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Reporting

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2000/055 *Ralstonia solanacearum* found again in Belgium

In the past, *Ralstonia solanacearum* (EPPO A2 quarantine pest) had been found in a limited area in Belgium (see EPPO RS 96/002, 96/183, 97/111) but was successfully eradicated in 1998. Regular surveys are still being carried out. The NPPO of Belgium recently informed the EPPO Secretariat that in autumn 1999, *R. solanacearum* was detected in a potato production area in the north of the Province of Limburg, near Maaseik. The bacterium was detected in 8 ware potato fields belonging to 4 growers (20.8 ha). During the regular annual survey on brown rot in Noorderkempen (Provinces of Antwerp and Limburg), *R. solanacearum* was detected in 7 additional ware potato fields belonging to 5 growers (36.6 ha), near Lommel. In September 1999, the Dutch NPPO had intercepted one consignment of ware potatoes harvested from this area (see EPPO RS 2000/071). Due to a combination of circumstances, this potato field was harvested and transported to the Netherlands for processing before an inspection by the Belgian NPPO could take place.

It is thought that the present outbreak is due to irrigation with contaminated surface water during the potato growing season. At the time of the first finding, 25 water samples (out of 48 taken from a watercourse which was used to irrigate the infected crops) were tested and gave positive results. In previous years, all tested water samples had given negative results.

Strict phytosanitary measures have been taken to prevent any further spread and to eradicate *R. solanacearum* according to Council Directive 99/57/EC. In particular, from 2000-02-14, it is prohibited to use surface water to irrigate potato, tomato and aubergine crops. Studies are also being carried on the possibilities for eradicating *Solanum dulcamara* from watercourse banks.

Source: **NPPO of Belgium, 2000-03.**

Additional key words: new record **Computer codes:** PSDMSO, BE

2000/056 Elimination of *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* from contaminated waters

Laboratory experiments done in Germany showed that peracids (commercial names Clarmarin and Degaclean) with the addition of a catalase inhibitor (KH10) can be used to eliminate rapidly *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* (both EPPO A2 quarantine pests) from contaminated waters. Trials were done on aqueous suspensions of both bacteria and also on waste waters from a starch company to which *R. solanacearum* had been added.

Source: Niepold, F. (1999) [Efficiency surveys of the peracides Degaclean and Clarmarin in combination with the catalase inhibitor KH10 from the Degussa company for eradicating the two quarantine bacteria *Clavibacter michiganensis* ssp. *sepedonicus* and *Ralstonia solanacearum* in an aqueous suspension and in the sewage water of the starch industry.]
Journal of Phytopathology, 147(11-12), 625-634.

Additional key words: disinfection treatments **Computer codes:** CORBSE, PSDMSO

2000/057 New detection method for *Clavibacter michiganensis* subsp. *sepedonicus*

A new detection method for *Clavibacter michiganensis* subsp. *sepedonicus* (EPPO A2 quarantine pest) has been developed in USA. It is based on the use of BIO-PCR and an automated PCR detection system (TaqMan). The method was tested on 30 naturally infected ring rot suspect tubers, on other *Clavibacter michiganensis* subspecies, related Gram-positive bacteria and 150 unknown bacteria isolated from potato tubers. The method was found highly specific, sensitive, reliable and rapid (3 days for total assay). This new method can routinely be applied to large numbers of potato tubers.

Source: Schaad, N.W.; Berthier-Schaad, Y.; Sechler, A.; Knorr, D. (1999) Detection of *Clavibacter michiganensis* subsp. *sepedonicus* in potato tubers by BIO-PCR and an automated real-time fluorescence detection system.
Plant Disease, 83(12), 1095-1100.

Additional key words: new detection method **Computer codes:** CORBSE

2000/058 Present situation of beet necrotic yellow vein benyvirus in Sweden

In 1996, beet necrotic yellow vein benyvirus (EPPO A2 quarantine pest) was found in three farms in Sweden. In 1999, a national survey showed that rhizomania occurs in 26 farms located in 4 more or less distinct areas. Phytosanitary measures have been taken in farms where the virus was found, and include the following: 1) beets or other host plants are not included in crop rotation more than once in four years; 2) only resistant or tolerant beet cultivars can be grown; 3) beet crops are harvested on one occasion and the machinery is immediately cleaned; 4) all beets are delivered in one occasion to one sugar factory (having appropriate water outlets); 5) beets are freed from soil as much as possible; 6) all agricultural machinery is cleaned before leaving the farm.
Note: the EPPO Secretariat had previously no data on the occurrence of this virus in Sweden.

Source: **NPPO of Sweden, 2000-03.**
Tynelius, S. (1998) [Rhizomania - a new disease for Sweden.]
Vaxtskyddsnotiser, 62(3), 46-48.

Additional key words: new record **Computer codes:** BTNYVX, SE

2000/059 Beet necrotic yellow vein benyvirus was not found in Ireland in 1999

The EPPO Secretariat has recently been informed by the NPPO of Ireland, that during the 1999 survey, beet necrotic yellow vein benyvirus (EPPO A2 quarantine pest) was not found in Ireland.

Source: **NPPO of Ireland, 2000-01**.

Additional key words: survey, absence **Computer codes:** BTNYVX, IE

2000/060 Situation of several quarantine pests in Lithuania

The NPPO of Lithuania has recently sent to the EPPO Secretariat the present situation of the following quarantine pests.

Anarsia lineatella (recently deleted from the EPPO lists) was found using pheromone traps in 2 orchards. All infested branches were pruned and burned. No planting material was allowed to move from these orchards.

Clavibacter michiganensis subsp. *sepedonicus* (EPPO A2 quarantine pest): as already reported in EPPO RS 99/115, ring rot occurs in Lithuania. The National survey has shown the occurrence of 7 foci. The following 8 potato cultivars grown in Lithuania were found infected: Nida, Karolin, Pemperna, Sineglazka, Rossella, Mirta, Helena, Sante (including seed potatoes and ware potatoes). All infected potatoes were used for animal feed, industrial processing or consumption.

Frankliniella occidentalis (EPPO A2 quarantine pest) was found in ornamental glasshouses at 3 production sites. At one site producing annual plants, all plants were destroyed and glasshouses were left to freeze during 3 months. At the other two sites, chemical control was applied. Previously, this pest was considered as absent from Lithuania.

Liriomyza bryoniae (EU Annexes) was trapped in glasshouses at 5 production sites. Infected plants have been destroyed and chemical treatments applied.

Plum pox potyvirus (EPPO A2 quarantine pest) had previously been detected in a Lithuanian tree collection (see EPPO RS 99/005). The virus has been found at 4 sites (farm gardens). At 3 sites, contaminated plants were cut and burned. In one private garden, where 4 contaminated trees were observed, no measures could be applied.

Puccinia horiana (EPPO A2 quarantine pest) was found at two locations. Control measures were taken. Previously, this pest was considered as absent from Lithuania.

Source: **NPPO of Lithuania, 2000-02.**

Additional key words: new records, detailed records **Computer codes:** ANARLI, CORBSE, FRANOC, LIRIBO PLPXXX, PUCCHN, LT

2000/061 Additions to the EPPO Alert List

At the last EPPO Panel meeting on Phytosanitary Measures in 2000-01, several proposals for addition to the EPPO Alert List were suggested by United Kingdom and documented. As a result, the following 6 insect species and fungi have been added to the list.

Aleurodicus dispersus (Homoptera: Aleyrodidae) - Spiralling whitefly

Why	The NPPO of UK suggested that *Aleurodicus dispersus* could be added to the EPPO Alert List.
Where	*A. dispersus* originates from the tropical Americas. It occurs in many countries in Central and South America and in the Caribbean. It has also occurred in the Canary Islands since 1963. More recently, it has been reported from Asia and Africa. **EPPO region:** Spain (Canary Islands: Tenerife, Gran Canaria, Lanzarote) ; **Asia:** Bangladesh, Brunei Darussalam, India (Karnataka, Kerala, Tamil Nadu), Indonesia (Java, Sumatra), Laos, Malaysia (peninsular, Sabah, Sarawak), Maldives, Myanmar, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam ; **Africa:** Benin, Congo, Nigeria, Togo ; **North America:** USA (Florida, Hawaii) ; **South America:** Brazil (Bahia), Peru ; **Caribbean and Central America:** Bahamas, Barbados, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Haiti, Martinique, Panama, Puerto Rico ; **Oceania:** American Samoa, Australia (few cases found in Queensland, under quarantine), Cook Islands, Fiji, Kiribati, Guam, Micronesia, Nauru, Northern Mariana Islands, Papua New Guinea
On which plants	*A. dispersus* is a highly polyphagous species. Its wide host range includes many vegetable, ornamental and fruit crops, as well as numerous trees and shrubs. Among its host plants, the following crops can be mentioned: *Capsicum*, *Citrus*, *Cocos nucifera* (coconut), *Euphorbia pulcherrima* (poinsettia), *Glycine max* (soybean), *Hibiscus*, *Lycopersicon esculentum* (tomato), *Mangifera indica* (mango), *Musa* (banana), *Persea americana* (avocado), *Prunus* spp., *Solanum melongena* (aubergine), etc.
Damage	Immature and adult stages of *A. dispersus* cause direct feeding damage by sucking plant sap, which can cause premature leaf fall. Indirect damage is due to the heavy production of honeydew and white, waxy material produced by the insect. Sooty mould develops on honeydew and decreases phytosynthesis activity. Plants are also disfigured and may be unmarketable. In places where is occurs, *A. dispersus* is generally considered as a serious pest, causing crop losses. Virus transmission is apparently not known.
Dissemination	Natural dispersion can be ensured by flying adults. Over long distances, the pest has already showed its potential for spreading, being introduced into many different parts of the world. Movements of infested plants or fruits can ensure long distance dissemination.
Pathway	Plants for planting, vegetables and fruits, cut flowers? from countries where *A. dispersus* occurs.
Possible risks	*A. dispersus* is a pest of tropical and sub-tropical crops, and it appears unlikely that it could establish outdoors in most parts of the EPPO region. However, it may present a risk for the warmest parts of southern Europe, where many of its host plants are grown (citrus, avocado, palms, tomato, aubergine etc.). It may also present a risk for ornamentals or vegetable crops grown under glasshouse conditions. Chemical and biological control (release of parasitoids) methods are available, but the pest is apparently difficult to control.
Source(s)	NPPO of UK, 2000-01, Summary PRA by Dr A. MacLeod. Anonymous (2000) Management of spiralling whiteflies. SPC Agricultural News, 8(2), p 12. CABI (1993) Distribution maps of pests, *Aleurodicus dispersus*, Map no; 476, CABI, Wallingford, UK. CABI Crop Protection Compendium, Global Module, 1999 edition. CABI, Wallingford, UK.

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Mani, M.; Krishnamoorthy, A. (1997) Discovery of Australian ladybird beetle (*Cryptolaemus montrouzieri*) on spiralling whitefly (*Aleurodicus dispersus*) in India. Insect Environment, 3(1), 5-6. (abst.)

Shah-Alam; Islam, M.N.; Alam, M.Z.; Islam, M.S. (1997) Identification of the whitefly in guava, its spatial distribution and host susceptibility. Bangladesh Journal of Entomology, 7(1-2), 67-73. (abst.)

INTERNET

DPI Note (Department of Primary Industries Queensland) - Spiralling whitefly: threat to Australia by Trevor Lambkin
http://www.dpi.qld.gov.au/dpinotes/health/plantpests/aph98008.html

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Chrysodeixis eriosoma (Lepidoptera: Noctuidae) - Green semi-looper

Why	The NPPO of UK suggested that *Chrysodeixis eriosoma* (synonyms: *Plusia eriosoma*, *Phytometra eriosoma*) could be added to the EPPO Alert List. This pest has been intercepted by UK on *Tibouchina* cuttings imported from Australia.
Where	The species occurs throughout the tropical and subtropical regions of eastern Asia and the Pacific islands as well as in Australia and New Zealand. **Asia:** Brunei Darussalam, Cambodia, China (Fujian, Guangdong), India (Assam, Delhi, Maharashtra, Tamil Nadu, Uttar Pradesh), Indonesia, Japan, Korea, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Vietnam. Bin-Chen Zhang mentions its presence in Russia and Turkmenistan ; **North America:** USA (Hawaii) ; **Oceania:** Australia (New South Wales, Northern Territory, Queensland, Tasmania), Fiji, New Zealand, Papua New Guinea, Tonga.
On which plants	Larvae are highly polyphagous and feed on foliage and fruit of many field and vegetable crops, ornamentals and weeds. Its wide host range includes: chick peas (*Cicer arietinum*), lucerne (*Medicago sativa*), maize (*Zea mays*), potato (*Solanum tuberosum*), sunflower (*Helianthus annuus*), soybean (*Glycine max*), tobacco (*Nicotiana tabacum*) - beans (*Phaseolus vulgaris*,) cabbages (*Brassica oleracea*), cucurbits (*Curcurbita pepo*, *Cucumis sativus*), peas (*Pisum sativum*), tomato (*Lycopersicon esculentum*) - many ornamentals, e.g *Coleus*, chrysanthemums, dahlia, freesia, pelargonium, *Tibouchina*.
Damage	Eggs are laid on the underside of leaves. Damage is done by the larvae. They feed on the underside of the leaf, making windows between the veins (young larvae leave the upper leaf cuticule and later instars make ragged holes). On tomato, larvae can chew into green fruits and can excavate legume pods. Adults feed on flower nectar. In heavy infestations, plants can be completely defoliated. Caterpillars spin a silken cocoon attached to the underside of a leaf, and the brown pupa forms within this structure. In Australia, *C. eriosoma* is considered as a sporadic pest of horticultural crops. In New Zealand, its occurrence is sporadic south of Christchurch, but is common from Blenheim (latitude 42°S) northwards in all horticultural areas. Data is lacking on actual crop losses, as it seems that defoliation does not always induce yield losses (although situation may be different when fruits or ornamentals are attacked).
Dissemination	Adults are good flyers. Eggs, larvae and pupae of *C. eriosoma* can all be carried on leaves of host plants.
Note	*C. eriosoma* is closely related to the Palaearctic species *C. chalcites* which occurs in several European countries. The relationships and status of these two species still need to be clarified. *C. chalcites* is a pest of moderate importance in Europe.
Pathway	Plants for planting, fruits and vegetables, cut flowers and branches of host plants from countries where *C. eriosoma* occurs.

Possible risks	Many *C. eriosoma* host plants are widely grown in the EPPO region and are major crops. Climate matching studies done in UK showed that it could probably establish outdoors in many parts of the EPPO region. *C. eriosoma* could also be a threat to glasshouse crops (e.g. cucumbers, tomatoes and many ornamentals). Control methods (chemical and biological) are available.
Source(s)	NPPO of UK, 2000-01, Summary PRA by Dr A. MacLeod CABI Crop Protection Compendium, Global Module, 1999 edition. CABI, Wallingford, UK. Hely, P.C.; Pasfield, G.; Gellatley, J.G. (eds) (1982) Insect pests of fruit and vegetables in NSW, Department of Agriculture New South Wales, Inkata Press, Melbourne, Sidney and London, 312 pp. Bin-Cheng Zhang (1994) Index of economically important Lepidoptera. CABI, Wallingford, UK, 599 pp. INTERNET HortFACT, Silver Y moth life cycle: http:/:www.hortnet.co.nz/publications/hortfacts/hf401020.htm Crop knowledge Master. *Chrysodeixis eriosoma*: http://www.extento.hawaii.edu/Kbase/crop/Type/chrysode.htm *Chrysodeixis eriosoma*: http://www-staff.mcs.uts.edu.au/~don/larvae/noct/eriosom.html
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<u>*Neotoxoptera formosana* (Homoptera: Aphididae) - Onion aphid</u>

Why	The NPPO of UK suggested that *Neotoxoptera formosana* could be added to the EPPO Alert List. This pest has been found in September 1999, on a stock of Welsh onions (*A. fistulosum*) growing in a plastic tub in the Model Vegetable Garden at RHS Wisley, Surrey, UK. A nearby tub of garlic (*A. sativum*) and Chinese chives (*A. tuberosum*) were also lightly infested. Both tubs were destroyed. Other potential hosts in the vegetable garden were inspected: *A. fistulosum* cv. Saville and *A. porrum* were found infested.
Where	**Asia:** China, Japan, Korea, Taiwan ; **North America**: USA (Hawaii); **South America**: Brazil, Chile (these are apparently rather recent findings made in the 1990s) ; **Oceania**: Australia (reported as now widespread, including Tasmania, but was not recorded there before 1974), New Zealand. It was also reported that *N. formosana* was found in Finland in 1994 on onions imported from the Netherlands.
On which plants	*Allium* species (*A. bakeri*, *A. ascalonicum*, *A. cepa*, *A. cernuum*, *A. chinense*, *A. fistulosum*, *A. neopolitanum*, *A. porrum*, *A. sativum*, *A. schoenoprasum*). Reported as a pest of beans (without further details) in Hawaii.
Damage	Feeding damage on leaves. In Japan, it was shown that *N. formosana* can transmit garlic latent carlavirus. In Australia, serious outbreaks have been reported on onions in storage, particularly on those just beginning to sprout. More data is needed on the biology and damage caused by this pest.
Pathway	Plants for planting, bulbs, vegetables from countries where *N. formosana* occurs.
Possible risks	*Allium* crops are widely grown in the EPPO region. The isolated findings in Europe, and its presence in Tasmania, may suggests that *N. formosana* could survive in the European and Mediterranean region, but biological and ecological data is lacking. It appears also that this pest has a potential for spread over long distances (e.g. relatively recent records in South America and in Europe). Data is lacking on its economic importance to *Allium* crops, and the possibilities for control.
Source(s)	NPPO of UK, 2000-01, draft data sheet by R. Cannon & R. Hammon. Sako, I.; Taniguchi, T.; Osaki, T.; Inouye, T. (1990) Transmission and translocation of garlic latent virus in rakkyo (*Allium chinense* G. Don). Proceedings of the Kansai Plant Protection Society. No. 32, 21-27 (abst.). Stary, P.; Rodriguez, F.; Remaudiere, G. (1994) [Plant-aphid-parasitoid association (Hom., Aphidoidea; Hym., Aphidiidae) in central area of Chile.] Agricultura Tecnica Santiago, 54(1), 46-53. (abst.) INTERNET Bibliographic references. Afideos do Brasil e suas plantas hospedeiras (lista preliminar). Carlos R. Souza-Silva & Albano Ilharco. EDUFSCar, 85 pp. 1995. (abstract of contents) http://www.ciagri.usp.br/~seb/info3.htm
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<u>*Trialeurodes ricini* (Homoptera: Aleyrodidae) - Castor whitefly</u>

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Why	The NPPO of UK suggested that *Trialeurodes ricini* (synonym *T. rara*) could be added to the EPPO Alert List. This pest was recently introduced into Egypt. It was found there for the first time in September 1997 on *Ricinus communis* in Qalyubiya Governorate, and rapidly became widespread. It has been intercepted twice by UK on unspecified leaves from Cameroon and Nigeria (possibly *Amaranthus* leaves).
Where	**EPPO region**: Egypt, Israel ; **Asia**: Brunei Darussalam, India (Gujarat, Tamil Nadu, Uttar Pradesh), Iran, Iraq, Malaysia (peninsular), Saudi Arabia, Thailand ; **Africa**: Cameroon (unconfirmed), Chad, Egypt, Nigeria, Sudan
On which plants	*T. ricini* is a polyphagous species. Its preferred host are: *Ricinus communis* (castor bean), *Dolichos lablab*, *Gossypium hirsutum* (cotton). But it can also feed on *Cucurbita maxima* (pumkin), *Ipomoea batatas* (sweet potato), *Solanum melongena* (aubergine), *Phaseolus vulgaris* (bean), *Lycopersicon esculentum* (tomato), *Solanum tuberosum* (potato), *Cucurbita pepo* (melon), *Cumumis sativa* (cucumber), etc.
Damage	Adults and immature stages of *T. ricini* suck sap from the lower surfaces of the leaves which then wither and turn brown. Secretion of honeydew results in growth of sooty moulds. In Egypt, *T. ricini* has been reported as a vector of tomato yellow leaf curl begomovirus.
Dissemination	Natural dispersion can be ensured by flying adults. Movements of infested plants or fruits can ensure long distance dissemination.
Pathway	Infected plants for planting, vegetables and fruits from countries where *T. ricini* occurs.
Possible risks	*T. ricini* is a tropical and sub-tropical pest (most favourable temperatures appears to be 25 to 30 °C), and it appears unlikely that it could establish outdoors in most parts of the EPPO region. However, it may present a risk for southern Europe, where many of its host plants are grown (cotton, cucurbits, tomato, aubergine, etc.). It may also present a risk for vegetable crops grown under glasshouse conditions. An additional concern is the transmission of tomato yellow leaf curl begomovirus. Chemical and biological control (release of parasitoids, e.g. *Encarsia formosa*) methods are available, but the pest is difficult to control.
Source(s)	NPPO of UK, 2000-01, Summary PRA by Dr A. MacLeod

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Thrips imaginis (Thysanoptera: Thripidae) - Plague thrips

Why	The NPPO of UK suggested that *Thrips imaginis* could be added to the EPPO Alert List. It has been intercepted by UK on cut flowers (*Grevillea*) imported from Australia.
Where	**Oceania**: Australia (all states), Fiji, New Caledonia, New Zealand, Papua New Guinea and some Pacific islands.
On which plants	Polyphagous pest. Its wide host range includes ornamentals (e.g. *Dianthus*, *Gerbera*, *Rosa*, *Tagetes*), fruit crops (apple, pear, citrus, peach, plum, strawberry, *Rubus*, grapevine), field crops (e.g. lucerne, cotton), pastures and grasses.
Damage	*T. imaginis* feeds mainly on flowers but also on young foliage by rasping the plant tissue and sucking cell contents. Adult females damage the plant tissue when depositing their eggs. When thrips feed on flowers, the anthers, petals and pistil turn brown and shrivel, then fall prematurely. This prevents fruit set in fruit crops or decrease the plant value in floral crops. In Australia, *T. imaginis* is considered as a pest of apple orchards as it damages apple flowers leading to crop losses. In New Zealand, populations do not reach sufficient numbers to cause economic problems. *T. imaginis* is not a vector of tomato spotted wilt tospovirus.
Dissemination	Adult thrips can fly over limited distances but are carried by the wind. As *T. imaginis* overwinters in the soil (pre-pupal and pupal stages), it can be disseminated by infested soil. Movement of infected plants or plant parts can disseminate this pest.
Pathway	Plants for planting, cut flowers, soil from countries where *T. imaginis* occurs.
Possible risks	In climate-matching studies done in UK, it appears unlikely that *T. imaginis* could survive outdoors in Northern Europe, but could do so in southern Europe (the example taken was Barcelona, Spain). There are no records of *T. imaginis* on glasshouse crops, but it might be able to survive under these conditions in the EPPO region. Many of its host plants are widely grown and of economic importance in the EPPO region. Chemical control can be used but thrips are generally not easily eliminated (no data on biological control).
Source(s)	NPPO of UK 2000-01, Summary PRA by Dr A. MacLeod. Hely, P.C.; Pasfield, G.; Gellatley, J.G. (eds) (1982) Insect pests of fruit and vegetables in NSW, Department of Agriculture New South Wales, Inkata Press, Melbourne, Sidney and London, 312 pp. Palmer, J.M.; Mound, L.A.; du Haume, G.J. (1989) CIE Guide to insects of importance to man. 2. Thysanoptera edited by C.R. Betts. CABI, Wallingford, UK, 73 pp. INTERNET Plague thrips. http://www.space.net.au/~grnlife/gsplaguethrip.htm
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Thrips parvispinus (Thysanoptera: Thripidae) - A south-east Asian thrips

Why	The NPPO of UK suggested that *Thrips parvispinus* could be added to the EPPO Alert List. This Asian species was recently reported as damaging *Gardenia* plants growing in 2 glasshouses near Volos, in Greece. Intercepted (as *T. taiwanus*) by the Netherlands in 1996 on a consignment of *Gardenia* cut flowers from Indonesia.
Where	**EPPO region**: Greece (isolated findings) ; **Asia**: Indonesia (Java), Malaysia, Singapore, Taiwan, Thailand ; **Oceania**: Australia, Solomon Islands.
On which plants	*T. parvispinus* is considered as a polyphagous species. It is reported as a major pest of *Capsicum* in Java, and of vegetable crops in Thailand. In Malaysia, it is a pest of papaya.
Damage	Direct feeding damage. In Malaysia, feeding damage on papaya is associated with secondary attacks by the saprophytic fungus *Cladosporium oxysporum* (causing bunchy and malformed top of papaya). Extensive leaf damage was observed on *Gardenia* plants in Greece. Recorded as a vector of tobacco streak ilarvirus in transmission studies from infected tomato pollen to seedlings of *Chenopodium amaranticolor*.
Note	Taxonomy may need further clarification, but it is now considered that *T. taiwanus* and *Isoneurothrips jenseni* are synonyms of *T. parvispinus*, and that *T. compressicornis* is a distinct species.
Pathway	Plants for planting, cut flowers and branches from countries where *T.parvispinus* occurs.

Possible risks	*T. parvispinus* can be spread by movement of infested plants (at least two examples on imported *Gardenia* plants). Data is lacking on its biology and potential of establishment in the EPPO region. But as a tropical and polyphagous species, it could present a risk to protected ornamental and vegetable crops. Chemical control is possible, but is probably difficult as for many other thrips species.
Source(s)	NPPO of UK, 2000-01. Bansiddhi, K.; Poonchaisri, S. (1991) Thrips of vegetables and other commercially important crops in Thailand. AVRDC Publication. No. 91-342 (abst.). Klose, M.J.; Sdoodee, R.; Teakle, D.S.; Milne, J.R.; Greber, R.S.; Walter, G.H. (1996) Transmission of three strains of tobacco streak ilarvirus by different thrips species using virus-infected pollen. Journal of Phytopathology, 144(6), 281-284. Lim, W.H. (1989) Bunchy and malformed top of papaya cv. Eksotika caused by *Thrips parvispinus* and *Cladosporium oxysporum*. MARDI Research Journal, 17(2), 200-207 (abst). Vos, J.G.M.; Frinking, H.D. (1998) Pests and diseases of hot pepper (*Capsicum* spp.) in tropical lowlands of Java, Indonesia. Journal of Plant Protection in the Tropics, 11(1), 53-71.
EPPO RS 2000/061	
Panel review date	- Entry date 2000-04

<u>*Stegophora ulmea* (Fungi: Ascomycete: Diaporthales) - Elm black spot</u>

Why	The NPPO of UK suggested that *Stegophora ulmea* could be added to the EPPO Alert List. In 1999, UK has intercepted two consignments of bonsai elms imported from China infected by this fungus.
Where	*S. ulmea* is considered as native and widespread in North America: Canada (presumably), USA (reported from warm areas such as California, to cooler areas like Wisconsin). An old record in Romania appears in the literature, but the presence of the disease is not confirmed. The two recent interceptions of bonsais plants from China suggest that the fungus is probably present there.
On which plants	Elms (*Ulmus* spp.): *U. alata*, *U. americana*, *U. carpinifolia*, *U. crassifolia*, *U. glabra*, *U. hollandica*, *U. japonica*, *U. laciniata*, *U. laevis*, *U. parvifolia*, *U. procera*, *U. pumila*, *U. serotina*, *U. thomasii*, *U. rubra*. *Zelkova* is also mentioned as a host. Most elm species are susceptible to black spot, although there is large variation in disease severity among cultivars of the same species. Many new hybrid cultivars resistant to Dutch elm disease are descended from parents which are particularly susceptible to *S. ulmea*.
Damage	Black leaf spots which can be surrounded by a white to light yellow halo, lesions may girdle petioles. Black spot is generally considered to be a minor problem on mature elms, but it can cause significant defoliation and twig dieback on susceptible elm cultivars in nurseries. In the field, the disease is rarely fatal and in dry conditions, even severely blighted parts can recover.
Dissemination	*S. ulmea* overwinters in dead leaves and in dormant buds. In spring, ascospores infect young leaves and stems. Secondary infection is ensured by macroconidia which are released from acervuli and spread by rain splash. Over long distances, the fungus can be spread by infected plants either actively growing or in dormant stage.
Note	*Stegophora ulmea* is the accepted name of the teleomorph (synonym: *Gnomonia ulmea*). The anamorphic forms of conidia which develop in acervuli are macroconidia: *Gloeosporium ulmicolum* and microconidia: *Cylindrosporella ulmea* (synonyms: *Asteroma ulmeum*, *Gloeosporium ulmeum*).
Pathway	Plants for planting of *Ulmus* and *Zelkova* (even dormant), bonsais, cut branches from countries where *S. ulmea* occurs.
Possible risks	*S. ulmea* could present a risk for nurseries producing elms or Zelkova plants. For amenity or forest elm trees, the risk is more limited as the disease is apparently not very damaging to mature trees.

Source(s) NPPO of UK 2000-01, Summary PRA and Data Sheet by J. Cooper and C. Sansford.
INTERNET
Black spot of elm trees. Research and Extension Kansas State University
http://www.ksu.edu/plantpath/extension/facts/tree6.html
Department of Agriculture and Marketing (Nova Scotia, CA) Abstract of trials
http://agri.gov.ns.ca/pt/projsum/96/rdelm.htm
EPPO RS 2000/061
Panel review date - Entry date 2000-04

Additional key words: Alert List

2000/062 Pepino mosaic potexvirus found in one tomato glasshouse in France

Pepino mosaic potexvirus (EPPO Alert List) has very recently been found on tomato for the first time in France. It was observed in one glasshouse in Guipavas, Bretagne, growing both tomato and cucumber (the virus only attacks tomatoes). 3 hectares of glasshouse of tomato and cucumber will be destroyed and the premises will be disinfected. The origin of this outbreak is unknown.

Note: Pepino mosaic potexvirus was originally described in Peru on pepino (*Solanum muricatum*). The EPPO Secretariat wondered whether this crop was grown in Europe. Dr F. Nuez kindly provided some information. Pepino is beginning to be grown in Spain on a commercial scale, but this remains a very small production (probably less than 10 ha). There are scattered small fields, mainly on the Mediterranean coast, and pepino is essentially grown under glass. There are reports of experimental fields in the Netherlands, Germany, France, Poland, Belgium and Italy and of some commercial fields in Israel.

Source: **NPPO of France, 2000-03.**
INTERNET Brèves du Ministère de l'Agriculture
http://www.agriculture.gouv.fr/actu/brv/welcome.html

Personal communication with Dr F. Nuez, Departamento de Biotecnologia, Universidad Politecnica de Valencia, ES (2000-03)

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

2000/063 New taxonomy of *Alternaria* species from citrus

The taxonomy of citrus diseases caused by *Alternaria* species has been subject to controversy for many years, which has led to some confusion in the literature. A recent taxonomic revision of some *Alternaria* pathogens found on citrus has been done by Simmons (1999), with emphasis on pathogens associated with brown spot of tangerine and related hybrids and cultivars (also called brown spot of Minneola tangelo - EPPO Alert List) and leaf spot of rough lemon (*Citrus jambhiri*). Morphological characteristics of 135 isolates originating from citrus-growing regions of Colombia, Israel, Turkey, South Africa and USA (Florida) and taken from citrus lesions were examined under controlled culture conditions. This study showed that none of the isolates studied could be attributed to *Alternaria alternata* (although in many earlier studies, brown spot of Minneola tangelo was attributed to *A. alternata*). 77 isolates could be assigned to 10 new species of *Alternaria*, the remainder were unique or unstable in culture and could not be assigned to a species. Results showed that most isolates causing brown spot of Minneola tangelo in Florida and Colombia belong to *A. tangelonis* sp. nov. (20 isolates), and that brown spot of Minneola tangelo in Israel, Turkey and South Africa (15 isolates) is mainly caused by *A. turkisafria* sp. nov. The following new species have also been described from tangerines (*C. reticulata*) and tangelos (*C. paradisi* x *C. reticulata*) showing brown spot: *A. citriarbusti* sp. nov. (tangelo in Florida, US, 4 isolates), *A. toxicogenica* sp. nov. (tangerine in Florida, US, 1 isolate), *A. colombiana* sp. nov. (tangelo in Colombia, 1 isolate), *A. perangusta* sp. nov. (tangelo in Turkey, 1 isolate), *A. interrupta* sp. nov. (tangelo in Israel, 1 isolate), *A. dumosa* sp. nov. (tangelo in Israel, 1 isolate). In this study, it has also been found that leaf spot of rough lemon in Florida is essentially caused by *A. limoniasperae* sp. nov., and to a lesser extent by *A. citrimacularis* sp. nov. It is concluded that the disease called 'brown spot of Minneola tangelo', observed in many citrus-growing regions of the world, is caused by several distinct species of *Alternaria*.
Note: this paper mentions the occurrence of *Alternaria* brown spot in Colombia, which is a new record according to the EPPO Secretariat.

Source: Simmons, E.G. (1999) *Alternaria* themes and variations (226-235). Classification of citrus pathogens.
Mycotaxon, 70, 263-323.

Additional key words: taxonomy, new record **Computer codes:** ALTESP, CO

2000/064 Studies on population genetic structure and host specificity of *Alternaria* species causing brown spot of Minneola tangelo and rough lemon

The population genetic structure and host specificity of *Alternaria* species causing brown spot of Minneola tangelo (EPPO Alert List) and rough lemon (*C. jambhiri*) was studied in Florida. 4 *Alternaria* sub-populations were collected from 2 rough lemon groves and 2 Minneola tangelo groves from central Florida. Pathogenicity tests showed a high level of host specificity. The majority of *Alternaria* isolates from rough lemon were pathogenic to rough lemon and not to Minneola tangelo (with a few exceptions). But 44 % of isolates were non-pathogenic. Isolates from Minneola tangelo were only pathogenic to this host (never on rough lemon), and only very few (3 %) were non pathogenic. The genetic structure of the sub-populations was assessed by using RAPD analysis. Results showed a high level of genetic variation between sub-populations which could be partly related to host plants. Within each sub-populations, 2 or 3 distinct clusters of isolates could be distinguished. The authors have tried to compare their results with the new taxonomy proposed by Simmons (see EPPO RS/063). Interestingly, *Alternaria limoniasperae* (species most commonly found associated with rough lemon disease) and *A. tangelonis* (most commonly found in Minneola brown spot) correspond to 2 different clusters. *A. citrimacularis* (rough lemon) and *A. citriarbusti* (brown spot) are in one cluster containing isolates from rough lemon and Minneola tangelo. It could be said that the morphotaxonomy broadly corresponds to genetic data. However, some points of conflict exist. It has been found that the RAPD genotype of *A. limoniasperae* is identical to two isolates of *A. alternata* also included in this study (from *Arachis hypogea* and *Datura metel*). The same is observed for *A. citriarbusti* and two isolates described as *A. citrimacularis*. In addition, it was also found that an isolate of *A. longipes* (from tobacco) was very similar to *A. tangelonis*. It is concluded that more work is still needed on the taxonomy of *Alternaria* species found on citrus. However, these studies also support the view that citrus brown spot of Minneola tangelo is caused by several species of *Alternaria*.

Source: Peever, T.L.; Canihos, Y.; Olsen, L.; Ibañez, A.; Liu, Y.C.; Timmer, L.W. (1999) Population genetic structure and host specificity of *Alternaria* spp. causing brown spot of Minneola tangelo and rough lemon in Florida. **Phytopathology, 89(10), 851-860**.

Additional key words: genetics **Computer codes:** ALTESP

2000/065 Epidemiological studies on *Alternaria* brown spot

Alternaria brown spot affects Minneola tangelos and some other citrus and causes abscission of immature fruit and blemishes on more mature fruit. The causal agent was originally designated as *Alternaria citri*, and later *Alternaria alternata* pv. *citri*, but the proper classification is still debated. For more details refer to EPPO RS 98/179 and 2000/063. It is noted that at least 2 genetically distinct strains exist: one effecting tangerines, and another affecting rough lemon (*Citrus jambhiri*) and Rangpur lime (*C. limonia*). Epidemiological studies were carried out to determine the effect of environmental factors (relative humidity, R/IR irradiation, rainfall, vibration) on the production, release and field populations of the fungus. Results showed that sporulation is greater on mature and moistened leaves, maintained near 100 % HR. It is supposed that a light rain or heavy dew is sufficient to induce sporulation (if leaves are sufficiently mature). Primary factors stimulating release of conidia were abrupt changes in RH or rainfall events. Vibration and R/IR irradiation did not induce conidial release. Field studies in Florida (US), indicated that conidia are present throughout the year with periodic large peaks, but this could not be related to disease severity. Further studies will be made to determine optimum temperatures and duration of leaf wetness.

Source: Timmer, L.W.; Solel, Z.; Gottwald, T.R.; Ibañez, A.M.; Zitko, S.E. (1998) Environmental factors affecting production, release, and field populations of conidia of *Alternaria alternata*, the cause of brown spot of citrus.
Phytopathology, 88(11), 1218-1223.

Additional key words: epidemiology **Computer codes:** ALTESP

2000/066 Addition to the EPPO Alert List - *Phytophthora quercina*: a new species found on declining oaks

Oak decline is a complex syndrome attributed to several biotic and abiotic causes (insects, fungi, poor soil fertility, drought, pollution etc.) which has been observed for many years in Europe. Although pathogens are generally not considered as the primary cause of oak decline, many fungal species have been found on declining oaks, for example: *Diplodia*, *Hypoxylon*, *Cylindrocarpon*, *Phoma*, *Ophiostoma*/*Ceratocystis*, *Armillaria*, *Phellinus*, *Phytophthora*. In a three-year study, roots of declining and healthy oak trees (*Quercus robur*, *Q. petraea*, *Q. cerris*, *Q. pubescens*, *Q. ilex*) collected from 33 stands (in Germany, Switzerland, Hungary, Slovenia, Italy and France) were examined for the presence of *Phytophthora* species. Several *Phytophthora* species were isolated from most oak stands: *P. citricola*, *P. cactorum*, *P. cambivora*, *P. gonapodyides*, *P. undulata* and two unknown species. One of these unknown species was frequently isolated from necrotic fine roots and rhizosphere soil containing fine roots of all 5 oak species from various sites in Germany, Hungary, Italy and France. It was not found in samples from Slovenia and Switzerland. This unknown species has been described as a new species: *Phytophthora quercina*. Molecular studies have also confirmed its distinctness from other *Phytophthora*. Pathogenicity tests carried out with infested soil and *Q. robur* seedlings showed that isolates of *P. quercina* induced severe dieback, root necrosis and leaf chlorosis. Among *Phytophthora* species tested, *P. quercina* was the most pathogenic.

Phytophthora quercina: a new species found on declining oaks

Why	*Phytophthora quercina* came to our attention because it has recently been described as a new species, pathogenic to oak, and involved in oak decline in some countries.
Where	EPPO region: France, Germany, Hungary, Italy.
On which plants	*Quercus* species (e.g. *Quercus robur*, *Q. petraea*, *Q. cerris*, *Q. pubescens*, *Q. ilex*)
Damage	Oak decline. In pathogenicity tests, *Q. robur* seedlings showed severe dieback, root necrosis, leaf chlorosis.
Dissemination	More data needed.
Pathway	Plants for planting of *Quercus* from countries where *P. quercina* occurs.
Possible risks	Oaks are important amenity and forest trees in the EPPO region. *P. quercina* is apparently pathogenic to oaks and not present in all parts of the EPPO region. But more data is needed on its biology and particularly on its pathogenicity and its role in oak decline.
Source(s)	Cooke, D.E.L.; Jung, T.; Williams, N.A.; Schubert, R.; Bahnweg, G.; Osswald, W.; Duncan, J.M. (1999) Molecular evidence supports *Phytophthora quercina* as a distinct species. Mycological Research, 103(7), 799-804. Jung, T.; Cooke, D.E.L.; Blaschke, H.; Duncan, J.M.; Osswald, W. (1999) *Phytophthora quercina* sp. nov., causing root rot of European oaks. Mycological Research, 103(7), 785-798.
EPPO RS 2000/066	
Panel review date	- Entry date 2000-04

Additional key words: new pest **Computer codes:** PHYTQU

2000/067 Control methods against *Monosporascus cannonballus*

So far, the only means of control against *Monosporascus cannonballus* (EPPO Alert List), which causes sudden wilt of melons, is soil fumigation with methyl bromide. However, as methyl bromide is expected to be banned within the coming years, alternative control methods have to be found. Studies were carried out in Israel on possible alternative methods:

1) Laboratory studies showed that fluazinam totally inhibited the growth of *M. cannonballus* in culture (at concentrations of 10 µg a.i /ml). Field trials were conducted to verify the effectiveness of this fungicide. Fluazinam was applied via drip irrigation, 4 times during the growing season on three melon plots. Disease incidence was reduced in all cases but at different levels: 87% in two plots and only 32% in the third plot. Although the results were variable, it was concluded that fluazinam could be a useful tool to use within an integrated programme of control.

2) Another study was done on the use of soil fumigation with reduced rates of methyl bromide and the use of grafted melon plants, alone or in combination. Results showed that among 8 rootstocks tested (*Cucurbita* spp.), *Cucurbita maxima* cv. Brava gave the best results in terms of wilt reduction and horticultural performance. It was also found that the best control results were obtained with a combination of reduced rates of methyl bromide (pre-planting) and the use of grafted plants (75 % to 100 % wilt reduction in tested melon plots). The authors pointed out that the additional use of fluazinam during the growing season (as described above) could perhaps further improve control against *M. cannonballus*.

Source: Cohen, R.; Pivonia, S.; Shtienberg, D.; Edelstein, M.; Raz, D.; Gerstl, Z.; Katan, J. (1999) Efficacy of fluazinam in suppression of *Monosporascus cannonballus* the causal agent of sudden wilt of melons.
Plant Disease, 83(12), 1137-1141.

Edelstein, M.; Cohen, R.; Burger, Y.; Shriber, S.; Pivonia, S.; Shtienberg, D. (1999) Integrated management of sudden wilt in melons, caused by *Monosporascus cannonballus*, using grafting and reduced rates of methyl bromide.
Plant Disease, 83(12), 1142-1145.

Additional key words: control methods **Computer codes:** MSPSCB

2000/068 *Lecanoideus floccissimus* found on La Gomera, Canary Islands (ES)

Lecanoideus floccissimus (EPPO Alert List), which was first reported as a new whitefly pest in 1991 in Tenerife (Canary Islands, Spain), has now spread to the island of La Gomera. A large infestation was found on a mango tree in November 1999, at Herminga, near one the main banana-growing area of the island. It is thought that this pest is a serious threat to the banana crops of the island.

Source: Anonymous (2000) First report of *Lecanoideus floccissimus* on La Gomera. **EWSN Newsletter, no. 02, coordinated by Dr Ian D. Bedford, Dr Michael de Courcy Williams, 4 pp.**

Additional key words: detailed record **Computer codes:** LECOFL, ES

2000/069 Studies on the geographical distribution of lettuce infectious yellows crinivirus, cucurbit yellow stunting disorder crinivirus and beet pseudo-yellows closterovirus

Lettuce infectious yellows crinivirus (LIYV - EPPO A1 quarantine pest), cucurbit yellow stunting disorder crinivirus (CYSDV- EPPO Alert List), and beet pseudo-yellows closterovirus (BPYV) are transmitted in a semipersistent way by whiteflies. LIYV is transmitted by *Bemisia tabaci* (poorly transmitted by biotype B), CYSDV by *B. tabaci* (including biotype B), BPYV by *Trialeurodes vaporariorum*. These viruses have overlapping host range and can cause similar symptoms, for example on cucurbits. LIYV has been reported from limited regions in USA, CYSDV from some parts of Europe and the Middle East, and BPYV is more widespread. 498 cucurbit samples (*Citrullus lanatus*, *Cucumis sativus*, *Cucumis melo*, *Cucurbita pepo*) showing yellowing symptoms or infested by whiteflies were collected from field or glasshouse crops in California (US), Middle East (Jordan, Saudi Arabia, Turkey) and Europe (Spain, Crete (GR), Italy). Samples were specifically tested for the presence of these 3 viruses and molecular variation between virus isolates was also studied. LIYV was not found in any sample (this virus is now reported to be very rare in California). CYSDV was found in 69 samples from the Middle East and Europe: 49 from Spain, 9 from Jordan, 5 from Saudi Arabia*, 6 from Turkey. BPYV was found in 12 samples: 9 from Italy and 3 from Crete. The authors noted that in Europe the geographical distribution of CYSDV and BPYV is not overlapping. In Spain, the displacement of BPYV by CYSDV has been correlated with the

increase of *B. tabaci* (and of the B biotype) populations replacing *T. vaporariorum*. Similarly the disappearance of LIYV in California has been associated with the displacement of certain biotypes of *B. tabaci* by the B biotype which is a very poor vector of this virus. Studies on the molecular variation among virus isolates showed rather high homogeneity. CYSDV isolates could be divided into two groups: one group was only composed of isolates from Spain, Jordan and Turkey and a second group was predominantly composed of isolates found in Saudi Arabia.

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* The EPPO Secretariat had previously no data on the occurrence of CYSDV in Saudi Arabia.

Source: Rubio, L.; Soong, J.; Kao, J.; Falk, B.W. (1999) Geographic distribution and molecular variation of isolates of three whitefly-borne closteroviruses of cucurbits: lettuce infectious virus, cucurbit yellow stunting disorder virus, and beet pseudo-yellows virus.
Phytopathology, 89(8), 707-711.

Additional key words: detailed records, new records **Computer codes:** KUYSXX, LEIYXX, SA

2000/070 New host plants for impatiens necrotic spot and tomato spotted wilt tospoviruses

Tomato spotted wilt tospovirus (EPPO A2 quarantine pest) was found in 1998 on basil (*Ocimum basilicum*) in Louisiana, US. An outbreak of thrips was also observed at the same time. Symptoms consisted of ring spots, distortion and severe mosaic (Holcomb *et al*., 1999).

Impatiens necrotic spot tospovirus (EPPO A2 quarantine pest) was detected in field samples of peanut (*Arachis hypogaea*) collected in Texas and Georgia, US. Symptoms were similar to those caused by tomato spotted wilt tospovirus (yellowing, wilting of the plants, internal necrosis of taproot and crown, plant death). Pappu *et al*., 1999.

In 1998, severe impatiens necrotic spot (EPPO A2 quarantine pest) infections were found in various ornamental plants in Piemonte, northwestern Italy, associated with heavy infestations of *Frankliniella occidentalis* (EPPO A2 quarantine pest). The following new hosts were identified: *Ageratum houstonianum*, *Cordyline terminalis*, *Dianthus chinensis*, *Episcia capreata*, *Godetia grandiflora*, *Maranta leuconeura*, *Peperomia obtusifolia*, *Scindapsus aureus*, *Torenia fournieri*. Infected plants showed chlorotic, necrotic, concentric rings, necrosis of leaves and stems and reduced growth (Gotta *et al*., 1999 - Roggero *et al*., 1999).

Source:

Gotta, P.; Gallo, S.; Ciuffo, M.; Roggero, P.; Dellavalle, G.; Masenga, V.; Lisa, V. (199) Tospovirus infections in ornamental plants in Piedmont (Italy).
Informatore Fitopatologico, no. 12, 56-60.

Holcomb, G.E;; Valverde, R.A.; Sim, J.; Nuss, J. (1999) First report on natural occurrence of tomato spotted wilt tospovirus in basil (*Ocimum basilicum*).
Plant Disease, 83(10), p 966.

Pappu, S.S.; Black, M.C.; Pappu, H.R.; Brenneman, T.B.; Culbreath, A.L. Todd, J.W. (1999) First report of natural infection of peanut (groundnut) by impatiens necrotic spot tospovirus (Family Bunyaviridae).
Plant Disease, 83(10), p 966.

Roggero, P.; Ciuffo, M.; Dellavalle, G.; Gotta, P.; Gallo, S.; Peters, D. (1999) Additional ornamental species as hosts of impatiens necrotic spot tospovirus in Italy.
Plant Disease, 83(10), p 967.

Additional key words: new host plants **Computer codes:** IMNSXX, TMSWXX

2000/071 EPPO report on selected intercepted consignments

The EPPO Secretariat has gathered the intercepted consignment reports:
1) for 1998 received from Algeria;
2) for 1999 received since the previous report (EPPO RS 2000/052) from the following countries: Algeria, Austria, France, Ireland, Israel, Netherlands, United Kingdom;
3) and for 2000 received since the previous report (EPPO RS 2000/052) from the following countries: Austria, Cyprus, Denmark, France, Finland, Greece, Ireland, Luxembourg, Netherlands, Norway, Poland, Switzerland, United Kingdom. When a consignment has been re-exported and the country of origin is unknown, the re-exporting country is indicated in brackets. When the occurrence of a pest in a given country is not known to the EPPO Secretariat, this is indicated by an asterisk (*).
The EPPO Secretariat has selected 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.

Note: The following note should be added to the previous report on interceptions (EPPO RS 2000/052). It concerned the Dutch interception of *Citrus paradisi* fruits from USA infected by *Guignardia citricarpa*:

*** In USA, molecular techniques have recently been developed to distinguish between pathogenic and non-pathogenic strains of *G. citricarpa*. Using this method, the USA authorities have shown that the isolate from this consignment is a non-pathogenic strain of *G. citricarpa* (note from the Dutch NPPO, 2000-02).**

- **1998 Interceptions made by Algeria**

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Acanthoscelides obtectus	*Phaseolus vulgaris*	Stored products	France	Algeria	1
	Phaseolus vulgaris	Stored products	Switzerland	Algeria	1
Callosobruchus chinensis	*Cicer arietinum*	Stored products	France	Algeria	1
	Cicer arietinum	Stored products	Turkey	Algeria	2
Fusarium solani	*Solanum tuberosum*	Seed potatoes	Netherlands	Algeria	1
Lasioderma serricorne	*Foeniculum vulgare*	Stored products	Un. Arab Emirates	Algeria	1
	Nicotiana tabacum	Stored products	Italy	Algeria	1
Rhyzopertha dominica	*Triticum aestivum*	Stored products	USA	Algeria	1
Sitophilus granarius, Rhyzopertha dominica	*Triticum aestivum*	Stored products	USA	Algeria	1
Sitophilus granarius, Tribolium confusum	*Triticum aestivum*	Stored products	USA	Algeria	1
Unspecified rot	*Solanum tuberosum*	Seed potatoes	France	Algeria	1

- **1999 Interceptions (remainder)**

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Acanthoscelides obtectus	*Phaseolus vulgaris*	Stored products	Ethiopia	Algeria	1
Agropyron repens	*Phalaris*	Stored products	Canada	Israel	1
Aspidiotus excisus	*Aglaonema*	Cuttings	Netherlands	Israel	1
Bemisia tabaci	*Ocimum basilicum*	Vegetables	Burkina Faso	France	1
	Ornamentals	Cut flowers	Germany	Lithuania	1
Cenchrus pauciflorus	*Glycine max*	Stored products	Brazil	Lithuania	1
Clavibacter michiganensis* subsp. *sepedonicus	*Solanum tuberosum*	Seed potatoes	Germany	France	1
Cryptolestes duplicatus	*Coffea*	Stored products	India	Israel	1
Cryptolestes ferrugineus	*Phalaris*	Stored products	Canada	Israel	1
Cryptolestes pusillus	*Coffea*	Stored products	Kenya	Israel	1
Cryptolestes pusillus, Carpophilus dimidiatus	*Coffea*	Stored products	Côte d'Ivoire	Israel	1
Cryptolestes pusillus, Liposcelis divinatorius	*Helianthus annuus*	Seeds	USA	Israel	1
Cuscuta campestris	*Foeniculum vulgare*	Seeds	Ukraine	Lithuania	1
Cyperus rotundus	*Eragrostis tef*	Stored products	Ethiopia	Israel	3
Ditylenchus dipsaci	*Fragaria ananassa*	Plants for planting	China	Lithuania	1
Ephestia elutella	*Cicer arietinum*	Stored products	Bulgaria	Israel	1
	Prunus dulcis	Stored products	USA	Israel	1
Formicomus pedestris, Mycetophagus, Telonomus brachialis	*Triticum* (straw)	Stored products	Romania	Israel	1
Fusarium solani	*Solanum tuberosum*	Seed potatoes	Netherlands	Algeria	1
Gonocephalum ?strigosum	Various spices	Stored products	Turkey	Israel	1
Gryllus ?ciliatus	Various spices	Stored products	India	Israel	1
Guignardia citricarpa	*Citrus limon*	Fruits	Argentina	Netherlands	1
Helminthosporium solani, Streptomyces scabies	*Solanum tuberosum*	Seed potatoes	Denmark	Algeria	1
Lasioderma serricorne	*Coffea*	Stored products	Vietnam	Israel	1
	Foeniculum vulgare	Stored products	Un. Arab Emirates	Algeria	1
	Nicotiana tabacum	Stored products	Switzerland	Algeria	1

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Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Lepinotus inquilinus	*Coffea*	Stored products	Brazil	Israel	1
Liriomyza bryoniae	*Gypsophila*	Cut flowers	Israel	United Kingdom	1
Liriomyza sativae	*Ocimum basilicum*	Vegetables	Israel	France	2
	Ocimum basilicum	Vegetables	Thailand	France	1
Lophocateres pusillus	*Coffea*	Stored products	India	Israel	1
Meloidogyne chitwoodi	*Solanum tuberosum*	Seed potatoes	Netherlands	France	1
Oryzaephilus mercator, Ahasverus advena	*Cinnamomum*	Stored products	China	Israel	1
Panonychus ulmi	*Pyrus communis*	Fruits	France	Israel	1
	Pyrus communis	Fruits	Spain	Israel	1
Phora femorata	*Piper nigrum*	Stored products	Sri Lanka	Israel	1
Phytophthora infestans, Fusarium oxysporum, F. solani	*Solanum tuberosum*	Seed potatoes	Belgium?	Algeria	1
Plodia interpunctella	*Coffea*	Stored products	Guatemala	Israel	1
Pseudomonas syringae **pv. *pisi***	*Pisum sativum*	Seeds	Australia	Israel	1
	Pisum sativum	Seeds	Hungary	Israel	1
Quadraspidiotus perniciosus	*Cydonia oblonga*	Fruits	Greece	Israel	1
	Pyrus communis	Fruits	Spain	Israel	1
	Pyrus communis	Fruits	Turkey	Israel	1
Ralstonia solanacearum	*Solanum tuberosum*	Ware potatoes	Belgium	Netherlands	1
Sclerotinia sclerotiorum	*Brassica oleracea* var. *botrytis* subvar. *cymosa*	Vegetables	Netherlands	Israel	1
	Petroselinum crispum	Seeds	Denmark	Israel	1
	Spinacia oleracea	Seeds	Denmark	Israel	3
Scutellonema bradys	*Cichorium intybus*	Vegetables	France	Israel	1
Spodoptera (**suspect *littoralis)***	*Ocimum basilicum*	Vegetables	Israel	France	1
Stenocarpella maydis, Cochliobolus carbonum, Colletotrichum graminicola	*Zea mays*	Stored products	USA	Israel	1
Thysanoptera	*Momordica charantia*	Vegetables	Thailand	France	1
Tribolium castaneum	*Oryza sativae*	Stored products	Thailand	Israel	2
	Oryza sativae	Stored products	Thailand	Israel	1
	Oryza sativae	Stored products	Thailand	Israel	1
	Sesamum indicum	Stored products	Ethiopia	Israel	1

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Tribolium castaneum, Lasioderma serricorne	*Eragrostis tef*	Stored products	Ethiopia	Israel	1
Unspecified	*Malus domestica*	Fruits	USA	Israel	1
Weed seeds	*Cocos nucifera* (fibers)	Stored products	Sri Lanka	Israel	1

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Larvae (Cerambycidae)	Wood	Round wood	France	Algeria	1
Anoplophora glabripennis	Wood	Wooden packing material (crates)	China	United Kingdom	1
***Monochamus alternatus*,** **Scolytidae**	Coniferae	Wooden packing material (crates)	China	Ireland	1
Grub holes > 3mm *(Anoplophora glabripennis* suspected*)*	Wood	Packing material (container)	China	United Kingdom	1

• 2000 Interceptions

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Ambrosia	*Zea mays*	Stored products	Hungary	Poland	3
	Zea mays	Stored products	Slovakia	Poland	7
Ambrosia artemisiifolia	*Zea mays*	Stored products	Slovakia	Poland	3
Aphelenchoides fragariae	*Astilbe*	Plants for planting	Netherlands	Poland	5
Bemisia tabaci	*Anubias*	Aquarium plants	Spain (Canary Isl.)	France	1
	Euphorbia pulcherrima	Cuttings	USA	United Kingdom	1
	Eustoma	Cut flowers	Israel	United Kingdom	1
	Hygrophila	Aquarium plants	Singapore	France	1
	Hygrophila corymbosa	Aquarium plants	Singapore	Denmark	1
	Hygrophila stricta, Alternanthera	Aquarium plants	Singapore	Denmark	1
	Rosa	Cut flowers	Israel	France	1
	Rosa	Cut flowers	Israel	United Kingdom	3
	Trachelium	Cut flowers	Israel	Ireland	1
	Trachelium	Cut flowers	Netherlands	Ireland	1
	Trachelium	Cut flowers	(Netherlands)	United Kingdom	1
***Bemisia tabaci* (biotype B)**	*Lysimachia*	Aquarium plants	Malaysia	Netherlands	2
Cinara (*suspect *shinjii)	*Pinus pentaphylla*	Plants for planting	Japan	United Kingdom	1
Clavibacter michiganensis* subsp. *sepedonicus	*Solanum tuberosum*	Ware potatoes	Germany	Netherlands	1
	Solanum tuberosum	Ware potatoes	Germany	Poland	4

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Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Cuscuta	*Trifolium repens*	Seeds	Denmark	Poland	1
	Trifolium resupinatum	Seeds	Italy	Poland	1
Erwinia* sp., *Phytophthora infestans	*Solanum tuberosum*	Seed potatoes	United Kingdom	Cyprus	3
Guignardia citricarpa	*Citrus sinensis*	Fruits	Guinea*	France	1
Helicotylenchus	*Phoenix roebelinii, Phoenix*	Plants for planting	Guatemala	France	1
Helicoverpa armigera	*Dianthus caryophyllus*	Cut flowers	Kenya	United Kingdom	1
Iva xanthifolia	*Helianthus annuus*	Stored products	Ukraine	Poland	1
Lepidosaphes beckii	*Citrus paradisi*	Fruits	(Israel)	Greece	1
Liriomyza	*Artemisia dracunculus*	Cut flowers	Morocco	France	1
	Brassica pekinensis, Ocimum basilicum	Vegetables	Thailand	Denmark	1
	Ocimum basilicum	Vegetables	Israel	France	4
	Ocimum basilicum	Vegetables	Thailand	Denmark	3
Liriomyza huidobrensis	*Primula*	Plants for planting	Netherlands	United Kingdom	1
Liriomyza (*suspect *huidobrensis* and *trifolii)	*Dendranthema*	Cut flowers	Spain	United Kingdom	1
Liriomyza (*suspect *huidobrensis)	*Carthamus*	Cut flowers	(Netherlands)	United Kingdom	1
	Gypsophila	Cut flowers	Spain	United Kingdom	1
	Spinacia oleracea	Vegetables	Cyprus	United Kingdom	1
	Verbena	Cuttings	Netherlands	United Kingdom	1
Liriomyza sativae	*Ocimum basilicum*	Vegetables	Thailand	France	2
	Ocimum basilicum	Vegetables	Thailand	United Kingdom	1
Liriomyza trifolii	*Ocimum basilicum*	Vegetables	Thailand	United Kingdom	1
Liriomyza (*suspect *trifolii)	*Gypsophila*	Cut flowers	(Spain)	United Kingdom	1
Liriomyza (*suspect *trifolii* or *sativae)	*Allium fistulosum*	Vegetables	USA	United Kingdom	1
	Aster	Cut flowers	Israel	United Kingdom	1
Meloidogyne	*Rosa*	Plants for planting	Denmark	Norway	1
Mites	*Linum usitatissium, Sinapis alba*	Stored products	Czechia	Poland	1
Sitophilus oryzae	*Avena*	Stored products	Czechia	Poland	1
	Hordeum vulgare	Stored products	Czechia	Poland	1
	Triticum aestivum	Stored products	Slovakia	Poland	1
	Zea mays	Stored products	Slovakia	Poland	3
Sitophilus oryzae, Tribolium, Cryptolestes ferrugineus	*Hordeum vulgare*	Stored products	Czechia	Poland	1
Stephanitis takeyai	*Pieris formosa*	Plants for planting	Netherlands	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Thrips palmi	*Dendranthema*	Cuttings	Brazil	United Kingdom	1
	Dendrobium	Cut flowers	Thailand	France	1
Tilletia walkeri	*Triticum aestivum*	Stored products	USA	United Kingdom	1
Tribolium	*Hordeum vulgare*	Stored products	Czechia	Poland	1
	Triticum	Stored products	Czechia	Poland	1
	Zea mays	Stored products	Slovakia	Poland	4
Tribolium, Cryptolestes ferrugineus	*Triticum aestivum*	Stored products	Slovakia	Poland	1

- **Wood**

Pest	Consignment	Type of commodity	Country of origin	C. of destination	nb
Bursaphelenchus xylophilus	Wood	Packing material	USA	Finland	7
Grub holes > 3mm	Wood	Packing material	China	Denmark	3
	Wood	Packing material	USA	Finland	2
Signs of beetle activity	*Pinus, Picea*	Dunnage	Estonia	United Kingdom	1

- **Bonsais**

One consignment of bonsai *Ulmus* from China has been intercepted by UK because of the presence of *Tinocallis* sp.

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