

ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION

# **EPPO** Reporting Service

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#### 2012/047 New outbreak of Bursaphelenchus xylophilus in Spain

In Spain, the presence of *Bursaphelenchus xylophilus* (EPPO A1 List) was detected in two instances in a small number of trees (1 *Pinus* sp. tree near Cáceres in Extremadura in 2008 and 7 *P. pinaster* trees in the province of Pontevedra in Galicia in 2010) and in both cases, eradication measures were taken (EPPO RS 2010/051, 2010/202). In January 2012, a declining *P. pinaster* tree was noticed by technicians in a forest of the 'Monte Barroco Toiriña' (province of Cáceres in Extremadura), very close to the Portuguese border (approx. 600 m). At the beginning of February, the presence of *B. xylophilus* was confirmed in the declining tree (morphology, molecular test). The origin of the infestation is not known, and it is noted that the infested tree is located in an area where there is no timber industry and there are no wood packaging factories (within a radius of 20 km). In accordance with the EU Commission Decision 2006/133/EC of 2006-02-13, phytosanitary measures have been taken to eradicate the pest. An intensive survey has been initiated to delimit the extent of the infested area and establish the demarcated zones.

The pest status of *Bursaphelenchus xylophilus* in Spain is officially declared as: **Transient**, **actionable**, **under eradication**.

Source: NPPO of Spain (2012-02).

Commission Decision 2006/133/EC of 13 February 2006 requiring Member States temporarily to take additional measures against the dissemination of *Bursaphelenchus xylophilus* (Steiner et Buhrer) Nickle *et al.* (the pine wood nematode) as regards areas in Portugal, other than those in which it is known not to occur. <u>http://www.eppo.int/ABOUT\_EPPO/EPPO\_MEMBERS/phytoreg/eu\_texts/2006-133-EC-e.pdf</u>

Additional key words: detailed record

Computer codes: BURSXY, ES

#### 2012/048 First report of Cryphonectria parasitica in the United Kingdom

The NPPO of the United Kingdom recently informed the EPPO Secretariat of the first record of *Cryphonectria parasitica* (EPPO A2 List) on its territory. In November/December 2011, an inspection was carried out in a 5 year-old plantation of *Castanea sativa* grown for nut production and located near Leamington Spa (Warwickshire), in England. The area was planted with approximately 300 trees which had been supplied by a French nursery in 2007. The inspection revealed that numerous trees showed cankers and had died back to the root collar, with some re-sprouting below the cankered region. Laboratory analysis (isolation, morphology, molecular assays) confirmed the presence of *C. parasitica*. A second outbreak was then found on a smaller site in East Sussex containing about 30 trees which had been planted for nut production from the same source as the Warwickshire trees. Eradication measures were put into place and included the destruction of all *C. sativa* trees (uprooted and burnt on the site), and surveys of all surrounding woodlands within a radius of 3 km of the infected sites. All field staff and individuals working on these sites will adopt prophylactic measures in order to avoid any further spread of the fungus. This is the first time that *C. parasitica* is reported in the United Kingdom.

The pest status of *Cryphonectria parasitica* in the United Kingdom is officially declared as: **Transient, actionable, under eradication.** 

Source: NPPO of the United Kingdom (2012-01).

Forestry Commission website. Sweet chestnut blight (*Cryphonectria parasitica*). <u>http://www.forestry.gov.uk/chestnutblight</u> IPPC website. Official Pest Reports - United Kingdom. *Cryphonectria parasitica* on sweet chestnut (2012-01-31). <u>https://www.ippc.int/index.php</u>

Additional key words: new record

Computer codes: ENDOPA, GB

#### 2012/049 Situation of Agrilus planipennis in Canada

In Canada, *Agrilus planipennis* (Coleoptera: Buprestidae - EPPO A1 List) was first recorded in Southwestern Ontario in 2002. In 2008, it was also detected in Quebec. Until recently, its presence was confined to these two Canadian provinces and phytosanitary measures were taken to contain it (e.g. prohibition of movement of ash tree material and firewood of any tree species). In 2011, the presence of *A. planipennis* was confirmed in new areas in Ontario (Manitoulin Island, united counties of Prescott and Russell) and in Quebec (cities of Gatineau and Montreal).

The regulated areas in Ontario and Quebec are currently described as follows:

- 1. Within the boundaries of the City of Sault Sainte Marie, in Northwestern Ontario
- The area consisting of the Cities of Hamilton and Toronto, the Regional Municipalities of Chatham-Kent, Durham, York, Peel, Halton, Niagara and Waterloo and the Counties of Brant (including the City of Brantford), Elgin, Essex, Haldimand, Huron, Lambton, Middlesex, Norfolk, Oxford, Perth and Wellington, in Southern Ontario
- 3. The city of Ottawa and the United Counties of Leeds and Grenville in Eastern Ontario
- 4. Parts of the city of Gatineau in Western Quebec
- 5. The area consisting of the Municipalities of Carignan, Chambly, Richelieu, Saint-Basile-le-Grand and Saint-Mathias-sur-Richelieu, in Quebec.

A detailed map can be viewed on the Canadian Food Inspection Agency (CFIA) website: <u>http://www.inspection.gc.ca/english/plaveg/pestrava/agrpla/mc/regrestric.pdf</u>

The pest status of *Agrilus planipennis* in Canada is officially declared as follows: **Present**, only in some areas of Ontario and Quebec, and is subject to official control in Canada.

Source:

INTERNET

Canadian Food Inspection Agency (CFIA) website. Emerald ash borer - Agrilus planipennis.

http://www.inspection.gc.ca/english/plaveg/pestrava/agrpla/agrplae.shtml

NAPPO Phytosanitary Pest Alert System. Official Pest Reports.

Canada (2011-11-29) Emerald ash borer confirmed on Manitoulin island, Ontario.

http://www.pestalert.org/oprDetail.cfm?oprID=506

- Canada (2011-08-09) Emerald ash borer confirmed in united counties of Prescott and Russell.
- http://pestalert.org/oprDetail.cfm?oprID=496

Canada (2011-07-27) Emerald ash borer confirmed in the city of Montreal (2011-09-01). http://www.pestalert.org/oprDetail.cfm?oprID=494

Canada (2011-07-07) Emerald ash borer confirmed in Gatineau outside the current regulated area. http://pestalert.org/oprDetail.cfm?oprID=487

Canada (2011-03-29) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada - Changes to the regulated areas. <u>http://www.pestalert.org/oprDetail.cfm?oprID=480</u>

Canada (2010-05-10) Emerald ash borer confirmed in Wellington county, Ontario. http://www.pestalert.org/oprDetail.cfm?oprID=463

Canada (2010-09-16) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada -Emerald ash borer confirmed in Perth county, Ontario. <u>http://www.pestalert.org/oprDetail.cfm?oprID=459</u>

- Canada (2010-08-31) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada -Emerald ash borer confirmed outside current Ottawa-Gatineau regulated area. <u>http://www.pestalert.org/oprDetail.cfm?oprID=454</u>
- Canada (2010-08-24) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada -Emerald ash borer confirmed in the regional Municipality of Waterloo and the county of Oxford, Ontario. <u>http://www.pestalert.org/oprDetail.cfm?oprID=452</u>
- Canada (2010-08-04) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada -Presence confirmed in united counties of Leeds and Grenville, Ontario. <u>http://www.pestalert.org/oprDetail.cfm?oprID=444</u>
- Canada (2010-07-06) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada First report of presence in Brantford, Ontario. <u>http://www.pestalert.org/oprDetail.cfm?oprID=437</u> Canada (2010-06-25) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada.
- http://www.pestalert.org/oprDetail.cfm?oprID=436 Canada (2009-06-09) Update on the emerald ash borer (Agrilus planipennis Fairmaire) in Canada -
  - Detection in Welland, Ontario. <u>http://www.pestalert.org/oprDetail.cfm?oprID=380</u>
- Canada (2009-03-02) Update on the emerald ash borer (*Agrilus planipennis* Fairmaire) in Canada Detection in Hamilton, Ontario. <u>http://www.pestalert.org/oprDetail.cfm?oprID=367</u>

Additional key words: detailed record

Computer codes: AGRPL, CA

#### 2012/050 Incursion of Anoplophora chinensis in Denmark in 2011

In Denmark, *Anoplophora chinensis* (Coleoptera: Cerambycidae - EPPO A2 List) has been under official surveillance since 2007. In June 2011, the pest was found for the first time in 1 garden in the City of Odense on the Island of Funen. Three exit holes were observed on 2 trees of *Acer palmatum* and 1 adult beetle was captured. The infested trees were destroyed, and an intensive official survey was carried out (with the involvement of local citizens). No additional beetles or signs of infestation were found. The NPPO in consultation with researchers concluded that the probability of establishment of *A. chinensis* from this isolated finding was negligible. To verify this assumption, intensive surveillance will be carried out over an extended zone for the next 5 years.

The pest status of *Anoplophora chinensis* in Denmark is officially declared as: **Transient:** actionable, under surveillance.

Source: IPPC website. Official Pest Reports - Denmark. Transience of Anoplophora chinensis in Denmark (2011-06-24). <u>https://www.ippc.int/index.php</u>

Additional key words: new record, incursion

Computer codes: ANOLCN, DK

#### 2012/051 First report of Glycaspis brimblecombei in France

At the end of 2011 (August/October), the presence of *Glycaspis brimblecombei* (Hemiptera: Psyllidae - formerly EPPO Alert List) was detected for the first time in France. This eucalyptus psyllid was observed in the Southeastern part of France and in Corse, mainly on *Eucalyptus camaldulensis* trees planted in public and private gardens, as well as in one nursery. *G. brimblecombei* was found in the following departments: Alpes-Maritimes (Nice and several other localities), Bouches-du-Rhône (La Ciotat), Corse-du-Sud (Grosseto-Prugna), Hérault (Montferrier-sur-Lez), Var (Seyne-sur-Mer). No official control measures were taken against *G. brimblecombei*.

The pest status of *Glycaspis brimblecombei* in France is officially declared as: **Present**, only in some areas (Southeastern France, Corse).

Source: NPPO of France (2012-03).

Additional key words: new record

Computer codes: GLYSBR, FR

#### 2012/052 Neoleucinodes elegantalis, a borer of solanaceous fruit: addition to the EPPO Alert List

*Neoleucinodes elegantalis* (Lepidoptera: Crambidae) is a major pest of tomatoes and other solanaceous fruit crops (e.g. aubergine and capsicum) in several countries of South America. The EPPO Panel on Phytosanitary Measures considered that *N. elegantalis* could represent a threat to the EPPO region, and suggested its addition to the EPPO Alert List.

#### Neoleucinodes elegantalis (Lepidoptera: Crambidae)

Neoleucinodes elegantalis is a major pest of tomatoes and other solanaceous Why fruit crops (e.g. aubergine and capsicum) which occurs in South and Central America. N. elegantalis is absent from the EPPO region but it has been intercepted several times by the Netherlands (1 interception in 2009 and 3 in 2012) during import inspections of aubergine (S. melongena) from Suriname and control of passenger baggage at Schiphol airport. Considering the importance of tomato and other solanaceous fruit crops in the EPPO region, and the severe impacts resulting from the recent introduction of another fruit borer, Tuta absoluta, the EPPO Panel on Phytosanitary Measures considered that N. elegantalis could represent a threat to the EPPO region, and suggested its addition to the EPPO Alert List. Where EPPO region: absent. North America: Mexico. Central America and Caribbean: Costa Rica, Cuba, Honduras, Grenada, Guatemala, Jamaica, Panama, Puerto Rico, Trinidad and Tobago. South America: Argentina, Brazil (Amapa, Ceara, Distrito Federal, Minas Gerais, Parana, Pernambuco, Rio de Janeiro, Santa Catarina, Sao Paulo, Sergipe), Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela. On which plants *N. elegantalis* feed on fruit of solanaceous crops, and its major hosts of economic importance are Solanum lycopersicum (tomato), Solanum melongena (aubergine), Capsicum annuum and tropical solanaceous fruits [e.g. S. aethiopicum (=S. gilo, jilo or gilo), S. betaceum (tree tomato), S. quitoense (naranjilla, lulo), S. sessiliflorum (cocona)]. It also feeds on weed and wild Solanum species: S. acerifolium, S. atropurpureum, S. crinitum, S. torvum, S. hirtum, S. lycocarpum, S. pseudolulo, S. viarum, S. sisymbriifolium. Damage N. elegantalis is a fruit borer whose larvae feed on seeds and flesh of the fruit. Soon after hatching, larvae enter young fruits making a very small entrance hole (0.5 mm) which is difficult to detect. Before pupation, they leave the fruit, leaving large exit holes which facilitate secondary fungal or bacterial infections. The presence of a single larva inside a fruit is sufficient to render it unmarketable (and up to 18 larvae have been observed in a single fruit). Infestation also leads to premature fruit fall. In attacked crops, damage usually becomes more evident near harvest. On tomatoes, it has been observed that the viability of seeds from fruits attacked by N. elegantalis could be reduced by 30-100% when compared with that of seeds from undamaged fruits. N. elegantalis is considered as a major pest in several countries such as Brazil, Colombia and Venezuela. Crop losses ranging from 50 to 90% have been reported, in particular in tomato crops. However, more data is needed on its economic impact as there are countries where the pest is present without any published reports of severe damage. Eggs (white, oval, 0.5 mm long - 0.3 mm wide) are laid singly or in small clusters on flowers (petioles or sepals), on the fruit calyx and on small fruits (preferably when they reach 12-20 mm in diameter, and in the middle part of the fruit). In cases of very high infestations, eggs may be laid on leaves. Each female lays approximately 160 eggs (its life span is of approximately 6 days). After hatching, the first larval instars bore into the fruit and start feeding. Mature larvae are white to pinkish with a brown head and can reach 15-20 mm long. They exit from the fruit just before pupation. Pupae are dark brown, 12-15 mm long. Pupation can take place on the plants (inside a leaf fold), in the soil or in plant debris at the base of the plant. Adults have a wingspan of approximately 15-33 mm (females being larger than males). Wings are white, slightly transparent, anterior wings show three irregular brown blotches and posterior wings have scattered black dots. Adults are usually active at night and hide during the day on their host plants (cultivated or wild). Peaks of populations are observed during rainy periods. In Venezuela, laboratory studies have showed that the life cycle of *N. elegantalis* could be completed in 34 days, at 27°C and 68% relative humidity. Other studies showed that at 20°C, it took 51 days to complete the life cycle and that no development could take place below 14.7° (no oviposition) or above 34.5°C. Several generations per year are observed in countries where *N. elegantalis* occurs.

- Dissemination Data is lacking on the potential for natural spread of *N. elegantalis* but adults can fly. Over long distances, trade of infested fruits, or soil could transport the pest. The possibility that some of the host plants of *N. elegantalis* could be moved as plants for planting with their fruits for ornamental purposes cannot be excluded (however, import of plants for planting of Solanaceae from third countries is prohibited by many EPPO countries).
- Pathway Fruits, plants for planting? of host plants of *N. elegantalis*, soil, from countries where it occurs.
- The main host plants of *N. elegantalis*, tomato, aubergine and capsicum, are Possible risks widely grown in the EPPO region and high losses have been reported from several countries where the pest occurs. Because the whole larval development takes place inside the fruit, detection and control is difficult. IPM strategies have been developed to control N. elegantalis and include: destruction of solanaceous weeds, elimination of plant debris after harvest, crop rotation, close monitoring to detect signs of infestation (larval activity in the fruit, pupae in the soil), use of pheromone traps, bagging of flowers/young fruits to avoid infestation. The use of biocontrol agents is being studied (e.g. release of parasitoids, such as Trichogramma minutum, T. pretiosum (Hymenoptera: Trichogrammatidae), (Hymenoptera: Encyrtidae), Copidosoma sp. Lixophaga sp. (Diptera: Tachinidae)). Research is also being carried out to identify resistance genes and develop resistant cultivars. Finally, the fact that recent outbreaks of a similar pest, Tuta absoluta, in the EPPO region have had major consequences on pest management programmes in tomato crops, further advocates for the necessity to prevent the introduction of *N*. *elegantalis* into the EPPO region. Sources

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EPPO RS 2012/052 Panel review date

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#### 2012/053 New findings of Strauzia longipennis in Germany

In 2010, the presence of Strauzia longipennis (Diptera: Tephritidae - EPPO Alert List) was detected for the first time in Germany on sunflower plants (Helianthus annuus) in private gardens in Berlin (EPPO RS 2011/037). A specific survey for S. longipennis was initiated in 2011 in Berlin and Brandenburg. As a result, the pest was found at several locations in the urban area of Berlin and in 27 sunflower fields in Brandenburg. It is presumed that S. longipennis is now established in the area of Berlin where signs of infestation (plant lodging, deformation of stems and flowers) have been observed in some gardens. A field trial was carried out by JKI at Kleinmachnow which showed that heavily infested sunflower plants did express symptoms. Until now, no damage has been observed in sunflower cultivation in Brandenburg presumably because the infestation levels in commercial fields were much lower than in single plants in Berlin gardens or in the field trial at Kleinmachnow. However, it is considered that if populations of S. longipennis increase (which may happen under the suitable climatic conditions prevailing in Germany and the absence of biological control agents) damage is likely to be observed in sunflower crops. No official control measures have been taken against S. longipennis but monitoring activities will continue in 2012 and management measures will be developed.

The pest status of *Strauzia longipennis* in Germany is officially declared as: **Present, only** in some areas (Berlin, Brandenburg).

Source: NPPO of Germany (2012-02).

Additional key words: detailed record

Computer codes: STRALO, DE

#### 2012/054 First report of Vinsonia stellifera in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the first report of *Vinsonia stellifera* (Hemiptera: Coccidae - stellate scale) on its territory. In February 2011, this scale species was found on leaves of *Schefflera* plants growing in a tropical glasshouse near Berlin. This glasshouse contains various plant species and is open to the general public. The identification of the pest was made on the basis of morphological characters. Official control measures have been taken and include: regular inspections of the glasshouse, biological control measures, and mechanical elimination of all specimens. So far, the infestation was restricted to a few plants of *Schefflera*.

The pest status of *Vinsonia stellifera* in Germany is officially declared as: **Transient**, only in one area, actionable, under eradication.

V. stellifera is a very polyphagous scale which is usually observed feeding on plant foliage. In the literature there are no records of serious damage caused by this scale species, although the honeydew it produces can cause sooty mould on leaves (thus reducing photosynthesis and aesthetic value of ornamentals). V. stellifera occurs in many tropical and subtropical countries on a wide range of ornamentals and fruit trees (e.g. Agave, Allamanda, Asplenium, Areca catechu, Cocos nucifera, Ficus, Garcinia, Gardenia, Ixora, Mangifera indica, Manilkara zapota, Musa, Persea americana, Osmunda, Phoenix, Orchidaceae, Schefflera, Zyzygium). V. stellifera has a round body covered with transparent or slightly translucent wax developed into 6 or 7 radiating arms giving the insect the appearance of a star (hence the name stellate scale). The size of the adult female varies from 3 to 5 mm across the rays. Live adults are pink to purplish-red. Young stages are light green to yellow in colour. The life history of this species is poorly known. Pictures can be viewed on the Internet: http://www.sel.barc.usda.gov/scalekeys/softscales/key/soft\_scales/media/html/species/ 46vins stellifera/4Vins stelliferaHabitus.html

Tentative geographical distribution of V. stellifera:

**EPPO region:** Germany (transient, see above). This scale was intercepted in the Netherlands in 1985 on *Epidendrum* plants imported from Guyana.

Africa: Angola, Cape Verde, Cote d'Ivoire, Kenya, Mauritius, Reunion, Sao Tome & Principe, Seychelles, Tanzania (including Zanzibar).

North America: USA (Alabama, Florida, Georgia).

**Central American and the Caribbean:** Bahamas, Barbados, Bermuda, Cuba, Grenada, Guatemala, Jamaica, Nicaragua, Puerto Rico, Trinidad and Tobago, Virgin Islands (US).

**South America:** Brazil (Para, Rio de Janeiro, Rio Grande do Sul, Sao Paulo), Colombia, French Guiana, Guyana, Venezuela.

Asia: India (Karnataka, Kerala, West Bengal), Indonesia (Irian Jaya), Malaysia, Maldives, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand, Viet Nam.

**Oceania:** Australia (Northern Territory), Guam, Micronesia, Niue, Palau, Papua New Guinea, Solomon Islands, Tonga.

Source: NPPO of Germany (2012-02).

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http://www.sel.barc.usda.gov/scalekeys/softscales/key/soft\_scales/media/html/species/46vins\_stellifera/1vins\_stelliferadesc.html

Additional key words: new record, incursion

Computer codes: VINSST, DE

#### 2012/055 First report of Hop stunt viroid on hop in Slovenia

Since 2007, symptoms resembling those of Hop stunt viroid (Pospiviroid, HSVd) have been observed in several hop gardens located in the Savinja valley and Koroška region in Slovenia. Symptoms were observed on different cultivars (Humulus lupulus cvs. 'Celeia', 'Bobek' and 'Aurora') and included stunting, leaf curl, small cone formation and dry root rot. In 2007, the disease incidence varied from 1 to 30% and increased rapidly (by up to 10%) each subsequent year, predominantly along plant rows. Laboratory analysis (RT-PCR, sequencing) confirmed the presence of HSVd in leaf and cone samples (H. lupulus cv. 'Celeia') collected from two different hop gardens. Five different sequences were obtained and revealed 95-99% sequence identity with various HSVd variants (from grapevine, citrus, and cucumber) recorded in GenBank (NCBI). This is the first time that HSVd is reported on hop in Europe\*. Strict phytosanitary measures have been taken in Slovenia to eradicate the disease and prevent any further introduction. Surveys are being carried out in hop gardens to determine the extent of the disease. Eradication measures include: destruction of infected plants (uprooting and burning) and those in their close vicinity, prohibition to grow HSVd host plants on infected sites for 2 years, and prohibition to move plant waste from the infected areas to hop gardens. Detailed maps showing the infected areas can be viewed on the website of the Slovenian NPPO: http://www.fu.gov.si/en/services and measures/regulated organisms/hop stunt viroid The situation of Hop stunt viroid in Slovenia can be described as: Present, first observed in hop gardens in 2007 in the Savinja valley and Koroška region, under eradication.

Source: NPPO of Slovenia (2012-02).

Radisek S, Majer A, Jakse J, Javornik B, Matoušek J (2012) First report of *Hop stunt viroid* infecting hop in Slovenia. *Plant Disease* **96**(4), p 592.

Additional sources:

Eastwell KC, Nelson ME (2007) Occurrence of viroids in commercial hop (*Humulus lupulus* L.) production areas of Washington State. Plant Management Network, 7 pp. <u>https://sharepoint.cahnrs.wsu.edu/hops/Shared%20Documents/Scientific%20Articles/Hop%20Stunt/hop.pdf</u>

Guo L, Liu S, Wu Z, Mu L, Xiang B, Li S (2008) Hop stunt viroid (HSVd) newly reported from hop in Xinjiang, China. Plant Pathology 57(4), p 764.
Lee JY, Choi JK (1988) Detection of Hop stunt viroid in Korea. Korean Journal of Plant Pathology 4(3), 234-237.

Additional key words: new record, host plant

Computer codes: HSVD00, SI

<sup>\*</sup> Until the 1980s, hop stunt was only known to occur in Japan but the disease was then reported in hop gardens in the Republic of Korea (Lee & Choi, 1988), China (Xinjiang province, Guo *et al.*, 2008), and the USA (Washington state, Eastwell & Nelson, 2007).

#### 2012/056 First report of *Tobacco ringspot virus* in the Czech Republic

The NPPO of the Czech Republic recently informed the EPPO Secretariat of the first\* record of Tobacco ringspot virus (Nepovirus, TRSV - EPPO A2 List) on its territory. During an official inspection, TRSV was detected in 1 nursery in November 2011. During this inspection, leaf samples were taken from mother plants of *Impatiens walleriana* showing chlorotic rings and patterns. Samples were tested (ELISA) by the NPPO laboratory and found positive for TRSV. The identity of the virus was confirmed by biological tests on indicator plants and PCR by the reference laboratory in Prague. Because TRSV infections can be symptomless on many plants, a specific survey was conducted on all ornamental species grown in the glasshouses of the company concerned. TRSV was detected in all lots of mother plants of *I. walleriana* but it was not detected on any other potential hosts (including mother plants of Impatiens New Guinea hybrids). The presence of its main nematode vector, Xiphinema americanum (absent from the Czech Republic), in the glasshouses was checked by laboratory analysis of soil samples. All results were negative. It is assumed that TRSV has been introduced into the premises with infected plants and that it was then spread among *I. walleriana* plants by vegetative propagation. However, in the absence of nematode vectors, it did not spread to other plant species. The origin of this introduction could not be traced back. Many plants (cuttings) produced from the infected mother plants have been sold to other growers or final consumers within the Czech Republic. The tracing forward of deliveries to other growers is on-going and for the moment no export to other EU countries has been identified.

Official measures have been taken to eradicate TRSV in the premises concerned and prevent any further spread. All lots of *I. walleriana* mother plants and their cuttings were destroyed. Further testing of *I. walleriana* for TRSV will be carried out in the Czech Republic.

The pest status of *Tomato ringspot virus* in the Czech Republic is officially declared as: Transient, actionable, found on *Impatiens walleriana* in one company under protected conditions in 2011, under eradication.

Source: NPPO of the Czech Republic (2012-03).

Additional key words: new record

Computer codes: TRSV00, CZ

#### 2012/057 Phytophthora austrocedrae detected on Juniperus communis in the United Kingdom

As reported in the EPPO RS 2011/135, the presence of *Phytophthora austrocedrae* was detected for the first time in the United Kingdom in spring 2011. So far, *P. austrocedrae* had only been recorded in Argentina on *Austrocedrus chilensis* (causing 'mal del cipres' in Patagonia). In the United Kingdom, *P. autrocedrae* was discovered in a public park in Scotland (East Renfrewshire) on *Chamaecyparis nootkatensis* (2 trees) and *C. lawsoniana* (3 trees), and eradication measures were taken. In November 2011, *P. austrocedrae* was also found on *Juniperus communis* in northern England, in the Upper Teesdale National Nature Reserve. This reserve has the second most extensive area of juniper habitat in the United Kingdom, comprising 200 ha. Investigations showed that numerous juniper bushes were showing symptoms of dieback apparently associated with lower stem and root necrosis.

<sup>\*</sup> A 'first record' of TRSV was entered into PQR in 1993 for Czechoslovakia but could not be traced back (the list of pests sent by the Czech NPPO at that time did not contain TRSV). The EPPO Secretariat now considers that this was most probably a data entry error.

The presence of *P. austrocedrae* was detected in samples collected from 6 trees (isolation and molecular diagnosis). Subsequent enquiry revealed that *P. austrocedrae* had been previously diagnosed on symptomatic *J. communis* in other sites: once from a garden in Mid Glamorgan and twice during nursery surveys. Another suspicious case in Devon is currently being investigated. This is the first time that *P. austrocedrae* is reported on *J. communis*; previously it was only known to occur on *Austrocedrus chinensis, Chamaecyparis lawsoniana* and *C. nootkatensis*. Surveys are being conducted to determine the extent of the disease on *J. communis* and phytosanitary measures are being taken to prevent any further spread.

The pest status of *Phytophthora austrocedrae* in the United Kingdom is officially declared as: **Present, in some areas, subject to official control.** 

Source: NPPO of the United Kingdom (2012-01).

Additional key words: detailed record, host plant

Computer codes: PHYTAU, GB

#### 2012/058 First report of Cylindrocladium buxicola in Georgia

In November 2010, symptoms of dark brown spots on leaves, narrow blackish streaks on the stems and defoliation were observed on *Buxus colchica* (box) in the Mtirala National Park (near Kobuleti, region of Adjara) which is located in the southwest part of Georgia. In the affected area, severe blight symptoms were observed on 70% of the *B. colchica* plants. *B. colchica* is a relict species of the Black Sea coast of Georgia, and its main growing area is located in this National Park. The causal agent of the disease was identified as *Cylindrocladium buxicola* (formerly EPPO Alert List). This is the first time that *C. buxicola* is reported in Georgia.

Source: Gorgiladze L, Meparishvili G, Sikharulidze Z, Natsarishvili K, Davitadze R (2011) First report of box blight caused by *Cylindrocladium buxicola* in Georgia. *New Disease Reports* 23, 24. <u>http://dx.doi.org/10.5197/j.2044-0588.2011.023.024</u>

Additional key words: new record

Computer codes: CYLDBU, GE

#### 2012/059 First report of Cylindrocladium buxicola in the Czech Republic

In August 2010, dark brown spots were observed on the leaves of *Buxus sempervirens* cv. 'Suffruticosa' and *B. microphylla* in a nursery in the northwest part of Moravia, Czech Republic. The symptoms observed on the leaves were consistent with those of *Cylindroclarium buxicola* (formerly EPPO Alert List) found in other countries on *Buxus* spp., but black streaks on the stems were not recorded. The causal agent of the disease was identified as *C. buxicola*. In addition to *C. buxicola*, the presence of *Volutella buxi* was observed on diseased leaves. This is the first time that *C. buxicola* is reported on *B. sempervirens* cv. 'Suffruticosa' and on *B. microphylla* in the Czech Republic.

Source: Šafránková I, Kmoch M, Holková L (2012) First report of Cylindrocladium buxicola on box in the Czech Republic. New Disease Reports 25, 5. http://dx.doi.org/10.5197/j.2044-0588.2012.025.005

Additional key words: new record

Computer codes: CYLDBU, CZ

#### 2012/060 First reports of Cylindrocladium buxicola in the USA and Canada

In October 2011, APHIS confirmed the first detection of *Cylindrocladium buxicola*\* (formerly EPPO Alert List) in the USA. Box blight was first detected in North Carolina (Surry county) and subsequently in Connecticut (Middlesex county) and Virginia (Carroll county). Shortly after this first record, *C. buxicola* was found in the following US states: Maryland, Massachusetts, New York, Oregon, Pennsylvania, and Rhode Island. *C. buxicola* has been detected on box plants in parks and gardens, garden centres and nurseries.

In January 2012, the presence of the fungus was also reported in one nursery in British Columbia, Canada. These are the first confirmed reports *of C. buxicola* in North America.

INTERNET.

- Cornell University. Extension University Center. New blight ravages boxwoods. <u>http://ccesuffolk.org/assets/Horticulture-Leaflets/Boxwood-Blight-Cornell-Fact-Sheet-updated-1-12.pdf</u>
- Master Gardeners Association of British Columbia. Boxwood blight found in B.C. <u>http://www.mgabc.org/content/boxwood-blight-found-bc</u>
- Oregon government website. Pest Alert Boxwood blight: a new disease of boxwoods recently found in Eastern United States, Canada and Oregon. <u>http://www.oregon.gov/ODA/PLANT/NURSERY/docs/pdf/boxwood\_blightalert201</u> 2.pdf?ga=t
- State of Rhode Island (US). Department of Environmental Management. The 'box blight' pathogen: Cylindrocladium pseudonaviculatum = Cylindrocladium buxicola (Teleo. Calonectria pseudonaviculata). http://www.dem.ri.gov/programs/bnatres/agricult/pdf/cylindrocladium.pdf

Additional key words: new record

Computer codes: CYLDBU, CA, US

#### 2012/061 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 on the EPPO Alert List. Information sent by NPPOs has also been included here. The situation of the pest concerned is indicated in bold, using the terms of ISPM no. 8.

• New records

In Russia, the presence of *Cameraria ohridella* (Lepidoptera: Gracillariidae - formerly EPPO Alert List) was detected for the first time in 2010, in Krasnodar (Southern Russia). Other

<sup>\*</sup> Cylindrocladium buxicola is considered to be a synonym of Cylindrocladium pseudonaviculatum. Molecular evidence has also placed C. pseudonaviculatum in the teleomorph genus Calonectria, however Calonectria pseudonaviculata has never been observed in the field causing a disease.

Crous PW, Groenewald JZ, Hill CF (2002) Cylindrocladium pseudonaviculatum sp. nov. from New Zealand, and new Cylindrocladium records from Vietnam. Sydowia 54, 23-34.

Henricot B, Culham A (2002) Cylindrocladium buxicola, a new species affecting Buxus spp., and its phylogenetic status. Mycologia 94,980-997.

Lombard L, Crous PW, Wingfield BD, Wingfield MJ (2010) Phylogeny and systematics of the genus *Calonectria*. Studies in Mycology 66, 31-69.

Source: NAPPO Phytosanitary Pest Alert System. Official Pest Reports. USA (2011-12-07) Detection of boxwood blight, *Cylindrocladium pseudonaviculatum*, in Connecticut, North Carolina, and Virginia. <u>http://www.pestalert.org/oprDetail.cfm?oprID=508</u>

invasive insect species: *Metcalfa pruinosa* (Hemiptera: Flatidae), *Obolodiplosis robiniae*, *Parectopa robiniella and Phyllonorycter robiniella* were also found (Gninenko *et al.*, 2011). **Present in Southern Russia (Krasnodar).** 

*Citrus exocortis viroid (Pospiviroid,* CEVd) was detected for the first time in Slovenia in 2010. CEVd was detected on symptomless *Solanum jasminoides* potted plants which had originally been imported from the Netherlands (Virscek Marn & Mavric Plasko, 2011). **Present, few records.** 

In Australia, a new pathotype of *Elsinoe australis* (EU Annexes) has been detected on jojoba (*Simmondsia chinensis*) plantations in New South Wales and Queensland in 2005. However, this pathogen has not been found on sweet oranges (*Citrus sinensis*) in Australia (IPPC, 2011).

In summer 2009, *Iris yellow spot virus* (*Tospovirus*, IYSV - formerly EPPO Alert List) was detected on onions (*Allium cepa*) and weeds in Burgenland and Niederösterreich, Austria (Ellner & Gossmann, 2010). **Present, only in some areas.** 

In February 2012, *Leptocybe invasa* (Hymenoptera: Eulophidae - formerly EPPO Alert List) was reported for the first time from Mozambique. The pest was mainly found on *Eucalyptus saligna, E. camaldulensis* and hybrids *E. grandis x E. camaldulensis*. According to preliminary studies, the pest is present in the South and Central parts of the country (IPPC, 2012). Present in the Southern and Central areas.

The presence of Little cherry virus 1 (LChV-1 - EU Annexes) is reported for the first time in Turkey. In July-August 2007 and 2008, bronzed leaves were observed on the upper shoots of fruitless sweet cherry trees (*Prunus avium* cv. 'Napoleon') in an orchard located in Osmaniye (Mediterranean region). In October 2008, out-of-season flowering was also observed; flowers showed pink petals and bronze sepals. Molecular assays confirmed the occurrence of LChV-1 in symptomatic trees (Ulubas Serçe *et al.*, 2011). **Present, only in some areas.** 

*Papaya ringspot virus* (*Potyvirus*, PRSV) was found for the first time in Finland in September 2011. PRSV was detected in glasshouse cucumber plants (*Cucumis sativus*) showing unusual symptoms. The identity of the virus was confirmed by the laboratory of Fera (GB). The origin of the disease is unknown. All infected plants were destroyed. The pest status of *Papaya ringspot* virus in Finland is officially declared as: **Present, under eradication** (NPPO of Finland, 2011).

*Plasmopara obducens* (formerly EPPO Alert List) was detected for the first time in Hungary in July 2010. Diseased *Impatiens walleriana* hybrid plants were first observed in a city garden in Budapest. In this garden, the disease developed rapidly causing premature leaf fall and final collapse of all impatiens plants (3000 plants). Further observations showed that 10 other areas where impatiens was planted were affected in gardens of Budapest. In total, approximately 8000 plants were considered to be infected and destroyed in the affected gardens (Vajna, 2011). **Present, found in Budapest, under official control.** 

*Potato spindle tuber viroid (Pospiviroid,* PSTVd - EPPO A2 List) was detected for the first time in Greece in 2009 during a survey on ornamental plants. PSTVd was detected in symptomless *Brugmansia* and *Solanum jasminoides* from 3 nurseries located in different areas of Greece. In all cases, phytosanitary measures were taken (Malandraki *et al.*, 2010). **Present, detected on solanaceous ornamentals, under official control.** 

During the development of a new multiplex RT-PCR assay, the presence of *Potato spindle tuber viroid (Pospiviroid*, PSTVd - EPPO A2 List) was detected in 2 samples which had been collected in 2008 from tomato (*Solanum lycopersicum*) plants cultivated in the Fukushima prefecture, Japan (Matsushita *et al.*, 2010). **Present, detected on solanaceous ornamentals.** 

*Pseudocercospora (Phaeoramularia) angolensis* (EPPO A1 List) has recently been detected in Sierra Leone (Harling *et al.*, 2010). In 2006, citrus fruit and leaves showing dark brown lesions were noticed in citrus orchards around Makeni (Bombali district, central Sierra Leone). In 2008, similar symptoms were observed near Kabala (Koinadugu district, northeast of the country bordering Guinea) on mature fruit of mandarins (*Citrus reticulata*). In April 2008, the presence of *P. angolensis* was confirmed in samples of diseased mandarins which had been collected from an orchard near Kabala. In this area, growers have reported severe yield losses (more than 75 %). **Present, observed near Makeni and Kabala (Bombali and Koinadugu districts, respectively).** 

#### • Detailed records

In Italy, the presence of *Citrus exocortis viroid* (*Pospiviroid*, CEVd) was detected in *Lycianthes* (=*Solanum*) rantonnettii and *Cestrum auricantum* during a survey conducted in 2009/2010 (Luigi *et al.*, 2011). CEVd was also detected in *Solanum jasminoides* during another survey in Puglia (Torchetti *et al.*, 2011), as well as in Lazio in an old plant of *S. jasminoides* (more than 20-years-old) (Sorrentino *et al.*, 2011).

*Strawberry vein banding virus* (Caulimovirus - EPPO A2 List) occurs on strawberry in Victoria, Australia (Constable *et al.*, 2010).

#### • New host plants

An extensive survey was initiated in 2011 in Portugal, following the discovery of *Pseudomonas syringae* pv. *actinidiae* (EPPO Alert List) in 2010 (EPPO RS 2011/054). In Lago-Braga (Douro province), symptoms of bacterial canker were observed on 3-year-old plants of *Actinidia deliciosa* cv. 'Tsechelidis' (a new kiwifruit cultivar developed in Greece). Laboratory analysis confirmed the presence of *P. syringae* pv. *actinidiae* in symptomatic plants. This is the first report of *P. syringae* pv. *actinidiae* on the cultivar Tsechelidis (Balestra *et al.*, 2011).

#### • New pests

Tomato leaf deformation virus (ToLDeV) is a new *Begomovirus* which has recently been described on tomato (*Solanum lycopersicum*) in Peru. This virus is associated with a severe disease causing curling and deformation of leaves, as well as plant stunting. High disease incidence and significant yield losses have been reported in tomato crops along the Pacific Ocean coast of Peru since the early 2000s. Disease epidemics are also associated with infestations by *Bemisia tabaci* (Márquez-Martín *et al.*, 2011).

Tomato necrotic ring virus (TNRV) is a new *Tospovirus* which has recently been described on tomato (*Solanum lycopersicum*) and capsicum (*Capsicum annuum*) in Thailand. In 2008, tomato plants showing distinct yellowing and necrotic rings on leaves and fruits were observed in screenhouse crops in Chiang Mai, and the presence of this new tospovirus was confirmed in diseased plants. TNRV was also detected from capsicum leaves showing necrotic rings. TNRV is transmitted by *Ceratothripoides claratis* and *Thrips palmi*. Preliminary surveys have suggested that TNRV is probably widespread in Thailand, but its impact on tomato and capsicum crops remains to be evaluated (Matsushita *et al.*, 2011).

Source:

Balestra GM, Renzi M, Mazzaglia A (2011) Occurrence of bacterial canker caused by *Pseudomonas syringae* pv. *actinidiae* in kiwifruit plants of cv. Tsechelidis. *Journal of Plant Pathology* **93**(4S), S4.86.

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- Ellner F, Gossmann M (2010) [The occurrence of *Iris yellow spot virus* on onions and weeds in Austria]. 57 Deutsche Pflanzenschutztagung (2010-09-06/09, Berlin). *Julius-Kühn-Archiv* no. 428, 191-192 (in German).
- Gninenko YI, Kostukov VV, Kosheleva OV (2011) [New invasive insects in the forests and greenery of the Krasnodar krai]. Zashita i Karantin Rastenii no. 4, 49-50 (in Russian).
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- Hassani-Mehraban A, Cheewachaiwit S, Relevante C, Kormelink R, Peters D (2011) Tomato necrotic ring virus (TNRV), a recently described tospovirus infecting tomato and pepper in Thailand. *European Journal of Plant Pathology* **130**(4), 449-456.
- IPPC website. Official Pest Reports Australia. Detection of a new pathotype of *Elsinoe australis* causing black scab of jojoba in New South Wales and Queensland (2011-10-28). <u>https://www.ippc.int/index.php</u>

IPPC website. Official Pest Reports - Mozambique. Occurrence of Eucalyptus gall wasp *Leptocybe invasa* in Mozambique (2012-02-09). https://www.ippc.int/index.php

Luigi M, Luison D, Tomassoli L, Faggioli F (2011) Natural spread and molecular analysis of pospiviroids infecting ornamentals in Italy. *Journal of Plant Pathology* **93**(2), 491-495.

- Malandraki I, Papachristopoulou M, Vassilakos N (2010) First report of *Potato spindle tuber viroid* (PSTVd) in ornamental plants in Greece. *New Disease Reports* 21, 9. <u>http://dx.doi.org/10.5197/j.2044-0588.2010.021.009</u>
- Márquez-Martín B, Aragón-Caballero L, Fiallo-Olivé E, Navas-Castillo J, Moriones E (2011) Tomato leaf deformation virus, a novel begomovirus associated with a severe disease of tomato in Peru. *European Journal of Plant Pathology* **129**(1), 1-7.
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  NPPO of Finland (2011-12).
- Plenk A, Grausgruber-Gröger S (2011) First report of *Iris yellow spot virus* in onions (*Allium cepa*) in Austria. New Disease Reports 23, 13. http://dx.doi.org/10.5197/j.2044-0588.2011.023.013
- Sorrentino R, Torchetti EM, Navarro B, Ragozzino E, Di Serio F, Alioto D (2011) Citrus exocortis viroid infecting twenty year old Solanum jasminoides plants in Italy. Journal of Plant Pathology **93**(4S), S4.89.
- Torchetti EM, Navarro B, Di Serio F (2011) First record of Citrus exocortis viroid infecting Solanum jasminoides in Italy. Journal of Plant Pathology **93**(4S), S4.76.
- Ulubas Serçe C, Gazel, Çaglayan K (2011) First report of *Little cherry virus* 1 in Turkey. *Journal of Plant Pathology* **93**(4S), S4.66.

Vajna L (2011) First report of *Plasmopara obducens* on impatiens (*Impatiens walleriana*) in Hungary. *New Disease Reports* 24, 13.

#### http://www.ndrs.org.uk/article.php?id=024013

Virscek Marn M, Mavric Plesko I (2011) Detection of Citrus exocortis viroid in Solanum jasminoides in Slovenia. Journal of Plant Pathology **93**(4S), S4.79.

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

Computer codes: CERCAN, CEVD00, ELSIAU, IYSV00, LCHV10, LITHOD, LPCYIN, MCSARO, METFPR, OBOLRO, PACTRO, PLASOB, PSDMAK, PSTVD0, SVBV00, TNRV00, TOLDEV, AT, AU, HU, IT, JP, MZ, PE, PT, RU, SI, SL, TH, TR

## 2012/062 International Symposium: Anoplophora chinensis & Anoplophora glabripennis (Milano, IT, 2012-05-09/11)

An International Symposium: 'Anoplophora chinensis & Anoplophora glabripennis. New tools for predicting, detecting and fighting - how to save our forests and our urban spaces' will be held in Milano, Italy on the 9<sup>th</sup>-11<sup>th</sup> of May 2012. The main topics of this Symposium will be the prediction/detection tools and the control strategies developed against these two Anoplophora species. More information about this Symposium can be found on the Internet:

http://www.agricoltura.regione.lombardia.it/cs/Satellite?c=Redazionale\_P&childpagename=DG\_Agr icoltura%2FDetail&cid=1213493083812&pagename=DG\_AGRWrapper

Source: EPPO Secretariat (2012-02).

Additional key words: conference

Computer codes: ANOLCN, ANOLGL, IT

#### 2012/063 The new 'German-Austrian Black List Information System' for assessing the environmental risks of invasive alien species

The German-Austrian Black List Information System (GABLIS) has been developed as a generic risk assessment tool for invasive alien species in Germany and Austria, and is applicable to all groups of organisms. The methodology has so far been tested for fish, vascular plants, mammals, birds and macrozoobenthic species. GABLIS is a risk assessment system that evaluates the impact of alien species on native biodiversity based on a set of criteria:

- A. General information: systematics and nomenclature, habitat, status (established, casual, absent or unknown), native region, introduction (deliberate, non-deliberate, unknown), pathways (trade in forestry, horticulture, etc.), first introduction, first record.
- B. Main criteria risks to biodiversity: Inter-specific competition, predation and herbivory, hybridization, transfer of pathogens or organisms, negative effects on ecosystem functioning.
- C. Additional criteria: current distribution, emergency measures, biological-ecological criteria (occurrence in natural, semi-natural or other environments of high value, reproductive capacity, spread capacity, current spread history, monopolization of resources, facilitation by climate change).
- D. Additional information: other impacts (negative economic effects, positive economic effects, negative effects on human health), knowledge gaps and research needs, references, assessment and evaluation).

These criteria are used to assign IAS to three main list categories: White List, Grey List, and Black List. The assessment procedure requires a sound knowledge of the biology of the alien species assessed, and takes into account available management options. The list categories are defined in a way that uncertainties and lack of data can be taken into account. The source of data used for the assessments has to be provided. Testing GABLIS has shown that assessing an alien species takes on average 4 to 8 hours. In addition, clear definitions of these criteria and the involvement of a group of experts allowed for a robust consensus in the assessments.

When assessments of more taxonomic groups using GABLIS will be available, comparison with other risk assessment systems used in Europe would allow their respective advantages and weaknesses to be evaluated.

Source: Essl F, Nehring S, Klingenstein F, Milasowszky N, Nowack C, Rabitsch W (2011) Review of risk assessment systems of IAS in Europe and introducing the German-Austrian Black List Information System (GABLIS). *Journal for Nature Conservation* **19**, 339-350.

Additional key words: invasive alien plants, risk assessment

Computer codes: AT, DE

#### 2012/064 Hotspots of plant invasion predicted by propagule pressure and ecosystem characteristics

Notwithstanding recent evidence suggesting a link between plant invasiveness and performance-related traits, species that are invasive in one ecosystem will not necessarily be invasive elsewhere. More general predictions that focus on landscape susceptibility to invasion are required, as some habitats are more easily invaded than others.

To develop a method for characterizing invasion risk at the landscape scale that is not species-specific, the Corangamite catchment in Victoria (Australia) has been taken as a study area. Data on occurrence and cover abundance of all exotic species were modeled and analyzed. The expected proportional cover of a species was expressed as a function of the environmental conditions and of specific locations studied. Variables indicating propagule pressure, human impact, abiotic and community characteristics were rated as the top four most influential variables. It appeared that the predicted probability of all exotic species occurrence was the highest in the flat, central region of Victoria where elevation is low and the land is predominantly used for non-irrigated agriculture. The likelihood of an exotic species occurring in a site was lowest in areas of higher elevation such as around the Great Otway National Park and the forested area located at the east of Ballarat. The expected abundance of all exotic species was also highest around towns. Expected abundance was also elevated within 200 m of watercourses and roads. These results enable spatial prioritization of IAP surveillance and control in the areas most susceptible to invasions.

Source: Catford JA, Vesk PA, White MD, Wintle BA (2011) Hotspots of plant invasion predicted by propagule pressure and ecosystem characteristics. *Diversity and Distributions* 17, 1099-1110.

Additional key words: invasive alien plants

Computer codes: AU

#### 2012/065 Lessons learnt from plant eradication programs in the Galapagos (EC)

Because the Galapagos Archipelago is in the early stage of the plant invasion process, most alien species are not yet naturalized and still restricted to gardens and farms, it was considered that eradication was the most effective option, after prevention of introductions. In recognition of the growing problem of introduced species, a 6-year, multi partner, 43 million USD program entitled "Control of Invasive Species in the Galapagos Archipelago" was funded by the Global Environment Fund, and many other partners.

Thirty plant eradication projects were set up, concerning 23 potentially invasive species with limited distribution on four of the Galapagos Islands. Out of the 30 projects, only 4 were successful. All plant species concerned by these projects covered less than 1 ha (net area), they were growing on a land belonging to a single owner, and did not have a persistent seed bank. Out of the 26 other projects, 1 failed because of technical difficulty, 3 failed because of the plant biology, 6 failed because they were too ambitious and could not be completed within the funding period, and 16 failed because of lack of support, either from institutions which could not provide sufficient resources to continue the projects, or from land owners who denied permission to enter their land. As a result, 64.3% of the funding secured for the pilot project was spent on discontinued projects.

An important source of failure resulted from the refusal of landowners to allow management measures against the invasive plant species on their properties. Their reasons included an active or perceived use of the plant for medicinal or ornamental purposes, the production of natural fibers or timber, or simply a sentimental attachment. Invoking the precautionary principle as an explanation for the need to remove plant species was only accepted by the landowners when they were aware of other infestations of the same species elsewhere in the archipelago. Describing problems the species have caused on other continents did not bear any weight. In addition, when close collaboration was sought with the communities, conflict was minimized.

Source: Gardener MR, Atkinson R, Rentería JL (2010) Eradications and people: lessons from the plant eradication program in Galapagos. *Restoration ecology* **18**(1), 20-29.

Additional key words: Invasive alien plants, eradications

Computer codes: EC

#### 2012/066 Asparagus asparagoides in the EPPO region: addition to the EPPO Alert List

#### Why

Asparagus asparagoides (Asparagaceae) is a rhizomatous perennial climbing vine originating from South Africa. One of its English common names is "bridal creeper". This species is invasive in Australia. It is used as an ornamental plant in the EPPO region, and is listed as an invasive alien plant in Spain, but is also present in other EPPO member countries. Considering the invasive behavior of this species elsewhere in the world as well as in EPPO countries, it is considered that Mediterranean and Macaronesian countries may be at risk, and that the species should usefully be monitored.

#### Geographical distribution

**EPPO region:** France (including Corse), Italy (Sicilia), Malta, Portugal (Azores, Madeira), Slovenia, Spain.

Africa (native): Lesotho, South Africa, Swaziland.

**Oceania** (invasive): Australia (New South Wales, Queensland, South Australia, Tasmania, Victoria, Western Australia), New Zealand.

North America: USA (California, Hawaii).

Central America: Mexico.

South America: Argentina, Guatemala, Uruguay.

#### Morphology

A. asparagoides is a geophyte with a perennial cylindrical, slender (about 5 mm wide), branching rhizome, growing parallel to the soil surface, bearing fleshy tubers (25-42 mm long and 8-20 mm wide).

It produces thin shoots, slightly woody at the base and up to 6 m long when support is available. Shoots emerging from the below-ground root system entwine with each other and surrounding vegetation, allowing them to climb understorey shrubs and small trees.

A. asparagoides produces leaf-like stems called cladodes which are stalkless, broadly ovate to lanceolate, 10-70 mm long, 4-30 mm wide, dark glossy-green when growing in shade, but dull and light green in exposed locations. They are solitary and alternate along the stem, or are borne in groups on short side branches.

Flowers are 8-9 mm wide and 5-6 mm long when fully expanded. They are borne on 3-8 mm long and slightly bent pedicels, singly or in pairs in the axils of the reduced scale-like leaves, tepals are greenish white.

Fruits are globular berries, 6-10 mm wide, initially green and ripening to red. They generally contain 0-4 (maximum 9) black, shiny, spherical or ovoid seeds.

#### In which habitats

In its native range in South Africa, *A. asparagoides* mainly occurs as a minor understorey species. In contrast, it invades a variety of habitats in warm temperate climates of Australia and New Zealand including coastal heath or sandy dunes, woodlands or forests, creek and river banks, swamps, dry coastal vegetation, dry and damp sclerophyll open-forest, and littoral rainforest. It prefers shaded or part-shaded habitats.

According to the Corine Land Cover nomenclature, the following habitats are invaded: mixed forests, conifer forests, broad-leaved forests, coastal wetlands, banks of continental water, riverbanks / canalsides (dry river beds), road and rail networks and associated land, other artificial surfaces (wastelands), green urban areas including parks, gardens, sport and leisure facilities, scrub.

#### Biology and ecology

Flowers of *A. asparagoides* are bisexual and self-compatible. In Australia, seeds germinate in autumn or early winter and flowering generally occurs from late winter to early spring three years after germination. Fruits develop in spring, they mature into red berries from late spring to late summer, depending on the region, and can be retained on senescing plants for several months. Fruit production may exceed 1 000 berries/m<sup>2</sup>. Seed viability is reported to approach 90% and seed longevity is a few years. The species may also reproduce vegetatively through rhizomes, as a new plant can regrow from rhizome fragments. Rhizomes may remain viable for more than 5 years.

*A. asparagoides* is particularly vigorous in soils with a high moisture content. It grows best at sites with high levels of available nitrates, potassium and iron.

#### Pathways

A. asparagoides is used as an ornamental plant. Careless disposal of garden waste and earthworks (e.g., roadside grading) can spread rhizomes over considerable distances. Seeds may also be transported in mud attached to machinery and vehicles.

When the plant colonizes river banks, seeds may also be dispersed downstream by water flows. Seeds are also dispersed by frugivorous birds, as well as by rabbits and foxes.

It has been estimated in Australia that patches of about 10 m<sup>2</sup> expanded radially by approximately 0.6 m per year.

#### Impacts

A. asparagoides is not known to invade agricultural systems, except for citrus orchards in irrigated areas of Australia, where it smothers trees and preventes the normal growth of citrus roots leading to reduced fruit production. It is estimated that at least 20% of growers who manage a total of more than 6500 ha of citrus orchards in districts bordering the Murray River in Australia, are affected by *A. asparagoides*. The cost of control is estimated to be as high as 2000 AUD per hectare and per year.

*A. asparagoides* does not invade pastures as it cannot withstand constant grazing. It invades pine plantations, but it is not perceived to have a significant impact on tree growth.

A. asparagoides invades both disturbed and undisturbed natural ecosystems, where it quickly dominates and smothers understorey vegetation and changes the structure, floristic composition and ecology of the system. Plant colonies may form a dense tuberous mat underground, preventing other plants from accessing soil moisture and nutrients. Once an infestation is established, the amount of light reaching the soil surface is very low, thereby

preventing other plants from persisting. In Australia, plant communities as well as native protected species are directly threatened by *A. asparagoides*.

In addition, plant shoots can form dense mats which die-back in the summer, creating a fire hazard.

#### Control

Preventive measures include avoiding composting, mulching or dumping garden refuse containing *A. asparagoides* rhizomes. In Australia, it is recommended to place uprooted plants in black plastic bags and leave them out in the sun for many months to kill rhizomes. Cleaning of earthmoving equipment is important to prevent the spread of viable rhizome fragments that may be present in the attached soil.

Eradication of *A. asparagoides* at a local scale is only feasible for recently established infestations and before the fructification of the plant.

Isolated young plants of *A. asparagoides* with an underdeveloped root system can be pulledout by hand. Manual removal of mature plants and their root system is only appropriate for small and isolated infestations. Removed root mats should be disposed of by deep burial (>2 m deep) or by burning (after a drying period). Follow-up control is often required as *A. asparagoides* regenerates from small pieces of living rhizome left in the soil.

Mechanical removal of the above-ground biomass is effective at reducing seed production if performed before fruiting, but many repeated operations are necessary to exhaust below-ground reserves. *A. asparagoides* is palatable to mammals, and thus livestock grazing is potentially an effective control method.

Several herbicide trials have been conducted during the last 20 years, and glyphosate, metsulfuron methyl and some related sulfonylureas have been identified as the most effective non-selective, systemic, herbicides against *A. asparagoides*.

Since most *A. asparagoides* seeds are dispersed by animals within 300-500 m of the source, it is recommended to also control outlying plants or patches within a buffer zone of 500 m around the edge of a main infestation.

Source: CABI Invasive Species Compendium (Beta), *Asparagus asparagoides* (bridal creeper) <u>http://www.cabi.org/isc/?compid=5&dsid=8139&loadmodule=datasheet&page=481&site=144</u>

> California Invasive Plant Council, *Asparagus asparagoides*. <u>http://www.cal-</u> ipc.org/ip/management/plant\_profiles/Asparagus\_asparagoides.php#news

Kwong RM & Holland-Clift S (2004) Biological control of bridal creeper, Asparagus asparagoides (L.) W. Wight, in citrus orchards. Proceedings of the 14th Australian Weeds Conference - Weed management: balancing people, planet, profit (Wagga Wagga, New South Wales, AU, 2004-09-06/09), pp 329-332.

Scott JK & Batchelor KL (2006) Climate-based prediction of potential distribution of introduced *Asparagus* species in Australia. *Plant Protection Quarterly* **21**(3), 91-98. http://www.weeds.org.au/WoNS/bridalcreeper/docs/Asp08Scott.pdf

Victorian Department of Primary Industries (Undated) Invasiveness Assessment -Bridal creeper (Western Cape form) (*Asparagus asparagoides*) in Victoria (nox) <u>http://vro.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/invasive\_bridal\_creeper</u>

Additional key words: invasive alien plants

Computer codes: ASPAS

#### 2012/067 The Weed's News Digest

The Weed's News is a freely accessible website maintained by the Monash University (Victoria, Australia) to share information about weed research and weed control and/or prevention. A weekly digest can be obtained by email upon request to: david.low@monash.edu

Source: The Weeds News Website: <u>http://invasivespecies.org.au/rs/::WeedsNews%20newspage</u>

Additional key words: invasive alien plants

#### 2012/068 16<sup>th</sup> European Weed Research Society Symposium, Samsun (TR), 2013-06-24/27

The 16th European Weed Research Society Symposium is a scientific congress which will be held at Ondokuz Mayıs University in Samsun, Turkey, on 2013-06-24/27.

The following topics will be covered:

- Weed ecology and crop/weed interactions;

- Weed biology;
- Weed management approaches and policies;
- Preventive, cultural and non-chemical weed management;
- Chemical weed management;
- Herbicide tolerant crops;

- Information and communication technologies and modeling in weed science.

Preliminary abstracts (max. 250 words) for oral and poster contributions can be submitted via the symposium website before 2012-05-01.

Source: 16<sup>th</sup> European Weed Research Society Symposium. <u>http://www.ewrs2013.org</u>

Additional key words: invasive alien plants, symposium

Computer codes: TR