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2014/141 New outbreak of *Anoplophora glabripennis* in Switzerland

In Switzerland, the first outbreak of *Anoplophora glabripennis* (Coleoptera: Cerambycidae - EPPO A1 List) was recorded in July 2012 in the municipality of Winterthur, canton of Zürich, and eradication measures were immediately taken (see EPPO RS 2013/049 and 2013/049). It can be recalled that isolated findings of live and dead specimens had also been made in 2011 (EPPO RS 2011/189, 2011/239) in Brünisried (canton of Fribourg) and Salenstein (canton of Thurgau), respectively. In July 2014, a new outbreak was detected in the municipality of Marly (canton of Fribourg) in 2 different areas separated by a distance of 1.3 km. On 2014-07-09, adult beetles were incidentally noticed by two persons in the area called 'les Rittes'. At this location, the NPPPO then found 160 adult beetles and a large number of larvae and egg deposits. The pest was detected on 22 trees planted along a road near an industrial area, and on 4 trees in a private garden. On 2014-07-28, 1 adult beetle and several larvae were detected on 4 trees at the area called 'le Publiet' during the survey carried out to delimit the extent of the infestation found at 'les Rittes'. In the municipality of Marly, *A. glabripennis* was found on the following tree species: *Aesculus hippocastanum*, *Acer negundo*, *A. saccharum*, *A. platanoides*, *A. campestre*, *A. pseudoplatanus*, *Betula* spp., *Corylus colurna*, *Fraxinus excelsior* and *Tilia* spp. The identity of the pest was confirmed by experts of the Swiss Federal Institute for Forest, Snow and Landscape Research using morphological and DNA based diagnostic methods. According to the extent of the outbreak and a first analysis of the infested trees, it is assumed that *A. glabripennis* was introduced in Marly at least 6 years ago.

The origin of this outbreak is unknown but it is noted that 'les Rittes' is located next to a former industrial area which was used for the storage of imported stones and where old wood packaging material showing exit holes similar to those of longhorn beetles had been found during the survey. However, the identity of the insects which had caused these exit holes could not be confirmed due to the poor quality of the DNA samples still available. A direct connection between the outbreaks of *A. glabripennis* in Marly (2014) and Brünisried (2011) seems to be very likely. The analysis of larvae and adult beetles from both sites confirmed that the two populations are genetically identical. In addition, trace-back studies revealed that during winter 2010/2011 firewood was transferred from Marly to Brünisried where adult beetles were subsequently captured in autumn 2011.

In the municipality of Marly, demarcated areas were established and all infested trees were destroyed. In the focus zone (radius of 100 m to 200 m around the infested trees) preventive felling of all main host trees has started and an extensive survey is being conducted in the buffer zone (radius of 500 m around the infested area). Tree climbers and sniffer dogs are involved in this survey. The movement of host plants out of the demarcated area is prohibited. The movement of wood and wood products is permitted only if wood has been reduced to particles (≤ 3 cm). In the demarcated area, control measures and a monitoring plan will be adapted according to the results of the current survey.

The pest status of *Anoplophora glabripennis* in Switzerland is officially declared as: **Present, under eradication.**

Source: NPPPO of Switzerland (2014-08).

Additional key words: detailed record

Computer codes: ANOLGL, CH

2014/142 New outbreak of *Anoplophora chinensis* in Italy

In Italy, the presence of *Anoplophora chinensis* (Coleoptera: Cerambycidae - EPPO A2 List) has been reported in Lombardia (provinces of Milano, Varese, Brescia) and in Lazio (city of Roma) where it is subject to eradication measures (see EPPO RS 2011/192). In June 2014, a new outbreak of *A. chinensis* was found in 2 adjacent areas (about 300 m apart) in the municipality of Prato, in Toscana region. *A. chinensis* was found on trees of *Acer negundo* (urban area) and *A. palmatum* (cultivated plot) during the official survey for *Anoplophora* species carried out by the Regional Plant Protection Service. It was identified morphologically by the Agricultural Research Council Laboratory and further molecular analysis is being carried out. Phytosanitary measures were taken to eradicate the pest and included the following: destruction of all infested plants, felling and examination of all potential hosts within a radius of 100 m around infested plants, establishment of a demarcated area with a 2 km buffer zone, intensive survey of the affected area, ban on nursery activities.

The pest status of *Anoplophora chinensis* in Italy is officially declared as: **Present, under eradication.**

Source: NPPPO of Italy (2014-07).

Additional key words: detailed record

Computer codes: ANOLCN, IT

2014/143 *Diabrotica virgifera virgifera* found again in Belgium

In Belgium, *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae - EPPO A2 List) was first found in 2003 near the airport of Zaventem (Brussels) and eradicated in 2010 (see EPPO RS 2003/143 and 2010/095). However, after several years of absence, the pest was found again. In the framework of the national monitoring programme, 4 specimens were caught on 2014-07-24 in a pheromone trap located in a maize field near Machelen (again close to the airport of Zaventem). After delimiting the focus and safety zones in accordance with the Belgian Ministerial Decree of the 25th of July 2014 on control measures against *D. virgifera virgifera*, 2 more specimens were caught on 2014-07-30 in 2 different traps in the demarcated area, which was modified accordingly.

The pest status of *Diabrotica virgifera virgifera* in Belgium is officially declared as: **Transient: actionable, under eradication.**

Source: NPPPO of Belgium (2014-08).

INTERNET.

Agence Fédérale pour la Sécurité de la Chaîne Alimentaire (AFSCA).

Chrysomèle des racines du maïs.

<http://www.afsca.be/productionvegetale/maladies/chrysomelemais/>

Arrêté Ministériel du 25 juillet 2014 portant des mesures temporaires de lutte contre la chrysomèle du maïs, *Diabrotica virgifera* Le Conte.

http://www.afsca.be/productionvegetale/maladies/chrysomelemais/_documents/2014_07_25_AM_MB_29-07-2014.pdf

Additional key words: detailed record

Computer codes: DIABVI, BE

2014/144 Rhagoletis completa found in Berlin, Germany

In Germany, *Rhagoletis completa* (Diptera: Tephritidae - EU Annexes) was first reported in Baden-Württemberg (EPPO RS 2004/133) in 2004. In September and October 2008, *R. completa* was also detected on several trees of *Juglans regia* in private gardens, in Hessen and Bayern (EPPO RS 2009/028). In August 2014, *R. completa* was found on *J. nigra* near a trial field of the Julius Kühn-Institute in Berlin. The fruits were rotten and larvae were detected inside them. In addition, 1 adult specimen was caught in a yellow sticky trap that was part of a survey. The adult was identified morphologically. The origin of the pest is unclear. The destruction of the fruits has been recommended and the survey will be continued.

The pest status of *Rhagoletis completa* in Germany is officially declared as: **Present, in some areas.**

Source: NPP0 of Germany (2014-08).

Additional key words: detailed record

Computer codes: RHAGCO, DE

2014/145 Situation of of Rhagoletis cingulata in Belgium

In 2004, the presence of *Rhagoletis cingulata* (Diptera: Tephritidae - EPPO A2 List) was noticed for the first time in Belgium, as 3 specimens were caught on wild *Prunus serotina* in Brussels capital region and Wallonia (see EPPO RS 2010/128). In addition, a few observations have been made in recent years through citizen science. Since 2013, a scientific research project, Fly-ALERT, has been carried out by the research centre for fruit growing (pcfruit vzw) and the Walloon Agricultural Research Center (CRA-W). In 2013, 72 traps (moskisan-type with TA and AA bait) were placed in commercial fruit production sites, sites involved in fruit trade, non-commercial orchards, private gardens and natural areas. Traps were monitored from June until the end of October. Samples were collected every week during the growing season and stored for further analysis. The determination and subsequent confirmation was carried out between January and May 2014. On 2014-02-14, CRA-W notified the identification of 1 male (trapped between 2013-07-29 and 2013-08-05) and 1 female (trapped between 2013-07-30 and 2013-08-07) in 2 separate natural areas with wild cherry trees (*Prunus avium*) in the province of Namur. On 2014-05-23, pcfruit vzw notified the identification of 1 female (trapped between 2013-08-01 and 2013-08-09) in a non-commercial orchard with untreated cherry trees in the province of Liège and 1 female (trapped between 2013-08-01 and 2013-08-09) detected at the edge of a forest, close to a cherry orchard in Vlaams-Brabant. No official measures were taken. Owners of orchards situated in the immediate vicinity of these findings were alerted by the researchers and advised to carry out insecticide treatments. This survey is continuing in 2014.

The pest status of *Rhagoletis cingulata* in Belgium is officially declared as: **Present, few occurrences, not in commercial production orchards.**

Source: Bagnée JY (2006) Contribution à la connaissance des Tephritidae de Belgique (Diptera: Brachycera). *Notes faunistiques de Gembloux* 59(2), 63-113.

NPP0 of Belgium (2014-06).

Additional key words: detailed record

Computer codes: RHAGCI, BE

2014/146 First report of *Synchytrium endobioticum* in Georgia

Potato wart disease caused by *Synchytrium endobioticum* (EPPO A2 List) is reported for the first time from Georgia. During surveys carried out from 2009 to 2013, symptoms of potato wart disease were observed in the area of Khulo, which is the most mountainous region in the Autonomous Republic of Adjara, in Western Georgia. Galls of various colours (from yellow-green to brown) were initially observed on potato tubers in the villages of Tabakhmela and Didajara in June 2009. However, growers from these villages had noticed symptoms already in 2006 and 2007 on potato cv. 'Agria' which is widely grown for home consumption. According to the results of a survey conducted from 2010 to 2012, the disease was also found in other of areas of the Khulo municipality (villages of Ghorjomi, Tkhilvana, Danisparauli) on potato cultivars Agria, Finka, Picasso and Marfona. In 2013, by the end of the growing season, the disease was also found in potato fields in the village of Diakonidzeebi (Khulo region) and in stored potatoes.

The situation of *Synchytrium endobioticum* in Georgia can be described as follows: Present, observed since 2006 in the Khulo area (Autonomous Republic of Adjara).

Source: Gorgiladze L, Meparishvili G, Sikharulidze Z, Natsarishvili K, Meparishvili S (2014) First report of *Synchytrium endobioticum* causing potato wart in Georgia. *New Disease Reports* 30, 4. <http://dx.doi.org/10.5197/j.2044-0588.2014.030.004>

Additional key words: new record

Computer codes: SYNCEN, GE

2014/147 First report of *Lophodermium cedrinum* in Germany

The NPPO of Germany informed the EPPO Secretariat of the first record of *Lophodermium cedrinum* on its territory. On 2014-03-14, the fungus was identified on the basis of its morphological characteristics by the Regional Plant Protection Service. *L. cedrinum* was detected in a lot of more than 300 cedar trees (*Cedrus deodara*, *C. libani* and *C. atlantica*) in a nursery in Niedersachsen. Approximately 80 % of the plants showed symptoms. These plants measuring 1.5 to 6 m high had been bought 10 years ago and their origin could not be traced back. It is assumed that the first symptoms of the disease appeared in 2010. Preliminary control measures were taken to avoid any further spread of the disease and a survey is planned. *L. cedrinum* is a fungal pathogen of cedars which causes needle spots and discolorations followed by needle cast. Little information is available on this fungus in the literature. It is known to occur on cedar trees in North Africa (Algeria, Mauritania), and there are records from China (Northern China on *C. deodara*, Liaoning on *Pinus densiflora*) and Pakistan.

Source: NPPO of Germany (2014-08).

INTERNET

Julius Kühn-Institut. Express PRA on *Lophodermium cedrinum*.

http://pflanzenegesundheit.jki.bund.de/dokumente/upload/2a345_lophodermium_cedrinum_express-pra.pdf

Additional key words: new record

Computer codes: LOPHCE, DE

2014/148 First report of *Tomato infectious chlorosis virus* in Tunisia

In Tunisia, during field surveys conducted in autumn 2012, symptoms of severe yellowing, brittleness and thickening of mature leaves were observed in tomato (*Solanum lycopersicum*) crops. Yellowing symptoms were also observed in the main Tunisian artichoke (*Cynara scolymus*)-growing regions. Samples were collected from symptomatic and asymptomatic tomato plants in Kairouan and Bizerte regions, and from artichoke in Ariana and Mannouba regions. Results of laboratory testing revealed the presence of *Tomato infectious chlorosis virus* (*Crinivirus*, TICV - EPPO A2 List) in 6 (out of 20) tomato samples and in 8 (out of 161) artichoke samples. This is the first time that TICV is reported from Tunisia.

The situation of *Tomato infectious chlorosis virus* in Tunisia can be described as follows: **Present, first detected in 2012 in samples of tomato and artichoke.**

Source: Salleh W, Mnari-Hattab M, Minutillo SA, Spanò R, Zammouri S, Gallitelli D (2014) First report of tomato infectious chlorosis virus in Tunisia. *Journal of Plant Pathology* 96(2), p 433.

Additional key words: new record

Computer codes: TICV00, TN

2014/149 First report of *Tomato chlorosis virus* in Tunisia

In Tunisia, unusual yellowing symptoms have been observed since 2011 on field grown tomato crops in Kairouan, which is a major tomato-growing area. In 2013 and 2014, leaf samples were collected from both symptomatic and asymptomatic tomato plants and tested in the laboratory for the presence of several virus species. Results revealed the presence of *Tomato infectious chlorosis virus* (*Crinivirus*, TICV - EPPO A2 List), which had already been detected as an emerging virus in tomato and artichoke in Tunisia (see EPPO RS 2014/148), as well as of *Tomato chlorosis virus* (*Crinivirus*, ToCV - EPPO A2 List). This is the first time that ToCV is reported from tomato crops in Tunisia.

The situation of *Tomato chlorosis virus* in Tunisia can be described as follows: **Present, first found in 2013/2014 in the region of Kairouan.**

Source: Mnari-Hattab M, Zammouri S, Salleh W, Hdider C, Hajlaoui MR (2014) First report of severe yellowing outbreaks on tomato in Tunisia associated with infection. *New Disease Reports* 30, 3. <http://dx.doi.org/10.5197/j.2044-0588.2014.030.003>

Additional key words: new record

Computer codes: TOCV00, TN

2014/150 New data on quarantine pests and pests of the EPPO Alert List

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

- **New records**

In Swaziland, *Bactrocera invadens* (Diptera: Tephritidae - EPPO A1 List) was first caught in methyl eugenol traps at Matsamo in the Northern part of the country, near the border with

South Africa. Further detections were then made in Northeastern areas, at Mananga and Lomahasha. Official control measures have been taken (IPPC, 2013).

In Japan, *Elsinoe australis* (EU Annexes) was detected for the first time in 2013 on several citrus trees in a city in Aichi Prefecture, Honshu (IPPC, 2014). **Present: only in some areas.**

In October 2011, adult specimens of *Halyomorpha halys* (Hemiptera: Pentatomidae - formerly EPPO Alert List) were found to be causing nuisance (*H. halys* is a stink bug) to residents in central Athens. This is the first time that *H. halys* is reported from Greece (Milonas and Partsinevelos, 2014). **Present: no details.**

In Barbados, huanglongbing associated with *Candidatus 'Liberibacter asiaticus'* (EPPO A1 List) was identified for the first time in 2014. The disease occurs throughout the island (IPPC, 2014). **Present: in all parts of the area where host crop(s) are grown**

In Costa Rica, *Maconellicoccus hirsutus* (Hemiptera: Pseudococcidae - EPPO A2 List) was first reported in 2014. The pest was found in Río Oro de Santa Ana in the province of San José (IPPC, 2014). **Present: subject to official control.**

The invasive mealybug, *Phenacoccus madeirensis* (Hemiptera: Pseudococcidae) was recently recorded for the first time in Tunisia. Specimens were collected from a single ornamental plant (*Cestrum nocturnum*) in a private garden (Akouda) during August and September 2013 (Halima-Kamel *et al.*, 2014). **Present: no details.**

In New Caledonia, *Puccinia psidii* (formerly EPPO Alert List) was first detected in March 2013 in Farino (South province) on *Syzygium jambos* (Myrtaceae). The rust was then found along the north and east coast of the country (IPPC, 2013). **Present: only in some areas.**

In Costa Rica, *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A2 List) was first reported in 2014. The first specimens were caught during a surveillance programme. So far, damage is limited (IPPC; 2014). **Present: subject to official control.**

In Kenya, *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A2 List) was first caught in pheromone traps at the beginning of 2014. High populations were observed in Isiolo country (but were low and very low in Kirinyaga and Meru counties, respectively). Its distribution in Kenya remains to be studied, surveillance programmes are being implemented (IPPC, 2014).

In Argentina, in 2010 unusual symptoms (stunting and distorted leaves) were observed on strawberry plants (*Fragaria x ananassa* cv. 'Camarosa') in Lules, Tucumán province. Laboratory studies confirmed the occurrence of *Strawberry crinkle virus* in symptomatic strawberry plants (Perotto *et al.*, 2014). **Present, few occurrences.**

In a recent review about *Meloidogyne* species in Africa, the occurrence of *Meloidogyne chitwoodi* in Mozambique and of *M. enterolobii* (both EPPO A2 List) in the Democratic Republic of Congo is reported (Onkendi *et al.*, 2014). **Present, no details.**

- Detailed records

In Spain, *Xanthomonas arboricola* pv. *pruni* (EPPO A2 List) is considered to be an emerging disease on stone fruit crops, and in particular on almond which was previously not known

to be a host plant. The bacterium was first identified in 2002 in Badajoz (Extremadura) in Japanese plum (*Prunus salicina*). Since then, several outbreaks have been detected in the following regions: Andalucía (Huelva), Aragón (Huesca, Zaragoza), Baleares (Mallorca), Cataluña (Lérida, Tarragona), Comunidad Valenciana (Alicante, Valencia), and Navarra, on peach (*P. persica*), nectarine (*P. persica* var. *nucipersica*), cherry (*P. avium*) and almond (*P. dulcis*). In all cases, eradication measures have been applied (Palacio-Bielsa *et al.*, 2014).

- New host plants

In June 2011, dieback symptoms were observed on a *Chamaecyparis pisifera* tree (Sawara cypress) in the United Kingdom. This tree was about 100 years old and growing in a castle garden in the Western part of Scotland. It was exhibiting symptoms of dieback on individual branches within the crown. No cankers were observed on the trunk or root collar, indicating an aerial infection. Laboratory analysis revealed the presence of *Phytophthora lateralis* (EPPO A2 List). This is the first time that *P. lateralis* is reported from *C. pisifera* (Schlenzig *et al.*, 2014).

- Source:
- Halima-Kamel MB, Germain JF, Mdellel L, Abdelaoui K (2014) *Phenacoccus madeirensis* (Hemiptera: Pseudococcidae): a new species of mealybug in Tunisia. *Bulletin OEPP/EPPO Bulletin* 44(2), 176-178.
 - IPPC website. Official Pest Reports. <https://www.ippc.int/index.php>
 - Barbados (2014-02-03) Occurrence of Citrus Greening (Huanglongbing) in Barbados.
 - Costa Rica (2014-05-12) *Maconellicoccus hirsutus*.
 - Costa Rica (2014-05-13) *Tuta absoluta*.
 - Japan (2014-05-28) Detection of *Elsinoe australis* in Japan.
 - Kenya (2014-06-09) New pest in Kenya: Preliminary surveillance report on *Tuta absoluta* - preliminary report by Kenya.
 - New Caledonia (2013-05-31) *Puccinia psidii* in New Caledonia.
 - Swaziland (2013-07-07) Notification on the detection of *Bactrocera invadens* in Swaziland.
 - Milonas PG, Partsinevelos GK (2014) First report of brown marmorated stink bug *Halyomorpha halys* Stål (Hemiptera: Pentatomidae) in Greece. *Bulletin OEPP/EPPO Bulletin* 44(2), 183-186.
 - Onkendi EM, Kariuki GM, Marais M, Moleleki LN (2014) The threat of root-knot nematodes (*Meloidogyne* spp.) in Africa: a review. *Plant Pathology* 63(4), 727-737.
 - Palacio-Bielsa A, Cambra MA, Cubero J, Garita-Cambronero J, Roselló M, López MM (2014) Mancha bacteriana de los frutales de hueso y del almendro (*Xanthomonas arboricola* pv. *pruni*), una grave enfermedad emergente en España. *Phytoma-España* no. 259, 36-42.
 - Perotto MC, Luciani C, MG Celli, Torrico A, Conci VC (2014) First report of *Strawberry crinkle virus* in Argentina. *New Disease Reports* 30, 5. <http://dx.doi.org/10.5197/j.2044-0588.2014.030.005>
 - Schlenzig A, Campbell R, Eden R (2014) First report of *Phytophthora lateralis* on *Chamaecyparis pisifera*. *New Disease Reports* 29, 15. <http://dx.doi.org/10.5197/j.2044-0588.2014.029.015>

Additional key words: new record, detailed record, new host plant

Computer codes: BACTIN, ELSIAU, GNORAB, HALYHA, LIBEAS, MELGCO, MELGMY, PHENHI, PHENMD, PHYTLA, PUCCPS, SCRVOO, XANTPR, AR, BB, CR, ES, GB, GR, JP, KE, NC, SZ, TN

2014/151 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2014 received since the previous report (EPPO RS 2014/091). Notifications have been sent via Europhyt for the EU countries and Switzerland. 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
<i>Acalolepta sejuncta</i>	<i>Taxus cuspidata</i>	Plants for planting	Japan	Germany	1
Agromyzidae	<i>Apium graveolens</i>	Vegetables	Cambodia	Switzerland	3
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia	France	1
Anthonomus eugenii	<i>Capsicum</i>	Vegetables	Dominican Rep.	Germany	1
Aphelenchoides	<i>Gardenia</i>	Plants for planting	Thailand	France	1
Bemisia tabaci	<i>Alternanthera</i>	Vegetables (leaves)	Indonesia	United Kingdom	1
	<i>Alternanthera sessilis</i>	Vegetables (leaves)	Sri Lanka	United Kingdom	2
	<i>Anubias barteri</i>	Cuttings	Netherlands	United Kingdom	1
	<i>Apium graveolens</i> var. <i>dulce</i>	Vegetables	Cambodia	Sweden	1
	<i>Artemisia vulgaris</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
	<i>Bacopa</i>	Cuttings	Sri Lanka	United Kingdom	1
	<i>Colocasia</i>	Vegetables	Bangladesh	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Bangladesh	United Kingdom	8
	<i>Corchorus</i>	Vegetables (leaves)	Gambia	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Ghana	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Jordan	United Kingdom	3
	<i>Corchorus</i>	Vegetables (leaves)	Lebanon	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Nigeria	United Kingdom	3
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Bangladesh	United Kingdom	2
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Egypt	United Kingdom	1
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Ghana	United Kingdom	1
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Jordan	Sweden	4
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Jordan	United Kingdom	1
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Nigeria	United Kingdom	4
	<i>Dipladenia</i>	Plants for planting	Netherlands	United Kingdom	2
	<i>Dipladenia splendens</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Echinodorus</i>	Cuttings	Sri Lanka	United Kingdom	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Cambodia	Sweden	1
	<i>Eryngium foetidum</i> , <i>Ocimum sanctum</i>	Vegetables (leaves)	Cambodia	Sweden	3
	<i>Eustoma</i>	Cut flowers	Israel	Switzerland	1
	<i>Hibiscus</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Hydrocotyle</i>	Aquatic plants	Malaysia	United Kingdom	1
	<i>Hygrophila polysperma</i>	Cuttings	Indonesia	United Kingdom	1
	<i>Lisianthus</i>	Cut flowers	Netherlands	United Kingdom	1
	<i>Mandevilla</i>	Cuttings	Israel	Netherlands	1
	<i>Mandevilla</i>	Plants for planting	Denmark	Finland	1
	<i>Mandevilla</i>	Plants for planting	Netherlands	United Kingdom	2
	<i>Mentha</i>	Vegetables (leaves)	Vietnam	Switzerland	2
	<i>Nerium oleander</i>	Plants for planting	Netherlands	United Kingdom	3
	<i>Nerium oleander</i>	Plants for planting	Spain	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Bangladesh	United Kingdom	3
	<i>Ocimum</i>	Vegetables (leaves)	Cambodia	Belgium	1
	<i>Ocimum</i>	Vegetables (leaves)	Cambodia	Sweden	1
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia	Sweden	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia	United Kingdom	2
<i>Ocimum basilicum</i>	Vegetables (leaves)	Palestinian Territory	Austria	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
B. tabaci (cont.)	<i>Ocimum basilicum, Ocimum sanctum</i>	Vegetables (leaves)	Cambodia	Sweden	1
	<i>Ocimum gratissimum</i>	Vegetables (leaves)	Bangladesh	United Kingdom	1
	<i>Ocimum sanctum</i>	Vegetables (leaves)	Cambodia	Sweden	4
	<i>Ocimum sanctum</i>	Vegetables (leaves)	Thailand	Switzerland	1
	<i>Ocimum sanctum, Piper</i>	Vegetables (leaves)	Cambodia	Sweden	4
	<i>Ocimum sanctum, Piper sarmentosum</i>	Vegetables (leaves)	Cambodia	Sweden	1
	<i>Origanum</i>	Vegetables (leaves)	Nigeria	United Kingdom	2
	<i>Persicaria</i>	Vegetables	Malaysia	United Kingdom	1
	<i>Piper sarmentosum</i>	Vegetables (leaves)	Cambodia	Sweden	1
	<i>Polygonum</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
	<i>Pterocarpus</i>	Vegetables (leaves)	Nigeria	United Kingdom	1
	<i>Solidago</i>	Cut flowers	Israel	Belgium	2
	<i>Telfairia occidentalis</i>	Vegetables	Nigeria	United Kingdom	1
	Bemisia tabaci, Liriomyza trifolii	<i>Solidago</i>	Cut flowers	Israel	Belgium
Bephratelloides	<i>Annona muricata</i>	Fruit	Peru	Italy	1
Ceroplastes	<i>Ficus macrocarpa</i>	Plants for planting	China	Spain	1
Clavibacter michiganensis subsp. michiganensis	<i>Solanum lycopersicum</i>	Seeds	China	France	1
Coleoptera	<i>Cyperus esculentus</i>	Plant products	Burkina Faso	Spain	1
Diptera	<i>Luffa</i>	Vegetables	Ghana	United Kingdom	1
	<i>Mangifera indica</i>	Fruit	Kenya	United Kingdom	1
	<i>Momordica</i>	Vegetables	Kenya	United Kingdom	2
Ditylenchus	<i>Vaccinium</i>	Plants for planting	USA	Spain	1
Elsinoe fawcettii	<i>Citrus latifolia</i>	Fruit	Mexico	Spain	1
Ephestia	<i>Gossypium</i>	Plant products	Ghana	Spain	1
Ephestia, Tribolium	<i>Cyperus esculentus</i>	Plant products	Burkina Faso	Spain	1
	<i>Cyperus esculentus</i>	Plant products	Mali	Spain	1
Globodera pallida	<i>Solanum tuberosum</i>	Ware potatoes	Cyprus	Croatia	1
	<i>Solanum tuberosum</i>	Ware potatoes	Italy	Croatia	2
Globodera pallida, Globodera rostochiensis	<i>Solanum tuberosum</i>	Ware potatoes	Cyprus	Croatia	2
	<i>Solanum tuberosum</i>	Ware potatoes	Italy	Croatia	1
Insecta	<i>Iris</i>	Plants for planting	USA	Germany	1
	<i>Lolium multiflorum</i>	Seeds	Argentina	France	1
	Unspecified	Plant products	Morocco	Spain	1
Lepidoptera	<i>Solanum</i>	Vegetables	Sri Lanka	Cyprus	1
	<i>Solanum melongena</i>	Vegetables	Sri Lanka	Cyprus	1
Lepidoptera, Thrips	<i>Solanum melongena</i>	Vegetables	Sri Lanka	Cyprus	1
Leucinodes orbonalis	<i>Psidium guajava</i>	Fruit	Cambodia	Sweden	1
	<i>Solanum</i>	Vegetables	Ghana	Belgium	2
	<i>Solanum melongena</i>	Vegetables	Cambodia	Belgium	1
	<i>Solanum melongena</i>	Vegetables	Sri Lanka	Germany	1
	<i>Solanum melongena</i>	Vegetables	Uganda	Belgium	1
	<i>Solanum virginianum</i>	Vegetables	Sri Lanka	Italy	3
Liriomyza	<i>Coriandrum</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Ethiopia	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Vietnam	Switzerland	1
	<i>Ocimum gratissimum</i>	Vegetables (leaves)	Cambodia	Denmark	1
Liriomyza huidobrensis	<i>Eryngium</i>	Cut flowers	Kenya	Netherlands	1
	<i>Eryngium</i>	Cut flowers	Zimbabwe*	Netherlands	2
	<i>Gypsophila</i>	Cut flowers	Ecuador	Netherlands	2
	<i>Gypsophila</i>	Cut flowers	Kenya	Netherlands	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>L. huidobrensis</i>	<i>Gypsophila paniculata</i>	Cuttings	Kenya	Netherlands	1
	<i>Solidago</i>	Cut flowers	Kenya	Netherlands	3
	<i>Trachelium</i>	Cut flowers	Ecuador	Netherlands	1
<i>Liriomyza sativae</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia*	Sweden	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Latvia	1
<i>Liriomyza trifolii</i>	<i>Apium graveolens</i>	Vegetables	Cambodia*	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Israel	Belgium	4
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	2
<i>Meloidogyne incognita</i>	<i>Carex</i>	Plants for planting	Turkey	Bulgaria	1
<i>Meloidogyne javanica</i>	<i>Ficus macrocarpa</i>	Plants for planting	China	Germany	1
<i>Meloidogyne, Pratylenchus</i>		Soil / Growing medium	Turkey	Bulgaria	1
<i>Pepino mosaic virus</i>	<i>Solanum lycopersicum</i>	Seeds	Chile	France	2
<i>Phyllosticta citricarpa</i>	<i>Citrus limon</i>	Fruit	South Africa	Netherlands	1
	<i>Citrus limon</i>	Fruit	South Africa	Spain	1
	<i>Citrus reticulata</i>	Fruit	Argentina	Netherlands	2
	<i>Citrus reticulata</i>	Fruit	Argentina	United Kingdom	1
	<i>Citrus sinensis</i>	Fruit	South Africa	Germany	1
	<i>Citrus sinensis</i>	Fruit	South Africa	Italy	1
	<i>Citrus sinensis</i>	Fruit	South Africa	Netherlands	1
<i>Phytophthora ramorum</i>	<i>Photinia</i>	Plants for planting	Netherlands	Ireland	1
	<i>Rhododendron</i>	Plants for planting	Germany	Sweden	1
	<i>Rhododendron</i>	Plants for planting	Netherlands	Estonia	2
	<i>Rhododendron</i>	Plants for planting	Netherlands	Finland	1
	<i>Rhododendron catawbiense</i>	Plants for planting	Netherlands	Ireland	1
<i>Potato spindle tuber viroid, Xanthomonas axonopodis pv. vesicatoria</i>	<i>Capsicum annuum</i>	Seeds	China	Denmark	1
	<i>Capsicum annuum, Solanum lycopersicum</i>	Seeds	China	Denmark	1
<i>Pseudococcus</i>	<i>Malus pumila</i>	Fruit	South Africa	Italy	1
<i>Radopholus similis</i>	<i>Epipremnum</i>	Cuttings	Sri Lanka	Netherlands	1
<i>Spodoptera</i>	<i>Bacopa</i>	Plants for planting	Malaysia	United Kingdom	1
<i>Spodoptera frugiperda</i>	<i>Capsicum frutescens</i>	Vegetables	Surinam	Netherlands	1
<i>Spodoptera littoralis</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Kenya	Netherlands	1
	<i>Peperomia</i>	Cuttings	Spain (Canary Isl.)	Netherlands	1
	<i>Rosa</i>	Cut flowers	Kenya	Netherlands	1
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	4
<i>Spodoptera littoralis, Thaumatotibia leucotreta</i>	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	1
<i>Sternochetus mangiferae</i>	<i>Mangifera indica</i>	Fruit	Sri Lanka	Italy	1
<i>Thaumatotibia leucotreta</i>	<i>Capsicum</i>	Vegetables	Tanzania	Netherlands	1
	<i>Capsicum annuum</i>	Vegetables	Tanzania	Netherlands	1
	<i>Capsicum frutescens</i>	Vegetables	Ghana	Netherlands	1
	<i>Capsicum frutescens</i>	Vegetables	Uganda	Netherlands	2
	<i>Citrus sinensis</i>	Fruit	South Africa	Italy	1
Thripidae	<i>Abelmoschus esculentus</i>	Vegetables	India	United Kingdom	1
	<i>Amaranthus</i>	Vegetables (leaves)	Bangladesh	United Kingdom	1
	<i>Amaranthus tricolor</i>	Vegetables (leaves)	Bangladesh	United Kingdom	1
	<i>Luffa</i>	Vegetables	Ghana	United Kingdom	3
	<i>Luffa acutangula</i>	Vegetables	Ghana	United Kingdom	22
	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	4
	<i>Momordica</i>	Vegetables	Ghana	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Thripidae (cont.)	<i>Momordica</i>	Vegetables	Malaysia	United Kingdom	2
	<i>Momordica</i>	Vegetables	Mauritius	United Kingdom	2
	<i>Momordica charantia</i>	Vegetables	Kenya	Germany	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	4
	<i>Solanum melongena</i>	Vegetables	Ghana	United Kingdom	25
Thrips palmi	<i>Chrysanthemum, Dianthus, Gardenia</i>	Cut flowers	Thailand	Netherlands	1
	<i>Dendrobium</i>	Cut flowers	Malaysia	Netherlands	2
	<i>Dendrobium</i>	Cut flowers	Thailand	Switzerland	1
	<i>Momordica charantia</i>	Vegetables	Cambodia	Sweden	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	Belgium	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	Belgium	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	1
Thysanoptera	<i>Momordica charantia</i>	Vegetables	Sri Lanka	France	1
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	2
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	Switzerland	1
Tribolium	<i>Gossypium</i>	Plant products	Ghana	Spain	1
Trioza erytreae	<i>Murraya koenigii</i>	Vegetables (leaves)	Uganda	United Kingdom	1
Xanthomonas axonopodis pv. citri	<i>Citrus</i>	Fruit	Bangladesh	United Kingdom	1
	<i>Citrus aurantifolia</i>	Fruit	Bangladesh	United Kingdom	1
	<i>Citrus reticulata</i>	Fruit	Argentina	United Kingdom	1
	<i>Citrus sinensis</i>	Fruit	Uruguay	Italy	3

• **Fruit flies**

Pest	Consignment	Country of origin	Destination	nb
Anastrepha	<i>Mangifera indica</i>	Jamaica	United Kingdom	2
	<i>Mangifera indica</i>	Mexico	United Kingdom	1
	<i>Mangifera indica</i>	Venezuela	France	1
Bactrocera	<i>Annona muricata, Apium, Momordica, Ocimum, Solanum</i>	Cambodia	Netherlands	1
Bactrocera	<i>Capsicum frutescens</i>	Cambodia	Netherlands	2
	<i>Luffa acutangula</i>	Bangladesh	United Kingdom	1
	<i>Luffa acutangula</i>	Ghana	United Kingdom	1
	<i>Mangifera indica</i>	Gambia	United Kingdom	5
	<i>Mangifera indica</i>	Sri Lanka	United Kingdom	1
	<i>Momordica</i>	Sri Lanka	United Kingdom	2
	<i>Psidium guajava</i>	Sri Lanka	United Kingdom	1
	<i>Syzygium</i>	Cambodia	Netherlands	1
	<i>Trichosanthes</i>	Bangladesh	United Kingdom	4
	<i>Trichosanthes</i>	Sri Lanka	United Kingdom	3
	<i>Trichosanthes cucumerina</i>	Bangladesh	United Kingdom	2
<i>Trichosanthes cucumerina</i>	Sri Lanka	United Kingdom	1	
Bactrocera dorsalis	<i>Annona muricata</i>	Vietnam	France	2
	<i>Mangifera indica</i>	Burkina Faso*	France	1
	<i>Mangifera indica</i>	Cameroon*	France	2
	<i>Mangifera indica</i>	Cameroon*	Switzerland	1
	<i>Mangifera indica</i>	Cote d'Ivoire*	France	8
	<i>Mangifera indica</i>	Mali*	France	1
Bactrocera invadens	<i>Mangifera indica</i>	Sri Lanka	France	2
	<i>Mangifera indica</i>	Burkina Faso	Luxembourg	1
	<i>Mangifera indica</i>	Ghana	Luxembourg	1
Bactrocera latifrons	<i>Mangifera indica</i>	Mali	Netherlands	1
	<i>Capsicum frutescens</i>	Malaysia	Netherlands	1
Ceratitis	<i>Annona muricata</i>	Cameroon	Switzerland	1
	<i>Malus pumila</i>	South Africa	Italy	1
Ceratitis capitata	<i>Citrus aurantium</i>	Lebanon	France	1

Pest	Consignment	Country of origin	Destination	nb
Ceratitis cosyra	<i>Mangifera indica</i>	Cote d'Ivoire	France	9
	<i>Mangifera indica</i>	Mali	France	6
Tephritidae (Non-European)	<i>Annona</i>	Cambodia	United Kingdom	2
	<i>Annona</i>	India	United Kingdom	1
	<i>Annona</i>	Thailand	United Kingdom	1
	<i>Annona muricata</i>	Vietnam	Belgium	1
	<i>Annona squamosa</i>	Cambodia	France	1
	<i>Capsicum frutescens</i>	Cambodia	Netherlands	3
	<i>Capsicum frutescens</i>	Thailand	Netherlands	1
	<i>Capsicum frutescens</i>	Thailand	Switzerland	1
	<i>Citrus limon</i>	Uruguay	Spain	1
	<i>Citrus reticulata</i>	South Africa	Netherlands	1
	<i>Citrus sinensis</i>	Egypt	Spain	1
	<i>Cucurbita</i>	Uganda	United Kingdom	1
	<i>Diospyros kaki</i>	Brazil	France	1
	<i>Fortunella japonica</i>	South Africa	United Kingdom	1
	<i>Lagenaria siceraria</i>	Ghana	United Kingdom	3
	<i>Luffa</i>	Ghana	United Kingdom	2
	<i>Luffa acutangula</i>	Ghana	United Kingdom	6
	<i>Mangifera</i>	Sri Lanka	Switzerland	1
	<i>Mangifera indica</i>	Burkina Faso	Belgium	1
	<i>Mangifera indica</i>	Burkina Faso	Netherlands	1
	<i>Mangifera indica</i>	Cambodia	France	2
	<i>Mangifera indica</i>	Cameroon	Belgium	1
	<i>Mangifera indica</i>	Cameroon	France	2
	<i>Mangifera indica</i>	Cameroon	Switzerland	1
	<i>Mangifera indica</i>	Cote d'Ivoire	Belgium	16
	<i>Mangifera indica</i>	Cote d'Ivoire	France	6
	<i>Mangifera indica</i>	Cote d'Ivoire	Netherlands	3
	<i>Mangifera indica</i>	Dominican Rep.	France	1
	<i>Mangifera indica</i>	Dominican Rep.	United Kingdom	8
	<i>Mangifera indica</i>	Gambia	France	1
	<i>Mangifera indica</i>	Gambia	United Kingdom	1
	<i>Mangifera indica</i>	Jamaica	United Kingdom	9
	<i>Mangifera indica</i>	Kenya	France	1
	<i>Mangifera indica</i>	Kenya	United Kingdom	3
	<i>Mangifera indica</i>	Mali	Belgium	4
	<i>Mangifera indica</i>	Mali	France	4
	<i>Mangifera indica</i>	Mali	Netherlands	5
	<i>Mangifera indica</i>	Mexico	France	1
	<i>Mangifera indica</i>	Mexico	United Kingdom	1
	<i>Mangifera indica</i>	Pakistan	United Kingdom	2
	<i>Mangifera indica</i>	Senegal	United Kingdom	1
	<i>Mangifera indica</i>	Sri Lanka	Switzerland	1
	<i>Mangifera indica</i>	Sri Lanka	United Kingdom	2
	<i>Mangifera indica</i>	Thailand	Austria	1
	<i>Mangifera indica</i>	Thailand	France	3
	<i>Mangifera indica</i>	Thailand	Switzerland	1
	<i>Manilkara zapota</i>	India	United Kingdom	3
	<i>Momordica</i>	Kenya	United Kingdom	6
	<i>Momordica charantia</i>	Sri Lanka	France	2
	<i>Psidium guajava</i>	Brazil	United Kingdom	2
<i>Psidium guajava</i>	Dominican Rep.	United Kingdom	1	
<i>Psidium guajava</i>	Sri Lanka	Switzerland	1	
<i>Psidium guajava</i>	Thailand	United Kingdom	1	
<i>Solanum melongena</i>	Ghana	United Kingdom	1	
<i>Syzygium</i>	Cambodia	France	1	
<i>Syzygium</i>	Jamaica	United Kingdom	1	
<i>Syzygium jambos</i>	Surinam	Netherlands	1	
<i>Syzygium samarangense</i>	Cambodia	Switzerland	2	
<i>Trichosanthes</i>	Bangladesh	United Kingdom	2	
<i>Trichosanthes</i>	Sri Lanka	United Kingdom	1	
<i>Trichosanthes cucumerina</i>	Bangladesh	United Kingdom	2	
<i>Trichosanthes cucumerina</i>	Sri Lanka	United Kingdom	1	

• Wood

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Anoplophora glabripennis</i>	Unspecified	Wood packing material	China	France	1
<i>Anoplophora glabripennis</i> , <i>Apriona germari</i>	Unspecified	Wood packing material	China	Netherlands	1
Aphelenchoididae	Coniferales	Wood chips	USA	Ireland	1
<i>Apriona germari</i>	Unspecified	Wood packing material (pallet)	China	Germany	1
<i>Batocera lineolata</i>	Unspecified	Wood packing material	China	Netherlands	1
Bostrichidae	Unspecified Unspecified	Wood packing material Wood packing material	China India	Netherlands Germany	1 2
<i>Bursaphelenchus mucronatus</i>	Unspecified	Wood packing material	USA	Finland	1
<i>Bursaphelenchus xylophilus</i>	Coniferales Unspecified Unspecified	Wood and bark Wood packing material Wood packing material (pallet)	Unknown China Portugal	Italy France Cyprus	1 1 1
Cerambycidae	Pinaceae <i>Pinus radiata</i> Unspecified Unspecified	Wood and bark Wood and bark Wood packing material Wood packing material (pallet)	Ukraine New Zealand China China	Cyprus Spain Germany Slovenia	2 1 1 1
Cerambycidae (larvae and grub holes > 3 mm)	<i>Larix</i>	Wood and bark	Russia	Finland	1
Coleoptera	<i>Copaifera salikounda</i> <i>Quercus alba</i>	Wood and bark Wood and bark	Congo USA	Spain Spain	1 1
<i>Coptotermes</i>	Unspecified	Wood packing material (crate)	Vietnam	Germany	1
Entomobryidae	<i>Juglans regia</i>	Wood and bark	USA	Spain	2
<i>Hesperophanes</i>	Unspecified	Wood packing material	China	Germany	1
<i>Hesperophanes campestris</i>	Unspecified	Wood packing material (pallet)	China	Germany	1
Insecta	<i>Juglans nigra</i> , <i>Prunus avium</i> Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified Unspecified	Wood and bark Wood packing material Wood packing material Wood packing material Wood packing material (crate) Wood packing material (crate) Wood packing material (pallet) Wood packing material (pallet)	USA China China Vietnam China India China Vietnam	Spain France Germany France Switzerland Switzerland Switzerland Switzerland	1 1 1 1 1 1 1 2
Insecta, Scolytidae	<i>Juglans regia</i> , <i>Prunus avium</i>	Wood and bark	USA	Spain	1
<i>Lyctus</i>	Unspecified	Wood packing material (pallet)	China	Germany	2
Nematoda	Unspecified	Wood packing material	China	Finland	1
Platypodidae, Scolytidae	<i>Entandrophragma cylindricum</i> Magnoliaceae	Wood and bark Wood and bark	Congo Congo	Spain Spain	1 1
Scolytidae	<i>Entandrophragma cylindricum</i> Unspecified	Wood and bark Wood packing material (pallet)	Congo China	Spain Germany	1 1
<i>Sinoxylon</i>	Unspecified Unspecified Unspecified Unspecified	Wood packing material Wood packing material Wood packing material Wood packing material	India India India India	Belgium Germany Netherlands Poland	3 1 2 1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Sinoxylon</i> (cont.)	Unspecified	Wood packing material	Unknown	Germany	1
	Unspecified	Wood packing material	Vietnam	Germany	1
	Unspecified	Wood packing material (crate)	India	Netherlands	1
	Unspecified	Wood packing material (pallet)	India	Belgium	3
	Unspecified	Wood packing material (pallet)	India	Germany	3
	Unspecified	Wood packing material (pallet)	India	Netherlands	3
	Unspecified	Wood packing material (pallet)	India	Switzerland	1
	Unspecified	Wood packing material (pallet)	Taiwan	Netherlands	1
	Unspecified	Wood packing material (pallet)	Vietnam	Germany	2
	Unspecified	Wood packing material (pallet)	Vietnam	Netherlands	2
	<i>Sinoxylon anale</i>	Unspecified	Wood packing material (pallet)	India	Germany
Unspecified		Wood packing material (pallet)	India	Lithuania	1
<i>Trichoferus</i>	Unspecified	Wood packing material (pallet)	China	Germany	1
<i>Xyleborus</i> (suspected)	Unspecified	Wood packing material	China	Netherlands	1

• **Bonsais**

Pest	Consignment	Country of origin	Destination	nb
<i>Opogona sacchari</i>	<i>Ficus macrocarpa</i>	Netherlands	Cyprus	1
<i>Tinthia cymbalistis</i>	<i>Ficus macrocarpa</i>	China	Cyprus	1

Source: EPPO Secretariat, 2014-08.

2014/152 Proceedings of the EPPO/CoE/IUCN ISSG International Workshop ‘How to communicate on pests and invasive alien plants?’ (Oeiras, PT, 2013-10-08/10)

The conclusions and proceedings of the EPPO/CoE/IUCN ISSG International Workshop ‘How to communicate on pests and invasive alien plants?’ held in Oeiras (PT) on 2013-10-08/10 have been published in the August 2014 issue of the EPPO Bulletin. These proceedings are composed of eight articles on the following topics:

- ‘How to bridge the gap in between disciplines’. This paper presents the conclusions of the main workshop and of the different thematic workshops (article freely available);
- The lessons learnt from the implementation of the voluntary Code of conduct on invasive alien plants in Belgium;
- An overview of the voluntary Codes of conduct for botanic gardens and horticulture and engagement with the public;
- A Swiss experience of working with the horticultural industry to limit invasion risks;
- Interactions between journalists and the general public concerning Japanese knotweed
- Awareness raising activities on alien species in Slovenia;
- Public awareness for the early detection of *Anoplophora chinensis* and *A. glabripennis* in Italy;
- The communication experiences in Saxony-Anhalt in Germany.

All presentations made during the workshop and the conclusions are available on the EPPO website at the following link:

https://archives.eppo.int/MEETINGS/2013_conferences/communication_pt.htm

Source: Access the August 2014 issue of the EPPO Bulletin:
<http://onlinelibrary.wiley.com/doi/10.1111/epp.2014.44.issue-2/issuetoc>

Additional key words: invasive alien plants, communication

2014/153 Pathway analysis: terrestrial plants imported from East Asia into EPPO countries

A pathway analysis for terrestrial ornamental plants imported from East Asia into EPPO countries has been undertaken to provide information on the imports themselves and to identify emerging terrestrial invasive alien plants. Data for terrestrial ornamental plants imported from East Asia into Austria, France, Italy, the Netherlands and Turkey was assembled at the genus level from 2005 to 2010. Results showed that thousands of species of plants for planting are imported from East Asia in very large volumes. However, despite the fact that the data were only analyzed at the genus level, it is considered that only a very limited number of taxa would become invasive. The potentially invasive alien species are already widely available in European nurseries and are principally produced within the European Union.

Source: van Valkenburg J, Brunel S, Brundu G, Ehret P, Follak S, Uludag A (2014) Is terrestrial plant import from East Asia into countries in the EPPO region a potential pathway for new emerging invasive alien plants? *Bulletin OEPP/EPPO Bulletin* 44, 195-204. <http://onlinelibrary.wiley.com/doi/10.1111/epp.12131/abstract>

Additional key words: invasive alien plants, pathway

Computer codes: AT, FR, IT, NL, TR

2014/154 First report of *Solanum mauritianum* in France

Solanum mauritianum (Solanaceae) is a shrub originating from South America. It is established in Portugal in the Azores (reported since 1972) and in Coimbra (reported since 2000) in waste grounds. In Coimbra, it escaped from the Botanical Garden, and produces seeds which are dispersed by birds. The species has also been observed as naturalized in Tenerife (Islas Canarias, Spain) (F Verloove, pers. obs., 2014).

In France, the plant was observed for the first time in July 2014 in the municipality of Talasani in Haute-Corse. Four plants dispersed over 30 m occur in degraded *Pteridium* spp. vegetation, in the vicinity of a swamp where *Cirsium creticum* (Asteraceae) thrives (a rare native species in Corse). One of the plants of *S. mauritianum* is over 2 m high, flowering and fruiting, the other three plants are most probably offspring of this individual. The introduction pathway of the species is unknown. *S. mauritianum* seems to be absent from adjacent gardens, but could be cultivated somewhere in Corse (e.g. Bastia), and could have been dispersed by birds. The plant is frost sensitive and requires at least moderate water levels.

The species may represent a risk in the future and should usefully be monitored and action may be taken if appropriate.

Source: Jean-Marc Tison, personal communication, e-mail: jmltison@gmail.com

Domingues De Almeida J (2000) *Solanum mauritanicum* (Solanaceae), naturalized in Portugal. *Anales Jardín Botánico de Madrid* 57, 422.

Additional key words: invasive alien plant, new record

Computer codes: SOLMR, FR

2014/155 USA Early Detection and Distribution Mapping System

EDDMapS (Early Detection and Distribution Mapping System) is a web-based mapping system for documenting invasive alien species in the USA. This system was launched by the Center for Invasive Species and Ecosystem Health at the University of Georgia. EDDMapS combines data from other databases and organizations as well as volunteer observations to create a national network of invasive alien species distribution. A simple, interactive Web interface enables participants to submit their observations or view results through interactive queries into the EDDMapS database. Being able to see the current distribution of a species as it moves into a new area facilitates Early Detection and Rapid Response programs. All data is reviewed by state verifiers to ensure its accuracy before it is made freely available. Distribution maps are available for plants, insects, diseases and wildlife. These maps may be displayed at state, county or points level. Tools and training material are also available, as well as smartphone applications.

Source: Early Detection and Distribution Mapping System Website
<http://www.eddmaps.org/>

Additional key words: invasive alien plants, citizen sciences

Computer codes: US

2014/156 The release of *Zygogramma bicolorata* in Ethiopia to fight *Parthenium hysterophorus*

Parthenium hysterophorus (Asteraceae, EPPO Alert list) poses a serious threat to farming in Ethiopia. The biological control agent *Zygogramma bicolorata* (Coleoptera: Chrysomelidae) which has already been successfully released to control *P. hysterophorus* in Australia, India, South Africa and Tanzania has recently been released in Ethiopia. The project has been coordinated by the Office of International Research and Education at Virginia Tech, with the help of CABI.

Source: Adkins SW & Shabbir A (2014) Biology, ecology and management of the invasive parthenium weed (*Parthenium hysterophorus* L.). *Pest Management Science* 70, 1023-1029.

Izlar K (2014) Speckled beetle key to saving crops in Ethiopia. Virginia tech News. <http://www.vtnews.vt.edu/articles/2014/08/082214-outreach-oiredspeckledbeetle.html>

Additional key words: invasive alien plants, biological control agent

Computer codes: PTNHY, ZYGGBI, ET

2014/157 *Amaranthus palmeri* in the EPPO region: addition to the EPPO Alert List**Why**

Amaranthus palmeri (Amaranthaceae) is an annual plant originating from Western North America. One of its English common names is 'Palmer's Amaranth'. The species is a troublesome weed in the Southern USA. The species is recorded as established in Cyprus, Israel and Madeira, and recently, it has been reported in a maize field in Spain. Considering the potential economic impact of this species, the EPPO Panel on Invasive Alien Plants suggested its addition to the EPPO Alert List.

Geographical distribution

EPPO Region: Cyprus, Israel, Portugal (Madeira), Spain.

Note: the species has been observed as casual in Austria, Belarus, Belgium, Czech Republic, France, Germany, Latvia, Netherlands, Norway, Russian Federation, the United Kingdom and Sweden.

In Spain, *A. palmeri* was found for the first time in 2007 in Lleida (Cataluña) in North-Eastern Spain, at the margin of a maize field. The species had previously been recorded in Andalucía at the port of Sevilla and in Palos de la Frontera (province of Huelva) in the vicinity of industrial premises where seeds and plant products are processed.

North America: Canada (Ontario), USA (Arizona, Arkansas, California, Colorado, Florida, Georgia, Illinois, Kansas, Kentucky, Louisiana, Massachusetts, Mississippi, Missouri, Nebraska, Nevada, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin).

Asia: China, India (Maharashtra), Japan, Republic of Korea.

Oceania: Australia.

Note: the GBIF website provides a distribution record of the species in Ethiopia, though, no further information could be found.

Morphology

A. palmeri is an annual plant with one central reddish-green stem up to 1.5 m tall with many lateral branches. Leaves are alternate, hairless, borne on long petioles that often exceed the length of the leaf blade, they are lanceolate in young plants and become ovate as the plant matures, with prominent whitish veins on the underside. The leaves often have a distinctive V-shaped chevron on the upper surface. Female and male flowers occur on separate plants, but are both 2 to 3 mm each, clustering in cylindrical inflorescences or spikes up to 60 cm on the central stem. The fruit is a thin-walled one-seeded utricle about 1.5 mm long. The top half of the fruit separates at maturity to expose the single, round, black to dark purple seed which is of 1 to 2 mm in diameter.

Biology and Ecology

A. palmeri is a dioecious species and is generally wind-pollinated as male flowers produce copious amounts of pollen. This dioecy allows for gene exchange among plants, and is considered to be a factor enhancing herbicide resistance. In its native desert habitat, *A. palmeri* grows as a summer ephemeral herb and is adapted to the rigors of intense heat and low unpredictable rainfall. Maximum seed germination was determined to be achieved at temperatures around 30°C. In California, studies showed that female plants emerge between March and June, and are prolific seed producers, with 200 000 to 600 000 seeds per plant when growing without competition. Plants that emerge later were observed to produce fewer seeds (< 80.000 seeds per plant). Seed bank densities grew from 173 million seeds per ha to 1.1 billion seeds per ha between 1980 and 1985. The small size of the seeds necessitates a relatively shallow position within the soil profile for successful establishment. Seed germinate in 1 or 2 days. The seed bank viability is unknown but is suspected to be able to survive extended periods. Seeds have been reported to be viable after 12 years of burial, although 50% seed mortality was observed for seed buried for 18 months.

Habitats

A. palmeri is found in fields of many crops, in particular cotton, maize, soybean, peanut, sweet potato and other vegetables. It also colonizes field borders, roadsides and railroads. According to the CORINE land cover classification, the following habitats are suitable for the plant: arable land; deserts (sparsely vegetated areas); road and rail networks and associated land; other artificial surfaces (wastelands).

Pathways

A. palmeri is suspected to have entered Belgium as a contaminant of grain, and to have entered the United Kingdom as a contaminant of oil seed rape. Entry may also occur through used machinery as spread has been reported to occur during agricultural management practices such as plowing, mowing, harvesting and moving compost of green waste. The small seeds are predominantly gravity-dispersed, but can also naturally be spread through water flow and irrigation, as well as via the movement of birds and mammals. Although the seeds have no wind dispersal adaptations, strong winds and hurricanes are considered to be responsible for the spread of the species.

Impacts

The invasive behaviour and range expansion of the species is relatively recent. *A. palmeri* has in the last years been ranked as the most troublesome cotton weed in the southern US. In 2014, at least 300 000 ha of cotton are reported as invaded by the weed in Arkansas, and over one million acres in Georgia. *A. palmeri* significantly affects growth and yield of

crops. In the USA, *A. palmeri* densities of 1 and 10 plants per m² reduced cotton yields of 11 and 59% respectively. Major impacts have also been reported in soybean, peanut, corn, sweet potato and the plant has become one of the most economically damaging glyphosate-resistant weed species in the USA. In the USA, the maximum predicted soybean loss was 79% from full season interference of *A. palmeri* (density of 8 plants per m²). Full season interference from the weed reduced peanut yield by 68% (density of 5.5 plants per m of row). *A. palmeri* with its rapid growth rate and ability to accumulate large quantities of biomass is very competitive, and has also an advantage with its long roots. In addition to reducing yields, the large amount of biomass produced interferes with harvesting of crops. In cotton, the presence of *A. palmeri* doubled to quadrupled harvest time, compared to a weed free field. Equipment can even be damaged if densities of *A. palmeri* are higher than 0.65 plants per m². *A. palmeri* may also affect or suppress crop growth through allelopathy. Experiments indicate that incorporation of a heavy stand of *A. palmeri* into the soil just before planting can hinder seedling growth in carrot, onion, cabbage and sorghum. *A. palmeri* also acts as a host to several nematodes.

Control

In some areas, *A. palmeri* has developed resistance to herbicides, including triazines and glyphosate. Resistance to 5 different herbicide modes of action has been confirmed for this species. No control regime based on a single herbicide is likely to be successful for more than 4 to 5 years. Tillage and the use of cover crops have been comprehensively investigated for managing *A. palmeri*. Deep tillage in autumn followed by a cover crop of rye provided good results. Germination and seedling establishment are significantly reduced when the seed of the plant is buried at depths of 5 cm or more in the soil, cultivation practices that achieve this can be useful management methods. Controlling the seed bank is also an essential component of integrated management of *A. palmeri*. Cultural practices such as appropriate planting dates, crop rotation, hand weeding and improved sanitation to avoid spread improve the control of the weed. Hand-pulled plants can nevertheless re-root and produce seed if left on the soil, hand weeding therefore needs to be done with care. The management of *A. palmeri* in field borders, roadsides and railroad highways is often overlooked, building up reservoir populations of the weed.

Source: Culpepper AS, Webster TM, Sosnoskie LM, York AC (2010) Glyphosate Resistant Palmer Amaranth in the United States. In Nandula VK (Ed) Glyphosate Resistance in crops and weeds: History, Development and management. John Wiley & Sons, Inc. 195-212.

Extension Website, Palmer Amaranth (*Amaranthus palmeri*)
https://www.extension.org/pages/65209/palmer-amaranth-amaranthus-palmeri#.U_74-vl_snU

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Additional key words: invasive alien plants, alert list

Computer codes: AMAPA, ES