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2007/124 A review of Plum pox virus

At the initiative of Drs Capote, Cambra, and Llácer from IVIA Valencia (ES), a review of *Plum pox virus* (*Potyvirus*, PPV - EPPO A2 List) was published in the *Bulletin OEPP/EPPO Bulletin*. It includes a large number of papers written by PPV experts on the following topics: geographical distribution, host plants and symptomatology, genetics, diagnostics, epidemiology, control, breeding, plant-virus interactions. The EPPO Secretariat has extracted below some detailed information.

- PPV strains

According to their serological and molecular properties, PPV isolates have now been grouped into 6 types or strains (the main ones being M and D):

- PPV-D (Dideron)
- PPV-M (Marcus)
- PPV-EA (El Amar)
- PPV-C (Cherry)
- PPV-W (Winona) - these isolates were found in Canada and found distinct from all other known strains. Because all infected trees have been removed, these strains are no longer found in the field.
- PPV-Rec (recombinant between D and M strains).

- Geographical distribution

PPV was first described in Bulgaria in 1932, although the disease had been observed earlier (as early as 1917-1918). It progressively spread to a large part of Europe, around the Mediterranean Basin and reached the Near East. More recently, it was found in the Americas and in Asia. Detailed information is provided in this review about the countries listed below. In addition, it can be noted that PPV is reported for the first time from Pakistan and that recent surveys have confirmed that PPV is still absent from Finland, Lebanon, Australia, and New Zealand.

EPPO region: Albania (PPV-D, PPV-M, PPV-Rec), Bosnia and Herzegovina (PPV-D, PPV-M, PPV-Rec), Bulgaria (PPV-D, PPV-M), Croatia (PPV-D, PPV-M), Czech Republic (PPV-D, PPV-M, PPV-Rec), Egypt (PPV-EA), France (PPV-D, PPV-M), Germany (PPV-D, PPV-M, probably also PPV-Rec), Greece (PPV-D, PPV-M), Hungary (PPV-D, PPV-M, PPV-C), Italy (PPV-D, PPV-M, PPV-Rec, PPV-C no longer found), Lithuania (PPV-D), Moldova (PPV-C), Netherlands, Norway (PPV-D), Poland (PPV-D, PPV-M), Romania (PPV-D, PPV-M, PPV-C, PPV-Rec), Russia, Serbia (PPV-D, PPV-M, PPV-Rec), Slovakia (PPV-D, PPV-M, PPV-Rec), Slovenia (PPV-D, PPV-M), Spain (PPV-D, PPV-M was eradicated), Switzerland, Tunisia (PPV-D), Turkey (PPV-D, PPV-M), Ukraine, United Kingdom (PPV-D).

Africa: Egypt (PPV-EA), Tunisia (PPV-D).

Asia: China (Hunan Province but no other data has been obtained since 2003), Iran, Kazakhstan (PPV-D), Pakistan (PPV-D, PPV-Rec; see also EPPO RS 2007/126), Syria (PPV-D, PPV-M).

North America: Canada (Ontario, but eradicated from Nova Scotia; PPV-D, PPV-W eradicated), USA (Michigan, New York, Pennsylvania; PPV-D).

South America: Argentina (PPV-D), Chile (Metropolitan and VI Region; PPV-D).

- New or confirmed hosts

The following plants have now been confirmed as host plants of PPV. However, the importance of herbaceous plants in the epidemiology of PPV is still being debated.

Ajuga genevensis, *Capsella bursa pastoris*, *Cichorium* sp. *Cirsium arvense*, *Clematis* sp. *Convolvulus arvensis*, *Euonymus europaea*, *Lactuca serriola*, *Ligustrum vulgare*, *Lythospermum arvensis*, *Prunus cerasifera*, *P. japonica*, *P. mandshurica*, *P. mexicana*, *P. persica* f. *atropurpurea*, *P. serotina*, *P. spinosa*, *P. blireana*, *Rorippa sylvestris*, *Rumex crispus*, *Taraxacum officinale*, *Veronica hederifolia*.

Source: Capote N, Cambra M, Llácer G, Petter F, Platts LG, Roy AS, Smith IM (eds) (2006) A review of *Plum pox virus*. *Bulletin OEPP/EPPO Bulletin* 36(2), 201-349.

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

Computer codes: PPV000

2007/125 First report of *Plum pox virus* in Montenegro

In Montenegro, studies on the presence of *Plum pox virus* (*Potyvirus*, PPV - EPPO A2 List) were conducted in 2006, in both extensive and intensive plum orchards (*Prunus domestica*) near Nikšić (west of the country). Mild to severe symptoms were observed in 15 orchards, usually on a few trees only. In total, 19 samples were collected and tested (ELISA and molecular tests). Results showed the presence of PPV-D, PPV-M and PPV-Rec. This is the first published report confirming the occurrence of PPV in Montenegro.

The situation of *Plum pox virus* in Montenegro can be described as follows: Present, its occurrence was confirmed in 2007. PPV-M, PPV-D and PPV-Rec were detected.

Source: Viršček Marn M, Mavrič Pleško I, Zindović J (2007) The discovery and characterization of *Plum pox virus* (PPV) isolates in Montenegro. *New Disease Reports* volume 15 (February - July 2007).
<http://www.bspp.org.uk/ndr/july2007/2007-59.asp>

Additional key words: new record

Computer codes: PPV000, ME

2007/126 First finding of *Plum pox virus* in Pakistan

In Pakistan, several apricot trees (*Prunus armeniaca*) showing virus symptoms were observed in a small orchard in the Baltistan District (north of Pakistan) located at an altitude of 2400 m. Dried leaf samples taken from one symptomatic tree were tested (ELISA) for the presence of *Plum pox virus* (*Potyvirus*, PPV - EPPO A2 List) and gave positive results. Molecular studies showed that two different PPV isolates were present: PPV-D and PPV-Rec. Further studies are needed to better understand the situation of PPV in Pakistan, but this is the first indication that PPV occurs in this country.

The situation of *Plum pox virus* in Pakistan can be described as follows: Probably present, first detected in 2006 in 1 tree, Baltistan District (north), confirmation studies are needed.

Source: Kollerová E, Nováková S, Šubr Z, Glasa M (2006) *Plum pox virus* mixed infection detected on apricot in Pakistan. *Plant Disease* 90(8), p 1108.

Additional key words: new record

Computer codes: PPV000, PK

2007/127 Typing of *Plum pox virus* strains in Cyprus

In Cyprus, *Plum pox virus* (*Potyvirus*, PPV - EPPO A2 List) was first detected in 1982 in the western part of the island on apricots (*Prunus armeniaca*), peaches (*P. persica*) and plums (*P. domestica*). At that time, and until recently, only PPV-M was detected. During 2004-2005, a survey was conducted in the main stone fruit producing areas of Cyprus. A total of 72 leaf samples were collected from peach, apricot and plum trees (symptomatic or asymptomatic) from the areas of Agros, Kyperounda, Galata, Pera, Psimolophou, Akchelia and Avdimou, and tested by ELISA and RT-PCR. Out of the 72 tested samples, 42 were found positive (88% apricot, 75% plum and 73% peach trees). Results also showed that PPV-M was the predominant strain. However, PPV-D was detected for the first time in Cyprus on peach samples from the area of Agros.

The situation of *Plum pox virus* in Cyprus can be described as follows: Present, found in the main stone fruit producing areas, both PPV-M and PPV-D are detected.

Source: Papayiannis LC, Kyriakou A, Kapari-Isaia T (2007) Typing of *Plum pox virus* (PPV) strains in Cyprus. *Australasian Plant Disease Notes* 2(1), 29-30.
<http://www.publish.csiro.au/journals/apdn>

Additional key words: detailed record

Computer codes: PPV000, CY

2007/128 Studies on a new disease of tomato in Spain called 'torrao' or 'cribado'

Since spring 2001, a new disease called 'cribado' or 'torrao', has been observed on tomatoes grown under protected conditions in the region of Murcia, in Spain. Affected plants show necrotic lesions at the base of the leaflets, which later turn into shot holes (hence the Spanish name 'cribado'). Longitudinal necrotic lesions also appear on the stems, necrotic line patterns or blotches followed by deformations appear on the fruits rendering them unmarketable. Affected plants present a general burnt-like appearance (hence the Spanish name 'torrao'). In Spain, several methods were used to try to identify the causal agent (symptomatology, serology, molecular tests, electron microscopy and transmission trials) on a large number of symptomatic tomato samples during the last 6 years. On the basis of symptomatology, it was considered that the disease mainly occurs in Murcia and Islas Canarias (Tenerife, Gran Canaria) and to a lesser extent in Almeria (Andalucia), Alicante (Comunidad Valenciana) and Baleares (Mallorca). Similar symptoms were observed in the provinces of Vizcaya (Pais Vasco), Tarragona (Catalunya) and Valencia (Comunidad Valenciana) but were finally attributed to *Parietaria mottle virus* (*Ilarvirus*). Preliminary results of ELISA and PCR analysis showed that from a total of 369 samples, 67% tested positive for *Pepino mosaic virus* (*Potexvirus* - EPPO Alert List). However, in transmission assays, symptoms could only be reproduced in 2 plants grafted with infected plants (the rest of the inoculated plants showed typical symptoms of PepMV). Further molecular studies showed that 89% of the PepMV isolates detected in diseased tomato plants corresponded to the 'Chilean 2' isolate of PepMV.

In other studies done in the Netherlands (Verbeek *et al.*, 2007), a new virus was isolated from tomato plants in Murcia showing similar symptoms and tentatively called Tomato torrado virus (ToTV). Phylogenetic analyses suggested that this new virus might belong to a new genus (close to *Sequivirus*, *Sadwavirus* and *Cheravirus*).

Following this report, further experiments were done in Spain and 94 samples, which had been collected in tomato glasshouses in Murcia from 2003 to 2006, were tested for the presence of this newly described virus (RT-PCR, molecular hybridization). 87 samples

tested positive for ToTV. In 83 of these samples, ToTV was detected in association with PepMV (mainly 'Chilean 2' isolate). It is concluded that this new tomato disease is probably a syndrome involving ToTV and particular strains of PepMV, as well as other factors which remain to be determined.

Source: Alfaro-Fernández A, Córdoba Sellés MC, Cebrián Micó MC, Font I, Juárez M, Medina V, Lacasa A, Sánchez Navarro, Pallás V, Jordá Gutiérrez C (2007) [Advances in the study of tomato 'Torrao' or 'Cribado' syndrome.]. *Boletín de Sanidad Vegetal, Plagas* 33(1), 99-109.
 Alfaro-Fernández A, Córdoba Sellés MC, Cebrián Micó MC, Font I, Juárez M, Medina V, Lacasa A, Sánchez Navarro, Pallás V, Jordá Gutiérrez C (2006) [Tomato necrosis disease: 'torrao' or 'cribado']. *Boletín de Sanidad Vegetal, Plagas* 32(4), 545-562.
 Jordá C, Martínez L, Córdoba MC, Martínez O, Juárez M, Font I, Lacasa A, Guerrero MM, Cano A, Monserrat A, Barceló N, Alcázar A (2003) El 'cribado' o 'torrao', ¿una nueva enfermedad del cultivo del tomate? *Phytoma España* no.152, 130-136.
 Verbeek M, Dullemans AM, van den Heuvel JFJM, Maris PC, van der Vlugt RAA (2007) Identification and characterization of tomato torrado virus, a new plant picorna-like virus from tomato. *Archives of Virology* 152(5), 881-890.

Additional key words: detailed record

Computer codes: PEPMV0, TOTV00, ES

2007/129 Situation of *Pepino mosaic potexvirus* in Switzerland

In Switzerland, *Pepino mosaic virus* (*Potexvirus* - EPPO Alert List) was first found in the canton of Fribourg in 2004 (see EPPO RS 2006/056). All infected tomato plants were destroyed and the outbreak was eradicated. However, a few other cases have been reported since then in the cantons of Ticino and Zurich.

The situation of *Pepino mosaic virus* in Switzerland can be described as follows: Present, few outbreaks found in the cantons of Ticino and Zurich.

Source: Ramel ME, Gugerli P, Gilli C (2007) La mosaïque du pépino sur tomate. *Revue suisse de Viticulture, Arboriculture, Horticulture* 39(3), 211-212.

Additional key words: detailed record

Computer codes: PEPMV0, CH

2007/130 Situation of flavescence dorée and its vector *Scaphoideus titanus* in Switzerland

In Switzerland, Grapevine flavescence dorée phytoplasma (EPPO A2 List) remains confined to the canton of Ticino, where it was first found in 2004. In this canton, the disease was recently observed for the first time in the Sopraceneri region (north part), in the vineyards of Magadino, Sementina, Losone and Gerra Piano. The insect vector of the disease, *Scaphoideus titanus*, occurs in Ticino, as well as in a few vineyards in the cantons of Geneva and Vaud. In 2007, mandatory control against *S. titanus* will be applied over a total surface of 600 ha of vineyards. The control strategy includes three insecticide applications with different active substances (buprofezin, chlorpyrifos or chlorpyrifos-methyl) targeting different stages of the insect. The possible use of biological control methods is also currently being studied. Finally, preliminary experiments on the efficacy of hot water treatment (50°C during 15 min) in eliminating the phytoplasma from grapevine planting material gave satisfactory results.

The situation of Grapevine flavescence dorée phytoplasma in Switzerland can be described as follows: Present, few outbreaks found in the canton of Ticino, under official control.

- Source: Dupraz P, Schaub L (2007) Lutte contre le phytoplasme de la flavescence dorée : l'eau chaude a été réinventée ! *Revue suisse de Viticulture, Arboriculture, Horticulture* 39(2), 113-115.
- Linder C, Jermini M (2007) Biologie et distribution du vecteur de la flavescence dorée dans les vignobles. *Revue suisse de Viticulture, Arboriculture, Horticulture* 39(2), 97-101.
- Ramel ME, Gugerli P, Gilli C (2007) Faits marquants en 2006 à Agroscope ACW. *Revue suisse de Viticulture, Arboriculture, Horticulture* 39(3), 159-167.
- Schaerer S, Johnston H, Gugerli P, Colombi L (2007) Flavescence dorée : la maladie et son extention. *Revue suisse de Viticulture, Arboriculture, Horticulture* 39(2), 107-110.
- Schaub L, Linder CH (2007) Surveillance nationale du vecteur de la flavescence dorée en 2006. *Revue suisse de Viticulture, Arboriculture, Horticulture* 39(2), 95-96.

Additional key words: detailed record

Computer codes: SCAPLI, PHYP64, CH

2007/131 Molecular studies confirm the presence of 'Candidatus Liberibacter asiaticus' in Pakistan

Citrus decline is widespread throughout Pakistan and is attributed to various abiotic and biotic reasons. However, it is suspected that the main cause of citrus decline is due to huanglongbing (greening) which is induced by a bacterium 'Candidatus Liberibacter asiaticus' (EPPO A1 List) and transmitted by *Diaphorina citri* (Homoptera: Aphalaridae - EPPO A1 List). The disease occurs in the nearby Indian provinces of Jammu, Kashmir, Punjab and Rajasthan. In Pakistan, the disease is considered present in Punjab Province and Peshawar (North-West Frontier Province) essentially on the basis of symptomatology. In recent studies, leaf samples were collected from symptomatic citrus trees in orchards at Rabaat, Temurgrah and Peshawar (North-West Frontier Province) and tested by PCR. Results confirmed the presence of 'Ca. L. asiaticus' in most tested samples. The bacterium was also detected in *Diaphorina citri* specimens collected near infected trees at Rabaat. For confirmation, amplicons obtained from leaves and psyllids were sequenced and found identical with a previously published sequence of 'Ca. L. asiaticus'. These results confirm the occurrence of 'Ca. L. asiaticus' in the North-West Frontier Province of Pakistan, but more studies are needed to better determine the extent of the disease within the country.

- Source: Chohan SN, Qamar R, Sadiq I, Azam M, Holford P, Beattie A (2007) Molecular evidence for the presence of huanglongbing in Pakistan. *Australasian Plant Disease Notes* 2, 37-38 (available online: <http://www.publish.csiro.au/journals/apdn/>).

Additional key words: detailed record

Computer codes: LIBEAS, PK

2007/132 First report of *Agrilus planipennis* in Pennsylvania (US)

On 2007-06-26, APHIS confirmed the detection of *Agrilus planipennis* (Coleoptera: Buprestidae - EPPO A1 List) in the Butler county, Pennsylvania (US). This detection was made during official surveys carried out along the Pennsylvania/Ohio border following the detection of *A. planipennis* in Ohio (see EPPO RS 2003/080). It is recalled that in the USA, *A. planipennis* has been reported in the following states: Illinois, Indiana, Maryland, Michigan, Ohio, and has been responsible for the decline of more than 25 million *Fraxinus* trees.

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

Source: NAPPO Pest Alert System. Official Pest Reports (2007-07-12) - Emerald Ash Borer (*Agrilus planipennis*) in Pennsylvania.
http://www.pestalert.org/oprDetail_print.cfm?oprid=266

Additional key words: detailed record

Computer codes: AGR IPL, US

2007/133 *Ips duplicatus* trapped in Belgium

So far, *Ips duplicatus* (Coleoptera: Scolytidae - EU Annexes) has not been known to occur in Belgium. In summer 2003, pheromone traps specific to *Ips typographus* were set up in the surrounding of unloading quays in the north of the city of Liège. In August 2003, *I. duplicatus* adults were caught at Herstal, a locality in which large volumes of *Picea* logs from Russia (Karelia) and the Baltic countries (where the pest occurs) have frequently been unloaded since 1999. It is considered that the caught insects were introduced with imported logs.

The situation of *Ips duplicatus* in Belgium can be described as follows: Transient, caught in 2003 near Liège.

Source: Piel F, Grégoire JC, Knížek M (2006) New occurrence of *Ips duplicatus* Sahlberg in Herstal (Liege, Belgium). *Bulletin OEPP/EPPO Bulletin* 36(3), 529-530.

Additional key words: new record

Computer codes: IPSXDU, BE

2007/134 Invasive and quarantine pests in forests in Slovakia

The distribution and importance of several invasive and quarantine pests in forests in Slovakia was presented in a paper from Zúbrik *et al.* (2006). The EPPO Secretariat has extracted the information concerning pests of regulatory concern, but the original paper also provides data on other invasive pests recently introduced into Slovakia (i.e. *Coleotechnites piceaella*, *Parectopa robiniella*, *Phyllonorycter robiniellus*).

Anoplophora glabripennis (Coleoptera: Cerambycidae - EPPO A1 List): Absent.

Cameraria ohridella (Lepidoptera: Gracillariidae - formerly on the EPPO Alert List): First reported in 1994 near Bratislava. It is now widespread in Slovakia (but absent in elevations above 800 m where *Aesculus hippocastanum* is rare).

Cryphonectria parasitica (EPPO A2 List): First reported in 1976 in Topol'čani district. It has spread to 24 more localities mostly in the western and central parts of Slovakia (Malokarpatsko - dolnopovažský, Inovecko - tribecsky, Stiavniko - krupinska).

Ips duplicatus (Coleoptera: Scolytidae - EU Annexes): First reported in 1920. It occurs in the north-west, near the border with the Czech Republic and Poland. It sporadically occurs in isolated parts in central Slovakia. No serious damage has been reported to date.

Mycosphaerella pini (EU Annexes): First found in 1996 in Velký Krtíš district (close to the Hungarian border). The fungus has gradually spread in many forests across Slovakia. However, there is no evidence of the occurrence of the fungus on seedlings or transplants in forest nurseries.

Phytophthora ramorum (EPPO Alert List): Absent.

Source: Zúbrik M, Kunca A, Turčani M, Vakula J, Leontovyc R (2006) Invasive and quarantine pests in Slovakia. *Bulletin OEPP/EPPO Bulletin*, 36(2), 402-408.

Additional key words: absence, detailed records

Computer codes: ANOLGL, ENDOPA, IPSXDU, LITHOD, PHYTRA, SCIRPI, SK

2007/135 *Homalodisca vitripennis* (*H. coagulata*) is spreading in the Pacific

*Homalodisca vitripennis** (Homoptera: Cicadellidae - EPPO A1 List) is an efficient vector of *Xylella fastidiosa* (EPPO A1 List). *H. vitripennis* originates from the south-east of the USA and north-east of Mexico. It was introduced into California (US) in 1998 and this was followed by an upsurge of *X. fastidiosa* disease outbreaks, in particular on grapevine (causing Pierce disease).

In 1999, *H. vitripennis* was discovered for the first time in French Polynesia on the Island of Tahiti (EPPO RS 2002/090). Within a few years, the pest invaded almost all islands in the Society Island group (Moorea in 2002 - Tahaa, Raiatea, Huahine, Bora Bora, Maupiti from 2001 to 2005), in the Marquesas Islands (Nuku Hiva in 2004), and in the Austral Islands (Tubuai and Rurutu in 2005). It is noted that in Tahiti and Moorea, pest populations have reached very high levels exceeding those observed in its native range or even in California. *X. fastidiosa* does not occur in French Polynesia but as a sap feeder *H. vitripennis* causes direct damage to many plants (e.g. *Cordyline* sp., *Hibiscus rosa-sinensis*, *Citrus* sp.,

Hibiscus tiliaceus, *Eucalyptus*, *Macadamia*, *Gardenia tahitiensis*). In addition, *H. vitripennis* can be a nuisance to human populations (large amounts of honeydew are produced under attacked shade trees and the pest can invade houses at night when attracted by light). Studies were done in French Polynesia on the use of a parasitoid (*Gonatocerus ashmeadi*, Hymenoptera: Mymaridae) to control *H. vitripennis* populations, and preliminary results were satisfactory.

It was also reported that *H. vitripennis* was first found in 2004 in Hawaii (US) and in 2005 on the Easter Island (Chile).

* It has recently been published that the valid name of this pest should be *Homalodisca vitripennis* and not *H. coagulata* (Takiya *et al.*, 2006).

Source: Takiya DM, McKamey SH, Cavichioli RR (2006) Validity of *Homalodisca* and of *H. vitripennis* as the name for glassy-winged sharpshooter (Hemiptera: Cicadellidae: Cicadellinae). *Annals of the Entomological Society of America* 99(4), 648-655.

INTERNET

South Pacific Research Station website. University of California, Berkeley. Lutte biologique contre la cicadelle pisseuse en Polynésie française.

<http://gwss.mooreascience.org/repartition1.htm>

IPP website (FAO). Control de *Homalodisca coagulata* en Isla de Pascua. January 2006. <https://www.ippc.int/id/118199?language=en>

Additional key words: detailed records, new records, taxonomy

Computer codes: HOMLTR, CH, PF, US

2007/136 *Poliaspis cycadis*: a new cycad scale found in Florida (US)

In 2007-05-02, a new cycad scale, *Poliaspis cycadis* (Hemiptera: Diaspididae), was recorded for the first time in Miami-Dade county, Florida (US) on *Dioon* sp. (Cycadaceae). *Poliaspis cycadis* is morphologically very similar to *Pseudaulacaspis cockerelli* and *Aulacaspis yasumatsui* (EPPO Alert List). Data is lacking on the biology of *P. cycadis* and its economic impact. In the USA, its presence was recorded in 1883 from cycads (*Dioon edule*, *Cycas revoluta*) and *Microsema* sp. (Brassicaceae) in Washington (District of Columbia). The scale was not reported again until 1993, when it was found in a private collection of cycads in California. Although data is lacking on its geographical distribution, *P. cycadis* is thought to originate from Asia. So far, *P. cycadis* has been recorded in India and in the United Kingdom.

Source: DOACS (Florida Department of Agriculture and Consumer Services). Pest Alert. The *Poliaspis* cycad scale *Poliaspis cycadis* Comstock (Hemiptera: Diaspididae): A new exotic scale insect for Florida.
http://www.doacs.state.fl.us/pi/enpp/ento/poliapsis_cycadis.html

Additional key words: new record

Computer codes: US

2007/137 Details on quarantine pests in Spain: 2006 situation

The journal 'Phytoma-España' presents the phytosanitary situation of the main crops in each region of Spain for the year 2006. The EPPO Secretariat has extracted the following information on several quarantine pests or pests of the Alert List.

*Acizzia jamatonica** (Homoptera: Psyllidae - formerly on the EPPO Alert List): Cataluña.

Bemisia tabaci (Homoptera: Aleyrodidae - EPPO A2 List): Andalucía, Cataluña, País Vasco (low populations).

Cameraria ohridella (Lepidoptera: Gracillariidae - formerly on the EPPO Alert List): Cataluña.

Ceratitis capitata (Diptera: Tephritidae - EPPO A2 List): Andalucía, Aragón, Baleares, Cataluña, Comunidad Valenciana, Extremadura, La Rioja, Murcia.

Ciborinia camelliae (EPPO A2 List): Asturias (widespread on *Camellia*).

Citrus tristeza virus (*Closterovirus* - EPPO A2 List): Cataluña (low incidence).

Clavibacter michiganensis subsp. *michiganensis* (EPPO A2 List): Cataluña, País Vasco (glasshouse tomatoes).

Cryphonectria parasitica (EPPO A2 List): Cataluña.

Cucumber vein yellowing virus (*Ipomovirus* - EPPO A2 List): Andalucía.

Cucurbit yellow stunting disorder virus (*Crinivirus* - EPPO A2 List): Andalucía.

Erwinia amylovora (EPPO A2 List): Castilla y León, La Rioja, Navarra (in 1 pear orchard). In all cases, eradication measures were applied and all infected trees were destroyed.

Eutetranychus orientalis (Thysanoptera: Thripidae - EPPO A2 List): Andalucía.

Frankliniella occidentalis (Thysanoptera: Thripidae - EPPO A2 List): Andalucía, Aragón, Cataluña, Comunidad Valenciana, Extremadura, Murcia.

Gibberella circinata (anamorph *Fusarium circinatum* - EPPO A2 List): Asturias (found in nurseries on *Pinus radiata*, *P. pinaster*, *P. canadiensis* and *P. palustris*, and in one forest plot; all infested plants were destroyed), País Vasco (*P. radiata*).

Gonipterus scutellatus (Coleoptera: Curculionidae - EPPO A2 List): Asturias (under biological control).

Helicoverpa armigera (Lepidoptera: Noctuidae - EPPO A2 List): Andalucía, Cataluña, Extremadura, La Rioja, Navarra.

Iris yellow spot virus (*Tospovirus* - EPPO Alert List): Comunidad Valenciana (on onion, low incidence).

Leptinotarsa decemlineata (Coleoptera: Chrysomelidae - EPPO A2 List): Baleares (well controlled), Extremadura.

Oligonychus perseae (Acari: Tetranychidae - EPPO Alert List): Andalucía (surprisingly also found on *Vitis*).

Paysandisia archon (Lepidoptera: Castniidae - EPPO A2 List): Baleares (Mallorca, Menorca), Cataluña, Comunidad Valenciana.

Pepino mosaic virus (*Potexvirus* - EPPO Alert List): Andalucía, Cataluña, Murcia.

Phytophthora ramorum (EPPO Alert List): Asturias (1 outbreak eradicated), País Vasco (on rhododendron in 2 nurseries).

Plum pox virus (*Potyvirus* - EPPO A2 List): Comunidad Valenciana.

Ralstonia solanacearum (EPPO A2 List): Castilla y León (few positive samples).

Rhynchophorus ferrugineus (Coleoptera: Curculionidae - EPPO A2 List): Baleares (Mallorca), Cataluña, Comunidad Valenciana.

Tomato chlorosis virus (*Crinivirus* - EPPO A2 List): Andalucía, Cataluña.

Tomato spotted wilt virus (*Tospovirus* - EPPO A2 List): Andalucía, Cataluña, País Vasco (glasshouse crops), Murcia, Navarra (glasshouse crops).

Tomato yellow leaf curl virus (*Begomovirus* - EPPO A2 List): Andalucía, Cataluña.

Toxoptera citricidus (Homoptera: Aphididae - EPPO A1 List): Asturias (found on the coastal area where citrus are grown), País Vasco (found in 1 small citrus orchard).

Xanthomonas fragariae (EPPO A2 List): Andalucía.

Weeds: The following plant species were reported causing problems in crops and usually treatments were needed.

Bacopa rotundifolia (Scrophulariaceae): Extremadura (in rice).

Sagittaria sp. (Alismataceae): Extremadura (in rice).

Sicyos angulatus (Cucurbitaceae - EPPO List of Alien Invasive Plants): Cataluña (in maize).

Solanum carolinense (Solanaceae): Cataluña (in maize).

* New record

Source: Anonymous (2007) Incidencia de plagas y enfermedades en las Comunidades Autónomas en 2006. *Phytoma-España* no. 187, 19-52 and no. 188, 16-56.

Additional key words: new record, detailed records

Computer codes: ACIZJA, BAORO, BEMITA, CERTCA, CSDV00, CTV000, CVYV00, ENDOPA, ERWIAM, EUTEOR, FRANOC, GIBBCI, GONPSC, HELIAR, IYSV00, LEPTDE, LITHOD, OLIGPA, PAYSAR, PEPMVO, PHYTRA, PPV000, PSDMSO, RHYCFE, SAGSS, SCLÉCA, SIYAN, SOLCA, TOCV00, TOXOCI, TSWV00, TYLCV0, XANTFR, ES

2007/138 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered the notifications of non-compliance for 2007 received via Europhyt since the previous report (EPPO RS 2007/098) from the EU member states. When a consignment has been re-exported and the country of origin is unknown, the re-exporting country is indicated in brackets. When the occurrence of a pest in a given country is not known to the EPPO Secretariat, this is indicated by an asterisk (*).

The EPPO Secretariat has selected notifications of non-compliance made because of the detection of pests. Other notifications of non-compliance due to prohibited commodities, missing or invalid certificates are not indicated. It should be pointed out that the report is only partial, as many EPPO countries have not yet sent their notifications.

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Agromyzidae	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	20
	<i>Polygonum odoratum</i>	Vegetables (leaves)	Vietnam	Czechia	2
Aleyrodidae	<i>Eryngium foetidum</i>	Vegetables (leaves)	Thailand	France	5
	<i>Ocimum</i>	Vegetables (leaves)	Thailand	France	2
<i>Aleyrodidae, Melanaspis paulista, Pseudoparlatoria parlatoroides, Helicotylenchus dihystra, Criconemoides</i>	<i>Trachycarpus fortunei</i>	Plants for planting	Brazil	United Kingdom	1
Aphididae	<i>Gypsophila</i>	Cut flowers	Israel	Cyprus	1
<i>Bemisia tabaci</i>	<i>Ajuga</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Callistemon</i>	Plants for planting	Israel	Netherlands	1
	<i>Citrus, Colocasia</i>	Fruits and vegetables	India	United Kingdom	1
	<i>Colocasia</i>	Vegetables	India	United Kingdom	2
	<i>Colocasia esculenta</i>	Vegetables	India	United Kingdom	2
	<i>Colocasia esculenta, Syzygium</i>	Fruits and vegetables	India	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Bangladesh	United Kingdom	1
	<i>Corchorus olitorius, Ipomoea batatas</i>	Vegetables (leaves)	Ghana	United Kingdom	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Thailand	Denmark	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Thailand	France	3
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Thailand	Ireland	2
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Vietnam	France	1
	<i>Euphorbia</i>	Cuttings	Zimbabwe	Netherlands	1
	<i>Euphorbia pulcherrima</i>	Cuttings	Germany	United Kingdom	1
	<i>Euphorbia pulcherrima</i>	Cuttings	Kenya	Netherlands	1
	<i>Euphorbia pulcherrima</i>	Plants for planting	Kenya	Netherlands	1
	<i>Euphorbia pulcherrima</i>	Cuttings	Kenya	Sweden	1
	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	1
	<i>Eustoma</i>	Cut flowers	Kenya	Netherlands	1
	<i>Hibiscus</i>	Plants for planting	Belgium	United Kingdom	1
	<i>Hibiscus</i>	Plants for planting	Netherlands	United Kingdom	6
	<i>Hibiscus rosa-sinensis</i>	Plants for planting	Belgium	United Kingdom	1
<i>Hibiscus rosa-sinensis</i>	Cuttings	USA	United Kingdom	1	
<i>Hypericum androsaemum</i>	Cut flowers	Peru	United Kingdom	1	
<i>Ipomoea batatas</i>	Vegetables (leaves)	Gambia	United Kingdom	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>B. tabaci</i> (cont.)	<i>Lantana camara</i>	Plants for planting	Denmark	United Kingdom	1
	<i>Mentha</i>	Vegetables (leaves)	Ghana	United Kingdom	3
	<i>Nerium oleander</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Thailand	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Colombia	United Kingdom	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	Sweden	1
	<i>Ocimum sanctum</i>	Vegetables (leaves)	Thailand	United Kingdom	4
	<i>Psidium guajava</i>	Fruits	India	United Kingdom	1
	<i>Salvia</i>	Cuttings	Israel	United Kingdom	1
	<i>Salvia officinalis</i>	Cuttings	Israel	United Kingdom	1
	<i>Solidago</i>	Cut flowers	Israel	Belgium	1
	<i>Solidago</i>	Cut flowers	Spain	United Kingdom	1
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Trachelium</i>	Cut flowers	Israel	Netherlands	2
	<i>Trachelium</i>	Cut flowers	Israel	United Kingdom	1
	Unspecified	Cuttings	Costa Rica	Sweden	1
	Unspecified	Leaves	Ghana	United Kingdom	1
	Unspecified	Vegetables	Malaysia	Ireland	1
<i>Verbena</i>	Cuttings	Kenya	Netherlands	1	
<i>Bemisia tabaci</i>, <i>Anastrepha obliqua</i>	<i>Hypericum</i>	Vegetables (leaves)	Zimbabwe	United Kingdom	1
<i>Bemisia tabaci</i>, <i>Thripidae</i>	<i>Citrus limon</i> , <i>Colocasia</i> , <i>Momordica charantia</i> , <i>Solanum melongena</i>	Fruits and vegetables	India	United Kingdom	1
<i>Clavibacter michiganensis</i> subsp. <i>michiganensis</i>	<i>Lycopersicon esculentum</i>	Seeds	Bolivia	Netherlands	1
<i>Contarinia maculipennis</i>	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	1
<i>Cryptophlebia leucotreta</i>	<i>Citrus paradisi</i>	Fruits	South Africa	Spain	1
	<i>Citrus unshiu</i>	Fruits	South Africa	Spain	1
	<i>Pyrus communis</i>	Fruits	South Africa	Germany	1
<i>Dialeurodes citri</i>	<i>Ilex</i>	Plants for planting	USA	United Kingdom	1
<i>Diaphania</i> <i>Diaphania indica</i>, <i>Ceratotheripoides brunneus</i>	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Momordica charantia</i>	Vegetables	Kenya	United Kingdom	1
<i>Ditylenchus</i>	<i>Schefflera</i>	Plants for planting	Guatemala	France	1
<i>Elsinoe</i>	<i>Citrus</i>	Fruits	Argentina	Spain	1
<i>Globodera pallida</i>	<i>Solanum tuberosum</i>	Ware potatoes	Italy	Lithuania	1
<i>Globodera rostochiensis</i>	<i>Solanum tuberosum</i>	Ware potatoes	Italy	Ireland	2
<i>Guignardia</i>	<i>Citrus maxima</i>	Fruits	China	Netherlands	2
<i>Guignardia citricarpa</i>	<i>Citrus limon</i>	Fruits	Brazil	Netherlands	1
	<i>Citrus sinensis</i>	Fruits	Brazil	Netherlands	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb	
<i>Helicotylenchus</i>	<i>Cymbidium</i>	Plants for planting	Guatemala	France	1	
<i>Helicotylenchus dihystrera</i>	<i>Butia capitata</i>	Plants for planting	Brazil	United Kingdom	1	
<i>Helicoverpa</i>	<i>Chrysanthemum</i>	Cut flowers	Kenya	Netherlands	1	
	<i>Coleus</i>	Cuttings	Kenya	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Zimbabwe	Netherlands	1	
<i>Helicoverpa armigera</i>	<i>Capsicum frutescens</i>	Vegetables	Ghana	United Kingdom	1	
	<i>Dianthus</i>	Cut flowers	Israel	Netherlands	1	
	<i>Dianthus</i>	Cut flowers	Kenya	Netherlands	9	
	<i>Dianthus</i>	Cut flowers	South Africa	Netherlands	1	
	<i>Dianthus caryophyllus</i>	Cut flowers	Turkey	United Kingdom	1	
	<i>Dolichos lablab</i>	Vegetables	Ghana	United Kingdom	1	
	<i>Eryngium</i>	Cut flowers	Kenya	Netherlands	4	
	<i>Eryngium</i>	Cut flowers	Tanzania	Netherlands	1	
	<i>Eryngium</i>	Cut flowers	Zimbabwe	Netherlands	1	
	<i>Gypsophila</i>	Cut flowers	Ethiopia	Netherlands	1	
	<i>Gypsophila paniculata</i> ,	Cut flowers	Kenya	Netherlands	1	
	<i>Rosa</i>					
	<i>Ocimum</i>	Vegetables (leaves)	Thailand	United Kingdom	1	
	<i>Phaseolus vulgaris</i>	Vegetables	Egypt	Netherlands	1	
	<i>Pisum</i>	Vegetables	Kenya	Netherlands	1	
	<i>Pisum</i>	Vegetables	Kenya	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Burundi	Netherlands	2	
	<i>Rosa</i>	Cut flowers	Ethiopia	Netherlands	7	
	<i>Rosa</i>	Cut flowers	India	Netherlands	3	
	<i>Rosa</i>	Cut flowers	Kenya	Netherlands	7	
	<i>Rosa</i>	Cut flowers	Malawi	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Tanzania	Netherlands	5	
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	2	
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Zambia	Germany	1	
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	7	
<i>Rosa</i>	Cut flowers	Zimbabwe	Netherlands	37		
<i>Solidago</i>	Cut flowers	Egypt	Netherlands	1		
<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1		
<i>Hirschmanniella</i>	<i>Vallisneria</i>	Aquarium plants	Singapore	Poland	1	
	<i>Vallisneria</i>	Aquarium plants	Thailand	Poland	2	
Lepidoptera	<i>Solanum melongena</i>	Vegetables	Bangladesh	United Kingdom	1	
<i>Leptinotarsa decemlineata</i>	<i>Lactuca sativa</i>	Vegetables	France	United Kingdom	1	
	<i>Raphanus</i>	Vegetables	Germany	United Kingdom	1	
	<i>Valerianella locusta</i>	Vegetables	France	United Kingdom	1	
<i>Leucinodes orbonalis</i>	<i>Solanum gilo</i>	Vegetables	Ghana	United Kingdom	1	
	<i>Solanum melongena</i>	Vegetables	India	Germany	1	
	<i>Solanum melongena</i>	Vegetables	Thailand	Germany	2	
	<i>Solanum melongena</i>	Vegetables	Vietnam	Germany	1	
	<i>Solanum melongena</i> , <i>S. torvum</i>	Vegetables	Thailand	Germany	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Liriomyza</i>	<i>Gypsophila</i>	Cut flowers	Israel	Belgium	2
	<i>Gypsophila paniculata</i>	Cut flowers	Israel	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Thailand	Sweden	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Ireland	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	Denmark	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	2
	<i>Ocimum canum</i>	Vegetables (leaves)	Syria	Denmark	1
	<i>Ocimum canum</i>	Vegetables (leaves)	Thailand	United Kingdom	1
<i>Liriomyza huidobrensis</i>	<i>Chrysanthemum</i>	Cut flowers	Costa Rica	Netherlands	1
	<i>Eryngium</i>	Cut flowers	Kenya	Netherlands	3
	<i>Eryngium</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Ecuador	Netherlands	7
<i>Liriomyza sativae</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	Netherlands	4
	<i>Ocimum basilicum</i> , <i>Ocimum canum</i>	Vegetables (leaves)	Thailand	Netherlands	1
	<i>Ocimum canum</i>	Vegetables (leaves)	Thailand	Netherlands	1
<i>Liriomyza trifolii</i>	<i>Aster</i>	Cut flowers	Israel	Netherlands	1
	<i>Chrysanthemum</i>	Cut flowers	Colombia	Netherlands	1
	<i>Eustoma</i>	Cut flowers	Turkey	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Egypt	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Ethiopia	Netherlands	5
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	3
	<i>Solidago</i>	Cut flowers	Israel	Netherlands	1
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
<i>Liriomyza trifolii</i> , <i>Thripidae</i>	<i>Aster</i> , <i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1
<i>Milviscutulus mangiferae</i>	<i>Dracaena</i>	Plants for planting	Singapore	United Kingdom	1
Noctuidae	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	1
	<i>Pelargonium</i>	Cuttings	Spain (Canary Isl.)	France	1
<i>Opogona sacchari</i>	<i>Bougainvillea</i>	Plants for planting	China	Netherlands	1
	<i>Philodendron</i>	Plants for planting	Netherlands	Germany	1
<i>Paratylenchus</i>	<i>Oncidium</i>	Plants for planting	Guatemala	France	1
<i>Paysandisia archon</i>	<i>Phoenix canariensis</i>	Plants for planting	Spain	United Kingdom	1
<i>Pepino mosaic virus</i>	<i>Lycopersicon esculentum</i>	Seeds	Chile	France	1
	<i>Lycopersicon esculentum</i>	Fruits	Morocco	United Kingdom	1
	<i>Lycopersicon esculentum</i>	Fruits	Netherlands	United Kingdom	4
	<i>Lycopersicon esculentum</i>	Fruits	Spain	United Kingdom	1
	<i>Lycopersicon esculentum</i>	Fruits	Spain (Canary Isl.)	United Kingdom	2
<i>Phytophthora ramorum</i>	<i>Hamamelis</i> , <i>Rhododendron</i>	Plants for planting	Germany	Slovenia	1
	<i>Leucothoe</i> , <i>Rhododendron japonicum</i>	Plants for planting	Slovenia	Slovenia	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
	<i>Pieris japonica</i> , <i>Rhododendron</i>	Plants for planting	Germany	Slovenia	1
	<i>Rhododendron</i>	Plants for planting	Belgium	United Kingdom	1
	<i>Rhododendron</i>	Plants for planting	Germany	Estonia	1
	<i>Rhododendron</i>	Plants for planting	Germany	Slovenia	1
	<i>Rhododendron</i>	Plants for planting	Germany	United Kingdom	1
	<i>Rhododendron</i>	Plants for planting	Netherlands	United Kingdom	3
	<i>Rhododendron</i>	Plants for planting	Poland	Latvia	1
	<i>Rhododendron</i>	Plants for planting	Spain	Slovenia	1
	<i>Rhododendron</i>	Plants for planting	Germany	Denmark	1
	<i>catawbiense</i>				
	<i>Rhododendron japonicum</i>	Plants for planting	Germany	Slovenia	1
	<i>Rhododendron</i> <i>yakushimanum</i>	Plants for planting	France	United Kingdom	1
Potato spindle tuber viroid	<i>Solanum jasminoides</i>	Plants for planting	Germany	Belgium	1
	<i>Solanum jasminoides</i>	Plants for planting	Italy	United Kingdom	1
	<i>Solanum jasminoides</i>	Plants for planting	Netherlands	Belgium	2
	<i>Solanum jasminoides</i>	Plants for planting	Portugal	United Kingdom	4
Pratylenchus, Tylenchorhynchus, Rotylenchus	<i>Ilex crenata</i>	Plants for planting	Japan	Belgium	1
Pseudococcus	<i>Dracaena sanderiana</i>	Cuttings	Sri Lanka	Greece	1
Radopholus similis	<i>Anubias</i>	Aquarium plants	USA	Netherlands	1
	<i>Anubias barteri</i>	Aquarium plants	Thailand	Netherlands	1
Scutellonema, Neodolichorhynchus gladiolans	<i>Unspecified</i>	Soil and growing media	Mali	United Kingdom	1
Spodoptera	<i>Rosa</i>	Cut flowers	Zimbabwe	Netherlands	1
Spodoptera littoralis	<i>Ocimum basilicum</i>	Vegetables (leaves)	Spain (Canary Isl.)	United Kingdom	1
	<i>Rosa</i>	Cut flowers	India	Netherlands	2
	<i>Rosa</i>	Cut flowers	Malawi	Netherlands	1
	<i>Rosa</i>	Cut flowers	Tanzania	Netherlands	1
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	1
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	4
	<i>Rosa</i>	Cut flowers	Zimbabwe	Netherlands	32
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
Spodoptera, Thysanoptera	<i>Eustoma</i>	Cut flowers	Israel	Belgium	1
	<i>Eustoma</i>	Cut flowers	Israel	Germany	1
Spoladea recurvalis	<i>Amaranthus</i> , <i>Citrus</i> <i>aurantiifolia</i>	Cut flowers	Bangladesh	United Kingdom	1
Thripidae	<i>Asparagus</i>	Cut flowers	Egypt	Cyprus	1
	<i>Gladiolus</i>	Cut flowers	Egypt	Cyprus	1
	<i>Gypsophila</i>	Cut flowers	Egypt	Cyprus	1
	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	United Kingdom	4

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Thripidae</i> (cont.)	<i>Solanum gilo</i>	Vegetables	Ghana	United Kingdom	4
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	India	United Kingdom	1
<i>Thripidae, Diaphania indica</i>	<i>Momordica charantia</i>	Vegetables	Kenya	United Kingdom	1
<i>Thrips palmi</i>	<i>Aranthera, Aranda, Dendrobium, Mokara, Oncidium</i>	Cut flowers	Malaysia	Netherlands	1
	<i>Aranthera, Dendrobium, Mokara</i>	Cut flowers	Thailand	Netherlands	1
	<i>Dendrobium</i>	Cut flowers	Malaysia	Netherlands	2
	<i>Dendrobium</i>	Cut flowers	Singapore	Netherlands	1
	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	8
	<i>Mangifera indica</i>	Fruits	Surinam	Netherlands	1
	<i>Momordica</i>	Vegetables	Dominican Rep.	Netherlands	2
	<i>Momordica charantia</i>	Vegetables	Thailand	Netherlands	1
	<i>Momordica charantia</i>	Vegetables	Thailand	United Kingdom	1
	<i>Orchidaceae</i>	Cut flowers	Singapore	Austria	1
	<i>Orchidaceae</i>	Cut flowers	Thailand	Austria	1
	<i>Solanum</i>	Vegetables	Surinam	Netherlands	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	Netherlands	8
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	India	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	Surinam	Netherlands	3
<i>Solanum melongena</i>	Vegetables	Thailand	France	1	
<i>Thrips palmi, Leucinodes orbonalis, Aleuroclava</i>	<i>Colocasia, Solanum melongena</i>	Vegetables	India	United Kingdom	1
Thysanoptera	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	France	1
	<i>Momordica charantia</i>	Vegetables	India	France	2
	<i>Momordica charantia</i>	Vegetables	Thailand	France	9
	<i>Momordica charantia</i>	Vegetables	Vietnam	France	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	2
	<i>Solanum melongena</i>	Vegetables	India	France	2
<i>Solanum melongena</i>	Vegetables	Thailand	France	6	
<i>Tomato chlorotic dwarf viroid</i>	<i>Petunia</i>	Cuttings	Israel	United Kingdom	1
	<i>Petunia</i>	Plants for planting	Israel	United Kingdom	3
	<i>Petunia</i>	Cuttings	Portugal	United Kingdom	1
<i>Xanthomonas axonopodis</i> pv. <i>citri</i>	<i>Citrus</i>	Fruits	Bangladesh	United Kingdom	1
	<i>Citrus</i>	Fruits	India	United Kingdom	2
	<i>Citrus aurantiifolia</i>	Fruits	Bangladesh	United Kingdom	1

• Fruit flies

Pest	Consignment	Country of origin	Destination	nb
<i>Anastrepha</i>	<i>Mangifera indica</i>	Costa Rica	United Kingdom	1
	<i>Mangifera indica</i>	Jamaica	United Kingdom	1
<i>Anastrepha obliqua</i>	<i>Mangifera indica</i>	Costa Rica	United Kingdom	1
	<i>Mangifera indica</i>	Dominican Rep.	United Kingdom	3
	<i>Mangifera indica, Citrus hystrix, Momordica, Solanum melongena</i>	Dominican Rep.	United Kingdom	1
<i>Bactrocera</i>	<i>Psidium guajava</i>	Pakistan	United Kingdom	1
	<i>Psidium guajava</i>	Thailand	Netherlands	2
<i>Bactrocera dorsalis</i>	<i>Psidium guajava</i>	India	United Kingdom	1
Non-European Tephritidae	<i>Annona cherimola</i>	Peru	France	1
	<i>Capsicum annuum</i>	Thailand	France	3
	<i>Capsicum frutescens</i>	Thailand	France	4
	<i>Citrus nobilis</i>	Mexico	France	1
	<i>Diospyros kaki</i>	Brazil	France	1
	<i>Mangifera</i>	Dominican Rep.	United Kingdom	2
	<i>Mangifera</i>	Pakistan	United Kingdom	1
	<i>Mangifera indica</i>	Burkina Faso	France	1
	<i>Mangifera indica</i>	Cameroon	France	9
	<i>Mangifera indica</i>	Costa Rica	Belgium	1
	<i>Mangifera indica</i>	Dominican Rep.	United Kingdom	6
	<i>Mangifera indica</i>	Ghana	Germany	1
	<i>Mangifera indica</i>	India	France	1
	<i>Mangifera indica</i>	India	United Kingdom	1
	<i>Mangifera indica</i>	Pakistan	United Kingdom	9
	<i>Mangifera indica</i>	Peru	France	2
	<i>Mangifera indica</i>	Philippines	Netherlands	1
	<i>Mangifera indica</i>	Sri Lanka	France	2
	<i>Mangifera indica</i>	Sri Lanka	United Kingdom	1
	<i>Mangifera indica</i>	Vietnam	France	1
	<i>Momordica charantia</i>	Thailand	France	1
	<i>Passiflora edulis</i>	Israel	Netherlands	1
	<i>Psidium guajava</i>	Dominican Rep.	France	1
	<i>Psidium guajava</i>	Pakistan	France	2
	<i>Psidium guajava</i>	Thailand	France	2
	<i>Solanum melongena</i>	Ghana	Germany	1
	<i>Syzygium samarangense</i>	Thailand	France	5
Non-European Tephritidae, <i>Mycetaspis personata</i>	<i>Psidium guajava</i>	Brazil	United Kingdom	1

• Wood

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Anoplophora chinensis</i>	Unspecified	Packing wood	China	Germany	1
Bostrichidae	Unspecified	Wood and bark	Cameroon	Spain	2
	Unspecified	Packing wood	India	Germany	4
<i>Bursaphelenchus xylophilus</i> , <i>Scolytidae</i>	Coniferae	Wood and bark	Canada	Ireland	2
Cerambycidae	Bambusa (canes)	Wood and bark	China	United Kingdom	1
	Unspecified	Packing wood	China	Germany	1
<i>Cholophorus</i>	Unspecified	Packing wood	China	Belgium	1
Coleoptera	Picea	Wood and bark	Russia	Cyprus	1
Grub holes > 3 mm	Larix	Wood and bark	Russia	Finland	13
Insecta	Unspecified	Wooden objects	Vietnam	France	1
Scolytidae	Populus	Wood and bark	Russia	Cyprus	1
	Unspecified	Packing wood	India	Germany	2
Scolytidae, <i>Monochamus</i>	Unspecified	Packing wood	Syria	Cyprus	1
<i>Sinoxylon</i>	Unspecified	Packing wood	India	Germany	1
<i>Sinoxylon anale</i>	Unspecified	Packing wood	India	Germany	1
<i>Sinoxylon, Minthea</i>	Unspecified	Packing wood	India	Germany	1
<i>Sinoxylon, Tribolium castaneum</i>	Unspecified	Packing wood	India	Germany	1
<i>Tetropium</i>	Unspecified	Packing wood	Russia	Denmark	1

- Bonsais

Pest	Consignment	Country of origin	Destination	nb
<i>Cryphodera brinkmanii</i>	<i>Pinus pentaphylla</i>	Japan	Germany	1
Heteroderidae, <i>Criconemoides</i> , <i>Tylenchorhynchus</i> , <i>Pratylenchus</i> , <i>Rotylenchus</i>	<i>Pinus pentaphylla</i>	Japan	Belgium	1
<i>Meloidogyne</i> , <i>Pratylenchus</i> , <i>Trichodorus</i>	<i>Enkianthus perulatus</i> , <i>Ilex</i> <i>crenata</i>	Japan	Belgium	1
<i>Paratylenchus</i> , <i>Helicotylenchus</i> , <i>Meloidogyne</i>	<i>Acer</i>	Japan	Germany	1
<i>Pratylenchus</i>	<i>Acer buergerianum</i>	Japan	Germany	1
<i>Pratylenchus</i> , <i>Trichodorus</i>	<i>Ilex crenata</i>	Japan	Belgium	1
<i>Pratylenchus</i> , <i>Tylenchorhynchus</i> , <i>Heterodera</i> , <i>Criconemoides</i>	<i>Juniperus chinensis</i>	Japan	Belgium	1
<i>Pratylenchus</i> , <i>Tylenchorhynchus</i> , <i>Trichodorus</i>	<i>Acer</i>	Japan	Germany	1
<i>Rhizoecus</i>	<i>Serissa</i>	China	Netherlands	1
<i>Rhizoecus hibisci</i>	<i>Serissa</i>	China	Netherlands	2
<i>Tylenchorhynchus</i> , <i>Trichodorus</i> , <i>Criconemoides</i>	<i>Pinus pentaphylla</i>	Japan	Belgium	1
<i>Xiphinema</i>	<i>Acer palmatum</i> , <i>Ilex crenata</i>	Japan	Netherlands	1
	<i>Camellia</i>	Japan	Netherlands	1
	<i>Ilex crenata</i>	Japan	Netherlands	2
	<i>Taxus cuspidata</i>	Japan	Netherlands	1
<i>Xiphinema</i> , <i>Pratylenchus</i> , <i>Rotylenchus</i> , <i>Macroposthonia</i>	<i>Taxus cuspidata</i>	Japan	Germany	1

Source: EPPO Secretariat, 2007-07.

2007/139 Three invasive *Heracleum* in Europe

The genus *Heracleum* (Apiaceae) includes 60-70 species of perennial or biennial herbs, distributed in the temperate northern hemisphere and in high mountains as far south as Ethiopia. Centres of the highest species diversity are the Caucasus Mountains (26 species) and China (29 species), particularly Hengduan Mountains. There are three main invasive *Heracleum* in Europe: *H. mantegazzianum* (EPPO List of Invasive Alien plants), *H. sosnowskyi* (EPPO List of Invasive Alien plants) and *H. persicum*. They invade disturbed and also undisturbed ecosystems and cause health hazards by burning people's skin when in contact with them.

Heracleum mantegazzianum is a monocarpic perennial native to the Western Greater Caucasus (Russia, Georgia), where it grows in species-rich, tall-herb mountain meadows, clearings, and in forest margins up to the treeline of 2000 m above sea level. It was introduced as a garden ornamental plant around 1817 and the first naturalized population was documented in Cambridgeshire (GB) in 1828. At present, the species is recorded in at least 19 European countries, and was first noted before 1900 in 14 of these. It is also naturalized in Canada and the United States.

Heracleum sosnowskyi is a monocarpic perennial native to eastern and central Caucasus, Transcaucasia, and northeast Turkey. It was first introduced to Russia in 1947 as a highly productive fodder crop for livestock. Later it was introduced to other countries such as Belarus, Ukraine, the Baltic countries, and former East Germany. The planting schemes have been largely abandoned, although they still continue in parts of Russia.

Heracleum persicum is a polycarpic perennial native to Turkey, Iran, and Iraq. The status of this invasive species in Europe is still not fully resolved. The history of introduction of *H. persicum* is unclear. It was the first *Heracleum* species to be described, as early as 1829, and it is likely that some other large *Heracleum* spp. were misidentified as *H. persicum*. This makes the tracing-back of the *H. persicum* invasion into Europe difficult. Compared to the other two species, the distribution of *H. persicum* in Europe is restricted to Scandinavia. The genetic diversity of these *Heracleum* species has been investigated using a biogeographical approach. Plants of *H. mantegazzianum*, *H. sosnowskyi*, and *H. persicum* were sampled from across a wide geographical range in both native (Caucasus and south-west Asia) and invaded (Europe) distribution ranges.

The results confirmed that there are three distinct tall *Heracleum* species invading Europe. Within each of the three species, plants collected in the invaded range are genetically close to those from their native ranges. A close genetic relationship between the three invasive *Heracleum* species in Europe was also found. A high overall genetic variability detected in the invaded range suggests that rapid evolution, drift, or hybridization played a role in genetic structuring of invading populations. For *H. mantegazzianum*, genetic distance of populations in the native range significantly decreased with geographical distance, but not in the invaded range. In addition, results indicated that *H. laciniatum* is probably synonymous with *H. persicum*.

It is likely that the current pattern of genetic diversity in Europe resulted from multiple introductions of all three species.

Source: Jahodová Štrybush S, Pyšek P, Wade M and Karp A (2007) Invasive species of *Heracleum* in Europe: an insight into genetic relationship and invasion history. *Diversity and Distributions* 13, 99-114.
<http://www.blackwell-synergy.com/doi/pdf/10.1111/j.1366-9516.2006.00305.x>

Additional key words: invasive alien plants, genetic

Computer codes: HERMZ, HERPE, HERSO

2007/140 Does temperature limit the invasion of *Impatiens glandulifera* and *Heracleum mantegazzianum* in the United Kingdom?

The extent to which climate, as experienced along an elevational gradient, might limit the geographic distribution of the two invasive plants *Impatiens glandulifera* and *Heracleum mantegazzianum* (both on the EPPO List of Invasive Alien Plants) was examined. Seeds of both species were sown (in plastic bags to prevent their escape in the wild) in six elevation stations established across a representative elevational gradient in north-east England (10 to 600 m above sea level), including sites outside the current range of the species. Both species germinated readily at all elevations, even in areas well above their current limits within the study area. However, the plants were smaller at higher altitudes. *H. mantegazzianum* expressed high germination, seedling and adult survivorship across a wide range of elevation. This result is consistent with the species' native montane habitat, where cold winters occur. While climate may determine the absolute distribution of a species, this study indicates that the current lowland distribution of *H. mantegazzianum* in the UK may primarily reflect dispersal limitations and human influences, rather than climatic limits. *Impatiens glandulifera* produced fewer seeds with increasing elevation. For both species, overwinter survival of seeds was not related to winter temperatures or frost days. The results suggest that, of the two species, only *I. glandulifera* is currently limited by temperature, although this is not the only factor determining the distribution of the species.

Source: Willis SG, Hulme PE (2002) Does temperature limit the invasion of *Impatiens glandulifera* and *Heracleum mantegazzianum* in the UK? *Functional Ecology* 16, 530-539.

Additional key words: invasive alien plants

Computer codes: HERMZ, IPAGL, UK

2007/141 Removal of *Hydrocotyle ranunculoides* in England (GB)

Hydrocotyle ranunculoides (Apiaceae, EPPO A2 List) originates from North America and was introduced in the United Kingdom in the 1980s by the aquatic nursery trade. The plant is recorded in the wild in 35 sites in southern England and Wales, and is thought to have accidentally escaped from aquaria and garden ponds. It forms dense interwoven mats of vegetation on the water surface and out competes most native aquatic plants. It also causes desoxygenation of the water, affecting fish and invertebrate populations and choking drainage channels. The plant has proven to be difficult to control because of its rapid growth (up to 20 cm a day) and its ability to regrow from a single node.

In September 2004, dykes contaminated with *H. ranunculoides* along approximately 1 km were reported to the authorities by a surveyor of the Gillingham Marshes. The official authorities visited the site with all relevant partners and decided in October 2004 to take action to manage the invasive plant. It was removed using a mechanical digger in early February 2005. This was followed by extensive hand-picking by official staff and volunteers conducted at least once a month throughout the growing season (March till September 2005 and 2006). This step was essential to completely remove the floating fragments created by the digger. In addition, a mesh grid was set up to prevent floating fragments to spread. After removal, plants were disposed on the site to dry out and die as it was the most economic and ecological option, and piles were monitored on a monthly basis. If regrowth is observed, glyphosate treatments will be applied with the permission granted by the authorities.

The removal of *H. ranunculoides* has been a success at Gillingham Marshes but requires ongoing monitoring and intensive hand-picking as it has not been completely eradicated. The native aquatic vegetation is re-establishing. This experience highlights that rapid action and coordination between partners was essential for success.

Source: Kelly A (2006) Removal of invasive floating pennywort *Hydrocotyle ranunculoides* from Gillingham Marshes, Suffolk, England. *Conservation Evidence* 3, 52-53.

Additional key words: invasive alien plants, management

Computer codes: HYDRA, GB

2007/142 Invasion of the palm *Trachycarpus fortunei* in Japan

Trachycarpus fortunei (Arecaceae) originates from China and was introduced for ornamental purposes in several countries. But in some cases, *T. fortunei* has been able to invade adjacent areas. For example, the plant has escaped from gardens in Switzerland (Ticino) and in Japan.

In Japan, it was often planted in gardens because of its strong cold tolerance, and escaped and naturalized in adjacent fragmented forests. So far, the species has not been recorded as naturalized in large, continuous forests. The plant only reproduces by seeds which are dispersed by birds. The plant is usually dioecious, but sometimes bears both male and female flowers on one plant.

Distribution of the species was studied in a forest in upper Morito River in Miura Peninsula (Honshu), where annual mean temperature is 16.1°C and annual precipitation is 1634 mm. The area is hilly, with altitude varying from 20 to 200 m above sea level. The vegetation consists of planted *Cryptomeria japonica* (Taxodiaceae, evergreen tree) and of abandoned coppice forest of the deciduous tree *Quercus serrata* (Fagaceae).

Results showed that the palm usually forms a trunk after the leaf length has attained 120 cm. Juveniles without trunks made up 72% of the population. No plants taller than 6 m were found in the studied area, but many dead trunks of less than 6 m height were observed. Palms with stems taller than 2 m bore flowers and were considered adult. In the year of study, about 60% of adult plants flowered.

Distribution of adults and juveniles showed that the plant is spreading from adjacent residential and agricultural areas. Juveniles without trunks are likely to have strong shade tolerance, since they grow on the forest floor. However, the palm is considered to require light in its flowering stage. Since the estimated observed height of the palm is 6 m, which is lower than the height of the native Japanese forest's trees (composed for instance of *Eurya japonica*, Theaceae), it is expected that the palm will not become the dominant species in natural forests. The palm can nevertheless reproduce and colonize sites that are at least slightly open: in disturbed forests, under deciduous canopy, along riversides, in forests close to cliffs, and at forest edges. Although the palm will not dominate in natural forests, their species composition will be affected by the alien palm, and a serious reduction in native plants may be observed.

It is advised to remove adult palms by cutting their trunk, since adult plants do not resprout. However, juvenile plants produce new leaves when cut, and removing them is very labour intensive.

Source: Koike F (2006) Invasion of an alien palm (*Trachycarpus fortunei*) into a large forest. In: Koike F, Clout MN, Kawamichi M, De Poorter M, Iwatsuki K (eds) Assessment and control of biological invasion risks. Shokadoh book sellers, Kyoto, Japan, the World Conservation Union (IUCN), Gland, Switzerland. 200-203.

Additional key words: invasive alien plants, research

Computer codes: TRRFO, CH, JP

2007/143 *Lysichiton americanus* eradicated from the Netherlands

Lysichiton americanus (Apiaceae, EPPO A2 List) originates from North America and is used as an ornamental plant. The plant escapes from gardens and colonizes wet forests and bogs. It reproduces by seeds which are dispersed by water and animals and may survive for 5 years in the soil. In 2004, the plant was reported by a botanist as forming a dense willow thicket in well-developed vegetation in the Netherlands. After a survey, this was the only location found and was considered a remnant of a nursery for water plants situated on the same site, but abandoned in the 1950s. In this particular case, the owner of the site decided to cooperate with the Dutch Plant Protection Service to take action. Eradication was undertaken with volunteers in December 2004 by digging up the plant, when the level of water was low enough to allow access. Removed plants were destroyed by deep burial in dry ground. The operation was continued on June 2005 and no regrowth was observed. Since the plant forms a seed-bank, the site will be inspected every year and eradication will be considered successful only if no regrowth is observed for five years. Manual removal by volunteers proved to be efficient for a small outbreak of a slow-growing plant, but was difficult to organize in practice.

Source: Rotteveel AJW (2007) Initial eradication of *Lysichiton americanus* from the Netherlands. Abstract of the EWRS-Symposium in Hamar, Norway 2007-06-17/21, p. 36.

Additional key words: invasive alien plant, eradication

Computer codes: LYSAM, NL

2007/144 International Conference on novel and sustainable weed management in arid and semi-arid agro-ecosystems, Rehovot (IL), 2007-10-07/12

The European Weed Research Society and the Hebrew University of Jerusalem organize on 2007-10-07/12 an International Conference on novel and sustainable weed management in arid and semi-arid agro-ecosystems, Rehovot (IL). Topics covered are the following and will be related to the specific conditions prevailing in arid and semi-arid climates:

1. Weed management in arid and semi-arid farming systems: dry-land crops, irrigated crops
2. Bio-control and allelopathy in weed management
3. Integrated weed management and precision agriculture
4. Parasitic weeds
5. Herbicide resistant weeds and crops
6. Herbicide behaviour in soils, bio-remediation, and methyl bromide alternatives
7. Invasive weeds: biology, control and quarantine regulations
8. Weed biology, and ecology and modeling
9. Biotechnology and molecular biology in weed science
10. Application methods and formulations.

Abstracts must be submitted before 2007-09-01.

Source: International conference on Novel and Sustainable Weed Management in Arid and Semi-Arid Agro-Ecosystems (Rehovot, IL, 2007-10-07/12)
<http://www.agri.huji.ac.il/aridconference/index.html>

Additional key words: Invasive alien plants, conference

Computer codes: IL