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CONTENTS ***Pests & Diseases***

Invasive Plants

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2014/126 Eradication of *Thaumatotibia leucotreta* from the Netherlands

In the Netherlands, 1 larva and 3 adults of *Thaumatotibia leucotreta* (Lepidoptera: Tortricidae – EPPO A2 list) had been found at the end of October 2013, in one greenhouse of *Capsicum annuum* grown for fruit production located at Honselersdijk. Eradication measures were immediately taken, including the use of pheromone traps, application of insecticides and controlled disposal of waste (e.g. used growing media, plant debris). To investigate the possible origin of this isolated finding and the possibility that the pest might have spread to other companies, a specific survey was carried out on the infested site and its surroundings (over an area of 2 x 3 km). In total, 29 companies producing host plants of *T. leucotreta* (in particular *Capsicum* and *Solanum melongena* fruit production, *Rosa* cut flower production, ornamental Solanaceae pot plants for final consumers) have been systematically monitored. No further findings of the pest were made. Therefore the NPPO of the Netherlands now considers that *T. leucotreta* has been successfully eradicated.
The pest status of *Thaumatotibia leucotreta* is officially declared as: **Absent, eradicated. One record of an incursion in one fruit production greenhouse of *Capsicum annuum*.**

Source: NPPO of the Netherlands (2014-06).

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

2014/127 Eradication of *Aculops fuchsiae* from Belgium

In Belgium, the presence of *Aculops fuchsiae* (Acarida: Eriophyidae – EPPO A2 List) had been detected in Rumst (province of Antwerp) in 2012-08-08 by a private collector of fuchsia plants. All plants in the collection were destroyed and no new findings were made during follow up surveys. Therefore in May 2014, the NPPO of Belgium officially declared that *A. fuchsiae* was eradicated from Belgium.
The pest status of *Aculops fuchsiae* in Belgium is officially declared as: **Absent, pest eradicated.**

Source: NPPO of Belgium (2014-06).

Additional key words: absence eradication **Computer codes:** ACUPFU, BE

2014/128 Eradication of *Chrysanthemum stem necrosis virus* from Belgium

In September 2012, the presence of *Chrysanthemum stem necrosis virus* (*Tospovirus*, CSNV – EPPO A1 List) had been detected at 1 location on glasshouse chrysanthemums (*Dendranthema* spp.) in the Western part of Belgium (see EPPO RS 2013/028). Eradication measures (destruction of all affected plants) were applied and follow up surveys were carried out by the Federal Agency for the Safety of the Food chain (FASFC). These official surveys for CSNV were carried out in all Belgian breeding companies of chrysanthemums (from January until the end of March) in 2013 and 2014. All collected samples (108 in 2013 and 118 in 2014) tested negative for CSNV. The NPPO now considers that CNSV has been eradicated from Belgium. Nevertheless, this virus will continue to be part of the yearly survey programme of the FASFC.
The pest status of *Chrysanthemum stem necrosis virus* in Belgium is officially declared as: **Absent, pest eradicated, confirmed by survey.**

Source: NPPO of Belgium (2014-06).

Additional key words: absence, eradication **Computer codes:** CSNV00, BE

2014/129 First report of *Chrysanthemum stem necrosis virus* in Italy

The NPPO of Italy recently informed the EPPO Secretariat of the first finding of *Chrysanthemum stem necrosis virus* (*Tospovirus*, CSNV – EPPO A1 List) on its territory. In February 2014, the virus was detected (ELISA, RT-PCR) on *Chrysanthemum morifolium* during official survey activities in a nursery located in the province of Savona (Liguria region). Affected plants showed necrosis and leaf malformations. Following the positive result of the analysis, the infected plants were destroyed. Additional surveys will be conducted in the area concerned.
The pest status of *Chrysanthemum stem necrosis virus* in Italy is officially declared as: **Transient, actionable, under eradication.**

Source: NPPO of Italy (2014-06).

Additional key words: new record **Computer codes:** CSNV00, IT

2014/130 First reports of *Potato spindle tuber viroid* and *Citrus exocortis viroid* in ornamental Solanaceae in Australia

In order to investigate the viroid status of a variety of solanaceous crops, ornamental plants and weed hosts, a survey was conducted from June to September 2012 in Queensland, Australia. A total of 8601 symptomless plants were sampled and tested. Samples were collected from 25 open-field and protected plant production and nursery facilities located across the state, including weeds and volunteer plants collected on-site or nearby these facilities. The presence of *Potato spindle tuber viroid* (*Pospiviroid*, EPPO A2 List) was detected in 1 bulked sample of *Solanum jasminoides*. *Citrus exocortis viroid* (*Pospiviroid*) was found in 2 separate bulked samples of *Petunia* spp. and one bulked sample of petchoa (*Petunia x Calibrachoa*).This is the first time that pospiviroids infecting ornamental plants are detected in Australia.

Source: van Brunschot SL, Persley DM, Roberts A, Thomas JE (2014) First report of pospiviroids infecting ornamental plants in Australia: *Potato spindle tuber viroid* in *Solanum laxum* (synonym *S. jasminoides*) and *Citrus exocortis viroid in Petunia* spp. *New Disease Reports* **29**, 3. http://dx.doi.org/10.5197/j.2044-0588.2014.029.003

Additional key words: new record **Computer codes:** CEVD00, PSTVD0, AU

2014/131 Detection of *Potato spindle tuber viroid* in potato breeding material in the Netherlands: an update

In the Netherlands, the presence of *Potato spindle tuber viroid* (*Pospiviroid*, PSTVd – EPPO A2 List) was confirmed in March 2014, in *in vitro* plantlets of one potato accession line (see EPPO RS 2014/088). Eradication measures were immediately implemented. The NPPO of the Netherlands recently provided the EPPO Secretariat with an update about the situation in this breeding company. Further testing (549 tests) was carried out and revealed that in total 10 potato accessions were infected by PSTVd. Five positive accessions came from the greenhouse and the other five positive accessions came from a plot of the breeding company where tubers from greenhouse-grown plants had been planted. All plant material having direct clonal relationships with infected accessions has been destroyed. All other potato material at the company has been destroyed or will be subjected to integral testing (testing of each individual plant). Investigations of all companies which have direct relationships with the affected breeding company are on-going. Since the beginning of the 1980s an official annual PSTVd testing scheme has been put into place for all newly registered varieties of second year pre-basic nuclear stock. In addition, all candidate material (each tuber or plant) intended for *in vitro* propagation is tested for PSTVd. Approximately 2 000 to 3 000 tests for PSTVd are completed each year on candidate potato material and *in vitro* propagation material. However, in order to further improve safeguards against the possible introduction of pospiviroids in the future, an intensified testing scheme will be completed by the end of July 2014 at all breeding companies in the Netherlands. Pending the outcome of these investigations, no breeding material will be exchanged between companies. Finally, the annual survey programme for regular seed potatoes will specifically target PSTVd in 2014.
The pest status of *Potato spindle tuber viroid* (on potato) in the Netherlands is officially declared as: **Incidental finding in potato (*Solanum tuberosum*) at a breeding company. Under eradication.**

Source: NPPO of the Netherlands (2014-06).

Additional key words: detailed record **Computer codes:** PSTVD0, NL

2014/132 Updated situation of *Potato spindle tuber viroid* in Belgium

The NPPO of Belgium recently provided the EPPO Secretariat with an update of the situation of *Potato spindle tuber viroid* (*Pospiviroid*, PSTVd – EPPO A2 List) on its territory. During multi-annual surveys on ornamental Solanaceae, tomato and potato production carried out from 2009 until 2012, PSTVd was found 3 times on *Solanum jasminoides* on the Belgian market and intercepted once on imported Petunia cuttings originating from Israel. In all cases where PSTVd was found, appropriate measures were taken to trace back infections, to prevent any further spread and eradicate the disease, in accordance with Belgian legislation (Royal Decree of 2005-08-10) and EU Commission Decision 2007/410/EC. In general, when PSTVd is detected in ornamental species, contaminated lots are destroyed by incineration. All other lots of susceptible host species present are sequestered and sampled. All material in contact with the contaminated lot has to be disinfected and strict hygienic measures are imposed. Import and movement of plants comply with EU Commission Decision 2007/410/EC, with systematic sampling of *S. jasminoides* and *Brugmansia* sp.

- **Tomato**

In August 2006, tomatoes (*Solanum lycopersicum* cv. 72-605 (RZ)) were found infected by PSTVd. The presence of the viroid was confirmed by PCR. The infection was restricted to one lot of tomato for consumption cultivated in one single production unit (see EPPO RS 2008/076) and the disease was subsequently eradicated.

- **Ornamental Solanaceae**

In November 2006, the Federal Agency for the Safety of the Food Chain (FASFC) started a monitoring programme on ornamental Solanaceae (import and domestic production) triggered by a notification of PSTVd made by the Netherlands. Results of this monitoring programme carried out in 2007 and 2008 were reported in more detail by Michelante *et al*. (2009) in the EPPO Bulletin. Further official surveys were carried out from 2009 to 2012 during which 250 to 400 samples were tested in the laboratory every year. In 2009, one consignment of Petunia cuttings imported from Israel was found to be positive for PSTVd. No further findings were made during the 2010 official survey. One outbreak on *S. jasminoides* was detected at the end of 2009 in West-Flanders during an NPPO research project. The company concerned was multiplying plants from material bought several years ago. These plants were intended for final consumers and all were destroyed. In this company, all samples taken during official control and follow up studies were found to be negative. In 2011, PSTVd was detected in one sample of *S. jasminoides* collected from a wholesale business in East Flanders. In 2012, one finding was made on *S. jasminoides* in a garden centre in the province of Liège.

- **Potato**

Official surveys confirm that PSTVd has never been found in Belgian potato production.

The pest status of *Potato spindle tuber viroid* in Belgium is officially declared as: **Transient, actionable, under eradication in ornamentals. All recent findings or interceptions concern ornamentals (4 between 2009-2012, on Petunia and *Solanum jasminoides*). Only one outbreak in greenhouse on tomato in 2006, eradicated. Absent, never recorded during specific surveys, in the potato production.**

Source: NPPO of Belgium (2014-06).

Michelante D, Leicher J, Huyshauwer V, Swillens L, Bragard C, Steyer S (2009) *Potato spindle tuber viroid* (PSTVd): situation in Belgium and experience on managing monitoring and eradication in ornamental and tomato productions. *Bulletin OEPP/EPPO Bulletin* **39**(1), p 81.

Additional key words: detailed record **Computer codes:** PSTVD0, BE

2014/133 First report of *Cryptostroma corticale* in the Netherlands

In the Netherlands, *Cryptostroma corticale*, the causal agent of sooty bark disease of sycamore has recently been reported for the first time. The fungus was found in firewood that had been produced in September 2013 from an *Acer pseudoplatanus* tree in the province of Noord Holland. A preliminary risk analysis was conducted and highlighted that this fungus which originates from North America has been recorded in several European countries (e.g. Austria, Czech Republic, France, Germany, Italy, Switzerland, United Kingdom), that it is naturally spreading via airborne spores, and that tree death is expected to occur only occasionally (i.e. after hot and dry summers). Therefore the Dutch NPPO concluded that no particular measures had to be taken against *C. corticale*.

The pest status of *Cryptostroma corticale* in the Netherlands is officially declared as: **Present.**

Source: NPPO of the Netherlands (2014-04).

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

2014/134 Current situation of *Verticillium albo-atrum* hop strains in Slovenia

In Slovenia, *Verticillium* wilt of hop (EPPO A2 List) was first discovered in 1974 in its mild form which is associated with the less virulent strains of *Verticillium albo-atrum* and *V. dahliae*. Until 1997, the disease appeared only sporadically in some hop (*Humulus lupulus*) gardens, but in that year an outbreak of the lethal form was registered in the Western part of the Savinja valley. Virulence testing and AFLP molecular analysis identified the causal agent as the highly virulent hop pathotype PV1 of *V. albo-atrum,* and further studies showed that it corresponded to a new genotype of PV1 (genotype PG2). Until now the *V. albo-atru*m hop pathotypes with increased virulence are reported only from the United Kingdom (1933), Slovenia (1997) and Germany (2005). Since 1998, an official monitoring survey of hop gardens has been conducted by the Slovenian Institute for Hop Research and Brewing under the supervision of the NPPO. This survey included visual inspection of hop gardens, sampling, laboratory analysis and expert advice on measures to both growers and phytosanitary inspectors. Results showed that *V. albo-atrum* (highly virulent pathotype PV1) occurred in several hop gardens in the Savinja valley (200 ha). *V. albo-atrum* (mild pathotype M) was found in a few hop gardens, but in all hop-growing regions in Eastern Slovenia: Koroška region (administrative units of Dravograd, Radlje ob Dravi, Slovenj Gradec); Savinjska region (administrative units of Celje, Žalec, Mozirje), Štajerska region (administrative units of Brežice, Krško, Lenart, Ljutomer, Ormož, Ptuj, Šmarje pri Jelšah).

Phytosanitary control measures were initiated in 2001 in accordance with Slovenian legislation ('Decree on protective measures for preventing the spread and for suppression of the hop wilt caused by fungi *Verticillium albo-atrum* Reinke & Berthold and *Verticillium dahliae* Klebahn'. Official Gazette of the Republic of Slovenia, no. 45/01, 117/02, 31/2004, 35/2014). Until the year 2000, the aim was to progressively eradicate the disease and approximately 67 ha of hop gardens were completely destroyed and a 4-year quarantine period was imposed in infected fields where only non-host plants could be grown. Despite intensive official monitoring, training campaigns, quarantine and hygienic measures, the disease continued to spread. It was realized that this spread was related to the use of infected hop debris in healthy gardens, of contaminated machinery, and non-certified planting material. As a consequence, measures were modified in 2001 to focus on the elimination of local foci and individual diseased plants. In total, 147 ha of infected hop gardens were destroyed in Slovenia in the period from 1997 to 2013. Since 2014, *Verticillium* wilt is regulated only within a certification scheme for hop planting material ('Rules for marketing of hop planting material'. Official Gazette of the Republic of Slovenia, no. 31/2004, 21/2007, 19/2008, 12/2010, 45/2013) and the general phytosanitary legislation concerning plant passports (EU Council Directive 2000/29/EC). Before being commercialized, standard and certified planting material is officially checked to verify the absence of *V. albo-atrum* hop strains.

The pest status of *Verticillium albo-atrum* hop strains in Slovenia is officially declared as: **Present, subject to official control.**

Source: NPPO of Slovenia (2014-07).

Additional key words: detailed situation **Computer codes:** VERTAH, SI

2014/135 Absence of *Xanthomonas fragariae* from Norway

In June 2014, the NPPO of Norway officially stated the absence of *Xanthomonas fragariae* (EPPO A2 List) from its territory. This disease has never been detected in Norway. In 2013, a comprehensive survey was carried out across the whole country. In total, 182 samples were collected from strawberry nurseries and fruit crops (both indoors and outdoors). They were collected from 51 growers in 17 counties (51 municipalities). All samples were tested using internationally recommended tested methods (IF, real-time PCR). All results were negative.
The pest status of *Xanthomonas fragariae* from Norway is officially declared as: **Absent, confirmed by survey.**

Source: NPPO of Norway (2014-06).

Additional key words: absence **Computer codes:** XANTFR, NO

2014/136 Final Workshop of the EU project REPHRAME (Madrid, 2014-09-30/10-02)

The EU FP7 project REPHRAME (Development of improved method for detection, control and eradication of pine wood nematode in support of EU Plant Health policy) will be completed at the end of November 2014. A final Workshop will take place in Madrid on 2014-09-30/10-02 to present the outcomes of the project. It will also include practical sessions at the CSIC laboratory in Madrid and a field trip (Santi Espiritus in Spain, Coimbra in Portugal).

The REPHRAME Workshop is addressed to plant health practitioners, forest managers, timber trade representatives and any stakeholders involved in the practical management of survey and containment of the pine wood nematode (*Bursaphelenchus xylophilus*). The Workshop will provide information and practical methodologies that can be used in the development of management strategies and contingency planning.

Registration fee will be around 120 euros (depending on numbers of participants).

To register interest, contact Hugh Evans: hugh.evans@forestry.gsi.gov.uk

Source: EPPO Secretariat (2014-07).

Additional key words: conference **Computer codes:** BURSXY, ES

2014/137 Invasive alien plants in European and Mediterranean inland waters

A review on invasive alien aquatic plants in the Euro-Mediterranean region has recently been published to discuss definitions, existing legislation and recommendations, introduction pathways and impacts. It underlined that freshwater ecosystems may indeed be the most highly endangered ecosystems in the world.
Plant invasions in inland waters may be considered as one of the factors that characterize degraded aquatic ecosystems. Although risk analyses and other prioritization tools are available throughout the EPPO region, the review concludes that successful management should include prevention, habitat restoration, dedicated risk assessment, prioritization, awareness raising, dedicated legislation, and collaboration between different stakeholders.

Source: Brundu G (2014) Plant invaders in European and Mediterranean inland waters: profiles, distribution, and threats. *Hydrobiologia* DOI 10.1007/s10750-014-1910-9

Additional key words: invasive alien plants

2014/138 United States weed risk assessments are available

In the USA, USDA-APHIS (Animal and Plant Health Inspection Service) conducts weed risk assessments which are available online (see link below). For each species evaluated by APHIS, the table below indicates its origin, and its known distribution in the EPPO region according to the DAISIE and Euro+Med databases. Most of these assessments were conducted with the new APHIS weed risk assessment procedure, based on a predictive model which calculates the probabilities for a plant species to be a non-invader, minor-invader, or major-invader. Probabilities and conclusions from the assessment are summarized below.

Species	Origin	Distribution in the EPPO region	Conclusions of the assessment for the USA
Acacia nilotica (Fabaceae)	Africa, India	DZ, IL	Overall medium-high risk species
Acalypha australis (Euphorbiaceae)	Russian Far East, China, Japan, Philippines	TR	Evaluate further, minor invader at 65%
Achyranthes japonica (Amaranthaceae)	Eastern Asia	/	Overall high risk, major invader at 77%
Ageratina riparia (Asteraceae)	Mexico	ES (Canarias, Gomera, La Palma, Tenerife), PT (Madeira)	Overall medium-high risk species
Althaea armeniaca (Malvaceae)	Eastern Mediterranean and Southwestern Asia	Native in AM, AZ, GE, RU, SK, TR, UA	Overall low risk, minor invader at 51%
Anubias barteri (Araceae)	Africa	/	Overall low risk, non-invader at 89%

Species	Origin	Distribution in the EPPO region	Conclusions of the assessment for the USA
Araujia sericifera (Asclepiadaceae, EPPO Observation List of IAP)	South America	ES, FR (incl. Corse), GR, IT (incl. Sicilia), PT (incl. Azores, Madeira)	Overall high risk, major invader at 87%
Arctotheca calendula (Asteraceae, EPPO Alert List)	South Africa	ES (incl. Canarias), FR (Incl. Corse), IL, IT (incl. Sardegna, Sicilia), MA, PT (Incl. Azores), TN	Overall high risk
Ardisia crenata (Primulaceae)	Southeast Asia	/	Overall high risk, major invader at 59%
Arundo donax (Poaceae)	Northern Africa, Middle East, Southeast Asia	Widespread	Overall high risk, major invader at 71%
Austroderia richardii (Poaceae)	New Zealand	FR, GB	Overall high risk, minor invader at 51%
Bacopa australis (Plantaginaceae)	South America	/	Evaluate further, minor invader at 67%
Cardiospermum grandiflorum (Sapindaceae, EPPO List of Invasive Alien Plants)	Tropical Africa, Central and South America	ES (Canarias), IT (Sicilia), MT, PT (Madeira)	Overall high risk, major invader at 79%
Carex breviculmis (Cyperaceae)	Australia, New Zealand, Southern and Eastern Asia	/	Evaluate further, minor invader at 69%
Carex pendula (Cyperaceae)	Europe, West Asia, North Africa	Widespread	Evaluate further, minor invader at 59%
Cestrum laevigatum (Solanaceae)	South America	/	Overall high risk, major invader at 56%
Chrysanthemoides monilifera (Asteraceae)	South-Africa	ES, FR, IT (Sicilia)	Overall high risk, major invader at 76%
Chrysopogon aciculatus (Poaceae)	Tropical areas of Asia, Australia and the Pacific	/	Overall high risk, major invader at 89%
Colophospermum mopane (Fabaceae)	Southern Africa	/	Overall low risk, non-invader at 59%
Cordia curassavica (Boraginaceae)	Central America and Caribbean	/	Overall high risk, major invader at 55%
Cortaderia jubata (Poaceae)	South America	ES	Overall high risk, major invader at 91%
Cortaderia selloana (Poaceae, EPPO List of IAP)	South America	Widespread	Overall high risk, major invader at 87%

Species	Origin	Distribution in the EPPO region	Conclusions of the assessment for the USA
Crassula helmsii (Crassulaceae, EPPO A2 List)	Australia and New Zealand	BE, DE, DK, ES, FR, GB, NL, PT, RU	Overall high risk, major invader at 95%
Delairea odorata (Asteraceae, EPPO List of IAP)	South Africa	FR, GB, IE, IT, PT (incl. Azores, Madeira)	Overall high risk, major invader at 77%
Dittrichia graveolens (Asteraceae)	Mediterranean Basin	Widespread	Overall high risk, major invader at 92%
Dolichandra unguis-cati (Bignoniaceae)	Central and South America, Caribbean	/	Overall high risk, major invader at 67%
Echinochloa pyramidalis (Poaceae)	Africa	/	Overall high risk, major invader at 73%
Echinodorus uruguayensis (Alismataceae)	South America	/	Overall low risk, minor invader at 51%
Euphorbia terracina (Euphorbiaceae)	Europe, Mediterranean Basin	Widespread	Overall medium-high risk
Falcaria vulgaris (Apiaceae)	Europe, Asia	Widespread	Overall high risk, major invader at 79%
Geranium lucidum (Geraniaceae)	Europe, North Africa, Central Asia	Widespread	Overall high risk, major invader at 79%
Gladiolus undulatus (Iridaceae)	South Africa	PT (Azores)	Overall high risk, minor invader at 54%
Gymnocoronis spilanthoides (Asteraceae, EPPO Observation list of IAP)	South America	/	Overall high risk, major invader at 84%
Hakea gibbosa (Proteaceae)	Australia	/	Overall high risk, minor invader at 57%
Hakea salicifolia (Proteaceae)	Australia	FR, PT	Overall high risk, minor invader at 70%
Hakea sericea (Proteaceae, EPPO List of IAP)	Australia	ES, FR, PT	Overall high risk, major invader at 56%
Homeria spp. (Iridaceae)	South Africa	/	Overall high risk species
Hedychium gardnerianum (Zingiberaceae)	India, Nepal, Bangladesh, Bhutan	PT (incl. Azores, Madeira)	Overall high risk, major invader at 83%
Impatiens parviflora (Balsaminaceae)	Asia	Widespread	Overall high risk, major invader at 89%
Inula britannica (Asteraceae)	Europe, Asia	Widespread	Overall medium-high risk species
Ipomoea aquatica (Convolvulaceae)	Southeast Asia	/	Overall medium-high risk species
Iris pseudacorus (Iridaceae)	Europe	Widespread	Overall high risk, major invader at 81%
Leptochilus pteropus (Polypodaceae)	Southeast Asia	/	Overall low risk, minor invader at 51%

Species	Origin	Distribution in the EPPO region	Conclusions of the assessment for the USA
Ligustrum sinense (Oleaceae)	Southeast Asia	IT, PT (Madeira)	Overall high risk, major invader at 75%
Limnobium laevigatum (Hydrocharitaceae)	Central and South America, Caribbean	/	Overall high risk, major invader at 89%
Luziola subintegra (Poaceae)	Americas	/	Overall high risk, major invader at 80%
Lygodium microphyllum, L. japonicum, L. flexuosum (Lygodiaceae)	Asia	/	Overall medium-high risk species
Mikania micrantha (Asteraceae)	Central and South America, Caribbean	/	Overall high risk, major invader at 95%
Stipa neesiana (Poaceae, EPPO Observation List of IAP)	South America	ES, FR (incl; Corse)	Overall high risk, major invader at 98%
Neptunia oleracea (Fabaceae)	South America	/	Overall high risk, major invader at 73%
Nymphoides cristata (Menanthyaceae)	India, Asia	/	Overall high risk, major invader at 66%
Nymphoides indica (Menanthyaceae)	Tropical America and Asia	/	Overall high risk, major invader at 63%
Nymphoides peltata (Menanthyaceae)	Europe, Asia	Widespread	Overall high risk, major invader at 92%
Onopordum acaulon (Asteraceae)	Mediterranean Basin	Widespread	Overall medium-high risk.
Oplismenus hirtellus subsp. *undulatifolius* (Poaceae)	Temperate, subtropical and tropical areas of the world (including Mediterranean Basin)	Widespread	Overall high risk, major invader at 80%
Persicaria chinensis (Polygonaceae)	Asia	/	Overall high risk, major invader at 91%
Phyllanthus maderaspatensis (Phyllanthaceae)	Tropical Africa	/	Evaluate further, minor invader at 68%
Phyllostachys aurea (Poaceae)	China and Japan	FR (Corse)	Overall high risk, minor invader at 54%
Phyllostachys aureosulcata (Poaceae)	China	?	Overall high risk, minor invader at 69%
Pilea hyalina (Urticaceae)	Tropical America, Antilles	/	Evaluate further, minor invader at 70%
Pistacia chinensis (Anacardiaceae)	China	/	Overall high risk, minor invader at 59%

Species	Origin	Distribution in the EPPO region	Conclusions of the assessment for the USA
Rottboellia cochinchinensis (Poaceae)	Tropical Asia	/	Overall high risk species
Rumex sagittatus (Polygonaceae)	Africa	/	Overall high risk, major invader at 54%
Sagittaria sagittifolia (Alismataceae)	Europe, Asia	Widespread	Overall medium-high risk species
Senecio angulatus (Asteraceae)	South Africa	ES (incl. Baleares, Canarias), FR (incl. Corse), HR, IT (incl. Sardegna, Sicilia), PT	Overall high risk, major invader at 67%
Senecio inaequidens (Asteraceae, EPPO List of IAP)	South Africa	Widespread	Overall high risk species
Senecio madagascariensis (Asteraceae)	Southern Africa	/	Overall high risk species
Sideritis montana (Lamiaceae)	Europe, Mediterranean Basin	Widespread	Overall high risk, minor invader at 56%
Solanum sisymbriifolium (Solanaceae)	South America	BE, ES, IT (incl. Sardegna)	Overall high risk, major invader at 82%
Solanum viarum (Solanaceae)	South America	/	Overall high risk species
Thymelaea passerina (Thymeleaceae)	Europe, Asia	Widespread	Overall high risk, minor invader at 61%
Toona sinensis (Meliaceae)	Asia	/	Overall high risk, minor invader at 70%
Tridax procumbens (Asteraceae)	Central America	/	Overall high risk species
Triplaris melaenodendron (Polygonaceae)	Central America	/	Evaluate further, minor invader at 64%
Vitex rotundifolia (Lamiaceae)	Asia	/	Overall high risk, major invader at 80%
Wikstroemia indica (Thymeleaceae)	Southeast Asia, Australia	/	Evaluate further, minor invader at 67%
Xanthoceras sorbifolium (Sapindaceae)	Asia	/	Overall low risk, non-invader at 81%

Source: DAISIE database http://www.europe-aliens.org/

Euro+Med PlantBase http://ww2.bgbm.org/EuroPlusMed/query.asp

USDA, Noxious Weeds Program Risk Assessments http://www.aphis.usda.gov/wps/portal/banner/help?1dmy&urile=wcm%3apath%3a%2Faphis_content_library%2Fsa_our_focus%2Fsa_plant_health%2Fsa_domestic_pests_and_diseases%2Fsa_pests_and_diseases%2Fsa_weeds%2Fsa_noxious_weeds_program%2Fct_riskassessments

Additional key words: invasive alien plants, risk assessments

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2014/139 Are non-native plants perceived to be more risky by horticulturists?

Horticultural trade has been identified as a particularly important pathway for the global entry and spread of plant species. In order to design effective risk management strategies, it is crucial to better understand what drives horticulturists' risk perceptions. A large-scale survey was undertaken on perceptions of horticulturists (625 persons) in Switzerland to investigate risk and benefit for ornamental plant species, their attitude towards the regulation of non-native species, as well as the factors that are decisive for environmental risk perceptions and horticulturists' willingness to engage in risk mitigation behavior.
Participants were presented with a list of 18 ornamental plant species and were asked to classify these plants as native or non-native. For all plants, a strong association was found between perceived origin and perceived environmental threat: the fraction of participants who perceived a plant to be risky was larger among those that classified the plant as non-native than those that classified it as native. On the other hand, the more important the plant was perceived to be for landscape design or for a participant's business, the less risky the plant was evaluated. Though, the perception of origin may also have been influenced by the perceived riskiness of a plant species rather than the other way round. Willingness to engage in risk mitigation behavior was counteracted by the perception of benefits from selling non-native ornamental species. Many of the respondents displayed a positive attitude towards mandatory trade regulations and declared a willingness to engage in various voluntary actions to mitigate invasion risks from non-native ornamentals.
Among respondents, the perceptions of which ornamental plant species are native (or non-native) were often not congruent with the classifications proposed by the literature. Even among academic experts there exists a high diversity of alternative concepts of the non-native origin of a plant species in Europe. Such divergent perceptions of a key concept might hinder consensus building and weaken risk communication. The study highlights that horticulturists' familiarity with a non-native species might lead to a cognitive conflict with the expert definition of the non-native origin of a species: a species that is characterized as 'foreign' by experts is 'familiar' to horticulturists due to their daily work. Thus, while the alien origin of a species can be an important scientific concept, it can be problematic in risk communication, especially for well-known and long-established species. In these cases, it might be more effective to focus communication on well-documented environmental impacts of harmful species rather than focusing on the 'non-native' status of species.

Source: Humair F, Kueffer C & Siegrist M (2014) Are non-native plants perceived to be more risky? Factors influencing horticulturists' risk perceptions of ornamental plant species. *PIos One* **9**, 12 pp.

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2014/140 The impact of *Lysichiton americanus* on native vegetation in the United Kingdom

Two sites were studied on the riverine woodland of the Harcourt Wood in the United Kingdom (near Minstead, Hampshire) to consider the impacts of *Lysichiton americanus* (Araceae, EPPO Observation List of Invasive Alien Plants) on native vegetation.
These observations revealed that *L. americanus* is unlikely to be able to invade damp sites but can well colonize drained alluvial woodland dominated by *Alnus* spp., *Betula* spp., *Corylus* spp., *Fraxinus* spp., *Salix* spp., etc. Concerning the spread potential of *L. americanus*, evidence at Harcourt suggests that individual plants are capable of 'jumps' of tens of metres. In addition, the upstream spread at Harcourt indicates that bird dispersal of the berries may occur. It was observed that in the Harcourt Wood, *L. americanus* was displacing nearly all other plant species. By forming large dense patches, access to light is thus reduced for other plants.
The species was therefore assessed as having considerable threat to high quality native wet woodland habitat, which concerns at least one priority habitat (alluvial forests) in the UK.

Source: Sanderson N (2013) New forest non-native plants project research on the impact of skunk cabbage *Lysichiton americanus* on native vegetation. Hampshire and Isle of Wight Wildlife Trust. 52 pp.

Additional key words: invasive alien plants, impacts **Computer codes:** LYSAM, GB