ORGANISATION EUROPEENNE
ET MEDITERRANEENNE
POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN
PLANT PROTECTION
ORGANIZATION

EPPO Reporting Service

NO. 5 PARIS, 2011-05-01

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_____ ***Invasive Plants***

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2011/100 *Thaumatotibia leucotreta:* addition to the EPPO Alert List

Considering the repeated interceptions of *Thaumatotibia leucotreta* in imported consignments of citrus fruit from African countries, the EPPO Panel on Phytosanitary Measures considered that this pest should be added to the EPPO Alert List.

Thaumatotibia leucotreta (Lepidoptera: Tortricidae) – False codling moth

Why	*Thaumatotibia (=Cryptophlebia) leucotreta* has been regularly intercepted by several EPPO member countries. *T. leucotreta* is a significant pest of fruit trees (particularly citrus) and field crops in African countries south of the Sahara. The EPPO Panel on Phytosanitary Measures decided that this pest should be added to the EPPO Alert List.
Where	*T. leucotreta* is thought to originate from the Ethiopian region. EPPO region: Israel (locally present). In Israel, it was first found in 1984 on macadamia nuts (a crop which is no longer grown for commercial purposes). In 2003, it was still present but with a limited distribution on cotton and castor bean which are minor crops for Israel (EPPO RS 2003/015). In 2009, an incursion of *T. leucotreta* was detected in the Netherlands on glasshouse *Capsicum chinense,* and subsequently eradicated. Finally, the insect has been occasionally noticed by lepidopterists in several Northern European countries (e.g. the Netherlands, Sweden and the UK) but it is very unlikely that these moths came from established populations. **Africa:** Angola, Benin, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Congo (Democratic Republic of), Côte d'Ivoire, Eritrea, Ethiopia, Gambia, Ghana, Kenya, Madagascar, Malawi, Mali, Mauritius, Mozambique, Niger, Nigeria, Reunion, Rwanda, Saint Helena, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe.
On which plants	*T. leucotreta* is a polyphagous pest which can feed on more than 70 host plants within 40 plant families. It can attack many cultivated and wild fruit species, such as: avocado (*Persea americana*), cacao (*Theobroma cacao*), carambola (*Averrhoa carambola*), citrus species (particularly *C. sinensis* and *C. paradisi* but *C. limon* is considered to be an unsuitable host), coffee (*Coffea* spp.), guava (*Psidium guajava*), litchi (*Litchi sinensis*), macadamia (*Macadamia ternifolia*), peach (*Prunus persica*), pepper (*Capsicum* spp.), persimmon (*Diospyros kaki*), pomegranate (*Punica granatum*). It is also a pest of field crops such as: beans (*Phaseolus* spp.), cotton (*Gossypium hirsutum*), castor bean (*Ricinus communis*), and maize (*Zea mays*).
Damage	Damage is caused by larvae feeding inside fruits, nuts, maize ears or cotton bolls. Feeding damage can also lead to the development of secondary infections by fungi or bacteria. Eggs (whitish, about 0.9 mm long) are laid on the fruit surface, singly or in small numbers. Shortly after hatching, young larvae enter the fruit and feed internally. Young larvae are whitish with a dark brown head, and usually develop through 5 instars. Mature larvae are about 15 mm long, pinkish-red with a brown head. Fully grown larvae emerge from the fruit and pupate in the soil, in a cocoon of silk and soil fragments. Adult moths (7-8 mm long; 15-20 mm wingspan) have variegated brown and grey forewings with a white spot in the centre, while hindwings are light brown to grey. *T. leucotreta* does not undergo diapause or a quiescent period. In most areas of its distribution, the pest is present all year-round with overlapping generations feeding on the available fruits of its wild or cultivated host plants. On citrus: larvae bore into the albedo and usually feed just below the fruit surface. The rind around the point of infestation turns yellowish-brown as the tissue decays and collapses. Infestations lead to premature fruit drop. The degree of damage is highly variable from orchard to orchard and from season to season, but can reach up to 90%.

On cotton: damage caused by *T. leucotreta* is similar to *Pectinophora gossypiella*. Larvae penetrate cotton bolls, they first mine in the walls of the bolls and then feed on the seeds. Infested bolls are then often invaded by secondary rots. Larval presence is often characterized by the occurrence of a filamentous waxy secretion protruding from the entry hole.
On stone fruits: larvae bore into the fruit at the stem end and begin to feed around the stone. Infestation may be detected by the presence of brown spots and dark brown frass.

Dissemination

Detailed information about the potential for natural spread is lacking but adult moths of *T. leucotreta* are not considered to be strong flyers. It has been observed that populations in the field were generally highly localized. Over long distances, *T. leucotreta* is probably spread by trade of agricultural products. From 2001 to 2010, more than 50 interceptions were reported by several EPPO member countries, mainly on citrus fruits (*Citrus sinensis* and *C. paradisi*) from South Africa. The Dutch NPPO also mentions in its PRA that *T. leucotreta* has been intercepted 4 times on cut flowers of roses (although roses are not considered as host plants) imported from Ethiopia, Tanzania and Uganda. In the USA, *T. leucotreta* has also been repeatedly intercepted at ports of entry in both cargo and passenger luggage. This clearly shows that the pest has the potential to enter the EPPO region however, its potential for establishment remains to be studied.

Pathway

Fruits and vegetables from countries where *T. leucotreta* occurs, soil? As plants for planting are not usually traded with fruits, this pathway seems rather unlikely.

Possible risks

T. leucotreta is a polyphagous pest and many of its host plants are economically important crops in the EPPO region (e.g. citrus, fruit trees, maize, capsicum, avocado). In its native area, it has been reported to cause economic damage, in particular on citrus and IPM strategies have been developed to control it. IPM may include: orchard sanitation (removal of infested fruits), mating disruption, chemical control, use of pheromone traps in attract and kill strategies, sterile insect techniques, biological control (e.g. with the egg parasitoid *Trichogrammatoidea cryptophlebiae*). It is noted that chemical control is usually difficult because of the overlapping generations, the fact that larvae live inside fruits, and the risk of resistance development. *T. leucotreta* is a quarantine pest in several countries (e.g. Israel, Jordan, South American countries, USA). For example, cold treatments are required by USA (e.g. -0.5°C or below for 22 days) to eliminate the pest from citrus fruits. The establishment of *T. leucotreta* into new areas would probably trigger restrictions on trade and market losses for the areas concerned. *T. leucotreta* is a tropical/sub-tropical species whose development is limited by cold temperatures. Eggs have been reported to be killed by temperatures below 1°C, and the exposure to temperatures below 10°C reduces survival or development of several life stages, therefore it is unlikely to establish outdoors in Northern Europe. However, further studies are needed to evaluate its potential for establishment in the southern parts of the EPPO region, as this pest may present a risk in particular to citrus-growing countries.

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EPPO RS 2011/100
Panel review date -
Entry date 2011-05

2011/101 *Diabrotica virgifera virgifera* found for the first time in Toscana (IT)

The NPPO of Italy recently informed the EPPO Secretariat of the first finding of *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae – EPPO A2 List) in Toscana region. The pest was found in the municipality of Dicomano (Province of Firenze). Phytosanitary measures are being taken in the demarcated zones to contain the pest, in accordance with the EU Decision 2003/766/EC (and its successive amendments).
The situation of *Diabrotica virgifera virgifera* in Italy can be described as follows: **Present, first found in 1998 near Venezia airport, now occurring in Northern Italy (Emilia-Romagna, Friuli-Venezia-Giulia, Liguria, Lombardia, Piemonte, Toscana, Trentino-Alto Adige, Veneto) and in Lazio (1 outbreak). Under official control.**

Source: NPPO of Italy (2010-12).

Commission Decision 2003/766/EC of 24 October 2003 on emergency measures to prevent the spread within the Community of *Diabrotica virgifera* LeConte.
http://www.eppo.org/ABOUT_EPPO/EPPO_MEMBERS/phytoreg/eu_texts/2003-766-EC-e.pdf

Additional key words: detailed record **Computer codes:** DIABVI, IT

2011/102 Alien insect species in Lithuania

In their paper, Ivinskis *et al*. (2009) provide useful details on the current situation of several insect pest species of recent introduction in Lithuania. The EPPO Secretariat has extracted data on the following species:

Bemisia tabaci (Hemiptera: Aleyrodidae – EPPO A2 List) was detected in 2007 in glasshouse ornamentals, but was successfully eradicated.

Cameraria ohridella (Lepidoptera: Gracillariidae - formerly EPPO Alert List) was first found in Lithuania in 2002, in the Curonian Spit (sand dune that separates the Curonian Lagoon from the Baltic Sea). In 2009, it was reported in more than 100 localities affecting horse-chesnut trees (*Aesculus hippocastanum*).

Liriomyza huidobrensis (Diptera: Agromyzidae – EPPO A2 List) is regularly detected in imported ornamental plants. In 2005, an outbreak was detected in the region of Vilnius but was successfully eradicated.

Phyllonorycter issikii (Lepidoptera: Gracillariidae - formerly EPPO Alert List) was first reported in Lithuania in 1998. This leafminer of *Tilia* spp. is now widespread and has developed high populations in some areas.

Source: Ivinskis P, Rimšaitė J, Ostrauskas H, Taluntytė L (2009) Alien insects and spiders species and species spreading naturally in Lithuania. Proceedings of the 5th International Vilnius Conference 'Knowledge-based technologies and OR methodologies for strategic decisions of sustainable development' (Vilnius, LT, 2009-11-30/10-03), 451-455.

Additional key words: detailed record **Computer codes:** BEMITA, LIRIHU, LITHOD, LPTNDE, LT

2011/103 *Opogona sacchari* found in the Czech Republic

The NPPO of the Czech Republic recently informed the EPPO Secretariat of the finding of *Opogona sacchari* (Lepidoptera: Tineidae – EPPO A2 List) on its territory. In 2010, 1 larva was found in a *Ficus microcarpa* plant, in a house in the city of Brno. This larva was reared to the adult stage and identified as *O. sacchari*. The trunk of the affected *F. microcarpa* was heavily damaged and the plant was destroyed. The NPPO recalled that *O. sacchari* had been recorded occasionally in the past:

- In 2000: larvae and empty pupae were observed beneath the bark of *Yucca* plants and in the accompanying growing medium in the city of Frýdek-Místek. These infested plants had been imported from the Netherlands.
- In 2005: it was observed on *Beaucarnea* (*Nolina) recurvata* plants in a house in Prague.
- In 2006: larvae were found on banana fruits in the Pavilion of 'Indonesian Jungle' in the zoological garden of Prague.

In all cases, the occurrence of the pest was associated with imported plants. *O. sacchari* is not expected to survive outdoors in the Czech Republic, therefore no other particular measures were taken in addition to the destruction of the infested plants.
The pest status of *Opogona saccha*ri in the Czech Republic is officially declared as: **Absent, a few records only from protected cultivation after import, eradicated.**

Source: NPPO of the Czech Republic (2011-03).

Additional key words: incursion, eradication **Computer codes:** OPOGSC, CZ

2011/104 First report of *Aphis illinoisensis* in Algeria

The grapevine aphid, *Aphis illinoisensis* (Homoptera: Aphididae) originates from the Americas but was introduced into the Mediterranean region in the 2000s where it is showing an invasive behaviour. It was first detected in Turkey in 2002 and in Crete (GR) in 2005 where it rapidly spread across the island (EPPO RS 2007/034). *A. illinoisensis* was first found in Algeria in November 2007 in Batna. A survey carried out in 2009 showed that the pest is now widespread across the country. It was detected in several localities (El Harrach, Tassousset, El Kous, Guelma, Batna, Arris) in different environments (from humid to semi-arid) but always on irrigated vineyards. For the moment, grapevine aphid colonies were only observed on leaves and twigs (not on grapes). Further studies will be conducted to determine the distribution of *A. illinoisensis* in Algeria and its biology.

Source: Laamari M, Coeur d'Acier A (2010) Le puceron de la vigne *Aphis illinoisensis* arrive en Algérie. *Bulletin OEPP/EPPO Bulletin* **40**(1) 167–168.

Additional key words: new record **Computer codes:** APHIIL,DZ

2011/105 First report of *Aphis illinoisensis* in Tunisia

The presence of the grapevine aphid, *Aphis illinoisensis* (Homoptera: Aphididae) was detected for the first time in Tunisia in 2009. Samples of grapevine (*Vitis vinifera*) infested by *A. illinoisensis* were collected in two localities near Sousse (Akouda and Hammam Sousse). For the moment, no particular damage is reported. However, surveys will be conducted to determine the extent of the infestation in Tunisian grapevine-producing areas.

Source: Kamel-Ben Halima M, Mdellel L (2010) First record of the grapevine aphid, *Aphis illinoisensis* Shimer, in Tunisia. *Bulletin OEPP/EPPO Bulletin* **40**(2), 191–192.

Additional key words: new record **Computer codes:** APHIIL, TN

2011/106 First report of *Aphis illinoisensis* in Israel

The grapevine aphid, *Aphis illinoisensis* (Homoptera: Aphididae) was recently recorded for the first time in Israel. Apterous and alate viviparous females were found on shoots and leaves of *Vitis vinifera* at the following localities in Israel: in the Coastal Plain (Gedera in June 2007), in the Golan (Odem in 10 July 2007) and in the Judean Hills (Tsuba, June 2010). So far, this invasive aphid species is regarded as a minor pest of grape in Israel.

Source: Barjadze S, Ben-Dov Y (2011) The grapevine aphid *Aphis illinoisensis*: an invasive pest in Israel. *Phytoparasitica* **39**(1), 55–57.

Additional key words: new record **Computer codes:** APHIIL, IL

2011/107 First report of *Aphis illinoisensis* in Albania

The presence of the grapevine aphid, *Aphis illinoisensis* (Homoptera: Aphididae) which is considered as an invasive species, has now been confirmed in Albania by Prof. E. Çota (2011). The samples were collected in vineyards from April to the 1st of June in Laknas (County of Tirana by R. Uka), Rashbull (County of Durrës), Papër (County of Elbasan), Librazhd-Qendër and Mirakë-Librazhd (County of Elbasan). This aphid feeds on young shoots and leaves of grapevine (*Vitis vinifera*) and sometimes on berries. On the basis of the morphological characteristics of apterous viviparous female and alatae forms, the pest was identified as *A. illinoisensis*. It is noted that the presence of this species was suspected in 2009, but the identity of the insect could not be ascertained at that time. This is the first report of *A. illinoisensis* in Albania.
The situation of *A. illinoisensis* in Albania can be described as follows: **Present, first recorded in 2011, found in almost all vineyards from 10 m to 300 m altitude of the country (Counties of Tirana, Durrës, and Elbasan).**

Source: Personal communication with Prof. Asoc. Dr Ejup ÇOTA, Agricultural University of Tirana, Faculty of Agriculture and Environment, Plant Protection Department, Albania (2011-06).

Additional key words: new record **Computer codes:** APHIIL, AL

2011/108 New data on quarantine pests and pests of the EPPO Alert List

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

- **New records**

Coconut lethal yellowing disease (EPPO A1 List) has been detected in the Inhambane province, in Mozambique. It is noted that the disease has been spreading on coconut in the coastal area to the north and south of Quelimane in Zambezia province (ProMED, 2010). **Present, along the coast (Inhambane, Zambezia provinces).**

- **Detailed records**

The presence of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae – EPPO A2 List) was identified for the first time in Corse (FR) in June 2010 in the municipality of Borgo. As of October 2010, 195 infested trees have been detected in 38 municipalities in Haute-Corse. It is envisaged to use biological control agents (i.e. release of the parasitoid *Torymus sinensis*) to control the pest (FREDON-Corse, 2010).

During regular surveys, *Erwinia amylovora* (EPPO A2 List) has been found in Lombardia and Piemonte regions (IT). In Lombardia, the bacterium was detected in 2 young apple trees (*Malus domestica*) which had been planted in spring 2010 in 1 orchard located in the municipality of Tresivio (Province of Sondrio). In Piemonte, *E. amylovora* was detected in 1 pear tree (*Pyrus communis*) in 1 orchard located in the municipality of Montemarzino (province of Alessandria). In both cases, eradication measures are being implemented (NPPO of Italy, 2010-01 & 2011-01).

The presence of *Plum pox virus* (*Potyvirus*, PPV – EPPO A2 List) has been detected in an orchard located in the municipality of San Salvo (Province of Chieti), Abruzzo region, Italy. PPV was detected in a single peach tree (*Prunus persica*) which was subsequently destroyed. 70 samples were collected from asymptomatic plants but all tested negative. Surveys are continuing in the Abruzzo region to delimit the extent of PPV-infection (NPPO of Italy, 2010-11).

In Italy, a national survey on *Potato spindle tuber viroid* (*Pospiviroid*, PSTVd – EPPO A2 List) was conducted in 2010. PSTVd was detected in 4 lots of *Solanum jasminoides* (corresponding to 3 753 plants) and 4 lots of *Cestrum* (424 plants) which had been produced in Italy. All infected lots were destroyed. PVSTd was not detected in potato production (NPPO of Italy, 2011-01).

In Lazio region (IT), 1 adult specimen of *Rhagoletis completa* (Diptera: Tephritidae - EU Annexes) has been trapped in the municipality of Cori (Province of Latina). Surveys will be carried out to delimit the extent of the infestation in Lazio region (NPPO of Italy, 2010-12)

The presence of *Scyphophorus acupunctatus* (Coleoptera: Curculionidae - formerly EPPO Alert List) was detected in Corse (FR) in 2010, in the cities of Ajaccio and Porto-Vecchio (FREDON-Corse, 2010).

The presence of Tomato torrado virus (EPPO Alert List) has been detected in a greenhouse tomato crop located in Eastern Sicilia, Italy. All plants of the greenhouse concerned were destroyed (NPPO of Italy, 2011-02).

In Emilia-Romagna region (IT), *Tomato yellow leaf curl virus* (*Begomovirus*, TYLCV – EPPO A2 List) was detected during an inspection. TYLCV was detected in a greenhouse in tomato plants grown for breeding purposes. Molecular studies are underway to determine the sequence of the isolate found and eventually identify the source of the infection. All symptomatic tomato plants have been destroyed (NPPO of Italy, 2010-11).

- **Eradication**

In 2004, an outbreak of *Xanthomonas axonopodis* pv. *citri* (EPPO A1 List) was detected around the city of Emerald in Queensland (AU) where an eradication campaign was implemented (EPPO RS 2004/102). In January 2009, the NPPO of Australia officially declared that this outbreak has been successfully eradicated from Queensland and therefore from Australia (NPPO of Australia, 2009).
The pest status of *Xanthomonas axonopodis* pv. *citri* in Australia is officially declared as: **Absent, pest eradicated.**

- **Taxonomy**

Based on phylogenetic and molecular studies, it is proposed to reclassify *Sirococcus clavigignenti-juglandacearum* (EPPO A1 List) into the genus *Ophiognomonia* (Broders and Boland, 2011).

Source: Broders KD, Boland GJ (2011) Reclassification of the butternut canker fungus, *Sirococcus clavigignenti-juglandacearum*, into the genus *Ophiognomonia*. *Fungal Biology* **115**(1), 70-79.

NPPO of Italy (2010-11, 2010-12, 2011-01, 2011-02).

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Additional key words: new records, detailed records, taxonomy

Computer codes: DRYCKU, ERWIAM, PHYP56, PPV000, PSTVD0, RHAGCO, SCYPIN, SIROCJ, TOTV00, TYLCV0, XANTCI, FR, IT, MZ

2011/109 *Meloidogyne chitwoodi* and *Meloidogyne fallax* found in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the occurrence of *Meloidogyne chitwoodi* (EPPO A2 List) in Hessen, and of *M. fallax* (EPPO A2 List) in Hessen and Baden-Württemberg. The origin of these recent cases is unclear.

- ***Meloidogyne chitwoodi* and *M. fallax* in Hessen**

In Hessen, *M. chitwoodi* has been detected and identified in the soil of a glasshouse used for vegetable production (mainly tomato production). Tomato plants grown under this glasshouse showed root galls. Another nematode species, *M. incognita,* was also found. Because the nematode species had been identified only on the basis of their morphological characteristics, it could not be excluded that *M. fallax* was also present at that time.
During subsequent investigations, *M. fallax* has been detected on the same area where tomatoes had been grown. Approximately 30% of the plants (covering 1 ha under glass) showed significant swellings on the roots. A PCR test was conducted according to the EPPO diagnostic protocol PM 7/41(2) to confirm the identity of the nematode. Official control measures were taken against the pests.

- ***Meloidogyne fallax* in Baden-Württemberg**

In Baden-Württemberg, *M. fallax* has been detected on *Lycopersicon esculentum* cv. 'Bocati' grafted on 'Maxifort' in a tomato production company. Because affected plants produced small fruits and presented symptoms on the roots, tests were conducted in accordance with the EPPO diagnostic protocol PM 7/41(2). The presence of *M. fallax* was detected in a glasshouse of approximately 200 m^2.
Official control measures were taken against the pest: steam sterilization of the soil, and destruction of tomato plant debris (covered with a plastic foil and stored outdoors for a long period, or burned).

The pest status of both *Meloidogyne chitwoodi* and *Meloidogyne fallax* in Germany is officially declared as: **Transient, only in some areas, actionable, under eradication.**

Source: NPPO of Germany (2011-01).

EPPO (2009) PM 7/41(2) Diagnostics. *Meloidogyne chitwoodi and Meloidogyne fallax*. *Bulletin OEPP/EPPO Bulletin* **39**(1), 5–17.

Additional key words: detailed record

Computer codes: MELGCH, MELGFA, DE

2011/110 *Globodera rostochiensis* and *G. pallida* found in Lazion region (IT)

The NPPO of Italy recently informed the EPPO Secretariat that *Globodera rostochiensis* and *G. pallida* (both EPPO A2 List) were detected in Lazio region in 2010. During survey activities, the presence of cysts containing viable juveniles was noticed in 7 soil samples which had been collected from potato fields in the province of Viterbo. Laboratory tests confirmed the presence of *G. rostochiensis* in all samples, and of *G. pallida* in 1 sample. Further surveys will be carried out to delimit the extent of potato cyst nematode infestation in Lazio region and appropriate phytosanitary measures will be taken.
The situation of both *Globodera rostochiensis* and *G. pallida* in Italy can be described as: **Present, under official control.**

Source: NPPO of Italy (2010-10).

Additional key words: detailed record **Computer codes:** HETDPA, HETDRO, IT

2011/111 *Phytophthora ramorum* detected in *Picea sitchensis* in Ireland

In Ireland, *Phytophthora ramorum* (EPPO Alert List) has been detected in a single *Picea sitchensis* (Sitka spruce) growing in a forest. Although *P. sitchensis* has been shown to be susceptible to *P. ramorum* in laboratory trials, this is the first time that a natural infection has been detected on this tree species. Sitka spruce is a very important commercial forest species in Ireland. The infected *P. sitchensis* was a young tree of approximately 2 m high. It was growing underneath the canopy of a large bush of wild *Rhododendron ponticum* which was also found to be infected by *P. ramorum*. It is very likely that this infected rhododendron was the source of the infection. The symptoms observed on *P. sitchensis* were mainly characterized by shoot tip dieback that was largely confined to the leading shoot. This finding was made during a follow up survey carried out by the Forest Service, approximately 0.5 km from where *P. ramorum* had previously been detected on rhododendron, Japanese larch (*Larix kaempferi*) and noble fir (*Abies procera*). The area around the infected tree has been quarantined and monitoring will continue. *P. sitchensis* trees growing in the immediate vicinity of Japanese larch stands which had previously been found infected were also surveyed. No further *P. ramorum* infections have been found but monitoring of *P. sitchensis* trees will continue as part of the ongoing *P. ramorum* surveys.

Source: NPPO of Ireland (2011-04).

Additional key words: host plant **Computer codes:** PHYTRA, IE

2011/112 *Phytophthora ramorum* detected in *Abies grandis* in California (US)

In 2003 and 2005, *Phytophthora ramorum* (EPPO Alert List) was detected on *Abies grandis* (grand fir) in a Christmas tree plantation near Los Gatos in California (US), in association with infected *Umbellularia californica* (Californian bay laurel). Inoculation studies demonstrated that *A. grandis* can be a host of *P. ramorum*, however the potential for *A. grandis* to be infected within its native range (Northwestern USA) is unknown.

Source: Riley KL, Chastagner GA, Blomquist C (2010) First report of *Phytophthora ramorum* infecting grand fir in California. Plant Health Progress April 2011 (public summary).

http://www.plantmanagementnetwork.org/php/elements/sum.aspx?id=9437&photo=5278

Additional key words: host plant **Computer codes:** PHYTRA, US

2011/113 *Phytophthora ramorum* on *Larix* spp. in the United Kingdom

In the United Kingdom, *Phytophthora ramorum* (EPPO Alert List) was found infecting and killing large numbers of Japanese larch trees (*Larix kaempferi*) in South-West England (EPPO RS 2010/033). This was the first time *P. ramorum* had been found causing lethal infection (in the form of stem cankers) on this commercially important conifer species. It was then confirmed on a European larch tree (*Larix decidua*) in woodland near Lostwithiel, in Cornwall (South-West England). In 2010, mortality of *L. kaempferi* trees related to *P. ramorum* was also observed in one forest in Wales, in one small site in Western Scotland (Craignish peninsula in Argyll), as well as in Northern Ireland and the Isle of Man. According to Brasier and Webber (2010), it was estimated that approximately 1 900 ha of larch plantations (about 0.5 million trees) were showing symptoms of *P. ramorum* infection in 2010.

Source: INTERNET (last accessed in 2011-05-05)
Forestry Commission (GB). *Phytophthora ramorum* in larch trees – Update.
http://www.forestry.gov.uk/forestry/INFD-8EJKP4

Brasier C, Webber J (2010) Sudden larch death. *Nature* **466**(12), 824-825.

Additional key words: detailed record **Computer codes:** PHYTRA, GB

2011/114 *Clavibacter michiganensis* subsp. *michiganensis* detected in Friuli-Venezia Giulia region (IT)

The NPPO of Italy recently informed the EPPO Secretariat of the finding of *Clavibacter michiganensis* subsp. *michiganensis* (EPPO A2 List) in Friuli-Venezia Giulia region. In 2010, the bacterium was detected in one tomato production site (on *Lycopersicon esculentum* cvs. 'Cuor di Bue' and 'Elisir') located in the municipality of Muggia (Province of Trieste). This outbreak was detected in an area where tomato production is not widespread and not conducted on a large scale. Infected plant material was immediately destroyed to prevent any further spread of the disease. Investigations will be carried out to identify the origin of this infestation.
The situation of *Clavibacter michiganensis* subsp. *michiganensis* in Italy can be described as follows: **Present, occasionally detected in tomato crops, under official control.**

Source: NPPO of Italy (2010-11).

Additional key words: detailed record **Computer codes:** CORBMI, IT

2011/115 Grapevine flavescence dorée phytoplasma found in Marche region (IT)

The NPPO of Italy recently informed the EPPO Secretariat that an isolated outbreak of Grapevine flavescence dorée phytoplasma (EPPO A2 List) was found in Marche region during an official survey in 2010. Symptoms of flavescence dorée were observed on some grapevine plants growing in adjacent plots in the municipality of Gradara (Province of Pesaro e Urbino). In addition, several specimens of the insect vector, *Scaphoideus titanus*, were detected. The following phytosanitary measures are being implemented to eradicate the disease: destruction of all symptomatic plants, compulsory application of insecticide treatments against *S. titanus*, and prohibion to collect material from the delimited area for the vegetative propagation of grapevine.
The situation of Grapevine flavescence dorée phytoplasma in Italy can be described as: **Present, under official control.**

Source: NPPO of Italy (2010-09).

Additional key words: detailed record **Computer codes:** PHYP64, IT

2011/116 First report of *Tomato apical stunt viroid* in Italy

The NPPO of Italy recently informed the EPPO Secretariat of the finding of *Tomato apical stunt viroid* (*Pospiviroid*, TASVd - EPPO Alert List) on its territory. This viroid was found in 1 nursery located in the municipality of Sabaudia (Province of Latina) in the Lazio region. TASVd was detected in 8 leaf samples collected from *Solanum jasminoides*. According to the EPPO Secretariat this is the first time that TASVd is reported from Italy. Specific surveys have been initiated and phytosanitary measures are being taken to eradicate the viroid.
The situation of *Tomato apical stunt viroid* in Italy can be described as follows: **Transient, first found in Lazio region in 1 nursery on *Solanum jasminoides*, under eradication.**

Source: NPPO of Italy (2011-01).

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

2011/117 First report of *Citrus exocortis viroid* in the Czech Republic

During a recent survey concerning another viroid (*Potato spindle tuber viroid* – EPPO A2 List), the presence of *Citrus exocortis viroid (Pospiviroid,* CEVd*)* has been found for the first time in the Czech Republic on *Solanum jasminoides*. In October 2010, CEVd was detected in a leaf sample taken from symptomless plants of *S. jasminoides* grown in a glasshouse (1 company), located in the Vysočina region. These plants were not intended for sale to other growers. Two other findings were then made (in November 2010 and February 2011) in another glasshouse located in the Moravian-Silesian region which was producing plants for planting of *S. jasminoides*. In the first case, the origin of the infected plants could not be traced, but in the second case the CEVd-infected plants had been imported from Germany. According to the literature, CEVd can cause damage to *Citrus* spp. and eventually to some vegetable crops such as tomato, but remains symptomless on ornamental Solanaceae. It is noted that the companies where CEVd was found, as well as other Czech growers to whom *S. jasminoides* were (or were intended be) sold, did not

produce any solanaceaous crops. Because the probably of spreading CEVd to these solanaceous crops were considered minimal, no eradication measures were taken but monitoring of *S. jasminoides* plants will continue.
The pest status of *Citrus exocortis viroid* in the Czech Republic is officially declared as: **Present, found at two companies in protected conditions.**

Source: NPPO of the Czech Republic (2011-03).

Additional key words: new record **Computer codes:** CEVD00, CZ

2011/118 *Pepino mosaic virus* detected in Campania region (IT)

The NPPO of Italy recently informed the EPPO Secretariat of the finding of *Pepino mosaic virus* (*Potexvirus*, PepMV - EPPO Alert List) in Campania region. PepMV was detected in 2 adjacent tomato greenhouses (on *Lycopersicon esculentum* cv. 'Pixel F1') located in the municipality of Gragnano (Province of Napoli). Surveys have been intensified in the surrounding area to determine the extent of the infestation and define appropriate phytosanitary measures.
The situation of *Pepino mosaic virus* in Italy can be described as follows: **Present, few records, under official control.**

Source: NPPO of Italy (2011-01).

Additional key words: detailed record **Computer codes:** PEPMV0, IT

2011/119 New BBCH growth stage keys for *Camelina sativa*, *Cynara cardunculus*, *Rosa*, *Theobroma* and *Salix*

The BBCH* growth stage keys provide a standard and uniform description of the visible growth stages of plants, using a two-digit decimal code. This system has been developed for many important crops, such as cereals, rice, maize, rape, potato, fruit trees, small fruits, vegetables, etc. In 1997, the BBCH growth stage keys were recommended by the EPPO Working Party on Plant Protection Products and by Council for use in EPPO countries, thus replacing the previously recommended EPPO growth stage keys. The following new BBCH scales have recently been published to describe the growth stages of:

- Cacao plant (*Theobroma* sp.) (Niemenak *et al.*, 2009).
- *Camelina sativa* (Martinelli and Galasso, 2011).
- *Cynara cardunculus* (Archontoulis *et al.*, 2010).
- Cultivated and wild roses (*Rosa* sp.) (Meier *et al.*, 2009).
- Willow (*Salix*) (Saska and Kuzovkina, 2010).

Other published BBCH growth stage keys:
Most BBCH growth stage keys are available in English, French, German and Spanish on the Internet: Growth stages of mono-and dicotyledonous plants - BBCH Monograph (dated 2001)
http://www.jki.bund.de/fileadmin/dam_uploads/_veroeff/bbch/BBCH-Skala_englisch.pdf

- Cereals, rice, maize
- Oilseed rape, faba bean, sunflower
- Beta (beets)

- Potato
- Fruits (pome fruit, stone fruit, currants, strawberries)
- Citrus, olive, coffee, banana
- Grapevine
- Soybean, cotton, peanuts
- Hop
- Vegetable crops (bulb vegetables, leaf vegetable (forming heads), leaf vegetable (not forming heads), other brassica vegetables, cucurbits, solanaceous fruits, pea, bean
- Weeds

Other BBCH growth stage keys which were not included in the 2001 monograph or published after this date have been published in scientific journals (mainly *Annals of Applied Biology*).
- Pomegranate tree (*Punica granatum*) (Melgarejo *et al.*, 1997).
- Winter linseed (*Linum usitatissimum*) (Smith and Froment, 1998).
- Loquat tree (*Eriobotrya japonica* (Martínez-Calvo *et al.*, 1999).
- Quince tree (*Cydonia oblonga*) (Martínez-Valero *et al.*, 2001).
- Olive trees (*Olea europaea*) (Sanz-Cortés *et al.*, 2002).
- Persimmon tree (*Diospyros kaki*) (García-Carbonell *et al.*, 2002).
- Coffee (*Coffea* spp.) (Arcila-Pulgarín *et al.*, 2002).
- North American ginseng (*Panax quinquefolius*) (Proctor *et al.*, 2003).
- Trees and woody plants (Finn *et al.*, 2007).
- Soybean (*Glycine max*) (Munger *et al.*, 2008).

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* The abbreviation BBCH derives from the first letters of the German names of ***B***iologische Bundesanstalt (Federal Biological Research Centre), ***B***undessortenamt (Federal Plant Variety Office) and ***Ch***emical industry.

Source: Archontoulis SV, Struik PC, Vos J, Danalatos NG (2010) Phenological growth stages of *Cynara cardunculus*: codification and description according to the BBCH scale. *Annals of Applied Biology* **156**(2), 253-270.

Arcila-Pulgarín J, Buhr L, Bleiholder H, Hack H, Meier U, Wicke H (2002) Application of the extended BBCH scale for the description of the growth stages of coffee (*Coffea* spp.). *Annals of Applied Biology* **141**(1), 19-27.

Finn GA, Straszewski AE, Peterson V (2007) A general growth stage key for describing trees and woody plants. *Annals of Applied Biology* **151**(1), 127-131.

García-Carbonell S, Yagüe B, Bleiholder H, Hack H, Meier U, Agustí M (2002) Phenological growth stages of the persimmon tree (*Diospyros kaki*). *Annals of Applied Biology* **141**(1), 73-76.

Martinelli T, Galasso I (2011) Phenological growth stages of *Camelina sativa* according to the extended BBCH scale. *Annals of Applied Biology* **158**(1), 87-94.

Martínez-Calvo J, Badenes ML, Llácer G, Bleiholder H, Hack H, Meier U (1999) Phenological growth stages of loquat tree (*Eriobotrya japonica* (Thunb.) Lindl.). *Annals of Applied Biology* **134**(3), 353-357.

Martínez-Valero R, Melgarejo P, Salazar DM, Martínez R, Martínez JJ, Hernández F (2001) Phenological growth stages of quince tree (*Cydonia oblonga*). *Annals of Applied Biology* **139**, 189-192.

Meier U, Bleiholder H, Brumme H, Bruns E, Mehring B, Proll T, Wiegand J (2009) Phenological growth stages of roses (*Rosa* sp.): codification and description according to the BBCH scale. *Annals of Applied Biology* **154**(2), 231-238.

Melgarejo P, Martínez-Valero R, Guillamón JM, Miró M Amorós A (1997) Phenological

stages of the pomegranate tree (*Punica granatum*). *Annals of Applied Biology* **130**(1), 135-140.

Munger P, Bleiholder H, Hack H, Hess M, Stauss R, van den Boom, Weber E (2008) Phenological growth stages of the soybean plant (*Glycine max*): Codification and description according to the BBCH scale. *Journal of Agronomy and Crop Science* **179**(4), 209-217.

Niemenak N, Cilas C, Rohsius C, Bleiholder H, Meier U, Lieberei R (2009) Phenological growth stages of cacao plant (*Theobroma* sp.): codification and description according to the BBCH scale. *Annals of Applied Biology* **156**(1), 13-24.

Proctor JTA, Dorais M, Bleiholder H, Willis A, Hack H, Meier V (2003) Phenological growth stages of North American ginseng (*Panax quinquefolius*). *Annals of Applied Biology* **143**(3), 311-317.

Sanz-Cortés F, Martínez-Calvo J, Badenes ML, Bleiholder H, Hack H, Llácer G, Meier U (2002) Phenological growth stages of olive trees (*Olea europaea*). *Annals of Applied Biology* **140**(2), 151-157.

Saska MM, Kuzovkina YA (2010) Phenological stages of willow (*Salix*). *Annals of Applied Biology* **156**(3), 431-437.

Smith JM, Froment MA (1998) A growth stage key for winter linseed (*Linum usitatissimum*). *Annals of Applied Biology* **133**(2), 297-306.

Additional key words: publications, growth stage keys

2011/120 EPPO/Q-DETECT Workshop for phytosanitary inspectors (Padova, IT, 2011-11-16/18)

Q-DETECT is an EU collaborative project, initiated in 2010 and in which EPPO is a member of the advisory board. The objective of Q-DETECT is to develop simple, user-friendly and robust methods for detection and monitoring of quarantine pests by inspection services. It has been agreed that two joint EPPO/Q-DETECT Workshops for inspectors should be organized in 2011 and 2012 in order to present and demonstrate the tools developed in the project. The first EPPO/Q-DETECT Workshop for phytosanitary inspectors will take place from the 16th to the 18th of November 2011 at the University of Padova (one of the Q-DETECT partners), Agripolis Viale dell'Universita 16, 35020 Legnaro, Padova. The Workshop will consist of presentations of different outputs by the relevant Q-DETECT partners followed by practical sessions in small groups.

Presentations:

- Overview of detection
- Modelling the inspection process
- Trapping quarantine pests
- Detection of volatile organic compounds
- Acoustic detection of invertebrate pests
- Use of remote sensing for quarantine pest detection
- Confirmation and identification of pests using molecular techniques

Practical sessions:

- Detection of beetle larvae in stored logs using acoustics/vibrometry
- DNA based detection of pests using simple LAMP with Genie II
- Trapping, demonstration of traps, smart traps and recognition software
- Detection of ethylene in kiwifruit using electronic nose

This Workshop is addressed to phytosanitary inspectors. Registration can be done online (not later than 2011-09-30): **http://meeting.eppo.org/index.php/W3047**

For further information, contact the EPPO Secretariat:
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E-mail: hq@eppo.fr

Source: EPPO Secretariat (2011-06).

Additional key words: conference

2011/121 24th IWGO Conference & 3rd International Conference of Diabrotica Genetics (Freiburg, DE, 2011-10-24/26)

The 24th IWGO Conference and the 3rd International Conference of Diabrotica Genetics will take place in Freiburg, Germany on 2011-10-24/26. The following topics will be discussed:

- Emerging concerns for western corn rootworm resistance development to Bt in the Corn Belt of the USA
- Exploring gene flow in *Diabrotica* across space, time, and species
- Developing genetic and genomic resources for rootworms and their implications to sustainable pest management
- Reproductive biology of maize pests and the implications on pest management
- Genetically-engineered maize: Current issues
- Wireworm biology and control strategies in maize
- Does *Diabrotica virgifera virgifera* control pay? On the economic benefits and costs of regulations and control measures
- New products/methods for IPM of *Ostrinia* and *Diabrotica* in modern maize production systems
- Population dynamics of maize pests and implications for pest management
- Behaviour and ecology of belowground herbivores on maize
- Corn borer control and *Trichogramma*: new research and implementation insights
- Biological control of *Diabrotica* using entomopathogenic nematodes: current progress and remaining challenges

Papers and posters can be submitted until 2011-07-25.
Online registration is available at: **http://www.iwgo.org/freiburg2011/registration.html**

Source: EPPO Secretariat (2011-06).

Additional key words: conference **Computer codes:** DIABVI, DE

2011/122 Interactive identification key for seeds in birdseed

An interactive identification key to identify 143 seeds, either traded birdseeds, and of seeds of contaminants and of plants considered as quarantine weeds in Russia has been developed and is available online.
This key is a multiple-entry and image-driven tool, i.e. observed characters can be scored in any order and these characters are all illustrated with pictures. Possible results for the identification of a seed can easily be compared with high-quality photographs.
This tool is currently being used by Dutch inspectors at borders and thorough knowledge of technical (botanical) terms is not necessary. This interactive key is one of the six keys envisaged (seeds, seedlings, weeds in bonsai plants, terrestrial plants, aquatic plants in the field, aquatic plants in trade) for the Invasive Plants database (http://www.q-bank.eu/Plants/) belonging to the Q-bank project.
The Invasive Plants database facilitates the identification of about 80 alien plants that pose a (potential) threat to biodiversity in Northern Germany, the Netherlands, Belgium and North-Western France, or of species that are regulated by third countries and are likely to be present as contaminants in commercial exports originating from the Netherlands.
Information on species, the fact sheets and the interactive identification tools are freely available online at
http://www.nationaalherbarium.nl/invasieven/key_seeds/Invasive%20plant%20seeds%20of%20the%20Netherlands.html

Source: Contact: Johan van Valkenburg, Dutch Plant Protection Service, Email: j.l.c.h.van.valkenburg@minlnv.nl

Additional key words: invasive alien plants **Computer codes:** NL

2011/123 A new Ordinance on invasive alien plants in Switzerland

An Ordinance on the Handling of Organisms in the Environment was adopted on the 10th September 2008 in Switzerland. This Ordinance regulates the handling of organisms including invasive alien plants, as well as their metabolic products and wastes in the environment.
The Ordinance requests that any person who intends to market organisms for use in the environment must first assess the possible impacts caused by the organisms to human beings, animals or the environment as well as to biological diversity. It shall also consider that:

- human and animals health should not be threatened, in particular by toxic or allergenic substances;
- organisms should not be spread or multiplied in an uncontrolled way in the environment;
- populations of protected organisms impaired, in particular those organisms which are included in the Red Lists, or considered important for ecosystems (in particular those that are important for the growth and reproduction of plants);
- important functions of ecosystems, in particular soil fertility should not be severely or permanently impaired.

The following invasive alien plants should not be handled directly in the environment, other than for their control: *Ambrosia artemisiifolia* (Asteraceae, EPPO List of Invasive

Alien Plants), *Crassula helmsii* (Crassulaceae, EPPO A2 List), *Elodea nuttallii* (Hydrocharitaceae, EPPO List of IAP), *Fallopia* spp. (Polygonaceae, EPPO List of IAP), *Heracleum mantegazzianum* (Apiaceae, EPPO List of IAP), *Hydrocotyle ranunculoides* (Apiaceae, EPPO A2 List), *Impatiens glandulifera* (Balsaminaceae, EPPO List of IAP), *Ludwigia grandiflora* and *L. peploides* (Onagraceae, EPPO List of IAP), *Persicaria wallichii* (Polygonaceae), *Rhus typhina* (Anacardiaceae), *Senecio inaequidens* (Asteraceae), *Solidago canadensis, S. gigantea* (Asteraceae, EPPO List of IAP), *S. nemoralis, S. virgaurea* (Asteraceae).
In exceptional cases, a licence can be granted for direct handling in the environment if the applicant can prove that he or she has taken actions to ensure that all the conditions described above are met.

In addition, excavated soil that is contaminated with these invasive alien plants may be used only at the place of excavation. The Ordinance has also sections on the monitoring and control of the organisms, fines applied in case of infringement, etc.
The Federal Office for the Environment (FOEN) implements this Ordinance.

Source: Swiss Federal Council (2008) Ordinance on the Handling of Organisms in the Environment (Release Ordinance, RO) of 10 September 2008 (Status as at 1 October 2008). 814.911
http://www.admin.ch/ch/e/rs/814_911/index.html#id-ni5-7

Additional key words: invasive alien plants, legislation

Computer codes: CH, 1FOPG, AMBEL, CSBHE, ELDNU, HERMZ, HYDRA, IPAGL, LUDUR, LUDPE, POLPS, RHUTY, SENIQ, SOOCA, SOOGI, SOONE, SOOVI

2011/124 A research project to manage *Elodea canadensis* in Finland

A research project starting in 2010 and ending in 2012 has been launched in Finland on the invasion of *Elodea canadensis* in the Kuusamo district by the University of Oulu, the Kuusamo town, the University of Helsinki and The Royal Tropical Institute.
The main aims of the project are:

- to investigate and map the current status of the *E. canadensis* invasion in the Kuusamo area;
- to survey the effects of the *E. canadensis* invasion on threatened and rare macrophytes of the area;
- to study dispersal factors and vectors of *E. canadensis;*
- to investigate the factors affecting the invasive behaviour of *E. canadensis* in Kuusamo;
- to study factors affecting the overwintering of the species.

This study is designed to help the local environment authorities to select the most appropriate management methods against this invasive aquatic plant.

Source: Finish Environment Institute Website, Invasion of Elodea canadensis in Kuusamo district- causes, consequences and mitigation measures
http://www.ymparisto.fi/default.asp?contentid=366096&lan=fi&clan=en

Additional key words: Invasive alien plants, management

Computer codes: FI, ELDCA

2011/125 An interactive website dedicated to *Heracleum mantegazzianum* in Wallonie (BE)

The Ministry of the Environment of Wallonie (BE) is maintaining a website on *Heracleum mantegazzianum*. This website provides detailed pictures to identify the plant, as well as information on its impacts on human health and recommendations for its management. Awareness raising leaflets, press articles and information brochures on the species are also available. Of particular interest are the interactive maps of the species distribution displayed for Wallonie, which any observer can contribute to after due registration on the website. This public participation contributes to a significant amount of distribution information on the species. This database is maintained by the Ministry of the Environment and records are checked for correctness.

Source: Research Department of Natural and Agricultural Areas, Service Public de Wallonie: La Berce du Caucase en Wallonie
http://environnement.wallonie.be/berce/default.aspx

Additional key words: Invasive alien plants, citizen science **Computer codes:** BE, HERMZ

2011/126 Two new research projects on *Ambrosia artemisiifolia* in the European Union

The DG Environment of the European Commission is financing two new research projects on *Ambrosia artemisiifolia*.

One of the projects is entitled "Assessing and controlling the spread and the effects of common ragweed in Europe". As extensive information is available on *A. artemisiifolia*, there is a need to model the distribution of this species in Europe, evaluating scenarios including the development of measures to control its spread and introduction (now and in future climates), as well as its economic, social and environmental impacts.
This project will last 18 months and is coordinated by the NERC Centre for Ecology and Hydrology (CEH) in the UK, with the participation of the European Centre for Nature Conservation, the consultancy "Economics for the Environment", the Finnish Meteorological Institute, as well as NatureBureau, NaturePartner and the Royal Agricultural College in the UK.

The other project is called "HALT-AMBROSIA" and its overall aim is to contribute to the reduction of the prevalence of *Ambrosia artemisiifolia* in European countries. A strategy will be developed to reduce the occurrence of this plant and of its allergenic pollen in countries where it is already established (e.g., Hungary, Slovenia, parts of Austria, and South-Eastern Central Europe) and to prevent its further entry and spread in countries where it is still of limited distribution, such as Germany, the Netherlands and Northern European countries. Experiments will be conducted to get a fuller understanding of critical elements in the life history of the plant, and to test and evaluate chemical, mechanical and biological control measures.
This project will last 36 months and is coordinated by the Julius Kühn-Institute in Germany, with the participation of the Universität für Bodenkultur in Austria, the Hungarian Plant Protection Institute, the Kaposvar University in Hungary, the Kmetijski Institut in Slovenia, and the Aarhus University in Denmark. The website of this project will inform the general public about the findings of the research and invites comments and observations.

Sources: European Center for Nature Conservation, Assessing and controlling the spread and the effects of Common ragweed in Europe
http://www.ecnc.org/programmes/ecosystem-services-and-biodiversity-assessment-ongoing-projects?action=detail&id=102&PHPSESSID=6a2b4591e24a3bae9208a2437394b049

HALT-AMBROSIA Project Website:
http://www.halt-ambrosia.de/index.php?menuid=1

Additional key words: Invasive alien plants, research **Computer codes:** AMBEL

2011/127 Current status of management actions on invasive alien plants in Poland

A new book on the management of invasive alien plants in wetlands in Poland has been published by the Naturalists' Club, an independent non-governmental organization working in the field of nature conservation and environmental education. This book, written by leading Polish experts in the field of biological invasions, presents the most invasive alien plants in wetlands, with their situation in Poland, as well as control programmes currently implemented on some of them. The authors stress that wetlands and river valleys, commonly regarded as invasion corridors, present particular challenges for controlling alien plants. Indeed, their linear characteristics, changes in water level (flooding) and the mosaic of densely-populated and inaccessible areas render control programmes technically difficult, very costly and constant propagule pressure from upper sections of the basins often make the results efficient for a short-term period only. Prevention therefore remains the top priority. This includes education programmes discouraging the public from growing invasive alien plants in their gardens.

Species	Distribution in Poland	Control methods/recommended actions
Acer negundo (Sapindaceae)	Widespread in central and southern parts of Poland.	The use for ornamental or landscaping purposes should be limited; long-term forest management practices should include elimination of this species.
Acorus calamus (Acoraceae)	Widespread in lowlands.	Short-term results may be achieved by mowing
Aster lancelolatus, A. novae-angliae, A. novi-belgii, A. x salignus, A. tradescantii (Asteraceae)	Widespread throughout the country.	Digging or pulling out; cutting flowers before seed formation.
Azolla filiculoides (Salviniaceae, EPPO List of Invasive Alien Plants)	A few scattered localities.	Mechanical control may only be effective in small waterbodies and when repeated; use of herbicides may be more effective but is prohibited in waters. **The import, trade and possession of this species will be prohibited in Poland.**
Bidens frondosa (Asteraceae, EPPO List of IAP)	Widespread throughout the country.	Mowing.
Elodea canadensis (Hydrocharitaceae)	Widespread throughout the country.	Pulling out; introduction of herbivorous alien fish species is considered but is controversial.

Species	Distribution in Poland	Control methods/recommended actions
Eragrostis multicaulis, E. albensis, E. pilosa, E. amurensis, E. poaeoides (Poaceae)	Detailed distribution not fully known due to difficult identification of species.	Control has not been attempted.
Erechtites hieracifolia var. *cacalioides* (Asteraceae)	SW Poland, scattered localities elsewhere.	Monitoring of the population dynamics.
Echinocystis lobata (Cucurbitaceae)	Widespread throughout the country; most abundant in SE Poland.	Pulling or digging out, mowing; limiting the use for ornamental purposes in gardens through public awareness.
Fallopia japonica; F. sachalinensis, F. x bohemica (Polygonaceae, EPPO List of IAP)	*F. japonica* is widespread throughout the country; most abundant in SW and S parts of Poland; *F. sachalinensis* is in scattered localities throughout the country; *F. x bohemica* is widespread throughout the country.	Mowing, cutting, digging out, burning out, grazing, removal of ground; long-term chemical control with glyphosphate, 2,4-D; outside river valleys and wetlands – control with picloram, triclopyr, imazapyr; combination of mechanical and chemical control is most effective; limiting the use for ornamental purposes in gardens and for honey production through public awareness. **The import, trade and possession of this species will be prohibited in Poland.**
Fraxinus pennsylvanica (Oleaceae)	Widespread throughout the country due to its use in landscaping.	The use for ornamental or landscaping purposes should be limited; long-term forest management practices should include elimination of this species.
Helianthus tuberosus (Asteraceae, EPPO List of IAP)	Widespread throughout the country.	The use for fodder or bioenergy production should be limited, particularly in areas of high natural value.
Heracleum mantegazzianum (Apiaceae, EPPO List of IAP)	Scattered localities in SW Poland, rare elsewhere.	Digging out; cutting flowers before seed formation.
Heracleum sosnowskyi (Apiaceae, EPPO A2 List)	Scattered localities throughout the country.	Digging out; cutting flowers before seed formation.
Impatiens glandulifera (Balsaminaceae, EPPO List of IAP)	Widespread throughout the country; most abundant in SE Poland.	Pulling out entire plants or cutting flowers before seed formation; grazing (cattle, sheep) before flowering; limiting the use for ornamental purposes in gardens through public awareness.
Mimulus guttatus (Phrymaceae)	Most widespread in NW and SW parts of Poland; scattered localities elsewhere.	Pulling out or mowing.
Oxycoccus macrocarpos (Ericaceae)	Two localities in N Poland.	Control has not been attempted.

Species	Distribution in Poland	Control methods/recommended actions
Rudbeckia laciniata (Asteraceae)	Widespread throughout the country; most abundant in the South part of Poland.	Regular, long-term mowing, digging out; in areas of highest natural value, restricted use of herbicides may be used.
Rumex confertus (Polygonaceae)	SE and Central Poland.	Use of herbicides as mowing or grazing are not effective; biological control with insects already present in the country (*Hypera rumicis*, *Aphis fabae* and *Apion frumentarium*)
Solidago gigantea, *S. canadensis* (Asteraceae, EPPO List of IAP)	Widespread throughout the country; *S. gigantea* most abundant in SW and W parts, *S. canadensis* in SE and Central parts of Poland.	Regular mowing; increasing shading by tree planting; pulling or digging out; limiting the use for ornamental purposes in gardens and for honey production through public awareness.
Solidago graminifolia (Asteraceae)	About 40 scattered localities.	Regular mowing; flooding (over 10 days); pulling or digging out.
Spiraea tomentosa (Rosaceae)	A few scattered localities; locally widespread.	Maintaining proper water levels in wetlands; cutting and pulling out followed by herbicide application.
Typha laxmannii (Typhaceae)	Scattered localities in S Poland.	Regular mowing, flooding or drying off of the areas of occurrence (in artificial waterbodies).
Veronica peregrina (Plantaginaceae)	A few scattered localities.	Monitoring of the population dynamics.
Xanthium orientale subsp. *riparium* (Asteraceae)	Widespread in river valleys.	Mowing early in the season; pulling out in areas of high natural value.

Source: Dajdok Z, Pawlaczyk P (2009) Invasive plant species of wetland ecosystems in Poland. Publisher Naturalist Club. [In Polish] 168 p. http://www.kp.org.pl/index.php?page=shop.product_details&flypage=flypage.tpl&product_id=335&category_id=15&option=com_virtuemart&Itemid=170

Additional key words: Invasive alien plants, management

Computer codes: ACRNE, ACSCA, APHIFA, APIOFR, ASTLN, ASTNA, ASTNB, ASTSL, ASTTD, AZOFI, BIDFR, ECNLO, ELDCA, ERAMU, ERAPO, ERAPI, EREHC, ETIGR, FRXPE, HELTU, HERMZ, HERSO, HYPRRM, IPAGL, MIUGU, POLCU, REYBO, REYSA, RUDLA, RUMCF, SOOCA, SOOGI, SPVTO, TYHLX, VACMA, VERPG, XANRI, PL

2011/128 The FAO assists farmers to manage *Solanum elaegnifolium*

The Food and Agriculture Organization (FAO) published a press release in multiple languages, including English and French, on *Solanum elaeagnifolium* entitled "Iraq and Syria under attack from devastating alien weed Silverleaf nightshade takes root in Lebanon and Jordan too". The webpage describes the impacts to cotton, wheat and olive production, as well as to biodiversity. On the request of the governments of Syria, Lebanon, Jordan and Iraq, FAO is implementing a project to assist farmers in managing and preventing further spread of this weed through integrated weed management. FAO therefore recommends that farmers rotate regular crops with lucerne, which covers the ground and competes with *S. elaeagnifolium*.
A video is available in which Gualbert Gbèhouno, FAO weed officer, explains what alien weeds are, what the threats caused by *S. elaeagnifolium* are, how it was introduced into the Near East, and what FAO is doing.

Source: FAO Media Centre, 24th of May 2011, Iraq and Syria under attack from devastating alien weed, Silverleaf nightshade takes root in Lebanon and Jordan too. http://www.fao.org/news/story/en/item/75333/icode/

Additional key words: Invasive alien plants, press release **Computer codes:** SOLEL