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CONTENTS

- [2003/099](#) - New data on quarantine pests and pests of the EPPO Alert List
- [2003/100](#) - *Potato spindle tuber pospiviroid* found in tomatoes in United Kingdom
- [2003/101](#) - *Cactoblastis cactorum*: addition to the EPPO Alert List
- [2003/102](#) - Symposium on *Anoplophora glabripennis* (Braunschweig, DE, 2002-05-22/23)
- [2003/103](#) - Pest Risk Analysis for *Anoplophora glabripennis*
- [2003/104](#) - *Anoplophora glabripennis* found in New Jersey (US)
- [2003/105](#) - *Phyllonorycter issikii* occurs in Czech Republic
- [2003/106](#) - European tomato isolates belong to a distinct strain of *Pepino mosaic potexvirus*
- [2003/107](#) - Detection method for *Pepino mosaic potexvirus*
- [2003/108](#) - Details on the situation of tomato yellow leaf curl disease in Italy
- [2003/109](#) - New disease of tomato in Israel caused by a strain of *Tomato apical stunt pospiviroid*: addition to the EPPO Alert List
- [2003/110](#) - Genetic studies on *Xanthomonas arboricola* pv. *fragariae*
- [2003/111](#) - Efficacy of seed dressings against *Tilletia indica*
- [2003/112](#) - EPPO report on notifications of non-compliance (detection of regulated pests)



EPPO *Reporting Service*

2003/099 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**

Specimens of *Globodera rostochiensis* (EPPO A2 list) were found in potato roots at Jadognja (Krupanj) and Ponikve (Užice), in soil samples at Aljinovići (Prijepolje) and in storehouse potato debris at Kušići. This is considered as the first record of *G. rostochiensis* in Serbia and Montenegro (Krnjaić *et al.*, 2002). **Present, first reported in 2002 in the west part of the country.**

In India, *Heterodera glycines* (EPPO A2 list, also on the EPPO Alert List) was identified on soil samples collected from soybean fields in Ujjain, Madhya Pradesh. This is the first report of *H. glycines* in India (Kaushal *et al.*, 2002). **Present, first reported in 2002 in Madhya Pradesh.**

Meloidogyne fallax (EPPO A2 list) is reported for the first time in South Africa (Fourie *et al.*, 2001). This confirms earlier reports. **Present, no details.**

Radopholus similis occurs on banana in Burkina Faso (Sawadogo *et al.*, 2001). **Present, no details.**

In 2003, a breeding company submitted samples of tomato originating from Indonesia for diagnosis. Diseased samples had been collected both from field and protected crops, and showed severe chlorosis. RT-PCR revealed the presence of *Tomato infections chlorosis crinivirus* (EPPO Alert List). This is the first report of this virus in Indonesia (Verhoeven *et al.*, 2003). **Present, no details.**

- **Detailed records**

In Finland, *Impatiens necrotic spot tospovirus* (EPPO A2 list) was found in June 2003 in *Begonia* pot plants. Eradication measures (destruction of plants and appropriate treatment) have been taken (NPPO of FI, 2003).

In Argentina, *Nacobbus aberrans* (EPPO A1 list) was found in Río Negro and Santa Fe provinces for the first time (Chaves & Torres, 2001).



EPPO Reporting Service

Studies were done in 2001 on the incidence of *Tomato yellow leaf curl begomovirus* (TYLCV) and *Tomato yellow leaf curl Sardinia begomovirus* (TYLCV-Sar – both on the EPPO A2 list) in tomato crops in Comunidad Valenciana, Spain. TYLCV was found in all tomato-growing areas whereas TYLCV-Sar was only detected in 2 plants near Elche, in the south of Comunidad Valenciana (Rubio *et al.*, 2002).

- Source:** Chaves, E.; Torres, M.S. (2001) [Potato parasitic nematodes in the seed potato producing areas of Argentina.] **Revista de la Facultad de Agronomía (Universidad de Buenos Aires)**, **21(3)**, 245-259. In: Nematological Abstracts 72(1), March 2003, abst. 85, p 12.
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- Kaushal, K.K.; Tiwari, S.P.; Uma Rao (2002) *Heterodera glycines* in India – first report. **Annals of Plant Protection Sciences**, **10(2)**, p 410. In: Nematological Abstracts 72(1), March 2003, abst. 497, p 73.
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- Sawadogo, A.; Thio, B.; Konate, Y.R.; Kiemde, S. (2001) Parasite nematodes of banana in western Burkina Faso. **Infomusa**, **10(2)**, 28-29. In: Nematological Abstracts 71(4), December 2002, abst. 1560, p 226.
- Verhoeven, J.T.J.; Willemsen, T.M.; Roenhorst, J.W.; van der Vlugt, R.A.A. (2003) First report of *Tomato infectious chlorosis virus* in tomato in Indonesia. **Plant Disease**, **87(7)**, p 872.

NPPO of Finland, 2003-07-07.

Additional key words: new record, detailed record

Computer codes: HETDGL, HETDRO, INSV00, MELGFA, NACOB, RADOSI, TICV00, TYLCV0, AR, BF, ES, FI, ID, IN, YU, ZA



EPPO Reporting Service

2003/100 Potato spindle tuber pospiviroid found in tomatoes in United Kingdom

The NPPO of United Kingdom informed the EPPO Secretariat that an outbreak of *Potato spindle tuber pospiviroid* (EPPO A2 list) was very recently discovered in United Kingdom. It was found in a tomato production glasshouse in the south-east of England. Investigations are under way to ascertain its extent and the possible pathway for the introduction of the pathogen. Phytosanitary measures are also being designed to prevent any further spread of the pest and possibly eradicate it. More information will be provided in due course.

Source: **NPPO of United Kingdom, 2003-07-11.**

Additional key words: new record

Computer codes: PSTVD0, GB

2003/101 Cactoblastis cactorum: addition to the EPPO Alert List

The EPPO Panel on Phytosanitary Measures added the cactus moth (*Cactoblastis cactorum*) which attacks *Opuntia* species to the EPPO Alert List.

Cactoblastis cactorum (Lepidoptera: Pyralidae – cactus moth)

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| Why | <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae, synonym: <i>Zophodia cactorum</i>) originates from South America. So far, it has essentially been known for its use in successful biological control of invasive cacti. It was introduced from Argentina into Australia in the 1920s where it drastically reduced introduced <i>Opuntia</i> populations, so that large areas of land could be returned to agriculture. The same efficacy was obtained in Hawaii, India and South Africa. But <i>C. cactorum</i> also spread to other parts of the world, in particular south-western USA, where it became a pest, threatening indigenous and rare species of <i>Opuntia</i> . In Mexico where <i>Opuntia</i> are important plants, used for fruit production, fodder, scale rearing (<i>Dactylopius coccus</i>) for dye production, traditional medicine etc., <i>C. cactorum</i> is perceived as a very serious threat and measures are taken to prevent its introduction. |
| Where | North America: USA (Florida (found in 1989), Georgia, Hawaii, South Carolina). In Mexico, there are unconfirmed records in Yucatan, but recent surveys gave negative results. Caribbean: Antigua & Barbuda (Antigua), Bahamas, Cayman islands (Grand Cayman), Cuba, Haiti, Jamaica, Dominican Republic, St Kitts & Navis, Montserrat, Puerto Rico, Trinidad, US Virgin Islands. South America: Argentina, Brazil (southern part), Paraguay, Uruguay. Oceania: Australia (New South Wales, Queensland), New Caledonia Africa: Mauritius, Saint-Helena (Ascension Island), South Africa, Tanzania. Introduced in Kenya for biological control in 1996 but establishment failed. Asia: India, Pakistan (introduced but establishment is uncertain). |
| On which plants | <i>Opuntia</i> spp., not found on other genera of Cactaceae. In its area of origin, <i>C. cactorum</i> has been recorded feeding on almost all of the many <i>Opuntia</i> species belonging to the platyopuntia group (prickly pears). Following its introduction to other parts of the world, <i>C. cactorum</i> readily attacked other species (including <i>O. ficus-indica</i>). |



EPPO Reporting Service

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| Damage | <p>Females lay eggs in linear masses (forming an 'egg-stick' resembling cactus spines). Larvae collectively burrow and enter <i>Opuntia</i> cladodes (or pads) through a single entry hole and feed gregariously inside them. During feeding, frass is pushed out of the cladode and forms a noticeable heap on the ground. Larval feeding can also lead to decay and rotting. High populations can kill the plants. Larvae are initially pinkish-cream coloured with dark red spots on the back of each segment. Later instars become bright orange, and dots expand and coalesce to become a dark band across each segment (mature larvae are approximately 25-30 mm long). Larvae then normally pupate in white cocoons amongst ground debris. Adults (wingspan about 22-35 mm) have greyish-brown forewings and white hindwings with some grey terminally. In Australia, there are two generations per year.</p> <p>Pictures can be viewed on Internet: http://www-staff.mcs.uts.edu.au/~don/larvae/pyra/cactor.html</p> |
| Dissemination | <p>Adult can fly. Over long distances, trade of infested <i>Opuntia</i> plants and transport on vehicles (adult moths are attracted by light) can ensure dissemination of the pest. It is suspected that it was introduced into Florida on imported nursery plants from Dominican Republic.</p> |
| Pathway | <p><i>Opuntia</i> plants for planting from countries where <i>C. cactorum</i> occurs. It has been intercepted in USA on commercial imports of vegetative material for propagation.</p> |
| Possible risks | <p>Around the Mediterranean Basin, <i>O. ficus-indica</i> is widely present and used for fruit production or animal feed during dry periods. It is usually not cultivated as a regular commercial crop but planted as fences, windbreaks and round gardens. However, there are significant plantations in Italy, Spain and Israel for fruit production. If <i>Opuntia</i> spp. are regarded as invasive species, <i>C. cactorum</i> is indeed an efficient biocontrol agent, but if <i>Opuntia</i> spp. are considered as important crops or parts of the natural flora (protection against soil erosion, shelter for wildlife in arid regions etc.), <i>C. cactorum</i> may present a serious threat to Mediterranean countries. Data is lacking on establishment potential, but experience has shown that <i>C. cactorum</i> succeeded in most areas where it was introduced. So far, no efficient control methods are available.</p> |
| Source(s) | <p>Hernandez, L.R.; Emmel, T.C. (1993) <i>Cactoblastis cactorum</i> in Cuba (Lepidoptera: Pyralidae: Phycitinae). Tropical Lepidoptera, 4(1), 45-46 (abst).</p> <p>Johnson, D.M.; Stiling, P.D. (1996) Host specificity of <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae), an exotic <i>Opuntia</i>-feeding moth, in Florida. Environmental Entomology, 25(4), 743-748.</p> <p>Mahr, D.L. (2001) <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae) in North America: a workshop of assessment and planning. Florida Entomologist, 84(4), 465-473.</p> <p>Mayra Perez-Sandi, C. (2001) Addressing the threat of <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae), to <i>Opuntia</i> in Mexico. Florida Entomologist, 84(4), 499-502.</p> <p>Zhang, B.-C. (1994) Index of economically important Lepidoptera. CABI, Wallingford, UK, 599 pp.</p> <p>Zimmermann, H.G.; Moran, V.C.; Hoffmann, J.H. (2001) The renowned cactus moth, <i>Cactoblastis cactorum</i> (Lepidoptera: Pyralidae): its natural history and threat to native <i>Opuntia</i> floras in Mexico and the United States of America. Florida Entomologist, 84(4), 543-551.</p> <p>INTERNET</p> <p>CSIRO web site – Systematic names: <i>Cactoblastis cactorum</i> (Berg). http://www.ento.csiro.au/aicn/system/c_2755.htm</p> <p>NAPPO Pest Alert. <i>Cactoblastis cactorum</i> (Berg) 1885. Cactus moth threatens Mexico and the American Southwest. http://www.pestalert.org</p> <p>The Nature Conservancy. Wildland Invasive Species Team. Invasives Alert ! <i>Cactoblastis cactorum</i> (Cactus moth). http://tncweeds.ucdavis.edu/alert/alrtcact.html</p> <p>Tous, J. and L. Ferguson. 1996. Mediterranean fruits. p. 416-430. In: J. Janick (ed.), Progress in new crops. ASHS Press, Arlington, VA. http://www.hort.purdue.edu/newcrop/proceedings1996/V3-416.html</p> <p>University of Florida. Featured Creatures – Cactus moth. http://creatures.ifas.ufl.edu/bfly/cactus_moth.htm</p> |



EPPO *Reporting Service*

2003/102 Symposium on *Anoplophora glabripennis* (Braunschweig, DE, 2002-05-22/23)

A Symposium on *Anoplophora glabripennis* (EPPO A1 list) took place in Braunschweig, Germany on 2002-05-22/23. Several papers were presented and gave an overview of the situation of *A. glabripennis* in China, its area of origin, and in countries where it has been introduced, USA and Austria. Diagnosis, PRA, potential damage to European trees, and possible control of the pest were discussed. Experts agreed that the introduction of *A. glabripennis* is a serious threat to deciduous host trees in Europe, and that monitoring activities and phytosanitary measures should be tightened. The following details have been extracted by the EPPO Secretariat.

Situation in China

In China, poplar plantations cover a very large area (approximately 6.6 million ha), and *A. glabripennis* is one of the most destructive insects. *A. glabripennis* is reported mainly from Shaanxi, Gansu, Shanxi, Ningxia, Inner Mongolia, Hebei, Shandong and Liaoning, and occasionally from some parts of Beijing, Tianjin and Qinghai (new detailed records for these 3 municipalities and provinces). Since the 1980s, serious damage by *A. glabripennis* is reported in northern areas of China, corresponding to what is called 'Three-North shelter forest'. This forest covers 42.4% of the Chinese territory and 20 million hectares have been planted mainly with susceptible poplars and willows. Most of this artificial forest has been devastated by *A. glabripennis*, because in many instances a very limited number of susceptible poplar clones was planted over large areas. More recently, *A. glabripennis* has established in Western Gansu, Qinghai and even Heilongjiang. Most severe damage is observed in Shaanxi, Gansu, Shanxi, Ningxia and inner Mongolia. Measures are taken in China to control this pest (monitoring, trapping, insecticide treatments, biological control, plantation of less susceptible trees, restrictions on the movement of wood, etc.).

Situation in Austria

A. glabripennis was first found in Austria in summer 2001, in the city of Braunau-am-Inn, on *Acer* species, mainly *A. platanoides* (see EPPO RS 2001/135). Most infested trees were growing along a small street, but 2 infested trees were also detected in a small forest (less than 1 km away from the street concerned). Eradication measures were immediately applied. As of July 2002, results of the monitoring programme carried out in the city and its surrounding showed that 9 additional trees were found infested by *A. glabripennis*, including for the first time *Platanus hispanica*. Eradication and monitoring activities are continuing.

Situation in USA

A. glabripennis was first reported in 1996 in the New York city borough of Brooklyn. Another focus was reported in the city of Chicago, Illinois, two years later. It is felt that both populations were introduced separately on wood packing material from Asia, perhaps 10



EPPO *Reporting Service*

years before being detected. Eradication programmes are being carried out, and include survey, control, regulatory efforts, public education, tree restoration and research. So far over 5,500 trees have been removed in New York and over 1,500 trees in Illinois. Surrounding trees are treated by insecticide injections (mainly with imidacloprid), and in 2002 more than 130,000 trees in New York and more than 50,000 trees in Illinois were treated. Quarantine areas have been delimited in New York (312 km²) and in Illinois (80 km²). Since 1999, numbers of infested trees found and removed have been declining in both New York and Illinois, as a result of the considerable efforts being made to prevent any further spread of *A. glabripennis* and achieve eradication.

Source: Symposium in der BBA: Der Asiatische Laubholzbockkäfer – ein Risiko für den Baumbestand.
Nachrichtenblatt des Deutschen Pflanzenschutzdienstes, 55(4), 65-98.

Additional key words: detailed records

Computer codes: ANOLGL, AT, CN, US

2003/103 Pest Risk Analysis for *Anoplophora glabripennis*

A Pest Risk Analysis for *Anoplophora glabripennis* (Coleoptera: Cerambycidae – EPPO A1 list) has been published by MacLeod *et al.* (2002). This PRA followed the EPPO PRA scheme, and climatic data was compared with the computer programme CLIMEX. The PRA was carried out following the establishment of *A. glabripennis* in USA (and just before its introduction into Europe), in order to assess the risks for the EU countries. In this PRA, it appeared that host plants are widely grown across Europe, and CLIMEX data indicated that southern regions of Europe were most suitable for pest establishment. The main conclusion was that there was a significant risk that *A. glabripennis* could enter, establish and damage forest, fruit and amenity trees within Europe. Finally, this information was used to support the inclusion of *A. glabripennis* within the EU regulations on Plant Health.

Source: MacLeod, A.; Evans, H.F.; Baker, R.H.A. (2002) An analysis of pest risk from an Asian longhorn beetle (*Anoplophora glabripennis*) to hardwood trees in the European community.
Crop Protection, 21(8), 635-645.

Additional key words: PRA

Computer codes: ANOLGL



EPPO *Reporting Service*

2003/104 *Anoplophora glabripennis* found in New Jersey (US)

In October 2002, *Anoplophora glabripennis* (Coleoptera: Cerambycidae - EPPO A1 list) was reported in New Jersey City (New Jersey, US). The beetle was detected in 98 trees, mostly *Acer*. This is a new state record but probably not a separate introduction, as it is only a few kilometres away from the original discovery in Brooklyn, New York. Eradication measures (destruction of trees) are being applied.

Source: NAPIS web site
Tree-munching Asia beetles are discovered in Jersey City by the New York Times
<http://ceris.purdue.edu/napis/states/nj/news/021012-alb.txt>

New Jersey Department of Environment Protection – Division of parks and forestry.
Asian longhorned beetle (*Anoplophora glabripennis*).
<http://www.nj.gov/parksandforests/forest/community.alb.html>

NAPPO Pest Alert, 2002-11-19.
Asian longhorned beetle *Anoplophora glabripennis* reported in New Jersey.
<http://www.pestalert.org>

Additional key words: detailed record

Computer codes: ANOLGL, US

2003/105 *Phyllonorycter issikii* occurs in Czech Republic

Phyllonorycter issikii, a leaf miner of *Tilia* (Lepidoptera: Gracillariidae – EPPO Alert List), was first found in Czech Republic in early June 2000 in the region of Brno, and then in the same year in a series of other places. In 2001, it was already found in places up to 600 m altitude, in locally high abundance. It is apparently spread by wind, and less probably by passive anthropogenic transport of adults. *P. issikii* prefers shaded areas. According to the author, it is unlikely that lime trees will suffer substantial damage.

Source: Šefrová, H. (2002) [*Phyllonorycter issikii* – the latest information on a new member of our fauna.]
Abstract of a paper presented at a Conference on Zoology, Brno, CZ, 2002-01-14/15.

Additional key words: new record

Computer codes: PRYGSP, CZ



EPPO *Reporting Service*

2003/106 European tomato isolates belong to a distinct strain of *Pepino mosaic potexvirus*

In 1999, a new virus disease of tomato was found in protected tomato crops in the Netherlands, and then in other European countries. Preliminary studies revealed the presence of *Pepino mosaic potexvirus* (PepMV - EPPO Alert List), a virus which was originally described from pepino (*Solanum muricatum*) in Peru (found in 2 tomato crops in 1974 and then no longer observed). The virus was purified and an antiserum was produced which gave strong reactions with the isolates from tomato and the type isolate from pepino. Various diagnostic tests indicated that PepMV is indeed different from all other potexviruses which have so far been reported from solanaceous crops (i.e. *Potato aucuba mosaic virus* and *Potato virus X*). Several isolates of PepMV were studied: the type isolate from pepino in Peru, 3 from tomato collected in the Netherlands, Germany and United Kingdom. Serological tests (IEM, DAS-ELISA) could not differentiate between them. Host range and symptomatological studies (mechanical inoculation) showed that PepMV isolates from tomato differed from the pepino isolate. Molecular studies confirmed these differences. It is concluded that indeed *Pepino mosaic potexvirus* is the causal agent of the new disease observed in tomatoes in Europe, and that European tomato isolates differ from the type strain found on pepino. Therefore, the name tomato strain is proposed.

Source: Van der Vlugt, R.A.A.; Cuperus, C.; Vink, J.; Stijger, I.C.M.M.; Lesemann, D.E.; Verhoeven, J.T.J.; Roenhorst, J.W. (2002) Identification and characterization of *Pepino mosaic potexvirus* in tomato.
Bulletin OEPP/EPPO Bulletin, 32(3), 503-508.

Additional key words: diagnosis, genetics

Computer codes: PEPMV0



EPPO *Reporting Service*

2003/107 Detection method for *Pepino mosaic potexvirus*

A molecular method (IC-RT-PCR) has been developed in Spain for the detection of *Pepino mosaic potexvirus* (EPPO Alert List), at a time when no data was available on its genome sequence and when no commercial antibodies were available. At first, degenerate primers for potexviruses were used, as well as antibodies against double-stranded RNA in the initial amplifications. During the work, fragments of the virus genome were sequenced and specific primers could be designed. In addition, specific antibodies became commercially available in 2000 and could be used. The method which was finally developed allowed rapid and specific detection of *Pepino mosaic potexvirus* in plant samples.

Source: Mansilla, C.; Sánchez, F.; Ponz, F. (2003) The diagnosis of the tomato variant of pepino mosaic virus: an IC-RT-PCR approach.
European Journal of Plant Pathology, **109(2)**, 139-146.

Additional key words: diagnostics

Computer codes: PEPMV0

2003/108 Details on the situation of tomato yellow leaf curl disease in Italy

Since the late 1980s, tomato crops in Sicily and Sardinia have been severely affected by yellow leaf curl disease. Molecular studies have identified the causal agent as being *Tomato yellow leaf curl Sardinia virus* (TYLCSV, formerly TYLCV-Sar - EPPO A2 list). It can be recalled that another viral species which was originally described in Israel as TYLCV-Is is now called simply *Tomato yellow leaf curl begomovirus* (TYLCV - EPPO A2 list).

Surveys have been conducted in the main tomato production areas of Sicilia, in Ragusa Province, to determine whether viral species other than TYLCSV were present. Until the end of 2001 only TYLCSV was identified. In 2002, symptomatic leaf samples were collected in April, September and November from 8 glasshouse tomato crops, in different areas of Ragusa Province and tested by PCR. Of the 49 tested samples, 16 gave positive results for TYLCSV, 7 for TYLCV and 26 showed mixed infections. According to the authors, this is the first report of TYLCV in Italy.

Source: Accotto, G.P.; Bragaloni, M.; Luison, D.; Davino, S.; Davino, M. (2003) First report of *Tomato yellow leaf curl virus* (TYLCV) in Italy.
New Disease Reports, Volume 7: February 2003 - July 2003.
<http://www.bspp.org.uk/ndr/july2003/2003-26.htm>

Additional key words: detailed record

Computer codes: TYLCV0, IT



EPPO Reporting Service

2003/109 New disease of tomato in Israel caused by a strain of *Tomato apical stunt pospiviroid*: addition to the EPPO Alert List

In spring and summer 1999 and 2000, tomato plants showing stunting, leaf deformation, yellowing and brittleness were observed in a few commercial plastic houses at different locations in the coastal region of Israel. Fruits were considerably reduced in size with a pale red discoloration. In all cases, the disease spread rapidly mainly along plant rows, resulting in a disease incidence of nearly 100% and heavy yield losses. Molecular assays revealed the presence of *Tomato apical stunt pospiviroid* (TASVd) in diseased tomato plants.

TASVd was first found and characterized in Ivory Coast, but no data was given on its epidemiology or economic impact. Another strain was found in Indonesia but again without data on potential economic impact. Cloning and sequencing of viroid RNA showed that the Israeli strain has 92% identity with the type strain (Ivory Coast) and 99% with the Indonesian strain. The experimental host range and symptomatology of the Israeli strain also differed from those of the type strain. Under experimental conditions, the Israeli strain of TASVd was readily transmitted from infected to healthy tomato plants by grafting or mechanical inoculation. Further studies are needed on possible pollen or seed transmission.

Tomato apical stunt pospiviroid (a new disease of tomato)

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| Why | <i>Tomato apical stunt pospiviroid</i> (TASVd) came to our attention because it is reported as a new and serious disease of tomatoes in Israel. |
| Where | Israel (found on tomatoes grown under plastic houses in the coastal region). TASVd was first described in Ivory Coast and another strain was reported from Indonesia. However, data is lacking on the extent, severity and economic impact of the diseases it may cause. |
| On which plants | Tomato (<i>Lycopersicon esculentum</i>). Data is lacking on its host range. |
| Damage | Affected tomato plants in Israel showed shortened internodes (bushy appearance), leaf deformation and yellowing, reduced fruit size, pale red discoloration of fruit. Up to 100% disease incidence could be observed with heavy yield losses. |
| Transmission | TASVd can be transmitted from infected to healthy tomato plants by grafting or mechanical inoculation (in experimental conditions). No data on pollen or seed transmission. |
| Pathway | Plants for planting of tomatoes, fruits?, from countries where TASVd occurs. |
| Possible risks | Tomato is an important crop in the EPPO region, both indoors and outdoors. Data is lacking on geographical distribution, host range, epidemiology of TASVd. As control of viroids is difficult in practice, it would be desirable to avoid any further spread of a potentially serious disease of tomatoes. |
| Source(s) | Antignus, Y.; Lachman, O.; Pearlsmand, M.; Gofman, R.; Bar-Joseph, M. (2002) A new disease of greenhouse tomatoes in Israel caused by a distinct strain to Tomato apical stunt viroid (TASVd). <i>Phytoparasitica</i> , 30(5), 502-510. |

EPPO RS 2003/109

Panel review date

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Entry date 2003-07



EPPO Reporting Service

2003/110 Genetic studies on *Xanthomonas arboricola* pv. *fragariae*

Genetic relationships were studied among 26 strains of *Xanthomonas arboricola* pv. *fragariae* (EPPO Alert List) and with other pathovars of *Xanthomonas arboricola* (20 strains of *X. arboricola* pv. *corylina*, 22 strains of *X. arboricola* pv. *juglandis*, 16 strains of *X. arboricola* pv. *pruni*). Results showed that the 4 pathovars had similar but clearly distinct genomic patterns and could be clustered in 4 different groups. *X. arboricola* pv. *fragariae* was most closely related to *X. arboricola* pv. *corylina* and *X. arboricola* pv. *juglandis*. Genetic diversity was also observed among the strains of *X. arboricola* pv. *fragariae* collected in Italy. It is noted that symptoms of leaf blight caused by *X. arboricola* pv. *fragariae* mainly occur in field grown-strawberries during autumn when air humidity is high. It is pointed out that *X. arboricola* pv. *fragariae* and *X. fragariae* (EPPO A2 list) can be present simultaneously, and that non-pathogenic xanthomonads are also frequently isolated from strawberry leaves. It is felt that an update on detection techniques for pathogenic xanthomonads in strawberry propagation material is needed.

Source: Scortichini, M.; Rossi, M.P. (2003) Genetic diversity of *Xanthomonas arboricola* pv. *fragariae* strains and comparison with some other *X. arboricola* pathovars using repetitive PCR genomic fingerprinting.
Journal of Phytopathology, 151(3), 113-119.

Additional key words: genetics

Computer codes: XANTSP

2003/111 Efficacy of seed dressings against *Tilletia indica*

The efficacy of several fungicides applied as seed dressings against *Tilletia indica* (EPPO A1 list) was evaluated in the laboratory. The effects of fungicides on teliospore germination were studied. Results showed that triazoles fungicides (i.e. tebuconazole, thifluzamide, propiconazole) were more effective than carboxin and thiram. A reduction of teliospore germination between 89-100% could be obtained. These results are promising but need to be further investigated in field conditions.

Source: Singh, R.; Beniwal, M.S.; Karwasra, S.S. (2002) Evaluation of fungicides as seed dressings against Karnal bunt (*Neovossia indica*) of wheat.
Tests of agrochemicals and cultivars, no. 23, 6-7.

Additional key words: control

Computer codes: NEOVIN



EPPO Reporting Service

2003/112 EPPO report on notifications of non-compliance (detection of regulated pests)

The EPPO Secretariat has gathered the notifications of non-compliance for 2003 received since the previous report (EPPO RS 2003/082) from the following countries: Algeria, Austria, Denmark, France, Finland, Germany, Hungary, Ireland, Italy, Lithuania, Malta, Netherlands, Norway, Poland, 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 |
|--------------------------------|-----------------------------------------------------------|--------------------------|--------------------------|--------------------------|-----------|
| <i>Agromyzidae</i> | <i>Artemisia dracunculus</i> | Cut flowers | Israel | France | 1 |
| | <i>Lisianthus</i> | Cut flowers | South Africa | France | 1 |
| <i>Ambrosia</i> | <i>Zea mays</i> | Stored products | Hungary | Poland | 1 |
| | <i>Zea mays</i> | Stored products | Slovakia | Poland | 1 |
| | <i>Zea mays</i> | Stored products | Slovakia | Poland | 1 |
| <i>Ambrosia artemisiifolia</i> | <i>Helianthus annuus</i> | Stored products | Ukraine | Lithuania | 15 |
| <i>Ambrosia, Tribolium</i> | <i>Helianthus annuus</i> | Stored products | Hungary | Poland | 1 |
| <i>Anarsia lineatella</i> | <i>Prunus armeniaca</i> | Fruits | Turkey | Poland | 1 |
| <i>Aphididae</i> | <i>Protea</i> | Cut flowers | South Africa | France | 1 |
| <i>Bemisia afer, B. tabaci</i> | <i>Manihot</i> | Vegetables | Gambia | United Kingdom | 1 |
| <i>Bemisia tabaci</i> | <i>Allamanda cathartica</i> | Plants for planting | Morocco | United Kingdom | 1 |
| | <i>Catalpa bignonioides,</i> <i>Coprosma repens</i> | Plants for planting | Morocco | United Kingdom | 1 |
| | <i>Crossandra</i> | Cuttings | Sri Lanka | Netherlands | 1 |
| | <i>Eryngium</i> | Vegetables | Vietnam | France | 1 |
| | <i>Eryngium foetidum</i> | Vegetables | Thailand | Denmark | 1 |
| | <i>Euphorbia pulcherrima</i> | Cuttings | Costa Rica | Netherlands | 1 |
| | <i>Euphorbia pulcherrima</i> | Cuttings | Portugal | United Kingdom | 2 |
| | <i>Hibiscus</i> | Plants for planting | Belgium | Finland | 1 |
| | <i>Hibiscus</i> | Plants for planting | Côte d'Ivoire | France | 1 |
| | <i>Hibiscus</i> | Plants for planting | Guatemala | France | 1 |
| | <i>Hibiscus</i> | Pot plants | Netherlands | United Kingdom | 1 |
| | <i>Hibiscus acetosella, Ruellia</i> <i>brittoniana</i> | Plants for planting | USA | Netherlands | 1 |
| | <i>Hibiscus rosa-sinensis</i> | Plants for planting | Netherlands | Finland | 1 |



EPPO Reporting Service

| Pest | Consignment | Type of commodity | Country of origin | C. of destination | nb |
|------------------------------------------------------------------------------|----------------------------------|---------------------------------|---------------------|-------------------|----------------|
| <i>B. tabaci</i> (cont.) | <i>Hibiscus rosa-sinensis</i> | Pot plants | Netherlands | United Kingdom | 1 |
| | <i>Hygrophila salicifolia</i> | Aquarium plants | Indonesia | France | 1 |
| | <i>Hypericum</i> | Cut flowers | Netherlands | Ireland | 1 |
| | <i>Hypericum</i> | Cut flowers | Zimbabwe | Netherlands | 2 |
| | <i>Limnophila</i> | Cut flowers | Thailand | France | 1 |
| | <i>Limnophila</i> | Cut flowers | Vietnam | France | 1 |
| | <i>Lisianthus</i> | Cut flowers | Israel | Netherlands | 1 |
| | <i>Lisianthus</i> | Cut flowers | Kenya | Netherlands | 1 |
| | <i>Manihot</i> | Vegetables | Gambia | United Kingdom | 2 |
| | <i>Bemisia tabaci</i> | <i>Beaumontia grandiflora</i> , | Plants for planting | Morocco | United Kingdom |
| | <i>Plumeria</i> | | | | |
| | <i>Ocimum</i> | Vegetables | Thailand | France | 1 |
| | <i>Ocimum basilicum</i> | Vegetables | Israel | France | 1 |
| | <i>Origanum</i> | Vegetables | Israel | France | 1 |
| | <i>Rosa</i> | Cut flowers | Brazil | Netherlands | 1 |
| | <i>Rosa and mixed herbs</i> | Cut flowers | Kenya | United Kingdom | 1 |
| | <i>Solanum</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| | <i>Solanum macrocarpon</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| | <i>Solidago</i> | Cut flowers | Israel | Netherlands | 7 |
| | <i>Solidago</i> | Cut flowers | Zimbabwe | Netherlands | 7 |
| | <i>Trachelium</i> | Cut flowers | Israel | Netherlands | 4 |
| <i>Bemisia tabaci</i> and many other pests¹ | <i>Psidium</i> | Pot plants | Jamaica | United Kingdom | 1 |
| <i>Bemisia tabaci</i>, <i>B. afer</i>, <i>Aleurodicus dispersus</i> | <i>Manihot esculenta</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| <i>Bemisia tabaci</i>, <i>Ferrisia virgata</i>, <i>Pseudococcidae</i> | <i>Sarcocaulon crassicaule</i> | Pot plants | South Africa | United Kingdom | 1 |
| <i>Bemisia tabaci</i>, <i>Noctuidae</i> | <i>Solanum</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| <i>Cicadellidae</i> | <i>Pelargonium crithmifolium</i> | Pot plants | South Africa | United Kingdom | 1 |
| <i>Citrus tristeza closterovirus</i> | <i>Citrus</i> | Plants for planting | Italy | Malta | 1 |
| <i>Contarinia maculipennis</i> | <i>Dendrobium</i> | Cut flowers | Thailand | Netherlands | 1 |
| <i>Dialeuropora decempuncta</i> | <i>Piper sarmentosum</i> | Plants for planting | Singapore | United Kingdom | 1 |
| <i>Diaphorina citri</i> | <i>Murraya</i> | Fruits | Dominican Rep.* | United Kingdom | 1 |
| <i>Diaspididae</i> | <i>Argyroderma fissum</i> | Pot plants | South Africa | United Kingdom | 1 |
| <i>Diaspididae</i>, <i>Aleyrodidae</i> | <i>Phyllostachys</i> | Plants for planting | Italy | United Kingdom | 1 |
| <i>Ditylenchus destructor</i> | <i>Polygonum cuspidatum</i> | Plants for planting | Czech Republic | France | 1 |
| <i>Erwinia amylovora</i> | <i>Malus domestica</i> | Plants for planting | Syria* | Algeria | 1 |

¹ *Aleurothrix floccosus*, *Aspidiotus destructor*, *Coccus longulus*, *Coccus viridis*, *Diptilomiopus*, *Lepidosaphes rubrovittatus*, *Minutaleyrodes*, *Oligonychus*, *Parabemisia myricae*, *Parasaissetia nigra*, *Pulvinaria urbicola*, *Selenothrips rubrocinctus*, *Trialeurodes floridensis*, *Tetraleyrodes*.



EPPO Reporting Service

| Pest | Consignment | Type of commodity | Country of origin | C. of destination | nb |
|-----------------------------------------------------|-------------------------------------------|---------------------|---------------------|-------------------|---------|
| <i>Frankliniella occidentalis</i> | <i>Asclepias</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Aster</i> | Cut flowers | South Africa | France | 1 |
| | <i>Dendranthema</i> | Cut flowers | Netherlands | Lithuania | 3 |
| | <i>Dianthus</i> | Cut flowers | Netherlands | Lithuania | 5 |
| | <i>Dianthus, Rosa</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Dianthus, Rosa, Gypsophila</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Gypsophila</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Gypsophila, Dendranthema, Dianthus</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Helianthus</i> | Cut flowers | Netherlands | Lithuania | 3 |
| | <i>Ornamentals</i> | Cut flowers | Netherlands | Poland | 2 |
| | <i>Rosa</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Satica</i> | Cut flowers | Netherlands | Lithuania | 1 |
| | <i>Fusarium foetens</i> | <i>Begonia</i> | Plants for planting | Netherlands | Germany |
| <i>Globodera</i> | <i>Solanum tuberosum</i> | Ware potatoes | Cyprus | Germany | 1 |
| <i>Globodera pallida</i> | <i>Solanum tuberosum</i> | Ware potatoes | Cyprus | Germany | 2 |
| | <i>Solanum tuberosum</i> | Ware potatoes | United Kingdom | Hungary | 2 |
| <i>Globodera rostochiensis</i> | <i>Solanum tuberosum</i> | Ware potatoes | Cyprus | Norway | 1 |
| | <i>Solanum tuberosum</i> | Ware potatoes | Italy | Austria | 2 |
| | <i>Solanum tuberosum</i> | Ware potatoes | Italy | Ireland | 6 |
| | <i>Solanum tuberosum</i> | Seed potatoes | Netherlands | Germany | 1 |
| | <i>Solanum tuberosum</i> | Ware potatoes | United Kingdom | Hungary | 1 |
| <i>Helicotylenchus, Criconeematidae</i> | <i>Trithrinax</i> | Plants for planting | Brazil | France | 1 |
| <i>Helicoverpa</i> | <i>Dianthus caryophyllus</i> | Cut flowers | Morocco | Germany | 1 |
| <i>Helicoverpa armigera</i> | <i>Dianthus</i> | Cut flowers | Kenya | Netherlands | 3 |
| | <i>Phaseolus vulgaris</i> | Vegetables | Egypt | Netherlands | 1 |
| | <i>Pisum sativum</i> | Vegetables | Kenya | Netherlands | 6 |
| | <i>Rosa</i> | Cut flowers | Zimbabwe | Netherlands | 1 |
| <i>Helicoverpa armigera, Liriomyza huidobrensis</i> | <i>Pisum sativum</i> | Vegetables | Kenya | Netherlands | 2 |
| <i>Hemicycliophora, Tylenchorhynchus</i> | <i>Cycas revoluta</i> | Plants for planting | Brazil | France | 1 |
| <i>Hirschmaniella caudacrena, Hirschmaniella</i> | <i>Vallisneria spiralis</i> | Aquarium plants | Singapore | Denmark | 1 |
| <i>Leptinotarsa decemlineata</i> | <i>Solanum tuberosum</i> | Ware potatoes | Italy | Ireland | 1 |
| <i>Liriomyza</i> | <i>Artemisia dracunculus</i> | Cut flowers | Israel | France | 2 |
| | <i>Gypsophila</i> | Cut flowers | Israel | Netherlands | 1 |
| | <i>Ocimum</i> | Vegetables | Thailand | France | 1 |
| <i>Liriomyza huidobrensis</i> | <i>Dendranthema morifolium</i> | Cut flowers | Netherlands | United Kingdom | 1 |
| | <i>Gypsophila</i> | Cut flowers | (Netherlands) | United Kingdom | 1 |
| | <i>Gypsophila</i> | Cut flowers | Israel | Ireland | 1 |
| | <i>Gypsophila</i> | Cut flowers | Israel | Netherlands | 1 |



EPPO Reporting Service

| Pest | Consignment | Type of commodity | Country of origin | C. of destination | nb |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------|-------------------|-------------------|----|
| <i>L. huidobrensis</i> (cont.) | <i>Gypsophila</i> | Cut flowers | Kenya | Netherlands | 2 |
| | <i>Gypsophila</i> | Cut flowers | Netherlands | United Kingdom | 4 |
| | <i>Lisianthus</i> | Cut flowers | Ecuador | Netherlands | 2 |
| | <i>Pisum sativum</i> | Vegetables | Kenya | Netherlands | 5 |
| | <i>Trachelium</i> | Cut flowers | South Africa | Netherlands | 1 |
| <i>Liriomyza huidobrensis</i>, <i>Helicoverpa armigera</i> | <i>Pisum sativum</i> | Vegetables | Zambia | United Kingdom | 1 |
| <i>Liriomyza huidobrensis</i>, <i>L. trifolii</i>, <i>Bemisia tabaci</i> | <i>Gypsophila</i> , <i>Rosa</i> | Cut flowers | Israel | Netherlands | 1 |
| <i>Liriomyza trifolii</i> | <i>Gypsophila</i> | Cut flowers | Israel | Netherlands | 8 |
| <i>Meloidogyne</i> | <i>Buxus</i> | Plants for planting | Brazil | France | 1 |
| | <i>Fragaria ananassa</i> | Plants for planting | Bulgaria | Austria | 1 |
| | <i>Lantana camara</i> | Plants for planting | Suriname | France | 1 |
| <i>Merlinius</i> | <i>Aloe dichotoma</i> | Pot plants | South Africa | United Kingdom | 1 |
| <i>Mononychellus progresivus</i>, <i>Bemisia tabaci</i>, <i>B. afer</i>, <i>Aleurodicus dispersus</i>, <i>Icerya</i> | <i>Manihot esculenta</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| <i>Pepino mosaic potexvirus</i> | <i>Lycopersicon esculentum</i> | Seeds | Chile* | France | 3 |
| | <i>Lycopersicon esculentum</i> | Vegetables | Netherlands | Sweden | 2 |
| | <i>Lycopersicon esculentum</i> | Vegetables | Netherlands | United Kingdom | 2 |
| <i>Phytophthora ramorum</i> | <i>Rhododendron</i> | Pot plants | Belgium | United Kingdom | 1 |
| | <i>Rhododendron</i> | Pot plants | Netherlands | United Kingdom | 1 |
| | <i>Viburnum</i> | Pot plants | Belgium | United Kingdom | 1 |
| | <i>Viburnum botnantense</i> | Pot plants | Netherlands | United Kingdom | 1 |
| | <i>Viburnum tinus</i> | Pot plants | France | United Kingdom | 1 |
| | <i>Viburnum tinus</i> | Pot plants | Netherlands | United Kingdom | 1 |
| Pseudococcidae | <i>Pelargonium crithmifolium</i> | Pot plants | South Africa | United Kingdom | 1 |
| | <i>Wallichia</i> | Pot plants | South Africa | United Kingdom | 1 |
| <i>Ralstonia solanacearum</i> | <i>Solanum tuberosum</i> | Ware potatoes | Egypt | Germany | 1 |
| | <i>Solanum tuberosum</i> | Ware potatoes | Egypt | Netherlands | 2 |
| <i>Rhizopertha dominica</i> | <i>Hordeum vulgare</i> | Stored products | Czech Republic | Poland | 4 |
| | <i>Hordeum vulgare</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Triticosecale hybrids</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Triticum</i> | Stored products | Czech Republic | Poland | 4 |
| | <i>Triticum aestivum</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Triticum aestivum</i> | Stored products | Slovakia | Poland | 3 |
| <i>Rhizopertha dominica</i>, <i>Tribolium</i> | <i>Triticum aestivum</i> | Stored products | Slovakia | Poland | 1 |
| <i>Sitophilus oryzae</i> | <i>Hordeum vulgare</i> | Stored products | Czech Republic | Poland | 5 |
| | <i>Hordeum vulgare</i> | Stored products | Slovakia | Poland | 1 |
| | <i>Secale cereale</i> | Stored products | Belarus | Poland | 1 |



EPPO Reporting Service

| Pest | Consignment | Type of commodity | Country of origin | C. of destination | nb |
|----------------------------------------------------------------------------|------------------------------------|-------------------|-------------------|-------------------|----|
| <i>S. oryzae</i> (cont.) | <i>Triticum</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Triticum aestivum</i> | Stored products | Slovakia | Poland | 2 |
| | <i>Zea mays</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Zea mays</i> | Stored products | Slovakia | Poland | 1 |
| <i>Sitophilus oryzae</i> , <i>Rhizopertha dominica</i> | <i>Hordeum vulgare</i> | Stored products | Czech Republic | Poland | 2 |
| | <i>Triticosecale hybrids</i> | Stored products | Czech Republic | Poland | 1 |
| <i>Sitophilus oryzae</i> , <i>Tribolium</i> | <i>Hordeum vulgare</i> | Stored products | Czech Republic | Poland | 3 |
| | <i>Triticum aestivum</i> | Stored products | Slovakia | Poland | 1 |
| <i>Spodoptera</i> (suspect <i>exigua</i>) | <i>Lisianthus</i> | Cut flowers | Kenya | United Kingdom | 1 |
| <i>Spodoptera litura</i> | <i>Rosa</i> | Cut flowers | India | Netherlands | 1 |
| <i>Spoladea recurvalis</i> | <i>Amaranthus</i> | Vegetables | Sierra Leone | United Kingdom | 2 |
| <i>Spoladea recurvalis</i> , <i>Herpetogramma</i> <i>bipunctalis</i> | <i>Amaranthus</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| <i>Spoladea recurvalis</i> , <i>Pyralidae</i> | <i>Amaranthus</i> | Vegetables | Gambia | United Kingdom | 1 |
| | <i>Amaranthus</i> | Vegetables | Sierra Leone | United Kingdom | 1 |
| <i>Tetramorium</i> , <i>Bambusaspis</i> | <i>Bambusa ventricosa</i> | Pot plants | Thailand | United Kingdom | 1 |
| <i>Thrips</i> | <i>Bupleurum</i> | Cut flowers | Kenya | France | 1 |
| | <i>Gladiolus</i> , <i>Dianthus</i> | Cut flowers | South Africa | France | 1 |
| | <i>Gypsophila</i> | Cut flowers | South Africa | France | 1 |
| | <i>Lisianthus</i> | Cut flowers | Kenya | France | 1 |
| <i>Thrips palmi</i> | <i>Dendrobium</i> | Cut flowers | Thailand | Netherlands | 4 |
| | <i>Dendrobium</i> | Cut flowers | Thailand | United Kingdom | 1 |
| | <i>Momordica charantia</i> | Vegetables | Dominica | Netherlands | 1 |
| | <i>Orchidaceae</i> | Cut flowers | Singapore | Netherlands | 1 |
| | <i>Orchidaceae</i> | Cut flowers | Thailand | France | 1 |
| | <i>Solanum melongena</i> | Vegetables | Ghana | Netherlands | 2 |
| <i>Trialeurodes vaporariorum</i> | <i>Hypericum</i> | Cut flowers | Zimbabwe | France | 1 |
| <i>Tribolium</i> | <i>Hordeum vulgare</i> | Stored products | Czech Republic | Poland | 3 |
| | <i>Hordeum vulgare</i> | Stored products | Slovakia | Poland | 1 |
| | <i>Triticosecale hybrids</i> | Stored products | Czech Republic | Poland | 2 |
| | <i>Triticum</i> | Stored products | Czech Republic | Poland | 2 |
| | <i>Triticum</i> | Stored products | Slovakia | Poland | 1 |
| | <i>Triticum aestivum</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Triticum aestivum</i> | Stored products | Slovakia | Poland | 2 |
| | <i>Zea mays</i> | Stored products | Czech Republic | Poland | 3 |
| | <i>Zea mays</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Zea mays</i> | Stored products | Hungary | Poland | 1 |
| | <i>Zea mays</i> | Stored products | Slovakia | Poland | 1 |
| <i>Trogoderma granarium</i> | <i>Hordeum vulgare</i> | Stored products | Slovakia | Poland | 1 |
| | <i>Triticum</i> | Stored products | Czech Republic | Poland | 1 |
| | <i>Zea mays</i> | Stored products | Slovakia | Poland | 1 |



EPPO Reporting Service

| Pest | Consignment | Type of commodity | Country of origin | C. of destination | nb |
|------------------------------------------------------|---------------------------|---------------------|-------------------|-------------------|----|
| <i>Xanthomonas axonopodis</i> pv. <i>citri</i> | <i>Citrus maxima</i> | Fruits | Thailand | France | 1 |
| <i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i> | <i>Phaseolus vulgaris</i> | Seeds | Hungary | Germany | 1 |
| <i>Xanthomonas fragariae</i> | <i>Fragaria ananassa</i> | Plants for planting | (Hungary) | Austria | 3 |

• Fruit flies

| Pest | Consignment | Country of origin | C. of destination | nb |
|----------------------------------|----------------------------|-------------------|-------------------|----|
| <i>Ceratitis</i> | <i>Mangifera indica</i> | Côte d'Ivoire | France | 2 |
| <i>Non-European Tephritidae</i> | <i>Capsicum</i> | Thailand | France | 1 |
| | <i>Capsicum frutescens</i> | Thailand | France | 6 |
| | <i>Diospyros kaki</i> | South Africa | France | 1 |
| | <i>Mangifera indica</i> | Burkina Faso | France | 4 |
| | <i>Mangifera indica</i> | Cameroon | France | 5 |
| | <i>Mangifera indica</i> | Côte d'Ivoire | France | 10 |
| | <i>Mangifera indica</i> | Indonesia | France | 1 |
| | <i>Mangifera indica</i> | Kenya | France | 1 |
| | <i>Mangifera indica</i> | Mali | France | 1 |
| | <i>Mangifera indica</i> | Peru | France | 3 |
| | <i>Mangifera indica</i> | Thailand | France | 3 |
| | <i>Mangifera indica</i> | Togo | France | 2 |
| | <i>Psidium guajava</i> | Indonesia | France | 3 |
| | <i>Psidium guajava</i> | Pakistan | France | 1 |
| | <i>Psidium guajava</i> | Thailand | France | 6 |
| <i>Syzygium jambos</i> | Thailand | France | 2 | |
| <i>Syzygium samarangense</i> | Thailand | France | 1 | |
| <i>Trirhithromyia cyanescens</i> | <i>Capsicum frutescens</i> | Mauritius | France | 1 |

• Wood

| Pest | Consignment | Type of commodity | Country of origin | C. of destination | nb |
|------------------------------------------------------------------|------------------------|-------------------|-------------------|-------------------|----|
| <i>Bursaphelenchus xylophilus</i> | Coniferae | Packing wood | China | Finland | 1 |
| Cerambycidae | Coniferae | Packing wood | China | Germany | 2 |
| | Coniferae and hardwood | Packing wood | China | Germany | 2 |
| Cerambycidae, grub holes > 3 mm | Hardwood | Packing wood | China | Germany | 1 |
| Grub holes > 3 mm | Coniferae | Packing wood | Hong-Kong | France | 1 |
| | Coniferae and hardwood | Packing wood | China | Germany | 1 |
| | Hardwood | Packing wood | China | Germany | 7 |
| | <i>Larix sibirica</i> | Wood and bark | Russia | Austria | 2 |
| | <i>Larix sibirica</i> | Wood | Russia | Finland | 4 |
| <i>Monoctonus</i> , <i>Ips cembrae</i> and other Cerambycidae | <i>Larix sibirica</i> | Wood and bark | Russia | Italy | 1 |



EPPO *Reporting Service*

- **Bonsais**

| Pest | Consignment | Country of origin | Country of destination | nb |
|--------------------------|----------------------------------------------------------|--------------------------|-------------------------------|-----------|
| <i>Dialeurodes citri</i> | <i>Ligustrum chinensis</i> | China | United Kingdom | 1 |
| <i>Nematodes</i> | <i>Rhododendron lateritium</i> , <i>Acer palmatum</i> | Japan | France | 1 |
| <i>Rhizoecus hibisci</i> | <i>Serissa</i> | Netherlands | United Kingdom | 2 |

Source: EPPO Secretariat, 2003-07.