

ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION

# **EPPO**

## Reporting

## Service

### Paris, 2002-07-01

Reporting Service 2002, No. 7

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#### 2002/107 New data on quarantine pests and pests of the EPPO Alert List

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

#### • New geographical records

*Bemisia tabaci* (EPPO A2 quarantine pest) occurs in Peru; the EPPO Secretariat had previously no data on the occurrence of this pest in Peru. **Present, no details**. Review of Agricultural Entomology 90(7), p 861 (6198).

*Liriomyza huidobrensis* (EPPO A2 quarantine pest) is reported to be present in Bulgaria probably since 1996. The EPPO Secretariat had previously no data on the occurrence of this pest in Bulgaria. **Present, no details**. Review of Agricultural Entomology 90(7), p 916 (6571).

#### • Detailed records

In Korea Republic, *Citrus tristeza closterovirus*, *Satsuma dwarf virus* and *Citrus tatter leaf capillovirus* (EPPO A2 quarantine pests) occur in citrus orchards in Cheju Island. Review of Plant Pathology, 81(6), p 765 (5534).

In Syria, *Ceratitis capitata* (EPPO A2 quarantine pest) is present all year-round in the coastal part of the country on many host plants, including *Pyrus syriaca* and *Ziziphus jujuba*. Review of Agricultural Entomology 90(6), p 701 (5156).

In Canada, *Diabrotica virgifera virgifera* (EPPO A2 quarantine pest) was found for the first time in Québec (region of Montregie) in September 2000. In addition, at Ottawa (Ontario), some insects were found developing from soybean plants. Review of Agricultural Entomology 89(11), p 1309 (9354).

*Didymella ligulicola* (EPPO A2 quarantine pest) was found in Tasmania, Australia, in *Pyrethrum* fields. Review of Plant Pathology, 81(6), p 803 (5795).

It is reported that benomyl resistance in *Elsinoe fawcettii* (EU Annexes) was observed for the first time in New Zealand citrus orchards in October 1999. This confirms earlier reports of *E. fawcettii* in New Zealand. Review of Plant Pathology, 81(6), p 842 (6069).

*Liriomyza trifolii* (EPPO A2 quarantine pest) occurs in West Bengal, India. Review of Agricultural Entomology 89(11), p 1336 (9543).



In Japan, *Rhynchophorus ferrugineus* (EPPO Alert List) was found in October 2000 on Nokonoshima Island, Fukuoka Prefecture (Kyushu), on *Phoenix canariensis*. Review of Agricultural Entomology 90(7), p 853 (6147).

In Chile, surveys were carried out from 1997 to 2000 in stone fruit nurseries in the central part of the country (Metropolitan, V and VI regions) for the incidence of viruses. In total, 13609 samples were collected and tested by ELISA. Virus incidence found was: 17.1% for *Prune dwarf ilarvirus*, 15.4 % for *Tomato ringspot nepovirus* (EPPO A2 quarantine pest), 9.7% for *Prunus necrotic ringspot ilarvirus*, and 4.2 % for *Plum pox potyvirus* (EPPO A2 quarantine pest). Review of Plant Pathology, 81(6), p 754 (5460).

#### • New host plants

*Strawberry latent ringspot virus* (EU Annexes) was detected in lily plants (*Lilium* cv. Stargazer). Review of Plant Pathology, 81(6), p 799 (5769).

Source: Review of Agricultural Entomology 89(11), November 2001. Review of Agricultural Entomology 90(6 & 7), June & July 2002. Review of Plant Pathology, 81(6), June 2002.

Additional key words: new records, detailed records,	Computer codes: BEMITA, CERTCA, CTLV00,
new host plants	CTV000, DIABVI, ELSIFA, LIRIHU, LIRITR,
	MYCOLG, PPV000, RHYCFE, SDV000, SLRSV0,
	ToMV00, AU, BE, BG, CA, CL, IN, JP, KR, NZ, SY

### 2002/108Present situation of Bactrocera zonata in the EPPO region and the<br/>Near East (EPPO Workshop on B. zonata)

*Bactrocera zonata* (Diptera: Tephritidae – EPPO A1 candidate quarantine pest) originates in South and South-East Asia where it attacks many fruit species (more than 50 host plants), including guavas, mangoes, peach, apricots, figs and citrus. It has spread to other parts of the world, in particular to several countries in the Near East and to Egypt. In recent years, *B. zonata* has become a widespread pest in Egypt (EPPO RS 99/060 and 2000/075), and in addition isolated individuals have been detected in Israel. It is considered that *B. zonata* threatens countries in the Near East and North Africa, and to a lesser extent in Southern Europe. International cooperation has been initiated by IAEA and FAO to eradicate *B. zonata* and prevent any further spread. On 2002-03-05, EPPO organized a workshop in Paris to review the current situation and decide on recommendations to be made to EPPO countries.



#### Algeria

The NPPO of Algeria intends to start a detection programme for *B. zonata*. This will be developed through FAO. The Algerian lists of quarantine pests are currently under revision and *B. zonata* will included in the revised A1 quarantine list.

#### Egypt

In 1924, B. zonata was declared present in Egypt based on a detection in an imported consignment in Port Said in 1912. For a long period, the pest was no longer mentioned. In the 1980s, an intensive Tephritid fruit fly survey was initiated by FAO, but B. zonata was not found. In 1998, B. zonata was identified for the first time on infested guavas collected in Agamy and Sabahia, near Alexandria. In 1999, the first traps were set up and showed high capture rates in Alexandria and Cairo. In October 2000, B. zonata was detected in North Sinai (District of El Arish). Monitoring was set up in the North Sinai Governorate and 45,000 lure and kill blocks were installed. At present, it is considered that B. zonata is present and widespread in Egypt, and the situation is as follows. *Mainland*: whole Nile Delta region, Nile Valley, and Kharga and Dakla oases. There are extremely high populations in Cairo (>30 flies per trap per h in downtown Cairo). Sinai peninsula: Ras El Sudr, El Tur and Nuweiba in South Sinai Governorate. Captures all along the North Sinai Governorate (130 km<sup>2</sup> of potential hosts) from El Qantara (NW) to Rafah (NE). High populations are found in gardens in El Arish. B. zonata is present on the Israel/TUJPA/Egypt border south of Rafah City. No efficient control action has yet been undertaken. Is was stressed that *B. zonata* is present even in very dry areas, where few host plants are present, and event on isolated trees. Furthermore, although B. zonata can be found in peach or mango orchards, larger populations are encountered in gardens where several different fruit trees grow in a relatively limited area. Though eradication appears difficult to achieve in the whole country, it might be feasible in the Sinai Peninsula.

#### Iran

During the Workshop, it was reported that *B. zonata* was recently recorded from Southern Iran.

#### Israel

*B. zonata* was found for the first time in November 2000 in Rafah, south of Gaza strip, where a single male was captured. Approximately 20 flies were collected south of the Gaza Strip in Kerem Shalom by the end 2001. More than 700 methyl eugenol-baited traps have been put in place and preventive operations are carried out every two weeks. All detected outbreaks have been eradicated to date.

#### Jordan

133 methyl eugenol-baited traps have been put in place, mainly in the Aqaba area and in the Jordan valley, but also in the highlands. Drastic phytosanitary measures have been taken to prevent introduction. Import and even transit of commodities from 13 countries infested or



with a high risk of infestation by *B. zonata* have been prohibited, including Egypt, Oman, Saudi Arabia, Palestine and Israel. Fruits carried by passengers are destroyed. Preventive treatments are not being applied. A Pest Risk Analysis has been conducted in Jordan and led to the conclusion that *B. zonata* has the characteristics of a quarantine pest. Legislation for internal phytosanitary measures is currently being formulated. So far, *B. zonata* has not been found.

#### Libya

The situation is not known, but no trapping has apparently been done.

#### **Territories Under the Jurisdiction of the Palestinian Authorities (TUJPA)**

Following reports of this pest in Egypt, a network of traps was set up in Gaza (80 traps along the border with Egypt and inside Gaza strip). TUJPA does not import any commodity from countries where the pest is present. Passengers are not allowed to enter the TUJPA with fruits. It should be noted that some highly exposed areas are out of reach for both the Palestinian and Israeli authorities (no man's land). *B. zonata* has not been found.

#### Sudan

No data available.

#### Tunisia

A trapping network using methyl eugenol traps will be put in place with the help of IAEA.

#### **Recommendations made by the Workshop**

Several recommendations were made by the workshop, including the following:

- *B. zonata* should be listed as an A1 quarantine pest and appropriate measures taken in consequence. As a first step, it is recommended that consignments of fruits from countries where *B. zonata* occurs should be free from the pest. Detailed phytosanitary measures are currently being developed.
- Data on identification of adults of *B. zonata* exists. This will be compiled in an EPPO diagnostic protocol.
- A Technical Cooperation Project is being developed in FAO, and countries at risk are invited to join this cooperative effort.
- IAEA has developed an action plan for *B. zonata*, which can be accessed on the EPPO web site.
- A strong public awareness campaign is needed: a special page on *B. zonata* is now available on the EPPO Web site (www.eppo.org).

#### Source: EPPO Workshop on *Bactrocera zonata*, Paris, UNESCO, 2002-03-05.

Additional key words: detailed records

**Computer codes:** DACUZO

#### <u>2002/109</u> First report of *Diabrotica virgifera virgifera* in Austria

The NPPO of Austria recently informed the EPPO Secretariat that *Diabrotica virgifera virgifera* (EPPO A2 quarantine pest) was caught for the first time in Austria, in the eastern Province of Burgenland. On 2002-07-10, 8 specimens of *D. virgifera virgifera* were caught in pheromone traps near the towns of Deutsch Jahrndorf and Andau (border with Hungary and Slovakia). Extensive additional monitoring measures are being implemented in Austria. The situation of *D. virgifera virgifera virgifera* in Austria can be described as follows: **Present, first specimen caught in July 2002 in Burgenland**.

Source: NPPO of Austria, 2002-07-11.

Additional key words: new record

Computer codes: DIABVI, AT

### 2002/110 First report of *Liriomyza trifolii*, *L. huidobrensis* and *L. sativae* in Jordan

A survey of agromyzid leaf miners and their parasitoids was conducted between July 1995 and September 1996, at different locations of Jordan, including Amman area, Madaba, Bagaa, Jerash, Mafraq, Modawara, Ghur Safi and Central Ghur. The following five species were found on vegetable, ornamental crops and weeds: *Chromatomyia horticola, Liriomyza huidobrensis, L. trifolii* (both EPPO A2 quarantine pests), *L. sativae* (EPPO A1 quarantine pest) and *Phytomyza petoei*. The most common species found was *L. huidobrensis*. This is the first report of *L. huidobrensis, L. trifolii* and *L. sativae* in Jordan. The presence of *L. sativae* has recently been found in Israel (EPPO RS 2001/118), and that it is present in Oman and Yemen. The situation of *L. huidobrensis, L. trifolii* and *L. sativae* in Jordan can be described as follows: **Present, no details**.

Source: Al-Ghabeish, I.; Allawi, T.F. (2001) Agromyzid leafminers and their parasitoids in Jordan.
 Dirasat. Agricultural Sciences, 28 (2/3), 172-177 (abstract).
 NPPO of Jordan, 2002-07.

Additional key words: new records

Computer codes: LIRIHU, LIRITR, LIRISA, JO

#### **2002/111** Findings of *Liriomyza huidobrensis* in Norway

The NPPO of Norway recently informed the EPPO Secretariat that *Liriomyza huidobrensis* (EPPO A2 quarantine pest) was detected in a nursery in south-eastern Norway (County of Østfold). This is the first infestation of *L. huidobrensis* in a Norwegian glasshouse in the last 7 years. Measures are being taken to eradicate the pest. Studies are also being done both to trace the source of this infestation, and to evaluate the possible dissemination to other nurseries via ornamental plant material. So far, *L. huidobrensis* has been detected in flower shops in the Oslo and Stavanger areas, and in several other counties. The situation of *L. huidobrensis* in Norway can be described as follows: **Present, found in a few glasshouses, under eradication.** 

#### Source: NPPO of Norway.

Norwegian Agricultural Inspection Service Web site. South American leaf miner has been detected at several locations in Norway. Press release of 2002/07/04, updated, 2002/07/10.

http://www.landbrukstilsynet.no/dokument\_eng.cfm?m\_id=163&d\_id=1330

Additional key words: detailed record

**Computer codes:** LIRIHU, NO

#### 2002/112 First report of Grapevine bois noir phytoplasma in Lebanon

In Lebanon, a survey was done in 2001 on the incidence of phytoplasma diseases. Samples were collected from plants with symptoms resembling those of phytoplasma infections, as well as from symptomless plants. Samples from *Lycopersicon esculentum, Capsicum annuum, Vitis vinifera, Catharanthus roseus* and *Lactuca serratia* were taken in the Bekaa Valley. Molecular assays (PCR, RFLP, sequencing) were used to detect and identify phytoplasmas. In grapevine, stolbur phytoplasma (causing bois noir) was identified. This is the first report of grapevine bois noir in Lebanon. In tomato and capsicum, restriction profiles and sequences studied were identical. Sequencing and phylogenetic analysis indicated the presence of a phytoplasma, distinct from stolbur, belonging to the clover proliferation cluster. Finally, a phytoplasma belonging to the pigeon pea witches' broom cluster was found in *Lactuca serratia*. The authors recalled that the recently found almond witches' broom phytoplasma (EPPO Alert List), associated with a lethal disease of almond, also belongs to this cluster.

Source: Choueiri, E.; Jreijiri, F.; El Zammar, S.; Verdin, E.; Salar, P.; Danet, J.L.; Bové, J.; Garnier, M. (2002) First report of grapevine 'Bois Noir' disease and a new phytoplasma infecting solanaceous plants in Lebanon.
 Plant Disease, 86(6), p 697.

Additional key words: new record

**Computer codes:** PHYP10, LB

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#### **<u>2002/113</u>** Details on the situation of coconut lethal yellowing in Central America

Honduras is currently facing a severe outbreak of coconut lethal yellowing (EPPO A1 quarantine pest). The disease was first found in 1996 on Islas de la Bahía, and then spread to the continental region towards the border with Guatemala. Mexico and Belize are also affected by the disease, whereas El Salvador, Costa Rica, Panama and several Caribbean islands are still free from it. The main control measure taken was to replant affected zones with resistant cultivars developed in Jamaica during the 1970s. However, outbreaks of the disease have recently been reported in Jamaica on these cultivars and studies are being done to understand this change. Studies are also carried out in Honduras on possible insect vectors. The presence of *Myndus crudus* (EU Annexes) was confirmed in Honduras (which is a new record), and it is suspected that another species *M. simplicatus* is also involved in disease transmission.

Source: Doyle, M.M.; Bustamante, M.; Aguilar, E.; Castillo, M. García, A.; Sabio, C. (2002) La epidemia del amarillamiento letal del cocotero: situación actual y retos futuros para Honduras y otros países en Centro América. Abstract of a paper presented at the APS Annual Meeting, Milwaukee, USA, 2001-07-27/31.
Phytopathology, 92(6), supplement, S127.

Additional key words: detailed record, new record

Computer codes: MYNDCR, PHYT56, HD

#### **<u>2002/114</u>** Lethal decline of *Phoenix canariensis* in Texas (US)

During 2001, a lethal decline of *Phoenix canariensis* was observed in the county of Nueces, Texas (US). Symptoms were characterized by adventitious roots, inflorescence necrosis, progressive browning and desiccation of younger leaves, and finally general decline of the tree. In infected plantings, not all palms were necessarily affected by the disease. These symptoms are very similar to those previously observed on P. canariensis and P. dactylifera in the Brownsville and Lower Rio Grande Valley in Southern Texas during the late 1970s. Supported by epidemiological observations (host range, scattered pattern of dissemination, rate of spread), the disease was considered at that time to be lethal yellowing. It can be recalled that lethal yellowing was observed on palm trees in Southern Florida and widespread at that period, although today this disease is no longer active. Studies were done to identify the causal agent of the current lethal decline of P. canariensis in Texas. Phytoplasmas belonging to the coconut lethal yellowing\* (16SrIV) group were found in diseased palms. These phytoplamas were distinct from the lethal yellowing agent described in Florida, but were most closely related to (if not identical) to the Carludovica palmata yellows agent, which is a phytoplasma described from declining C. palmata trees (Cyclanthaceae) in Yucatan, Mexico.

Source: Harrison, N.A.; Womack, M.; Carpio, M.L. (2002) Detection and characterization of a lethal yellowing (16SrIV) group phytoplasma in Canary island date palms affected by lethal decline in Texas.
 Phytopathology, 86(6), 676-681.

Additional key words: aetiology

**Computer codes:** PHYP56, US

<sup>\*</sup>Coconut lethal yellowing phytoplasma is listed as an EPPO A1 quarantine pest.

### <u>2002/115</u> Further details on an earlier finding of *Ralstonia solanacearum* on *Pelargonium* in Pennsylvania (US)

In EPPO RS 2001/124, the presence of *Ralstonia solanacearum* (EPPO A2 quarantine pest) on *Pelargonium* was reported in Pennsylvania (US) without further details. It is now known that *Pelargonium* plants infected by *R. solanacearum* biovar 2, race 3 were found in 3 glasshouses in 1999 and in 2 glasshouses in 2000. The infected *Pelargonium* cultivars originated from propagators in Guatemala or Mexico.

Source: Kim, S.H.; Olson, T.N.; Schaad, W. (2002) *Ralstonia solanacearum* biovar 2 race 3 in geraniums imported from Guatemala to Pennsylvania in 1999. Abstract of a paper presented at the APS Annual Meeting, Milwaukee, USA, 2001-07-27/31.

Phytopathology, 92(6), supplement, S127.

Additional key words: detailed record

Computer codes: PSDMSO, US

### 2002/116Findings of Cacopsylla fulguralis in France and United Kingdom:<br/>addition to the EPPO Alert List

In November 1999, a new pest *Cacopsylla fulguralis* (Homoptera, Psyllidae) was found in France on *Elaeagnus* x *ebbingei*. It was first found in two nurseries near Saint-Pol-de-Leon in Bretagne, and then in several other regions (Pays de Loire, Centre, Ile de France, Haute Normandie and also in Montpellier). In United Kingdom, it was first found in England at a nursery in the north-west in November 2000 on plants imported from France, but could not be identified at that time due to the absence of adults. Between March and June 2002, it was found in private gardens in Leigh-on-Sea (Essex), Selsey and Brighton (West Sussex) and Cobham and Woking (Surrey). *C. fulguralis* was also found in Liverpool (Merseyside) and at a nursery in Hampshire. In each case, large infestations were damaging *Elaeagnus* plants. In March 2002, high populations of *C. fulguralis* were reported in Guernsey causing serious economic damage to *Eleagnus* x *ebbingei* hedges. The origin of this outbreak is unknown, but it is suspected that the pest has been present in UK since 1999. The NPPO of UK suggested that *C. fulguralis* could be added to the EPPO Alert List.



Cacopsylla fulguralis (Homoptera, Psyllidae) – Elaeagnus sucker Why Due to the recent introduction of Cacopsylla fulguralis in France, Guernsey and United Kingdom and the damage it causes to *Elaeagnus* plants, the NPPO of UK suggested that C. fulguralis could be added to the EPPO Alert List Where Recently introduced into Europe, in France, Guernsey and United Kingdom (England). C. fulguralis originates from Asia. It occurs in: China, Korea Republic, Philippines, Taiwan. On which plants Its host range seems to be limited to ornamental Elaeagnus: E. cuprea, E. x ebbingei, E. glabra, E. macrophylla, E. oldhamii, E. pungens. It does not develop on E. angustifolia, or E. multiflora. Damage Adults and nymphs of C. fulguralis feed on plant sap and produce copious amounts of honeydew on which sooty mould develops. They usually feed on the underside of leaves. High infestations of C. fulguralis lead to chlorosis, leaf drop and die back. Nursery plants can be severely disfigured and unmarketable. No data is available on the possible transmission of viruses by C. fulguralis. Adults are 2.0-2.5 mm long (resembling C. *pyricola*) with membranous wings and strong hind legs adapted for jumping. Nymphs are cream-yellow with dark brown transverse markings. Dissemination C. fulguralis can spread naturally (adults can fly). Over long distances, infested Elaeagnus plants can disseminate the pest. Pathway Plants for planting of *Elaeagnus* from countries where *C. fulguralis* occurs. Possible risks Ornamental *Elaeagnus* species are widely planted in Europe in amenity parks and private gardens (in particular in coastal areas due to its tolerance to salt), and the production of these plants is increasing. Damage is reported in areas where it has been introduced. In particular, nurseries producing *Elaeagnus* could be at risk. More data is needed on biology of the pest, possible virus transmission, and potential control methods. Source(s) Cocquempot, C.; Germain, J.F. (2002) Un nouveau ravageur de l'Elaeagnus x ebbingei en France : Cacopsylla fulguralis. PHM Revue Horticole, no. 416, 32-34. Malumphy, C.; MacLeod, A.; Matthews, L. (2002) Plant Pest Notice no. 32, CSL, UK, 3 pp. INTERNET Site de la Bibliothèque du SRPV Centre. Cacopsylla fulguralis. http://www.srpv-centre.com EPPO RS 2002/116 Panel review date Entry date 2002-07

#### **<u>2002/117</u>** Introductions of eucalyptus psyllids

In Australia, a relatively large number of psyllid species (more than a hundred species) attack eucalyptus trees. With the trade of eucalyptus plant material, several psyllids have been introduced into other parts of the world. The EPPO Secretariat has extracted the following examples:

#### Ctenarytaina eucalypti (Homoptera, Psyllidae) - blue gum psyllid

It originates from south-east Australia and has spread to New Zealand, Sri Lanka, South Africa, Papua New Guinea. In Europe, it was reported in United Kingdom in 1922. It was then introduced into the Mediterranean region, mainly on *Eucalyptus globulus*: in Portugal in 1971 (mainland, and then in Madeira and the Azores), Spain in 1972 (mainland and then in Islas Canarias), Italy in 1982, France in 1994 (although it was probably present much earlier, there is an unconfirmed record in northern France in 1926). It was also reported from Ireland (1979) and Germany (1998). In the Americas, its presence was recorded in California (US) in 1991, and later in several South American countries including Brazil, Bolivia, Colombia,



Chile, Peru and Uruguay. *C. eucalypti* feeds on growing shoots of young succulent plants or on the new growth of older trees. It attacks a limited range of eucalyptus species, including in particular *E. globulus, E. gunnii, E. neglecta, E. nitens, E. perriniana* and *E. pulverulenta*. Direct effects of psyllid feeding include severe shoot dieback, leaf curl and discoloration. Insects produce large amounts of honeydew on which sooty mould develops. On eucalyptus produced for ornamental foliage, quality is drastically reduced. However, the release of a parasitoid *Psyllaephagus pilosus* (Hymenoptera, Encyrtidae) has given good results in several countries, and apparently maintains pest populations at acceptable levels.

#### *Glycaspis brimblecombei* (Homoptera, Psyllidae) – red gum lerp psyllid

Another Australian eucalyptus psyllid, *Glycaspis brimblecombei*, has recently been introduced into North America (see EPPO RS 2002/019), and is apparently causing serious problems, as severe defoliations leading to tree death are reported. *G. brimblecombei* was first discovered in June 1998, in California (US), in Los Angeles county, on *Eucalyptus camaldulensis*. The pest rapidly spread to almost all counties in California. In April 2001, it was found for the first time in Florida at Lake Buena Vista. Its presence was also reported in Hawaii in 2001. In September 2000, *G. brimblecombei* was observed in Baja California, Mexico. It now occurs in 21 states of Mexico. Work is currently done on the use of biological control, using a parasitoid *Psyllaephagus bliteus* (Hymenoptera, Encyrtidae).

### *Eucalyptolyma maideni* (spotted gum lerp psyllid) and *Cryptoneossa triangula* (lemon gum psyllid)

In August 2000, an unusual lerp psyllid was collected from *Eucalyptus citriodora* in Los Angeles, California (US). The species was identified as *Eucalyptolyma maideni* which is a pest of *E. citriodora, E. gummifera* and *E. maculata* in Australia. Since then, it was also discovered near Anaheim (at Disney Resort) and heavy infestations have been reported from many locations within Los Angeles and Orange county. So far, it appears that no tree mortality has been observed. Another species *Cryptoneossa triangula* has also been detected on *E. maculata* in California in the surroundings of Anaheim (also at Disney Resort). Biological control possibilities are currently being studied for these two species.

Source: Ctenarytaina eucalypti

- Bertaux, F., Phalip, M.; Martinez, M.; Schumacher, J.C. (1996) Le psylle de l'eucalyptus. Nouveau ravageur des eucalyptus en France. Phytoma – La Défense des Végétaux, n° 487, 48-50.
- Malausa, J.C.; Girardet, N. (1997) Lutte biologique contre le psylle de l'eucalyptus. Acclimatation sur la Côte d'Azur d'un auxiliaire prometteur, *Psyllaephagus pilosus*. Phytoma – La Défense des Végétaux, n° 498, 49-51.
- Hodkinson, I.D. (1999) Biocontrol of eucalyptus psyllid *Ctenarytaina eucalypti* by the Australian parasitoid *Psyllaephagus pilosus*: a review of current programmes and their success. Biocontrol News and Information, 20(4), 129-134.

Chauzat, M.P.; Purvis, G.; Dunne, R. (2001) A foreigner in Ireland. Biologist, 48(3), 133-135. INTERNET

IITO Newsletter. Tree Health: the Bolivia experience by E.R. Boa and J. Bentley. http://www.itto.or.jp/newsletter/v8n1/16.html



- Servicio de information agropecuaria del Ministerio de Agricultura y ganaderia del Ecuador. Nueva plaga de los eucaliptos (en Chile). http://www.sica.gov.ec/agronegocios/Biblioteca/Ing%20Rizzo/forestacion/insecto\_devorado r.htm
- Universidad de Concepcion (Chile) *Ctenarytaina eucalypti* (Maskell, 1890): el psilido del eucalipto en Chile (Hemiptera: Sternorryncha: Psylloidea: Spondyliaspininae) by T.S. Olivares. http://www.udec.cl/entomologia/Psyllidae.html

#### Glycaspis brimblecombei

#### INTERNET

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- Gobierno del Distrito Federal Mexico. Secretaria del Medio Ambiente. Control de la plaga que afecta a el eucalipto. http://www.sma.df.gob.mx/varios/plaga.htm
- State of Hawaii Department of Agriculture. New Pest Advisory no. 01-02. Red gum lerp psyllid, *Glycaspis brimblecombei* Moore (Homoptera: Psyllidae) by W.T. Nagamine & R.A. Heu, July 2001. http://www.hawaiiag.org/hdoa/npa/npa01-02\_rpsyllid.pdf

#### Eucalyptolyma maideni and Cryptoneossa triangula INTERNET

- Berkeley University. Biological control of psyllids on lemon-scented and spotted gum in California by D.L. Dahlsten, (2001, modified 2002).
  - $http://www.cnr.berkeley.edu/biocon/dahlsten/lemon\_gum/$
- Los Angeles County Agricultural Commissioner's Office New Agricultural Pest for Southern California Spotted Gum Lerp Psyllid, *Eucalyptolyma maideni*.
  - http://acwm.co.la.ca.us/pdf/SpoGum.pdf

#### 2002/118 *Glycaspis brimblecombei*: addition to the EPPO Alert List

Considering the importance of eucalyptus-growing in the EPPO region for forestry, paper industry or ornamental purposes, the EPPO Secretariat decided to add the damaging *G*. *brimblecombei* to the EPPO Alert List (see article above), bearing in mind that probably other psyllid species may also present a risk which however still needs to be assessed.

Glycaspis brimblecombei (Homoptera, Psyllidae) - red gum lerp psyllid

Orycuspis or interes	comoer (Homoptera, Estimate) - rea gam terp psyma
Why	<i>Glycaspis brimblecombei</i> came to our attention because it was recently introduced from Australia into North America where it causes severe defoliation and some tree mortality. In addition, there are several examples of past or recent introductions of other eucalyptus psyllids, demonstrating that these insects are likely to be easily moved with eucalyptus plant material.
Where	<i>G. brimblecombei</i> originates from Australia (Queensland, New South Wales, Northern Territory, South Australia). Recently introduced into North America: USA (California in 1998, Florida in 2001, Hawaii in 2001), Mexico (first found in 2000 in Baja California, spread very rapidly and now present in 21 states).
On which plants	Eucalyptus species. Mainly <i>E. camaldulensis</i> , but also other species including: <i>E. rudis</i> , <i>E. globulus</i> , <i>E. diversicolor</i> , <i>E. sideroxylon</i> , <i>E. nicholii</i> , <i>E. lehmannii</i> (in California); and also <i>E. blakelyi</i> , <i>E. nitens</i> , <i>E. tereticornis</i> , <i>E. dealbata</i> , <i>E. bridgesiana</i> . <i>E. brassiana</i> , <i>E. mannifera</i> (in Australia).



Damage	Adults and nymphs feed on sap, they produce large amounts of honeydew on which sooty mould develops. Nymphs construct individual white waxy covers (called lerp) of conical shape. Infested leaves are covered with these waxy secretions, honeydew and sooty mould. Adults (3 mm long, pale green with areas of orange and yellow) tend to live and hide on the underside of the leaves. In Australia, 2 to 4 generations per year are observed. High populations result in withering of leaves, severe defoliation, dieback and eventually tree death (more data would be needed on the extent of tree death)
Dissemination	Adults can fly: over long distances, eucalyptus plant material can disseminate the pest.
Pathway	Plants for planting, cut foliage of eucalyptus from countries where <i>G. brimblecombei</i> occurs.
Possible risks	Eucalyptus are grown in the EPPO region for forestry, amenity, paper industry and ornamental purposes. <i>G. brimblecombei</i> causes problems in areas where it has been introduced (severe defoliation and even tree mortality are reported), and once introduced it can apparently spread very rapidly. Biological control with parasitoids ( <i>Psyllaephagus bliteus</i> ) seems promising, but needs to be further studied. More data is needed on the
	biology of the pest, its potential of establishment in Europe and economic impact.
Source(s)	INTERNET CSIRO – Systematic names. http://www.ento.csiro.au/aicn/systematic/c_1378.html DOACS – Florida. Pest Alert. Red gum lerp psyllid, Glycaspis brimblecombei by S.E. Halbert. http://doacs.state.fl.us/~pi/enpp/ento/glycaspis.html Gobierno del Distrito Federal Mexico. Secretaria del Medio Ambiente. Control de la plaga que afecta a el eucalipto. http://www.sma.df.gob.mx/varios/plaga.htm NAPIS. http://www.ceris.purdue.edu/napis/states/ca/imap/redgum.html
	State of Hawaii Department of Agriculture. New Pest Advisory no. 01-02. Red gum lerp psyllid, Glycaspis brimblecombei Moore (Homoptera: Psyllidae) by W.T. Nagamine & R.A. Heu, July 2001. http://www.hawaiiag.org/hdoa/npa/npa01-02_rpsyllid.pdf
	University of California Riverside – Red gum lerp psyllid
	Waynes' word. A newsletter of natural history trivia. The red gum lerp. A tiny insect that attacks Eucalyptus. http://waynesword.palomar.edu/rgumlerp.htm
EPPO RS 2002/117, 200	)2/118
Panel review date	- Entry date 2002-07

#### **2002/119** Preliminary data on invasive plant species in France

The French Ministry of Environment (Ministère de l'Aménagement du Territoire et de l'Environnement) gives some information on research programmes carried on 'biological invasions'. Among them, the following exotic plant species are mentioned:

- *Senecio inaequidens*: introduced in the 1930s from South Africa, causes problems in particular in the south of France.

- *Carpobrotus edulis* and *C. affine acinaciformis:* introduced from South Africa about 150 ago, they now cause problems in the Mediterranean coastal region, including Corse.

Note: Interestingly, those two species are also mentioned as invasive species in Cataluña, in Spain. *S. inaequidens* is causing problems in the Pyrenees, from Port Bou to Andorra. *C. edulis* is invasive in the Parque Natural de Cabo de Creus and Islas Medas.

In addition, in wetlands, invasions by the exotic aquatic plants *Ludwigia grandiflora* and *L. peploides* are reported in France. These species were unintentionally introduced from South America into the south of France in the 1820-30s. They remained there for a long period, but during the last 30 years they started to invade new areas toward the west and north. Today they have reached the Belgian border, and are also reported from the Netherlands. They rapidly invade waterways and humid areas, reducing biodiversity, blocking waterways, modifying water characteristics etc.

Source: Anonymous (2001) Balance fitosanitario de los cultivos de España durante 2000. Phytoma España, no 127, 18-46.

#### INTERNET

- Agence Méditerranéenne de l'Environnement. Les jussies : des plantes envahissantes dans les zones humides littorales méditerranéennes. http://www.ame-lr.org/publications/espaces/jussies/jussies01.html.
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- Invasion des jussies Lettre de Sea River, Septembre 2001. http://www.se-river-news.com/19\_6.htm
- Ministère de l'Aménagement du Territoire et de l'Environnement. Information sur les recherches financées dans le cadre du programme 'invasions biologiques' http://www.environnement.gouv.fr/dossiers/rechercheprospective/010919-infoprogrammes-invasions-biologiques.htm

Additional key words: invasive alien species

**Computer codes**: ES, FR



#### **<u>2002/120</u>** Invasive alien plants in United Kingdom

In United Kingdom, two web sites (parts are still under construction) give preliminary but useful information on invasive alien plant species which have already been introduced or which are perceived as potential threats. The Secretariat has added notes based on various British publications.

#### Invasive non-native terrestrial plant species

Acaena novae-zelandiae \*\* (Rosaceae) naturalized and increasing Acer pseudoplatanus \*\* (Aceraceae) long naturalized

Aegopodium podagraria \* (Apiaceae) abundantly naturalized (old medicinal introduction)

Aster novae-angliae \* (Asteraceae) naturalized

Aster novi belgii \* (Asteraceae) naturalized

Brassica rapa (Brassicaceae) escape from cultivation

Buddleja davidii \*\* (Buddlejaceae) naturalized and increasing

*Calystegia silvatica* \* (Convolvulaceae) widely naturalized, also hybridizes with *C. sepium Carpobrotus edulis* \*\* (Aizoaceae) widely naturalized on cliffs in South

- *Crocosmia* x *crocosmiiflora* \*\* (Iridaceae) naturalized, especially in south (cultivated plant) *Fuchsia magellanica* \* (Onagraceae) naturalized
- Gaultheria shallon \*\* (Ericaceae) introduced as food for pheasants; locally abundant, naturalized

*Gunnera tinctoria* \* (Gunneraceae) widely naturalized (but spreading mainly in Channel Islands; incidentally, also in Ireland)

Heracleum mantegazzianum \*\*\* (Apiaceae) naturalized and increasing

Hippophae rhamnoides \*\* (Elaeagnaceae) native; also widely planted and spreading

*Hyacinthoides hispanica* \*\* (Liliaceae) naturalized at scattered localities; hybridizes with *H. non-scripta* 

*Impatiens glandulifera* \*\*\* (Balsaminaceae) naturalized and increasing on river banks in Centre and North

*Lupinus arboreus* \*\* (Fabaceae) escape from cultivation, planted to stabilize sand. Increasing in South and East

Matricaria discoidea (Asteraceae) widespread weed (rather than invasive)

Matteuccia struthiopteris (Woodsiaceae) occasionally naturalized in Scotland and North

Petasites fragrans \* (Asteraceae) naturalized on waste ground

Prunus laurocerasus \* (Rosaceae) widely planted, sometimes naturalized

- Quercus cerris \* (Fagaceae) widely planted, often naturalized
- *Quercus ilex* \*\* (Fagaceae) well naturalized and locally becoming a threat to native vegetation
- Reynoutria japonica \*\*\* (Polygonaceae) abundantly naturalized and increasing

Reynoutria sachalinensis \*\* (Polygonaceae) locally naturalized, increasing



*Rhododendron luteum* \* (Ericaceae) garden escape, locally naturalized in Buckinghamshire, increasing

*Rhododendron ponticum* \*\*\* (Ericaceae) major threat to native vegetation

Senecio squalidus (Asteraceae) abundantly naturalized on waste ground (especially along railways)

Symphoricarpos albus \* (Caprifoliaceae) locally naturalized

#### Invasive non-native aquatic plant species

Azolla filiculoides (Azollaceae) widely naturalized in South, but populations oscillable
Crassula helmsii (Crassulaceae) increasing rapidly and a threat to native vegetation
Eichhornia crassipes (Pontederiaceae) casual only
Elodea nuttalii (Hydrocharitaceae) widely naturalized, increasing and replacing the earlier invasive *E. canadensis*Hydrocotyle ranunculoides (Apiaceae) locally naturalized
Lagarosiphon major (Hydrocharitaceae) scattered, naturalized
Lemna minuta (Lemnaceae) widely naturalized and increasing rapidly
Myriophyllum aquaticum (Haloragaceae) locally naturalized, increasing

#### Invasive aquatic plant species absent in UK

Ludwigia grandiflora (Onagraceae) Salvinia molesta (Salviniaceae) Trapa natans (Trapaceae)

\*\*\* Species considered as major problems

\*\* Species considered as local or potential problems

\* Species considered as potential problems

established: likely to remain

naturalized: established in native vegetation, appears native

Source: Environment Agency (UK) - http://www.invasiveweeds.co.uk Invasive Alien species project http://www.appliedvegetationdynamics.co.uk/IAAPwebsite/IASspecies.html

> Clement, E.J.; Foster, M.C. (1994) Alien plants of the British Isles, BSBI. Stace, C. (1997) New flora of the British Isles (2<sup>nd</sup> edition), Cambridge University Press.

Additional key words: invasive alien species

Computer codes: UK

### <u>2002/121</u> EPPO report on notifications of non-compliance (detection of regulated pests)

The EPPO Secretariat has gathered the notifications of non-compliance (as they are now called by FAO ISPM no. 13) for 2002 received since the previous report (EPPO RS 2002/070) from the following countries: Algeria, Austria, Cyprus, Denmark, France, Finland, Germany, Guernsey, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Slovenia, Sweden, Switzerland, United Kingdom. When a consignment has been re-exported and the country of origin is unknown, the re-exporting country is indicated in brackets. When the occurrence of a pest in a given country is not known to the EPPO Secretariat, this is indicated by an asterisk (\*).

The EPPO Secretariat has selected notifications of non-compliance made because of the detection of regulated 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.

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Ambrosia	Glycine max	Stored products	Germany	Poland	1
	Helianthus annuus	Stored products	Hungary	Poland	1
	Panicum milliaceum	Stored products	Ukraine	Poland	1
	Zea mays	Stored products	Hungary	Poland	12
	Zea mays	Stored products	Slovakia	Poland	4
Ambrosia artemisiifolia	Helianthus annuus	Stored products	Ukraine	Lithuania	2
-	Zea mays	Stored products	Ukraine	Lithuania	4
Aphelenchoides besseyi	Oryza sativa	Seeds	Italy	France	2
Aspidiotus destructor	Areca	Plants for planting	Netherlands	United Kingdom	1
Bemisia tabaci	Alocasia macrorrhiza	Plants for planting	South Africa	United Kingdom	1
	Asarum splendens	Cuttings	USA	United Kingdom	1
	Crossandra	Plants for planting	Netherlands	United Kingdom	1
	Dipladenia	Plants for planting	Israel	Portugal	1
	Dipladenia,	Plants for planting	Israel	Portugal	1
	Mandevilla, Cinnamomum camphora			Ū.	
	Euphorbia pulcherrima	Cuttings	Kenya	United Kingdom	6
	Gerbera jamesonii	Cut flowers	Italy	Malta	1
	Hibiscus	Plants for planting	Netherlands	Guernsey	2
	Hibiscus	Pot plants	Netherlands	Lithuania	1
	Hibiscus	Plants for planting	Netherlands	United Kingdom	3
	Mandevilla	Cuttings	Israel	Netherlands	1
	Solidago	Cut flowers	United Arab Emirates	France	1
	Solidago hybrida	Cut flowers	Israel	United Kingdom	1
	Solidago hybrida	Cut flowers	Spain	United Kingdom	1
Botrytis	Ornamentals	Plants for planting	Netherlands	Cyprus	1



Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Brachycaudus helichrysi, Nauphoeta cinerea, Formicidae, Braconidae, Diaspididae	Yucca, Dasylirion, Beaucarnea, Agave	Plants for planting	USA	France	1
Ciborinia camelliae	Camellia japonica	Plants for planting	France	United Kingdom	1
Clavibacter michiganensis subsp. sepedonicus	Solanum tuberosum	Ware potatoes	Poland	Latvia	1
Ditylenchus	Ornamentals	Pot plants	Netherlands	Lithuania	1
Frankliniella occidentalis	Alstroemeria Dendranthema Dendranthema, Helianthus, Aster, Gypsophila Dianthus caryophyllus Dianthus, Alstroemeria Dianthus, Gypsophila Dianthus, Helianthus Gerbera jamesonii Gypsophila Gypsophila, Alstroemeria, Dianthus, Rosa Helianthus annuus Helianthus, Gypsophila Rosa Rosa, Dianthus Ornamentals	Cut flowers Cut flowers	Netherlands Netherlands Netherlands Netherlands Netherlands Italy Netherlands Italy Netherlands Netherlands Netherlands Netherlands Netherlands Netherlands Netherlands Netherlands Netherlands Netherlands	Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania Lithuania	3 1 1 1 1 1 1 1 1 2 1 6 1 13 1 1
Fusarium sp. <sup>1</sup>	Begonia elatior Begonia elatior	Plants for planting Plants for planting	Brazil Denmark	United Kingdom United Kingdom	1 1
Globodera pallida	Solanum tuberosum Solanum tuberosum	Ware potatoes Ware potatoes	Italy Spain	Slovenia United Kingdom	1 1
Globodera rostochiensis, G. pallida	Solanum tuberosum	Ware potatoes	Cyprus	Sweden	1
Helicoverpa (suspect armigera)	Pelargonium	Plants for planting	Spain (Canary isl.)	United Kingdom	2
Helicoverpa armigera	Dianthus Dianthus Phaseolus vulgaris Phaseolus vulgaris Phaseolus vulgaris Pisum sativum Pisum sativum Pisum sativum	Cut flowers Cut flowers Vegetables Vegetables Vegetables Vegetables Vegetables Vegetables	Israel Spain Egypt Kenya Senegal Guatemala Kenya Kenya	Netherlands United Kingdom Netherlands Netherlands Netherlands Netherlands Netherlands Netherlands	2 1 3 1 1 1 3

<sup>&</sup>lt;sup>1</sup> The species found was declared consistent with *Fusarium foetens* a newly described species. The EPPO Secretariat will try to obtain more data on this new Fusarium species.



Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Helicoverpa armigera,	Pisum sativum	Vegetables	Zambia	Netherlands	1
Helicoverpa zea	Pisum sativum	Vegetables	Guatemala	Netherlands	1
Leptinotarsa decemlineata	Solanum tuberosum	Ware potatoes	Spain	United Kingdom	1
Liriomyza	Amaranthus caudatus	Vegetables	Gambia	United Kingdom	1
	Dendranthema	Cut flowers	Netherlands	Malta	1
	Dianthus caryophyllus	Cut flowers	Italy	Malta	1
	Gypsophila	Cut flowers	Israel	United Kingdom	1
	Gypsophila	Cut flowers	Spain	United Kingdom	1
	Gypsophila paniculata	Cut flowers	Ecuador	United Kingdom	1
	Gypsophila paniculata	Cut flowers	Israel	United Kingdom	1
	Ocimum basilicum	Vegetables	Thailand	Denmark	1
	Ocimum basilicum	Vegetables	Thailand	Sweden	2
	Trigonella	Vegetables	Cyprus	United Kingdom	1
	Nasturtium officinale	Vegetables	USA	United Kingdom	1
Liriomyza bryoniae	Dianthus barbatus	Cut flowers	Italy	Guernsey	1
Liriomvza huidobrensis	Bupleurum	Cut flowers	Kenva*	United Kingdom	1
	Bupleurum griffithii	Cut flowers	Israel	United Kingdom	1
	Centaurea	Cut flowers	Italy	United Kingdom	1
	Dahlia	Plants for planting	Netherlands	United Kingdom	1
	Dianthus	Cut flowers	Turkey	Netherlands	1
	Gynsonhila	Cut flowers	Israel	Germany	1
	Pisum sativum	Vegetables	Kenya*	Netherlands	2
Liriomyza huidobrensis, L. bryoniae	Cucumis sativus	Plants for planting	Netherlands	United Kingdom	1
Liniomura tuifolii	Cunsonhila	Diants for planting	Natharlanda	Lithuania	1
Lutomyza trijotti	Gypsophila paniculata	Cut flowers	Italy	United Kingdom	1
Liriomvza trifolii. Liriomvza	Echinacea	Cuttings	Netherlands	United Kingdom	1
		C		C	
Megastigmus	Rosa canina, Sambucus nigra, Calendula officinalis	Stored products	Moldova	Poland	1
Meloidogyne chitwoodi	Liriope muscari	Plants for planting	USA	Germany	1
Opogona sacchari	Cycas media	Plants for planting	Netherlands	Germany	1
Phoma exigua var. foveata	Solanum tuberosum Solanum tuberosum	Ware potatoes Seed potatoes	Denmark Netherlands	Lithuania Lithuania	1 1
Phytophthora ramorum	Rhododendron	Plants for planting	Netherlands	Sweden	
-	Rhododendron	Plants for planting	Netherlands	United Kingdom	1
	Rhododendron ponticum,	Plants for planting	Netherlands	United Kingdom	1
	viournum aavidii Rhododendron x roseum elegans	Plants for planting	Netherlands	United Kingdom	1



Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
P. ramorum (cont)	Rhododendron cv Tarantella, R x roseum elegans	Plants for planting	Netherlands	United Kingdom	1
	Viburnum bodnantense Viburnum davidii, Rhododendron	Plants for planting Plants for planting	Netherlands Netherlands	United Kingdom United Kingdom	1 1
	Viburnum tinus Viburnum tinus	Plants for planting Cut flowers	Netherlands Netherlands	United Kingdom United Kingdom	1 1
Potato spindle tuber viroid	Lycopersicon esculentum	Seeds	India	Austria	1
Pratylenchus vulnus, P. penetrans	Phormium	Plants for planting	New Zealand	United Kingdom	1
Pratylenchus, Globodera	Astelia nervosa	Plants for planting	New Zealand	United Kingdom	1
Pseudomonas savastanoi pv. nerii	Nerium oleander	Plants for planting	Italy	United Kingdom	1
Puccinia horiana	Dendranthema	Cut flowers	Italy	Malta	1
Ralstonia solanacearum	Solanum tuberosum Solanum tuberosum	Ware potatoes Ware potatoes	Egypt Egypt	Germany Italy	2 1
Rhizopertha dominica	Hordeum vulgare Triticum aestivum Triticum aestivum	Stored products Stored products Stored products	Slovakia Czech Republic Slovakia	Poland Poland Poland	1 1 6
Rhizopertha dominica, Cryptolestes ferrugineus	Triticum aestivum	Stored products	Czech Republic	Poland	1
Selanaspidus articulatus	Areca	Plants for planting	Netherlands	United Kingdom	1
Sitophilus oryzae	Secale cereale Triticum aestivum Zea mays	Stored products Stored products Stored products	Czech Republic Slovakia Hungary	Poland Poland Poland	1 1 1
Sitophilus oryzae, Rhizopertha dominica	Helianthus annuus, Pisum sativum	Stored products	Slovakia	Poland	1
Sitophilus oryzae, Rhizopertha dominica	Hordeum vulgare Triticum aestivum	Stored products Stored products	Austria Slovakia	Poland Poland	1 1
Sitophilus oryzae, Sitophilus zeamais	Hordeum vulgare	Stored products	Czech Republic	Poland	1
Sitophilus oryzae, Tribolium	Triticum aestivum	Stored products	Slovakia	Poland	1
Sitophilus zeamais	Hordeum vulgare	Stored products	Czech Republic	Poland	1
Spodoptera	Dianthus caryophyllus	Cut flowers	Morocco	Germany	1
Stephanitis takeyai	Pieris japonica	Plants for planting	Netherlands	United Kingdom	1
Thrips	Dendrobium	Cut flowers	Thailand	Italy	1



Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Thrips palmi	Dendrobium Momordica charantia Momordica, Solanum melongena	Cut flowers Vegetables Vegetables	Thailand Dominican Rep. Dominican Rep.	Netherlands United Kingdom United Kingdom	1 1 1
Tomato spotted wilt tospovirus	Coreopsis	Plants for planting	Netherlands	Norway	2
Tribolium	Helianthus annuus Hordeum vulgare Hordeum vulgare Secale cereale Triticum aestivum Triticum aestivum Zea mays Zea mays	Stored products Stored products Stored products Stored products Stored products Stored products Stored products Stored products	Hungary Czech Republic Slovakia Czech Republic Czech Republic Slovakia Hungary Slovakia	Poland Poland Poland Poland Poland Poland Poland Poland	1 3 3 1 2 1 2
Tribolium, Rhizopertha dominica	Triticum aestivum	Stored products	Slovakia	Poland	1
Trogoderma granarium	Oryza sativa Secale cereale	Stored products Stored products	Czech Republic Slovakia	Poland Poland	1 1
Xanthomonas vesicatoria	Lycopersicon esculentum	Seeds	China	Italy	1

#### • Fruit flies

Pest	Consignment	Country of origin	C. of destination	nb
Ceratitis	Mangifera indica	Cote d'Ivoire	France	5
Non-European Tephritidae	Citrus sinensis	Argentina	Netherlands	1
	Diospyros kaki	Brazil	Netherlands	1
	Eugenia aquea	Malaysia	Netherlands	1
	Mangifera indica	Cameroon	France	1
	Mangifera indica	Costa Rica	Netherlands	1
	Mangifera indica	Nicaragua	Netherlands	1
	Mangifera indica	Peru	Netherlands	1

#### • Wood

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Grub holes > 3 mm	Hardwood	Packing material	China	Finland	1
	Hardwood	Packing material	China	Germany	2
	Quercus alba	Sawn wood	USA	Germany	1
	Unspecified	Packing material	China	Denmark	2
	Unspecified	Packing material	China	Finland	1
	Unspecified	Packing material	China	Ireland	4
	Unspecified	Packing material	Japan	Germany	1
	Unspecified	Packing material	UŜA	Denmark	1
	Unspecified	Packing material	USA	Germany	2
Living larvae	Pinus taeda	Wood and bark	USA	Germany	1



#### • Bonsais

Pest	Consignment	Country of origin	Country of destination	nb
Oligonychus perditus	Juniperus chinensis	Japan	Netherlands	1
Tinocallis takachihoensis	Ulmus parvifolia	China	Netherlands	1
	Otmus parvijotta	China	United Kingdom	1
Xiphinema americanum	Taxus cuspidata	Japan	Netherlands	2

Source: EPPO Secretariat, 2002-07.