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2008/192 New additions to the EPPO Lists

In September 2008, the EPPO Council approved the addition of the following pests to the EPPO A2 List of pests recommended for regulation. In order to draw the attention of NPPOs to these newly added pests, they have also been placed on the EPPO Action List. The later has been completely redesigned to display management measures which are recommended to the EPPO member countries and brief descriptions of the areas endangered by these pests.

Addition to the A2 List (pests locally present in the EPPO region):

- *Tetranychus evansi* (Acari: Tetranychidae)
- *Xanthomonas axonopodis* pv. *poinsetticola*
- *Eichhornia crassipes* (Pontederiaceae)
- *Polygonum perfoliatum* (Polygonaceae)

For each individual pest, datasheets and distribution maps are being prepared and will be available in due course on the EPPO web site.

Source: EPPO Secretariat, 2008-09.
 EPPO A2 List: <http://www.eppo.org/QUARANTINE/listA2.htm>
 EPPO Action List: http://www.eppo.org/QUARANTINE/Action_List/action_list.htm

Additional key words: EPPO Lists

Computer codes: EICCR, POLPF, TETRUR, XANTPN

2008/193 First record of *Anoplophora chinensis* in Lithuania

The NPPO of Lithuania recently informed the EPPO Secretariat about the first record of *Anoplophora chinensis* (Coleoptera: Cerambycidae - EPPO A2 List) at one location in the Klaipeda region, in the west of the country. In October 2008, signs of insect infestation (wood shavings, galleries) and living larvae were observed during surveys carried out in a Japanese garden. Various ornamental plants had been imported from Japan in April 2008 for the establishment of this garden. Investigations confirmed that 1 larva found in an *Acer palmatum* tree was *A. chinensis*. In addition, 15 termite specimens (Isoptera) and 2 living cerambycid larvae (belonging to the subfamily Prioninae) were detected in plants of *Fagus crenata*. Two other living larvae, which are still under identification, were also collected from *F. crenata* plants. All potential host plants of *A. chinensis* (in total 68 plants) were uprooted and destroyed. Phytosanitary measures will be applied in accordance with the EU Commission Decision 2008/840/EC*.

The situation of *Anoplophora chinensis* in Lithuania can be described as follows: Present, first found in 2008 in one location (a Japanese garden near Klaipeda), under eradication.

* EU Commission Decision 2008/840/EC of 7 November 2008 on emergency measures to prevent the introduction into and the spread within the Community of *Anoplophora chinensis* (Forster).

Source: NPPO of Lithuania, 2008-11.

Additional key words: new record

Computer codes: ANOLCH, LT

2008/194 *Anoplophora chinensis* found for the first time in Roma (IT)

Until now in Italy, the presence of *Anoplophora chinensis* (Coleoptera: Cerambycidae - EPPO A2 List) was only reported from Lombardia (provinces of Milano, Varese, Brescia) where it is subject to official control. In July 2008, *A. chinensis* was detected on several trees in a public park (Parco Comunale di Via Porta San Sebastiano) in Roma. This is the first time that *A. chinensis* is reported from the Lazio region. Phytosanitary measures have been taken to eradicate the pest.

The situation of *Anoplophora chinensis* in Italy can be described as follows: Present, found in several localities in Lombardia (provinces of Varese, Milano, Brescia) and in one site in Lazio (city of Roma), under official control.

Source: Internet (last retrieved in 2008-11)
 Servizio Fitosanitario Regionale, Lazio.
Anoplophora spp. Cerambicide o Tarlo asiatico.
http://www.agricoltura.regione.lazio.it/binary/agriweb/agriweb_allegati_schede_informative/opuscolo_anoplophora.1217514034.pdf
 Lotte Obbligatorie: rinvenimento del cerambicide o tarlo asiatico (*Anoplophora chinensis*) nella città di Roma.
http://www.agricoltura.regione.lazio.it/agriweb/dettaglio_news.php?id=430&idat

Additional key words: detailed record

Computer codes: ANOLCH, IT

2008/195 *Dryocosmus kuriphilus* continues to spread in Italy

In Italy, *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae - EPPO A2 List) was found for the first time in 2002 in Piemonte region, near Cuneo, attacking chestnut (*Castanea sativa*) (EPPO RS 2003/061). It was later found in Abruzzo and Lazio (EPPO RS 2006/027). Despite phytosanitary measures which were implemented in accordance with EU Directive 2006/464 to contain and eradicate the pest, *D. kuriphilus* continued to spread in Italy and its presence was reported in 2007 and 2008 in the Italian regions listed below. In some regions and in particular when *D. kuriphilus* has been found in forests, eradication is no longer considered feasible and studies are being carried out on the possible use of a biological control agent, *Torymus sinensis* (Hymenoptera: Torymidae). Intensive surveys are continuing in Italy to determine the extent of *D. kuriphilus* spread.

The situation of *Dryocosmus kuriphilus* in Italy can be described as follows: Present, first recorded in 2002 in Piemonte, scattered outbreaks in Abruzzo, Campania, Emilia-Romagna, Lazio, Liguria, Lombardia, Toscana, Trentino-Alto Adige, Sardegna, Veneto, under official control.

Campania

A single outbreak of *D. kuriphilus* was found in March/April 2008 in the communes of Montoro Superiore (province of Avellino) and Fisciano (province of Salerno).

Emilia-Romagna

D. kuriphilus was first found in May 2008 in the province of Reggio Emilia. The pest was then detected in other sites of the Appennini foothills in the provinces of Parma, Modena and Forlì-Cesena. Phytosanitary measures have been taken to contain the pest (destruction of infested plant parts, restriction on plant movements). Eradication of the pest is not considered feasible but biological control will be envisaged.

Liguria

D. kuriphilus was first found in April 2007 in the province of Savona (communes of Murialdo and Massimino). The pest was later found in several other communes of the province of Savona, as well as in the province of Imperia.

Lombardia

Two outbreaks of *D. kuriphilus* were first detected in 2006 in the communes of Albino (province of Bergamo) and Sonico (province of Brescia). The latter was immediately eradicated. In 2007, *D. kuriphilus* was found in a small garden in Lodi. In 2008, the pest was found at Esine (Brescia), Bagolino (Brescia), Ternate and Venegono Superiore (Varese). In all cases, it could be ascertained that the pest had been introduced on infested planting material from Piemonte.

Toscana

In June 2008, the presence of *D. kuriphilus* was reported from several communes in the provinces of Massa Carrara (Aulla, Carrara, Fivizzano, Fosdinovo, Massa, Montignoso), Prato (Cantagallo, Montemurlo, Prato, Vaiano), Firenze (Pontassieve), and Pistoia (Larciano, Quarrata).

Trentino-Alto Adige

Outbreaks of *D. kuriphilus* were reported in 2007 in two communes of the province of Trento (Civezzano and Pergine) and in 2008 in Terlano (province of Bolzano).

Sardegna

Outbreaks were found in 2008 in the communes of Aritzo, Belví and Tonara. Phytosanitary measures have been taken to prevent any further spread but it is considered that eradication is no longer feasible.

Veneto

In May 2007, *D. kuriphilus* was detected in a chestnut plantation for fruit production in the commune of Cavaso del Tomba (province of Treviso).

- Source:
- Campania - Regione Campania. Assessorato all'Agricoltura e alle Attivita Produttive. http://www.sito.regione.campania.it/agricoltura/comunicati/comunicato_24_04_08t.html
 - Emilia-Romagna - Regional Plant Protection Service, Emilia-Romagna (IT), 2008-08.
 - Liguria - Agriligurianet. Sito ufficiale della Regione Liguria per l'agricoltura (News of 2008-05-15) . Cinipide del castagno: si alunga l'elenco dei comuni interessati. <http://www.agriligurianet.it>
 - Lombardia - Regione Lombardia Agricoltura. Boriani M (2008) Stop al cinipide del castagno. Lombardia verde no. 5, p 13. http://www.agricoltura.regione.lombardia.it/admin/rla_Documenti/1-3736/cinipide.pdf
 - Toscana - META (Monitoraggio Estensivo dei boschi della Toscana a fini fitosanitari). News of 2008-09-12. http://meta.arsia.toscana.it/meta/meta?id_cms_doc=1&id_news=250
 - Trentino-Alto Adige - Sito ufficiale Regione Autonoma Trentino-Alto Adige. Supplemento no. 1 al Bolletino Ufficiale no. 33/I-II (2007-08-14). <http://www.regione.taa.it/bu/2007/S1330701.pdf#Page=57>
Bolletino Ufficiale no.25/I-II (2008-06-17). <http://www.regione.taa.it/bu/2008/BO250801.pdf#Page=31>
 - Sardegna - SardegnaAgricoltura. Misure contro la diffusione del cinipide del castagno. <http://www.sardegnaagricoltura.it/index.php?xsl=443&s=87125&v=2&c=3527>

Veneto - Regione Veneto. Decreti del Dirigente dell' unita' periferica per i Servizi Fitosanitari n. del 22 giugno 2007.

<http://bur.regione.veneto.it/BurVServices/Pubblica/DettaglioDecreto.aspx?id=198543>

Additional key words: detailed record

Computer codes: DRYCKU, IT

2008/196 Situation of *Rhynchophorus ferrugineus* in Cyprus

In Cyprus, *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae - EPPO A2 List) was first recorded in September 2006, in the area of Limassol (see EPPO RS 2007/022). Since then, it has spread to two more areas in the districts of Larnaca and Paphos. Infested areas were delimited and eradication measures were put in place. The emergency measures taken so far have prevented its further spread.

The situation of *Rhynchophorus ferrugineus* in Cyprus can be described as follows: Present, first found in 2006 it now occurs in the districts of Limassol, Larnaca and Paphos, under eradication.

Source: NPPO of Cyprus, 2008-10.

Additional key words: new record

Computer codes: RHYCFE, CY

2008/197 First report of *Diaphania perspectalis* from the Netherlands

In September 2008, during its regular monitoring activities the NPPO of the Netherlands found *Diaphania perspectalis* (syn. *Glyphodes perspectalis*, EPPO Alert List) at 4 different locations. The pest was found on *Buxus* plants, mainly *B. sempervirens*. Damage was caused by larval feeding on the leaves and shoots of *Buxus* hedgerows. However, in contrast with what has been observed in Germany (EPPO RS 2007/215) complete defoliation was not observed in the Netherlands. It is noted that the German and Dutch NPPOs are working together on a Pest Risk Analysis. This is the first report of *D. perspectalis* in the Netherlands.

The pest status of *D. perspectalis* in the Netherlands is officially declared as: Present in some areas, no further action.

Source: NPPO of the Netherlands, 2008-10.

[http://www/minlnv.nl.pd/](http://www.minlnv.nl.pd/)

Additional key words: new record

Computer codes: DPHNPE, NL

2008/198 Situation of *Diaphania perspectalis* in Germany

Diaphania perspectalis (synonym *Glyphodes perspectalis*, Lepidoptera: Pyralidae - EPPO Alert List) is a *Buxus* pest of Asian origin which was first found in Germany in 2007 (EPPO RS 2007/215). It was detected in Baden-Württemberg, in the city of Weil am Rhein and its surroundings. According to observations made by a network of lepidopterists, the pest has continued to spread in Germany. As of September 2008, *D. perspectalis* was present in Baden-Württemberg, in Weil am Rhein and its surroundings (Bad Bellingen, Stetten, Tumringen) and newly reported from Kehl. In addition, new records were received from

Nordrhein-Westphalen (Rommerskirchen, Mönchengladbach) and Niedersachsen (Salzbergen).

Source: Lepiforum. Bestimmungshilfe für die in Europa nachgewiesenen Schmetterlingsarten. http://www.lepiforum.de/cgi-bin/lepiwiki.pl?Glyphodes_Perspectalis

Additional key words: detailed record

Computer codes: DPHNPE, DE

2008/199 Forestry pests and diseases in Switzerland

A recent report published by the Swiss Federal Institute for Forest Snow and Landscape Research presents the situation of forestry pests and diseases observed in 2007 in Switzerland. It can be noted that 4 new insect species were discovered in 2007 on woody plants (*Cinara curvipes*, *Obolodiplosis robiniae*, *Halyomorpha halys* and *Diaphania perspectalis*). It is suspected that they have been introduced with trade of ornamental woody plants or wood packing material. It is also considered that climate change, and in particular temperature increase, may favour the establishment of these newly introduced insect species.

- New pest records

Ash dieback: since 2007, symptoms of dieback have been observed on ash trees (*Fraxinus excelsior*) in several cantons (e.g. Graubünden, Valais). Although *Chalara fraxinea* (EPPO Alert List) has not been identified on declining trees, it is suspected that it occurs in Switzerland.

Diaphania perspectalis (syn. *Glyphodes perspectalis*, Lepidoptera: Pyralidae - EPPO Alert List) was detected for the first time in Switzerland on *Buxus* plants in summer 2007, at several locations near Basel (zoological park 'Lange Erlen' in Basel, Riehen).

Cinara curvipes (Homoptera: Aphididae): high population levels were found on 1 tree (*Abies concolor*) in a private garden at Spreitenbach, in the canton of Aargau. This aphid of North American origin has also been recorded in several other European countries (Czech Republic, Germany, Serbia, Slovakia, United Kingdom - see EPPO RS 2008/053).

Halyomorpha halys (Heteroptera: Pentatomidae): this polyphagous pest was recorded for the first time in Switzerland at 5 locations near Zürich in summer 2007. This is also the first record of this Asian pest in Europe (see EPPO RS 2008/200).

Leptoglossus occidentalis (Heteroptera: Coreidae) was first found in Switzerland in 2002. In 2007, it was recorded in several locations in the cantons of Uri and Vaud. The EPPO Secretariat previously had no data on the occurrence of this pest in Switzerland. *L. occidentalis* is a pest of American origin which feeds on seeds of conifers. It can be recalled that it has been reported recently from other European countries (France, Italy, Slovenia - see EPPO RS 2007/210).

Obolodiplosis robiniae (Homoptera: Cecidomyiidae): this gall midge of North American origin was found on *Robinia pseudoacacia* at 4 distant sites: Agarone (canton of Ticino), Birmensdorf (Zürich), Emmen (Lucerne), and Susten (Valais), which suggests that the pest is already widespread in Switzerland. Low levels of populations were found, and inside the

galls, pupae of a parasitoid wasp *Platygaster robiniae* (Hymenoptera: Platygasteridae) were also discovered. In the EPPO region, *O. robiniae* was first reported in Italy in 2003 and appears to be spreading to several other countries (see EPPO RS 2008/202).

- Detailed records

Cameraria ohridella (Lepidoptera: Gracillariidae - formerly EPPO Alert List) is now widespread in Switzerland, mainly occurring in urban trees.

Ceratocystis fimbriata f.sp. *platani* (EPPO A2 List) mainly occurs in Ticino but has also been detected in Geneva canton. In 2007, new outbreaks were reported near Ceresio and Malcantone (Ticino).

Cryphonectria parasitica (EPPO A2 List) mainly occurs in the cantons of Graubunden, Ticino, Valais, and Vaud. Several foci have also been reported from the German-speaking part. In 2006, severe hail damage has led to an increase of the disease at Malcantone in Ticino.

Mycosphaerella dearnessii (anamorph *Lecanosticta acicola* - EPPO A2 List) was first reported in 1995 (see EPPO RS 95/239) at 1 site (Zollikon, canton of Zürich). It was later discovered at 2 other locations: Weesen (St Gallen) and Sarnen (Obwalden). In 2007, 4 new outbreaks of *M. dearnessii* were detected at Uitikon, Birmensdorf (both in Zürich canton), Neuenegg (Bern), and Bremgarten (Aargau). So far, the disease has only been found on *Pinus mugo* grown in parks and gardens and it has not reached forests.

Mycosphaerella pini (anamorph *Dothistroma pini* - EU Annexes) has only been recorded in gardens. In 2007, it was only recorded at Zumikon (Zürich canton).

Source: Institut fédéral de recherches sur la forêt, la neige et le paysage WSL, Birmensdorf (CH). Meier F, Engesser R, Forster B, Odermatt O, Angst A (2008) Protection des forêts - Vue d'ensemble 2007.
<http://www.wsl.ch/forschung/forschungunits/walddynamik/waldschutz/wsinfo/fsub/fsub07f.pdf>
 Rennwald E (2008) Bestimmungshilfe für die in Europa nachgewiesenen Schmetterlingsarten. http://www.lepiforum.eu/cgi-bin/lepiwiki.pl?action=browse&id=Glyphodes_Perspectalis
 Wermelinger B, Skuhravá M (2007) First records of the gall midge *Obolodiplosis robiniae* (Haldeman) (Diptera: Cecidomyiidae) and its associated parasitoid *Platygaster robiniae* Buhl & Duso (Hymenoptera: Platygasteridae) in Switzerland. *Entomologischen* 217-221.
http://www.wsl.ch/personal_homepages/wermelin/publikationen/2007_obolodiplosis.pdf

Additional key words: new record, detailed record

Computer codes: CERAFA, CHAAFR, DPHNPE, ENDOPA, HALYHA, LEPLC, LITHOD, SCIRAC, SCIRPI, TODOCU, CH

2008/200 First record of *Halyomorpha halys* in Switzerland: addition to the EPPO Alert List

In August 2007, the Swiss Forest Protection Service received a sample of bug nymphs which had been collected from a garden at Erlenbach, near Lake Zürich, Switzerland (Wermelinger *et al.*, 2008). These unusual bugs were observed feeding on various exotic ornamental shrubs. Nymphs were collected and reared on shoots of *Buddleia davidii*; the resulting adults could then be identified as *Halyomorpha halys* (Heteroptera: Pentatomidae - brown marmorated stink bug). Other specimens which had been collected in summer and autumn 2007 were also identified as *H. halys*. In total and in chronological order, the following specimens have been reported from the city of Zürich and its surroundings:

- 2 egg masses and several nymphs feeding on *Asparagus* at Zürich.
- 1 nymph feeding on a seed of *Acer pseudoplatanus* at Adliswil.
- numerous specimens were found in a garden at Erlenbach infesting ornamental shrubs at various levels (very heavy infestations found on *Decaisnea fargesii*, *Stewartia pseudocamellia* (1 attacked plant died), heavy infestations on *Aralia elata*, *Tropaeolum majus*, and minor infestations on *Amelanchier lamarckii* and *Buddleia davidii*).
- 1 nymph on an unknown plant in the Chinese Garden at Zürich-Riesbach.
- 1 adult found in an apartment at Zürich-Friesenberg.

The origin of the introduction of *H. halys* into Switzerland remains unknown but it is suspected that it was imported with woody plants. This is the first report of *H. halys* in Switzerland and in Europe.

H. halys is a highly polyphagous pest originating from Asia where it is considered as a pest on a wide variety of crops (soybean, fruit crops, woody ornamentals). *H. halys* has recently been introduced into the USA where its presence was first confirmed in 2001 in Pennsylvania. It then spread very rapidly to several Mid-Atlantic States and isolated populations were found on the Pacific coast (California and Oregon). It was primarily found on woody ornamentals and backyard fruit trees growing in urban or suburban environments, however since 2006 damage has started to be reported from commercial fruit tree orchards. In addition to plant damage, *H. halys* can become a nuisance in residential areas when it aggregates on buildings and houses seeking shelter for overwintering. Considering the invasive behaviour of *H. halys* in the USA, its polyphagy, and its recent introduction into Switzerland, the EPPO Secretariat decided to add *H. halys* to the EPPO Alert List.

Halyomorpha halys (Heteroptera: Pentatomidae - brown marmorated stink bug)

Why	The attention of the EPPO Secretariat was attracted by Dr G. Schrader (JKI, Germany) and Dr Wermelinger (Swiss Federal Institute WSL, CH) to the first record of <i>Halyomorpha halys</i> in Switzerland and in Europe. <i>H. halys</i> is a highly polyphagous pest of Asian origin which was recently introduced into the USA.
Where	<i>H. halys</i> originates from Asia. In the USA, it was first identified in 2001 in Allentown in Pennsylvania, although it is thought that it was present earlier (since 1996-1998). It is suspected to have been imported in packing crates from Asia. Within a few years, <i>H. halys</i> rapidly spread across Pennsylvania and New Jersey, and then to several Mid-Atlantic States, showing a invasive behaviour. Isolated populations were also found on the west coast in Oregon and California, probably transported there by human activities. EPPO region: Switzerland (first found in 2007). Asia: China (Anhui, Fujian, Guangdong, Guangxi, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Neimenggu, Shaanxi, Shanxi, Sichuan, Xizhang, Yunnan, Zhejiang), Japan, Korea Republic, Taiwan.

	<p>North America: USA (California, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Virginia, West Virginia).</p>
On which plants	<p><i>H. halys</i> is a highly polyphagous pest attacking more than 100 plant species, primarily fruit trees and woody ornamentals, but also field crops. Fruit crops: <i>Citrus</i> spp., <i>Diospyros</i> spp., <i>Malus domestica</i> (apple), <i>Morus</i> spp., <i>Prunus armeniaca</i> (apricot), <i>P. avium</i> (cherry), <i>P. domestica</i> (plum), <i>P. persica</i> (peach), <i>Pyrus communis</i> (pear), <i>Rubus idaeus</i> (raspberry) and <i>Vitis vinifera</i> (grapevine). Field crops: <i>Asparagus</i>, <i>Glycine max</i> (soybean), <i>Phaseolus vulgaris</i> (common bean), <i>Zea mays</i> (maize). Forest and ornamental trees/shrubs: <i>Abelia</i>, <i>Acer</i>, <i>Buddleia davidii</i>, <i>Cryptomeria</i>, <i>Cupressus</i>, <i>Hibiscus</i>, <i>Lonicera</i>, <i>Paulownia tomentosa</i>, <i>Rosa rugosa</i>, <i>Salix</i>. In Asia, <i>H. halys</i> has also been found on weeds (e.g. <i>Actrium</i> spp.).</p>
Damage	<p>In the USA, <i>H. halys</i> has one generation per year but in its native range 5-6 generations per year have been reported. It overwinters in the adult stage (diapause). Adults are 12-17 mm long, brownish or grayish, mottled and variable in size and colour. In summer, females lay eggs (50-150 eggs and up to 400 eggs, clustered by groups of 20-30) on the underside of the leaves. There are 5 larval stages (nymphs). The pronotum of the younger nymphs is armoured with spines, and the tibiae of instars 3 to 5 show a white band.</p> <p>Pictures can be viewed on the Internet: http://www.insectimages.org/browse/subthumb.cfm?sub=9328&start=1 http://www.wsl.ch/forschung/forschungunits/walddynamik/waldinsekten/aktuell/halyomorpha_EN</p> <p>Like other true bugs, <i>H. halys</i> feeds by sucking plant juices. Adults generally feed on fruit, whereas nymphs feed on leaves, stems and fruit. The most important crop damage results from insect feeding on pome and stone fruits, and on seeds inside legume pods (e.g. beans and soybean). Leaf feeding is characterized by small lesions (3 mm diameter) which may then become necrotic and coalesce. Attacked fruits may present small necrotic spots or blotches, grooves and brownish discolorations. In cases of heavy infestations, fruit are severely disfigured and rendered unmarketable. In Asia, <i>H. halys</i> is considered as causing significant damage to soybean and various horticultural crops. In Northern Japan, apple crops have increasingly been damaged by <i>H. halys</i>. Forest trees are known hosts of <i>H. halys</i>, but no damage has been reported in Asian forests. However, in Japan <i>H. halys</i> is considered as a pest in nurseries producing seeds of cedar and cypress because it can feed on cones. In the USA, damage caused by <i>H. halys</i> was initially reported in suburban or urban environments on woody ornamentals (e.g. <i>Buddleia davidii</i>, <i>Paulownia tomentosa</i>) and backyard peach and pear trees. However in 2006, commercial fruit growers started to report damage in apple and pear orchards in eastern Pennsylvania and western New Jersey. In Pennsylvania, high populations were also found in soybean crops but without significant damage. <i>H. halys</i> is considered as a vector of <i>Paulownia witches' broom</i> phytoplasma in Asia. Preliminary studies done in the USA did not detect any phytoplasma in the pest populations from Pennsylvania.</p> <p>In addition to plant damage, <i>H. halys</i> can be a nuisance to humans because at the end of autumn, adults can aggregate in buildings and houses (on walls, window and door frames) seeking overwintering sites. When disturbed or crushed they discharge a characteristic pungent odour (unpleasant and long lasting!). In the USA, many homeowners are complaining about this nuisance.</p>
Dissemination	<p><i>H. halys</i> is a strong flyer and a highly mobile pest which can move from host to host during the growing season (e.g. from early-ripening fruits to late-ripening ones). Over long distances, the pest can be disseminated by trade of host plants but also by movements of goods or vehicles. For example, in California it is suspected that the first bugs were introduced with household items as they were found on a property whose owner had recently moved from Pennsylvania. Until now, the pathways of introduction of <i>H. halys</i> into the USA or Switzerland remain</p>

unknown but it is suspected that the pest was introduced either as a hitchhiker on packing material or via plant imports.	
Pathway	Plants for planting, fruits and seeds? packing material, hitchhiking on non-agricultural products.
Possible risks	In USA, new findings of <i>H. halys</i> have to be notified the authorities and it is considered that the pest has the potential to invade agricultural areas and pose a risk to an increasing number of crops as it continues to expand its geographic range. For many crops, it is not known whether existing management strategies already applied against other bugs or insect pests might also apply to <i>H. halys</i> . In the EPPO region, although more studies are needed to determine whether <i>H. halys</i> can establish and spread within the EPPO region, it cannot be excluded that <i>H. halys</i> might become a damaging pest, in particular on pome and stone fruit trees.
Sources	<p>Bernon G, Bernhard KM, Hoebcke ER, Carter ME, Beanland L (2004) <i>Halyomorpha halys</i> (Heteroptera: Pentatomidae), the brown marmorated stink bug: are trees the primary host for this new invasive pest? Proceedings of the 15th USDA Interagency Research Forum on Gypsy Moth and Other Invasive Species (Annapolis, US, 200401-13/16), p 12.</p> <p>Hiruki C (1999) Paulownia witches' broom disease important in East Asia. <i>Acta Horticulturae</i> no 496, 63-68.</p> <p>Mitchell PL (2004) Heteroptera as vectors of plant pathogens. <i>Neotropical Entomology</i> 33(5), 519-545.</p> <p>Wermelinger B, Wyniger D, Forster B (2008) First records of an invasive bug in Europe: <i>Halyomorpha halys</i> Stål (Heteroptera: Pentatomidae), a new pest on woody ornamentals and fruit trees? <i>Mitteilungen der Schweizerischen Entomologischen Gesellschaft</i> 81, 1-8.</p> <p>INTERNET (last retrieved in 2008-11)</p> <p>California Department of Food and Agriculture. California Plant Pest and Disease Report, July 2002 to July 2005, Volume 22(1), p 8-9. http://www.cdffa.ca.gov/PHPPS/ppd/PDF/CPDR_2005_22-1.pdf</p> <p>Massachusetts Natural Resources Collaborations. Introduced Pests Outreach Project. Brown marmorated stink bug found in Massachusetts (March 2007). http://massnrc.org/pests/linkedddocuments/pestaalerts/BMSB%20March_2007.htm</p> <p>NPPO Phytosanitary Pest Alert System.</p> <p>Alert (2001-10-17) Asian stink bug infestation in Pennsylvania.</p> <p>Alert (2002-10-02) Brown marmorated stink bug, <i>Halyomorpha halys</i> in US (Pennsylvania)</p> <p>Alert (2003-11-05) The brown marmorated stink bug, <i>Halyomorpha halys</i> Stal (Heteroptera: Pentatomidae) found in Hagerstown, Maryland</p> <p>Alert (2005-01-07) Brown marmorated stink bug (<i>Halyomorpha halys</i>) in Oregon. http://www.pestalert.org</p> <p>North Dakota State University, Fargo. <i>Halyomorpha halys</i> Stal, 1855. http://www.ndsu.nodak.edu/ndsu/rider/Pentatomoidea/Species_Cappaeini/Halyomorpha_halys.htm</p> <p>Ohio State University. Fact Sheet. Brown marmorated stink bug. http://ohioline.osu.edu/hyg-fact/pdf/FS_3824_08.pdf</p> <p>PennState. Entomology Department. Entomological Notes. Brown marmorated stink bug. http://www.ento.psu.edu/extension/factsheets/pdfs/brMarmoratedStinkBug.pdf</p> <p>Rutgers University of New Jersey. Agricultural Experiment Station. Brown marmorated stink bug - A non-native insect in New Jersey. Fact Sheet FS002. http://njaes.rutgers.edu/pubs/publication.asp?pid=fs002</p> <p>Swiss Federal Institute for Forest, Snow and Landscape Research WSL. A new invasive species in Europe: The brown marmorated stink bug. http://www.wsl.ch/forschung/forschungseinheiten/walddynamik/waldinsekten/aktuell/halyomorpha_EN</p> <p>University of Florida. Featured Creatures. Gylstshen J, Bernon G, Hodges A (2008) Brown marmorated stink bug, <i>Halyomorpha halys</i> Stahl (Insecta: Hemiptera: Pentatomidae). http://creatures.ifas.ufl.edu/veg/bean/brown_marmorated_stink_bug.htm</p>

EPPO RS 2008/200
Panel review date

Entry date 2008-10

2008/201 *Psacotha hilaris* detected in the United Kingdom: addition to the EPPO Alert List

In the United Kingdom, one live adult beetle of *Psacotha hilaris* (Coleoptera: Cerambycidae - yellow-spotted longhorn beetle) was detected in July 2008 by a member of the public in a garden in Derbyshire (East Midlands, England). *P. hilaris* is a significant pest of *Ficus carica* (fig) and *Morus* spp. (mulberries) in the Far East. The origin of its introduction into the UK is unknown but the garden where the beetle was found and its vicinity will be subject to further inspections, especially on *Ficus* or *Morus*. It is noted that these species are widely sold as ornamentals in the UK. A press release will also be circulated locally. Because *P. hilaris* has been intercepted before in the UK (in 1997) and reported occasionally from Italy (see EPPO RS 2005/182 and 2008/052), the NPPO of the UK suggested that it could be added to the EPPO Alert List. Although it is unlikely to survive outdoors in the UK, it could present a risk to the Mediterranean region.

Psacotha hilaris (Coleoptera: Cerambycidae - yellow-spotted longhorn beetle)

Why	<i>Psacotha hilaris</i> has been occasionally found in Italy (in 2005 and 2008) and in the United Kingdom (in 2008). This wood borer of Asian origin has also been intercepted in trade in Europe (UK in 1997) and in North America (Canada in 1997, trapped in wood warehouses). As it is a serious pest of <i>Ficus</i> and <i>Morus</i> , the NPPO of the UK suggested that it could be added to the EPPO Alert List, in particular to warn NPPOs of Mediterranean countries.
Where	Asia: China, Japan (Honshu, Shikoku, Ryukyu Islands), Taiwan. <i>P. hilaris</i> is reported to occur in southern China but the EPPO Secretariat could not find more detailed information. The situation in the Republic of Korea needs clarification. In a short Internet publication, it is stated that <i>P. hilaris</i> is a rare insect species which survives only on Ulleung-do Island. Studies are being done to rear the insect and release it again in its natural environment on the Island. EPPO region: incursions of live beetles were reported in Italy (Lombardia) and the United Kingdom (East Midlands) in 2008. These have apparently not led to the establishment of the pest. In 2005, dead beetles had already been found in Lombardia near a wood warehouse (the pest had also been intercepted once in the UK in 1997). <i>P. hilaris</i> has also been intercepted several times in North America and Canada in warehouses, on wood and wooden spools imported from Asia (EPPO RS 98/202).
On which plants	<i>P. hilaris</i> attacks plant belonging to the Moraceae family, in particular <i>Ficus</i> (including fig trees, <i>F. carica</i>) and <i>Morus</i> spp. (mulberries).
Damage	Larvae bore tunnels inside tree trunks and adults feed on the leaves. In Japan, <i>P. hilaris</i> is considered as a serious pest of mulberry trees and fig orchards. In sericulture, it is causing problems because larvae bore tunnels in the trunks of mulberry trees which weaken the trees, while adults feed on the leaves which are the food source of <i>Bombyx mori</i> . Finally, it has been observed that <i>P. hilaris</i> could transport a newly described species of nematode, <i>Bursaphelenchus conicaudatus</i> , which was found associated with <i>Ficus carica</i> . This nematode is closely related to <i>B. xylophilus</i> , but its pathogenicity and economic importance remain unknown. No detailed description of the insect could be found, but adults are dark brown with conspicuous yellow spots on the elytra. Adult body length (excluding antennae) varies from 13 to 30 mm for males and from 15 to 31 mm for females. <i>P. hilaris</i> presents a large morphological variation across its geographic range (e.g. in the spot patterns) and 10 to 13 subspecies have been described. As it is a beautiful insect, many pictures can be found on the Internet: http://www.bjbug.com/special/friends/heisenlin/htmE/co0010.htm http://www.beetleskorea.com/cerambycidae/lamiinae/pages/uldo.htm http://www2.gol.com/users/nanacorp/ZUKAN/kibosi.htm

Dissemination	<i>P. hilaris</i> can complete its life cycle in 1 or 2 years and can have 2 generations per year depending on the time of egg-laying. Larval development varies with temperature and day-length. In Japan, the species usually overwinters as mature larvae and most adults emerge in mid-June the following year.
Pathway	No data is available on the potential of <i>P. hilaris</i> for natural spread. Over long distances, it can be moved with plants and wood of <i>Ficus</i> and <i>Morus</i> . There is no data indicating that it might be present in bonsai trees (as <i>Anoplophora chinensis</i> is for example).
Possible risks	Plants for planting and wood of <i>Ficus</i> and <i>Morus</i> , bonsais? Although sericulture has almost disappeared in Europe, <i>Morus</i> trees are still grown for ornamental purposes, particularly in the southern part of the EPPO region. The production of figs (<i>Ficus sericea</i>) is important around the Mediterranean Basin, and many ornamental <i>Ficus</i> species are grown across Europe (under glass in the north but also outdoors in the south). The control of <i>P. hilaris</i> is difficult because larvae bore into tree limbs so deeply that both chemical and mechanical control of the insect are difficult. Biological control with entomogenous fungi (i.e. <i>Beauveria brongniartii</i>) is being studied in Japan. Because larvae of <i>P. hilaris</i> spend most of their life cycle inside the trees, they are likely to be moved unnoticed in trade. Although data is lacking on the biology of the pest and in particular on its potential of establishment in the EPPO region, it seems that it could present a risk to <i>Morus</i> and <i>Ficus</i> trees growing in the Mediterranean part of the EPPO region.
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EPPO RS 98/202, 2005/182, 2008/052, 2008/201
Panel review date -

Entry date 2008-09

2008/202 *Obolodiplosis robiniae*: a new invasive species in Europe

In the 17th century, *Robinia pseudoacacia* (black locust - Fabaceae) was introduced from North America into Europe for ornamental and reforestation purposes. It is now considered as an invasive species in most European countries. More recently, several phytophagous insect species associated with *R. pseudoacacia* have been involuntarily introduced into Europe, for example leafminers: *Phyllonorycter robiniella* and *Parectopa robiniella* (both Lepidoptera: Gracillariidae). In Europe, an unusual species causing leaf galls on *R. pseudoacacia* was reported in 2003, in the Veneto region (Italy). It was identified as *Obolodiplosis robiniae* (Diptera: Cecidomyiidae), a gall midge originating from North America. Observations made in the Veneto region suggested that *O. robiniae* has at least 2 generations per year. In spring, adult females lay eggs on leaf tips, and larval feeding causes rolling of leaflet margins. Relatively high infestations can cause leaf fall, but trees are normally able to produce new shoots.

Pictures of *O. robiniae* can be viewed on the Internet:

<http://www.cebe.be/technics/htm/invent.php?loc=p&id=4049>

<http://www.bladmineerders.nl/gallen/obolodiplosis/robiniae/robiniae.htm>

<http://www.phyto.qc.ca/fiche.php3?nomal=466&noesp=616&nolist=1536>

http://www.wsl.ch/news/080122_robinia_DE

After its initial discovery in Veneto in 2003, *O. robiniae* rapidly spread across Italy and to other European countries. In 2004/2005, it was already present in several regions in the North of Italy: Friuli-Venezia Giulia, Trentino-Alto Adige, Lombardia, Emilia Romagna and Piemonte; and in 2007 it was also found in central and southern regions (Calabria, Campania, Molise, and Sicilia). In 2004, *O. robiniae* was reported in Czech Republic (near Prague) and in Slovenia (close to the Italian border). In 2005, signs of infestations were first noticed in Belgium near Brussels and the identity of the insect was confirmed in 2007. In 2006, the presence of *O. robiniae* was reported from Croatia, Germany, Hungary, Serbia and Montenegro, and Slovakia. More recent surveys carried out in Slovakia showed that *O. robiniae* mainly occurs in the south. In 2007, the gall midge was reported from France, the Netherlands, Poland, Switzerland (see EPPO RS 2008/199) and Ukraine. In France, *O. robiniae* was first observed at Gradignan, near Bordeaux (Gironde), and it then spread to Dordogne and Haute-Garonne (near Toulouse). In the Netherlands, it was discovered in June 2007, at first in the south but it was rapidly found across the country. However, it must be noted that despite an invasive behaviour no serious damage has been reported so far in Europe, and that insect population levels remained low. Interestingly, in several countries (e.g. Italy, France, Slovakia, Switzerland) *O. robiniae* was found with an associated parasitoid *Platygaster robiniae* (Hymenoptera: Platygasteridae). For example in France, high levels of gall midge populations were observed in 2007 in Dordogne and Gironde, but in 2008 because of the efficient control by *P. robiniae*, *O. robiniae* was almost no longer seen. It is suggested that this parasitoid was introduced together with *O. robiniae* from North America, but surveys need to be conducted in North America to confirm the origin of *P. robiniae*.

Finally, it must be reported that shortly before being detected in Europe, *O. robiniae* was introduced into Asia. In July 2002, leaf galls were observed on *R. pseudoacacia* in Japan (Fukuoka Prefecture). Almost at the same time, similar galls were found in the suburbs of Seoul in the Republic of Korea. In 2005, the pest had spread to 9 Prefectures in Japan. In 2006, the presence of *O. robiniae* was reported from China. High levels of infestation were reported from several cities in the Provinces of Hebei (Qinhuangdao) and Liaoning (Anshan, Chaoyang, Huludao, Jinzhou). However, according to the available literature and similar to the situation in Europe, no severe damage has been observed on *R. pseudoacacia* in Asia.

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2008/203 First record of *Cylindrocladium buxicola* in Austria

The Austrian NPPO recently informed the EPPO Secretariat of the first finding of *Cylindrocladium buxicola* (formerly EPPO Alert List) on its territory. The fungus was detected on *Buxus* plants in a private garden in Vienna. All infected plants have immediately been destroyed. The source of the infection could not be identified.

The pest status of *Cylindrocladium buxicola* in Austria is officially declared as: Local outbreak, eradicated.

Source: NPPO of Austria, 2008-09.

Additional key words: first record, eradication

Computer codes: CYLDBU, AT

2008/204 Isolated finding of *Blueberry scorch virus* in the Netherlands

The Dutch NPPO recently informed the EPPO Secretariat of the first record of *Blueberry scorch virus* (*Carlavirus*, BBScV - EPPO A2 List) in the Netherlands. During a survey carried out in 2008 at 47 commercial companies growing *Vaccinium* species, 1 plant of *V. corymbosum* in 1 company was found infected by BBScV (symptomatology, RT-PCR, sequence analysis). The origin of this infection could not be determined. The infected plant (*V. corymbosum* cv. Dixi) had been planted in 1987 and although cultivar 'Dixi' originates from the USA, it has been cultivated in the Netherlands for more than 40 years. Because most *Vaccinium* plants had lost their leaves at the time of detection (autumn), further testing will be carried out at the beginning of the 2009 growing season to determine the possible source and extent of infection. The infected plant has been destroyed. This is the first time that BBScV is reported from the Netherlands. In Europe, it can be recalled that this virus had been observed in Italy in 2004 (EPPO RS 2005/101).

The pest status of *Blueberry scorch virus* in the Netherlands is officially declared as: Transient, incidental finding, under eradication.

Source: NPPO of the Netherlands, 2008-11.
<http://www.minlnv.nl/pd>

Additional key words: new record

Computer codes: BLSCV0, NL

2008/205 Situation of *Iris yellow spot virus* in onion crops in the Netherlands: 2008 situation

In 2008, surveys were carried out in the Netherlands in onion crops (*Allium cepa*) in particular to study the extent of latent infections by *Iris yellow spot virus* (*Tospovirus*, IYSV - EPPO Alert List). A total of 660 onion plants were sampled from 14 fields across the Netherlands, and tested for IYSV. As no virus symptoms were observed in the field, leaf samples collected were either asymptomatic, showing thrips feeding damage or atypical necrotic lesions. IYSV-infections were detected in 13 out of the 14 studied fields, with 8 to 54% of the samples testing positive (on average 25.6%). The detection of IYSV could not be related to the presence of any symptoms. The results of this survey showed that IYSV was widespread in onion crops in 2008, mainly causing symptomless infections. The Dutch NPPO considers that that IYSV symptomless infections are likely to occur in other European countries, especially in those having similar growing conditions. So far, the main sources of infection in onion crops in the Netherlands remain unknown. All weeds and wild plants collected in the vicinity of infected onion fields tested negative. Research will continue to identify the primary source of virus infection at the beginning of the 2009 growing season. The pest status of *Iris yellow spot virus* in the Netherlands is officially declared as: Present, in all parts of the area where onion is grown.

Source: NPPO of the Netherlands, 2008-10.
<http://www.minlnv.nl/pd>

Additional key words: detailed record

Computer codes: IYSV00, NL

2008/206 Colombian datura virus: an emerging disease?

Dr P. Salamon (Hungary) brought the attention of the EPPO Secretariat to an emerging virus, *Colombian datura virus*, which might present a risk to solanaceous crops. He also kindly compiled most of the information which is presented below for EPPO. *Colombian datura virus* (*Potyvirus*, CDV) was first isolated and described in 1968 from *Datura candida* and *D. sanguinea* plants (both species were then classified under the genus *Brugmansia*) imported from Colombia to the USA. CDV has flexuous rod shaped particles of about 800 x 12 nm in size. It is transmitted by aphids (including *Myzus persicae*) in a non-persistent manner, as well as by mechanical inoculation and grafting. A virus isolated from *Petunia* in Germany in the 1990s and tentatively called 'Petunia flower mottle virus' was then showed to be identical to CDV. Symptoms of CDV on *Brugmansia* can include reduction in leaf size, vein banding, chlorotic flecking followed by mottling, reduction of plant size and occasionally flower discoloration. CDV infections may remain symptomless but when plants are stressed, leaf mottling and mosaic patterns may appear.

Situation in Europe

After its initial description in 1968, no more attention was given to this virus until 1996 when CDV was reported to occur in Germany and the Netherlands on *Brugmansia* plants growing in botanical, private and commercial collections. CDV was detected in 24 samples (collected from 1989 to 1995) of *Brugmansia* species and hybrids, as well as in 3 samples of *Juanulloa aurantiaca*, *Petunia* hybrids and *Lycopersicon esculentum* (tomato). In 1996, CDV also was reported to occur in 1 glasshouse of tomatoes in the Netherlands. Approximately 300 tomato plants (*L. esculentum* cv. Cabrion) showed growth reduction, foliar mosaic and fruit discoloration. Observations suggested these tomato plants had probably been contaminated by aphids which had acquired the virus from a large CDV-infected

Brugmansia plant (the latter had overwintered in the same glasshouse). In 2004, CDV infections were detected in tobacco (*Nicotiana tabacum*) crops in Hungary, Germany and Poland. Affected plants showed conspicuous chlorotic and necrotic leaf symptoms. In Hungary, recent studies have showed that besides *Brugmansia* hybrids, CDV caused severe diseases in experimental fields of Cape gooseberry (*Physalis peruviana*) and was found naturally infecting pepino (*Solanum muricatum*) plants. Inoculation studies have showed that potato (*Solanum tuberosum*) could be a potential host of CDV, but no natural infections have been reported.

Situation in the USA, and other parts of the world

In the USA, no further records were made after the initial description and the virus was considered no longer present. However, in 2004 CDV was detected in 3 plants of *Spiranthes cernua* (Orchidaceae) maintained by a propagator in South Carolina, which displayed leaf mosaic. In 2003, CDV was detected on *Brugmansia* plants growing in a nursery in Florida and showing disease symptoms (foliar mosaic, faint chlorotic spots and rugosity). Preliminary studies on samples from other parts of the USA suggest that CDV is more widespread on *Brugmansia* than originally thought but no further details could be found in the literature.

In Australia, CDV was first detected in one nursery on *Brugmansia* plants in New South Wales, and subsequently in Victoria.

Finally, nucleotide sequence data of CDV isolates from Japan (tomato, 2004), Oregon (*Brugmansia*, 2007) and Canada (2008) have been deposited in GenBank. However, in the absence of any other supporting data, it is difficult to assess the situation of the disease in these areas.

Although much data is lacking on the host range, geographical distribution and more particularly on the economic impact of the disease in solanaceous crops, it seems that CDV is emerging in different parts of the world. More attention should probably be paid to the health status of ornamental Solanaceae, as these may act as inoculum sources for economically important crops such as tomato, tobacco and possibly potato.

Source: Personal communication with Dr P. Salamon, Vegetable Crops Research Institute, Kecskemét, Hungary (2008).

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Additional key words: new pest

Computer codes: CDV000, AU, DE, HU, NL, PL, US

2008/207 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2008 received since the previous report (EPPO RS 2008/187). Notifications have been sent directly to EPPO by Russia, Switzerland, and via Europhyt for the EU countries. Interceptions for 2007 have been sent by Russia and are presented separately. 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 must be pointed out that the report is only partial, as many EPPO countries have not yet sent their notifications. 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 (*).

- Interceptions for 2008 received since the previous report

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Aonidiella citrina</i>	<i>Fortunella</i>	Fruits	South Africa	Germany	1
<i>Bemisia</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Cyprus	1
<i>Bemisia tabaci</i>	<i>Hibiscus</i>	Plants for planting	Côte d'Ivoire	Belgium	1
	<i>Hypericum</i>	Plants for planting	Zimbabwe	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Colombia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	6
	<i>Solidago</i>	Cut flowers	Israel	Netherlands	2
	Unspecified	Vegetables	Thailand	Ireland	1
<i>Bemisia tabaci</i> , <i>Spodoptera littoralis</i>	<i>Aster</i> , <i>Eustoma</i> , <i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1
<i>Cryptophlebia leucotreta</i>	<i>Citrus paradisi</i>	Fruits	South Africa	Spain	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Cylas formicarius</i>	<i>Ipomoea batatas</i>	Vegetables	India	Cyprus	1
<i>Elsinoe</i>	<i>Citrus limon</i>	Fruits	Argentina	Spain	1
Fungal rots	<i>Cyphomandra crassicaulis</i>	Vegetables	Ecuador	Spain	1
<i>Guignardia</i>	<i>Citrus sinensis</i>	Fruits	South Africa	Spain	1
<i>Guignardia citricarpa</i>	<i>Citrus sinensis</i>	Fruits	Argentina	Netherlands	1
	<i>Citrus sinensis</i>	Fruits	Argentina	Spain	3
	<i>Citrus sinensis</i>	Fruits	Brazil	Belgium	3
	<i>Citrus sinensis</i>	Fruits	South Africa	Netherlands	10
	<i>Citrus sinensis</i>	Fruits	South Africa	United Kingdom	2
<i>Helicoverpa armigera</i>	<i>Pisum sativum</i>	Vegetables	Zimbabwe	Germany	3
	<i>Rosa</i>	Cut flowers	Israel	Netherlands	1
	<i>Rosa</i>	Cut flowers	Kenya	Netherlands	2
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	1
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	1
	<i>Rosa</i>	Cut flowers	Zimbabwe	Netherlands	21
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
<i>Heliothis, Trialeurodes</i>	<i>Ocimum</i>	Vegetables (leaves)	Thailand	Germany	1
<i>Leucinodes orbonalis</i>	<i>Solanum aethiopicum</i>	Vegetables	Ghana	Germany	11
	<i>Solanum melongena</i>	Vegetables	Bangladesh	Germany	1
<i>Liriomyza</i>	<i>Apium graveolens</i>	Vegetables	Thailand	Denmark	1
	<i>Gypsophila</i>	Cut flowers	Ethiopia	Belgium	1
	<i>Gypsophila</i>	Cut flowers	Israel	Belgium	1
<i>Liriomyza huidobrensis</i>	<i>Eryngium</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Kenya	Netherlands	1
	<i>Trachelium</i>	Cut flowers	Ecuador	Netherlands	1
<i>Liriomyza trifolii</i>	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	2
<i>Phyllocnistis citrella</i>	<i>Citrus aurantiifolia</i>	Fruits	Thailand	United Kingdom	1
<i>Phytophthora</i>	<i>Mangifera indica</i>	Fruits	Ghana	Spain	1
<i>Phytophthora ramorum</i>	<i>Rhododendron</i>	Plants for planting	Germany	Belgium	1
	<i>Rhododendron</i>	Plants for planting	Poland	Latvia	1
<i>Pratylenchus</i>	<i>Ficus carica</i>	Plants for planting	Israel	Belgium	1
<i>Radopholus similis</i>	<i>Anthurium, Philodendron</i>	Plants for planting	Malaysia	Netherlands	1
	<i>Anubias</i>	Aquarium plants	Thailand	Netherlands	1
<i>Rhynchophorus ferrugineus</i>	<i>Arecastrum romanzoffianum</i>	Plants for planting	Costa Rica*	Italy	2
<i>Scirtothrips, Thrips palmi</i> (suspected)	<i>Momordica charantia</i>	Vegetables	India	United Kingdom	1
<i>Selenaspidus articulatus</i>	<i>Citrus sinensis</i>	Fruits	Peru	Spain	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Spodoptera</i>	<i>Musa</i>	Plants for planting	USA	Germany	1
<i>Spodoptera littoralis</i>	<i>Eustoma</i>	Cut flowers	Israel	Cyprus	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	1
<i>Spodoptera litura</i>	<i>Rosa</i>	Cut flowers	India	Netherlands	2
Thripidae (<i>Thrips palmi</i> suspected)	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	Ghana	United Kingdom	1
<i>Thrips</i>	<i>Momordica</i>	Vegetables	Thailand	Germany	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Momordica, Annona</i>	Fruits and vegetables	India	United Kingdom	1
<i>Thrips palmi</i>	<i>Dendrobium</i>	Cut flowers	Thailand	Belgium	1
	<i>Dendrobium</i>	Cut flowers	Thailand	Belgium	1
	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	3
	<i>Hibiscus</i>	Vegetables	Dominican Rep.	Spain	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Momordica, Solanum</i>	Vegetables	Thailand	Netherlands	1
	<i>Solanum melongena</i>	Vegetables	Surinam	Netherlands	1
	<i>Solanum melongena</i>	Vegetables	Thailand	Netherlands	1
<i>Thysanoptera</i>	<i>Rosa</i>	Cut flowers	Kenya	Netherlands	1
<i>Tomato spotted wilt virus</i>	<i>Pelargonium</i>	Cuttings	Kenya	Germany	1
<i>Xanthomonas</i>	<i>Citrus aurantiifolia</i>	Fruits	Bangladesh	United Kingdom	1
	<i>Citrus limon</i>	Fruits	Bangladesh	United Kingdom	1
<i>Xanthomonas axonopodis</i> pv. <i>citri</i>	<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>	Dominican Rep.	United Kingdom	2
<i>Anastrepha obliqua</i>	<i>Mangifera indica</i>	Dominican Rep.	United Kingdom	1
<i>Bactrocera</i>	<i>Mangifera indica</i>	Pakistan	Spain	1
	<i>Mangifera indica</i>	Pakistan	United Kingdom	3
<i>Bactrocera correcta</i> , <i>Bactrocera zonata</i>	<i>Psidium guajava</i>	Thailand	United Kingdom	1
<i>Bactrocera dorsalis</i>	<i>Mangifera indica</i>	Pakistan	Germany	1
<i>Bactrocera zonata</i>	<i>Mangifera indica</i>	Pakistan	United Kingdom	2
Non-European Tephritidae	<i>Mangifera indica</i>	Pakistan	Spain	2
	<i>Mangifera indica</i>	Senegal	Netherlands	1
	<i>Mangifera indica</i>	Sri Lanka	Switzerland	2
	<i>Psidium guajava</i>	Bangladesh	Germany	1

• Wood

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Aphelenchoides</i>	Unspecified	Wood packing material	China	Lithuania	1
<i>Bostrychidae</i>	Unspecified	Wood packing material	India	Germany	1
<i>Bursaphelenchus xylophilus</i>	Unspecified	Wood packing material	Portugal	Finland	1
	Unspecified	Wood packing material	Portugal	Sweden	12
Cerambycidae	<i>Pinus</i>	Wood and bark	Russia	Germany	1
	Unspecified	Wood and bark	Gabon	Spain	1
	Unspecified	Wood packing material	India	Germany	1
Cerambycidae, Scolytidae	Unspecified	Wood packing material	China	Germany	1
Grub holes > 3 mm	<i>Larix</i>	Wood and bark	Russia	Finland	1
Nematoda	Unspecified	Wood packing material	China	Finland	1
	Unspecified	Wood packing material	USA	Finland	1
Scolytidae	Unspecified	Wood and bark	Congo	Spain	4
	Unspecified	Wood and bark	Gabon	Spain	1
<i>Sinoxylon</i>	Unspecified	Dunnage	India	Germany	1
	Unspecified	Wood packing material	India	Germany	2

• Bonsais

Pest	Consignment	Country of origin	Destination	nb
<i>Xiphinema americanum</i> , <i>Meloidogyne</i>	<i>Ilex crenata</i>	Japan	Netherlands	1

• Russian interceptions for 2007 received since the previous report

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Acroptilon repens</i>	<i>Gossypium hirsutum</i>	Stored products	Tadjikistan	Russia	1
	<i>Nicotiana tabacum</i>	Stored products	Azerbaijan	Russia	1
	<i>Triticum aestivum</i>	Stored products	Kazakhstan	Russia	2
<i>Ambrosia artemisiifolia</i>	<i>Gossypium hirsutum</i>	Stored products	Azerbaijan	Russia	1
	<i>Nicotiana tabacum</i>	Stored products	Azerbaijan	Russia	1
<i>Bemisia tabaci</i>	<i>Eruca sativa</i>	Vegetables (leaves)	Israel	Russia	2
	<i>Mentha longifolia</i>	Vegetables (leaves)	Israel	Russia	1
	<i>Rosa</i>	Cut flowers	Israel	Russia	1
<i>Bidens pilosa</i>	<i>Glycine max</i>	Stored products	Brazil	Russia	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Bidens pilosa</i> , <i>Ipomoea lacunosa</i> , <i>Ipomoea hederacea</i> , <i>Cenchrus pauciflorus</i>	<i>Glycine max</i>	Stored products	Brazil	Russia	1
<i>Callosobruchus</i>	<i>Phaseolus aureus</i>	Stored products	Tadjikistan	Russia	1
<i>Carposina niponensis</i>	<i>Malus domestica</i>	Fruits	China	Russia	25
	<i>Malus domestica</i> , <i>Cucumis melo</i> , <i>Ananas comosus</i>	Fruits	China	Russia	1
	<i>Prunus armeniaca</i> , <i>Pyrus communis</i>	Fruits	China	Russia	1
	<i>Prunus persica</i>	Fruits	China	Russia	2
	<i>Pyrus communis</i>	Fruits	China	Russia	2
<i>Carposina niponensis</i> , <i>Grapholita molesta</i>	<i>Malus domestica</i>	Fruits	China	Russia	8
	<i>Prunus persica</i>	Fruits	China	Russia	2
<i>Ceratitis capitata</i>	<i>Citrus</i>	Fruits	Turkey	Russia	1
	<i>Citrus paradisi</i>	Fruits	Israel	Russia	1
	<i>Citrus reticulata</i>	Fruits	Turkey	Russia	1
	<i>Citrus sinensis</i>	Fruits	Egypt	Russia	1
	<i>Citrus unshiu</i>	Fruits	Turkey	Russia	1
<i>Cuscuta</i>	<i>Gossypium hirsutum</i>	Stored products	Azerbaijan	Russia	1
<i>Cuscuta campestris</i>	<i>Gossypium hirsutum</i>	Stored products	Azerbaijan	Russia	2
<i>Frankliniella occidentalis</i>	<i>Alstroemeria</i>	Cut flowers	Netherlands	Russia	1
	<i>Dianthus caryophyllus</i>	Cuttings	China	Russia	1
	<i>Dianthus caryophyllus</i> , <i>Gypsophila</i>	Cut flowers	China	Russia	1
	<i>Eustoma</i>	Cut flowers	China	Russia	3
	<i>Gerbera</i>	Cut flowers	China	Russia	1
	<i>Gerbera</i>	Cut flowers	Israel	Russia	1
	<i>Gypsophila</i>	Cut flowers	Korea Rep.	Russia	1
	<i>Limonium</i>	Cut flowers	China	Russia	1
	<i>Limonium</i>	Cuttings	Korea Rep.	Russia	1
	<i>Limonium</i> , <i>Gypsophila</i>	Cut flowers	China	Russia	2
	<i>Mentha longifolia</i>	Vegetables (leaves)	Israel	Russia	1
	<i>Ornamentals</i>	Cut flowers	China	Russia	2
	<i>Ornamentals</i>	Cut flowers	Israel	Russia	2
	<i>Prunus persica</i>	Fruits	Greece	Russia	1
	<i>Rosa</i>	Cut flowers	Israel	Russia	4
<i>Rosa</i>	Cut flowers	Netherlands	Russia	1	
<i>Solidago</i>	Cut flowers	Israel	Russia	1	
<i>Grapholita molesta</i>	<i>Malus domestica</i>	Fruits	China	Russia	16
	<i>Prunus armeniaca</i>	Fruits	China	Russia	1
	<i>Prunus armeniaca</i>	Fruits	Kyrgyzstan	Russia	1
	<i>Prunus domestica</i>	Fruits	China	Russia	2
	<i>Prunus persica</i>	Fruits	China	Russia	10
	<i>Prunus persica</i> var. <i>nectarina</i>	Fruits	China	Russia	8
	<i>Prunus persica</i> , <i>Vitis vinifera</i>	Fruits	Kyrgyzstan	Russia	2
	<i>Pyrus communis</i>	Fruits	China	Russia	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Ipomoea lacunosa</i>	<i>Glycine max</i>	Stored products	Brazil	Russia	1
<i>Ipomoea lacunosa, Bidens pilosa</i>	<i>Glycine max</i>	Stored products	Brazil	Russia	1
<i>Ipomoea lacunosa, Bidens pilosa, Cenchrus pauciflorus</i>	<i>Glycine max</i>	Stored products	Brazil	Russia	2
<i>Ipomoea lacunosa, Cenchrus pauciflorus</i>	<i>Glycine max</i>	Stored products	Brazil	Russia	2
<i>Liriomyza sativae</i>	<i>Gerbera</i>	Cut flowers	Israel	Russia	2
<i>Solanum rostratum</i>	<i>Nicotiana tabacum</i>	Stored products	Azerbaijan	Russia	1

Source: EPPO Secretariat, 2008-10.

2008/208 New regulations on invasive alien plants in Switzerland

A new Swiss regulation (ordinance) on the release of exotic organisms in the environment was published on the 1st October 2008. This ordinance contains a list of exotic plants that should not be used directly in the environment (meaning that the use, treatment, multiplication, modification, transport, circulation, etc. is prohibited) and excavated material contaminated with these species should remain on the land it originates from.

The species registered to this list are the following:

Ambrosia artemisiifolia (Asteraceae, EPPO List of Invasive Alien Plants), *Crassula helmsii* (Crassulaceae, EPPO A2 List), *Elodea nuttalli* (Hydrocharitaceae, 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 peploides* and *Ludwigia uruguayensis* (Onagraceae, EPPO List of IAP), *Reynoutria* spp. (Polygonaceae), including *Polygonum polystachyum*, *Reynoutria japonica* (EPPO List of IAP), *R. sachalinensis* (EPPO List of IAP), *Reynoutria x bohemica* (EPPO List of IAP), *Rhus typhina* (Anacardiaceae), *Senecio inaequidens* (Asteraceae, EPPO List of IAP), *Solidago* spp. (Asteraceae), including *S. canadensis* (EPPO List of IAP), *S. gigantea* (EPPO List of IAP), *S. nemoralis* (EPPO Alert List) and their hybrids.

These species are also subject to a monitoring which is carried out according to the existing procedures within the fields of environment and agriculture. Management actions should also be implemented against these organisms.

Source: 814.911 Ordonnance du 10 septembre 2008 sur l'utilisation d'organismes dans l'environnement (Ordonnance sur la dissémination dans l'environnement, ODE)
<http://www.admin.ch/ch/f/gg/cr/2006/20062651.html>

Additional key words: invasive alien plants, regulations

Computer codes: AMBEL, CSBHE, ELDNU, HERMZ, HYDRA, IPAGL, LUDPE, LUDUR, POLPS, POLCU, REYBO, REYSA, RHUTY, SENIQ, SOOCA, SOOGI, SOONE, CH,

2008/209 Substitutes for invasive alien plants in Switzerland

Out of the approximately 360 established alien plants in Switzerland, about 40 are considered invasive and are registered either on the Black List or the on Watch List of the Swiss Commission for Wild Plant Conservation. These species should not be traded or used for ornamental purposes and they should be replaced by native or exotic substitute plants. The substitutes for invasive plants registered on the Swiss Black List are presented in the table below. However, the exotic substitution species that were recorded by the Global Compendium of Weeds as invasive elsewhere in the world were removed from this table by the EPPO Secretariat.

Invasive plant registered on the Swiss Black List	Proposal of native substitution plant	Proposal of exotic substitution plant
<i>Ailanthus altissima</i> (Simaroubaceae) EPPO List of IAP	<i>Fraxinus ornus</i> (Oleaceae), <i>Juglans regia</i> (Juglandaceae) <i>Sorbus aucuparia</i> (Rosaceae) <i>Celtis australis</i> (Ulmaceae)	<i>Aesculus hippocastanum</i> (Hippocastanaceae)
<i>Buddleia davidii</i> (Buddleiaceae) EPPO List of IAP	<i>Hippophae rhamnoides</i> (Elaeagnaceae)	<i>Ceanothus x-delilianus</i> (Rhamnaceae) <i>Caryopteris</i> spp. (Verbenaceae) <i>Perovskia atriplicifolia</i> (Lamiaceae) <i>Hydrangea paniculata</i> (Hydrangeaceae)
<i>E. canadensis</i> (Hydrocharitaceae)+ <i>E. nuttalli</i> (Hydrocharitaceae) EPPO List of IAP	<i>Myriophyllum verticillatum</i> + <i>M. spicatum</i> (Haloragaceae) <i>Utricularia minor</i> (Lentibulariaceae) <i>Ceratophyllum demersum</i> (Ceratophyllaceae)	
<i>Heracleum mantegazzianum</i> (Apiaceae) EPPO List of IAP	<i>Angelica sylvestris</i> (Apiaceae) <i>Peucedanum verticillare</i> (Apiaceae) <i>Molopospermum peloponnesiacum</i> (Apiaceae)	<i>Angelica archangelica</i> (Apiaceae), <i>Rheum palmatum</i> (Polygonaceae)
<i>Impatiens glandulifera</i> (Balsaminaceae) EPPO List of IAP+ <i>I. balfouri</i> (Balsaminaceae)	<i>Impatiens noli-tangere</i> (Balsaminaceae) <i>Valeriana officinalis</i> (Valerianaceae) <i>Epilobium angustifolium</i> (Onagraceae) <i>Lythrum salicaria</i> (Lythraceae)	<i>Impatiens balsamina</i> (Balsaminaceae) <i>Antirrhinum majus</i> (Scrophulariaceae)
<i>Lonicera japonica</i> (Caprifoliaceae)	<i>Lonicera periclymenum</i> <i>L. caprifolium</i> (Caprifoliaceae)	<i>Lonicera x-heckrottii</i> (Caprifoliaceae)
<i>Ludwigia uruguayensis</i> (Onagraceae) EPPO List of IAP	<i>Lysimachia vulgaris</i> (not <i>L. punctata</i>) (Primulaceae) <i>Veronica beccabunga</i> (Scrophulariaceae) <i>Mentha aquatica</i> (Lamiaceae) <i>Nuphar lutea</i> (Nymphaeaceae)	
<i>Lysichiton americanus</i> (Araceae) EPPO A2 List	<i>Arum maculatum</i> , <i>Arum italicum</i> (Araceae)	
<i>Polygonum polystachyum</i> (Polygonaceae)	<i>Rumex hydrolapathum</i> and <i>Rumex aquaticus</i> (Polygonaceae) <i>Typha latifolia</i> (Typhaceae) <i>Aruncus dioicus</i> (Rosaceae)	
<i>Prunus laurocerasus</i> (Rosaceae)	<i>Ilex aquifolium</i> (Aquifoliaceae), <i>Laurus nobilis</i> (Lauraceae), <i>Taxus baccata</i> (Taxaceae)	<i>Photinia</i> spp. (Rosaceae) <i>Aucuba japonica</i> (Cornaceae)

Invasive plant registered on the Swiss Black List	Proposal of native substitution plant	Proposal of exotic substitution plant
<i>Prunus serotina</i> (Rosaceae) EPPO A2 List	<i>Prunus padus</i> (Rosaceae) <i>Amelanchier ovalis</i> (Rosaceae)	
<i>Pueraria lobata</i> (Fabaceae)	<i>Humulus lupulus</i> (Cannabaceae) <i>Clematis alpina</i> (Ranunculaceae)	<i>Actinidia chinensis</i> (Actinidiaceae) <i>Clematis spp.</i> (Ranunculaceae)
<i>Fallopia japonica</i> (= <i>Reynoutria japonica</i>) <i>Fallopia sachalinensis</i> + <i>F. x bohemica</i> (Polygonaceae) EPPO List of IAP	<i>Rumex hydrolapathum</i> (Polygonaceae) <i>Typha latifolia</i> (Typhaceae) <i>Aruncus dioicus</i> (Rosaceae)	<i>Hydrangea spp.</i> (Hydrangeaceae)
<i>Rhus typhina</i> (Anacardiaceae)	<i>Fraxinus ornus</i> (Oleaceae), <i>Celtis australis</i> (Ulmaceae), <i>Sorbus aucuparia</i> (Rosaceae)	<i>Acer palmatum</i> (Aceraceae)
<i>Robinia pseudoacacia</i> (Fabaceae)	<i>Fraxinus ornus</i> (Oleaceae), <i>Laburnum anagyroides</i> (Fabaceae) <i>Sorbus aucuparia</i> (Rosaceae)	
<i>Solidago canadensis</i> + <i>S. gigantea</i> (= <i>S. serotina</i>) (Asteraceae) EPPO List of IAP	<i>Solidago virgaurea</i> (Asteraceae) <i>Lysimachia vulgaris</i> (not <i>L. punctata</i>) (Primulaceae) <i>Verbascum thapsus</i> (Scrophulariaceae) <i>Hypericum perforatum</i> (Clusiaceae)	<i>Ligularia dentata</i> (Asteraceae)

Source: Gigon A (2007) [Substitute plants for the unwanted invasive alien species (IAS, invasive neophytes) of the Black and Watch Lists of Switzerland] (In German) 12 pp. http://www.cps-skew.ch/deutsch/inva_ersatzarten.pdf

A Global Compendium of Weeds. http://www.hear.org/gcw/alpha_select_gcw.htm

Additional key words: substitute plants

Computer codes: AILAL, BUDDA, ELDC, ELDNU, HERMZ, IPABF, IPAGL, LONJA, LUDUR, LYSAM, POLCU, POLPS, PRNLR, PRNSO, PUELO, REYBO, REYSA, RHUTY, ROBPS, SOOCA, SOOGL, CH,

2008/210 *Verbesina encelioides* in the EPPO region: addition to the EPPO Alert List

Why

Verbesina encelioides (Asteraceae - common name is 'golden crownbeard') is an erect annual native to North and South America. The pathways of introduction of this species remain uncertain but are generally considered to be unintentional (e.g. as a contaminant of soil or of wool). Within the EPPO region, its distribution is still limited. Because this plant has shown invasive behaviour where it has been introduced elsewhere in the world and is still limited in the EPPO region, it can be considered an emerging invader in Europe.

Geographical distribution

EPPO region: Denmark (not invasive), Israel, Morocco, Spain (O Mayoral García-Berlanga & M Angel Gómez-Serrano, pers. com.), UK
Asia: India, Saudi Arabia

North America: USA (Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Louisiana, Maryland, Massachusetts, Michigan, Missouri, Montana, Nebraska, Nevada, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Wyoming)

Central America: Mexico, Puerto Rico

South America: Argentina

Africa: Botswana, Namibia, South Africa

Oceania: Australia (New South Wales, Northern Territory, Queensland, South Australia, Victoria, Western Australia).

Note: Tutin *et al.* (1964-1980) report doubtful records in Germany, Sweden and Switzerland. The species has been reported as casual in Vienna (AT), and no impacts are reported. The species might also have a wider distribution in South America.

Morphology

V. encelioides is an erect annual reaching 30 cm and up to 160 cm and grows from a taproot system. Leaves are toothed or lobed and have two growth patterns: lower leaves are opposite and triangular, while the upper leaves are alternate and lance shaped. Fine white hairs are present on the underside of leaves and on the stem. Flower heads are bright yellow and found on elongated stalks and resemble small sunflowers, and are 2.5 to 5 cm in diameter. Seeds are grayish-brown achenes, flat and winged along the margins, they measure 5.4 mm to 6.7 mm long by 3.1 mm to 3.6 mm large.

Biology and ecology

Seeds of *V. encelioides* germinate in autumn or early spring. Seeds can survive drought and high temperatures; long periods of seed dormancy and high germination rates are reported. Highest germination levels were observed with seeds at the surface of soil, but seeds were still able to germinate when placed in soil up to 5 cm deep (Sade *et al.*, 2007). Once in the soil, the seeds typically take 14-30 days to germinate. The plant does not require large amounts of water and is considered drought tolerant. It is not tolerant to salinity or to shade and requires exposure to light to establish. It grows best in the 800-900 mm annual rainfall zone and is adapted to fine or medium textured soil. Sade *et al.* (2007) showed that the species prefers sandy soils. It can tolerate alkaline soils. It generally flowers during late summer, in the warmer months after significant rain (in particular in tropical areas), but the flowering period depends on locations: in North-Western Hawaiian islands, it flowers throughout the year, while in North Dakota, flowering is observed from July through to September. The plant is self- and cross-pollinated and reproduces by seeds. A single flower head produces 300 to 350 seeds and each plant can produce 2 to 6 flowers leading to the production of 600 to 2100 seeds per plant. Seeds are dispersed under or nearby the parent plant, or by light winds. Additionally, seeds can travel long distances by adhering to wool, fur, clothing, sacks and other fibrous material.

Habitats

V. encelioides' range can encompass a variety of habitats, temperatures, and elevations. In its native range, considered to be throughout Mexico, Arizona and North Dakota although there is some disagreement on this point, the plant is found from 0 to 2700 m above sea level. Open areas and disturbed habitats appear to be ideal habitats for the plant. According to the Corine Land Cover nomenclature, the following habitats are invaded: arable land (fields of peanut, millet, maize, rice, barley, vegetables, orchards), pasture, road and rail networks and associated land, other artificial surfaces (wastelands, i.e. field headlands, vicinity of water courses). It might also occur in woodlands and valley grasslands, but these natural ecosystems are almost unaffected by the species.

Pathways

Though not widely used for ornamental purposes, a few companies in the South-Western United States (specifically in New Mexico and Texas where the species is native) promote the planting of *V. encelioides* for its fast-growing abilities and its drought resistance qualities. Arizona Department of Water Resources even recommends the plants for landscaping usage due to its low water requirements.

In the Midway Atoll (Hawaii), the plant is suspected to have arrived as seeds contaminating the 9000 tonnes of soil imported to improve the quality of life on the island when it was a military base. It might also have been contaminating equipment or been intentionally introduced as an ornamental plant.

Seeds may also be spread as contaminants in pasture hay and cereal grain, and they are reported as being introduced with wool from Australia in the British Isles.

Impacts

V. encelioides is one of the most common weeds in Northern India, germinating after the rainy season and invading maize, barley, rice, peanut and millet fields (Taleb, 2006). It is also a weed of peanut in Texas (where it is native) and in Israel. The plant contains a toxic component called galegine which poisons livestock (sheep). The plant is not a preferred source of feed for the livestock, but it will be eaten when feed is limited. Studies made in Argentina showed that animals ingesting 5 g of *V. encelioides* per kg of body weight might show lethargy and anorexia. Ingestion of 6.3 g/kg of body weight might result in death due to severe lesions on the internal organs and internal haemorrhaging. In Morocco, the plant is also reported to be a host of whiteflies such as *Bemisia tabaci* (EPPO A2 List) and *Trialeurodes vaporariorum* (Taleb, 2006).

V. encelioides displays allelopathic effects inhibiting native plants growth. Its aggressive and dominant growth abilities outcompete native plants.

In the North-Western Hawaiian Islands, the plant also presents a significant problem due to habitat degradation for seabirds nesting directly on the ground. Where growth of *V. encelioides* is particularly thick, some bird species can even become entangled amongst the weed.

Control

Mechanical control methods such as removal of flower heads or of the entire plant with taproot, mowing, etc. are suggested.

In natural areas, a combination of glyphosate and triclopyr has been applied where *V. encelioides* occurred in monospecific stands, and glyphosate alone where *V. encelioides* was found mixed with native vegetation. These methods killed the weed. Regardless of the method used, it was emphasised that one control attempt is not sufficient and that a combination and repetition of efforts is needed. Due to its negative effects on peanuts, the species has been the object of research on herbicidal control in Texas. In Israel, Sade *et al.* (2007) showed that pre-emergence herbicides such as linuron, metribuzin, oxyfluorfen and terbutryne effectively controlled the weed. Post-emergence herbicides such as oxyfluorfen, glufosinate ammonium and oxadiazon controlled the weed only when applied at the 2 to 4 leaf stage, but older plants recovered from the initial injury and resumed growth. Auxin-type herbicides such as fluroxypyr and 2,4-D with or without glyphosate controlled the weed at all growth stages. Sade *et al.* (2007) tested soil fumigation with metham-sodium in 2 soil types: sandy light and heavy clay soil. The treatment was highly effective in the sandy soil but showed almost no effect in the heavy clay soil.

Considering the invasive behaviour of *V. encelioides* in Morocco and Israel as well as its resistance to drought, the Mediterranean region is considered to be the area at risk.

Additionally, this plant is reported as a weed in many crops (maize, peanut, orchards, vegetables, etc.) which are cultivated in some parts of the southern EPPO area.

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Additional key words: Invasive alien plant, Alert list

Computer codes: VEEEN

2008/211 10th International Conference on the Ecology and Management of Alien Plant Invasions, Stellenbosch (ZA), 2009-08-23/27

After a very successful Conference on the Ecology and Management of Alien Plant Invasions (EMAPI 9) in Perth (Australia) in September 2007, the 10th EMAPI Conference will stay in the Southern Hemisphere but will be held in Africa for the first time. The 10th EMAPI Conference will take place in Stellenbosch (South Africa) on the 2009-08-23/27. It will address the following main topics:

- Molecular ecology of plant invasions
- Invader-induced trophic cascades
- Novel ecosystems
- Human dimensions of plant invasions
- Mapping & modeling of plant invasions
- Methods for risk analysis in biosecurity
- Managing invasive plants ~ learning from successes and failures
- Plant invasions in protected areas
- Plant invasions in arid areas ~ special problems, special solutions
- Plant invasions in mountains - ecology and management
- Theories in plant invasion ecology
- Nurseries ~ never-ending source of invasive species?
- Biofuels ~ a major source of problems with invasive plants in the future?
- Communication, education & social marketing ~ beyond pretty posters to behaviour change

Registration and submission of abstracts are now open.

Source: 10th International Conference on the Ecology and Management of Alien Plant invasions, Stellenbosch (ZA), 2009-08-23/27.
<http://emapi2009.co.za/content/view/5/56/>

Additional key words: invasive alien plants, conference

Computer codes: ZA