EPPO

Reporting

Service

Paris, 1998-09-01 **Reporting Service 1998, No. 9**

CONTENTS

98/156 Additions to the EPPO A1 and A2 quarantine lists

The EPPO Council at its 48th Session (Paris, 1998-09-15/16) has agreed the following additions to the EPPO quarantine lists:

- **EPPO A1 quarantine list**

peach American mosaic ?closterovirus
Diabrotica undecimpunctata
Naupactus leucoloma
watermelon silver mottle tospovirus

- **EPPO A2 quarantine list**

impatiens necrotic spot tospovirus
Meloidogyne fallax

Source: **EPPO Secretariat, 1998-09.**

98/157 Does *Xylella fastidiosa* occur on grapevine in Kosovo (YU)?

Studies were carried out in USA on samples of diseased grapevines collected from Kosovo (YU). Electron microscopy, ELISA, PCR (using specific primers) revealed the presence of *Xylella fastidiosa* (EPPO A1 quarantine pest), the causal agent of grapevine Pierce's disease. This Kosovo isolate was inoculated to young healthy grapevines and typical symptoms were obtained. The same bacterium was then reisolated from these plants and was able to produce symptoms again on inoculated plants (thus fulfilling Koch's postulates). The Kosovo isolate was compared with US isolates of *X. fastidiosa* from grapevine and was found to be closely related to them.

EPPO note: If this were to be confirmed, it would be the first report of Pierce's disease in Europe and this would be a very serious threat for the European grapevine industry. But it must be stressed that in this paper many questions remain unanswered, and the authors were not able to provide further details to the EPPO Secretariat when consulted.
The suspect grapevine material (twigs with leaves attached, kept at 4°C) was collected from Cermjan (near Gjakova, a city in western Kosovo near Albania). Two isolations were made from this material, but it is not clear where and when this was done, and what was the total number of samples studied. We understand that the scientist who collected the material left Kosovo 7 years ago.

No data is given on the possible extent of the disease in this region of Kosovo. It is only reported that since the mid-80s symptoms were observed in Cermjan grapevines that did not resemble those caused by fungi which can be found in this region (e.g. *Phomopsis viticola*). The symptoms were described as follows: 'chlorotic spots and enlarged discoloration and necroses on leaf blades during the dry summer period. Burning or scald and scorch appeared later and spread rapidly in the inner areas. When high temperature was followed by rainfall, leaves shrivelled and died.' The authors have no idea on the possible means of introduction and spread (potential vectors).
EPPO remains doubtful about this report, in view of the ambiguities about when the material was collected, and when and where the isolations were made. We believe that research published in a country other than that where a pest is newly reported should meet high standards of 'good laboratory practice', especially if the report is of high phytosanitary significance. Further research, in Yugoslavia, is clearly needed.

Source: Berisha, B.; Chen, Y.D.; Zhang, G.Y.; Xu, B.Y.; Chen, T.A. (1998) Isolation of Pierce's disease bacteria from grapevines in Europe.
European Journal of Plant Pathology, 104(5), 427-433.

Additional key words: new record **Computer codes:** XYLEFA, YU

98/158 *Xylella fastidiosa* detected on *Catharanthus roseus* in Brazil

In 1998, plants of *Catharanthus roseus* (periwinkle) showing small leaves, short internodes and dieback symptoms were observed in a garden at the Instituto Agronomic do Parana, Londrina, in Brazil. Analysis revealed the presence of *Xylella fastidiosa* (EPPO A1 quarantine pest). The authors pointed out that this is the first time that *X. fastidiosa* is found on *C. roseus* in Brazil. However, this had already been observed in USA, but affected plants showed there different symptoms (marginal chlorosis, occasional vein clearing and wilting).

Source: Ueno, B.; Funada, C.K.; Yorinori, M.A.; Leite, R.P. Jr (1998) First report of *Xylella fastidiosa* on *Catharanthus roseus* in Brazil.
Plant Disease, 82(6), p 712.

Additional key words: new host plant **Computer codes:** XYLEFA

98/159 First report of *Diaphorina citri* in USA (Florida)

In June 1998, *Diaphorina citri* (EPPO A1 quarantine pest – a vector of citrus greening bacterium *'Liberobacter asiaticum'*) was found for the first time in USA, in south-eastern Florida. A survey carried out in June 1998 indicated that *D. citri* infests citrus in Palm Beach, Broward and Martin counties, and the Indian River citrus-growing area. Further surveys are being carried out to determine the extent of the infestation, but it seems that the pest is already too widespread to be eradicated. The origin of this introduction is unknown. So far, it is not known whether *L. asiaticum* has been introduced with its vector, although it may be noted that *D. citri* occurs elsewhere in America (Brazil) in the absence of *L. asiaticum*. This is the first report of *D. citri* in USA.

Source: ProMED posting from Schuber, T. Citrus canker – USA (Florida), 1998-08-06
http://www.healthnet.org/programs/promed.html

Hoy, M.A.; Nguyen, R. (1998) Citrus psylla: here in Florida – An action plan (updated).
http://extlab1.entnem.ufl.edu.PestAlert/hoy-0615.htm

Additional key words: new record **Computer codes:** DIAACI, US

98/160 A new outbreak of *Xanthomonas axonopodis* pv. *citri* in Florida (US)

In Florida (US), a new outbreak of *Xanthomonas axonopodis* pv. *citri* (EPPO A1 quarantine pest) was discovered in late June 1998 in a commercial grapefruit orchard near Immokalee (Collier county). So far the disease has been found at moderate levels. The disease was found in one orchard (approximately 28 ha) and on 3 trees in an adjacent orchard. The affected orchard and surrounding trees are being destroyed.

A summary of the history of citrus canker in Florida is given on the Web site of the University of Florida, Gainesville. *X. axonopodis* pv. *citri* was introduced into Florida around 1910 and then into some other States (Alabama, Georgia, Louisiana, South Carolina, Texas) on *Poncirus trifoliata* material from Japan. It was eradicated from Florida in 1933 and from other States by 1947.
In June 1986, citrus canker was detected in residential citrus in Florida (Hillsborough, Pinellas, Sarasota, Manatee counties) and later in three commercial citrus groves (2 in Manatee and 1 in Highlands county). An eradication programme was applied and the disease was officially declared eradicated in 1994.

In September 1995, citrus canker was discovered for the third time in Florida in a residential area around Miami airport (EPPO RS 95/128, 97/129). It was found that the pathogen from this area was different from the archived isolates from the 1986-92 outbreak in West-central Florida. Despite eradication efforts, the disease spread predominantly northward from Dade into Broward county It must be noted that the area concerned by this particular outbreak is urban. A map shows its spread on Internet: http://doacs.state.fl.us/canker/miamimap.htm.
In May 1997, citrus canker was rediscovered in Manatee county in both commercial citrus groves and residential citrus. Genetic studies of the isolate present there showed close relationship with that of the 1986-92 outbreak (which may suggest that some infections remained undetected despite intensive inspections in that area). Finally, the last outbreak was found in June 1998 (see above).

Source: ProMED posting from Schuber, T. Citrus canker – USA (Florida), 1998-08-06
http://www.healthnet.org/programs/promed.html

Web site of the University of Florida
http://www.ifas.ufl.edu/~entweb/cank377.html

Additional key words: detailed record **Computer codes:** XANTCI, US

98/161 *Diabrotica virgifera* trapped near Venezia airport (Italy)

Diabrotica virgifera virgifera (EPPO A2 quarantine pest) has been found for the first time in Italy, at the end of July 1998. The insect was trapped in the vicinity of Venezia airport (Marco Polo di Tessera). So far, 6 adults have been caught using pheromone traps. No damage has been observed on maize. The official authorities (Osservatorio per le Malattie delle Piante di Verona) will continue to monitor this area to determine the extent of the outbreak and take appropriate control measures to prevent any further spread.

Source: **Osservatorio per le Malattie delle Piante di Verona, Servizio Fitosanitario Regionale del Veneto, 1998-08.**

Additional key words: new record **Computer codes:** DIABVI, IT

98/162 Possibilities of behavioural disruption to control *Diabrotica virgifera virgifera*

Experiments were carried out in Illinois (US) to control *Diabrotica virgifera virgifera* (EPPO A2 quarantine pest) by using a plant kairomone mimic: MCA (4-methoxy-cinnamaldehyde). This substance is a behavioural disruptant for both males and females. It has been observed that in maize fields treated with MCA, *Diabrotica* beetles have considerable difficulty in orientating towards sticky traps baited with MCA or with sex pheromone (8-methyl-decane-2-ol propanoate). It is expected that by disrupting the orientation ability of both males and females, fecundity, number of emerging larvae, and root damage will be reduced. Preliminary results are encouraging, and the authors felt that if they were to be confirmed on larger areas, this behavioural disruption method could be a useful tool in integrated pest management programmes against *D. virgifera virgifera*.

Source: Hummel, H.E.; Metcalf, R.L.; Lampman, R.; Lewis, P. (1998) New world *Diabrotica* in the old world: plant kairomone mimic MCA as a behavioral disruptant.
Abstract of a paper presented at the International Symposium on Crop Protection, Gent (BE), 1998-05-05, p 46.

Additional key words: control method **Computer codes:** DIABVI

98/163 Publication on *Diabrotica virgifera virgifera*

A monograph on *Diabrotica virgifera virgifera* (EPPO A2 quarantine pest) has recently been published. It brings together several papers from Yugoslav researchers on the situation of *D. virgifera virgifera* in Serbia (spread and damage), control methods (cultural, chemical), possible insecticide resistance and a bibliography of Yugoslav authors on this pest. These papers were presented at the 1st Yugoslav Meeting on *Diabrotica virgifera virgifera* which was held at the Faculty of Agriculture, Novi Sad on 11th February 1998. Each paper has an English summary.
The book has been published by:

Društvo za zaštitu bilja Srbije (Serbian Society of Plant Protection)
Beograd – Zemun, Nemanjina 6.

Source: Camprag, D. (Editor) (1998) Occurrence, harmfulness and control of Western corn rootworm (*Diabrotica virgifera virgifera* Le Conte). Belgrade. 135 pp

Additional key words: publication **Computer codes:** DIABVI, YU

98/164 Identification key for *Diabrotica* species

The following identification key for *Diabrotica* species has kindly been provided by Dr Chandler (USDA-ARS, Northern Grain Insects Research Laboratory, Brookings, South Dakota) with permission from the author Dr Krysan. Although this key only concerns the New World genus *Diabrotica* and not other Chrysomelidae present in Europe, it was felt that this key could help in identifying *Diabrotica virgifera* (EPPO A2 quarantine pest) among insects caught in traps or found in maize fields, and in verifying that other American *Diabrotica* (A1 quarantine pests) have not appeared in Europe.

1 Elytra in part pale, yellow or green 2
Elytra entirely dark: 4-6 mm long ..... *D. cristata* (Harris)
2 Pronotum pale, yellow or green 3
Pronotum black ..... *D. lemniscata* LeConte
3 Elytra with longitudinal carinae on the disk 4
Elytra lacking discal carinae 8
4 Femora black or pale with outer edge tinged with black 5
Femora green or yellow; not marked with black 6
5 Elytra with black vittae from humeral angles and on the suture, often covering most of the elytra; beetle usually yellow and black ..... *D. virgifera virgifera* (WCR) (Fig. 1A)
Elytra entirely pale or with a narrow piceous vitta extending posteriorly from the humeral angle; beetle largely green ..... *D. virgifera zeae* (MCR) (Fig. 1B)
6 Antennae (except proximal segments), clypeus, tibiae, and tarsi infuscated, often black 7
Antennae, clypeus, tibiae, and tarsi, yellow or testaceous; humeral vittae if present very weakly colored ..... *D. barberi* (in part) (Fig. 1C)
7 Scutellum usually black ..... *D. longicornis* (Say)
Scutellum yellow or testaceous ..... *D. barberi* (NCR) (in part)
8 Elytra with black markings 9
Elytra without black markings; green with yellow transverse bands ..... *D. balteata* (BCB) (Fig. 1D)
9 Elytra with 11 black spots ..... *D. undecimpuctata sensu lato* 10
Each elytron with a basal black area enclosing a pale spot and an arcuate transverse black band in the apical third ..... *D. tibialis* LeConte
10 Legs and abdomen entirely black ..... *D. undecimpunctata undecimpunctata* (WSCB)
Abdomen pale, legs in part pale 11
11 Spots black and rather large; form robust ..... *D. u. howardi* (SCR) (Fig. 1E)
Spots smaller and brownish; form less robust ..... *D. u. tenella* LeConte

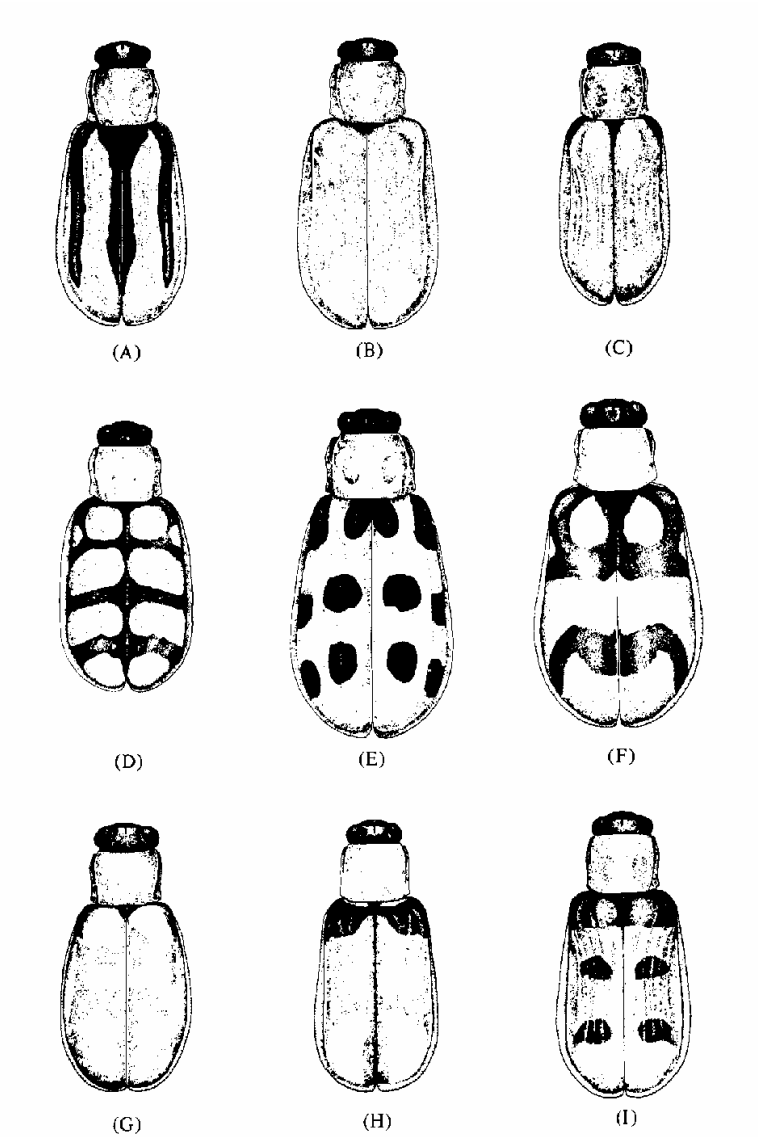

Figure 1. (A) *Diabrotica virgifera virgifera*, western corn rootworm. (B) *Diabrotica virgifera zeae*, Mexican corn rootworm. (C) *Diabrotica barberi*, northern corn rootworm. (D) *Diabrotica balteata*, banded cucumber beetle. (E) *Diabrotica undecimpunctata howardi*, southern corn rootworm (spotted cucumber beetle). (F) *Diabrotica adelpha*. (G) *Diabrotica speciosa*. (H) *Diabrotica viridula* (variation). (I) *Diabrotica viridula* (variation).

Source: Krysan, J.L. (1986) Introduction: Biology, Distribution and Identification of Pest *Diabrotica*.
In: Methods for the Study of Pest *Diabrotica*. (Ed by Krysan, J.L.; Miller, T.A), pp 1-23. Springer-Verlag, New York.

Additional key words: identification **Computer codes:** DIABSP

98/165 Details on the situation of *Bactrocera latifrons*, *D. undecimpuntata howardi*, *Diabrotica virgifera virgifera* and *Rhagoletis cingulata* in the USA

The Web site of NAPIS (National Agricultural Pest Information System – USA) provides detailed information on the geographical distribution of some pests, and shows maps resulting from surveys carried out in USA. The EPPO Secretariat has extracted the following new detailed geographical data:

Bactrocera latifrons: California (isolated foci in Los Angeles county). It is noted that California has reported a first find (dated 1998-07-21) but without any further detail.

Diabrotica undecimpunctata howardi (EPPO A1 quarantine pest): Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia*, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New Hampshire, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin, Wyoming.

Diabrotica virgifera virgifera (EPPO A2 quarantine pest): Alabama, Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, Rhode Island.

Rhagoletis cingulata (EPPO A1 quarantine pest): New Mexico.

* The NAPIS map had no data for Georgia, but from the literature, it appears that the pest is present there (e.g. a reference from Buntin, G.D.; All, J.N.; McCracken, D.V.; Hargrove, W.L. (1994) Cover crop and nitrogen fertility effects on southern corn rootworm (Coleoptera: Chrysomelidae) damage in corn. Journal of Economic Entomology, 87(6), 1683-1688.)

Source: **NAPIS Web site: http://www.ceris.purdue.edu/napis/**
For all maps except (B. *latifrons*):
http://www.ceris.purdue.edu/napis/pests/ppqlist/mgifs/
For *B. latifrons*:
http://www.ceris.purdue.edu/napis/states/ca/mgif/camy1998.gif

Additional key words: new detailed record **Computer codes:** BCTRLA, DIABUH, DIABVI, RHAGCI, US

98/166 Finding of *Crypturaphis grassii* in United Kingdom

An aphid species *Crypturaphis grassii* has recently been reported for the first time in the south of England, UK. The aphids have been found on trees of Italian alder (*Alnus cordata*) at single locations in the counties of Avon, Essex and Greater London. Although these locations are quite widely spaced, the host tree is uncommon and only occurs in parks, gardens and beside main roads.
Crypturaphis grassii is a Mediterranean species (around the Tyrrhenian Sea) and it can be found where *Alnus cordata* occurs. In Italy, its presence has been observed in Campania, Basilicata, Calabria and Sicilia. It has also been found in Corse (FR). This species is apparently not very well known. *A. cordata* is the only host plant, *C. grassii* does not cause leaf deformations and trees will only show feeding damage in cases of very high infestations (di Chiara *et al*., 1990).

Source: **Ministry of Agriculture, Fisheries and Food, Plant Health Division, UK, 1998-08.**

Di Chiara, S.R.; Rapisarda, C.; Russo, A.; Zagami, S. (1990) [Some insects feeding on alder (*Alnus cordata*) in Calabria.]
Informatore Fitopatologico, 40(3), 25-30.

Additional key words: new record **Computer codes:** UK

98/167 *Phytophthora fragariae* var. *fragariae* found in Sachsen, Germany

Phytophthora fragariae var. *fragariae* (EPPO A2 quarantine pest) has been found in Sachsen, Germany, on propagating material of strawberry (cvs. Polka, Elsanta). The Plant Protection Service of Sachsen has taken the following measures: movement of plants from the infected fields is prohibited and further production of young plants on these field is also prohibited until further notice.

Source: **Plant Protection Service of Germany, 1998-08.**

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

98/168 Pear decline phytoplasma found in Basilicata, Italy

In September 1997, pear trees showing decline symptoms were observed in a commercial orchard near Matera, Basilicata (south of Italy). Affected pear trees (cv. Williams) showed typical leaf rolling and premature reddening, as well as severe defoliation and stunting. These plants originated from nurseries of northern Italy. Analysis showed the presence of phytoplasmas belonging to subgroup 16SrX-C (pear decline and related strains). According to the authors, this is the first report of pear decline phytoplasma (EPPO A2 quarantine pest) in Basilicata.

Source: Camela, I.; Vibio, M.; Rana, G.L.; Bertaccini, A. (1998) [Detection of decline in pear trees in the Basilicata region.]
Informatore Fitopatologico, no. 9, 35-38.

Additional key words: detailed record **Computer codes:** PRDXXX, IT

98/169 Tomato yellow leaf curl bigeminivirus occurs in Algeria

Symptoms of leaf curling, yellowing and stunting have been observed on tomato and green pepper (*Capsicum annuum*) in glasshouses in Algeria. In addition, large populations of whiteflies were observed. Transmission experiments, serological tests and electron microscopy confirmed the presence of tomato yellow leaf curl bigeminivirus (EPPO A2 quarantine pest). According to the EPPO Secretariat, this is the first report of tomato yellow leaf curl bigeminivirus in Algeria.

Source: Kerkadi, M.; Belkhoda, F.; Ait Ouada, M. (1998) Identification test of tomato yellow leaf curl virus on tomato and green pepper in Algeria.
Abstract of a paper presented at the International Symposium on Crop Protection, Gent (BE), 1998-05-05, p 96.

Additional key words: new record **Computer codes:** TYLCV, DZ

98/170 Details on citrus tristeza closterovirus in Lebanon

In Lebanon, citrus is one of the main fruit crops and it is distributed throughout the country over an area of approximately 10,000 ha. Most citrus groves are located in the south, along the coast (Saida, Tyre), many others are in the north (mainly in the Akkar plains) and a few on Mount Lebanon. More than 95 % of citrus species are grafted onto sour orange (*Citrus aurantium*) rootstocks. Field surveys were carried out in autumn 1996 in commercial groves and nurseries to study the incidence of citrus tristeza closterovirus (EPPO A2 quarantine pest). The regions studied were the following: districts of Akkar and Tripoli in the North; districts of Awali, Wasta, Saida, Ghaziyyeh, Najjariyyeh, Aakaibeh, Gibehit, Addousiyyeh, and Maamoura in the South, and a small area on Mount Lebanon. A total of 3,427 trees (representative of the species and/or cultivars grown in Lebanon) were sampled and tested by ELISA. In addition, 1.110 citrus plants from 15 nurseries were also studied. 65 trees out of the 4.537 tested trees were found positive (62 trees from commercial groves in the north and in the south, 3 plants from a single nursery located in the north). However, none of the infected trees showed decline or clear symptoms of tristeza in the field. Results showed that the virus is more common than previously thought, as it was found in all studied regions (except Mount Lebanon). But the infection rate is low and most mother plants in nurseries are still free from the virus. Tests done on indicator plants showed that severe strains do not occur in Lebanon. The authors concluded that considering the wide distribution of citrus tristeza, the presence of vector (*Aphis gossypii*), and the fact that virtually the whole citrus industry is grafted onto sour orange rootstocks, eradication measures (destruction of infected trees) should be taken.

Source: D'Onghia, A.M.; Saade, P.; Khoury, W.; Castellano, M.A.; Savino, V. (1998) Occurrence and distribution of citrus tristeza virus in Lebanon. **Phytopathologia mediterranea, 37(2), 75-78.**

Additional key words: detailed record **Computer codes:** CSTXXX, LB

98/171 Strawberry lethal yellows disease

A strawberry disease, known as strawberry lethal yellows, has been observed in propagation beds in New Zealand (Kitikati district, Bay of Plenty). Affected plants are flattened to the ground, they show purpling of older leaves, reduced leaf size, yellowing of younger leaves, and plants may die. Under glasshouse conditions, plants rapidly degenerate and prematurely die. Previous electron microscopy studies had showed that phytoplasmas were found in the phloem of diseased plants. Further studies were carried out in New Zealand (PCR and sequence analysis of 16S rRNA gene) and showed that the phytoplasma found is closely related to, or identical with, the phytoplasmas associated with phormium yellow leaf disease*, Australian grapevine yellows (proposed name *Candidatus* Phytoplasma australiense) and papaya die-back.

* Phormium yellow leaf disease was first reported in New Zealand in 1908. It only occurs on New Zealand flax (*Phormium tenax*, *P. cookianum*) and contributed to the demise of the fibre industry based on flax. It is transmitted by a plant hopper (*Oliarus atkinsoni*). As this insect has a very narrow host range, it is suggested that other insect species might be involved in the spread of the phytoplasma in strawberry crops (possible candidates are *Ribautiana tenerrima* (bramble leafhopper), *Zygina zealandica* (yellow pasture leafhopper) which have been observed on strawberry).

Source: Andersen, M.T.; Longmore, J.; Liefting, L.W.; Wood, G.A.; Sutherland, P.W.; Beck, D.L.; Forster, R.L.S. (1998) Phormium yellow leaf phytoplasma is associated with strawberry lethal yellows disease in New Zealand.
Plant Disease, 82(6), 606-609.

Additional key words: etiology **Computer codes:** NZ

98/172 Tobacco blue mould does not occur in Japan

The Plant Protection Division of Japan recently informed the EPPO Secretariat that tobacco blue mould (*Peronospora hyoscyami*) has never been found in Japan. The earlier record which appeared in PQR was erroneous.

Source: **Ministry of Agriculture, Forestry and Fisheries, Plant Protection Division, Japan, 1998-09.**

Additional key words: denied record **Computer codes:** PEROTA

98/173 *Anthonomus grandis* is not present in Ecuador

The EPPO Secretariat has recently been informed by the Ministry of Agriculture in Ecuador that *Anthonomus grandis* (EPPO A1 quarantine pest) has never been found in the country. This pest is of quarantine importance for Ecuador. The previous record arose probably from a confusion with *Anthonomus vestitus*. The EPPO database PQR on geographical distribution of quarantine pests will be modified accordingly.

Source: **Ministerio de Agricultura y Ganaderia, Servicio Ecuatoriano de Sanidad Agropecuaria, Quito, Ecuador, 1998-08.**

Additional key words: denied record **Computer codes:** ANTHGR, EC

98/174 *Radopholus similis* does not occur in California (US)

In the second edition of Quarantine Pests for Europe, the presence of *Radopholus similis* (EPPO A2 quarantine pest) in California (US) was erroneously mentioned. Though *R. similis* has earlier been intercepted and eradicated, it is now known not to occur in California and quarantine measures are taken to prevent any further introduction. *R. similis* should be considered as absent from California.

Source: **CABI, 1998-09.**

Additional key words: denied record **Computer codes:** RADOSI, US

98/175 Detection of *Xylophilus ampelinus*

Isolation on growing media of *Xylophilus ampelinus* (EPPO A2 quarantine pest) from infected grapevine material is difficult, and so far no selective media are available. Studies made in South Africa showed that incubation of cuttings at 15 °C for 3 days under moist conditions significantly increased the number of isolated *X. ampelinus* colonies on growing medium (Difco NA). By using this enrichment technique, it was also possible to detect *X. ampelinus* in latently infected grapevine shoots. The authors stressed that after isolation on growing medium, confirmation of identity of the bacterium is essential (Gram reaction and biochemical tests). They also noted that serological and PCR techniques are now available for the detection of the bacterium in grapevine material.

Source: Serfontein, S.; Serfontein, J.J.; Botha, W.J.; Staphorst, J.L. (1997) the isolation and characterisation of *Xylophilus ampelinus*.
Vitis, 36(4), 209-210.

Additional key words: detection method **Computer codes:** XANTAM

98/176 Volume 4 of revised EPPO Standards: guidelines for the efficacy evaluation of plant protection products is now available

As explained in EPPO RS 97/165 and 98/057, the whole set of EPPO standards for the efficacy evaluation of plant protection products is being revised. All revised guidelines are being published as four separate paperback books, according to the topic concerned:

Volume 1: Introduction, general guidelines, molluscicides, nematicides, rodenticides, side-effects on beneficials, general index.

Volume 2: Fungicides, bactericides.

Volume 3: Insecticides, acaricides.

Volume 4: Herbicides, plant growth regulators.

Volume 2 appeared in 1997, Volume 3 in spring 1998 and Volume 4 on herbicides and plant growth regulators has just been published. The remaining volume (Volume 1) will appear very soon towards the end of 1998. The set of revised EPPO guidelines is now on sale, either as a whole or as separate volumes. A special discount price of 1500 FRF is offered for the complete set of four volumes. Otherwise, separate volumes can be ordered at the price of 500 FRF each. These prices apply separately to the English and French versions. The Plant Protection Services of EPPO member countries and regular subscribers to earlier versions of EPPO guidelines have already been informed individually by the EPPO Secretariat. For other interested persons, orders should be addressed to:

EPPO Secretariat
1 rue Le Nôtre
75016 Paris
France
Tel: (33) 1 45 20 77 94
Fax: (33) 1 42 24 89 43
E-mail: hq@eppo.fr

Source: **EPPO Secretariat, 1998-08**

Additional key words: publication

98/177 PQR version 3.7 is now available

An updated version of PQR, the EPPO database on plant quarantine, has just been released. It contains information on geographical distribution, host plants, scientific and common names of quarantine pests listed by EPPO and the European Union. Data on pests of quarantine interest to other Regional Plant Protection Organizations (RPPOs), addresses of Plant Protection Services and RPPOS, membership of RPPOs are also included.

PQR version 3.7 is available on diskettes from the EPPO Headquarters, 1 rue Le Nôtre, 75016 Paris, France. The annual registration fee for PQR is 250 FRF.

Source: EPPO Secretariat, 1998-08.

98/178 New NAPPO Standards

Two new NAPPO Standards for Phytosanitary Measures have been published:

- NAPPO Standard for Guidelines for Petition for Release of Non-Native Phytophagous Agents for the Biological Control of Weeds
- Surveillance of Quarantine Fruit Flies (in a Portion of a Generally Infested Area)

These standards can be obtained from the NAPPO Web Site: http://www.nappo.org of the NAPPO Secretariat:

59 Camelot Drive
Nepean K1A OY9
Ontario
Canada
Tel: 613-225-2342
Fax: 613-228-6618

Source: NAPPO Secretariat, 1998-09.