



ORGANISATION EUROPEENNE  
ET MEDITERRANEENNE  
POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN  
PLANT PROTECTION  
ORGANIZATION

# EPPO Reporting Service

No. 8 PARIS, 2009-08-01

## CONTENTS

*Pests & Diseases*

- [2009/152](#) - First report of *Tuta absoluta* from the United Kingdom
- [2009/153](#) - *Tuta absoluta* reported from Abruzzo, Liguria and Umbria regions, Italy
- [2009/154](#) - *Tuta absoluta* found on *Phaseolus vulgaris* in Sicilia (IT)
- [2009/155](#) - First report of *Dryocosmus kuriphilus* in Hungary
- [2009/156](#) - *Dryocosmus kuriphilus* reported from Abruzzo, Friuli-Venezia Giulia and Umbria regions, Italy
- [2009/157](#) - *Anoplophora glabripennis* detected in the Veneto region, Italy
- [2009/158](#) - First report of *Ambrosiodmus rubricollis* in Italy
- [2009/159](#) - New *Phytophthora* species
- [2009/160](#) - *Phytophthora multivora*: another new species of *Phytophthora*
- [2009/161](#) - *Phytophthora fragariae* var. *rubi* is now considered as a distinct species: *Phytophthora rubi*
- [2009/162](#) - First report of *Phytophthora pseudosyringae* on *Vaccinium myrtillus* in the United Kingdom
- [2009/163](#) - *Phytophthora* species found on diseased ornamental plants in Spain
- [2009/164](#) - Green timber is not a pathway for spreading *Phytophthora pinifolia*

*Invasive Plants*

- [2009/165](#) - Pest Risk Analyses for French overseas departments
- [2009/166](#) - Pathway analysis: aquatic plants imported in 10 EPPO countries
- [2009/167](#) - Situation of *Alternanthera sessilis* in the EPPO region
- [2009/168](#) - Eradication of *Pennisetum setaceum* and *P. villosum* in Sète (France)

**2009/152 First report of *Tuta absoluta* from the United Kingdom**

The NPPO of the United Kingdom recently informed the EPPO Secretariat of the first record of *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A1 List) in Essex, South East of England. In March 2009, *T. absoluta* was intercepted for the first time in the UK on imported Spanish tomato fruit at a packing station. A monitoring survey was then carried out in all packing stations located in the vicinity of tomato growers. As of July 2009, 14 packing sites confirmed infestations of *T. absoluta* (the pest being introduced on imported tomato fruits, primarily Spain but also Italy). Despite phytosanitary measures which were put in place at infested packing sites to prevent any further spread, *T. absoluta* was found at one tomato production site (glasshouse) in July 2009. It is suspected that the pest was introduced via a packing station which had been returning Spanish packing material to the grower, such as boxes which had previously contained infested tomato fruits. Eradication is being undertaken using mass trapping (pheromone traps), insecticide treatments, removal and destruction of infested tomato plants and fruits, hygienic waste disposal practices and removal of wild host plants in the immediate vicinity of the infested glasshouse. A crop break is expected on the infested production site around November. Other growing sites receiving packing material from the same packing site are being visited. The pest status of *Tuta absoluta* in the United Kingdom is officially declared as: **Present, under statutory eradication measures.**

Source: NPPO of the United Kingdom, 2009-07.

INTERNET (last retrieved in 2009-07)

Fera confirms the first outbreak in the UK of *Tuta absoluta* - the South American tomato moth (2009-07-10).

<http://www.fera.defra.gov.uk/plants/plantHealth/pestsDiseases/tomatoMoth.cfm>

Additional key words: new record

Computer codes: GNORAB, GB

**2009/153 *Tuta absoluta* reported from Abruzzo, Liguria and Umbria regions, Italy**

In Italy, the presence of *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A1 List) was first reported in spring 2008 in Calabria, and then in Campania, Lazio, Sardegna and Sicilia (EPPO RS 2009/023 and 2009/106). Its presence in 3 other regions of Italy has recently been officially reported.

- **Abruzzo**

The Regional Plant Protection Organization (PPO) of Abruzzo has detected an outbreak of *T. absoluta* in open field tomato crops (*Lycopersicon esculentum*) in the municipality of San Salvo (Province of Chieti).

- **Liguria**

During surveys carried out from May to July 2009, *T. absoluta* was found for the first time in Liguria region. The infestation was noted on glasshouse tomatoes (*L. esculentum* cv. 'Cuore di Bue') in the facilities of Ce.R.S.A.A, in the municipality of Albenga (Province of Savona). The presence of *T. absoluta* was notified to the regional PPO, and infested plants were destroyed according to the PPO's recommendations. The presence of the pest is also suspected in the Province of Imperia according to observations made by local technicians but this still needs further confirmation.

- Umbria

The Regional PPO of Umbria has notified the presence of *T. absoluta* in several municipalities (Bettona, Castiglione del Lago, Deruta, Magione, Masciano, Pozzuolo) in the Province of Perugia. Adult specimens were caught on pheromone traps located in tomato crops intended for transformation.

The situation of *Tuta absoluta* in Italy can be described as follows: Present, first found in 2008, now reported from Abruzzo, Calabria, Campania, Lazio, Liguria, Sardegna, Sicilia, and Umbria, under official control.

Source: Ce.R.S.A.A. Centro Regionale di Sperimentazione ed Assistenza Agricola Albenga (Savona Province), 2009-07.

NPPO of Italy, 2009-07.

Additional key words: detailed record

Computer codes: GNORAB, IT

#### 2009/154 *Tuta absoluta* found on *Phaseolus vulgaris* in Sicilia (IT)

The NPPO of Italy has recently informed the EPPO Secretariat that *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A1 List) has been found on *Phaseolus vulgaris* plants in Sicilia. So far, the pest had mainly been observed on tomato crops (*Lycopersicon esculentum*).

Source: NPPO of Italy, 2009-07.

Additional key words: host plant

Computer codes: GNORAB, IT

#### 2009/155 First report of *Dryocosmus kuriphilus* in Hungary

The NPPO of Hungary recently informed the EPPO Secretariat of the first record of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae - EPPO A2 List) on its territory. In late May 2009, swollen buds were observed on a single chestnut (*Castanea sativa*) tree in a private garden in Üröm (county Pest). The tree originating from Italy had been purchased at a Hungarian garden centre and planted during the autumn 2008. Insect pupae were collected and identified as *D. kuriphilus* by the diagnostic laboratory of the NPPO. The infested plant was destroyed and burnt before adults could emerge from the galls. No other *C. sativa* trees were planted in the vicinity of the removed plant. All other *C. sativa* plants of the garden centre were inspected at each premises of the company and no symptoms were found. Restrictions on the movement of plants were imposed and no *C. sativa* tree will be allowed to leave the garden centre until the end of the present growing season. It was also noted that no *C. sativa* plants were growing in the surroundings of the garden centre premises. Further intensive surveys will be conducted to confirm that the pest has been successfully eradicated.

The pest status of *Dryocosmus kuriphilus* in Hungary is officially declared as: **First found, considered eradicated.**

Source: NPPO of Hungary, 2009-07.

Additional key words: new record

Computer codes: DRYCKU, HU

**2009/156 *Dryocosmus kuriphilus* reported from Abruzzo, Friuli-Venezia Giulia and Umbria regions, Italy**

In Italy, the presence of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae - EPPO A2 List) was first reported in the Piemonte region in spring 2008 (Cuneo province - EPPO RS 2003/061) and then in several other regions (EPPO RS 2006/027 and 2008/195). The NPPO of Italy recently provided updated information for the following 3 regions:

- **Abruzzo**

The Regional Plant Protection Organization has found an outbreak of *D. kuriphilus* in the municipalities of Civitella Roveto and Canistro (Province of L'Aquila).

- **Friuli-Venezia Giulia**

The Regional PPO has found an outbreak of *D. kuriphilus* in the pre-alpine area in the Provinces of Udine and Gorizia.

- **Umbria**

The Regional PPO has found an outbreak of *D. kuriphilus* in the municipalities of Avigliano Umbro and Montecchio in the Province of Terni.

The situation of *Dryocosmus kuriphilus* in Italy can be described as follows: Present, first found in 2008 near Cuneo, scattered outbreaks reported from Abruzzo, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Lazio, Liguria, Lombardia, Toscana, Trentino-Alto Adige, Piemonte, Sardegna, Umbria, and Veneto; under official control.

Source: NPPO of Italy, 2009-07.

Additional key words: detailed record

Computer codes: DRYCKU, IT

**2009/157 *Anoplophora glabripennis* detected in the Veneto region, Italy**

In Italy, *Anoplophora glabripennis* (Coleoptera: Cerambycidae - EPPO A2 List) was found for the first time in Lombardia in June 2007 (EPPO RS 2007/166). It was discovered in a private garden on 4 trees (3 *Betula pendula*, 1 *Acer pseudoplatanus*) and eradication measures are being applied in this region. In June 2009, another isolated outbreak was discovered by the Regional Plant Protection Organization of the Veneto region. *A. glabripennis* was found in a single plant of *Acer* sp. growing in private garden at Cornuda, in the Province of Treviso.

The situation of *Anoplophora glabripennis* in Italy can be described as follows: Present, found in 2007 in one private garden in Lombardia, and in 2009 in one private garden in Veneto, under eradication.

Source: NPPO of Italy, 2009-07.

Additional key words: detailed record

Computer codes: ANOLGL, IT

**2009/158 First report of *Ambrosiodmus rubricollis* in Italy**

The NPPO of Italy recently informed the EPPO Secretariat of the first record of *Ambrosiodmus rubricollis* (syn. *Xyleborus rubricollis*, Coleoptera: Curculionidae) on its territory. This Ambrosia beetle was found in the Botanical garden of Padova (Veneto region). It was observed in spring 2009 on a horse chestnut tree (*Aesculus hippocastanum*) by researchers of the University of Padova. Further inspections were carried out in the botanical garden and its vicinity but no other infested tree could be found. According to the EPPO Secretariat this is the first time that this ambrosia beetle is reported from Italy and Europe.

*A. rubricollis* is considered to originate from Asia but data is lacking on its detailed distribution. It has been introduced into Australia and the USA. It was first found in Maryland in 1968 and is now commonly found in the mid-Atlantic and Southeastern states. Data is also lacking on its host range and on the potential damage it might cause to its host trees. The currently known geographical distribution of *A. rubricollis* is as follows:

**EPPO region:** Italy (1 isolated finding in Padova, Veneto region).

**Asia:** Korea (without any further detail).

**North America:** USA (Alabama, Connecticut, Delaware, Florida, Louisiana, Maryland, Mississippi, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia).

**Oceania:** Australia.

**Source:** NPPO of Italy, 2009-07.

Choo HY, Woo KS (1983) A list of the bark and ambrosia beetles injurious to fruit and flowering tree from Korea (Coleoptera: Scolytidae). *Korean Journal of Plant Protection* 22(3), 171-173 (abst.).

Lightle DM, Gandhi KJK, Cognato AI, Mosley BJ, Nielsen DG, Herms DA (2007) New reports of exotic and native ambrosia and bark beetle species (Coleoptera: Curculionidae: Scolytinae) from Ohio. *Great Lakes Entomologist* 40(3/4), 194-200 (abst.).

Rabaglia RJ, Dole SA, Cognato AI (2006) Review of American Xyleborina (Coleoptera: Curculionidae: Scolytinae) occurring North of Mexico, with an illustrated key. *Annals of the Entomological Society of America* 99(6), 1034-1056.

Additional key words: new record

Computer codes: AMBDSP, IT

**2009/159 New *Phytophthora* species**

A recent paper (Tibor, 2009) provides useful data about the new species of *Phytophthora* which have been described during the period 2006 - 2008. The following information has been extracted from the EPPO Secretariat:

***Phytophthora alticola* and *Phytophthora frigida***

Isolated from *Eucalyptus* spp. trees in South African plantations (see EPPO RS 2009/007).

***Phytophthora andina***

Isolated from *Solanum muricatum* from the highlands of Ecuador. *P. andina* is closely related to *P. infestans*. It is supposed that *P. andina* might have arisen via hybridization between *P. infestans* and *P. mirabilis*.

***Phytophthora asparagi***

Isolated from *Asparagus officinalis* in Michigan (US) affected by root and spear rot. A similar disease of asparagus, probably caused by this new species, has also been observed in Europe (France, United Kingdom) and in New Zealand. *P. asparagi* was found in Sicilia (IT) causing bud and heart rot of *Agave attenuata*.

***Phytophthora austrocedrae***

Isolated from dying *Austrocedrus chilensis* in Patagonia, Argentina (see EPPO RS 2009/007).

***Phytophthora bisheria***

Isolated from rosaceous crops from different continents. *P. bisheria* was found associated with root rot on strawberry (*Fragaria ananassa*) in North Carolina (US), root rot of roses (*Rosa* sp.) in the Netherlands, and root rot of raspberry (*Rubus idaeus*) in Knoxfield, Australia.

***Phytophthora gallica***

Isolated from the rhizosphere of a declining oak (*Quercus robur*, Fagaceae) forest stand in northeastern France, and from a declining reed stand (*Phragmites australis*, Poaceae) near the Lake of Constance in southwestern Germany.

***Phytophthora parsiana***

First isolated from the crown of declining fig trees (*Ficus carica*) in Southern Iran. Other isolates were then identified on pistachio trees (*Pistacia vera*) from Iran and the USA, and almond (*Prunus dulcis*) from Greece.

***Phytophthora pinifolia***

Isolated from dying *Pinus radiata* in Chile (EPPO Alert List, see EPPO RS 2009/006).

***Phytophthora polonica***

Isolated from the rhizosphere of declining *Alnus glutinosa* stands in Poland (*P. polonica* is distinct from *P. alni*).

***Phytophthora quercetorum***

Isolated from soil in oak forests in the USA (Maryland, Minnesota, Ohio, Pennsylvania, Wisconsin, West Virginia). Preliminary tests suggested that *P. quercetorum* had the potential to affect root systems of oak trees (see EPPO RS 2009/007).

***Phytophthora siskiyouensis***

Isolated from soil, water, blighted shoots of *Umbellularia californica*, and bark cankers of *Lithocarpus densiflorus* in southwestern Oregon (US).

Source: Tibor E (2009) [Novel *Phytophthora* spp. described in the past two years]. *Növényvédelem* 45(2), 57-62 (in Hungarian).

Abad ZG, Abad JA, Coffey MD, Oudemans PV, Man in 't Veld WA, de Gruyter H, Cunnington J, Louws FJ (2008) *Phytophthora bisheria* sp. nov., a new species identified in isolates from the Rosaceous raspberry, rose and strawberry in three continents. *Mycologia* 100(1), 99-110.

Balci Y, Balci S, Blair J, Park SY, Kang S, Macdonald WL (2008) *Phytophthora quercetorum* sp. nov., a novel species isolated from eastern and north-central USA oak forest soils. *Mycological Research* 112(8) 906-916.

Cacciola SO, Pane A, Raudino F, Chimento A, Scibetta S, Davino S, Magnano Di San Lio G (2008) Bud and heart rot of fox tail Agave (*Agave attenuata*) caused by *Phytophthora asparagi*. *Journal of Plant Pathology* 88(3S), p S34.

- Durán A, Gryzenhout M, Slippers B, Ahumada R, Rotella A, Flores F, Wingfield BD, Wingfield MJ (2008) *Phytophthora pinifolia* sp. nov. associated with a serious needle disease of *Pinus radiata* in Chile. *Plant Pathology* 57(4), 715-727.
- Filip GM, Rosso PH (1999) Cypress mortality (mal del cipres) in the Patagonian Andes: comparisons with similar forest diseases and declines in North America. *European Journal of Forest Pathology* 29(2), 89-96.
- Gómez-Alpizar L, Hu CH, Oliva R, Forbes G, Ristaino JB (2008) Phylogenetic relationships of *Phytophthora andina*, a new species from the highlands of Ecuador that is closely related to the Irish potato famine pathogen *Phytophthora infestans*. *Mycologia* 100(4), 590-602.
- Green KR, Dyer W, Falloon PG, Cooke DEL, Chimento A (2008) Management of *Phytophthora* rot on UK asparagus crops. *Acta Horticulturae* 776, 175-182.
- Greslebin AG, Hansen EM, Sutton W (2007) *Phytophthora austrocedrae* sp. nov., a new species associated with *Austrocedrus chilensis* mortality in Patagonia (Argentina). *Mycological Research* 111(3), 308-316.
- Jung T, Nechwatal J (2008) *Phytophthora gallica* sp. nov., a new species from rhizosphere soil of declining oak and reed stands in France and Germany. *Mycological Research* 112(10), 1195-1205.
- Lassaad B, Moralejo E, Calmin G, Oszako T, García J, Descals E, Lefort F (2006) *Phytophthora polonica*, a new species isolated from declining *Alnus glutinosa* stands in Poland. *FEMS Microbiology Letters* 261(2), 165-174.
- Maseko B, Burgess TI, Continho TA, Wingfield MJ (2007) Two new *Phytophthora* species from South African Eucalyptus plantations. *Mycological Research* 111(11), 1321-1338.
- Mostowfizadeh-Ghalamfarsa R, Cook DEL, Banihashemi Z (2008) *Phytophthora parsiana* sp. nov., a new high-temperature tolerant species. *Mycological Research* 112(7), 783-794.
- Reeser PW, Hansen EM, Sutton W (2007) *Phytophthora siskiyouensis*, a new species from soil, water, myrtlewood (*Umbellularia californica*) and tanoak (*Lithocarpus densiflorus*) in southwestern Oregon. *Mycologia* 99(5), 639-643.
- Saude C, Hurtado-Gonzales OP, Lamour KH, Hausbeck MK (2008) Occurrence and characterization of a *Phytophthora* sp. pathogenic to asparagus (*Asparagus officinalis*) in Michigan. *Phytopathology* 98(10), 1075-1083.

Additional key words: new pest

Computer codes: PHYTSP

### 2009/160 *Phytophthora multivora*: another new species of *Phytophthora*

In Australia, in the south-west part of Western Australia, decline and tree mortality have been observed in forests on *Eucalyptus gomphocephala* and *E. marginata* (Myrtaceae) since the 1990s, and since 2006 on *Agonis flexuosa* (Myrtaceae). In May and June 2007, *Phytophthora* isolates were recovered from the rhizospheres of declining trees (*E. gomphocephala*, *E. marginata*, *A. flexuosa*) in the Yalgorup National Park (south of Perth). Due to their unique morphological, physiological and molecular (ITS, *cox1* sequences) characteristics, these isolates were described as a new species called *Phytophthora multivora* sp. nov. This new species was also detected on *E. marginata*, *Banksia menziesii* and *B. grandis* in other locations (Jarrahdale, Wanneroo, and Pemberton, respectively) in the south-west of Western Australia. Investigations also showed that many isolates collected from a wide range of hosts in Western Australia which had been identified as *Phytophthora citricola* should be reassigned to *P. multivora*. This new *Phytophthora* species was also recovered from soil and root samples that had been collected beneath *Phytophthora*-sensitive species over the last 30 years in Western Australia, thus expanding the host range of *P. multivora* to many woody plants: *Banksia attenuata*, *B. grandis*, *B. littoralis*, *B. menziesii*, *B. prionotes*, *Conospermum* sp., *Leucopogon verticillatus*,

*Xanthorrhoea gracilis*, *Podocarpus drouyniana*, *Patersonia* sp., *Bossiaea* sp., *Gastrolobium spinosum* and *Pinus radiata*. It is therefore considered that *P. multivora* is widespread in Western-Australia (mainly the south-west). In addition, it has been found that 11 ITS sequences deposited in GenBank and designated as *P. citricola* were identical to *P. multivora*. Seven of the sequences came from unpublished studies on isolates originating from Canada, Japan, Korea, Hungary, Spain (isolates from ornamental nurseries), and Switzerland, suggesting that *P. multivora* might also occur in these countries (although this assumption would need confirmation).

Source: Scott PM, Burgess TI, Barber PA, Shearer BL, Stukely MJC, Hardy GES, Jung T (2009) *Phytophthora multivora* sp. nov., a new species recovered from declining *Eucalyptus*, *Banksia*, *Agonis* and other plant species in Western Australia. *Persoonia* 22, 1-13.

Additional key words: new pest

Computer codes: PHYTSP, AU

**2009/161 *Phytophthora fragariae* var. *rubi* is now considered as a distinct species: *Phytophthora rubi***

*Phytophthora fragariae* (EPPO A2 List) was originally described as the causal agent of red core of strawberry (*Fragaria ananassa*). Later, morphologically similar isolates were obtained from raspberry plants (*Rubus idaeus*) affected by root rot, and it was considered that strains from strawberry and raspberry could be separated into two varieties of *P. fragariae*: *P. fragariae* var. *fragariae* and *P. fragariae* var. *rubi*, respectively. Recent studies have demonstrated that *Rubus idaeus* strains constituted a separate and distinct species, *Phytophthora rubi* comb. nov.

Source: Man in't Veld WA (2007) Gene flow analysis demonstrates that *Phytophthora fragariae* var. *rubi* constitutes a distinct species, *Phytophthora rubi* comb. nov. *Mycologia* 99(2), 222-226.

Additional key words: taxonomy

Computer codes: PHYTRU

**2009/162 First report of *Phytophthora pseudosyringae* on *Vaccinium myrtillus* in the United Kingdom**

The NPPO of the United Kingdom recently informed the EPPO Secretariat of the first finding of *Phytophthora pseudosyringae* on bilberry plants (*Vaccinium myrtillus*). In January 2008, *V. myrtillus* plants in woodlands of Staffordshire (West Midlands region) were observed with symptoms of stem dieback and some were already dead. In May 2009, similar symptoms were also found on *V. myrtillus* in a woodland located in the south-west of England. It was suspected initially that the plants were infected with *P. ramorum* or *P. kernoviae* (both on the EPPO Alert List), however, testing has confirmed that *V. myrtillus* plants were infected with *P. pseudosyringae*. This is the first time that *P. pseudosyringae* is reported on *V. myrtillus*.

*P. pseudosyringae* was first isolated and described in 2003 from forest soils around oak trees (*Quercus petraea*, *Q. robur*, *Q. cerris*) in Europe. It was also isolated from necrotic roots and bark at the stem base of European beech (*Fagus sylvatica*) and from necrotic bark and rhizosphere soils of *Alnus glutinosa* (see EPPO RS 2005/162). In the USA, *P.*



*pseudosyringae* was isolated from *Umbellularia californica* (most common host), *Quercus agrifolia*, *Lithocarpus densiflorus* in California and Oregon, as well as in stream waters in North Carolina. Isolated findings have been made in California on the foliage of *Acer macrophyllum* and *Arctostaphylos* sp. In 2006, *P. pseudosyringae* was detected in Spain (in Galicia) on chestnut (*Castanea sativa*) nursery stock. In 2007, the UK Forest Research reported findings of *P. pseudosyringae* on two mature trees of *Fagus sylvatica* and one mature hornbeam (*Carpinus betulus*) in south Wales. Sampled in 2005, these trees exhibited symptoms including bleeding cankers and root lesions. The trees were originally suspected to be infected with *P. ramorum*. These were the first records of *P. pseudosyringae* in the UK and the first record on *C. betulus*. In 2009, Forest Research identified *P. pseudosyringae* as the cause of bleeding cankers on *Nothofagus procera* in Cornwall, another new tree host.

The currently known distribution of *P. pseudosyringae* is as follows:

EPPO region: Italy, France, Germany, Spain, United Kingdom.

North America: USA (California, Oregon). Found in stream waters in North Carolina.

Source: NPP0 of the United Kingdom, 2009-06.

Beales PA, Giltrap PM, Webb KM, Ozolina A (2009) A further threat to UK heathland bilberry (*Vaccinium myrtillus*) by *Phytophthora pseudosyringae*. *New Disease Reports* volume 19 (February to August 2009). <http://www.bspp.org.uk/publications/new-disease-reports/ndr.php?id=019056>

Denman S, Rose J, Slippers B (2007) *Phytophthora pseudosyringae* on European beech and hornbeam in the UK. Poster presented at the 4<sup>th</sup> IUFRO Working Party Meeting 'Phytophthoras in forest and natural ecosystems, Monterey, US, 2007-08-26/31. [http://nature.berkeley.edu/IUFRO2007/phytophthora/tnp/denman\\_poster.pdf](http://nature.berkeley.edu/IUFRO2007/phytophthora/tnp/denman_poster.pdf)

Hwang JS, Oak SW, Jeffers SN (2008) Detecting *Phytophthora ramorum* and other species of *Phytophthora* in streams in natural ecosystems using baiting and filtration methods. General Technical Report - Pacific Southwest Research Station, USDA Forest Service, 55-58.

Pintos Varela C, Mansilla Vazquez JP, Aguin Casal O, Rial Martinez C (2007) First report of *Phytophthora pseudosyringae* on chestnut nursery stock in Spain. *Plant Disease* 91(11), p 1517.

Reeser PW, Sutton W, Hansen EM (2008) *Phytophthora* species causing tanoak stem cankers in southwestern Oregon. *Plant Disease* 92(8), p 1252.

Wickland AC, Jensen CE, Rizzo DM (2008) Geographic distribution and pathogenicity of *Phytophthora nemorosa* and *Phytophthora pseudosyringae* in California, USA. *Forest Pathology* 38(4), 228-298.

Additional key words: host plant, detailed record

Computer codes: PHYTPS

### 2009/163 *Phytophthora* species found on diseased ornamental plants in Spain

A survey was carried out in Spain from 2001 to 2006 in order to characterize the species of *Phytophthora* and their host plants, and to evaluate their pathogenicity. Samples were collected from garden centres, small retailers, public and botanical gardens, and ornamental nurseries from the Comunidad Valenciana and Islas Baleares. Additional samples from Asturias, País Vasco and Cataluña were also studied. As a result, 125 isolates (31 from the mainland, 94 from Baleares) of *Phytophthora* species were obtained from 37 ornamental plant species, showing symptoms of root and collar rots, stem cankers, or twig and leaf blights. Most affected plants had been collected from garden centres and nurseries.

In total, 17 species or tentative species of *Phytophthora* could be identified during this survey. Most isolates belonged to *Phytophthora* species which are common in European nurseries: *P. cactorum*, *P. cinnamomi*, *P. citricola*, *P. citrophthora*, *P. cryptogea*, *P. nicotianae*, and *P. syringae*.

Some isolates corresponded to the following species which are less common or rare in Europe: *P. drechsleri*, *P. hibernalis*, *P. palmivora*, *P. tentaculata*, and *P. tropicalis*.

The following 5 species were formally unknown at the beginning of the study in January 2001 but were later described, or proposed as putative new species. *P. ramorum* (EPPO Alert List) was detected in Balears (in Mallorca where it was first found in 2002 - see also EPPO RS 2002/160; and then in Ibiza) and in samples from Asturias. *P. ramorum* was found on *Rhododendron*, *Viburnum*, *Camellia japonica* and for the first time on *Arbutus unedo*. *P. hedraiaandra* was detected on *Viburnum tinus* and *Rhododendron*, *P. 'niederhauserii'* on *Cistus* and *Hedera* sp., *P. 'kelmania'* on *Gerbera* and *Coleus*, and *P. 'taxon Pgclamydo'* on *Rhododendron*.

It is concluded that this study highlights the problems that are generated by the discovery of new or rare species of *Phytophthora* in ornamental nurseries. Many of them are suspected to be alien species introduced by trade of ornamental plants but little information is available on their ecology and biology. Therefore, it is difficult to predict their establishment and to evaluate their potential economic or ecological impacts on agriculture or natural ecosystems.

**Source:** Moralejo E, Pérez-Sierra AM, Alvarez LA, Belbahri L, Lefort F, Descals E (2009) Multiple alien *Phytophthora* taxa discovered on diseased ornamental plants in Spain. *Plant Pathology* 58, 100-110.

Additional key words: new record, detailed record, host plants

Computer codes: PHYTSP, ES

#### 2009/164 Green timber is not a pathway for spreading *Phytophthora pinifolia*

As reported in EPPO RS 2009/006, *Phytophthora pinifolia* causes a new needle blight disease of *Pinus radiata* in Chile. This disease which has been observed since 2004 causing tree mortality, covered in 2006 an area of approximately 60 000 ha (stretching southward from the Arauco province to the Valdivia province). A study was conducted in Chile to determine whether *P. pinifolia* could be found in green timber produced from trees which had been exposed to infection for at least 4 years. *P. pinifolia* could not be detected (isolation, fluorescence microscopy, PCR) in green wood from infected trees, or in samples of green wood exposed to *P. pinifolia* inoculum. These results provide strong evidence that green sawn timber produced from infected *P. radiata* trees is free of the pathogen, and that green sawn timber is not a likely pathway for introducing *P. pinifolia* into new areas.

**Source:** Ahumada R, Díaz C, Peredo M, Barría C, González P, Cuevas G (200?) Detection of possible *Phytophthora pinifolia* infection in *Pinus radiata* green sawn timber produced in Chile. Abstracts from the 4<sup>th</sup> Sudden Oak Death Science Symposium, 2009-06-15/18, Santa Cruz, California, USA, p 18.  
[http://nature.berkeley.edu/comtf/sodsymposium4/pdf/book\\_of\\_abstracts.pdf](http://nature.berkeley.edu/comtf/sodsymposium4/pdf/book_of_abstracts.pdf)

Additional key words: pathway

Computer codes: PHYTPF

**2009/165 Pest Risk Analyses for French overseas departments**

The CIRAD (Centre de Coopération Internationale en Recherche Agronomique pour le Développement) and the NPPO of France have conducted simplified Pest Risk Assessments on alien plants for the French overseas departments. These species are listed below with their families, origin, distribution in the EPPO region when available, and conclusions of the risk assessments for the French overseas departments about the probability and pathways of introduction, impact and level of uncertainty.

Species	Origin	EPPO	Introduction Probability - Pathways	Impact	Uncert
<i>Ageratina riparia</i> (Asteraceae)	C-Am.	Madeira (PT)	High - Horticulture	High	Medium
<i>Ailanthus altissima</i> (Simaroubaceae) (EPPO List of IAP)	E-China	Widespread	High - Hort., Forestry	Medium to High	Low
<i>Alstonia macrophylla</i> (Apocynaceae)	SE Asia	/	Medium - Forestry	Medium	Low
<i>Alternanthera philoxeroides</i> (Amaranthaceae) (Alert List)	Temp. S-Am.	FR, IT	High	High	Low
<i>Arundo donax</i> (Poaceae)	Asia	Widespread	High - Hort.	High	Low
<i>Asparagus</i> spp. (Asparagaceae) ( <i>A. afrianus</i> , <i>A. asparagoides</i> , <i>A. declinatus</i> , <i>A. densiflorus</i> , <i>A. plumosus</i> , <i>A. scandens</i> , etc.)	Af.	Absent or limited distribution	High - Hort.	High	Low
<i>Austroeupatorium inulaefolium</i> (Asteraceae)	C & S-Am.	/	High - Hort.	High	Low
<i>Boehmeria macrophylla</i> (= <i>B. penduliflora</i> ) (Urticaceae)	Temp & trop Asia	/	Medium	Medium	High
<i>Buddleia asiatica</i> (Buddleiaceae)	Temp & trop E-Asia	/	High - Hort.	Medium	Medium
<i>Calluna vulgaris</i> (Ericaceae)	Eurasia, Medit.	Indigenous	High - Hort.	High	Low
<i>Calotropis procera</i> (Asclepiadaceae)	Asia, Middle east, Africa	/	High - Hort.	Medium	Low
<i>Cardiospermum grandiflorum</i> (Sapindaceae)	C & S-Am.	IT, Madeira (PT)	High - Hort.	High	Low
<i>Carpobrotus edulis</i> (Aizoaceae) EPPO List of IAP	S-Af.	Widespread	High - Hort.	High	Low
<i>Cecropia peltata</i> (Cecropiaceae)	C Am., Caribbean	/	High - Hort.	Medium	Medium
<i>Eupatorium odoratum</i> (= <i>Chromolaena odorata</i> ) (Asteraceae)	Trop & sub trop Am.	/	High - Hort.	High	/
<i>Cinchona pubescens</i> (Rubiaceae)	S-Am.	/	Medium - Hort.	High	Low
<i>Citharexylum caudatum</i> (Verbenaceae)	C-Am., Antilles	/	High - Hort.	High	Low
<i>Cortaderia</i> spp. (Poaceae) ( <i>C. selloana</i> EPPO List of IAP, <i>C. jubata</i> )	S-Am.	<i>C. selloana</i> widespread, <i>C. jubata</i> no record	High - Hort.	High	Low
<i>Cryptostegia grandiflora</i> (Asclepiadaceae)	Madagascar	/	High - Hort.	High	Low
<i>Cyathea cooperi</i> (Cyatheaceae)	Australia	/	High - Hort.	Medium	Low
<i>Egeria densa</i> (Hydrocharitaceae - EPPO List of IAP)	S-Am.	Widespread	Medium - Aquarium	High	Low
<i>Erica lusitanica</i> (Ericaceae)	SW Europe	Indigenous	High - Hort.	High	Low

Species	Origin	EPO	Introduction Probability - Pathways	Impact	Uncert
<i>Fuchsia magellanica</i> (Onagraceae)	S-Am.	IE, UK, Azores, Madeira (PT)	High - Hort.	High	Low
<i>Grevillea banksii</i> (Proteaceae)	Australia	/	High - Hort.	High	Low
<i>Hiptage benghalensis</i> (Malpighiaceae)	Asia, India	/	High - Hort.	High	Low
<i>Imperata cylindrica</i> (Poaceae)	Trop Asia & Africa, Europe	Indigenous	High - °Pasture plant, Hort.	High	Low
<i>Ligustrum robustum</i> subsp. <i>walkeri</i> (Oleaceae)	S India, Sri Lanka	/	Medium - Hort.	High	Medium
<i>Litsea glutinosa</i> (Lauraceae)	India, Asia, Australia	/	High, Hort. Forestry.	High	Low
<i>Lygodium microphyllum</i> (Lygodiaceae)	N & S-Am.	/	High - Hort.	High	/
<i>Lythrum salicaria</i> (Lythraceae)	Eurasia	Indigenous	High - Hort.	Medium	Low
<i>Medinilla cummingii</i> (Melastomataceae)	Philippines, Indonesia	/	High, Hort.	High	Medium
<i>Miconia calvescens</i> (Melastomataceae)	Am.	/	Low to High - Hort.	Low to High	Low to medium
<i>Mikania cordata</i> (Asteraceae)	Africa, temp & trop Asia, Pacific	/	Medium - Hort.	Low to High	Medium
<i>Mimosa pigra</i> (Fabaceae)	Trop. Am.	/	High - Hort.	High	Low
<i>Myrica faya</i> (Myricaceae)	Macaronesia	PT	Medium - Hort.	High	Low
<i>Opuntia stricta</i> (Cactaceae)	S-Am.	ES, FR, IT	Medium - Hort.	Medium to High	Medium
<i>Ossaea marginata</i> (Melastomataceae)	S-Am.	/	Medium - contaminant	High	Medium
<i>Passiflora coerulea</i> (Passifloraceae)	S-Am.	Azores (PT), CY, ES, FR (incl. Corse), IT, Madeira (PT), MT,	High - Hort.	Medium	Medium
<i>Pennisetum setaceum</i> (Poaceae - Alert List)	Africa, Middle East	Partly indigenous, FR, IT, ES	High - Hort.	Medium	Low
<i>Pereskia aculeata</i> (Cactaceae)	C & S Am.	/	High - Hort.	Medium	Low
<i>Pueraria lobata</i> var. <i>montana</i> (Fabaceae) (A2 List)	SE Asia	CH, IT	High - Hort.	High	Medium
<i>Rubus alceifolius</i> (Rosaceae)	SE Asia, Malaysia	/	Medium - Hort.	Medium to High	Low
<i>Solanum elaeagnifolium</i> (Solanaceae - A2 List)	N & C Am.	AL, HR, CY, ES, FR, GR, IL, IT, MK, MA, RS, ME, SY, TU	Medium - contaminant	Low to medium	Medium
<i>Solanum mauritianum</i> (Solanaceae)	S-Am.	Azores (PT), FR, Madeira (PT)	High - Hort.	High	Low
<i>Wikstroemia indica</i> (Thymelaeaceae)	Asia, Australia	/	Low to High - Forestry	Medium to High	Medium
<i>Zantedeschia aethiopica</i> (Araceae)	S-Af.	Baleares (ES), FR (incl. Corse), IE, IT, , PT (incl. Azores, Madeira), UK	High - Hort.	High	Low

Source: Le Bourgeois T, Camou R, Ehret P (2006) Analyses de risque phytosanitaire. Appui à la rédaction de la réglementation spécifique aux départements d'outre mer. Poseidom, Cirad, Dgal-Sdqpv. Cas des plantes envahissantes. CD-Rom.

For further information, you can contact Thomas Le Bourgeois at [thomas.le\\_bourgeois@cirad.fr](mailto:thomas.le_bourgeois@cirad.fr)

Additional key words: invasive alien plants, risk analysis

Computer codes: ABKDO, AILAL, ALRPH, ASPAF, ASPAS, ASPPL, ASPSP, AVQIN, BOHMA, BUDAS, CBSED, CDTJU, CDTSE, CECPE, CIHPU, CIKCA, CRIGR, CTRPR, CVRGR, CZACO, EIALU, ELDDDE, EUPOD, EUPRI, FUCMA, GREBA, HTGBE, IMPCY, LIGWA, LISGU, LYFMI, LYTSA, MICCA, MIKCO, MYRFA, OPUST, OSSMA, PAQCO, PESSA, PKIAC, RUBAC, SOLEL, SOLMR, WIKIN, ZNTAE

### 2009/166 Pathway analysis: aquatic plants imported in 10 EPPO countries

Pathway analyses are regarded by National Plant Protection Organizations as a very efficient way to address the risks posed by invasive alien species. A study was recently made by the EPPO Secretariat to evaluate the risks posed by the imports of aquatic plants into the Euro-Mediterranean region. Data on imports of aquatic plants was obtained from 10 EPPO countries (Austria, Czech Republic, Estonia, France, Hungary, Germany, Israel, the Netherlands, Latvia, Switzerland, Turkey) and aggregated in order to determine whether invasive or potentially invasive alien plants could be introduced in the EPPO region through this pathway. The main conclusions of this study were that this pathway was mainly consisting of imports of tropical plants for use in aquaria, and that the vast majority (90%) of these aquatic plant species did not represent a major risk due to their climatic requirements. However, a few species required thorough attention due to their known invasiveness potential.

Among the 247 species included in the study, only 10 are currently considered to be a threat for the EPPO region, representing 4% of the total number of plants imported. These invasive or potentially invasive species continue to be traded in huge quantities despite the fact that: *Crassula helmsii* and *Eichhornia crassipes* are recommended for regulation by EPPO, *Azolla filiculoides*, *Egeria densa*, *Elodea nuttalli*, *Lagarosiphon major*, *Ludwigia grandiflora* and *Myriophyllum aquaticum* should have their entry and spread prevented by countries and *Hydrilla verticillata* and *Pistia stratiotes* are recorded on the EPPO Alert List. It should be noted that among the few aquatic species which are planted outdoors, 9 out of 51 (about 17%) are invasive or potentially invasive. Only one plant, *Hydrilla verticillata* is used for aquarium purposes and is regarded as a potential threat.

By combining information on the behaviour of a species where it occurs, its distribution, and its records of invasiveness, it is possible to obtain a subjective indication about its future behaviour in the area where it is introduced. Such rapid assessment has to be taken with care and carries a lot of uncertainties, and only suggests species that could deserve further attention. Six (6) additional species have been identified as representing a moderate to high potential risk: *Alternanthera sessilis* (Amaranthaceae), *Adiantum raddianum* (Pteridaceae), *Gymnocoronis spilanthoides* (Asteraceae), *Hygrophila polysperma* (Acanthaceae), *Limnophila sessiliflora* (Scrophulariaceae) and *Syngonium podophyllum* (Araceae). These species could be subject to further investigation, possibly a pest risk analysis, to evaluate the risk they may represent.

Other species should be monitored to verify that they do not threaten managed and unmanaged ecosystems: *Chlorophytum comosum* (Anthericaceae), *Cyperus alternifolius* (Cyperaceae), *Cyperus papyrus* (Cyperaceae), *Pontederia cordata* (Pontederiaceae), *Rotala indica* (Lythraceae), *Sagittaria lancifolia* (Alismataceae, further investigation is needed on

this species as it might have been underestimated), *Hydrocleys nymphoides* (Limnocharitaceae), *Hygrophila costata* (Acanthaceae), *Ottelia alismoides* (Hydrocharitaceae), *Saururus cernuus* (Saururaceae)

Because most of these aquatic species originate from tropical areas, it is considered that the Mediterranean Basin and Macaronesia by having the most similar climatic conditions are the most at risk. The species which have been identified based on subjective criteria of rapidly available information, need to be considered with greater scrutiny and will be considered in the next issues of the EPPO Reporting Service.

Source: Brunel S (2009) Pathway analysis: aquatic plants imported in 10 EPPO countries. *EPPO Bulletin/Bulletin OEPP* (in press).

Additional key words: invasive alien plants, pathway

Computer codes: ADIRA, ALRSE, AZOFI, CFYCO, CSBHE, CYPAL, EICCR, ELDDDE, ELDNU, GYNP, HDYNY, HYGCO, YLVE, HYGPO, LGAMA, LIOSE, LUDUR, MYPBR, OTEAL, PIIST, POFCO, ROTIN, SAGFA, SUACE, SYNPO

### 2009/167 Situation of *Alternanthera sessilis* in the EPPO region

*Alternanthera sessilis* (Amaranthaceae) is an aquatic annual or perennial plant which was introduced in the EPPO region for ornamental purposes.

#### Geographical distribution

EPPO region: Spain.

Asia: Bhutan, Cambodia, China, Christmas Island, India, Indonesia, Japan, Lao, Malaysia, Myanmar, Nepal, Philippines, Singapore, Taiwan, Thailand, Viet Nam.

Africa: Ghana, Nigeria.

North America: USA (invasive) (Alabama, Arkansas, Florida, Georgia, Hawaii, Louisiana, Maryland, South Carolina, Texas), US Virgin Islands.

Caribbean: Puerto Rico.

Oceania: American Samoa, Australia (Queensland, Northern Australia, Western Australia), Cook Islands, Fiji, French Polynesia, Guam, Micronesia, Nauru, New Caledonia, Norfolk island, Papua New Guinea, New Zealand, Northern Mariana Islands, Palau, Solomon Islands, Tonga, Tuvalu, Vanuatu, Wallis and Futuna Islands.

South America: Ecuador (Galapagos Islands), Peru.

*Note:* the species is casual in the United Kingdom.

#### **Morphology**

*A. sessilis* is a perennial herb with prostrate stems, often rooting at the nodes, 10 to 100 cm long. Leaves are obovate, occasionally linear-lanceolate, 1-15 cm long, 0.3-3 cm wide, and petioles are 1-5 mm long. Flowers in sessile spikes, 0.7-1.5 mm long. Fruits are utricles 1.8-3 mm long and 1.3-2 mm wide. Seeds are lenticular 0.9-1.5 mm long and 0.8-1 mm wide.

#### **Biology and ecology**

*A. sessilis* prefers places with constant or periodically high humidity, but may however tolerate extremely dry conditions. It often grows in mixed association with several other aquatic species. The plant spreads by seeds, which are wind- and water-dispersed, and by

rooting at stem nodes. Seedlings appear in April, and fruits appear during August-October in the Northern Hemisphere.

#### In which habitats

The species occurs in estuarine habitats, riparian zones, ruderal/disturbed areas, wetlands, gardens, open fields and plantations. According to the Corine Land Cover nomenclature, the following habitats are invaded: 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, arable land.

#### Pathways

The species is traded for ornamental purposes. Its seeds are also naturally spread by wind and water.

#### Impacts

*A. sessilis* is a pest of sugarcane in Africa. In tropical areas, it is associated with bananas and other cereal crops. It is also often found as a weed of rice, but is considered of low significance. According to the US national assessment, *A. sessilis* is an agricultural weed that invades disturbed wet areas in tropical and subtropical areas of the US, and which has low impacts on ecosystems. Very little information is found on the impacts of *A. sessilis* on native species.

#### Control

In the USA, the species is listed as a noxious weed.

There is no information available on the management of *A. sessilis*. In India, the plant is reported to be affected by fungal species.

Considering the low impacts recorded for this species, it does not qualify to be registered on the EPPO Alert List. Nevertheless, *A. sessilis* is expected to extend its distribution to other Mediterranean countries and could be monitored.

Source: Global Invasive Species Database (2005) *Alternanthera sessilis*.  
<http://www.issg.org/database/species/ecology.asp?si=767&fr=1&sts=&lang=EN>

Macdonald IAW, Reaser JK, Bright C, Neville LE, Howard GW, Murphy SJ & Preston G (eds.) (2003) Invasive alien species in southern Africa: national resources. Global Invasive Species Programme, Cape Town, South Africa.  
<http://www.gisp.org/publications/reports/SOUTHERN.PDF>

Tomaino A (2006) *Alternanthera sessilis*. Invasive species assessment protocol: US national assessments, 4 pp.  
[http://www.fs.fed.us/r9/wildlife/nis/documents/invasive\\_species\\_assessment\\_For\\_est\\_Service\\_Region9.pdf](http://www.fs.fed.us/r9/wildlife/nis/documents/invasive_species_assessment_For_est_Service_Region9.pdf)

USDA (Undated) *Alternanthera sessilis*. Plants profile.  
<http://plants.usda.gov/java/profile?symbol=ALSE4>

Additional key words: invasive alien plants

Computer codes: ALRSE

**2009/168 Eradication of *Pennisetum setaceum* and *P. villosum* in Sète (France)**

*Pennisetum setaceum* (Poaceae - EPPO Alert List) and *P. villosum* originate from Northern Africa, and are used as ornamental plants.

In Sète (Languedoc-Roussillon region, south of France), the Park and Leisure service of the Municipality has been involved in removing invasive alien plants from its plantations and advising alternative plants for several years. Although not planted for ornamental purposes, 23 plants of *P. setaceum* and 26 plants of *P. villosum* have been discovered on a road side in the city of Sète. It is hypothesised that they entered as contaminants of other ornamental plants. The municipality therefore decided to conduct an eradication programme against these 2 species, consisting in the following actions:

- cutting plants and collecting all plant parts (including spikes) for incineration
- spraying of each cut plant with glyphosate.

The cost of eradication was estimated to be 187 euros. Since the seeds of these 2 species can remain viable for 6 years, a monitoring programme will be undertaken and any regrowth will be destroyed. While undertaking the eradication programme, the press was invited in order to raise awareness among the public on the topic of invasive alien plants and several papers were published in the local newspapers.

**Source:** Francis Brot, Direction Jardins Paysage et Nettoyement, Ville de Sète (FR).  
E-mail : [brot@ville-sete.fr](mailto:brot@ville-sete.fr)

Schlama O (2009) Le Languedoc veut contrer les plantes invasives. Midi Libre. 2009-07-13.

<http://www.midilibre.com/articles/2009/07/12/Vide-Le-Languedoc-veut-contrer-les-plantes-invasives-843361.php5>

<http://www.midilibre.com/articles/2009/07/12/biodiversite-Face-aux-envahisseurs-un-code-de-bonne-conduite-pour-50-pays-843362.php5>

<http://www.midilibre.com/articles/2009/07/12/biodiversite-Jean-Philippe-Reygrobellet-La-renouee-est-une-menace-843363.php5>

**Additional key words:** invasive alien plants, eradication

**Computer codes:** PESVI, PESSA, FR