaceae	S. America	Tarragona	Naturalised
Tipuana tipu	Fabaceae	S. America	Tarragona	Naturalising / potentially invasive
Tradescantia pallida	Commelinaceae	N. America	Tarragona	Few individuals
Vitis ×ruggerii	Vitaceae		Tarragona	Naturalised - invasive

* Synonym: *Pennisetum orientale*
** Synonym: *Pennisetum setaceum*

Source: Verloove F, Aymerich P, Gómez-Bellver C, López-Pujol J (2019) Chorological notes on the non-native flora of the province of Tarragona (Catalonia, Spain) *Butlletí de la Institució Catalana d'História Natural* **83** 133-146.

Additional key words: invasive alien plants

Computer codes: ALBLO, ALFFE, CNNHY, CONFA, FIURU, KOTPA, MANGR, PANHI, PDRRI, PESOR, PESSA, PLBAU, PROLO, SEDLM, SOLBO, SOLRA, STDTN, STDPQ, TIPTI, TRAPA, VITHD, ES

2019/217 Seed bank dynamics of *Impatiens*

Persistent soil seed banks have been highlighted as a mechanism which can contribute to invasive alien plants being able to persist in invaded locations. Soil seed banks can maintain genetic diversity within the population which can improve the ability of a species to respond to novel site conditions. When management measures (including eradication) are carried out, the length of time a seed bank can persist is an important factor to consider. The seed bank dynamics of *Impatiens* species (Balsaminaceae) is poorly understood. Much of the current information is based on indirect observations. To address this, a five-year seed burial experiment was conducted using seed of two non-native *Impatiens*, *I. glandulifera* (EPPO List of Invasive Alien Plants) and *I. parviflora*, and a native, *I. noli-tangere*. Seeds were collected from four sites which differed in environmental conditions (temperature, precipitation and soil nutrients) in 2008. Following storage at room temperature, seeds of each species were divided into small batches (50 seeds), placed in polyamide bags and buried at a depth of 5 cm in November of the same year at each of the four sites. The seeds were exhumed in the following years in late March and late May (2009-2012) and in late March in 2013. Following removal from the soil, seeds were separated into seeds which had germinated, seeds which had decayed, and seeds that remained viable. Both invasive species had a high seed germination rate in the first year while < 50 % of seeds of the native *Impatiens* germinated in the first year. All seeds of *I. parviflora* germinated in the first year indicating the species has a transient seed bank. Survival of *I. glandulifera* seeds differed between sites, where seeds decomposed at two sites and some germinated in one site after two years and another site after four years. The germination of *I. glandulifera* was slightly limited by low nitrogen but this effect was not found for *I. parviflora* seeds.

Source: Skálová H, Moravcová L, Čuda J, Pyšek P (2019) Seed-bank dynamics of native and invasive *Impatiens* species during a five-year field experiment under various environmental conditions. *NeoBiota* **50,** 75-95.

Photos: *Impatiens glandulifera*. https://gd.eppo.int/taxon/IPAGL/photos
Impatiens parviflora. https://gd.eppo.int/taxon/IPAPA/photos

Additional key words: invasive alien plants **Computer codes**: IPAGL, IPAPA, IPANT, CZ

2019/218 The rare hybrid x *Reyllopia conollyana* is identified in a seed bank study in Wales (GB)

x *Reyllopia conollyana* is a hybrid between *Fallopia japonica* and *F. baldschuanica* (Polygonaceae – both EPPO List of Invasive Alien Plants). The hybrid has been recorded in a few locations in Germany, England (GB), Hungary and Norway (EPPO RS 2019/151). In 2018, in Taff's Well near Cardiff (South Wales), as part of a large field experiment assessing integrated pest management techniques for the control of *F. japonica*, soil samples were collected from beneath invaded sites and placed in controlled conditions to evaluate the regeneration of the native seed bank. Interestingly, an unidentified knotweed species emerged from the soil with no visible rhizome material attached. The seedling was subsequently identified as x *Reyllopia conollyana*. The low number of records of the hybrid in the natural environment may be a result of mild winters and an underdeveloped endosperm that can make the seed susceptible to attack from soil mycobiota. Potentially, with climate change, the occurrence of x *Reyllopia conollyana* may become more frequent in the future.

Source: Hocking S, Jones D, Eastwood D (2019) Out of sight, out of mind? *Ex-situ* germination of x *Reyllopia conollyana* (Conolly's knotweed) in a South Wales invaded seed bank. *Botanical Society of Britain and Ireland* **142**, 52-55.

Photos: x *Reyllopia conollyana*. https://gd.eppo.int/taxon/RYLCO/photos

Additional key words: invasive alien plants, detailed record

Computer codes: BIKBA, POLCU, RYLCO, GB

2019/219 Mapping invasive alien plants with citizen science

A citizen science initiative was launched in the province of Trieste (North East Italy) to map the distribution of three invasive alien plant species: *Ailanthus altissima* (Simaroubaceae - EPPO List of Invasive Alien Plants), *Ambrosia artemisiifolia* (Asteraceae - EPPO A2 List) and *Senecio inaequidens* (Asteraceae - EPPO List of Invasive Alien Plants). The initiative was launched by the project SIIT (Strumenti interattivi per l'identificazione della biodiversita – interactive instruments for the identification of biodiversity), coordinated by the Department of Life Sciences of the University of Trieste. Workshops were organised where participants were trained in identifying the three species and on how to upload observations. Control data were used to test the reliability of the citizen science data. Control data was collected by trained botany students in the field. A total of 1 826 observations were collected by citizen scientists and 1 684 identifications (92 %) were positively validated by experts. This highlights that for the three species, misidentification by citizen scientists is a relatively minor issue. The citizen science data corresponded well to the actual distribution of the three species in the study area. This study highlights the value of citizen science in identifying and mapping the distribution of invasive alien plants.

Source: Luigi P, Pittao E, Altobelli A, de Pascalis F, Laganis J, Martellos S (2018) Mapping invasive plants with citizen science. A case study from Trieste (NE Italy). *Plant Biosystems* **153**(5), 700-709. https://doi.org/10.1080/11263504.2018.1536085

Additional key words: invasive alien plants, citizen science

Computer codes: AILAL, AMBEL, SENIQ, IT

2019/220 Grasses as suitable targets for classical weed biological control

Grasses (Poaceae) have been deliberately translocated into many non-native regions of the world and some have become invasive alien plants in recipient countries. These species can have negative impacts on native biodiversity, reduce grazing and agricultural productivity, alter fire regimes, and affect nutrient cycling. Historically, there are few invasive grass species that have been the target of weed biological control due to the perception that this group supports unspecialised and insufficiently damaging natural enemies. To assess the suitability of biological control as a management tool for invasive grasses a literature review was conducted to address three questions: (1) are there sufficiently specialised, and (2) damaging natural enemies associated with grasses to warrant pursuing biological control, and (3) are the risks of introducing biological control agents any greater for grasses than other weed taxa? The literature review identified 23 current and past biological control projects against invasive grasses and lists the species, the country, the candidate agent, the current status of the biological control programme, indications of control, and key references. The literature review showed that invasive grasses possess specialised natural enemies that may be sufficiently damaging to provide effective control of the target weeds.

The study concludes that the risk of grass biological control is no greater than for other weed taxa if practitioners follow appropriately rigorous risk assessment protocols.

Source: Sutton GF, Canavan K, Day MD, den Breeyen A, Goolsby JA, Cristofaro M, McConnachie A, Paterson ID (2019) Grasses as suitable targets for classical weed biological control. *BioControl*. https://doi.org/10.1007/s10526-019-09968-8

Additional key words: invasive alien plants, biological control **Computer codes:** 1GRAF

2019/221 6th International Symposium on Invasive Plants and Environmental Weeds (Prague, 2020-05-13/15)

The organisers of the 6th International Symposium on Invasive Plants and Environmental Weeds have released the first announcement. The Symposium will take place in Prague between the 13th and 15th May 2020. The Symposium is organised by the European Weed Research Society (EWRS) in collaboration with the Czech University of Life Sciences and the Çanakkale Onsekiz Mart University. Objectives of the meeting are to exchange information on regional issues linked by invasive plants; strengthen interactions between researchers in basic and applied research; evaluate the effectiveness of current policy and new challenges in an international context and to discuss the use of citizen science efficiently in agricultural areas. Information concerning the scientific program, registration, venue and accommodation will be placed on the EWRS Invasive Plant Working Group website.

Source: EWRS Invasive Plant Working Group website: http://www.ewrs.org/invasive_plants.asp

Additional key words: conference, invasive alien plants **Computer codes:** CZ

2019/222 16th International Symposium on Aquatic Plants (Aarhus University, Denmark, 2020-06-15/19)

The 16th International Symposium on Aquatic Plants will take place at Aarhus University in Denmark between the 15th and 19th June 2020. The scientific sessions will include: aquatic plants and macroecology; aquatic plants and trophic interactions; global change threats to oligotrophic lake vegetation; causes and patterns of macrophyte decline and recovery; aquatic plant ecophysiology; friends or foes: wanted and unwanted effects of herbicides on aquatic plants; management of macrophytes; aquatic plants research and conservation in Mediterranean ecosystems and macrophytes in flowing waters.

Key dates:
- Call for Abstracts: 2019-10-01 to 2020-02-01.
- Early bird registration until 2020-04-04.

Source: Conference website: http://www.internationalaquaticplantsgroup.com/index.html

Additional key words: conference, invasive alien plants **Computer codes:** DK