ORGANISATION EUROPÉENNE ET MÉDITERRANÉENNE POUR LA PROTECTION DES PLANTES
EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION

EPPO

Reporting Service

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EPPO *Reporting Service*

93/171 **FAO/CPPC...New Regional Plant Protection Officer in the Caribbean**

A new Plant Protection Officer for the CPPC (Caribbean Plant Protection Commission) has been appointed. Gene V. Pollard assumed the role of Regional Plant Protection Officer, FAO, Port of Spain, Trinidad and replaces Charles Schotman who left two years ago.

Source: **NAPPO Newsletter, Vol. 13, No.4**

93/172 **FAO/SPC...New Regional Plant Protection Officer in the Pacific**

The South Pacific Commission (SPC) has a new Plant Protection Officer. The new Plant Protection Officer is Mr Semisi Pone who replaced Bob Macfarlane in June 1993.

Source: **SPC Agricultural News, Vol. 2, No. 1**

93/173 NZ...Increased penalties for quarantine violations in New Zealand

The penalties for bringing risk goods into New Zealand without proper biosecurity clearance have been increased dramatically. Any person convicted of knowingly:

- having unauthorized goods (not properly cleared by an inspector);

- buying, selling, exchanging or otherwise disposing of unauthorized goods; or

- tampering with or removing without an inspector's permission seized risk goods

will be liable to imprisonment for up to five years, a fine up to 100 000,- NZD or both. The penalty rises to 200 000,- NZD if a corporation is convicted of any of these offences.

Source: "Clearance of imported risk goods" (1993)
Sentinel No. 32, (1993-09-15), p. 2

93/174 **PHYTFR/PHYTRU...**Taxonomy of *Phytophthora fragariae* var. *fragariae* and var. *rubi*

In September 1991 EPPO has changed its A2 quarantine list to the effect that *Phytophthora fragariae* had been subdivided into *P. fragariae* var. *fragariae* and *P. fragariae* var. *rubi* (EPPO A2 quarantine pests). A scientific report on the separation (Wilcox et al., 1993) has now been published describing the differences between the two varieties of *Phytophthora fragariae*.

Source: Wilcox, W.F.; Scott, P.H., Hamm, P.B.; Kennedy, D.M.; Duncan, J.M.; Brasier, C.M.; Hansen, E.M. (1993) Identity of a *Phytophthora* species attacking raspberry in Europe and North America.
Mycological Research 97, 817-831.

93/175 **PHYTFR...**Resistance of strawberry cvs. to *Phytophthora fragariae* var. *fragariae*

Experiments were carried out in North Carolina (US) to study the colonization of roots of strawberry cultivars with different levels of susceptibility to *Phytophthora fragariae* var. *fragariae* (EPPO A2 quarantine pest). Roots of the different cvs. were examined 2, 4, 6, 8 and 10 d after inoculation with the fungus. It was found that *P. fragariae* var. *fragariae* colonized the roots of partially resistant cvs. much slower than those of susceptible cvs. and that it developed fewer reproductive organs. Very few or no sporangia were formed and thus, with no production of secondary inoculum the strawberry plants were able to grow and produce good crops.

Source: Milholland, R.D.; Daykin, M.E. (1993) Colonization of roots of strawberry cultivars with different levels of susceptibility to *Phytophthora fragariae*.
Phytopathology 83, 538-542.

93/176 **PUCCHN/MX...*Puccinia horiana* found in Mexico**

Puccinia horiana (EPPO A2 quarantine pest) has been found in Mexico. The causal agent of white rust of chrysanthemums has been detected in several municipalities in the State of Mexico. USDA/APHIS has issued an import ban on cuttings, plants and cut flowers of chrysanthemums after Mexican chrysanthemums had been found infected by the fungus.

Source: **NAPPO Newsletter Vol. 13, No. 4, p. 13**

96/177 **PUCCHN...EPPO Distribution List for *Puccinia horiana***

Due to the new record of *Puccinia horiana* (EPPO A2 quarantine pest) in Mexico the distribution of this pest is as follows:

EPPO Distribution List: *Puccinia horiana*

P. horiana originates in Japan and has spread to other Far Eastern countries, to South Africa, and from there to Europe.

EPPO region: Widespread in France and Germany; since about 1964, locally established in Austria, Belgium, Bulgaria, Denmark, Hungary, Italy, Netherlands, Poland (unconfirmed), Sweden, Switzerland, Tunisia, UK (accepted as established in Great Britain since 1988 and in Northern Ireland since 1990) and Yugoslavia. Reported but not established in Finland, Ireland (1977) and Luxembourg. Intercepted only in Czechoslovakia. Eradicated in Norway (declared in 1988) and Cyprus (1987)
Asia: China, Hong Kong, Japan, Korea Democratic People's Republic, Korea Republic, Malaysia, Russia (Far East), Taiwan, Thailand.
Africa: South Africa, Tunisia.
North America: Mexico, USA (outbreak in New Jersey and Pennsylvania in late 1970s; outbreaks in Oregon and Washington in 1990, declared eradicated, in 1993 new outbreak in California - Reporting Service 93/161, 1993 No. 9).
South America: Argentina, Brazil, Chile, Colombia.
Oceania: Australia (declared absent despite interception reports; outbreak in Victoria in 1986), New Zealand (1965).

This distribution list replaces all previous published EPPO Distribution Lists on Puccinia horiana!

Source: **EPPO Secretariat, Paris (1993-10)**

93/178 **GVFDXX/IT...**Grapevine MLOs in Italy

Strains of grapevine flavescence dorée MLO (EPPO A2 quarantine pest) from northern Italy (IT), southern European grapevine yellows MLO from southern Italy, Italian periwinkle virescence disease (MLO strain from northern Italy) and American aster yellows MLO were compared to assess the degree of relatedness between these MLOs. Biotinylated cloned DNA probes were employed in dot hybridizations and restriction fragment length polymorphism (RFLP) analysis to compare these MLOs. Results obtained by this joint Italo-American research project indicated that at least two distinct MLOs are associated with grapevine yellows in Italy. Dot hybridization results revealed some relatedness between the grapevine flavescence dorée and southern European grapevine yellows as well as Italian periwinkle virescence disease with American aster yellows MLO. RFLP showed some similarities between southern European grapevine yellows and Italian periwinkle virescence disease, but showed a marked difference between these and grapevine flavescence dorée MLO.

Source: Davis, R.E.; Dally, E.L.; Bertaccini, A.; Lee, I.-M.; Credi, R.; Osler, R.; Savino, V.; Carraro, L.; Di Terlizzi, B.; Barba, M. (1993) Restriction fragment length polymorphism analysis and dot hybridizations distinguish mycoplasma-like organisms associated with flavescence dorée and southern European grapevine yellows disease in Italy.
Phytopathology 83, 772-776.

93/179 **ANTHSI...**Development of *Anthonomus signatus*

Studies on the biology of *Anthonomus signatus* (EPPO A1 quarantine pest) have been undertaken in Canada. It was found that the sexes of the pest can be easily distinguished and that a constant sex ratio of 1:1 can be found in spring and summer. The maximum abundance of eggs is at 385 degree-days (DD), first instar larvae at 664 DD, second instars at 750 DD, third instars at 922 DD, pupae at 1223 DD and adults at 1465 DD. These degree-days were calculated from 1st of April with a 0° C threshold. First instars reached their maximum abundance at the beginning of petal fall of strawberries, second instars peak at the first green fruit and third instars when the first ripe fruit can be observed in the field. The population of summer adults starts to appear about the time of the first green fruit and increases rapidly as the last strawberry pick approaches. The development time from egg to adult is approximately 63 d. Adults enter a diapause at the beginning of August. Field observations showed that the spring emergence of adults is not gradual but sudden with a tremendous increase within a very short period of time.

Source: Mailloux, G.; Bostanian, J. (1993) Development of the strawberry bud weevil (Coleoptera: Curculionidae) in strawberry fields.
Annals of the Entomological Society of America 86, 384-393

93/180 **BEMITA...**Squash silverleaf symptoms induced by *Bemisia tabaci* immatures

Studies were carried out in Hawaii (US) to investigate the involvement of *Bemisia tabaci* (EPPO A2 quarantine pest) immatures in the induction of silverleaf symptoms on squash (*Cucurbita pepo*). Plants infested with 20 adult whiteflies for 48 h with a subsequent removal of immature offspring of the pest did not develop the typical silverleaf symptoms. In contrast, if the immature stages were allowed to stay and feed on the plants the plants developed silverleaf symptoms. A significant regression was found indicating a positive relationship between the severity of silverleaf and the number of immature *B. tabaci* present on a plant. Furthermore, it was discovered that adult whiteflies were not able to induce the disease even at very high infestation levels. Plants infested with 20 adults per day for each of 10 consecutive days did not develop any silverleaf symptoms.

Source: Costa, H.S.; Ullman, D.E.; Johnson, M.W.; Tabashnik, B.E. (1993) Squash silverleaf symptoms induced by immature, but not adult, *Bemisia tabaci*.
Phytopathology 83, 763-766.

93/181 **PRABMY...**Biocontrol of *Parabemisia myricae* in Italy

The biological control of *Parabemisia myricae* (EPPO A2 quarantine pest) in Italy has given relatively successful results. In southern Italy several aphelinid species have adapted to this recent whitefly introduction and spontaneously live on them. Best biocontrol results were achieved by introducing, from Israel, a species of the genus Eretmocerus. Propagative releases of this species have been carried out in various citrus-growing areas in Sicily and Calabria and the species showed its capability to establish itself in all areas and to cause an average parasitation rate of 20-30%. It is thought that the parasite will soon control *P. myricae* very efficiently in Italy's citrus-growing areas.

Source: Barbagallo, S.; Longo, S.; Rapisarda, C.; Siscaro, G. (1993) Status of the biological control against citrus whiteflies and scale insects in Italy. **IOBC/WPRS Bulletin 16(5), 109-115.**

93/182 **TOXOCI...**Further spread of *Toxoptera citricidus* in the Caribbean

Toxoptera citricidus (EPPO A1 quarantine pest) has spread further in the Caribbean. The newest record comes from Cuba where the brown citrus aphid has been discovered in the Guantanamo Bay. The pest has been confirmed now from the Cuban provinces of Guantanamo, Santiago de Cuba, Granma, and Holguin. According to the NAPPO newsletter *T. citricidus* has also invaded Haiti and Puerto Rico.

Source: **NAPPO Newsletter Vol. 13, No. 4, p. 2;13.**

93/183 **TOXOCI...**EPPO Distribution List: *Toxoptera citricidus*

Due to the new records of *Toxoptera citricidus* (EPPO A1 quarantine pest) in Cuba, Haiti and Puerto Rico the distribution list of this pest looks as follows:

EPPO Distribution List: *Toxoptera citricidus*

T. citricidus occurs predominantly in humid tropical regions and presumably originated in south-east Asia and spread on citrus plants to other tropical areas. It has also spread to areas of Mediterranean climate (Australia, South Africa, Chile).

EPPO region: Absent (supposed records from Cyprus, Italy, Malta and Spain refer to *T. aurantii*).
Asia: Widespread in south-east Asia; China, Indonesia, India, Japan, Korea Dem. Peoples Republic, Korea Republic, Malaysia, Philippines, Sri Lanka, Thailand, Taiwan.
Africa: Widespread south of the Sahara; Congo, Cameroon, Ghana, Kenya, Mauritius, Mozambique, Nigeria, Réunion, Senegal, Sierra Leone, South Africa, St. Helena, Sudan, Tanzania, Uganda, Zimbabwe.
North America: USA (Hawaii only).
Central America and Caribbean: Cuba, Dominican Republic, Guadeloupe, Haiti, Martinique, Puerto Rico, Saint Lucia, Trinidad and Tobago only. Note that the first edition of the EPPO data sheet on *T. citricidus* (OEPP/EPPO, 1980) erroneously gave it as widespread in the Caribbean except Trinidad.
South America: Widespread; Argentina, Brazil, Chile, Ecuador, French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela.
Oceania: Australia (New South Wales, South Australia, Queensland, Victoria, Western, Australia, Tasmania), Cook Islands, Fiji, New Zealand (North Island).

This distribution list replaces all previous published EPPO Distribution Lists on Toxoptera citricidus!

Source: **EPPO Secretariat, Paris (1993-10)**

93/184 **BURSXY/MX...*Bursaphelenchus xylophilus* found in Mexico**

For the first time *Bursaphelenchus xylophilus* (EPPO A1 quarantine pest) has been isolated from Mexican *Pinus estevesii* logs. The infested trees were found in the state of Nuevo Leon in an area called La Botella. According to the author the trees had been killed by bark beetles; foraging and larval entrance holes and larvae characteristic of *Monochamus* spp. were found. Pine wood nematodes were extracted from the trees and reared on fresh wood chips of *P. strobi*. Pathogenity tests on seedlings of *P. sylvestris* showed that the nematodes were capable of killing two thirds of the seedlings within three months. The author assumed that the pine wood nematode had been transmitted during oviposition of the vector to the dead or dying pines and was a secondary associate.

Source: Dwinell, D.J. (1993) First report of pine wood nematode (*Bursaphelenchus xylophilus*) in Mexico.
Plant Disease 77, p.846

93/185 **BURSXY...EPPO Distribution List for *Bursaphelenchus xylophilus***

Due to the new record of *Bursaphelenchus xylophilus* in Mexico the distribution of this EPPO A1 quarantine pest is as follows:

EPPO Distribution List: *Bursaphelenchus xylophilus*

It is presumed that *B. xylophilus* originated in North America and was transported from there to the southern Japanese island of Kyushu in infested timber at some time around the beginning of the 20th century. The fact that native American conifers are mostly resistant, while Japanese species are susceptible, tends to support this view. From Japan it has spread to other Asian countries.

EPPO region: Absent.

Surveys to determine whether *B. xylophilus* may be present have been conducted in several European countries (including Finland, Germany, Netherlands, Norway, Poland, Sweden, UK) but the species was not found. Furthermore, an examination in Finland of 150 consignments of conifer wood from European countries failed to detect the species. *B. xylophilus* was reported on *P. pinaster* in the south-west of France but later microscopic and biochemical examination showed that it was, in fact, *B. mucronatus*. It was found associated with dead or dying *Pinus*, but it was concluded that it was not responsible for the mortality. In addition to France, *B. mucronatus* has also been found in Austria, Finland, Norway, Russia, Sweden.

Asia: China (Jiangsu Province only; Zhang & Huang, 1990), Hong Kong, Japan, Korea Republic, Taiwan.

Africa : Nigeria (dubious record)

North America: Canada, USA (recorded from at least 34 states).

This distribution list replaces all previous published EPPO Distribution Lists on Bursaphelenchus xylophilus!

Source: **EPPO Secretariat, Paris (1993-09)**

93/186 MELGCH...Onions - a new host for *Meloidogyne chitwoodi*

In California (US) young onion plants (*Allium cepa*) showed severe stunting and root galling. Reason for these symptoms were investigated and it was found that *Meloidogyne chitwoodi* (potential EPPO A2 quarantine pest) was the causal agent of this disease. The pathogenity of the nematodes was confirmed in greenhouse tests. This is the first report of the root-knot nematode infesting onions.

Source: Westerdahl, B.B.; Anderson, C.E.; Noffsinger, E.M. (1993) Pathogenicity of the Columbia root-knot nematode (*Meloidogyne chitwoodi*) to onions.
Plant Disease 77, p. 847.

93/187 **XIPHAM...**Taxonomy of *Xiphinema americanum*

Several members of the EPPO ad hoc Panel on *Xiphinema americanum* (EPPO A1 quarantine pest) have criticised the key to the *X. americanum* group published by Lamberti and Carone in 1992. Main argument is that a key using such simple divisions and relying on few characters does not work and that several characterizations are unreliable. They propose instead specific determinations by means of biochemical or molecular techniques.

Source: Loof, P.A.A.; Luc, M.; Coomans, A. (1993) The *Xiphinema americanum* group (Nematoda: Dorylaimida). 1. Comments upon the key to species published by Lamberti and Carone (1992).
Fundamental and Applied Nematology 16, 355-358.

93/188 **PUBLICATION/NAPPO/OIRSA...**Publication Bulletins 10 & 11

The North American Plant Protection Organization (NAPPO) has published its Bulletin No. 11 with the title: "International approaches to plant pest risk analysis". The publication contains the proceedings of the "APHIS/NAPPO International Workshop on the Identification, Assessment and Management of Risks due to Exotic Agricultural Pests" which was held in Alexandria, Virginia, (US) in 1991-10-23-25.

The North American Plant Protection Organization (NAPPO) and "Organismo Internacional Regional de Sanidad Agropecuaria" (OIRSA) have jointly published NAPPO Bulletin No. 10 dealing with "recommendations regarding fruit fly management/eradication in the western hemisphere". The bulletin includes the current status of distribution and management of fruit flies in North America, the Caribbean Islands, Central America and South America. Recommended programmes, planning and support as well as programme benefits are also outlined in the bulletin.

Copies of this bulletin can be obtained from:

NAPPO
c/o Agriculture Canada
Ottawa K1A OC6
Canada

Source: **EPPO Secretariat, Paris (1993-09)**

93/189 **PUBLICATION...**Computer programme to identify *Ditylenchus* spp.

A computer programme, called DITYL, to identify species of *Ditylenchus* has been developed in Skierniewice, PL. The programme was written in Pascal and can be used on any IBM compatible PC with 640 kB RAM. The identification programme is based on Gower's General Coefficient of Similarity which has also been used for other nematode identification programmes. It allows for simultaneous comparison of all features used for identification. The computer output lists five species most similar to the unknown specimens being identified.

Address of Authors:

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Source: Viscardi, T.; Brzeski, M.W. (1993) DITYL: computerized key for species identification of *Ditylenchus*.
Fundamental and Applied Entomology 16, 389-392.

93/190 **ARETS...**Resistance in western hemlock

Experiments were carried out in Canada to investigate possible resistance of western hemlock (*Tsuga heterophylla*) to *Arceuthobium tsugense* (EPPO A1 quarantine organism). It was found that several trees show a high degree of resistance to the dwarf mistletoe and further experiments showed that the resistance of these trees could be repeated in clonal material derived from these trees. The authors assume that the resistance mechanism is operating within, rather than outside, the host branch.

Source: Smith, R.B.; Wass, E.F.; Meagher, M.D. (1993) Evidence of resistance to hemlock dwarf mistletoe (*Arceuthobium tsugense*) in western hemlock (*Tsuga heterophylla*) clones.
European Journal on Forest Pathology 23, 163-170.