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1, rue Le Nôtre
75016 Paris

Tel. : 33 1 45 20 77 94
Fax : 33 1 42 24 89 43

E-mail : hq@eppo.fr
Web : www.eppo.org

2007/045 New data on quarantine pests and pests of the EPPO Alert List

By browsing through the literature, the EPPO Secretariat has extracted the following new data concerning quarantine pests and pests included on the EPPO Alert List. The situation of the pest concerned is indicated in bold, using the terms of ISPM no. 8.

New records

Cylindrocladium buxicola (EPPO Alert List) occurs in France. Its presence was confirmed by the NPPO of France during the EPPO Panel meeting on Phytosanitary Measures (Paris, 2007-03-06/09).

Frankliniella occidentalis (Thysanoptera: Thripidae – EPPO A2 List) and *Liriomyza trifolii* (Diptera: Agromyzidae – EPPO A2 List) are both present in Morocco. Although these pests have been introduced some years ago, the EPPO Secretariat had previously no information about their occurrence (Bounfour *et al.*, 2005). **Present, no detail.**

In Chile, *Impatiens necrotic spot virus* (*Tospovirus* – EPPO A2 List) was detected during a survey done in 2001/2002 on virus diseases of *Capsicum annuum* (Sepúlveda *et al.*, 2005). **Present, no detail.**

Liriomyza sativae (Diptera: Agromyzidae – EPPO A2 List) occurs in Iran. It is considered one of the most important pests affecting cucumbers (Fathipour *et al.*, 2006). **Present, no detail.**

Detailed records

Bactrocera cucurbitae (Diptera: Tephritidae – EPPO A1 List) occurs in Zhejiang, China (Chen *et al*., 2006).

Bactrocera dorsalis (Diptera: Tephritidae – EPPO A1 List) occurs in Madhya Pradesh, India (Verma, 2005).

In Mexico, *Cucurbit yellow stunting disorder virus* (*Crinivirus* – EPPO A2 List) was identified for the first time in the state of Sonora in autumn 2006. Watermelon (*Citrullus lanatus*), melon (*Cucumis melo*) and squash (*Cucurbita pepo*) crops were severely affected by the virus (ProMed, 2007).

Studies were done on sweet cherry (*Prunus avium*) viruses in Honshu, Japan. Leaf samples were collected from cherry trees in Aomori, Iwate and Yamagata prefectures. RT-PCR tests revealed the presence of the following viruses: Little cherry virus-1 (EU Annexes - in 14% of the samples), Little cherry virus-2 (EU Annexes - 65%), Cherry necrotic rusty mottle virus (14%), Cherry virus A (49%) and Cherry green ring mottle virus (92%) (Isogai *et al.,* 2004).

Tomato yellow leaf curl virus (*Begomovirus* – EPPO A2 List) occurs in Texas (US). It was first detected in September 2006 on tomatoes grown from transplants (Isakeit *et al*., 2007)

Host plants

In Uruguay, *Phakopsora pachyrhizi* (EPPO Alert List) was observed on leaves of *Neonotonia wightii* (Fabaceae). This is the first time that natural infection of soybean rust has been observed on this perennial plant (Morel *et al*., 2007).

During studies done in Florida (US) on *Ralstonia solanacearum* (EPPO A2 List) infecting irrigated tomato crops, it was found that aquatic weeds such as *Polygonum pennsylvaticum*

(Polygonaceae) and *Hydrocotyle ranunculoides* (Apiaceae - EPPO A2 List) could harbour the bacterium and therefore constitute sources of inoculum (Hong *et al.*, 2005).

In Northern Florida (US), *Tomato spotted wilt virus* (*Tospovirus,* TSWV - EPPO A2 List) was detected on *Physalis ixocarpa* plants (tomatillo) showing symptoms in spring 2004 and 2005. It is the first time that TSWV has been detected on field-grown tomatillo in Florida (Adkins *et al.*, 2006).

Diagnostics

Real-time and conventional RT-PCR tests were developed for the detection of Potato yellow vein virus (*Crinivirus*, PYVV - EPPO A1 List). These assays are considered useful for the implementation of quarantine measures against PYVV and routine indexing for the production of virus-free seed potatoes in areas of South America where the virus is highly damaging (Lopez *et al.*, 2006).

Source:

Adkins S, Momol MT, Dankers H, Reitz S, Olson S (2006) First report of *Tomato spotted wilt virus* in tomatillo in Florida. *Plant Health Progress*, June, 1-2.

Bounfour M, Jebbour F, Wadjinny J (2005) Biological traits of invasive insect species harmful to Moroccan agriculture. In *Plant protection and plant health in Europe: introduction and spread of invasive species.* BCPC Conference, Humbolt University (DE), 2005-06-09/11, 95-100.

Chen JH, Xu ZH, Chen WM, Jin GR, Wang ZL (2006) [Notes on five species of fruit flies in Zhejiang province.] *Acta Agriculturae Zhejiangensis* **18**(1), 28-31 (abst.).

Fathipour Y, Haghani M, Talebi AA, Baniameri V, Zamani AA (2006) Natural parasitism of *Liriomyza sativae* (Diptera: Agromyzidae) on cucumber under field and greenhouse conditions. *Bulletin OILB/SROP* **29**(4), 163-168 (abst.).

Hong J, Ji, P, Momol MT, Jones JB, Olson SM, Pradhanang P, Guven K (2005) *Ralstonia solanacearum* detection in tomato irrigations ponds and weeds. In Proceedings of the 1st International Symposium on Tomato Diseases, Orlando, Florida (US), 2004-06-21/24. *Acta Horticulturae* no. 695, 309-311 (abst.).

Isakeit T, Idris AM, Sunter G, Black MC, Brown JK (2007) *Tomato yellow leaf curl virus* in tomato in Texas, originating from transplant facilities. *Plant Disease* **91**(4), p 466.

Isogai M, Aoyagi J, Nakagawa M, Kubodera Y, Satoh K, Katoh T, Inamori M, Yamashita K, Yoshikawa N (2004) Molecular detection of five cherry viruses from sweet cherry trees in Japan. *Journal of General Plant Pathology* **70**(5), 228-291 (abst.).

Lopez R, Asensio C, Guzman MM, Boonham N (2006) Development of real-time and conventional RT-PCR assays for the detection of potato yellow vein virus (PYVV). *Journal of Virological Methods* **136**(1/2), 24-29 (abst.).

Morel W, Miles MR, Hernández JR, Stone CL, Frederick RD (2007) First report of *Phakopsora pachyrhizi*, cause of soybean rust, on *Neonotonia wightii* in Paraguay. *Plant Disease* **91**(3), p 325.

NPPO of France, 2007.

Promed posting of 2007-03-24. Cucurbit yellow stunting disorder virus – USA (Arizona), Mexico (Sonora): first reports, 2006. http://www.promedmail.org

Sepúlveda RP, Larraín SP, Quiroz EC, Rebufel AP, Graña SF (2005) [Identification and incidence of pepper viruses in north central Chile and their association with vectors.] *Agricultura Técnica* **65**(3), 235-245 (in Spanish) (abst.).

Verma R (2005) Management of fruit flies, *Bactrocera dorsalis* and *B. zonata*, through behavioural approach in Madhya Pradesh, India. *JNKVV Research Journal* **38**(1), 45-50 (abst.).

Additional key words: new records, detailed records

Computer codes: CYSDV0, DACUCU, DACUDO, FRANOC, INVS00, LCHV00, LIRISA, LIRITR, PHAKPA, PSDMSO, PYVV00, TYLCV0, TSWV00, CL, CN, IN, IR, JP, MA, MX, US, UY

2007/046 *Rhagoletis pomonella* found in British Columbia, Canada

Rhagoletis pomonella (Diptera: Tephritidae - EPPO A1 List) is a quarantine pest for Canada. It has been reported from almost all provinces (except Newfoundland and Labrador, Northwest Territories, Nunavut, Yukon) but is under official control. In 2006, during regular survey activities, *R. pomonella* was found for the first time in British Columbia at Abbotsford (near the city of Vancouver) and on Vancouver Island. In February 2007, *R. pomonella* was detected again in 2 locations in the Greater Vancouver Regional District (Langley and Vancouver) and in 2 locations on Vancouver Island (Esquimalt and Victoria). However, *R. pomonella* was not detected in other apple-growing areas of British Columbia.

Source: NAPPO Phytosanitary Pest Alert System
Official Pest Reports (Canada, 2007-02-21) Update on Apple Maggot (*Rhagoletis pomonella*) in British Columbia, Canada.
http://www.pestalert.org/oprDetail.cfm?oprID=250

Additional key words: detailed record **Computer codes:** RHAGPO, CA

2007/047 Current situation of *Anoplophora glabripennis* in Canada

In Canada, *Anoplophora glabripennis* (Coleoptera: Cerambycidae - EPPO RS 2003/147) was reported for the first time in 2003. The insect was detected near Toronto (city of Vaughan) in Ontario (see EPPO RS 2003/147) and since then, eradication measures have been implemented. Since November 2003, approximately 25,000 trees have been removed, including 600 trees that were known to be infested by *A. glabripennis* (of which 44 trees had been found infested in 2005). In 2006, intensive ground and aerial surveys were conducted and no new findings were made. However, a cluster of 16 trees were found infested in January 2007 within the currently regulated area. Eradication measures are continuing in Canada.
The situation of *Anoplophora glabripennis* in Canada can be described as follows: **Present, few infested trees were found near Toronto (Ontario), under eradication.**

Source: NAPPO Phytosanitary Pest Alert System
Official Pest Reports (Canada, 2007-02-28) Update on the Asian Long-Horned Beetle (*Anoplophora glabripennis*) – Canada.
http://www.pestalert.org/oprDetail_print.cfm?oprid=251

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

2007/048 Further details on the situation of *Rhynchophorus ferrugineus* in Corsica (FR)

As was already reported in EPPO RS 2006/225, *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae – EPPO A2 List) has recently been found in the south of France. Further details are now provided on its current situation in Corsica (FR). *R. ferrugineus* was first discovered in September 2006 near Porto-Vecchio (south of the island) in a private garden.

Surveys to delimit the extent of the infestation were immediately initiated and more than 30 traps (pheromone + dates as a feeding attractant) were installed in all coastal areas of the island. Each time an insect was trapped, visual observations of the surrounding palm trees within a radius of 100 m of the trapping site were also carried out. As of March 2007, more than 300 specimens of *R. ferrugineus* were caught and all captures were made near Porto-Vecchio. Infested palm trees are being destroyed following a strict procedure: palm leaves are cut and burnt, the remaining stipe ('trunk') is treated with an insecticide and tightly covered with a plastic sheet for several days to prevent the escape of flying adults, and the stipe is finally cut and burnt. Surveys and eradication measures are continuing in Corsica.

Source: INTERNET (last retrieved on 2007-03-30)
Website of FREDON-Corse. Le charançon rouge du palmier a débarqué en Corse. http://www.fredon-corse.com/actions/surveillance_CR.htm

Additional key words: detailed record **Computer codes:** RHYCFR, FR

2007/049 First report of *Tetranychus evansi* in Crete, Greece

In summer 2006, *Tetranychus evansi* (Acari: Tetranychidae – EPPO Alert List) was found for the first time in Crete (Greece) during a survey done in the central-eastern part of the island. *T. evansi* was found near the village of Klima (region of Tympaki) on two occasions (one site on 2006-09-15 and another site on 2006-11-10). On both dates, it was found on *Solanum nigrum*, growing as a weed in open fields of okra (*Abelmoschus esculentus*) and the distance between the two sampling sites was approximately 500 m. Plants of *S. nigrum* were heavily infested by *T. evansi*. Only a few individuals (from all developmental stages) and eggs were found on some tomato plants incidentally growing in the vicinity of infested weeds. In this region of Crete, solanaceous plants (tomato, capsicum and aubergine) are intensively grown and are economically important. More intensive surveys will be carried out in Crete to delimit the extent of the infestation and to better identify the host plants of *T. evansi*.
The situation of *Tetranychus evansi* in Greece can be described as follows: **Present, first found in 2006 on the island of Crete on weeds (*Solanum nigrum*).**

Source: Personal communication with Dr Tsagkarakou, Plant Protection Institute, Heraklio, Crete (GR), 2007-02.

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

2007/050 Association of *Ophiostoma novo-ulmi* with *Scolytus schevyrewi*

Scolytus schevyrewi (Coleoptera: Scolytidae – EPPO Alert List) is an exotic bark beetle from Asia which has recently been introduced into the USA. It was found for the first time in Colorado in 2003 on *Ulmus pumila*. It rapidly spread and by spring 2005, it was found in the following other US States: Arizona, California, Idaho, Illinois, Indiana, Kansas, Nebraska, Nevada, New Mexico, Maryland, Michigan, Minnesota, Montana, Oklahoma, Oregon, South Dakota, Utah and Wyoming. So far, it has not been reported from Canada or Mexico. The similarities in breeding and feeding habits between *S. schevyrewi* and *S. multistriatus* (the known vector of *Ophiostoma novo-ulmi*, Dutch elm disease) raised concerns about the ability of *S. schevyrewi* to serve as a vector for *O. novo-ulmi*. Preliminary studies were

performed in the USA to determine whether *O. novo-ulmi* could be isolated from *S. schevyrewi* emerging from diseased elm trees. Stem sections of *U. americana* showing symptoms of Dutch elm disease (and then tested for the presence of *O. novo-ulmi*) were exposed to natural populations of elm bark beetles and placed in rearing cages. Isolations were then made from the adults that emerged. Results showed that *S. schevyrewi* could acquire *O. novo-ulmi* as affectively as *S. multistriatus* from diseased stem sections. *O. novo-ulmi* was recovered from *S. schevyrewi* in percentages comparable to that from *S. multistriatus*. Further studies are now needed to determine whether *S. schevyrewi* can transmit the pathogen to healthy trees.

Source: Jacobi WR, Koski RD, Harrington TC, Witcosky JJ (2007) Asssociation of *Ophiostoma novo-ulmi* with *Scolytus schevyrewi* (Scolytidae) in Colorado. *Plant Disease* **91**(3), 245-247.

Additional key words: biology **Computer codes:** SCOLSH, US

2007/051 First report of *Eutypella parasitica* in Austria

The Austrian Plant Protection Service recently informed the EPPO Secretariat of the detection of *Eutypella parasitica* (EPPO Alert List) on its territory. In Austria, *Eutypella parasitica* was detected in Niederösterreich on a tree (*Acer pseudoplatanus*) at the end of 2006. Surveys in the surrounding area showed that 4 other trees of *Acer pseudoplatanus* were infected. Eradication measures were carried out; all infected trees were cut down and burnt. The pathway of introduction remains unknown.
The pest status of *Eutypella parasitica* in Austria is officially declared as follows: **Present in a limited area, under eradication.**

Source: NPPO of Austria, 2007-03.

Additional key words: new record **Computer codes:** ETPLPA, AT

2007/052 Incursion of *Xanthomonas axonopodis* pv. *dieffenbachiae* in Romania

In autumn 2004, *Xanthomonas axonopodis* pv. *dieffenbachiae* (EPPO A2 List) was detected for the first time in Romania (Vlad *et al*., 2004) on leaves of a few plants of *Dieffenbachia picta* on a market. The NPPO of Romania confirmed that this was an isolated case and that the bacterium has not been found again.
The situation of *Xanthomonas axonopodis* pv. *dieffenbachiae* in Romania can be described as follows: **Absent, isolated finding on commercialized plants in 2004, no longer found.**

Source: NPPO of Romania, 2007-03.

Vlad FF, Severin V, Tudose M (2004) [Bacterial blight of *Dieffenbachia* plants (*Xanthomonas axonopodis* pv. *dieffenbachiae)* – a new disease for Romania.] *Analele Institutului de Cercetare-Dezvoltare pentru Protectia Plantelor* **33**, 21-27 (abst.).

Additional key words: phytosanitary incident **Computer codes:** XANTDF, RC

2007/053 First report of *Xanthomonas axonopodis* pv*. dieffenbachiae* in New Caledonia (FR)

In February 2004 in New Caledonia (FR), symptoms resembling those of bacterial blight were observed in a nursery (Mont Dore) on anthurium and dieffenbachia plants. A survey carried out across the island revealed that *Xanthomonas axonopodis* pv*. dieffenbachiae* (EPPO A2 List) was present in 41 out of the 89 nurseries inspected. Imports in New Caledonia of aroids from countries in which the bacterium occurs took place before 2004. It is felt that the widespread distribution of the disease is due to the movements of plant material within the island and that the pathogen was probably present before this first official record.
The situation of *Xanthomonas axonopodis* pv*. dieffenbachiae* in New Caledonia can be described as follows: **Present, widespread, first reported in 2007 but probably present earlier.**

Source: Jouen E, Laurent P, Robène-Soustrade I, Gagnevin L, Pruvost O, Hostachy B, Gateblé G, Amice R, Imber F (2007) First report in New Caledonia of bacterial blight of *Anthurium* caused by *Xanthomonas axonopodis* pv. *dieffenbachiae*. *Plant Disease* **91**(4), p 62.

Additional key words: new record **Computer codes:** XANTDF, NC

2007/054 First report of *Impatiens necrotic spot virus* in Hungary

In Hungary, 31 samples of 8 ornamental species (*Catharanthus roseus, Cyclamen persicum, Dendranthema x grandiflorum, Eustoma grandiflorum, Gerbera, Impatiens walleriana, Ocimum basilicum, Verbena)* were tested for the presence of tospoviruses. Symptoms of flower colour breaking and necrotic leaf lesions were observed on 4 samples (*C. persicum, I. walleriana, O. basilicum, E. grandiflorum*). The presence of *Impatiens necrotic spot virus* (*Tospovirus*, INSV – EPPO A2 List) was confirmed in these symptomatic samples. This is the first report of INSV in Hungary.
The situation of *Impatiens necrotic spot virus* in Hungary can be described as follows: **Present, first reported in 2007.**

Source: Tóth EK, Kirston E, Takács A, Bajtek M, Kazinczi G, Horváth (2007) First report of *Impatiens necrotic spot virus* in ornamental plants in Hungary. *Plant Disease* **91**(3), p 331.

Additional key words: new record **Computer codes:** INSV00, HU

2007/055 First report of *Tomato yellow leaf curl Sardinia virus* in Greece

In Greece, the presence of *Tomato yellow leaf curl virus* (*Begomovirus*, TYLCV – EPPO A2 List*) was reported in 2000 on tomatoes in Crete, southern Peloponese and Attiki (EPPO RS 2001/107). In summer 2005, a high percentage of tomato protected crops in Crete and southern Peloponese showed severe symptoms of tomato yellow leaf curl disease (stunting, leaf curling, yellowing). High populations of *Bemisia tabaci* were present in greenhouses and open fields of tomatoes. Molecular tests (PCR, RFLP) were carried out on symptomatic samples and revealed the presence of *Tomato yellow leaf curl Sardinia virus* (TYLCSV). TYLCSV was found in all studied sites in Peloponese and 2 sites from Crete (Mires,

Tympaki). All tested isolates from Ierapetra (Crete) were identified as TYLCV. These results show that both TYLCV and TYLCSV occur in Greece. The two virus species co-exist in Crete, whereas in Peloponese only TYLCSV was detected. This is the first report of TYLCSV in Greece.

* At present, only *Tomato yellow leaf curl virus* is listed as such but with the description of several virus species involved in tomato yellow leaf curl disease, this entry may need to be revised.

Source: Papayiannis LC, Avgelis AD, Ioannou N, Katis NI (2007) First report of *Tomato yellow leaf curl Sardinia virus* (TYLCSV) infecting tomato crops in Greece. *Plant Pathology* **56**(2), p 341.

Additional key words: new record **Computer codes:** TYLCSV0, GR

2007/056 New records of *Iris yellow spot virus* in the USA

In the USA, *Iris yellow spot virus* (*Tospovirus*, IYSV – EPPO Alert List) has been reported from several states (Arizona, California, Colorado, Georgia, Idaho, Nevada, New Mexico, Texas*, Oregon, Utah, Washington). In June 2006, volunteer onion plants (*Allium cepa*) in Orleans county, New York, showed typical symptoms of IYSV. Serological and molecular tests confirmed the presence of IYSV in diseased onion plants. This is the first report of IYSV in New York State (Hoepting *et al*., 2007).

In western Oregon, onion (*Allium cepa*) and leek (*A. porrum*) are grown on approximately 600 ha for bulb and seed production. During surveys conducted in July and August 2006, on bulb crops (onion) and seed crops (onion and leek), typical symptoms of IYSV were observed. Symptomatic plants were collected from fields of 1 onion bulb crop, 1 onion seed crop and 2 leek seed crops. For the onion bulb crop and leek seed crops, most symptomatic plants were found near the borders of the fields. Disease incidence was low (<5%) and yield losses negligible. In the onion seed crop, symptomatic plants were found throughout the field and disease incidence was approximately 20%. According to the authors, this is the first time that IYSV has been found in the western part of Oregon (mild, maritime climate) and the first time that IYSV has been reported from leek in the USA (Gent *et al*., 2007).

* The EPPO Secretariat had previously no data on the occurrence of IYSV in Texas.

Source: Gent DH, Martin RR, Ocamb CM (2007) First report of *Iris yellow spot virus* on onion and leek in Western Oregon. *Plant Disease* **91**(4), p 468.

Hoepting CA, Schwartz HF, Pappu HR (2007) First report of *Iris yellow spot virus* on onion in New York. *Plant Disease* **91**(3), p 327.

Additional key words: detailed records **Computer codes:** IYSV00, US

2007/057 Virus diseases newly reported from Egypt

The EPPO Secretariat was recently informed by Dr Abdel-Salam from the University of Cairo (EG) of the occurrence of the following new virus diseases in Egypt.

Banana streak virus (Badnavirus)
In Egypt, banana plants showing chlorotic and necrotic streaks on the leaves were observed in the field. *Banana streak virus* was isolated from a stunted banana plant, heavily infested by *Planococcus citri* (a known vector of the disease), in the Souhag governorate. Serological and molecular tests (DBIA, TBIA, PCR) confirmed the identity of the virus, and pathogenicity tests were conducted in the greenhouse. This is the first report of *Banana streak virus* in Egypt.

Beet necrotic ringspot virus (a new tentative Ilarvirus)
In Egypt, sugarbeet (*Beta vulgaris*) is an expanding crop. It is affected by several viruses including *Beet curly top virus (Curtovirus)*, *Beet yellows virus (Closterovirus), Beet western yellows virus (Polerovirus)*, *Cucumber mosaic virus (Cucumovirus)* and *Beet necrotic yellow vein virus (Benyvirus)*. Recently, sugarbeet plants showing ringspot, line pattern, bright mosaic and reduced growth were observed in Kafr El-Sheikh, Giza and Fayoum governorates. A new ilarvirus, tentatively called Beet necrotic ringspot virus was isolated from diseased plants. In glasshouse experiments, the virus could be transmitted mechanically and via *Thrips tabaci* (but not via *Myzus persicae*). In preliminary tests, it appears that the virus is not seed-transmitted. In mechanical inoculation studies, the virus could be transmitted to a wide range of plants (21 species from Amaranthaceae, Asteraceae, Chenopodiaceae, Cucurbitaceae, Fabaceae, Rosaceae and Solanaceae).

Squash leaf curl virus **(***Begomovirus* **– EPPO A2 List)**
In recent years, both the quality and yield of cucurbit crops in Egypt have been drastically reduced due to virus diseases associated with whitefly infestations. In particular, squash plants (*Cucurbita pepo*) have been showing symptoms typical of those of squash leaf curl observed in the Americas (i.e. severe stunting, leaf curling, enations). Laboratory studies were done in Egypt to identify the causal agent. A virus isolate was obtained from squash plants growing in the experimental farm of the Faculty of Agriculture (Giza) and studied with serological and molecular methods (ELISA, PCR with specific primers, IC-PCR, DNA sequencing, molecular hybridization). Results confirmed the presence of *Squash leaf curl virus* in diseased plants. In addition, it was observed under glasshouse conditions that the disease was transmitted by *Bemisia tabaci*. Phylogenetic analysis revealed very close similarities between the Egyptian isolate and isolates from USA. This could suggest an introduction from the Americas to Egypt. The EPPO Secretariat had previously no data on the occurrence of *Squash leaf curl virus* in Egypt. In the EPPO region to date, this virus is only known to occur in Israel (see EPPO RS 2003/117).

Source: Abdel-Salam AM, Abdallah NA, Soliman DZR, Rezk AAS (2006) The incidence of squash leaf curl begomovirus (SqLCV) in Egypt. *Arab Journal of Biotechnology* **9**(2), 375-388.
Abdel-Salam AM, Abdel-Kader HS, Saghir SM (2005) Biological, serological, and molecular detection of *Banana streak badnavirus* in vegetatively propagated banana plants in Egypt. *Egyptian Journal of Virology* **2**(1), 255-265.
Abdel-Salam AM, El-Shazly MA, Abdel-Kader HS (2005) Beet necrotic ringspot virus, a new ilarvirus infecting sugar beet in Egypt: biological, biochemical, serological, and genomic studies. *Arab Journal of Biotechnology* **9**(2), 395-414.

Additional key words: new records **Computer codes:** BSV000, SLCV00, EG

2007/058 First record of *Tomato apical stunt viroid* in Senegal

Tomato apical stunt viroid (*Pospiviroid*, TASVd – EPPO Alert List) was initially discovered in Côte d'Ivoire. It was then reported in Indonesia, and more recently in Israel and Tunisia* causing severe outbreaks on protected tomatoes. In 2005, severe symptoms (suppression of apical growth and leaf chlorosis) were observed in tomato samples from northern Senegal. Molecular tests revealed the presence of TASVd in tested samples. The complete genome sequence was obtained and it showed 96% homology with the original isolate from Côte d'Ivoire. This is the first report of TASVd in Senegal.

*The EPPO Secretariat had previously no data on the occurrence of TASVd in Tunisia.

Source: Candresse T, Marais A, Ollivier F, Verdin E, Blancard D (2007) First report of the presence of *Tomato apical stunt viroid* on tomato in Senegal. *Plant Disease* **91**(3), p 330.

Additional key words: new record **Computer codes:** TASVD0, SN

2007/059 Transmission of '*Candidatus* Phytoplasma aurantifoliae' by *Hishimonus phycitis*

Lime witches' broom caused by '*Candidatus* Phytoplasma aurantifoliae' (EU Annexes) is a devastating disease in Oman, the United Arab Emirates and southern Iran. This disease mainly affects lime (*Citrus aurantifolia*), but in Iran it also occurs on 'bakraee' which is a *Citrus reticulata* hybrid. The most common phloem-feeding insect associated with lime trees in affected areas is *Hishimonus phycitis* (Homoptera: Ciccadellidae). '*Ca*. P. aurantifoliae' has been detected in this insect (ELISA, PCR) but all attempts to demonstrate that *H. phycitis* is a vector had failed. In May 2006, *H. phycitis* nymphs and adults were collected in a diseased lime orchard in Minab (Hormozgan Province). More than 100 insect samples were tested and 70% tested positive (PCR). Additional insects were collected from the field and caged with seedlings of 'bakraee'. After 8 weeks, insects were killed with an insecticide. 6 months after inoculation, 3 plants (out of 10) showed typical symptoms and tested positive in PCR assays. The identity of the phytoplasma was verified by RFLP analysis. This is the first report of natural transmission of '*Ca*. P. aurantifoliae' by *H. phycitis*.

Source: Salehi M, Izadpanah K, Siampour M, Bagheri A, Faghihi SM (2007) Transmission of '*Candidatus* Phytoplasma aurantifolia' to bakraee (*Citrus reticulata* hybrid) by feral *Hishimonus phycitis* leafhoppers in Iran. *Plant Disease* **91**(4) p 466.

Additional key words: detailed record, epidemiology **Computer codes:** PHYPAF, IR

2007/060 Australian diagnostic protocol for *Tilletia indica*

Tilletia indica (EPPO A1 List) does not occur in Australia and it is acknowledged that any introduction would disrupt access to global markets for Australian wheat. To ensure an adequate state of preparedness for a potential incursion to Australia, a national diagnostic protocol was prepared in 2003, to detect and identify *T. indica*. In addition, in February 2004 a shipment of Australian wheat was rejected on the grounds that it contained teliospores of *T. indica* (which was later demonstrated to be a misidentification). Therefore, in March 2004, surveys were done on Australian wheat consigned for export using the national diagnostic protocol. *T. indica* was not found but results showed moderate levels of common smuts: *Tilletia caries, T. laevis* and *Urocystis agropyri*, and very low levels (less than 6 teliospores/150 g grain) of an unidentified dark, tuberculate-spored *Tilletia* in approximately 60% of tested samples. Comparison with herbarium specimens enabled identification of the majority of the teliospores as *Tilletia ehrhartae*, a smut known to infect only *Ehrharta calycina* (perennial veldtgrass, Poaceae) a common species in southern Australia. A smaller number of teliospores were identified as *T. walkeri*, a smut of *Lolium* spp. It is stressed that *T. ehrhartae* and *T. walkeri* both resemble *T. indica* and that this may lead to misidentification, in particular with *T. ehrhartae* which is commonly present as a contaminant in Australian wheat grain.

EPPO note: the EPPO diagnostic protocol includes a pictorial guide to distinguish 3 tuberculate-spored *Tilletia* species: *T. indica, T. walkeri* and *T. horrida* which are known contaminants of wheat seeds, but not of *T. ehrhartae*.

Source: Pascoae IG, Priest MJ, Shivas RG, Cunnington JH (2005) Ustilospores of *Tilletia ehrhartae*, a smut of *Ehrharta calycina*, are common contaminants of Australian wheat grain, and a potential source of confusion with *Tilletia indica*, the cause of Karnal bunt of wheat. *Plant Pathology* **54**(2), 161-168.

EPPO (2004) EPPO Standard PM 7/29(1) Diagnostic protocols for regulated pests. *Tilletia indica* (available online) http://archives.eppo.org/EPPOStandards/PM7_DIAGNOS/pm7-29(1).pdf

Additional key words: diagnostics **Computer codes:** NEOVIN

2007/061 Nursery and garden industry initiative in Australia: the Invasive Plants Policy Position

Australians are becoming increasingly aware of weeds as an environmental issue. The nursery industry is often accused of being the source of many introductions and spreads of invasive plants. In Australia, government legislation has started to reflect this and weeds are regulated at a national, state and local government scale.
The "Nursery and Garden Industry Australia" and the various "state Nursery and garden Industry Associations" around Australia have been working with state governments on invasive plants to control their distribution and sale. The nursery industry as a whole would like to be considered as one of the most environmentally responsible industries in Australia.
The nursery industry has therefore developed an Invasive Plants Policy Position aiming at:

- A fairer approach for the nursery and garden industry: the profession thinks that it is counter-productive and misleading to blame the industry.
- A set of agreed lists to identify invasive alien plants both at national and state levels: multiple lists of unclear status is unsustainable and makes it impossible for industry to develop a coordinated response. Plants on those lists should be specified at the variety level. Bred varieties are the result of years of development and investment and are often bred to be sterile; those varieties should not be included into the list without evidence of their invasive behaviour. These lists have to be made in a transparent and accountable manner and any decisions to ban ornamental plants should be undertaken in consultation with the industry and with a suitable period of notice to allow the industry to adjust.
- A consistent weed risk assessment process to identify invasive plants: regulation, policy and management decisions should not be undertaken without transparent and accountable weed risk assessments. Any assessment process should be open to public scrutiny, available for the industry to review in case of disagreement.
- The recognition of the industry's efforts: governments should support the best practice initiated by the industry. The nursery industry recognises the importance of correct naming and labelling of plants, including the use of full species names, and will develop a national labelling policy to address this issue.
- Communication and awareness programmes: the nursery industry does not support the use of mandatory plant labelling with "invasiveness warning", and encourages positive campaigns rather than negative ones. A "grow me instead" approach proposing non-invasive alien plants instead of invasive plants is recommended (see RS 2007/062). The industry speaks to the target group (householders) on a daily basis, and would like to be seen as friends of the environment by educating the public in making responsible choices.
- A secure and sustainable future for the business: changes in invasive plant policy have significant impacts on the sustainability of the industry. The industry has shown willingness to be an active participant in consultative processes relating to invasive plants.

Source: The invasive plants policy position:
http://www.ngia.com.au/docs/pdf/your_associations/NGIA_invasiveweedspolicy.pdf

Nursery papers – November 2006
http://www.ngia.com.au/publication_resources/NP_Pdf/NGIA_Nursery_Papers_2006-11.pdf

Additional key words: invasive alien plants, nursery industry **Computer codes:** AU

2007/062 The "Grow me instead" initiative in Australia

In Australia, an illustrated booklet has been prepared to explain to the inhabitants of the region of Sydney how to use non-invasive ornamental plants instead of invasive ones. This is the result of a unified effort by local nurseries and government agencies to protect the Australian bushland.
A few suggestions for using native or non-native alternative species are made and the reader is invited to ask garden centres and nurseries for more choices.
The reader is also encouraged to follow good practices such as:

- to identify invasive plants in their garden and replace them by non-invasive ones, and/or only to use non-invasive ones,
- to eliminate seed production of plants that have the potential to become invasive,
- to report plant escapees to the competent authorities,
- to share the garden with wild creatures (lizards, frogs, etc.) and to use plants that provide nectar or seeds for birds and foliage as a protection,
- to join a voluntary bush care group to be aware of environmental issues and to invite friends and family to do so.

Plants which can be used as alternatives to invasive species in Australia and in the EPPO region are presented below. Some alternative plants proposed in the booklet are indigenous in the Sydney area and are therefore not invasive there but may show an invasive behaviour if introduced in the EPPO region. These are not mentioned in the table below.

Invasive species in Australia	Family	Origin	Considered Inv. in EPPO countries	Alternatives
Acacia baileyana	Fabaceae	Australia	ES, PT	*Acacia covenyi*
Acer negundo	Aceraceae	N-Am.	BE, DE, CZ, EE, ES, FR, HU, IT, LV, LT, NL, PL	*Acer negundo* cv. "sensation" (fruitless form) *Fraxinus oxycarpa* *Nyssa sylvatica*
Acer pseudoplatanus	Aceraceae	Eur.	GB, IE	*Liriodendron tulipifera* *Quercus coccinea*
Buddleja davidii	Buddlejaceae	E-Asia	ES, FR, IT, GB	*Rondeletia amoena* *Ceanothus papillosus "Blue Pacific"*
Croscomia x croscomiiflora (=Tritonia x croscomiflora)	Iridaceae	S-Af., hort	ES, IE, GB	*Valotta speciosa* *Dianella caerulea*
Lantana camara	Verbenaceae	Neotrop.	ES, IL, IT, PT	*Cistus x hybridus* *Hebe cultivars*
Zantedescia aethiopica	Araceae	S-Af.	ES, IT	*Zantedeschia calla* *Crinum pedunculatum* *Eucharis x grandiflora*

Source: Grow me Instead!
http://www.ngia.com.au/home_gardeners/growme_instead.asp

Additional key words: invasive alien plants, nursery industry **Computer codes:** AU

2007/063 Awards for the most "Weed Wise" retail nurseries in Australasia

A very high proportion of serious weeds in Australia and New Zealand (and in other countries) were introduced as garden ornamentals. Two new annual awards for the most "Weed Wise" retail nurseries (one in Australia, one in New Zealand) have been created. The purpose of the awards is to raise awareness about the invasive garden plants problem. Awards will also give positive publicity to retail nurseries that do not sell well-known invasive garden plants and who support appropriate labelling schemes and customer education.
Criteria for the awards for nurseries (retail or Garden Centre) are the following:

- Has the nursery voluntarily removed invasive species, especially popular species sold by other nurseries?
- Does the nursery sell examples of local native flora?
- Is labelling of plants adequate e.g. do the plants have the correct scientific name, are potentially invasive species labelled as such?
- Is the nursery accredited by any industry associations(s)? Has the nursery a policy on invasive species and/or related issues such as sustainability, biodiversity conservation and/or agriculture protection?
- Does the nursery participate in any schemes such as 'Grow Me Instead' (or any similar schemes run by local government or community groups: 'Flora for Fauna', 'Water Wise', 'Frog Watch'). How much impact does this have on plant species stocked, other products sold, and education of customers? Does the nursery educate customers about environmental issues, including invasive species?

Source: Council of Australia Weed Society: http://home.vicnet.net.au/~weedss/

Additional key words: invasive alien plants, nursery industry **Computer codes:** AU

2007/064 Database of alien plants in Ireland

The database of Alien Plants in Ireland contains detailed information on 715 alien plant species currently occurring in (semi)natural habitats in Ireland (both the Republic of Ireland and Northern-Ireland) as casual, naturalized or invasive. It gives information on the invasiveness, reproduction, morphology, traits and habitats. In this database, invasive plants means "Naturalized plants that produce reproductive offspring, often in very large numbers, at considerable distances from parent plants, and thus have the potential to spread over a considerable area". In addition, information is available for 198 extinct alien species (not recorded after 1970).
The 65 following species are considered invasive in Ireland. The status of each species in the Global Compendium of Weeds (GCW) is given, to indicate their invasive behaviour elsewhere in the world. Abundance was ranked as rare (the invasive plant occurs in less than 900 km²), occasional (between 1000 and 4900 km²) or common (occurs in > 5000 km² and in at least five different vice-counties). The year of first record and mode of introduction are also given.

Species	Family	Origin	GCW status	Abundance	History
Acaena nova-zelandiae	Rosaceae	Australia, New Zealand	W, N, NW, EW	Rare, 600 km²	1952, accidentally introduced with wool, planted for ornamental purposes
Acer pseudoplatanus	Aceraceae	Eurasia	W, GE, EW	Common, 90,500 km²	1610, ornamental and forestry
Acorus calamus	Araceae	Asia	W, EW	Occasional, 1,000 km²	1744, ornamental and medicinal purposes
Allium carinatum	Liliaceae	Eurasia	W	Rare, 900 km²	1825, ornamental and food
Allium triquetrum	Liliaceae	Medit.	N, GE, EW	Common, 11,300 km²	1890, ornamental
Anisantha diandra	Poaceae	Medit.	/	Rare, 500 km²	1894, accidentally introduced with wool and grain and cultivated
Buddleja davidii	Buddlejaceae	Asia	W, QW, NW, GE, EW	Common, 25,300 km²	1857, ornamental
Calystegia pulchra	Convolvulaceae	Asia	/	Common, 8,800 km²	1885, ornamental
Centranthus ruber	Valerianaceae	Medit., Asia	W, GE, EW	Common, 31,200 km²	1866, ornamental
Cornus sericea	Cornaceae	N-Am.	/	Common, 9,400 km²	1858, ornamental
Coronopus didymus	Brassicaceae	Trop. S-Am.	W, EW	Common, 27,700 KM²	1879, ballast
Cotoneaster integrifolius	Rosaceae	Asia	/	Common, 190,200 km²	1902, ornamental
Cotoneaster simonsii	Rosaceae	Asia	W, QW, GE, EW	Common, 10,800 km²	1934, ornamental
Crepis vesicaria	Asteraceae	Medit, Asia	/	Common, 23,500 km²	1866, accidental introduction with grass seeds
Croscomia x croscomiifolia (= Tritonia x croscomiifolia)	Iridaceae	S-Af., Hort.	/	Common, 66,700 km²	1834, ornamental
Cymbalaria muralis	Scrophulariaceae	Medit.	W, GE, EW	Common, 52,900 km²	1866, ornamental
Elodea canadensis	Hydrocharitaceae	N-Am.	W, SW, QW, N, GE, EW	Common, 38,000 km²	1836, ornamental
Elodea nuttallii (EPPO List of IAS)	Hydrocharitaceae	N-Am.	W, EW	Occasional, 1,500 km²	1984, ornamental
Epilobium brunnescens	Onagraceae	New Zealand	/	Common, 38,400 km²	1933, ornamental
Erica terminalis	Ericaceae	Medit	/	Rare, 100 km²	Ornamental
Fagus sylvatica	Fagaceae	Eur.	/	Common, 70,500 km²	1866, forestry, ornamental?
Fallopia balduschianica	Polygonaceae	Asia	/	Rare, 900 km²	1973, ornamental

Fallopia japonica (EPPO List of IAS)	Polygonaceae	Asia	QW, N, EW	Common, 72,600 km²	1902, ornamental
Fallopia x bohemica (EPPO List of IAS)	Polygonaceae	Asia	/	Occasional, 1,200 km²	1975, ornamental, hybrid
Fuchsia magellanica	Onagraceae	S-Am.	W, GE, EW	Common, 47,600 km²	1907, ornamental, fodder
Gaultheria mucronata	Ericaceae	S-Am.	/	Occasional, 1700 km²	1920, ornamental
Gaultheria shallon	Ericaceae	N-Am.	/	Rare, 600 km²	1962, food and cover
Geranium pyrenaicum	Geraniaceae	Medit, Asia	/	Common, 10,800 km²	1866, ornamental
Gunnera tinctoria	Gunneraceae	S-Am.	SW, QW, EW	Common, 5,300 km²	1935, ornamental
Halogaris micrantha	Halogaraceae	Asia, Australia, New Zealand	/	Rare, 100 km²	Unknown
Hebe x franciscana	Scrophulariaceae	Hort.	/	Occasional, 3,500 km²	1904, ornamental
Heracleum mantegazzianum (EPPO List of IAS)	Apiaceae	Asia	QW, N, EW	Common, 14,200 km²	1860, ornamental
Hippophae rhamnoides	Elaeagnaceae	Eurasia	/	Occasional, 4,300 km²	1835, soil stabilisation
Hordeum murinum	Poaceae	Medit, Asia	/	Occasional, 4,200 km²	1750, wool
Hyacinthoides hispanica	Liliaceae	Euromed.	/	Occasional, 7,500 km²	1887, ornamental
Hyacinthoides non-scripta x H. hispanica	Liliaceae	Euromed.	/	Common, 8,000 km²	1887, ornamental
Hydrocotyle ranunculoides (EPPO A2 List)	Apiaceae	N-Am.	QW, N, EW	Rare	2002, ornamental
Impatiens parviflora	Balsaminaceae	Asia	/	Common, 22,600 km²	1906, ornamental
Juncus planifolius	Juncaceae	S-Am. Oceania	/	Rare, 300 km²	Unknown
Lagarosiphon major (EPPO List of IAS)	Hydrocharitaceae	S-Af.	QW, N, EW	Rare, 700 km²	1966, ornamental
Lagurus ovatus	Poaceae	Medit.	W, GE, EW	Rare, 200 km²	1874, ballast, ornamental
Lemna minuta	Lemanceae	Am.	QW	Rare, 500 km²	1933, ornamental
Leycesteria formosa	Caprifoliaceae	Asia	W, GE, EW	Common, 12,100 km²	1955, ornamental
Libertia chilensis	Iridaceae	S-Am.	/	Rare, 600 km²	1960, ornamental
Lysichiton americanus (EPPO A2 List)	Iridaceae	N-Am.	/	Occasional, 2,100 km²	1930, ornamental
Matricaria discoidea	Asteraceae	Asia	/	Common, 88,900 km²	1894, grain
Mimulus guttatus	Scrophulariaceae	N-Am.	EW	Occasional, 3,600 km²	1866, ornamental

Mimulus x robertsii	Scrophulariaceae	Hort.	/	Common, 11,500 km²	1865, ornamental
Mycelis muralis	Asteraceae	Eurasia	/	Common, 7,500 km²	1866, ornamental
Nymphoides peltata	Menyanthaceae	Eurasia	W, QW, EW	Occasional, 1,000 km²	1866, ornamental
Oenothera glazioviana	Oenotheraceae	N-Am.	W, EW	Occasional, 1,600 km²	1873, ornamental
Orobanche minor	Orobanchaceae	Eurasia	W, N, EW	Common, 6,800 km²	1866, clover seeds
Petasites fragrans	Asteraceae	Medit.	N, EW	Common, 52,000 km²	1866, ornamental
Poa palustris	Poaceae	Cosm.	W	Rare, 600 km²	1886, wool, grain, fodder
Prunus cerasus	Rosaceae	Asia	W, EW	Common, 20,000 km²	1866, food, ornament
Rhododendron ponticum (EPPO List of IAS)	Ericaceae	Eurasia	W, SW, EW	Common, 46,100 km²	1800, ornamental, shelter
Rubus spectabilis	Rosaceae	N-Am.	/	Common, 13,600 km²	1931, ornamental
Sarracenia purpurea	Saraceniaceae	N-Am.	/	Rare, 500 km²	1905
Selaginella kraussiana	Selleginaceae	Af.	W, QW, GE, EW	Occasional, 1,900 km²	1955, ornamental
Senecio cineraria	Asteraceae	Medit. Asia	W	Rare, 800 km²	1898, ornamental
Sisyrinchium californicum	Iridaceae	N-Am.	/	Rare, 100 km²	1896, ornamental
Spartina anglica	Poaceae	Eur.	W, QW, N, EW	Common, 6,900 km²	1925, soil stabilisation
Stratiotes aloides	Hydrocharitaceae	Eurasia	W, QW, N, EW	Rare, 700 km²	1805
Symphoricarpos albus	Caprifoliaceae	N-Am.	W	Common, 69,000 km²	1903, ornamental, game cover
Verbena officinalis	Verbenaceae	Eur.	W, GE, EW	Occasional, 3,800 km²	1866, medical

Abbreviations for the Global Compendium of Weeds column:
W: weed; NW: noxious weed; N: naturalized; QW: quarantine weed; GE: garden escape; EW: environmental weed; SW: sleeper weed; /: not quoted in the GCW.

Many of these species are considered invasive aliens in Ireland while they are native from other nearby EPPO countries. Species such as *Impatiens parviflora* and *Elodea canadensis* are recorded as invasive in almost all countries of the temperate and Mediterranean EPPO countries.

Some other species are also recorded as alien invasive in a few other EPPO countries:
- *Acaena nova-zelandae* is recorded as invasive in the United Kingdom (University of Liverpool Website),
- *Buddleja davidii* is recorded in the United Kingdom (University of Liverpool Website), France (Muller, 2005), Switzerland (Wittenberg, 2005), Germany (Neoflora website), Spain (San Elorza *et al.*, 2004), Italy (Lazio, L Celesti-Grapow *et al.*, pers. comm.) and potentially invasive in Austria (Essl & Rabitsch, 2004).
- *Cornus sericea* is considered invasive in Switzerland (Wittenberg, 2005).

- *Coronopus didymus* is considered invasive in Italy (Lazio, L Celesti-Grapow *et al*., pers. comm.) and in Greece (E Arvanitakis, pers. comm.).
- *Croscomia x croscomiifolia* is also recorded as invasive in the United Kingdom (University of Liverpool Website) and in Spain (San Elorza *et al.*, 2004).
- *Fallopia balduschianica* shows invasive behaviour in France (JM Tison, pers. comm.), in Italy (Lazio, L Celesti-Grapow *et al*., pers. comm.), in Spain (San Elorza *et al.*, 2004) and in Slovenia (Nejc Jogan, pers. comm.).
- *Fuschia magellanica* is recorded as invasive in the UK (University of Liverpool Website).
- *Gaultheria shallon* is recorded as invasive in the United Kingdom (University of Liverpool Website) and in Scotland (The Wildlife and Countrysite Act 1981).
- *Hyacinthoides hispanica* threatened *Hyacinthoides non-scripta* by competition and hybridization in the UK (University of Liverpool Website) and in Scotland (The Wildlife and Countrysite Act 1981).
- *Lemna minuta* is recorded as invasive in Belgium (Invasive Species in Belgium Website), the Netherlands (Plant Protection Service, pers. comm.), the United Kingdom (University of Liverpool Website) and France (Muller, 2005).
- *Matricaria discoidea* is recorded as invasive in Germany (Federal Biological Centre for Agriculture and Forestry, pers. comm.), the Netherlands (Plant Protection Service, pers. comm.), Czech Republic (National Plant Protection Service, pers. comm.), the United Kingdom (University of Liverpool Website) and Serbia (Danijela Stesevic *et al*.; pers. comm.).
- *Mimulus guttatus* is present in many countries but is recorded as invasive in Czech Republic (Pyšek *et al*., 2002) and in Poland (W Solarz, pers. comm.).
- *Oenothera glazioviana* is recorded as invasive in Spain (San Elorza *et al.*, 2004).
- *Symphoricarpos albus* is recorded as invasive in Germany (Federal Biological Centre for Agriculture and Forestry, pers. comm.), Czech Republic (Pyšek *et al*., 2002) and the United Kingdom (University of Liverpool Website).

Some other species are newly recorded as invasive for the region: *Calystegia pulchra, Cotoneaster integrifolius, Cotoneaster simonsii, Epilobium brunnescens, Gaultheria mucronata, Halogaris micrantha, Hebe x franciscana, Juncus planifolius, Leycesteria formosa, Libertia chilensis, Mimulus x robertsii, Prunus cerasus, Rubus spectabilis, Sarracenia purpurea, Selaginella kraussiana, Sisyrinchium californicum* and *Stratiotes aloides.*

Source:

Database of the alien plants in Ireland. http://www.biochange.ie/alienplants

Essl F, Rabitsch W (2002) Austrian action plan on invasive alien species. Federal Ministry of Agriculture, Forestry, Environment and Water Management. Vienna. 15 pp. http://www.umweltbundesamt.at/fileadmin/site/umweltthemen/naturschutz/Neobiota_Engl.pdf

Invasive Species in Belgium Website. http://ias.biodiversity.be/?searchterm=invasive%2520plants

Muller S (Coord.) (2005) Plantes invasives en France. (Patrimoines naturels, 62). Museum National D'Histoire Naturelle, Paris. 168 p.

Neoflora website (Germany). http://www.floraweb.de/neoflora/

Pyšek P, Sádlo J, Mandák B (2002) Catalogue of alien plants of the Czech Republic. *Preslia, Praha*, **74**: 97-186.

San Elorza M, Dana Sanchez E D, Sobrino Vesperinas E (eds.) (2004) Atlas de las plantas aloctonas invasoras en Espana. Direccion para la biodiversidad. Madrid, 384 pp.

University of Liverpool – Invasive Non Native Species in the UK http://138.253.199.114/IAAP%20Web/IAAPwebsite/index.asp

Wittenberg R (ed.) (2005) An inventory of alien species and their threat to biodiversity and economy in Switzerland. CABI Bioscience Switzerland Centre

report to the Swiss Agency for Environment, Forests and Landscape. http://www.umwelt-schweiz.ch/buwal/fr/fachgebiete/fg_biotechnologie/news/2005-09-26-00893/index.html

The Wildlife and Countrysite Act 1981 http://www.opsi.gov.uk/legislation/scotland/ssi2005/20050308.htm

Additional key words: invasive alien plants, new records

Computer codes: ACENC, ACRPP, ACSCA, ALLCN, ALLTQ, BRODI, BUDDA, CNERU, CRWSR, COPDI, CVPVV, TTRCR, CBYMU, ELDCA, ELDNU, EIATE, FAUSY, BIRKA, POLCU, REYBO, FUCMA, PEYMU, GAHSH, GERPY, GUATI, HERMZ, HIORH, HORMU, HCJHI, HYDRA, IPAPA, IUNPL, LGAMA, LASOV, LEMMT, LEYFO, LSYAM, MATMT, MIUGU, MYLMU, NYPPE, ORAMI, PEDFR, POAPA, PRNCE, RHOPO, RUBSP, SRNPU, SELKR, SENBI, SISCL, SPTAN, STTAL, SYPAL, VEBOF, AU, BE, CH, CZ, DE, ES, FR, GB, GR, IE, IT, NL, PO, SE, SI

2007/065 XVI International Plant Protection Congress (Glasgow, GB, 2007-10-15/18)

The XVI International Plant Protection Congress is to be held in Glasgow (GB), on 2007-10-15/18. Among the 40 platforms, a double session will be organized on "Assessing and managing the risks posed by invasive alien species". Presentations which describe methods for assessing the potential entry, establishment, spread and impacts of alien species that threaten crops and biodiversity or which explore novel measures for their management are sought.

Source: British Crop Production Council - XVI International Plant Protection Congress http://www.bcpc.org/IPPC2007/

Additional key words: invasive alien species, conference

Computer codes: GB