EPPO

Reporting

Service

Paris, 1999-10-01 **Reporting Service 1999, No. 10**

CONTENTS

99/149 Meeting on methods for the identification of the nematodes *Meloidogyne chitwoodi* and *M. fallax*

A meeting will take place in Paris on 11 February 2000 on Methods for the identification of the nematodes *Meloidogyne chitwoodi* and *M. fallax* (both EPPO A2 quarantine pests). The meeting will be held in the offices of the Ministry of Agriculture, 251, rue de Vaugirard, 75732 Paris.

After four years of a collaborative research project funded by the European Union, the co-operating scientists will present their results on the different elements of the project. Several identification methods have been developed and these methods have been used to analyse European populations of these two related *Meloidogyne* species.
A relatively informal meeting will give an outline of the overall project and then present information on:

* biochemical methods (isoenzymes et protein electrophoresis)
* molecular methods (mitochondrial, SCAR, ITS-RFLP, satellite DNA)
* biological methods (differential host plants)
* resistance of host plants (Solanaceae and Brassicaceae) and variability of populations

The meeting will be of interest to representatives of the NPPOs of EPPO member countries who have the responsibility for detecting and identifying suspected quarantine nematodes in imported consignments, and for surveying their territories for the presence or distribution of these *Meloidogyne* species.

For further information, contact:

Dr. Didier Mugniéry,
Laboratoire de Zoologie, INRA, 35653 Le Rheu Cedex, France.
Fax:+33 (0)2.99.28.51.50
Tel : +33 (0)2.99.28.51.59
E-mail: mugniery@rennes.inra.fr

Source: **EPPO Secretariat, 1990-10.**

Additional key words: Meeting **Computer codes:** MELGCH, MELGFA

99/150 Modifications to the EPPO A1 and A2 quarantine lists

During its last session in 1999-09-14/15, the EPPO Council has agreed the following changes to the EPPO A1 and A2 quarantine lists:

- **Additions to the EPPO A1 list**

Anoplophora glabripennis
Heteronychus arator

- **Deletions from the EPPO A1 list**

Hamaspora longissima
Peach latent mosaic viroid
Phialophora gregata

- **Deletions from the EPPO A2 list**

Anarsia lineatella
Apricot chlorotic leaf roll phytoplasma
Barley stripe mosaic hordeivirus
Cherry necrotic rusty mottle disease
Cochliobolus carbonum
Epichoristodes acerbella
Grapholita molesta
Hyphantria cunea
Mycosphaerella linicola
Parabemisia myricae
Phaeoisariopsis griseola
Phoma exigua var. *foveata*
Phoracantha semipunctata
Phytophthora megasperma f.sp. *glycines*
Pseudomonas syringae pv. *pisi*
Puccinia pelargonii-zonalis
Tilletia controversa
Unaspis yanonensis
Uromyces transversalis
Xanthomonas populi

- **Transfer from the A1 to the A2 list**

These pests occurs at the 'margin' of the EPPO region, either at the extreme west (e.g. Azores) or the extreme east (e.g. Russian Far East), and are now considered as A2 quarantine pests.
Botryosphaeria laricina
Carposina niponensis
Cronartium kamtschaticum
Cydia inopinata
Gymnosporangium asiaticum
Numonia pirivorella
Popillia japonica

Source: **EPPO Secretariat, 1999-09**

Additional key words: quarantine lists

99/151 *Liriomyza sativae* found in Israel

During recent national field surveys carried out in Israel, *Liriomyza sativae* (EPPO A1 quarantine pest) was found. As the surveys are ongoing, the present distribution of *L. sativae* in Israel awaits further results. Several Israeli specimens are being sent to the Natural History Museum in London (GB) for confirmation. This pest had been intercepted by France (see EPPO RS 99/164).

Source: NPPO of Israel, 1999-09.

Additional key words: new record **Computer codes:** LIRISA, IL

99/152 *Bursaphelenchus xylophilus* found in Portugal

The EPPO Secretariat has recently been informed by the NPPO of Portugal that *Bursaphelenchus xylophilus* (EPPO A1 quarantine pest) was found in Portugal. The nematode was detected in *Pinus pinaster* near Setúbal, during a survey carried out by a research team. The official services involved immediately took the necessary measures to determine the extent of the infected area, to control the extraction and movement of wood and eradicate the outbreak. The infected area is situated in the Península de Setúbal (south of Lisboa) a densely populated and industrialized region of the country where pine forest is not very important. At present, the possible presence of vector(s) is being investigated. A national delimitation survey to determine the extent of the infestation in Portugal has already been initiated.

Source: NPPO of Portugal, 1999-09.

Additional key words: new record **Computer codes:** BURSXY, PT

99/153 Survey on *Bursaphelenchus* nematodes in Greek pine forests

A survey for pine nematodes was carried out in Greece from 1996 to 1998. Trees chosen for sampling were either dying or recently dead. Wood samples were taken from 93 pine trees from different parts of Greece. The species sampled were the following: *Pinus brutia*, *P. halepensis*, *P. nigra*, *P. sylvestris*, *P. pinaster* and *P. radiata*. 32 samples were found infected by different species of *Bursaphelenchus*. The results were the following:
- *Bursaphelenchus eggersi* (on *P. pinaster*)
- *B. hellenicus*, described as a new species (on *P. brutia*)
- *B. leoni* (on *P. brutia*, *P. nigra*, *P. pinaster*, *P. radiata*)
- *B. sexdentati*, the most abundant species (on *P. brutia*, *P. halepensis*, *P. nigra*, *P. pinaster*, *P. radiata*)
- *B. teratospicularis* (on *P. brutia*, *P. halepensis*).

No *Bursaphelenchus* species was found on *P. sylvestris*. The authors noted that all those species are new records for Greece. *B. xylophilus* was **not** found.

Source: Skarmoutsos, G.; Skarmoutsou, H. (1999) First record of *Bursaphelenchus* nematodes from pine forests in Greece.
Plant Disease, 83(9), p 879.

Additional key words: survey **Computer codes:** BURSSP, GR

99/154 Details on EPPO quarantine nematodes in Japan

A paper on the major plant parasitic nematodes in Japan has recently been published, and the EPPO Secretariat has extracted the following details concerning nematodes on the EPPO lists.

Aphelenchoides besseyi **(EPPO A2 quarantine pest)**
This was first found in Japan in 1940 causing white-tip disease on rice. A devastating outbreak was reported around 1970 on rice throughout the country. Seed treatments are used to control the pest. This confirms earlier reports of *A. besseyi* in Japan.

Ditylenchus destructor **(EU Annexes)**
In Japan, *Ditylenchus destructor* causes problems essentially on iris and garlic crops. It was first found in 1975 in affected iris fields in Niigata Prefecture, Honshu. It was suspected to have been introduced on infected bulbs from the Netherlands. In autumn 1984, a severe outbreak were reported on garlic in Aomori Prefecture, Honshu. Despite control measures, this nematode is gradually spreading.

Heterodera glycines **(EPPO A1 quarantine pest)**
This nematode mainly occurs in the north-eastern areas of Japan, especially in regions with volcanic ash soils. It main hosts are soybean (*Glycine max*), beans (*Phaseolus vulgaris*) and adzuki beans (*P. angularis*). In Japan, races 1, 3 and 5 have been found (3 being the dominant race). Three to four generations per year are observed.

Globodera rostochiensis **(EPPO A2 quarantine pest)**
This was detected for the first time in Makkari, Hokkaido in 1972. It was suspected to have been introduced from Peru on guano. *G. rostochiensis* is spreading on Hokkaido, and in 1992 it was also detected in Nagasaki Prefecture, Kyushu. The main pathotype occurring in Japan is Ro1. One generation per year is observed in Hokkaido and two in Kyushu.
It is stressed that, so far, *Globodera pallida* (EPPO A2 quarantine pest) has not been found in Japan.

Source: Nishizawa, T. (1999) Major plant-parasitic nematodes and their control in Japan.
Agrochemicals Japan, no. 74, 2-9.

Additional key words: detailed records, absence **Computer codes:** APLOBE, DITYDE, HETDGL, HETDRO, HETDPA, JP

99/155 Situation of *Ciborinia camelliae* in Western Europe

Ciborinia camelliae (EPPO A1 quarantine pest) is the causal agent of camellia flower blight. This fungal pathogen originating from Japan was introduced in the 1930s into USA and in 1993 into New Zealand. Recently, it was reported from Spain and UK. It was intercepted by Germany on Camellia plants imported from Italy and Switzerland (EPPO RS 99/164) and its presence was also suggested in other EU countries. The EPPO Secretariat has tried to check the present situation with the EU countries and Switzerland.

Denmark: *C. camelliae* has **not** been found in Denmark.

Finland: *C. camelliae* has **not** been found in Finland.

France: Recent surveys carried out in France have showed the presence of *C. camelliae*. Symptoms were observed on camellia flowers in regions of Bretagne and Pays de Loire. Samples were taken and five positive results were obtained. Infected plants were found in public or private gardens. More intensive surveys will be carried out in these regions to determine the extent of the disease.

Germany: In April 1999, the local Plant Protection Service of Saarland was informed by an amateur that Camellia plants obtained during a trip in Switzerland and Italy were infected by *C. camelliae*. These plants were taken by the Plant Protection Service, notified as interceptions (see EPPO RS 99/164) and are now under phytosanitary control. Further inquiries have been made by the NPPO of Germany on the possible occurrence of the disease in other parts of the country, but no further cases have been reported.

Portugal: During field surveys done in Portugal, **no** *C. camelliae* was detected so far.

Spain: *C. camelliae* was detected in the Comunidad Autóma de Galicia. Intensive surveys are being carried out in ornamental nurseries, parks and gardens to determine the extent of the disease. Studies are also being done on possible eradication measures.

Switzerland: In April 1999, Germany intercepted one consignment of Camellia plants from Switzerland infected by *C. camelliae* (see above). These plants had been grown in one specialized firm, producing and exporting Camellia plants, located in Ticino. Following this finding, the NPPO of Switzerland has immediately initiated surveys to determine the extent of the disease. Measures have been taken to prevent further spread, and in particular the firm concerned is no longer allowed to export plants.

United Kingdom: In spring 1999, inspections were carried out at 186 different premises. The presence of *C. camelliae* was confirmed at 5 premises in the south and south west of England. It appears that the disease might have been present at these sites for some time. It is noted that the NPPO of UK has requested a reconsideration within the EU of the status of Camellia flower blight. Meanwhile, measures have been taken to prevent spread of the disease from the infected sites.

No information is yet available on the situation in other EU countries.

Further reading on Internet:

On-line guide to plant disease control - Oregon State University Department of Botany and Plant Pathology (disease management)
http://osu.orst.edu/dept/botany/epp/guide/C/camflopet.html

University of California Pest Management guidelines (disease management)
http://axp.imp.ucdavis.edu/PMG/r280110511.html

Plant Protection Department of Massey University in New Zealand
Camellia flower blight - Life history and control by T.M. Stewart
http://plant-protection.massey.ac.nz/resources/research/ciborinia/camellia_bulletin/id_and_management.htm
Flower blight - A new disease of Camellias in NZ by T.M. Stewart and H. Neilson
http://plant-protection.massey.ac.nz/resources/research/ciborinia/camellia_bulletin/first report.htm

Research on Camellia flower blight in New Zealand by P.G. Long and C Taylor.
http://plant-protection.massey.ac.nz/resources/research/ciborinia/camellia_bulletin/first report.htm

Source: Mansilla Vázquez, J.P.; Pintos Varela, C.; Salinero Corral, C. (1999) Detección en España de *Ciborinia camelliae* Kohn.
Phytoma España, no. 109, 24-27.

Web site "kamelien.de" from Prof. Dr. Klaus Peper (in German)
http://www.kamelien.de/nr1/text.htm

NPPOs of Denmark, 1999-07; Finland, 1999-08; France, 1999-10; Germany, 1999-08; Portugal, 1999-08; Spain, 1999-07; Switzerland, 1999-07; UK, 1999-06.

Additional key words: new records, absence **Computer codes:** SCLECA, CH, DE, ES, GB

99/156 Details on the situation of the *Phytophthora* disease of alder in France

In France, the *Phytophthora* disease of alder (EPPO Alert List - EPPO RS 99/134) was first detected in 1996 in the south-west and the north-east. Surveys have been carried, and so far the alder disease mainly occurs in three zones: 1) south west: the fungus was isolated in the départements of Gironde and Landes; 2) west: three foci were detected in Deux-Sèvres, Vendée, Maine et Loire; and 3) north east: the disease has caused tree mortality on more than 50 locations in 11 départements. The pathogen was found on alders along the main rivers but also along smaller rivers, lakes and in easily flooded zones in forests. The pathogen was also detected in surface water, in particular in the river Moselle during floods in spring. In other parts of France, dieback symptoms of alder have been sporadically observed but have not been attributed to the *Phytophthora* disease as no systematic surveys were done in these areas.

Source: Streito, J-C.; de Villartay, G.; Tabary, F. (1999) Une nouvelle espèce de *Phytophthora* s'attaque à l'aulne.
Phytoma - La Défense des Végétaux, no. 519, 38-41.

Web site of the Laboratoire National de la Protection des Végétaux, Nancy (FR)
Le Phytophthora de l'aulne.
http://perso.wanadoo.fr/lnpv/nancy/aldphyt.htm

Additional key words: detailed record **Computer codes:** PHYTCM, FR

99/157 Cucurbit yellow vine bacterium occurs in Tennessee (US)

As reported in EPPO RS 98/111 and 98/192, a new disease of cucurbits called 'yellow vine' (EPPO Alert List) has been observed for the first time in 1988 in Oklahoma and Texas (US) on courgette and pumpkin (*Cucurbita pepo*). In 1991, it was also detected on melons (*Cucumis melo*) and watermelons (*Citrullus lanatus*). In severely affected fields, disease incidence can range from 50 to 100% with similar yield losses. The disease is thought to be caused by a phloem-limited bacterium but so far it has been impossible to isolate, culture and transmit the pathogen. PCR assays recently showed that the disease is constantly associated with a proteobacterium closely related to *Serratia marcescens*. Initially, the disease appeared limited to central and north-eastern Oklahoma and north-central Texas. In 1997-1998, it was observed in commercial fields of watermelons and melons from east Texas and in all cucurbit-growing areas of Oklahoma. In late summer 1998, symptoms were observed in one watermelon and three pumpkin fields in Tennessee. In these infected fields, disease incidence ranged from less than 1% to 20 %. PCR tests showed that the bacterium found in Tennessee on watermelon and pumpkin is the same as the one associated with yellow vine disease in Oklahoma and Texas. This new finding in Tennessee may suggest that this emerging disease may be more widespread than originally thought.

Source: Bost, S.C.; Mitchell, F.L.; Melcher, U.; Pair, S.D.; Fletcher, J.; Wayadande, A.; Bruton, B.D. (1999) Yellow vine of watermelon and pumpkin in Tennessee.
Plant Disease, 83(6), p 587.

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

99/158 Geminiviruses in Trinidad and Tobago

In Trinidad and Tobago, since 1989 severe leaf mottling, leaf curling and leaf size reduction have been observed in tomato fields suggesting the presence of geminiviruses. At first this was observed in the north of Trinidad but the disease spread throughout the country and is now a severe threat to the tomato industry. Similar virus-like infection are also observed in other agricultural crops and weeds in the vicinity of tomato fields. In 1995, in 12 agricultural locations, 7 crops and 8 weed species were tested for the presence of whitefly-transmitted geminiviruses by using molecular techniques (dot blot hybridization, PCR, comparison of amplified sequences with other known geminiviruses). Whitefly-transmitted geminiviruses were found in all locations studied, on 10 of the 15 plant species: *Lycopersicon esculentum* (tomato), *Capsicum annuum* (sweet pepper), *Capsicum frutescens* (pepper), *Phaseolus vulgaris* (bean), *Abelmoschus esculentum* (okra) and the following weeds: *Alternanthera tenella*, *Desmodium frutescens*, *Euphorbia heterophylla*, *Malva alceifolia*, *Sida acuta*. The geminiviruses found were closely related to potato mosaic begomovirus from Venezuela and tomato yellow leaf curl begomovirus (EPPO A2 quarantine pest) from Panama. Mixed infections of a virus related to potato mosaic begomovirus and a virus related to pepper huasteco begomovirus were found in pepper, sweet pepper, okra, *Alternanthera tenella*, *Desmodium frutescens*, *Euphorbia heterophylla*, and in one tomato sample. The EPPO Secretariat had previously no data on the occurrence of tomato yellow leaf curl begomovirus in Trinidad and Tobago.

Source: Umaharan, P.; Padidam, M.; Phelps, R.H.; Beachy, R.N.; Fauquet, C. M. (1998) Distribution and diversity of geminiviruses in Trinidad and Tobago. **Phytopathology, 88(12), 1262-1268**.

Additional key words: geminiviruses, new record **Computer codes:** TYLCV, TT

99/159 Host plants of *Toxoptera citricida*

In USA, *Toxoptera citricida* (EPPO A1 quarantine pest, an efficient vector of citrus tristeza closterovirus) has recently been introduced into Florida (see EPPO RS 96/024). In order to implement sound management programmes, it was felt that data on biology and ecology of the pest was missing. The development, survival and reproduction of *T. citricida* was studied in the laboratory on eight host plants: *Citrus jambhiri* (rough lemon), *C. aurantium* (sour orange), *C. paradisi* (grapefruit), *C. aurantifolia* (lime), *Severinia buxifolia* (bow orange), x *Citrofortunella microcarpa* (calamondin), *Triphasia trifolia* (lime berry), *Murraya paniculata* (orange jasmine). Results showed that host plants have a significant effect on development, reproduction and longevity of *T. citricida*. Shorter development times, greater total reproduction and higher survival were observed on *C. paradisi* (grapefruit) and *C. aurantium* (sour orange), which indicate that these plants are the most suitable hosts. The least suitable hosts were *Murraya paniculata*, *Severinia buxifolia* and *Triphasia trifolia*. However, the authors stressed that these plants have an importance in the epidemiology as they are widely used in urban areas in Florida as hedges, and could serve as alternate hosts for *T. citricida* when young citrus shoots are not available.

Source: Tsai, J.H. (1998) Development, survivorship, and reproduction of *Toxoptera citricida* (Kirkaldy) (Homoptera: Aphididae) on eight host plants. **Environmental Entomology, 27(5), 1190-1195.**

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

99/160 Trapping studies for *Neoceratitis cyanescens* (*Trirhithromyia cyanescens*)

Neoceratitis cyanescens (*Trirhithromyia cyanescens*, EU Annexes) is a pest of Solanaceous crops in the Indian Ocean region, causing damage essentially on tomato (*Lycopersicon esculentum*), and to a lesser extent on aubergine (*Solanum melongena*), pepper and sweet pepper (*Capsicum frutescens* and *C. annuum*). Laboratory studies have showed that mature females are attracted by bright orange yellow shapes (mimic of tomato fruit). In addition to visual characteristics, mature females are also attracted by plant volatiles. It is felt that attractive traps will have to combine spherical orange shapes and plant attractants.

Source: Brévault, T.; Quilici, S.; Glénac, S. (1999) Mouche de la tomate à l'île de la Réunion. Utiliser les signaux émis par la plante-hôte pour piéger les femelles. **Phytoma - La Défense des Végétaux, no. 515, 35-36.**

Additional key words: trapping **Computer codes:** CERTCY

99/161 Pests and diseases of vegetable crops in New Caledonia

The main and almost unique resource of New Caledonia is nickel. However, agriculture is an important activity, and vegetable crops are important for the local economy. The main crops are potatoes (1128 t), 'squash' (*Cucurbita maxima* x *C. moschata*; 2610 t), salads (715 t), tomatoes (670 t), cabbages (452 t), onions (250 t), cucumbers (516 t), carrots (380 t), courgettes (172 t), capsicums (71 t). The EPPO Secretariat has extracted the following details on pests and diseases of quarantine importance from an article presenting the phytosanitary problems in New Caledonia.

Bactrocera tryoni **(EPPO A1 quarantine pest)**
This fruit fly has been introduced from Australia several years ago. *B. tryoni* and other indigenous species like *B. curvipennis* and *B. psidii* are particularly damaging during the hot season on aubergine, capsicum and tomato crops.

Bemisia tabaci **(EPPO A2 quarantine pest)**
This pest has recently been found in New Caledonia. It is reported that geminiviruses causing leaf curl diseases have been observed although no particular damage occurred so far.

Helicoverpa armigera **(EPPO A2 quarantine pest)**
This pest is present all year round. Programmes of integrated control are being developed (use of traps, research on more selective active ingredients with shorter pre-harvest intervals).

Liriomyza sativae **(EPPO A1 quarantine pest)**
Larvae of *L. sativae* are no longer considered as a problem in crops where farmers can use selective compounds (e.g. cyromazine, abamectine) and where a threshold of 3-5 mines per leaf is used to trigger applications.

Ralstonia solanacearum **(EPPO A2 quarantine pest)**
The bacterium causes losses mainly on tomatoes during summer on the north-east coast. Potatoes are grown during the cool season (June to October) and are rarely infected. Some infections are locally and occasionally reported in years where particularly hot summers had taken place before the potato growing season.

Thrips palmi **(EPPO A1 quarantine pest)**
T. palmi outbreaks can lead to total losses in commercial crops, particularly on aubergine and capsicum. Serious losses can also be observed on beans and cucumber. Chemical control is applied and there is an attempt to use products which are compatible with integrated management programmes.

Xanthomonas vesicatoria **(EPPO A2 quarantine pest)**
This is frequently found on capsicum and tomato crops in the south of New Caledonia. Prophylactic measures are taken to limit infections. The EPPO Secretariat had previously no data on the occurrence of *X. vesicatoria* in New Caledonia.

Source: Daly, P. (1999) Les cultures légumières en Nouvelle-Calédonie. Situation des maladies et des ravageurs.
Phytoma - La Défense des Végétaux, no. 519, 28-30.

Additional key words: new record, detailed records **Computer codes:** BEMITA**,** DACUTR, HELIAR, PSDMSO, THRIPL, XANTVE, NC

99/162 Addition to the EPPO Alert List: larch needle brown rust (*Triphragmiopsis laricinum*)

The Canadian Food Inspection Agency (CFIA) has set up a Plant Health Early Warning System (PHEWS) which is available on Internet. PHEWS provides information on pests which may present phytosanitary risks to Canada. Recently, PHEWS focussed on the larch needle brown rust caused by *Triphragmiopsis laricinum*.
Triphragmiopsis laricinum (Basidiomycetes: Uredinales) is reported as causing a common and serious needle rust disease in north-eastern China on larch (*Larix* spp.). It occurs at least in the Provinces of Jilin and Liaoning. Disease incidence can reach 80-100 % in some areas in China. Inoculation experiments showed that all larch species tested were susceptible (*Larix gmelinii*, *L. kaempferi* (=*L. leptolepis)*, *L. gmelinii* var. *olgensis* (=*L. olgensis)*, *L. principis-rupprechtii* and *L. russica* (=*L. sibirica*). The disease mainly infects seedlings and young trees. It is dispersed by wind and serious attacks usually occur in pure or dense stands in years of frequent rainfall. To control the disease, fungicides can be applied. The use of parasite fungus for biological control is studied in China. Thinning of young stands to increase ventilation and light penetration, and plantation of mixed stands are recommended control measures.

EPPO note: The larch needle brown rust (*Triphragmiopsis laricinum*) is now added to the EPPO Alert List (see EPPO RS 99/134). Each time a new pest is added by the EPPO Secretariat, the corresponding text (as below) is also added to the complete Alert List available on the EPPO Web site (www.eppo.org).

Triphragmiopsis laricinum - needle brown rust of larch in China

Why	*Triphragmiopsis laricinum* (Basidiomycetes: Uredinales) came to our attention because it is reported in China as a common and serious disease of larch, and the Canadian Food Inspection Agency has noted its possible importance for Canada.
Where	China (Jilin, Lioning). More information is needed on its geographical distribution (is it present elsewhere in Asia, e.g. in Japan or Russian Far East?).
On which plants	Larch (*Larix* spp.). In inoculation experiments *Larix gmelinii*, *L. kaempferi* (=*L. leptolepis)*, *L. gmelinii* var. *olgensis* (=*L. olgensis)*, *L. principis-rupprechtii* and *L. russica* (=*L. sibirica*) were susceptible. No data on the susceptibility of *L. decidua* (European larch).
Damage	High disease incidence is reported in some areas of China (up to 80-100 %), but more detail is needed on the actual damage (growth reduction, mortality?) caused by the disease.
Pathway	Plants for planting of *Larix* species from China, bonsais?
Possible risks	*Larix* are important forest and amenity trees in Europe, and the disease appears to be especially damaging to nurseries and young stands. More data is needed on the biology, severity and geographical distribution of the disease.
Source(s)	Canadian Food Inspection Agency - Plant Health Early Warning System. A needle brown rust (fungus) disease of economic importance to larch in northeastern China (submitted by I. MacLatchy, CFIA-PHRA) http://www.cfia-acia.agr.ca/english/ppc/science/pps/phews/docs/1999/9907larc.html Shao, L.P.; He, B.Z.; Yang, D.Q.; Qi, X.W. (1983) [Study on the larch brown rust caused by *Triphragmiopsis laricinum* (Chou) Tai]. Journal of North Eastern Forestry Institute, 11(4), 23-30. (CABI abstract) Sun, B.G.; Liu, H.Y.; Wang, J.Y. (1983) [Brown rust of *Larix* and its control]. Forest Science and Technology, Linye Keji Tongxun, no. 7, 28-30. (CABI abstract) Wang, Y.M.; Liu, G.R.; Wang, S.M.; Tong, Y.; Ren, W.J. (1998) [The economic threshold and forecasting of larch needle brown rust]. Scientia-Silvae-Sinicae, 34(3), 74-79. (CABI abstract) Yuan, J.Y.; Yuan, Z.W.; Li, L.Z. (1998) [Studies on the biological control of larch brown rust with a rust parasite. 1. Morphological and cultural characteristics of the rust parasite]. Journal of Shenyang Agricultural University, 19(4), 17-22. (CABI abstract)
EPPO RS 99/162	
Panel review date	- Entry date 1999-10

Additional key words: addition to the EPPO Alert List

99/163 Addition to the EPPO Alert List: some *Pinus* pests and diseases from Far East Asia

In the EU phytosanitary regulations, derogations can be granted for specific plants and origins, usually for a limited period of time. In a derogation concerning the import of plants of *Chamaecyparis*, *Juniperus* and *Pinus* from Japan, particular requirements (i.e. consignment freedom) were made for several pests and diseases. Most of them were already listed quarantine pests, but for *Pinus*, the following were also mentioned: *Coleosporium paederiae*, *Coleosporium phellodendri*, *Dendrolimus spectabilis* and *Thecodiplosis japonensis*. The EPPO Secretariat tried to gather some preliminary data on these pests and diseases, mainly from abstracts as most of the literature is in Japanese or Korean. No data could be found on *Coleosporium paederiae* (pine rust). But for *Coleosporium phellodendri*, *Dendrolimus spectabilis* and *Thecodiplosis japonensis* it was felt that they could be added to the EPPO Alert List.

Coleosporium phellodendri - Pine needle rust

Why	*Coleosporium phellodendri* came to our attention because it appeared in a list of harmful organisms in the EU derogation (93/452/EEC of 15 July 1993) concerning *Pinus* plants from Japan.
Where	China (Manchurian forest), Japan, Korea Republic
On which plants	*Pinus* spp. It is an autoecious pine rust. It can attack *P. densiflora*, *P. amurense* (no data on other *Pinus*).
Damage	Outbreaks are reported in Japan, but data is lacking on damage and biology. Probably growth reduction (mortality ?).
Pathway	Plants for planting of *Pinus*, cut branches.
Possible risks	*Pinus* are important forest trees in the EPPO region. Only preliminary data was gathered and information is missing on disease severity and extent in Asian forests and on the biology of the pathogen.

EPPO RS 99/163

Source(s)
Hama, T. (1972) [Needle rust of *Pinus densiflora* Sieb. et Zucc. caused by *Coleosporium phellodendri* Komatov in Kiso Valley, Nagano.] Bulletin of the Government Forest Experiment Station, no. 247, 1-13.
Hama, T. (1987) [Studies on the important rust diseases of some conifers in the central mountainous region of Japan.] Bulletin of the Forestry and Forest Products Research Institute, no. 343, 1-118.
The New York Botanical Garden on INTERNET. http://www.nybg.org/bsci/hcol/rust/melam_1Page2.html

Panel review date - Entry date 1999-10

Dendrolimus spectabilis (Lepidoptera: Lasiocampidae) - Pine moth

Why	*Dendrolimus spectabilis* came to our attention because it appeared in a list of harmful organisms in the EU derogation (93/452/EEC of 15 July 1993) concerning *Pinus* plants from Japan.
Where	China (Hebei, Heilongjiang, Jilin, Liaoning, Shandong), Japan (Honshu, Hokkaido, Kyushu), Korea Republic (no data for north Korea).
On which plants	*Pinus* spp. Mainly *P. densiflora* and *P. thunbergii*. It can also feed on other pine species, e.g. *P. strobus*, *P. taeda*, *P. tabulaeformis.*
Damage	*D. spectabilitis* is a defoliator feeding on pine needles. First-instar larvae prefer needles of the current year, but final instar larvae prefer one-year-old needles. Severe defoliation has an impact on the growth of the pine trees. Tree mortality is apparently not observed (?). In the northern part of Japan it has one generation per year, but in the southern part, it has a complex life cycle as adults emerge once or twice a year alternatively. More data is needed on the biology of the pest.
Pathway	Plants for planting of *Pinus*, cut branches.
Possible risks	*D. spectabilis* is considered as a very serious defoliator of pine forests in countries where it occurs. However, more data is needed on actual losses caused by defoliation. Many studies are done on control methods (e.g. application of insect growth regulators), and particularly on biological control methods (polyhedrosis virus, *Bacillus thuringiensis*, predators and parasitoids), but there is little indication of their effectiveness. Pines are important forest trees in the EPPO region.

EPPO RS 99/163

Source(s)
Bin-Cheng Zhang (1994) Index of economically important Lepidoptera, CABI, Wallingford, UK, 599 pp.
Furuno, T. (1972) [Primary consumption by leaf-eating insects in loblolly pine canopies. Bulletin of the Kyoto University Forests], no. 44, 20-37.
Habu, N. (1976) [Geographic variation of the pine moth, *Dendrolimus spectabilis* Butler (Lepidoptera: Lasiocampidae)] Japanese journal of applied Entomology and Zoology, 20(2), 55-60.
Kuranaga, Z.; Varley, G.C.; Gradwell, G.R. (1975) The population dynamics of the pine moth, *Dendrolimus spectabilis* Butler, in Kyushu.] Journal of the Japanese Forestry Society, 57(6), 176-183.
Li, Z.Y.; Chen, H.S.; Cong, X.Y.; Han, Y.S.; Qiao, X.R. (1998) [Study on the regrowth ability of *Pinus tabulaeformis* after damage by the pine caterpillar.] Forest Research, 11(4), 424-427.
Satomi, M.; Yamamoto, H.; Takada, N.; Furuta, K. (1997) [Effects of defoliation caused by an outbreak of *Dendrolimus spectabilis* on the growth of mature *Pinus strobus* in Hokkaido.] Journal of the Japanese Forestry Society, 79(1), 9-13.

Togashi, K.; Takahashi, F. (1977) [Coadaptative preferential feeding of the pine moth, *Dendrolimus spectabilis* Butler (Lepidoptera, Lasiocampidae), on the old needles of Japanese black pine, *Pinus thunbergii* Parl. Kontyu, 45(3), 399-414.

Panel review date - Entry date 1999-10

Thecodiplosis japonensis (Diptera: Cecidomyiidae) - Pine needle gall midge

Why *Thecodiplosis japonensis* came to our attention because it appeared in a list of harmful organisms in the EU derogation (93/452/EEC of 15 July 1993) concerning *Pinus* plants from Japan.

Where Japan, Korea Republic (including Cheju island), probably also in Korea Democratic People's Republic. *T. japonensis* was first described as a new species in Japan in 1955. In Korea, it was first observed in Seoul and Muan in 1929. Its distribution gradually expanded, and it is now distributed throughout the country. In 1990, it was first found on Cheju island. In 1995, approximately 212.000 ha of *P. densiflora* and *P. thunbergii* were infested.

On which plants *Pinus* spp., mainly *P. densiflora*, *P. thunbergii*. In resistance tests: no eggs were laid on *P. koraiensis* and *P. strobus* needles, *P. virginiana*, *P. taeda*, *P. rigida* and *P. banksiana* did not show galls. But *P. sylvestris*, *P. nigra*, *P. resinosa*, *P. contorta* and *P. ponderosa* could be attacked.

Damage In spring, emerging females lay eggs on developing needles. After hatching, young larvae crawl down to the leaf sheath and feed by sucking sap which induces the formation of galls. Large number of galls cause premature defoliation, resulting in simultaneous retardation in both terminal and cambial growth of the tree. *T. japonensis* overwinters in the soil where almost all larvae spin their cocoon. Adults can fly and be dispersed by the wind. Heavy attacks cause growth reduction. Tree mortality was observed in Japan and Korea. It is reported that in some years, 7000-8000 ha of attacked trees had to be cut.

Note It can be noted that in Europe, there is a similar species, *T. brachyptera* attacking mainly *P. sylvestris*, but which causes less damage (no tree mortality reported).

Pathway Plants for planting, cut branches of *Pinus* spp. Soil.

Possible risks *T. japonicus* is considered as one of the most destructive insect pests of pines, especially in Korea. Pines are important forest trees in the EPPO region. However, more data would be needed on the biology of the pest, particularly on its climatic requirements. Control measures (chemical or biological) are available. But more data is needed on their efficacy and they may be difficult to apply in practice for economic or environmental reasons.

EPPO RS 99/163

Source(s)

Kim, K.S.; Hong, S.H.; Lee, S.K. (1987) [Resistance test of 13 pine species and race identification for the pine gall midge.] Research Report of the Institute of Forest Genetics, no. 23, 34-37.

Lee, B.Y.; Chung, Y.J.; Park, K.N.; Byun, B.H.; Bae, W.I. (1997) [Distribution of the pine needle gall midge, *Thecodiplosis japonensis* Uchida et Inouye (Diptera: Cecidomyiidae), infestations in Korea: a brief history.] FRI Journal of Forest Science, no. 56, 13-20.

Lee, BY. (1994) Ecological characteristics of the local pine needle gall midge, *Thecodiplosis japonensis*, population in Cheju Island. Research Reports of the Forestry Research Institute Seoul, no. 49, 65-72.

Lee, S.G.; Kim, S.I.; Ahn, Y.J.; Kim, J.B.; Lee, B.Y. (1997) Effectiveness of carvacrol derived from *Thujopsis dolabrata* var *hondai* sawdust against *Thecodiplosis japonensis* (Diptera: Cecidomyiidae). Pesticide Science, 49(2), 119-124.

Skuhravy, V. (1994) On the differences between *Thecodiplosis brachyptera* Schwäg. and *Thecodiplosis japonensis* Uch. et In. (Diptera, Cecidomyiidae) on the genus *Pinus*. Anzeiger für Schädlingskunde Pflanzenschutz Umweltschutz, 67(7), 156-160.

A picture can be viewed on INTERNET
http://www.best5.net/animal/

Panel review date 1999- Entry date 1999-10

Source: Commission Decision 93/452/EEC of 15 July 1993 authorizing the Member States to provide for derogations from certain provisions of Council Directive 77/93EEC, in respect of plants of *Chamaecyparis* Spach, *Juniperus* L. and *Pinus* L., respectively, originating in Japan.

Additional key words: Alert List **Computer codes:** COLSSP, DENDSC, THEOJA

EPPO *Reporting Service*

99/164 EPPO report on selected intercepted consignments

The EPPO Secretariat has gathered the intercepted consignment reports for 1999 received since the previous report (EPPO RS 99/146) from the following countries: Austria, Bulgaria, Denmark, Estonia, Finland, France, Germany, Ireland, Netherlands, Norway, Romania, Poland, Portugal, Switzerland, Slovenia, Sweden, 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 interceptions made because of the presence of pests. Other interceptions 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 interception reports.

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Ambrosia	*Zea mays*	Stored products	Hungary	Poland	3
Bemisia tabaci	*Alternanthera*	Aquarium plants	Morocco	France	1
	Alternanthera	Aquarium plants	Singapore*	United Kingdom	1
	Alternanthera ficoidea	Aquarium plants	Malaysia	France	1
	Alernanthera ficoidea	Aquarium plants	Singapore*	France	3
	Anubias barteri	Aquarium plants	Thailand	Denmark	1
	Aster	Cut flowers	Israel	United Kingdom	1
	Bacopa monnieri	Aquarium plants	Singapore*	France	1
	Brachychiton	Plants for planting	Israel	Denmark	2
	Dipladenia	Cuttings	Israel	Denmark	1
	Eryngium	Cut flowers	Thailand	France	3
	Euphorbia pulcherrima	Plants for planting	Germany	Ireland	1
	Euphorbia pulcherrima	Plants for planting	Germany	Finland	1
	Euphorbia pulcherrima	Cuttings	Germany	United Kingdom	5
	Euphorbia pulcherrima	Plants for planting	Germany	United Kingdom	2
	Euphorbia pulcherrima	Cut flowers	Germany	United Kingdom	1
	Euphorbia pulcherrima	Plants for planting	Israel	Bulgaria	1
	Euphorbia pulcherrima	Plants for planting	Netherlands	United Kingdom	1
	Hibiscus	Cut flowers	Senegal	France	1
	Hibiscus	Cut flowers	Togo	France	3
	Hygrophila corymbosa	Aquarium plants	Indonesia	France	1
	Hygrophila corymbosa	Aquarium plants	Morocco	France	1
	Hygrophila corymbosa	Aquarium plants	Singapore*	France	2
	Hygrophila polysperma	Aquarium plants	Singapore*	France	1
	Ixora	Plants for planting	Netherlands	United Kingdom	1
	Limnophila	Aquarium plants	Singapore*	France	1
	Limnophila aromatica	Aquarium plants	Singapore*	France	1
	Lobelia, Hygrophila, Eustralis, Alternanthera	Aquarium plants	Singapore*	United Kingdom	1
	Lysimachia	Aquarium plants	Singapore*	France	1
	Ocimum basilicum	Vegetables	Thailand	France	1
	Radermachera sinica	Plants for planting	Netherlands	Finland	1
	Rosa	Cut flowers	Israel	France	1

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
***B. tabaci* (cont.)**	*Solanum*	Vegetables	Togo	France	4
	Solanum melongena	Vegetables	Togo	France	1
	Solidago	Cut flowers	Israel	Ireland	6
	Solidago	Cut flowers	Israel	United Kingdom	3
	Solidago	Cut flowers	Spain	United Kingdom	1
	Solidaster	Cut flowers	Netherlands	United Kingdom	1
	Unspecified leaves	Vegetables	Nigeria	United Kingdom	1
	Unspecified plants	Aquarium plants	Malaysia	France	1
	Unspecified plants	Aquarium plants	Singapore*	France	2
	Unspecified plants	Aquarium plants	Thailand	Denmark	1
	Verbena	Cuttings	Israel	Guernsey	1
***Bemisia tabaci* (biotype B)**	*Hypericum*	Cuttings	Israel	Netherlands	1
Bemisia tabaci, Liriomyza	*Solidago*	Cut flowers	Spain	United Kingdom	1
Bemisia tabaci, Trialeurodes vaporariorum	*Hibiscus, Exacum*	Plants for planting	Netherlands	Poland	1
Bostrychidae	*Cocos nucifera* (fibers)	Growing medium	India	France	1
Bruchus pisorum	*Pisum sativum*	Stored products	Czech Republic	Poland	1
Chrysanthemum stunt viroid	*Dendranthema*	Cuttings	France	Poland	1
Ciborinia camelliae	*Camellia*	Plants for planting	Italy *	Germany	1
	Camellia	Plants for planting	Switzerland ♦	Germany	1
Citrus tristeza closterovirus	*Citrus sinensis*	Pot plants	Spain	Portugal	1
Clavibacter michiganensis* subsp. *sepedonicus	*Solanum tuberosum*	Seed potatoes	Denmark	France	2
	Solanum tuberosum	Ware potatoes	Germany	Netherlands	2
Colletotrichum acutatum	*Fragaria ananassa*	Plants for planting	Italy	Slovenia	1
Cryptolestes ferrugineus	*Triticum aestivum*	Stored products	Hungary	Slovenia	1
Dégénérescence infectieuse?	*Vitis vinifera*	Plants for planting	Italy	Switzerland	1
Diplodia zeae	*Zea mays*	Seeds	USA	Romania	1
Duponchelia fovealis	*Sambucus*	Plants for planting	Netherlands	United Kingdom	1
Erwinia amylovora	*Cotoneaster*	Plants for planting	Netherlands	United Kingdom	1
	Pyracantha	Plants for planting	United Kingdom	Ireland	1
Eutypa lata	*Quercus*	Plants for planting	Italy	United Kingdom	1
Frankliniella occidentalis	*Alstroemeria*	Cut flowers	Netherlands	Estonia	1
***Frankliniella* sp.**	*Dendrobium*	Cut flowers	Thailand	Germany	2

♦ see EPPO RS 99/155

EPPO *Reporting Service*

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Guignardia citricarpa	*Citrus*	Fruits	Brazil	Netherlands	3
Leptinotarsa decemlineata	Unspecified plant	Vegetables	Germany	Sweden	1
Liriomyza huidobrensis	*Apium graveolens*	Vegetables	Italy	Slovenia	1
	Dendranthema, Dianthus	Cut flowers	USA	United Kingdom	1
	Exacum affine	Plants for planting	Netherlands	United Kingdom	1
	Gypsophila	Cut flowers	(Netherlands)	United Kingdom	1
	Gypsophila	Cut flowers	Israel	United Kingdom	1
	Gypsophila	Cut flowers	Netherlands	Slovenia	1
	Verbena	Cuttings	Israel	United Kingdom	1
***Liriomyza* (suspect *huidobrensis*)**	*Exacum affine*	Plants for planting	Netherlands	United Kingdom	1
	Gypsophila	Cut flowers	(Netherlands)	United Kingdom	1
	Gypsophila	Cut flowers	Israel	United Kingdom	3
Liriomyza sativae	*Ocimum basilicum*	Vegetables	Israel	France	5♦♦
	Ocimum basilicum	Vegetables	Thailand	France	4
Liriomyza trifolii	*Dendranthema*	Cut flowers	Netherlands	United Kingdom	1
***Liriomyza* (suspect *trifolii*)**	*Gerbera*	Plants for planting	Netherlands	United Kingdom	1
***Liriomyza* sp.**	*Artemisia dracunculus*	Cut flowers	Morocco	France	2
	Aster	Cut flowers	USA	United Kingdom	1
	Bacopa monnieri	Aquarium plants	Indonesia	France	1
	Gypsophila	Cut flowers	Israel	United Kingdom	2
	Ocimum basilicum	Vegetables	Morocco	France	2
***Meloidogyne* sp;**	*Paeonia*	Plants for planting	Netherlands	Poland	1
	Rosa	Plants for planting	Poland	Sweden	1
Monilinia fructigena, Cydia pomonella	*Malus*	Fruits	Czech Republic	Poland	1
Oligonychus perditus	*Juniperus chinensis*	Plants for planting	Japan	Netherlands	1
Phthorimaea operculella	*Solanum tuberosum*	Ware potatoes	Lebanon	Romania	1
Phyllocnistis citrella	*Protea*	Cuttings	South Africa	Portugal	1
Rhizopertha dominica	*Hordeum vulgare*	Stored products	Czech Republic	Poland	1
Sitophilus oryzae	*Hordeum vulgare*	Stored products	Slovakia	Poland	2
	Triticum aestivum	Stored products	Czech Republic	Poland	1
	Triticum aestivum	Stored products	Slovakia	Poland	2
	Zea mays	Stored products	Hungary	Poland	3
Sitophilus oryzae, Rhizopertha dominica	*Zea mays*	Stored products	Hungary	Poland	1
Sitophilus oryzae, Tribolium	*Triticum aestivum*	Stored products	Slovakia	Poland	1

♦♦ 2 consignments in 1998 and 3 in 1999 (see EPPO RS 99/151).

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Spodoptera littoralis	*Fuchsia*	Cuttings	Israel	Guernsey	1
Spodoptera littoralis, Spoladea recurvalis	Unspecified leaves	Vegetables	Nigeria	United Kingdom	1
Thrips palmi	*Dendrobium*	Cut flowers	Thailand	Netherlands	1
	Dendrobium	Cut flowers	Thailand	Denmark	1
	Solanum melongena	Vegetables	Dominican Rep.	Netherlands	1
***Thrips* sp.**	*Dendrobium*	Cut flowers	Thailand	Germany	2
Thysanoptera	*Solanum melongena*	Vegetables	Mauritius	France	1
Tomato yellow leaf curl geminivirus	*Lycopersicon esculentum*	Plants for planting	Spain	France	1
***Tribolium* sp.**	*Hordeum vulgare*	Stored products	Czech Republic	Poland	3
	Hordeum vulgare	Stored products	Slovakia	Poland	3
	Triticale	Stored products	Hungary	Slovenia	2
	Triticum aestivum	Stored products	Slovakia	Poland	1
	Zea mays	Stored products	Hungary	Poland	2
	Triticum aestivum	Stored products	Hungary	Slovenia	3
Tribolium, Cryptolestes	*Hordeum vulgare*	Stored products	Hungary	Slovenia	2
Tribolium, Cryptolestes ferrugineus	*Hordeum vulgare*	Stored products	Hungary	Slovenia	1
	Triticale	Stored products	Hungary	Slovenia	1
	Triticum aestivum	Stored products	Hungary	Slovenia	2
Tribolium, Rhizopertha dominica, Sitophilus oryzae	*Hordeum vulgare*	Stored products	Slovakia	Poland	1

- **Fruit flies**

Pest	Consignment	Country of origin	C. of destination	nb
***Bactrocera* sp.**	*Momordica charantia*	Thailand	France	1
	Syzygium jambos	Thailand	France	1
	Syzygium jambos	Vietnam	France	2
Ceratitis capitata	*Citrus sinensis*	Turkey	Romania	3
	Vitis vinifera	Austria	Poland	1
	Vitis vinifera	Greece	Poland	1
	Vitis vinifera	Italy	Poland	31
***Ceratitis* sp.**	*Mangifera indica*	Cameroon	France	4
	Mangifera indica	Côte d'Ivoire	France	1
	Mangifera indica	Mali	France	1
Tephritidae	*Mangifera indica*	Haiti	France	1
	Mangifera indica	India	Germany	1
	Vitis vinifera	Italy	Poland	1

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
***Monochamus* sp.**	Coniferaceae	Wood	Russia	Austria	1

- **Bonsais**

One consignment of *Acer palmatum* from China was intercepted by United Kingdom because of the presence of *Helicotylenchus dihystera.*

Source: EPPO Secretariat, 1999-10.

99/165 Pest distribution in Canada

The PRA specialists of the Canadian Food Inspection Agency have reviewed the pest distribution data for Canada appearing in *Distribution Maps of Quarantine Pests for Europe*, (DMQPE) and have provided the following additions and corrections. The other information in DMQPE is not considered to require modification (and can thus be considered as effectively validated for 1999).

Bacteria

Curtobacterium flaccumfaciens pv. *flaccumfaciens* (A2 list) should be classed as "Absent: pest no longer present". There is only one 1954 record in Ontario, and general surveillance shows that the pest has not occurred since.

Pantoea stewartii subsp. *stewartii* (A2 list) only occurs in Ontario. There is a single 1986 record in Alberta, associated with imported seeds, but the disease has not been found since. The record in British Columbia is very old (1951), in two growers' crops near Victoria, and again the disease has not been found since. In both cases, the situation should be classed as "Absent : pest no longer present".

Xanthomonas fragariae (A2 list) has been found in New Brunswick, Newfoundland, Nova Scotia and Québec as well as Ontario.

Fungi

Anisogramma anomala (A1 list) is confined to eastern Canada (Manitoba, Ontario and Québec as well as Nova Scotia). Although the fungus is present in Washington and Oregon (neighbouring seaboard states of USA), the statement in QPE that it has spread from them to British Columbia, and the consequent record in that province in DMQPE is erroneous. Movement of plants for planting of *Corylus* from infested areas into British Columbia is restricted by federal phytosanitary measures.

Colletotrichum acutatum (EU Annexes) occurs in New Brunswick, Nova Scotia, Ontario and Québec as well as British Columbia and Manitoba. Records are sporadic.

Gymnosporangium globosum (A1 list) occurs in Manitoba as well as Ontario and Québec. As stated in DMQPE, the record in Saskatchewan is doubtful.

Phytophthora cinnamomi (no longer listed by EPPO or EU) occurs in Nova Scotia, Ontario and Québec as well as British Columbia. The scattered records concern a variety of different hosts.

Puccinia horiana (A2 list) has been confirmed in 1997 as eradicated in British Columbia. There are occasional records from Ontario glasshouses.

Tilletia controversa (A2 list until deleted in 1999-09) is given in DMQPE as present in Alberta, but this is erroneous as already indicated by RS 98/066. It is present in British Columbia and Ontario.

Viruses etc.

Barley stripe mosaic hordeivirus (no longer listed by EPPO or EU) is present only at very low levels, because all breeder's seed of barley is screened before release. It is now extremely rare in western Canada.

Peach latent mosaic viroid (no longer listed by EPPO or EU) is probably widespread in Canada The viroid was detected in 50 trees of peach and nectarine cvs at the national repository at Sidney, British Columbia in 1996. Material from this repository has been widely distributed to other areas in Canada.

Strawberry latent ringspot nepovirus (EU Annexes) has only been found on one occasion, in imported cherry trees in Ontario in 1970. The trees were destroyed and the pest has not been found since. Its status is accordingly "Absent: no longer present". The DMQPE record for Nova Scotia is erroneous.

Tomato black ring nepovirus (EU Annexes) has only been found once, in Ontario, on material imported from Europe (Stobbs & Van Schagen, Can. J. Plant Path. 7, 37-40, 1985) and destroyed. The site was monitored for 5 years and the virus was not detected again. Stobbs & Van Schagen also report that a virus found in cv. Joannes Seyve in Ontario was named Joannes Seyve virus and found to be closely related serologically to TBRV. Bovey & Martelli (1992) considered it to be a strain of TBRV. However, this virus has also not been found since. So the status of TBRV in Canada should be "Absent: no longer present".

Tomato ringspot nepovirus (A2 list) occurs in New Brunswick as well as in British Columbia and Ontario.

Nematodes

Ditylenchus destructor (EU Annexes) has long been "Absent: eradicated" in Canada. Infested fields in Prince Edward Island were established as a quarantine area in the 1940s and an eradication programme was implemented. The area then remained out of potato production for over 20 years. Extensive surveys have been negative since the 1960s.

Globodera pallida (A2 list), present only in Newfoundland, has an extremely limited distribution (Botwood area only). Federal phytosanitary measures restrict spread.

Radopholus similis (A2 list), reported only in British Columbia, has only been found on rare occasions in glasshouses. It does not survive out of doors. (This information already appeared in PQR).

Insects

Bemisia tabaci (A2 list), though recorded in six provinces, has only been found in glasshouses, associated with imported plant material.

Carposina niponensis (A2 list) occurs in Manitoba, Ontario and Québec, but only as its subspecies ottawana, which does not attack Rosaceae. Its status in Canada can therefore be described as "Absent: pest status invalid".

Circulifer tenellus (EU Annexes) was not recorded in Canada in DMQPE. It is an annual migrant into the southern interior of British Columbia.

Conotrachelus nenuphar (A1 list), which occurs generally in eastern Canada, has been reported in British Columbia only once, in 1917, on the basis of damage. This record has since been refuted, and is probable that the record of Bousquet (1991) Checklist of Beetles of Canada and Alaska, which was taken up in DMQPE, was based on this refuted record. There are no other records in British Columbia.

Ips typographus (EU Annexes) was trapped at the port of Montréal (Ontario) in 1996, probably associated with used containers and dunnage which were then destroyed by burning. It has not since been trapped in surveys. Its status can accordingly be described as "Absent: pest no longer present".

Popillia japonica (A2 list) only occurs in Ontario and Québec, and not in Nova Scotia. An outbreak in the Halifax area in the 1940s was eradicated in the early 1950s. There have been no recent records from Nova Scotia.

Rhagoletis cingulata (A1 list), present in many provinces, is also given as present in Newfoundland by DMQPE, on the basis of the 1990 edition of CABI pest map 159. This is an error.

All these points have been added to Version 3.9 of PQR, with greater detail in many cases. This version will be sent out around the end of October 1999. Revised maps will progressively (over coming months) be prepared and displayed on the EPPO Web Site.

It may be noted that, since publication of DMQPE in 1998, many detailed adjustments to the geographical distribution of EPPO and EU quarantine pests have been provided in the Reporting Service (besides the above Canadian corrections). Many maps could now be displayed on the Web Site in slightly revised versions. The EPPO Secretariat is considering how to assign priorities for doing this.

Source: NPPO of Canada, 1999-09

Additional key words: absence, detailed records

Computer codes: BEMITA, BYSLXXX, CARNSI, CIRCTE, COLLAC, CONHNE, CORBFL, CRYPAN, DIDYDE, ERWIST, GYMNGL, HETDPA, IPSXTY, PCLMXX, PHYTCN, POPIJA, PUCCHN, RADOSI, RHAGCI, SYLRSX, TILLCO, TMBRXX, XANTFR, CA

99/166 Development of guidelines for the efficacy evaluation of plant protection products for West Africa

The EPPO Guidelines for the efficacy evaluation of plant protection products are being used by the Comité Sahélien des Pesticides (Bamako, Mali) in collaboration with FAO, as a basis to prepare new guidelines for West Africa. The EPPO format is used for specific pest-crop combinations which are relevant for the Sahel region.

Source: **EPPO Secretariat, 1999-09.**
Communication from Mr van der Valk, Chief Technical Advisor, FAO, Project GCP/RF/335/NET - Gestion des Pesticides au Sahel, BP 1820, Bamako, Mali.

Additional key words: publications

99/167 New book on virology: 'The Luteoviridae'

A new book 'The Luteoviridae' edited by H.G. Smith and H. Barker has been published by CABI in September 1999.
Papers presented during a meeting entitled 'Luteoviruses', organized jointly by the Association of Applied Biologists and the Société Française de Phytopathologie (Royal Agricultural College, Cirencester, UK, 1997-04-24/26), form the basis for this book. It provides a comprehensive review of all current knowledge of the Luteoviridae which are responsible for important crop diseases.
The book includes the following chapters:

1. Steps in the development of luteovirology
2. Family *Luteoviridae*: a reclassification of luteoviruses
3. The structure and expression of luteovirus genomes
4. Agro-infections as a means of transmitting luteoviruses to host plants for study of gene function
5. Movement of luteoviruses in infected plants
6. Vector-virus interactions
7. Detection and diagnosis of luteoviruses
8. The development of resistance to luteoviruses mediated by host genes and pathogen-derived transgenes
9. Epidemiology and control strategies

This book can be obtained from CABI at the price of 60 GBP

CABI Publishing
Wallingford
Oxon OX10 8DE
UK
Tel: +44 1491 832111
Fax: +44 1491 829292
E-mail: orders@cabi.org

Source: **EPPO Secretariat, 1999-09.**

Additional key words: publication