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96/021 EPPO Electronic Documentation Service

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Current Contents

At present EPPO Electronic Documentation can provide the following documents:

- EPPO Reporting Service from January and February 1996 (English and French versions)
- EPPO Summary of the Regulations of the EU Member States (in 3 parts, in English)
- EPPO Data Sheets on Quarantine Pests (English and French versions)
- EPPO Specific Quarantine Requirements (English and French versions)
- Glossary of Phytosanitary Terms (English and French versions)

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Source: EPPO Secretariat, 1996-02.

96/022 Situation of *Burkholderia* (*Pseudomonas) solanacearum* in France and Portugal

Recently, the EPPO Secretariat sent a questionnaire to all its member countries to review the status of *Burkholderia* (*Pseudomonas*) *solanacearum* (EPPO A2 quarantine pest) throughout the EPPO region. The answers to this questionnaire have been summarized in EPPO RS 96/003. The present situation in France and Portugal is reported as follows.

- **France**:

In autumn 1995, four foci of *B. solanacearum* were observed. Two foci were found on tomato crops grown in glasshouses in Lot et Garonne and Loire-Atlantique, one focus was found on outdoor tomatoes in Lot et Garonne, and a focus was observed on a plot for comparative trials of potatoes in an experiment station located in Essonne, far away from production areas of seed and ware potatoes. All these foci have been eradicated, production sites and equipment have been completely disinfected. On plots where infection has been found, it is prohibited to grow any susceptible plants for a minimum period of 3 years and the absence of volunteer plants and wild Solanaceae has to be checked.

- **Portugal**

B. solanacearum was found in potato fields during the 1940s and at the beginning of the 1950s. At that time, appropriate measures were taken and the bacterium was successfully eradicated. Recently, in April/May 1995, new outbreaks were found in ware potato fields located in the centre-coastal part of the country. After study, it was concluded that the source of these foci was infected seed potatoes imported from the Netherlands. Immediate action was taken to eradicate the disease. The measures applied included: lifting all potatoes in infected fields and transport under quarantine for destruction; disinfection of all material which had entered into contact with contaminated plants or soil; prohibition of the production of potato and other Solanaceae on the infected fields for 4 years; avoidance of water flow from infected fields to the immediate vicinity; application of cultural techniques which promote the acidity of the soil. In addition, the level of inspection and surveillance in the infected/suspect fields and their neighbouring areas has been increased.

Source: **Plant Protection Service of France, 1996-02**
Plant Protection Service of Portugal, 1996-02

Computer codes: PSDMSO.

96/023 Fireblight foci in Puy-de-Dôme (FR)

In France, significant foci of fireblight, caused by *Erwinia amylovora* (EPPO A2 quarantine pest) were found in Puy-de-Dôme, in two communes (Blanzat and Sayat). Pear trees (cv. Packham's and Alexandrine Douillard) were severely affected, and symptoms were also observed on apple trees (especially on cv. Idared and Gloster). Some ornamentals such as pyracantha and cotoneaster were also infected.

Source: Anonymous (1995) Phyto Regions...Auvergne. Feu Bactérien sous les volcans.
Phytoma - La défense des végétaux, n° 478, p 4.

Additional key words: detailed record. **Computer codes:** ERWIAM, FR

96/024 *Toxoptera citricida* found in Florida (US)

In November 1995, *Toxoptera citricida* (EPPO A1 quarantine pest, vector of citrus tristeza closterovirus) was found for the first time on an orange tree in a residential property, in Florida (US). Trees of the infested property were treated with an insecticide. It is noted that some strains of citrus tristeza closterovirus are present in Florida, but that many commercial orchards have been spared from the effects of the virus due to the lack of an efficient vector. Further surveys are being carried out in the vicinity of the initial infestation, and an action plan has been developed in order to deal with the possible introduction of this pest in Florida.

Source: Anonymous (1996) Brown citrus aphid invades Florida.
NAPPO Newsletter, 16 (1), p 2.

Additional key words: new record**.** **Computer codes:** TOXOCI, US

96/025 *Hyphantria cunea* found in Tessin (CH)

Hyphantria cunea (EPPO A2 quarantine pest) was found for the first time in Tessin, Switzerland, in 1991. During the following years (from 1991 to 1994), adults were trapped in the south of Tessin. In 1993, two foci of larvae were found for the first time on grapevine and on *Salix caprea*. However, the number of trapped insects was low and in 1994 no attack of larvae was reported. The authors felt that, according to all these observations, it is not possible to conclude whether these findings correspond to a progressive migration of the insect from Italy or to a colonization of Switzerland from small foci which escaped the control measures applied.

Source: Jermini, M.; Bonavia, M.; Brunetti, R.; Mauri, G.; Cavalli, V. (1995) *Metcalfa pruinosa* Say, *Hyphantria cunea* (Drury) et *Dichelomyia oenophila* Haimah., trois curiosités entomologiques ou trois nouveaux problèmes phytosanitaires pour le Tessin et la Suisse ? **Revue Suisse de Viticulture, Arboriculture, Horticulture 27(1), 57-63.**

Additional key words: new record. **Computer codes:** HYPHCU, CH

96/026 *Bactrocera dorsalis* trapped in California and Florida (US)

A mature male *Bactrocera dorsalis* (EPPO A1 quarantine pest) was trapped in California (US), in December 1994. The fly was recovered from a Jackson trap located in an orange tree, in the County of Los Angeles. In August 1995, a male *B. dorsalis* was trapped in the the County of San Jose, another in the County of Orange, and a female was trapped in the County of Los Angeles. In November 1995, in the County of Los Angeles, two males were trapped in a guava tree and one male was caught in an olive tree. In December 1994, a mature male was detected in the Fort Lauderdale area of Broward Country in Florida. The fly was recovered from a Jackson trap placed in a calamondin tree. This is the first detection of *B. dorsalis* in Florida since 1969.

Sources: Anonymous (1995) APHIS Abstracts **NAPPO Newsletter, 15 (2), p 3.**
Anonymous (1995) APHIS Abstracts **NAPPO Newsletter, 15 (4), p 5.**
Anonymous (1996) APHIS Abstracts **NAPPO Newsletter, 16 (1), p 11.**

Additional key words: detailed records**.** **Computer codes:** DACUDO, US

96/027 *Anastrepha ludens* trapped in California (US)

In November and December 1995, ten *Anastrepha ludens* (EPPO A1 quarantine pest) were trapped in California (US). Insecticide treatments have been carried out in the infested area and preparations are being made to release sterile fruit flies. In addition, quarantine measures are being applied to prevent movement of host material out of this area.

Source: Anonymous (1996) APHIS Abstracts
NAPPO Newsletter, 16 (1), pp 6 & 11.

Additional key words: detailed record. **Computer codes:** ANTLU, US.

96/028 Further spread of *Maconellicoccus hirsutus* in the Caribbean

Maconellicoccus hirsutus (pink or Hibiscus mealybug) has newly been introduced into the Caribbean. This pest has been found in Grenada in November 1994, and Trinidad in August 1995 (see EPPO RS 95/235). More recently (in November 1995), the pink mealybug has also been reported in St Kitts & Nevis.

Source: Pollard, G.V. (1995) Update on new pest introductions - Continuing spread of pink mealybug, *Maconellicoccus hirsutus*.
FAO Circular letter, No. 4/95, FAO Regional Office for Latin America and the Caribbean.

Additional key words: new record. **Computer codes:** KN

96/029 *Tilletia controversa* is not present in Germany

The EPPO Secretariat has recently been informed by the Plant Protection Service of Germany that *Tilletia controversa* (EPPO A2 quarantine pest) is no longer present in Germany. This fungus was found in the 1960s and 1970s, but sporadically and in limited areas situated at high altitude. Since 1984, this pathogen has not been found again. Therefore, the record concerning Germany should now read: absent, found in the past but did not establish and the EPPO distribution list (EPPO RS 94/055) should be modified accordingly.

Source: **Plant Protection Service of Germany, 1996-02.**
Additional key words: denied record. **Computer codes:** TILLCO, DE.

96/030 Present situation of citrus tristeza closterovirus in Spain

The article of Cambra *et al*. (1995) recalls that citrus tristeza closterovirus (EPPO A2 quarantine pest) was probably introduced into Spain in the 1930s, but was only detected in 1957 when the disease reached epidemic levels. Since then, more than 190 million trees grafted on sour orange died. In Spain, most citrus trees are grown in the Comunidad Valenciana (80 %), and in Andalucía and Murcia. Citrus orchards are also found in Tarragona, Baleares and Canarias. Today, tristeza is the most serious disease of citrus crops and surveys are regularly carried out. During recent years, these surveys have shown an increase in disease incidence, especially in the Comunidad Valenciana, Murcia and Ebro delta. This change seems to be partly due to an increase of populations of the vector *Aphis gossypii*. For example, in the Comunidad Valenciana, mean percent infection was 14 % in 1989, and reached 46 % in 1995. In Spain, it is now considered that 39 million trees are infected (30 % of the citrus crop). The authors took the view that this may be the opportunity to renew the infected orchards and promote plantation of tolerant rootstocks. They also point out that the use of new diagnostic methods like immunoprinting ELISA can provide useful tools in surveying citrus orchards, and can facilitate the decision-making process of the grower when infection is found, as it is easier to evaluate the level of infection.

Source: Cambra, M.; Camarasa, E.; Gorris, M.T.; Roman, M.P. (1995) Distribución actual de la trizteza de los cítricos y nuevos métodos de diagnóstico.
Phytoma España, No. 72, 150-158.

Additional key words: detailed record**.** **Computer codes:** CSTXXX, ES

96/031 Citrus whiteflies in Spain

In Spain, several whitefly species are present in citrus. In 1932, *Bemisia hancocki* was reported as a damaging pest on lemon, but nowadays it is well controlled by an hymenopteran (*Eretmocerus mundus*) and is no longer considered as a real pest. In the 1940s, *Aleurothrixus floccosus* was found in the Canary Islands and contributed to the reduction of lemon crops. Since 1968, this pest has become a major citrus pest in Spain and is considered as the most damaging whitefly of citrus crops. In 1987, *Dialeurodes citri* was detected in the Province of Alicante. It is now limited to the Provinces of Alicante and Valencia, as in other regions it is effectively controlled by natural enemies. In 1991, *Parabemisisa myricae* (EPPO A2 quarantine pest) and *Paraleyrodes minei* were observed in Málaga. At first *P. myricae* caused serious problems in this region, and then spread to all citrus-growing areas in Spain. Natural enemies (*Encarsia* sp.) are able to reduce its population levels but, under certain conditions, *P. myricae* can still cause significant damage. *P. minei* is limited to Málaga. Finally, *Aleurodicus dispersus* was found in large numbers in 1992 on lemon, although it has been sporadically observed in the Canary islands since 1963. It is not considered as a serious citrus pest, although when abundant it may cause damage on other host plants such as banana and palm trees. Control methods against citrus whiteflies are reviewed in this paper.

Source: Garrido, A. (1995) Moscas blancas en España en los cítricos: Importancia, interacción entre especies, problemática y estrategia de control.
Phytoma España, No. 72, 41-47.

Additional key words: detailed record.

Computer codes: ALEDDI, ALTHFL, PRABMY, DIALCI, ES.

96/032 Proposed names for citrus greening bacterium and lime witches' broom phytoplasma

The greening disease of citrus (EPPO A1 quarantine pest) is caused by a phloem-restricted bacterium which has not been cultured. Characterization studies have been carried out on an Asian strain and an African strain of this bacterium and it was suggested that those two strains could belong to a new group of Proteobacteria, provisionally called 'Liberobacter'. Further genetic studies carried out on the African and Asian liberobacter indicated that they represent 2 different species in the proposed genus *Liberobacter*. Therefore the names '*Candidatus Liberobacter asiaticum*' and '*Candidatus Liberobacter africanum'* are proposed for the two forms of citrus greening.

Lime witches' broom phytoplasma (EU Annex II/A1) has been characterized by studying its genome size, the sequences of its 16S ribosomal DNA and the 16S-23S ribosomal DNA spacer region, and hybridization profiles obtained by using specific probes. The size of the phytoplasma genome is 720 kbp. Genomic similarities with the phytoplasmas of sunhemp (*Crotalaria juncea*), sesame and lucerne phyllody were demonstrated, and it was found that the lime witches' broom phytoplasma belongs to the sunhemp phyllody phylogenetic subgroup. A proposal has been made to designate the causal agent of lime witches' broom, as '*Candidatus Phytoplasma aurantifolia'*. This name has an interim taxonomic status because 'Phytoplasma' has been approved only as a trivial name for MLOs, and not for a genus.

Sources: Jagoueix, S.; Bové, J.M.; Garnier, M. (1994) The phloem-limited bacterium of greening disease of citrus is a member of the alpha subdivision of the Proteobacteria.
International Journal of Systematic Bacteriology, 44(3), 379-386.

Planet, P.; Jagoueix, S.; Bové, J.M.; Garnier, M. (1995) Detection and characterization of the African citrus greening liberobacter by amplification, cloning and sequencing of the rlp KAJL - rpo BC operon.
Current Microbiology, 30(3), 137-141.

Zreik, L.; Carle, P.; Bové, J.M.; Garnier, M. (1995) Characterization of the mycoplasmalike organism associated with witches' broom disease of lime and proposition of a *Candidatus* taxon for the organism "*Candidatus Phytoplasma aurantifolia*".
International Journal of Systematic Bacteriology, 45(3), 449-453.

Additional key words: taxonomy **Computer codes:** CSLWBX, CSGXXX

96/033 Report of phytoplasma infection in European plums in Italy

In Italy, in the western part of the Trentino region, a decline has been observed for several years in a European plum cultivar (*Prunus domestica*, cv. Susina di Dro). Symptoms are similar to those reported for Japanese plum leptonecrosis phytoplasma on Japanese plum (*Prunus salicina*). Symptoms are characterized by an upward rolling of the leaves, which also became bronze-reddish, thick and brittle, a growth of normally dormant axillary buds, an off-season growth during November-January and a phloem necrosis. Phytoplasmas were constantly detected by the DAPI technique and by PCR amplification of DNA in symptomatic trees. So far, phytoplasma infections of European plums had only been reported from France in limited areas. Therefore, the authors noted that this is the first report of a widespread phytoplasma disease in a cultivar of European plum. In addition, RFLP analysis with restriction endonuclease revealed a pattern identical to that of phytoplasmas from Japanese plum affected by plum leptonecrosis and apricots affected by apricot chlorotic leafroll (EPPO A2 quarantine pest). The authors felt that their results are a further indication that the phytoplasmas present in *Prunus* species in Europe are closely related and belong to the same cluster (apple proliferation cluster). They felt that this is a further justification for grouping all phytoplasmas causing diseases of European stone fruit under the name of European stone fruit yellows (see EPPO RS 96/003).

Source: Poggi Pollini, C.; Bissani, R.; Giunchedi, L.; Vindimian, E. (1995) Occurrence of phytoplasma infection in European plums (*Prunus domestica*).
Journal of Phytopathology, 143(11-12), 701-703.

Computer codes: ABCLRX, PRNDO, PRNSC, IT.

96/034 Susceptibility of potato cultivars to *Synchytrium endobioticum*

Studies have been carried out in United Kingdom to compare the laboratory and field reaction of a range of potato cultivars to infection with *Synchytrium endobioticum* (EPPO A2 quarantine pest). A range of resistant (RG1), less resistant* (RG2) and susceptible cultivars (S) has been used. It was found that the degree of susceptibility observed in laboratory tests is well correlated with the reaction of cultivars in field tests. The study was also designed to assess the extent of winter spore production in RG2 cultivars, as this can be of interest to the control of the pathogen and its eradication on infested sites. The author observed that the RG2 cultivars studied (cvs Mona Lisa, Pentland Crown, Red Craigs Royal, Pentland Kappa and Ausonia) produced winter spores in the field test. 10 % of the winter spores obtained from cv. Ausonia germinated in distilled water. Compost from the field plot was estimated to contain 14-18 apparently viable spores/g, and this resulted in 100 % infection of the highly susceptible cultivar Arran Chief when grown on the plot. For descheduling procedures, the author felt that in order to avoid any risk of rejuvenating infection in sites previously found infested, only resistant cultivars (RG1) should be selected. The author also pointed that the spore counts which have been suggested as a criteria for descheduling land are not reliable, as the results obtained in this study demonstrate the need to deschedule only the land in which no apparently viable spores are recovered.

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* Less resistant cultivars show intermediate reaction and may produce winter spores in laboratory tests but no wart tissue in the field. And it was felt that these cultivars may represent a hazard if grown on infected sites, as they could contribute to the development of new races and could rejuvenate an ageing spore population.

Source: Browning, I.A. (1995) A comparison of laboratory and field reactions of a range of potato cultivars to infection with *Synchytrium endobioticum* (Schilb.) Perc.
Potato Research, 38 (3), 281-289.

Additional key words: resistance, descheduling. **Computer codes:** SYNCEN.

96/035 Specific ELISA detection of the Andean strain of potato S carlavirus

Potato S carlavirus (PVS) affects many cultivars of potatoes worldwide. However, some variants from several South American potato cultivars have been described and designated as the Andean strain of potato virus S (PVS^A). They produced systemic mottle symptoms and necrosis in *Chenopodium quinoa*, and are transmitted more effectively by aphids or by contact than the isolates usually occurring in European countries. In UK, isolates of PVS^A have been reported in some breeder's selections and potato cultivars imported for trial (Dolby & Jones, 1987). As there is some concern about the spread of PVS^A, the authors stressed the need for rapid diagnosis. An ELISA test using four monoclonal antibodies specific of PVS^A has been developed in Czech Republic. These monoclonal antibodies reacted with four isolates of PVS^A but not with six other viruses of the carlavirus group. The authors felt that these monoclonal antibodies could be used to produce specific diagnostic kit for routine detection of PVS^A.

Sources: Cerovska, N.; Filigarova, M. (1995) Specific detection of the Andean strain of potato virus S by monoclonal antibodies.
Annals of Applied Biology, 127(1), 87-93.

Dolby, C.A.; Jones, R.A. (1987) Occurrence of the Andean strain of potato virus S in imported potato material and its effects on potato cultivars.
Plant Pathology, 36, 381-388.

Additional key words: detection method.

96/036 NAPPO quarantine lists for potato pests

NAPPO has recently published its official lists of A1 and A2 quarantine pests for potatoes, and also a B1 list containing potato pests of potential economic importance which can be managed by an officially accredited seed potato certification program.

NAPPO A1 Quarantine Pests of potatoes

- Viruses

Andean potato mottle comovirus
Andean potato latent tymovirus
Arracacha A nepovirus
Potato mop top furovirus
Potato deforming mosaic disease
Potato T capillovirus
Potato U nepovirus
Potato V potyvirus
Potato Y potyvirus strain C
Potato yellow vein disease
Tomato black ring nepovirus, including its beet ringspot strain

- Phytoplasmas

Potato phyllody phytoplasma
Potato round leaf phytoplasma

- Bacteria

Burkholderia (Pseudomonas) solanacearum race 3
Pseudomonas putida

- Fungi

Aecidium cantensis
Cochliobolus hawaiiensis
Ophiobolus porphyrogonus
Phoma andina
Phoma eupyrena
Phoma exigua var. *foveata*

NAPPO A2 Quarantine Pests of potatoes

- Viruses

Beet curly top geminivirus
Potato Y potyvirus strain N

- Fungi

Synchytrium endobioticum

- Insects

Leptinotarsa decemlineata
Ostrinia nubilalis
Rhizotrogus majalis

- Nematodes

Ditylenchus destructor
Ditylenchus dipsaci
Globodera pallida
Globodera rostochiensis
Meloidogyne chitwoodi

NAPPO B1 Pests of potatoes

The following list contains those pests of potential economic importance to potatoes whose economic loss potential can be satisfactorily managed by the application of an officially accredited seed potato certification program.

- Viruses

Potato X potexvirus
Potato Y potyvirus
Potato A potyvirus
Potato M carlavirus
Potato S carlavirus
Potato leafroll luteovirus
Potato spindle tuber viroid

- Bacteria

Clavibacter michiganensis subsp. *sepedonicus*
Erwinia carotovora spp. *atroseptica*
Erwinia carotovora spp. *carotovora*
Erwinia chrysanthemi
Streptomyces scabies

- Fungi

Phytophthora infestans
Fusarium spp.
Rhizoctonia solani

Source: Anonymous (1996) NAPPO A-1, A-2 and B-1 Pests of Potatoes. **NAPPO Newsletter, 16 (1), p3.**

96/037 Studies on the possible use of sulfuryl fluoride fumigation against *Ceratocystis fagacearum*

Studies have been carried out in USA on the possible use of sulfuryl fluoride fumigation to eradicate *Ceratocystis fagacearum* (EPPO A1 quarantine pest) from red oak logs, as it may not be possible to use methyl bromide in the future. Laboratory tests have been made on 10-day-old cultures of *C. fagacearum* with various concentrations of sulfuryl fluoride for 24 and 48 h. Rates of 80 g/m^3 for 48 h and 120 g/m^3 for 24 h were sufficient to render the cultures unable to grow. In addition, by using Janus B staining, it was shown that both mycelia and conidia are non viable after such treatments. Log sections from wilted red oak trees were fumigated at 160, 220 and 280 g/m^3 for 72 h. No discoloration of sapwood was observed after the fumigation of logs. Eradication of *C. fagacearum* was achieved with an exposure of 280 g/m^3 for 72 h. The authors concluded that the properties of sulfuryl fluoride should be further studied and that fumigation experiments made under practical conditions are needed.

Source: Woodward, R.P.; Schmidt, E.L. (1995) Fungitoxicity of sulfuryl fluoride to *Ceratocystis fagacearum* *in vitro* and in wilted red oak log sections.
Plant Disease, 79(12), 1237-1239.

Additional key words: quarantine treatment. **Computer codes:** CERAFA.

96/038 Treatments of orchid flowers against *Thrips palmi* and *Frankliniella occidentalis*

Studies have been carried out in Hawaii (US) to assess the efficacy and phytotoxicity of postharvest treatments of dendrobium orchids against *Thrips palmi* (EPPO A1 quarantine pest) and *Frankliniella occidentalis* (EPPO A2 quarantine pest). Insecticidal dips, isopropyl alcohol dips, insecticidal fogs and hot-water immersion have been tested on dendrobium flowers infested by both thrips species. Although all tested postharvest treatments significantly reduced the mean number of thrips per flower, no treatment provided 100 % mortality. In addition, phytotoxicity was the limiting factor for all tested postharvest treatments.

Source: Postharvest treatments against Western Flower Thrips [*Frankliniella occidentalis* (Pergande)] and Melon Thrips (*Thrips palmi* Karny) on orchids. **Annals of Applied Biology, 126(3), 403-415.**

Additional key words: quarantine treatments**.** **Computer codes:** FRANOC, THRIPL.

96/039 Soil solarization to control *Clavibacter michiganensis* subsp. *michiganensis*

In Greece, trials have been carried out to assess the efficacy of soil solarization against *Clavibacter michiganensis* subsp. *michiganensis* (EPPO A2 quarantine list) in plastic houses of tomatoes during two successive cropping seasons. Soil solarization was achieved by covering the plots with transparent polyethylene sheets during approximately 6 weeks (in July and August). The results showed that disease incidence could be drastically reduced throughout the cropping season. Survival of the bacterium at various depths in the soil was also studied by placing in the soil cultures of both wild-type and antibiotic-resistant strains of *C. michiganensis* subsp. *michiganensis* in vials. Results showed a sharp decline of populations in the solarized soil compared to non-treated plots. The authors concluded that soil solarization, where applicable, is a useful method to control the disease. In order to extent the efficacy of this method, they noted that it is also important not to incorporate infected plant debris in the soil.

Source: Antoniou, P.P.; Tjamos, E.C.; Panagopoulos, C.G. (1995) Use of soil solarization for controlling bacterial canker of tomato in plastic houses in Greece.
Plant Pathology, 44(3), 438-447.

Additional key words: control method. **Computer codes:** CORBMI, LYPES, GR.

96/040 *Metcalfa pruinosa*: a new pest in Europe

Metcalfa pruinosa (Homoptera: Flatidae) originates from the New World. It is present from Canada (Quebec) to Brazil, and in some islands of the Caribbean. In Europe, it was first found in Italy (1979) around Trevise (Veneto), and then spread in the North-East of Italy (Piemonte-Val d'Aosta, Lombardia, Friuli-Venezia-Giulia, Emilia-Romagna, Toscana). The pest has been found in the south-east of France (region of Provence-Alpes-Côte d'Azur), around 1986. In Switzerland, it was reported for the first time in 1993 in the south of Tessin. The pest is also reported as present in Slovenia.
Adults are 7-9 mm long, dark-brown covered with whitish waxy secretions. Larvae are white and also covered by waxy secretions. There is one generation per year. Eggs are laid in September in bark crevices of many woody plant species and the insect overwinters in this form. The first larvae hatch in May-June and five larval instar are observed. The first adults appear in summer (July). Larvae are generally

found at the under side of the leaves, and adults are aligned on the twigs in a rather characteristic way. Larvae and adults feed on sap and produce high amounts of honeydew on which sooty mould will develop. However, the honeydew can be used by honey-making insects. At present, *M. pruinosa* has not been recorded as a vector of viruses or phytoplasmas.

M. pruinosa is an extremely polyphagous insect which can attack fruit trees, forest trees, ornamentals and weeds. In Italy, 173 host plants have been recorded, the most attractive seem to be grapevine, fig tree and wild *Rubus*. Damage have been reported on grapevine, apple, pear, citrus, olive, citrus, apricot, walnut, plum, sunflower, soybean and persimmon. However, at present this pest does not appear as very damaging, although it may cause problems in nurseries. In addition, chemicals do not seem very efficient as this insect is covered with waxy secretions and little is known about its potential natural enemies. It is suggested that *M. pruinosa* can be transported over long distances on vehicles as infestations have been observed along the roads. Local invasion of the surroundings is then ensured by natural spread.

Sources: Anonymous (1995) Phyto Régions...Provence-Alpes-Côte d'Azur. Une mineuse et Metcalfa.
Phytoma - La Défense des Végétaux, n° 475, p 3.

Bilancio Fitosanitario (1995) **Informatore Fitopatologico No. 2, 6-33.**

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Jermini, M.; Bonavia, M.; Brunetti, R.; Mauri, G.; Cavalli, V. (1995) *Metcalfa pruinosa* Say, *Hyphantria cunea* (Drury) et *Dichelomyia oenophila* Haimah., trois curiosités entomologiques ou trois nouveaux problèmes phytosanitaires pour le Tessin et la Suisse ?
Revue Suisse de Viticulture, Arboriculture, Horticulture 27 (21), 57-63.

Della Giustina, W.; Navarro, E. (1993) *Metcalfa pruinosa*, un nouvel envahisseur ?
Phytoma - La Défense des Végétaux, n° 451, 30-32.

Additional key words: new records**.** **Computer codes:** FR, CH, IT, SI.

96/041 *Phytophthora* disease of common alder

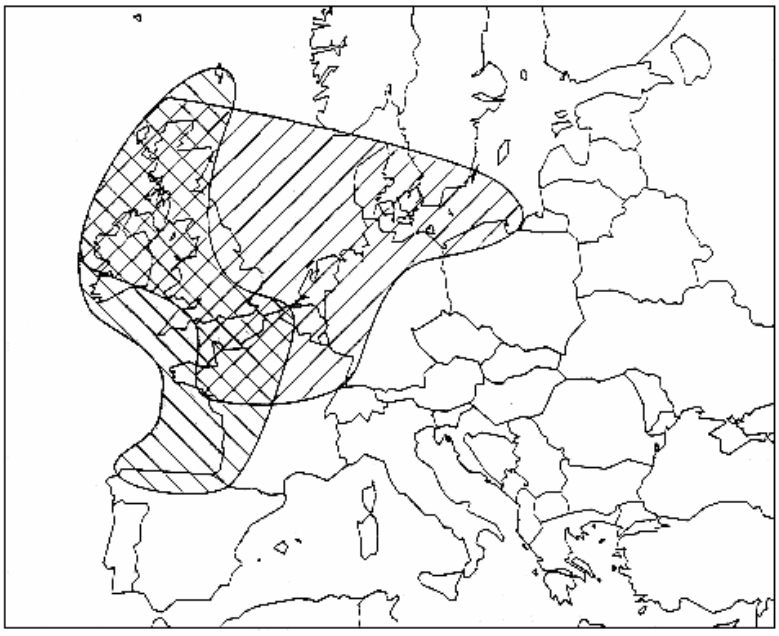
As mentioned in the EPPO Reporting Service 95/010, a new and serious *Phytophthora* disease of common alder (*Alnus glutinosa*) has been found in southern Britain. In summer 1993, reports of dying alder were made in several parts of southern Britain. In 1994 a field survey confirmed that the disease is widespread in this part of England. Studies have been carried out on the morphological and physiological characteristics of the alder *Phytophthora*. An inoculation test has confirmed its pathogenicity to *Alnus*. Although similar to *P. cambivora*, this alder *Phytophthora* presents a number of unusual characteristics. The authors felt that these differences are sufficiently substantial to indicate that this pathogen could be different from *P. cambivora*. They noted that on the basis of these unusual characteristics and unusual host, the alder *Phytophthora* might be a new or recently introduced organism rather than a previously unrecorded indigenous variant of *P. cambivora*. Further studies are needed on taxonomy, host range, epidemiology and geographical distribution of this pathogen.

Source: Brasier, C.M.; Rose, J.; Gibbs, J.N. (1995) An unusual *Phytophthora* associated with widespread alder mortality in Britain.
Plant Pathology, 44(6), 999-1007.

96/042 Potential spread of *Artioposthia triangulata* (New Zealand flatworm) and *Australoplana sanguinea* var. *alba* to continental Europe

The New Zealand flatworm *Artioposthia triangulata* is a large platyhelminth worm which can grow to 17 cm in length, and is an obligate predator of earthworms. It has a dorsal surface which is a dark purplish brown colour with a narrow buff/pale yellow margin with numerous small specks of grey. The ventral side is also buff coloured with many minute grey specks. It is flattened dorso/ventrally and covered with a sticky mucus. *A. triangulata* was first described from New Zealand in 1894 where it is restricted to woodlands and gardens in South Island (east and south). The flatworm was first recorded in Northern Ireland in 1963, in England and Scotland in 1965 and in the Faroe Islands in 1982. *A. triangulata* became widespread in Northern Ireland, Scotland and the Faroe Islands. Some records were made in the north of England: 2 in 1992, 3 in 1993 and 20 in 1994. *A. triangulata* was considered as a curiosity until it was shown that it was responsible for a decline of native earthworms. It is thought that *A. triangulata* has been introduced from New Zealand and has then spread on plants in containers.
Another species, *Australoplana sanguinea* var. *alba*, was found in 1974 near Belfast (Northern Ireland) and in the Scilly Isles (southwest England) in 1981. This flatworm is thought to originate from Australia and is also present in the South Island of New Zealand.

The authors have applied the CLIMEX computer programme in order to predict where these two introducted flatworms could establish in Europe and have proposed the following map.



Potential distribution of *Artioposthia triangulata* ▨ and *Australoplana sanguinea* var. *alba* ▧ (from a **CLIMEX** matching index of 0.7).

Concern has been expressed within the EPPO region about the spread of these pests, as native earthworms are considered as beneficial organisms for agricultural crops. Discussion has opened on how to prevent the spread of these predators.

Source: Boag, B.; Evans, K.A.; Neilson, R.; Yeates, G.W.; Johns, P.M.; Mather, J.G.; Christensen, O.M.; Jones, H.D. (1995) The potential spread of terrestrial planarians *Artioposthia triangulata* and *Australoplana sanguinea* var. *alba* to continental Europe.
Annals of Applied Biology, 127 (2), 385-390.