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_____ *Invasive Plants*



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## 2008/212 *Clavibacter michiganensis* subsp. *sepedonicus* no longer occurs in Cyprus

The NPPO of Cyprus recalled that *Clavibacter michiganensis* subsp. *sepedonicus* (EPPO A2 List) was detected in 2002 in a few potato plots (covering a total area of 85 ha) which had been planted with imported seed potatoes. From 2002 to 2004, official eradication measures were taken by the NPPO. Since 2002, the NPPO has closely monitored potato fields in all districts. Results of these surveys showed that *C. michiganensis* subsp. *sepedonicus* is no longer present in Cyprus.
The situation of *Clavibacter michiganensis* subsp. *sepedonicus* in Cyprus can be described as follows: **Absent, eradicated.**

**Source:** NPPO of Cyprus, 2008-10.

**Additional key words:** absence, eradication **Computer codes:** CORBSE, CY

## 2008/213 Stolbur phytoplasma found on potatoes in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the occurrence of Stolbur phytoplasma ('*Candidatus* Phytoplasma solani' - EPPO A2 List) on potatoes in Rheinlandpfalz. On 2008-07-31, typical symptoms of stolbur were detected in a potato field of a private grower. The phytoplasma could be isolated from tubers, leaves and stem and was identified by PCR. The infected tubers were used for processing. The grower was officially notified not to grow potatoes on the infected field in 2009. Further samples were collected in the vicinity of the infected field and tested. It is assumed that the infection was caused by natural spread (transmission by the insect vector, *Hyalestes obsoletus*, from other infected plants), because the infected field was located close to a vineyard. It can be recalled that stolbur was reported for the first time on potato crops in Hessen in 2006 (see EPPO RS 2006/181), and similarly the incursion on potato crops was suspected to be linked to the presence of the phytoplasma in surrounding weeds.
The situation of stolbur phytoplasma on potatoes in Germany can be described as follows: **Present, one outbreak detected in Rheinlandpfalz in 2008, under eradication**.

**Source:** NPPO of Germany, 2008-10.

**Additional key words:** detailed record **Computer codes:** PHYP10, DE

## 2008/214 Outbreak of *Clavibacter michiganensis* subsp. *michiganensis* in Austria

In 2008, one isolated outbreak of *Clavibacter michiganensis* subsp. *michiganensis* (EPPO A2 List) was reported in Austria and was successfully eradicated (EPPO RS 2008/035). However, the bacterium was identified again in Vienna and Vorarlberg in 2008. In Vienna, *C. michiganensis* subsp. *michiganensis* was identified on tomatoes (*Lycopersicon esculentum*) in a private garden. The origin of the seeds was unknown. In Vorarlberg, the pathogen was found on tomatoes (*L. esculentum* cv. Cindel) in 2 companies producing tomato fruits for final consumers. Investigations showed that all plants concerned had been grown from seeds originating from the Netherlands. However, when the seed lot was tested, results were negative. The NPPO of the Netherlands has been informed accordingly. All tomato plants were destroyed and hygiene measures were imposed to prevent any further spread.

The pest status of *Clavibacter michiganensis* subsp. *michiganensis* in Austria is officially declared as: **Local outbreaks, eradicated.**

**Source:** NPPO of Austria, 2008-12.

**Additional key words:** detailed record, eradication **Computer codes:** CORBMI, AT

## 2008/215 *Puccinia horiana* detected in Finland in cut flower production

In Finland, *Puccinia horiana* (EPPO A2 List) was detected at the end of August – beginning of September 2008 in 3 cut flower production units growing chrysanthemums. The NPPO is currently investigating the source of this outbreak. It is recalled that *P. horiana* had not been detected in Finland since 2001 (EPPO RS 2002/039).
The situation of *Puccinia horiana* in Finland can be described as follows: **Transient, found in 2008 in 3 cut flower production units, under eradication.**

**Source:** EVIRA – Finnish Food Safety Authority (last accessed 2008-09)
White rust found on chrysanthemums in cut flower production.
http://www.evira.fi/portal/en/plant_production_and_feeds/current_issues/?a=ViewMessage&id=1350

**Additional key words:** detailed record **Computer codes:** PUCCHN, FI

## 2008/216 First outbreak of *Diabrotica virgifera virgifera* in Kärnten, Austria

Until 2008 *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae – EPPO A2 List) was only found in the eastern part of Austria (Burgenland, Niederösterreich, Steiermark). In 2008, an isolated outbreak was first detected in the western part (Tirol, see EPPO RS 2008/154) and then in the southern part (Kärnten). During the annual monitoring, 4 beetles were caught in 2 traps in the municipality of St Andrä (district Woflsberg) and 4 beetles in 1 trap in the municipality of Neuhaus (district Völkermarkt). All 3 traps were located in the area of the natural spread of the pest, near the Slovenian border. A containment programme will be enforced in the districts of Wolfsberg and Völkermarkt.
The situation of *Diabrotica virgifera virgifera* in Austria can be described as follows: **Present, occurs in Burgenland, Niederösterreich, Steiermark (eastern part of Austria), isolated outbreaks in Tirol (west) and Kärnten (south), under official control.**

**Source:** NPPO of Austria, 2008-12.

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

## 2008/217 First report of *Bactrocera invadens* in Mozambique

In 2007, *Bactrocera invadens* (Diptera: Tephritidae – EPPO Alert List) was identified in a collection of Tephritidae trapped during a survey on fruit flies in Cuamba District (Niassa Province) in Mozambique. From the end of July to the beginning of October 2007, 12 male *B. invadens* were caught in methyl-eugenol traps placed in citrus trees. These new findings represent the southernmost record of *B. invadens* on the African mainland.

The situation of *Bactrocera invadens* in Mozambique can be described as follows: **Present, trapped for the first time in 2007, in Cuamba District (Niassa Province).**

**Source:** Correia ARI, Rego JM, Olmi M (2008) A pest of significant economic importance detected for the first time in Mozambique: *Bactrocera invadens* Drew, Tsuruta & White (Diptera: Tephritidae: Dacinae). *Bolletino di Zoologia Agraria e di Bachicoltura Serie II*, **40**(1), 9-13.

**Additional key words:** new record **Computer codes:** BCTRIN, MZ

## 2008/218 New records of *Bactrocera invadens* in Africa

In a datasheet published by CIRAD ('Centre de coopération internationale en recherche agronomique pour le développement') on *Bactrocera invadens* (Diptera: Tephritidae – EPPO Alert List), it is stated that this fruit fly has invaded the following African countries (as of March 2008): **Angola**, Benin, **Burkina Faso**, Cameroon, **Chad**, **Congo**, Côte d'Ivoire, **Equatorial Guinea**, **Gabon**, **Gambia**, Ghana, **Guinea**, **Guinea-Bissau**, Kenya, **Liberia**, **Mali**, **Mauritania**, **Niger**, Nigeria, Senegal, **Sierra Leone**, Tanzania, Togo, Uganda.
The EPPO Secretariat has indicated in bold the countries for which it previously did not have any information on the occurrence of the pest.

**Source:** Vayssières, J-F, Sinzogan A, Bokonon-Ganta A (2008) The new invasive fruit fly species, *Bactrocera invadens* Drew Tsuruta & White. Regional Control Fruit Fly Project in West Africa No. 2. IITA-CIRAD, 4 pp.

**Additional key words:** new record **Computer codes:** BCTRIN, AO, BF, CG, GA, GM, GN, GQ, GW, LR, ML, MR, NE, SL, TD

## 2008/219 Studies on the host plants of *Bactrocera invadens*

From December 2004 to April 2006, field surveys were carried out in Kenya to identify the host plants of *Bactrocera invadens* (Diptera: Tephritidae – EPPO Alert List). In addition, host preference studies were carried out in the laboratory in choice and no-choice tests. Fruits belonging to 90 plant species (representing 40 plant families) were collected from the Coastal, Eastern and Rift Valley provinces of the country where large populations of fruit fly occur, and where fruit and vegetable production is predominant. *B. invadens* was reared from a total collection of 3,913 fruits which included 14 cultivated and wild fruit species. The majority of *B. invadens*-infested samples were from commercial fruits.

The following 14 species are thus considered to be hosts of *B. invadens*:

*Annona cherimola* (Annonaceae) - cherimoya
*Annona muricata* (Annonaceae) – soursop
*Annona squamosa* (Annonaceae) - sugar apple
*Citrus limon* (Rutaceae) - lemon
*Citrus reticulata* (Rutaceae) - tangerine
*Citrus sinensis* (Rutaceae) – sweet orange
*Cordia myxa* (Boraginaceae) –Assyrian plum
*Lycopersicon esculentum* (Solanaceae) - tomato
*Mangifera indica* (Anacardiaceae) - mango
*Musa* sp. (Musaceae) - banana

*Psidium guajava* (Myrtaceae) - guava
*Sclerocarya birrea* (Anacardiaceae)
*Sorindeia madagascariensis* (Anacardiaceae)
*Terminalia catappa* (Combretaceae)

Among cultivated plants, fruits of mango, banana and citrus (lemon, tangerine and sweet orange) were the most heavily infested species. *Sclerocarya birrea* and *Terminalia catappa* were the most infested species among 'non-cultivated plants' (*T. catappa* can be used as shade trees near houses). In laboratory studies, mango and banana were also found to be the most preferred hosts compared to the 9 other cultivated plant species tested (i.e. *Annona squamosa, Carica papaya, Citrus sinensis, Cucumis sativus, Lycopersicon esculentum, Persea americana,* and *Psidium guavava*). Although the list of host plants is not exhaustive, these results confirm that *B. invadens* is a polyphagous pest which threatens important crops such as mangoes and bananas in Kenya.

**Source:** Rwomushana I, Ekesi S, Gordon I, Ogol CKPO (2008) Host plants and host plant preference studies for *Bactrocera invadens* (Diptera: Tephritidae) in Kenya, a new invasive fruit fly species in Africa. *Annals of the Entomological Society of America* **101**(2), 331-340.

**Additional key words:** host plants **Computer codes:** BCTRIN

## 2008/220 First record of *Scyphophorus acupunctatus* in France

In November 2007, dieback symptoms were observed in one agave plant (*Agave americana*) growing in a public park in Saint-Tropez, France. The pest was identified as *Scyphophorus acupunctatus* (Coleoptera: Curculionidae – formerly EPPO Alert List). This is the first record of this pest in France. In Saint-Tropez, infested plants were destroyed and surveys will be carried out to determine the extent of the infestation. In the EPPO region, *S. acupunctatus* has occasionally been found on imported plants (*Beaucarnea, Dasylirion* and *Yucca*) grown under glasshouses in the Netherlands (EPPO RS 2002/046 & 2003/014) and in Italy (EPPO RS 2002/046), but these incursions did not lead to its establishment. However in 2006/2007, the pest was found on outdoor plants in Sicilia, Italy (see EPPO RS 2008/179). For the moment, it is not known whether the pest has established in the EPPO region (i.e. in Sicilia or Southern France) but attention should be paid to this possible risk.

**Source:** Germain JF, Ramel JM, Maury A, Blanchon F (2008) Premier signalement en France d'un coléoptère ravageur des agaves. *PHM-Revue Horticole* no. 505, 34-36.

**Additional key words:** new record **Computer codes:** SCYPIN, FR

## 2008/221 *Otiorhynchus meridionalis* found in Germany

The NPPO of Germany recently informed the EPPO Secretariat of the occurrence of *Otiorhynchus meridionalis* (Coleoptera: Curculionidae) in Baden-Württemberg. In May 2008, feeding symptoms were observed on the leaves of *Cotoneaster, Euonymus, Forsythia* and other species growing in a neglected garden. Adults of *O. meridionalis* were considered to be the cause of this severe damage. *O. meridionalis* beetles were found in large numbers, in association with other species of *Otiorhynchus* (*O. sulcatus, O. crataegi,* and *O. dieckmanni*). It was assumed that *O. meridionalis* had already been present for

several years on this site, probably at low levels which were difficult to detect. According to scientific literature, only isolated records had been made previously in Germany (1 on *Ligustrum* sp. in the south-west in 1991 and isolated records in the north in 1999).

*O. meridionalis* is a European species which mainly occurs around the Mediterranean Basin. It has been reported in France (south), Spain (northeast), North Africa (without further details), and Italy (Abruzzo, Piemonte, Liguria, and Sicilia). It has been introduced into the USA where it was first found in California in 1931 on *Ligustrum* (privet). It is now reported from several other states (Idaho, Montana, Nevada, New Mexico, Utah, Washington). *O. meridionalis* has been reported on different hosts, including horticultural crops such as *Fragaria ananassa* (strawberry), *Lactuca sativa* (lettuce), *Malus domestica* (apple), *Olea europea* (olive) or ornamental shrubs (e.g. *Forsythia*, *Jasminum*, *Ligustrum*, *Syringa*). According to the literature, *O. meridionalis* is not a major pest, although it has occasionally been reported as a pest of strawberry in southern France and of apple trees in organic orchards in Washington State (US).

**Source:** NPPO of Germany, 2008-10.

Audemard H, Drevet C, Villevieille M, Jacquot M (1981) Un nouveau ravageur du fraisier, l'otiorrhynchque méridional. *Phytoma* no. 329, 15-17 (abst.).
Beers EH, Klaus MW, Gebhard A, Cockfield S, Zack R, O'Brien CW (2003) Weevils attacking fruit trees in Washington. Proceedings of the 77th Annual Western Orchard Pest & Disease Management Conference, Portland, US, 2003-01-15/17. http://entomology.tfrec.wsu.edu/wopdmc/2003PDFs/Rep03%20Biology%20Beers.pdf
Bues R, Toubon JF, Villevielle M, Jacquot M (1984) *Otiorrhynchus meridionalis* Gryll., ravageur du fraisier dans le sud-est de la France: migration des adultes, cycle évolutif et essais préliminaires de lutte. *La Défense des Végétaux* **228**, 224-237 (abst.).
Magrini P, Abbazzi P, Magnano L, Baviera C (2007) A new *Otiorhynchus* Germar, 1822 from Mount Etna, Sicily (Coleoptera Curculionidae). *Redia* **90**, 23-27 (abst.).

**Additional key words:** detailed record **Computer codes:** OTIOME, DE

## 2008/222 *Aceria kuko* found on *Lycium* plants imported from China

In 2008, the NPPO of the United Kingdom became aware that large numbers of dormant 'Goji' plants (*Lycium barbarum*, Solanaceae) were being imported from China via mail order sales and distributed across the country. Berries of 'Goji' plants have been used in traditional Chinese medicine for centuries but they are now subject to a significant commerce because of their nutrient richness and antioxidant qualities. However, it must be stressed that all plants for planting of Solanaceae (which thus include 'Goji' plants) are prohibited from being imported to the EU from all countries outside the Euro-Mediterranean areas because of the risk of introducing pests which may threaten cultivated Solanaceae (e.g. aubergine, capsicum, potato, tomato).
In August and September 2008, samples of severely distorted leaves of 'Goji' plants were received by the Central Science Laboratory (CSL) from 3 geographically distant parts of England. The cause of these leaf distortions was an eriophyid mite, *Aceria kuko* (Acari: Eriophyoidea). According to the literature, *A. kuko* is an Asian pest which feeds on *Lycium chinense, Solanum nigrum* and *Capsicum annuum* (all Solanaceae). *A. kuko* is known to occur in China, Japan, Republic of Korea and Taiwan. The imported 'Goji' plants were described as *Lycium barbarum* but it was not possible to confirm whether this was correct

or whether they were the closely related *Lycium chinense*. The presence of *A. kuko*, together with the more compact habit of the plants suggested that they were *L. chinense*. The infested plants were destroyed and further surveillance will be carried out by phytosanitary inspectors. Publicity and advice will continue to be given to attract attention of the general public to the risks presented by these illegal imports of *Lycium* spp. plants.

**Source:** NPPO of the United Kingdom, 2008-10.

**Additional key words:** incursion **Computer codes:** ACEISP, GB

## 2008/223 New insect pests introduced into Europe

Drs J-F Germain (FR), I Sánchez and N Pérez (ES) recently attracted the attention of the EPPO Secretariat to the introduction into Europe of the following new insect pests.

- *Drepanaphis acerifoliae* **(Homoptera: Aphididae)**

In Spain, populations of *Drepanaphis acerifoliae* (painted maple aphid) were located for the first time on *Acer saccharinum* trees in the provinces of Lleida (Cataluña) and León (Castilla y León) in June 2006 and August 2007, respectively. *D. acerifoliae* originates from North America (Canada, USA). In Europe, it was reported for the first time in the 1990s in northern Italy (Milan and Como, Lombardia). It is noted that *A. saccharinum* is increasingly being used as an ornamental tree in urban landscapes. *D. acerifoliae* produces large quantities of honeydew which may be a nuisance in urban environments.

- *Neotoxoptera violae* **(Homoptera: Aphididae)**

In 2007, during breeding experiments carried out in the south-west of France, unusual aphids were observed damaging mother plants of *Viola odorata,* a violet species used for its delicate fragrance. The aphid was identified as *Neotoxoptera violae*. The presence of this aphid had been suspected in France during the last decade but is confirmed for the first time in France. Although its distribution in France remains to be further studied, *N. violae* was observed in Aquitaine and Midi-Pyrénées in 2007. On violets, *N. violae* causes leaf deformations and its honeydew favours the development of sooty moulds. *N. violae* probably originates from North America and also occurs in South America, Oceania (Australia, New Zealand), and Asia (China, Korea, Taiwan). In Europe, its presence has been reported in Spain (province of Castellón, Comunidad Valenciana) and Italy (Sicilia).

- *Platycorypha nigrivirga* **(Homoptera: Psyllidae)**

In spring 2007, the presence of an unknown psyllid (together with aphids, *Aphis craccivora*) was observed on trees of *Tipuana tipu* (Fabaceae) planted along an avenue in Jerez de la Frontera (province of Cádiz,), Spain. *T. tipu* is an ornamental tree originating from South America which has increasingly been planted during the last 30 years in Spain, particularly along the Mediterranean coast. In 2008, significant populations of psyllids were observed in other streets and parks of the city, damaging leaves and shoots of *T. tipu* and producing large amounts of honeydew. The pest was identified as *Platycorypha nigrivirga*. In addition to Jerez de la Frontera, *P. nigrivirga* was observed on *T. tipu* in other cities of Andalucía, in Sevilla and Benalmádena. So far, *P. nigrivirga* was only reported from South America (recorded in Argentina, Bolivia, and Uruguay, and since 2000 in Brazil). Although it was detected for the first time on the island of Mallorca (Baleares, Spain) in 2004, the recent records in Andalucía are the first from continental Europe.

**Source:** Germain J-F, Deogratias J-M (2008) Confirmation de la présence en France du puceron de la violette. *PHM-Revue Horticole*, n° 507, 42-44.
Pérez Hidalgo N, Pons X, Meir Durante MP (2008) Detection of *Drepanaphis acerifoliae* (Thomas) [Hemiptera: Aphididae: Drepanosiphinae] on sugar maple trees, *Acer saccharinum*, in Spain. *Boletín Sociedad Entomológica Aragonesa*, no. 43, 441-444.
Sánchez I (2008) Primera cita de *Platycorypha nigrivirga* Burckhardt, 1987 (Hemiptera: Psyllidae) para Europa continental. *Boletín Sociedad Entomológica Aragonesa*, no. 43, 445-446.

**Additional key words:** new records **Computer codes:** DRENAC, NEOTVI, ES, FR

## 2008/224 *Dasineura gleditchiae* (Diptera: Cecidomyiidae): an invasive species in Europe

*Dasineura gleditchiae* (Diptera: Cecidomyiidae – honeylocust podgall midge) is a pest of *Gleditsia triacanthos* (Fabaceae) originating from North America. It was introduced into the Netherlands in the 1970s, and it then spread to other European countries probably via the commercial exchanges of its host plant. With its rather rapid spread, *D. gleditchiae* is considered as an invasive species in Europe. Its host plant, *Gleditsia triacanthos,* is a North American tree which was introduced into Europe at the beginning of the 18$^{th}$ century for ornamental purposes. During the last decades, varieties without thorns have been increasingly planted across Europe in urban environments (along city streets, in parks and gardens), and apparently these thornless varieties are more susceptible to *D. gleditchiae*. The pest overwinters as pupae in the soil. Adult flies (1.2 to 1.8 mm long) emerge from pupae from March to June and are attracted to tree foliage. Females lay eggs on young leaves. Larvae feed on young leaflets causing green to purple pod-like galls. In autumn, larvae fall to the ground and pupate in the soil. There are 2 to 3 overlapping generations per year. Severe infestations can cause growth reduction, twig death and partial defoliation. From the literature, it does not seem that *D. gleditchiae* is a major pest requiring particular control measures. However, it is noted that destruction of galls, once fallen onto the ground, can reduce the pest populations and that insecticide treatments applied at bud break may be effective.

Although little information is available on the current situation of *D. gleditchiae*, its spread within the EPPO region could be retraced as follows:

- Netherlands in 1975 (first European record)
- Italy in 1980 (Toscana, Friuli Venezia-Giulia)
- United Kingdom in 1983
- Switzerland in 1990 (canton of Valais)
- Hungary in 1992 (near Budapest)
- Serbia in 1993
- Poland in 1994-1996
- Slovakia in 1995 (Nitra)
- Greece in June 1995 (in experimental orchards near Thessaloniki)
- Spain in 1996 (Madrid) but then no longer reported. However, in 2007 and 2008 it was observed for the first time in Andalucía (Sevilla and Cádiz) suggesting that it may be more widespread in Spain than originally thought.
- Luxemburg in 1997
- Germany in 1997 (observed by Spanish scientists in the city of Dresden but this could not be confirmed by other literature sources)
- Czech Republic in 1997

- Austria in 2000 (found in a tree nursery in Burgenland)
- France (several cases were reported from southwestern France in 2005 but the pest was probably present earlier)
- Turkey in 2005 (Ankara in parks and recreation areas – this was also the first record for Asia).
- Denmark in 2006

**Source:** Bayram S, Skuhravá M, Cobanoglu S (2005) *Cystiphora sonchi* (Vallot, 1827) and *Dasineura gleditchiae* (Osten Sacken, 1866) (Diptera: Cecidomyiidae), two new records from Turkey. *Türkiye Entomoloji Dergisi* **29**(4), 247-254.

del Estal P, Soria S, Viñuela E (1998) Nota de la presencia en España de *Dasineura gleditchiae* (Osten Sacken), sobre acacia de tres espinas. *Boletín de Sanidad Vegetal. Plagas* **24**, 225-230.

Dini-Papanastasi O, Skarmoutsos G (2001) Relative susceptibility of ten honeylocust (*Gleditsia triacanthos* L.) clones to attack by the honeylocust pod gall midge (*Dasineura gleditschiae* Osten Sacken) in Northern Greece. *Proceedings International Conference Forest Research: a challenge for an integrated European approach (2001-08-27/09-01, Thessaloniki, GR),* 333-336 (abst.).

Hrubík P (2007) Alien insect pests on introduced woody plants in Slovakia. *Acta entomologica serbica* **12**(1), 81-85.

Labanowski G, Soika G (1997) New and lesser known pests occurring on ornamental trees and shrubs. *Progress in Plant Protection* **37**(1), 218-223 (abst.).

Lambinon J, Schneider N, Feitz F (2001) Contribution à la connaissance des galles de Diptères (Insecta, Diptera) du Luxembourg. *Bulletin de la Société des Naturalistes luxembourgois* **102**, 51-76.

Larousse T (2005) Rapport Annuel Qualité et de la Protection des Végétaux. Année 2005. Production Horticole. Pépinières Ligneuses Ornementales, 33 pp. http://www.srpv-midi-pyrenees.com/pages2007/exp_zna/contenu/images_exp_zna/situa_phyto_2005/ph_pepi_ornem.pdf

Sánchez García I (2008) Primeras citas de *Dasineura gleditchiae* (Osten Sacken, 1866) (Diptera, Cecidomyiidae) para Andalucía (España). *Boletín Sociedad Entomológica Aragonesa*, no. 43, p 94.

Skuhravá M, Skuhravý V, Jørgensen, J (2006) Gall midges (Diptera: Cecidomyiidae) of Denmark. *Entomologiske Meddelelser* **74** (special issue), 1-94 (abst.).

Steyrer G, Cech TL, Fürst A, Krehan H, Krenmayer W, Kristöfel F, Perny B, Schaffer H, Stagl WG, Tomiczek C (2002) Forest protection situation 2001 in Austria - surveys and diagnosis of the BFW and documentation of forest damaging factors 2002. *Forstschutz Aktuell* no. 28, 66 pp (abst.).

**Additional key words:** invasive species **Computer codes:** DASYGL

## 2008/225 Spread of *Erwinia amylovora* via commercial apple fruit: an insignificant risk

In 1998, the risk of introduction of *Erwinia amylovora* (causing fireblight - EPPO A2 List) associated with the movement of commercial apple fruits was assessed and was considered insignificant (see EPPO RS 98/084). It can be recalled that EPPO has always taken the view that this risk was negligible, however some countries (e.g. Australia, Japan) have taken the opposite view and prohibit imports of pome fruits from countries where the disease occurs. This potential risk was reassessed based upon data available since 1998. This analysis concluded that the low epiphytic fitness of *E. amylovora* on apple fruit, the documented low incidence of viable populations on mature apple fruit and the lack of a documented pathway by which susceptible host material could become infected from fruit-borne inoculum remain unchanged. Therefore, current knowledge still supports the view that the spread of fireblight via imports of apple fruit is highly unlikely. The risk of

transmitting fireblight (introduction followed by an outbreak) to disease-free areas was estimated by using an already published model under different scenarios (various disease levels in the orchard, presence/absence of phytosanitary measures in the importing countries). According to the different scenarios, the likelihood of inducing an outbreak with imports of infected apples ranged from 1 outbreak in 5 217 years to 1 in 753 144 years. It is concluded that the risk of introducing *E. amylovora* on commercial apple fruit and establishing new outbreaks of fireblight is so small as to be insignificant.

**Source:** Roberts RG, Sawyer AJ (2008) An updated pest risk assessment for spread of *Erwinia amylovora* and fire blight via commercial apple fruit. *Crop Protection* **27**(3-5), 362-368.

**Additional key words:** PRA **Computer codes:** ERWIAM

## 2008/226 First report of *Erwinia amylovora* on *Pyrus elaeagrifolia* and *Amelanchier* sp. in Bulgaria

In Bulgaria, an outbreak of fireblight (*Erwinia amylovora* – EPPO A2 List) occurred in 2005. Severe damage was observed on pome fruit trees in many regions of Bulgaria. For the first time, symptoms were observed on *Pyrus elaeagrifolia* and *Amelanchier* sp. growing in a park, in the region of Plovdiv. Affected *P. elaeagrifolia* showed necrotic and immature fruitlets, progressive necrosis towards the adjacent branches, and cankers. *Amelanchier* sp. showed severely blighted flowers, fruitlets, shoots and branches, as well as bacterial ooze on the shoots. Laboratory studies confirmed the presence of *E. amylovora*. According to the authors, this is the first time that *E. amylovora* is reported on *P. elaeagrifolia* and *Amelanchier* sp. in Bulgaria.

**Source:** Bobev SG, van Vaerenbergh J, Maes M (2007) First report of fireblight on *Pyrus elaeagrifolia* and *Amelanchier* sp. in Bulgaria. *Plant Disease* **91**(1), p 110.

**Additional key words:** new host plants **Computer codes:** ERWIAM, BG

## 2008/227 New insect vectors of grapevine Pierce's disease (*Xylella fastidiosa*) in North Carolina (US)

Grapevine Pierce's disease caused by *Xylella fastidiosa* (EPPO A1 List) occurs in North Carolina (US) but field data about its primary insect vectors was still lacking. In 2004 and 2005, yellow sticky traps were placed in vineyards of the eastern Piedmont and Coastal Plain regions of North Carolina. Among potential insect vectors, the most abundant species caught were: *Oncometopia orbona, Graphocephala versuta, Paraphlepsius irroratus,* and *Agalliota constricta* (all Homoptera: Cicadellidae). Adults were tested for the presence of *X. fastidiosa* by nested-PCR. Results showed that 27 % of *O. orbona*, 28% of *G. versuta* and 33% of *P. irroratus* tested positive for the bacterium. Transmission experiments then showed that both *O. orbona* and *G. versuta* were able to transmit *X. fastidiosa* to grapevine. Although further studies are needed on the biology of these two insect vectors, it seems that *O. orbona* is likely to be the primary vector of *X. fastidiosa* because it enters vineyards early in the spring and feeds on shoots, thus allowing *X. fastidiosa* more time to colonize grapevine.

**Source:** Myers A, Sutton TB, Abad JA, Kennedy GG (2007) Pierce's disease of grapevines:

identification of the primary vectors in North Carolina. *Phytopathology* **97**(11), 1440-1450.

**Additional key words:** epidemiology **Computer codes:** XYLEFA, US

## 2008/228 *Bemisia tabaci*, *Tomato yellow leaf curl virus,* and *Tomato chlorosis virus* are present in Alentejo, Portugal

In Portugal, *Bemisia tabaci* (Homoptera: Aleyrodidae – EPPO A2 List) and two of the viruses it can transmit (*Tomato yellow leaf curl virus* and *Tomato chlorosis virus*, both EPPO A2 List) were previously only found in the Algarve region (south of the country). In Algarve, *B. tabaci* and TYLCV were first observed in 1995 (see EPPO RS 96/112) and ToCV in 1998 (EPPO RS 2000/154). In July 2005, a disease outbreak occurred in tomato fields near Campo Maior (Alentejo region). Affected plants showed leaf curling, rolling, brittleness, yellowing and growth reduction and high populations of *B. tabaci* were also observed in this area which was previously free from it. Thirteen samples were collected and tested for the presence of TYLCV and ToCV. All were found infected by TYLCV and 7 were also infected by ToCV. This is the first time that *B. tabaci*, TYLCV and ToCV are reported from outdoor crops in Alentejo, thus indicating their spread towards the north.
The situation of *Bemisia tabaci*, *Tomato yellow leaf curl virus,* and *Tomato chlorosis virus*, in Portugal can be described as follows: **Present in Algarve and Alentejo**.

**Source:** Louro D, Trenado HP, Fortes IM, Navas-Castillo J (2007) Spread of *Tomato yellow leaf curl virus* and *Tomato chlorosis virus* to a new area in Portugal following the northern expansion of the vector *Bemisia tabaci*. *Journal of Plant Pathology* **89**(2), p 301.

**Additional key words:** detailed record **Computer codes:** BEMITA, TOCV00, TYLCV0, PT

## 2008/229 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 2008/207). Notifications have been sent directly to EPPO by Switzerland, and via Europhyt for the EU countries. 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 (*).

| Pest | Consignment | Type of commodity | Country of origin | Destination | nb |
|---|---|---|---|---|---|
| ***Anoplophora chinensis*** | *Acer palmatum* | Plants for planting | Japan | Germany | 1 |
| ***Bemisia tabaci*** | *Artemisia dracunculus* | Cuttings | Israel | United Kingdom | 1 |
| | *Codiaeum* | Plants for planting | Malaysia | Netherlands | 1 |
| | *Cryptocoryne* | Plants for planting | Singapore | United Kingdom | 2 |
| | *Euphorbia pulcherrima* | Cuttings | Ethiopia | Sweden | 2 |
| | *Euphorbia pulcherrima* | Cuttings | Kenya | Sweden | 4 |
| | *Euphorbia pulcherrima* | Plants for planting | Kenya | Sweden | 4 |
| | *Gypsophila* | Cut flowers | Israel | Netherlands | 1 |

| Pest | Consignment | Type of commodity | Country of origin | Destination | nb |
|---|---|---|---|---|---|
| | *Hemigraphis* | Cuttings | Singapore | United Kingdom | 1 |
| | *Ocimum basilicum* | Vegetables (leaves) | Israel | Belgium | 1 |
| | *Ocimum basilicum* | Vegetables (leaves) | Israel | Czech Republic | 2 |
| | *Ocimum basilicum* | Vegetables (leaves) | Israel | Ireland | 2 |
| | *Ocimum basilicum* | Vegetables (leaves) | Israel | Netherlands | 4 |
| | *Solidago* | Cut flowers | Israel | Netherlands | 1 |
| | *Solidago* | Cuttings | Israel | United Kingdom | 1 |
| ***Bemisia tabaci, Liriomyza trifolii*** | *Gypsophila, Solidago* | Cut flowers | Israel | Netherlands | 1 |
| **Coccidae** | *Citrus limon* | Fruits | Argentina | Spain | 1 |
| | *Citrus sinensis* | Fruits | Argentina | Spain | 1 |
| ***Cryptophlebia leucotreta*** | *Citrus sinensis* | Fruits | South Africa | Spain | 2 |
| ***Diaphania indica, Spodoptera litura,* Thripidae** | *Momordica charantia* | Vegetables | India | United Kingdom | 1 |
| ***Diaphania indica, Thrips palmi*** | *Momordica charantia* | Vegetables | India | United Kingdom | 1 |
| ***Diaphania perspectalis*** | *Buxus* | Plants for planting | (Netherlands) | Germany | 1 |
| ***Elsinoe australis*** | *Citrus sinensis* | Fruits | Uruguay | Spain | 1 |
| ***Elsinoe fawcettii*** | *Citrus paradisi* | Fruits | Honduras | Spain | 2 |
| ***Guignardia citricarpa*** | *Citrus limon* | Fruits | South Africa | Netherlands | 2 |
| | *Citrus maxima* | Fruits | China | Belgium | 1 |
| | *Citrus maxima* | Fruits | China | Netherlands | 2 |
| | *Citrus maxima* | Fruits | Vietnam | Netherlands | 1 |
| | *Citrus paradisi* | Fruits | South Africa | Netherlands | 5 |
| | *Citrus reticulata* | Fruits | Argentina | Netherlands | 1 |
| | *Citrus sinensis* | Fruits | Argentina | Netherlands | 4 |
| | *Citrus sinensis* | Fruits | Brazil | Netherlands | 2 |
| | *Citrus sinensis* | Fruits | Brazil | Spain | 1 |
| | *Citrus sinensis* | Fruits | South Africa | Belgium | 1 |
| | *Citrus sinensis* | Fruits | South Africa | Netherlands | 16 |
| | *Citrus sinensis* | Fruits | South Africa | Spain | 2 |
| | *Citrus sinensis* | Fruits | South Africa | United Kingdom | 1 |
| | *Citrus sinensis* | Fruits | Swaziland* | United Kingdom | 1 |
| ***Guignardia mangifera*** | *Citrus paradisi* | Fruits | South Africa | Spain | 1 |
| ***Helicotylenchus, Xiphinema*** | *Ficus benjamina, F. microcarpa, Jasminum, Strelitzia, Yucca* | Plants for planting | Egypt | Greece | 1 |
| ***Helicoverpa armigera*** | *Capsicum annuum* | Vegetables | Turkey | Hungary | 1 |
| | *Ocimum basilicum* | Vegetables (leaves) | Israel | Netherlands | 1 |
| | *Rosa* | Cut flowers | Zimbabwe | Netherlands | 1 |
| ***Leucinodes orbonalis*** | *Solanum* | Vegetables | Thailand | Germany | 1 |
| | *Solanum aethiopicum* | Vegetables | Ghana | Germany | 3 |
| | *Solanum melongena* | Vegetables | Ghana | Germany | 1 |
| | *Solanum melongena* | Vegetables | Thailand | Germany | 1 |
| ***Liriomyza*** | *Bupleurum* | Cut flowers | Zimbabwe | Sweden | 1 |
| | *Coriandrum sativum* | Vegetables | Israel | Belgium | 1 |
| | *Gypsophila* | Cut flowers | Israel | Belgium | 3 |
| | *Ocimum basilicum* | Vegetables (leaves) | Thailand | Denmark | 2 |
| | *Ocimum basilicum* | Vegetables (leaves) | Thailand | Luxemburg | 1 |
| ***Liriomyza huidobrensis*** | *Aster* | Cut flowers | Ecuador | Netherlands | 1 |
| | *Aster, Trachelium* | Cut flowers | Ecuador | Netherlands | 1 |
| | *Eryngium* | Cut flowers | Kenya* | Netherlands | 2 |
| | *Eryngium alpinum* | Cut flowers | Kenya* | Netherlands | 1 |
| | *Gypsophila* | Cut flowers | Ecuador | Netherlands | 3 |
| | *Trachelium* | Cut flowers | Ecuador | Netherlands | 2 |
| ***Liriomyza sativae*** | *Ocimum americanum* | Vegetables (leaves) | Thailand | Sweden | 1 |

| Pest | Consignment | Type of commodity | Country of origin | Destination | nb |
|---|---|---|---|---|---|
| ***Liriomyza trifolii*** | *Ocimum basilicum* | Vegetables (leaves) | Thailand* | Denmark | 1 |
| | *Solidago* | Cut flowers | Israel | Netherlands | 2 |
| ***Meloidogyne enterolobii*** | *Ficus microcarpa* | Plants for planting | China | Netherlands | 1 |
| ***Pepino mosaic virus*** | *Lycopersicon esculentum* | Seeds | India* | Poland | 1 |
| ***Plum pox virus*** | *Prunus domestica* | Plants for planting | Germany | Netherlands | 1 |
| ***Radopholus similis*** | *Anubias* | Aquarium plants | Thailand | Netherlands | 2 |
| ***Rhynchophorus ferrugineus*** | *Phoenix, Washingtonia* | Plants for planting | Egypt | Italy | 1 |
| **Rots** | *Rosa* | Cut flowers | Ecuador | Spain | 1 |
| ***Selenaspidus articulatus*** | *Citrus sinensis* | Fruits | Peru | Spain | 1 |
| ***Spodoptera littoralis*** | *Solidago* | Cut flowers | Israel | Netherlands | 1 |
| **Thripidae** | *Momordica* | Vegetables | Dominican Republic | United Kingdom | 1 |
| | *Momordica* | Vegetables | India | United Kingdom | 1 |
| | *Momordica charantia* | Vegetables | Dominican Republic | United Kingdom | 1 |
| **Thripidae (suspect *Scirtothrips)*** | *Momordica* | Vegetables | India | United Kingdom | 1 |
| **Thripidae (suspect *T. palmi)*** | *Momordica charantia* | Vegetables | Dominican Republic | United Kingdom | 1 |
| ***Thrips*** | *Momordica* | Vegetables | India | Germany | 1 |
| ***Thrips palmi*** | *Centella asiatica, Ipomoea batatas, Solanum melongena* | Vegetables | Sri Lanka | Cyprus | 1 |
| | *Dendrobium* | Cut flowers | Thailand | Belgium | 1 |
| | *Dendrobium* | Cut flowers | Thailand | Italy | 1 |
| | *Momordica* | Vegetables | Thailand | Sweden | 1 |
| | *Momordica charantia* | Vegetables | Thailand | United Kingdom | 1 |
| ***Xanthomonas*** | *Citrus aurantiifolia* | Fruits | Bangladesh | United Kingdom | 2 |
| ***Xanthomonas axonopodis* pv. *citri*** | *Citrus* | Fruits | Bangladesh | United Kingdom | 1 |
| | *Citrus* | Fruits | Pakistan | United Kingdom | 1 |
| | *Citrus aurantiifolia* | Fruits | Bangladesh | United Kingdom | 2 |
| | *Citrus aurantiifolia* | Fruits | India | United Kingdom | 3 |
| | *Citrus hystrix* | Leaves | Vietnam | United Kingdom | 1 |
| ***Xanthomonas axonopodis* pv. *vesicatoria*** | *Lycopersicon esculentum* | Seeds | India | Italy | 1 |

- **Fruit flies**

| Pest | Consignment | Country of origin | Destination | nb |
|---|---|---|---|---|
| ***Anastrepha obliqua*** | *Mangifera indica* | Jamaica | United Kingdom | 1 |
| ***Bactrocera*** | *Annona squamosa* | Thailand | Czech Republic | 2 |
| | *Psidium guajava* | Pakistan | United Kingdom | 1 |
| ***Bactrocera zonata*** | *Mangifera indica* | Pakistan | United Kingdom | 1 |
| ***Ceratitis capitata*** | *Citrus paradisi* | Argentina | Spain | 1 |
| **Non-European Tephritidae** | *Annona squamosa* | Thailand | Czech Republic | 1 |
| | *Capsicum annuum* | Thailand | United Kingdom | 1 |
| | *Mangifera indica* | Jamaica | United Kingdom | 1 |

- **Wood**

| Pest | Consignment | Type of commodity | Country of origin | Destination | nb |
|---|---|---|---|---|---|
| ***Anoplophora*** | Unspecified | Packing wood material | China | Germany | 1 |
| ***Bursaphelenchus xylophilus*** | Unspecified | Packing wood material | Portugal | Sweden | 1 |
| ***Cerambycidae*** | Unspecified | Packing wood material | China | Germany | 1 |
| | Unspecified | Packing wood material | India | Germany | 1 |
| ***Gromphadorhina portentosa*** | Unspecified | Wood and bark | Papua New Guinea | Germany | 1 |
| **Grub holes > 3 mm** | *Larix* | Wood and bark | Russia | Finland | 1 |
| | *Quercus* | Wood and bark | USA | United Kingdom | 1 |
| ***Monochamus*** | Unspecified | Packing wood material | China | Austria | 1 |
| **Scolytidae** | *Entandrophragma cylindricum* | Wood and bark | Cameroon | Spain | 1 |
| | *Entandrophragma cylindricum* | Wood and bark | Central African Rep. | Spain | 3 |
| ***Sinoxylon*** | Unspecified | Packing wood material | India | Austria | 1 |
| | Unspecified | Packing wood material | India | Germany | 5 |
| | Unspecified | Packing wood material | Vietnam | Germany | 1 |

- **Bonsais**

| Pest | Consignment | Country of origin | Destination | nb |
|---|---|---|---|---|
| ***Horidiplosis ficifolii*** | *Ficus* | China | Netherlands | 1 |

**Source:** EPPO Secretariat, 2008-11.

## 2008/230 Growth and photosynthesis of *Hydrocotyle ranunculoides* in Central Europe

*Hydrocotyle ranunculoides* (Apiaceae, EPPO A1 List) is present in the EPPO region in Azerbaijan, Belgium, France, Germany, Israel, Italy, the Netherlands, Portugal, and Spain. To characterize the probable further spread of the species, in particular in Central Europe, some of its ecological and ecophysiological characteristics were investigated in Nordrhein-Westfalen, Germany.

Life cycle of the plant in Nordrhein-Westfalen

*H. ranunculoides* showed rapid growth with a maximal growth rate in June and July. Starting from small plants or fragments after melt of ice, plants grew slowly in spring and formed small, up to 10 $cm^2$ wide leaves, most of which floated on the water surface. With increasing temperatures, length of photoperiod and light intensities, leaves grew larger and reached a height of up to 40 cm above water level. The plants flowered and fruited between May and October and the stands got denser. With a decrease in temperatures and light availability in autumn, plants developed smaller new leaves and most of the leaves died after the first night of frost. At this time, plants formed new floating and submerged leaves. Floating leaves died when enclosed by ice, but submerged leaves were able to survive the winter months. From these small submerged plants and leafless overwintering, stolons, new plants grew out in spring.

Growth and photosynthesis

*H. ranunculoides* has a high regeneration capacity and can form new shoots even from small stem fragments (1 cm in length with one node, and with or without leaves). In the experiment, single leaves and internode fragments of the shoots did not form new shoots. Development of new shoots was almost completed after 1 week regenerating from cuttings that were made up by a node with open leaf, and after 2 weeks if regeneration occurred from a node without attached leaves (90% achieved after the first week). Results showed increasing growth rates under increasing nutrient availability. *H. ranunculoides* net $CO_2$ exchange peaked at 25-35°C.

From the experiments, it is clear that *H. ranunculoides* has a high capacity to become a vigorous invasive alien plant in Central Europe. Its high regeneration capacities showed that mechanical control will be difficult to apply without dispersing the plant via small stem fragments. Results of experiments suggested that this species is well adapted to the predicted climatic conditions which will prevail in Central Europe during the next decade (the species prefers high $CO_2$ gas exchange and high temperatures).

**Source:** Hussner A, Lösch R (2007) Growth and photosynthesis of *Hydrocotyle ranunculoides* in Central Europe. *Flora* **202,** 653-660

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

## 2008/231 *Solanum sisymbriifolium* in Sardinia (IT)

*Solanum sisymbriifolium* (Solanaceae) is an annual or perennial erect plant, 1 to 2 m tall, originating from South America that is currently distributed in all continents. This plant has many uses: it is used as a trap crop for potato cyst nematodes (*Globodera* spp.), and its

fruits are used as a source of solasodine (to synthesize hormones for pharmacology). However, it can have invasive behaviour by outcompeting native vegetation.
*S. sisymbriifolium* has been introduced in Europe for ornamental purposes. It is present in some EPPO countries (Denmark, Estonia, Germany, Italy, Latvia, Lithuania, Sweden), but its status remains unclear. This plant is found along roadsides, in wastelands and in agricultural areas.
In Sardinia, the first observation was made in 1983 and the plant has then significantly increased its distribution range in coastal zones. Results from monitoring published in 2003 highlight that *S. sisymbriifolium* was found to be present in 231 sites distributed in the North-East of the island. This species is considered as a threat for irrigated crops in Sardinia.

**Source:** Usai M, Foddai M, Brunu A, Azara E, Camarda I (2008) [*Solanum sisymbrifolium* Lamarck exotic casual weed of Sardinia: spread and phytochemical aspects]. *Natural* Diciembre 2008, 22-26 (in Italian).
Delivering Alien Invasive Species Inventories for Europe (DAISIE). http://www.europe-aliens.org/
Global Invasive Species Database. http://137.227.231.81/database/species/ecology.asp?si=1216&fr=1&sts=
NOBANIS - Network on Invasive Alien Species. http://www.nobanis.org

**Additional key words:** invasive alien plants **Computer codes:** SOLSI, IT

## 2008/232 *Sesbania punicea* in the EPPO region: addition to the EPPO Alert List

Why
*Sesbania punicea* (Fabaceae – common name is 'rattlebox') originates from South America and has been introduced as an ornamental plant to other parts of the world. Within the EPPO region, its distribution is still limited. Because this plant has shown invasive behaviour in North America and in Africa and is still limited in the EPPO region, it can be considered an emerging invader in Europe.

Geographical distribution
**EPPO region:** Italy (only in Sardinia)
**North America:** USA (Alabama, Arkansas, California, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, Virginia)
**South America**: Argentina, Brazil, Paraguay, Uruguay
**Africa:** Lesotho, Mauritius (including Rodrigues), South Africa, Swaziland, Zimbabwe
**Oceania**: Australia (Queensland)

Note: in Sardinia, the species is locally naturalised in very limited coastal areas in the North-East (near Siniscola), and in the South of the island (G Brundu, pers. com., 2008). In South Africa, the species has invaded watercourses throughout the country, except in the arid interior.

Morphology
*Sesbania punicea* is a deciduous shrub or small tree that can grow up to 4 m tall. The composite leaves are 100-200 mm long and are made of 10-40 small dark-green leaflets, placed in opposite pairs along the leaf rachis (Graaff, 1983). Each leaflet is oblong in shape, tapering to a pointed tip. The flowers are bright red, shaped like pea flowers, and measure 2-3 cm long. *S. punicea* is very easily identifiable by its pods, longitudinally four-winged and oblong in shape. Pods are approximately 6-8 cm long and 1 cm wide, and

contain on average 5 to 7 seeds. The number of pods per plant varies with the age and growing conditions of the plant, but a mature plant can produce 100-300 pods per season. Pods are green or yellow early in the season, eventually turning dark brown, and remain on the plant during winter.

Biology and ecology

Clusters of red bright flowers emerge in late spring and are produced until the autumn (from June to September in California (US), or November to January in South Africa). The hundreds of pods produced are released around the base of the parent plant. They may fall directly into rivers, floating kilometres downstream to start new populations. Because of the seed's toxic nature, they are not spread by animals. *S. punicea* is also common along roadsides and it is hypothetized that these plants probably originate from seeds brought in with soil used for road construction. Seeds have impermeable seed coats that require scarification before germination. The water-impermeable seed coat allows survival of the seeds when spread along waterways.

Seedlings sprout in moist areas along rivers and creeks. The species is relatively shade-tolerant, and seedlings can grow in the shade. Three month old seedlings can flower and produce seeds, but flowering usually occurs when plants enter their second year of growth. The plant can survive a hard freeze, but probably not if this exceeds a few days.

Habitats

*S. punicea* prefers areas with high rainfall or damp habitats. It is commonly found along rivers and in areas that are frequently inundated. In the USA, it is also found in wastelands. According to the Corine Land Cover nomenclature, the following habitats are invaded: banks of continental water, riverbanks/canalsides (dry river beds), other artificial surfaces (wastelands).

Pathways

The species has been introduced for ornamental purposes, probably because of its long flowering period and its profuse flowers. For example in California (US), it was introduced as an ornamental prior to 1930 but was not documented in riparian vegetation until 1987.

Impacts

*S. punicea* rapidly forms dense stands along rivers and creeks. It can completely cover (100% cover) areas of up to several thousand square meters. It displaces native plants that provide essential food and shelter for a wide variety of wildlife species.

*S. punicea* contains saponine which is toxic to both humans and animals (birds, reptiles and mammals). As little as 6 doses of 100 mg of the plant ingested per day can kill a sheep and as few as 6 seeds can kill a chicken. Several cases of cattle poisoning have been reported in South Africa. However in California (US), it causes moderate impacts on bird or reptile populations.

Stands formed by *S. punicea* are often so thick that access to rivers is impossible. Tall stands can also reduce water flow and flood conveyance in rivers, increasing the risk of flooding after heavy rains and contributing to erosion.

Control

*S. punicea* can be removed manually. In California (US), community volunteers in the Sacramento area conduct manual weed removal with hand tools (e.g. loppers, saws and shovels). The root system is not very large - especially in waterlogged situations - pulling is therefore relatively easy. Along rivers, tarpaulins can be used to remove the cut vegetation from the water in order to reduce seed dispersal. Larger trees can be cut, and the stump should be treated with triclopyr. Glyphosate has been used unsuccessfully in Florida (US) either alone (1% as a foliar spray) or with triclopyr (1% glyphosate, 1%

triclopyr). Flooding is not effective, but plants standing in water could be cut below the water line (without an herbicide application) which stops regrowth.
In South Africa, biological control has been used successfully. Three host-specific insect species have been released and no other control measures are required where these insects are present: *Trichapion lativentre* (Coleoptera: Apionidae), *Rhyssomatus marginatus* (Coleoptera: Curculionidae), *Neodiplogrammus quadrivittatus* (Coleoptera: Curculionidae).

Considering the invasive behaviour of *S. punicea* in California and South Africa, the aquatic ecosystems of the Mediterranean part of the EPPO region are considered to be the most at risk.

**Sources:**
Cal IPC Plant Assessment Form (2005) *Sesbania punicea.* http://www.cal-ipc.org/ip/inventory/PAF/Sesbania%20punicea.pdf
Graaff J (1983) Sesbania. Farming in South Africa. Weed Series A.2. Reprinted 1989. (Adapted from)
The Nature Conservancy Website, the Global Invasive Species Team – Weed Alert – *Sesbania punicea.* http://tncinvasives.ucdavis.edu/alert/alrtsesb.html
Pacific Ecosystems at Risk (HEAR) – *Sesbania punicea.* http://www.hear.org/Pier/species/sesbania_punicea.htm
SABONET Website – Invasive alien plants in southern Africa. http://www.sabonet.org.za/aliens/aliens_intro.htm
Sacramento Weed Warriors – Red Sesbania (*Sesbania punicea*). http://www.sacvalleycnps.org/Projects/weedFiles/invasives/SesbaniaFactSheet.pdf

**Additional key words:** invasive alien plants, alert list **Computer codes:** SEBPU

## 2008/233 International Day for Biological Diversity (2009-05-22) dedicated to invasive alien species

The United Nations proclaimed the 22nd of May 2009 'The International Day for Biological Diversity (IBD)' to increase understanding and awareness of biodiversity issues, and this special day will be dedicated to invasive alien species.
The Convention on Biological Diversity (CBD) Secretariat encourages all parties to the Convention and all organizations involved in the issue of invasive alien species to organize activities and events to celebrate the IBD. This is also the opportunity for them to raise public awareness and present their work on how to prevent and manage invasive alien species.
The CBD website will provide case studies (examples of invasive species and of actions taken against them) and information materials for the use of partners and organizations celebrating the IBD (booklet on IAS, poster, logo, photo gallery, education material for children).

**Source:** Convention on Biological Diversity: http://www.cbd.int/ibd/2009/

**Additional key words:** invasive alien plants

## 2008/234 Managing biological invasions under global change (2009-11-02/06, Fuzhou, CN)

In response to the global challenge of invasive alien species (IAS) and in conjunction with the International Day for Biological Diversity on IAS in 2009, the next International Conference on Biological Invasions (ICBI) will be held on 2009-11-02/06 in Fuzhou (Fujian Province, China) and will be jointly organized by the Chinese Academy of Agricultural Sciences (CAAS), CAB International (CABI), Fujian Agriculture and Forestry University (FAFU), Agriculture and Agri-Food Canada (AAFC), Commonwealth Scientific and Industrial Research Organization of Australia (CSIRO), Kansas State University (KSU), Fujian Academy of Agricultural Sciences (FAAS), Global Invasive Species Programme (GISP) and The Nature Conservancy (TNC).

The theme of ICBI is 'managing biological invasions under global change', and contributions are requested before the 2009-05-01 on the following topics:

- Invasion characteristics of alien species
- Interactions between IAS and native species
- Ecosystem responses to invasions and impacts of invasions on ecosystems
- Ecosystem invasibility and resilience
- IAS pathways, diagnostics and port surveillance
- Rapid detection and surveillance techniques
- Risk assessment and early warning systems
- Effective control and sustainable management of IAS
- Biological invasions under climate change
- Biological invasions and agro-bio-terrorism
- Biological invasions and international conventions
- Knowledge management, decision making tools and capacity development

**Source:** International congress on biological invasions: http://61.154.14.15/icbi2009/default.htm

**Additional key words:** conference **Computer codes:** CN