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POUR LA PROTECTION DES PLANTES

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Reporting

Service

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2005/146 Noticeable plants in Landes and Pyrénées-Atlantiques (France) in 2004

- *Pistia stratiotes* (Araceae) is present in Guipuzcoa (Pyrénées-Atlantiques) and in the Landes department. This ornamental plant may have been voluntarily introduced. It does not tolerate freezing and dies every year.
- *Lonicera japonica* (Caprifoliaceae) forms dense thickets near Capbreton (Landes).
- *Akebia quinata* (Lardizabalaceae) has been observed on river banks in Siros (Pyrénées-Atlantiques).
- *Artemisia verlotiorum* (Asteraceae), *Conyza bonariensis* (Asteraceae), *C. canadensis*, *Cortaderia selloana* (Poaceae), *Echinochloa crus-galli* (Poaceae), *Eleusine indica* (Poaceae), *E. tristachya*, *Lemna* spp. (Lemnaceae), *Ludwigia uruguayensis* (Oenotheraceae, EPPO List of invasive alien plants), *Myriophyllum* spp. (Haloragaceae) *Paspalum dilatatum* (Poaceae), and *P. paspalodes* are present in Saint-Sever (Landes).
- *Bidens frondosa* (Asteraceae, EPPO List of invasive alien plants) is present in Cauna (Landes).

Source: Vivant J (2005) Plantes signalées dans les Landes et Pyrénées Atlantiques en 2004. *Le monde des plantes* **486**, 6-10.

Additional key words: detailed records

Computer codes: AKEQI, ARTVE, BIDFR, CDTSE, ECHCG, ELEIN, ELETR, ERIBO, ERICA, LEMSP, LONJA, LUDUR, MYPSP, PASDI, PASDS, PIIST, FR

2005/147 *Asystasia gangetica* subsp. *micrantha*, a newly naturalized plant in Taiwan

Asystasia gangetica subsp. *micrantha* (Acanthaceae) was found naturalized in southern Taiwan. This taxon represents a new record for the genus and the species on the island. The genus includes approximately 70 species in the world, distributed in Africa, India, mainland China and Australia. This plant is a perennial herb, erect, 15 to 60 cm tall. The leaves are opposite, ovate, 4-9 cm long, 2-5 cm wide. The corolla is zygomorphic, about 1-1.3 cm in diameter, white, bell-shaped. Plant nodes form roots when they enter in contact with moist soil, ultimately forming mats or sprawling mass stems. Given such asexual propagation and lack of natural predators, these plants are highly invasive and are considered as weeds. The introduction of this weed has caused serious disturbance to natural habitats, particularly in Malaysia, Indonesia and the Pacific islands. For more information on this plant: http://www.hear.org/pier/species/asystasia_gangetica.htm

Source: Hsu TW, Chiang TY, Peng JJ (2005) *Asystasia gangetica* (l.) T. Anderson subsp. *micrantha* (Nees) Ensermu (Acanthaceae), a newly naturalized plant in Taiwan. *Taiwania*, **50**(2), 117-122.

Additional key words: new record

Computer codes: ASYCO, TW

2005/148 Ecology of *Eichhornia crassipes* and *Pistia stratiotes* in the oriental maritime region of Togo

The presence of *Pistia stratiotes* (Araceae) and *Eichhornia crassipes* (Pontederiaceae) on water bodies is increasing in the entire maritime region of Togo. *P. stratiotes* is the most widespread species and covers most parts of this area. Ecological conditions of waters in this region are much diversified. However, this study has shown that nitrogen under its ammoniac form, low salinity, conductivity and hardness values of waters favoured installation and spread of *P. stratiotes* and *E. crassipes*. As it is very difficult to influence conductivity and salinity of these water bodies, a solution would be to diminish their nitrogen and phosphorus contents, as these elements are essential to macrophytes' metabolism. To achieve this, participation and information of human populations are essential for an efficient management.

Source: Akpavi S, Batawila K, Djaneye-Boundjou G, Afidegnon D, de Foucault B, Bouchet P (2005) Contribution à la connaissance de l'écologie d'*Eichhornia crassipes* (Mart.) Solms-Laub. (Pontederiaceae) et de *Pistia stratiotes* L. (Araceae) dans la région maritime orientale du Togo. *Acta Botanica Gallica.* **152**(3), 269-280.

Additional key words: biology, ecology **Computer codes:** EICCR, PIIST, TG

2005/149 Evidence of hybridization between *Lythrum salicaria* and *L. alatum* in North America

Although *Lythrum salicaria* (Lythraceae) was introduced into North America from Europe in the early 1800s, it did not become invasive until the 1930s. Whether hybridization with *L. alatum* could have played a role in its ultimate spread was tested. Evidence indicated that *L. salicaria* may have hybridized with *L. alatum*, but if so, only a small fraction of *L. alatum* genes have been retained in the genome of *L. salicaria*. This is unlikely to have led to a dramatic adaptative shift unless the introgression of a few key genes into *L. salicaria* stimulated a genomic reorganization. It is more likely that crossing among genotypes of *L. salicaria* from multiple introductions provided the necessary variability for new adaptations to arise.

Source: Houghton-Thompson J, Prince HH, Smith JJ, Hancock J (2005) Evidence of hybridization between *Lythrum salicaria* (Purple Loosestrife) and *L. alatum* (Winged Loosestrife). *Annals of Botany* **96**, 877-885.
Available online at www.aob.oxfordjournals.org

Additional key words: genetics **Computer codes:** LYTAL, LYTSA, US

2005/150 *Cyperus esculentus*, a new weed in Hungary

Cyperus esculentus (Cyperaceae – EPPO list of invasive alien plants) is considered invasive and transformer in Hungary. It is a rhizomatous plant originating from the subtropical areas of North-Africa. Five *Cyperus esculentus* varieties are known in the world. One of them is a cultivated plant (*C. e.* var. *sativus* or *C. e.* cv. Chufa), the four others are weeds (*C. e.* var. *esculentus*, *C. e.* var. *macrostachyus*, *C. e.* var. *heermannii*, *C. e.* var. *leptostachyus*). In Europe, *C. esculentus* var. *leptostachyus* is the most common variety. The species has a high economic impact and is characterised by high vegetative propagation and wide genetic variability in Hungary. Two pathways of introduction are suspected: imports of *Gladiolus* from the Netherlands and of infested seeds of maize grown in monoculture. The first occurrence of *C. esculentus* var. *leptostachyus* was reported in Hungary in 1993, on 1 hectare of maize. Today, it occurs and causes damage in vegetables, maize and intensive apple orchards in 4 regions and around 13 localities. The largest infested area is 2500-3000 hectares.

Source: Dancza I, Pathy Hoffmann Z, Doma C (2004) *Cyperus esculentus* (yellow nutsedge) – a new weed in Hungary. *Journal of Plant Diseases and Protection* **XIX**, 223-229.

Additional key words: weed **Computer codes:** CYPES, HU

2005/151 *Ampelopsis brevipedunculata*, still spreading in the Eastern United States

Ampelopsis brevipedunculata (Vitaceae), also known as porcelainberry, is a deciduous, woody, perennial vine that resembles American species of *Vitis*. The plant is native to Japan and North China and is present in the United States. There is no confirmation of its presence in Canada. This plant can be moved with trade of ornamental plants and easily escapes cultivation. Seeds may be dispersed by birds, other small animals, or water. *A. brevipedunculata* can be easily misidentified with wild *Vitis*, and has a negative impact on the natural environment. *A. brevipedunculata* is a vigorous invader of open and partially shaded habitats. As a fast grower it quickly spreads over other vegetation, shading them out and reducing native plant diversity in the area. In Massachusetts, *A. brevipedunculata* is one of the 140 invasive plant species which are now banned from entering the state.

Source: NAPPO Phytosanitary Alert System.
http://www.pestalert.org/viewNewsAlert_print.cfm?naid=2
Massachusetts Department of Agricultural Resources Press Release, 16 Dec 2005.
http://www.mass.gov/agr/farmproducts/Prohibited_Plant_Index2.htm
Delaware Online (The News Journal). 19 Dec 2005. Delaware Botanists face Growing Problems. http://www.delawareonline.com/apps/pbcs.dll/article?AID=/20051219/NEWS/512190342/1006

Additional key words: invasive plant **Computer codes:** AMCBR, US

2005/152 A new begomovirus species infecting *Alternanthera philoxeroides*

A virus designated Hn51 was isolated in 2004 from *Alternanthera philoxeroides* showing yellow vein symptoms in Hainan Province (China). Molecular data showed that Hn51 was a new begomovirus species, for which the name Alternanthera yellow vein virus was proposed. In recent years, several begomoviruses have been reported infecting squash, tobacco and tomato in China. Weeds carry the viruses either as alternate and/or reservoir hosts. *A. philoxeroides* is an aquatic mat-forming perennial weed that can grow in a variety of habitats. This is the first report of a begomovirus infecting an aquatic plant. Although *A. philoxeroides* originates from South America, the genome of Alternanthera yellow vein virus has higher sequence similarities with begomoviruses found in Asia. This eliminates the possibilities that the begomovirus has been introduced into China with its host. The fact that *A. philoxeroides* which escaped cultivation and became invasive could be infected by this virus is an additional threat.

Source: Guo X, Zhou X (2005) Molecular characterization of *Alternanthera* yellow vein virus: a new Begomovirus species infecting *Alternanthera philoxeroides*. *Journal of Phytopathology*, **153**, 694-696.

Additional key words: invasive plant, new pest **Computer codes:** ALRPH

2005/153 Audit of non-native species in England, UK

In UK, data has been collected on non-native species present in England. Information on non-native species has often been under-recorded, the recognition of introduced species being often problematical and much data being dispersed. The aim of this work was to document the occurrence of non-native species in all taxonomic groups in England and to collect data on their date and pathways of introduction, their native range and their present geographical distribution, with the support of bibliographic references. After clarifying the assumptions and definitions used for “non-native”, “naturalized”, “pathways of introductions” etc., the study provides interesting key findings in terms of numbers and impact of non-native species on biodiversity. Out of the 2721 non-native species entered in the database, terrestrial plants represented 73% of the total, i.e. 1798 species. Concerning the effects of introduced species: 7 and 14 plants are considered to have respectively a strongly negative or a negative economic impact; 6 and 48 are considered to have respectively a strongly negative and a negative environmental impact.

Source: Hill M, Baker R, Broad G, Chandler PJ, Copp GH, Ellis J, Jones D, Hoyland C, Laing I, Longshaw M, Moore N, Parrott D, Pearman D, Preston C, Smith RM, Waters R (2005) Audit of non-native species in England. English Nature Research Reports n° 662. 81 pp. http://www.english-nature.org.uk/pubs/publication/pdf/662.pdf

Additional key words: invasive plants **Computer codes:** UK

2005/154 Neophytes in Austria: habitat preferences and ecological effects

Most of the 1110 neophytic vascular plant species recorded for Austria occur in ruderal and segetal vegetation. However, some natural and semi-natural vegetation types are also strongly invaded by neophytes. These include riparian areas, and floodplain forests. In contrast, the invasion success of neophytes in alpine meadows and dwarf shrub communities, in bogs, fens and moist meadows, as well as in rocks and screes is very low. The invasion success of neophytes seems to be associated with a strong anthropogenic and natural disturbance regime, excessive supply of nutrients and warm climate. The number of neophytes which threaten biodiversity is low: 17 species are classified as invasive and another 18 species as potentially invasive.

These species are: *Acer negundo*, *Ailanthus altissima* (EPPO list of invasive alien plants), *Ambrosia artemisiifolia* (EPPO list), *Amorpha fruticosa*, *Asclepias syriaca*, *Aster lanceolatus*, *Aster novi-belgii*, *Bidens frondosa* (EPPO list), *Buddleja davidii*, *Duchesnea indica*, *Eleagnus angustifolia*, *Elodea canadensis*, *Elodea nuttallii* (EPPO list), *Epilobium ciliatum*, *Fallopia japonica* (EPPO list), *Fallopia x bohemica* (EPPO list), *Fallopia sacchalinensis* (EPPO list), *Fraxinus pennsylvanica*, *Glyceria striata*, *Helianthus tuberosus* (EPPO list), *Heracleum mantegazzianum* (EPPO list), *Impatiens glandulifera* (EPPO list), *Impatiens parviflora*, *Lupinus polyphyllus* (EPPO list), *Mahonia aquifolium*, *Pinus strobus*, *Populus x canadensis*, *Prunus serotina* (EPPO list), *Pseudotsuga menziesii*, *Robinia pseudacacia*, *Rudbeckia laciniata*, *Senecio inaequidens* (EPPO list), *Solidago canadensis* (EPPO list), *Solidago gigantea* (EPPO list), *Syringa vulgaris*. This list was adopted by the Austrian Action Plan on Invasive Alien Species (see link below).

Although invasive neophytes compose only a small fraction of the complete flora (0.9%) in Austria, they probably exert a significant influence on natural and semi-natural ecosystems. Ecological effects caused by invasive neophytes in Austria include changes in species composition, succession patterns, nutrient cycles via eutrophication and in evolutionary paths via hybridization.

Source: Walter J, Essl F, Englisch T, Kiehn M (2005) Neophytes in Austria: Habitat preferences and ecological effects. *Biological Invasions* **5**, 13-25.
Austrian Action Plan on Invasive Alien Species: http://www.umweltbundesamt.at/en/umweltschutz/naturschutz/natur_aktuell/aktionsplan_neobiota/

Additional key words: invasive plants **Computer codes:** AT

2005/155 The NOBANIS Internet portal on invasive alien species is open

This new portal provides useful data on invasive alien species in Northern and Central Europe. It is based on the latest scientific knowledge about invasive alien species and can be used by all interested parties - administrators, journalists, scientists,... NOBANIS is a network of environmental administrators from the Northern, Baltic and Central European countries working on invasive alien species. The current members of the NOBANIS project are: Denmark, Estonia, Faroe Islands, Finland, Germany, Greenland, Iceland, Latvia, Lithuania, Norway, Poland and Sweden. NOBANIS is financed by the Nordic Council of Ministers and the participating countries' environmental authorities. The new searchable database answers questions such as which alien species are present in these countries as well as how, when and why a species was introduced in the region. For each country, information on the status, invasiveness and impact of the invasive alien species is available. Maps covering the entire region are available to show the distribution of species which represent a threat to environment and society. In the future, details on management and control of the most invasive species will also be provided on the portal.

Source: NOBANIS Portal on invasive alien species. http://www.artportalen.se/nobanis/
Contact: Inger R. Weidema Irw@sns.dk, Rural Division, Danish Forest and Nature Agency, Ministry of the Environment

Additional key words: invasive plants

2005/156 The new revised text of the IPPC is now into force (as of 2005-10-02)

The revised text (1997) of the International Plant Protection Convention entered into force on the 2005-10-02, as more than 2/3 of the contracting parties have accepted it. The following countries are contracting parties of the IPPC (EPPO members are indicated in bold). It may be noted that a few EPPO member countries have not yet become contracting parties to the IPPC despite the repeated recommendations of EPPO Council (i.e. Kazakhstan, Slovakia, Ukraine, Uzbekistan).

Albania
Algeria
Argentina
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Bhutan
Bolivia
Bosnia and Herzegovina
Brazil
Bulgaria
Burkina Faso
Cambodia
Canada
Cape Verde
Central African Republic
Chad
Chile
China
Colombia
Congo
Cook Islands
Costa Rica
Côte d'Ivoire
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Equatorial Guinea
Eritrea
Estonia Ethiopia
European Community
Fiji
Finland
France
Germany
Ghana
Greece
Grenada
Guatemala
Guinea
Guyana
Haiti
Honduras
Hungary
Iceland
India
Indonesia
Iran (Islamic Republic of)
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kenya
Korea, D.P.R. of
Korea, Republic of
Kyrgyzstan
Laos
Latvia
Lebanon
Liberia
Libyan Arab Jamahiriya
Lithuania
Luxembourg
Malawi
Malaysia
Mali
Malta
Mauritania
Mauritius
Mexico
Moldova
Morocco
Netherlands
New Zealand
Nicaragua
Niger
Nigeria
Niue
Norway
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Romania
Russian Federation
Samoa
Saudi Arabia
Senegal
Serbia and Montenegro
Seychelles
Sierra Leone
Slovenia
Solomon Islands
South Africa
Sweden
Spain
Sri Lanka
St. Kitts & Nevis
St. Lucia
St. Vincent and the Grenadines
Sudan
Suriname
Swaziland
Switzerland
Syria
Thailand
The Former Yugoslav Republic of Macedonia
Togo
Trinidad & Tobago
Tunisia
Turkey
United Arab Emirates
United Kingdom
United Republic of Tanzania
United States of America
Uruguay
Venezuela
Viet Nam
Yemen
Zambia

Source: FAO website. http://www.fao.org/Legal/TREATIES/004s-e.htm#note1

2005/157 Surveys on *Clavibacter michiganensis* subsp. *sepedonicus* and *Ralstonia solanacearum* in Germany (2004 potato production season)

The NPPO of Germany informed the EPPO Secretariat of the results of official surveys done on potato bacteria during the 2004 production season (earlier surveys were reported in EPPO RS 2003/086). These surveys were done according to EU Council Directives 93/85/EEC for *Clavibacter michiganensis* subsp. *sepedonicus* and 98/57/EC for *Ralstonia solanacearum.*

- ***Clavibacter michiganensis* subsp. *sepedonicus* (ring rot - A2 list)**

During the 2004 production season, 17,856 samples were tested in the laboratory for ring rot. Samples were taken from seed potatoes (11,146 samples), ware potatoes (5,267 samples), gene banks and breeding material, and from potatoes in trade. *C. michiganensis* subsp. *sepedonicus* was found in 5 cases in seed potato production, and in 15 cases in ware potatoes. Thorough analyses were carried out to trace back the origin and relationships of infections. As in previous years, control measures according to Council Directive 93/85/EEC were taken. Concerning seed potato production, ring rot situation in 2004 was maintained at a low level compared to previous years. For ware potatoes, situation has continued to improve.
The pest status of *C. michiganensis* subsp. *sepedonicus* in Germany is officially declared as: **Present in some areas at low prevalence; under eradication.**

- ***Ralstonia solanacearum* (brown rot - A2 list)**

17,723 samples were tested in the laboratory for *R. solanacearum*. Samples were taken from seed potatoes (11,151 samples), ware potatoes (5,129 samples), from gene banks and breeding material, and from potatoes in trade. In 5 Federal States, 402 samples were collected from water courses and weed host plants, and tested. Concerning seed potato production, 1 lot was found infected with *R. solanacearum*, whereas no infection was found in ware potatoes. Thorough analyses were carried out to trace back the origin of infection. Contamination of water courses was found in surface water bodies that had already been found positive in previous years, and in one river for the first time. Control measures according to Council Directive 98/57/EC were taken.
The pest status of *R. solanacearum* in Germany is officially declared as: **Transient, single case; under eradication.**

Source: **NPPO of Germany, 2005-07.**

Additional key words: detailed records **Computer codes:** CORBSE, PSDMSO, DE

2005/158 *Phytophthora ramorum* is not present in Austria

According to EU Directive 2002/757/EC, surveys on *Phytophthora ramorum* (EPPO Alert List) were initiated in Austria in 2003. In 2003, samples were collected from nurseries, garden centres, parks and forestry sites. *P. ramorum* was not found. In 2004, survey continued and similarly *P. ramorum* was not detected.
The status of *P. ramorum* in Austria is officially declared as: **Absent, confirmed by survey.**

Source: **NPPO of Austria, 2005-04.**

Additional key words: absence **Computer codes:** PHYTRA, AT

2005/159 Recent information on *Phytophthora ramorum* in Europe

An EPPO Conference on *Phytophthora ramorum* and other forest pests recently took place at Falmouth in Cornwall (GB). Presentations can be viewed on the EPPO website and papers will be published in the EPPO Bulletin in due course. This Conference provided the opportunity to present the situation of *P. ramorum* (EPPO Alert List) in several European countries. After the first discovery of *P. ramorum* within the EU, emergency measures were taken to prevent its introduction and further spread (Commission Decision 2002/757/EC amended in 2004), and regular surveys are being done in EU member states. During the Conference, the discovery of another pathogen in United Kingdom, *Phytophthora kernoviae*, and the risk it may present have also been discussed. The EPPO Secretariat decided to add the latter to the Alert List (see EPPO RS 2005/164).

***Phytophthora ramorum* is no longer found in Czech Republic**
In Czech Republic, *P. ramorum* was detected in 2003 on an imported lot of 15 *Viburnum bodnantense* plants, and eradication measures were taken. Further surveys done in 2004 and 2005 did not detect *P. ramorum*.
The status of *P. ramorum* in Czech Republic is officially declared as follows: **Absent, one isolated outbreak was eradicated.**

Situation of *Phytophthora ramorum* in Denmark
Since 2002, regular surveys have been conducted in Denmark. *P. ramorum* has been found in a few samples (*Rhododendron* and *Viburnum* only) from nurseries and garden material. Infected plants had been imported or produced from local stock plants.

Situation of *Phytophthora ramorum* in Finland
In Finland, *P. ramorum* was detected for the first time in 2004 in 1 Finnish nursery producing horticultural plants.

Situation of *Phytophthora ramorum* in the Netherlands
P. ramorum has been reported in the Netherlands since 1993. Approximately, 1100 nurseries are inspected every year for this pathogen, and phytosanitary measures are taken according to EU Directive 2002/757. During the last years, the percentage of affected nurseries has constantly decreased (4% in 2002/2003 to 0.5% in 2004/2005). Surveys are also done in the natural environment and have showed that *P. ramorum* occurred on 2% of the sites with *Rhododendron*. In the natural environment, it is considered that eradication is not feasible, but containment measures are applied. The spread from heavily infected *Rhododendron* sites to other hosts is probably limited, but during the last 2 years, 1 and 9 *Quercus rubra* trees were found infected at 2 sites, respectively. It was stressed that several new *Phytophthora* species have recently been reported in Europe and USA (e.g. *P. kernoviae*, *P. nemorosa*, *P. pseudosyringae* – see EPPO RS 2005/162) and that there was a need to develop a global approach to manage these diseases in the natural environment.

Situation of *Phytophthora ramorum* in Scotland (GB)
In Scotland (GB), *P. ramorum* was first found in 2002. Since then, 21 outbreak sites have been reported in Scotland, mainly on *Viburnum tinus* but also on *Rhododendron* and *Syringa vulgaris*. The pathogen has remained confined to nurseries and garden centres (with the exception of 1 private garden). However, since the first finding, the annual number of outbreaks found has constantly been decreasing (in 2005, only 3 outbreaks were detected).

Source: Presentations made at the EPPO Conference on *Phytophthora ramorum* and other forest pests, Falmouth, Cornwall, GB, 2005-10-05/07.
http://archives.eppo.org/MEETINGS/2005_meetings/ramorum_presentations/falmouth.htm

Additional key words: absence, new record, detailed records **Computer codes:** PHYTRA, CZ, DK, FI, GBNL

2005/160 Situation of *Phytophthora ramorum* in USA

In USA, *Phytophthora ramorum* (EPPO Alert List) occurs in coastal evergreen forests of California and Oregon where it causes sudden oak death. It was also reported from various states in nurseries causing leaf necrosis and twig dieback on various ornamental species; trade of nursery plants being an obvious means of spreading the pathogen. In USA, *P. ramorum* is subject to containment and eradication measures.

Sudden oak death

In California, infestations in natural settings have been found in 14 central and northern coastal counties. The 14 regulated California counties are: Humboldt, Mendocino, Lake, Sonoma, Napa, Solano, Marin, Contra Costa, Alameda, San Francisco, San Mateo, Santa Clara, Santa Cruz, and Monterey. The disease is widespread in Marin, Sonoma, Santa Cruz and part of Monterey counties. In Oregon, the disease is limited to Curry county.

Nursery infections

On a national basis and as of 2005-11-16, 3,790 nurseries have been inspected and 68,275 samples collected. This year, 99 positive sites have been reported in the following states: California (55 sites), Georgia (4), Louisiana (2), Oregon (20), South Carolina (1), Tennessee (1), Washington (16).

Source: USDA-APHIS website
Plant disease caused by *Phytophthora ramorum*. A national strategic plant for USDA (2005-09-15). http://www.aphis.usda.gov/ppq/ispm/pramorum/pdf_files/usdaprstratplan.pdf
APHIS. Pest detection and management programs – *Phytophthora ramorum*. Program update 2005-11-16. http://www.aphis.usda.gov/ppq/ispm/pramorum/updates/update11-15-05.pdf
California oak mortality task force website
http://nature.berkeley.edu/comtf/html/about_p__ramorum.html

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

2005/161 Rapid diagnostic test to distinguish between *Phytophthora ramorum* populations from America and Europe

A diagnostic test was developed in the Netherlands to distinguish rapidly between populations of *Phytophthora ramorum* (EPPO Alert List) from America and Europe. Earlier phylogenetic studies had revealed sequence differences (single point mutation) between European and American isolates of *P. ramorum* in the mitochondrial Cytochrome c oxidase subunit 1 (*Cox*1) gene. These differences were used to develop a single-nucleotide polymorphism protocol. A total of 83 isolates from Europe and 51 from USA were screened, and all isolates were consistently and correctly allocated. This test, which was initially developed for *in vitro* cultures, could also be used to detect *P. ramorum* in plants. However, in the event that populations from USA and Europe occur in the same region and form sexual progeny, this assay could no longer be applied to distinguish these populations (mitochondrial DNA being maternally inherited in the progeny).

Source: Kroon LPNM, Verstappen ECP, Kox LFF, Flier WG, Bonants PJM (2004) A rapid diagnostic test to distinguish between American and European populations of *Phytophthora ramorum*. *Phytopathology*, **94**(6), 613-620.

Additional key words: diagnostics **Computer codes:** PHYTRA

2005/162 Other *Phytophthora* species recently described on forest or ornamental species

During studies done on *Phytophthora ramorum* (EPPO Alert List) either in forests or nurseries, 3 new *Phytophthora* species have recently been described: *Phytophthora nemorosa* (Hansen *et al*., 2003), *Phytophthora pseudosyringae* (Jung *et al*., 2003), and *Phytophthora hedraiandra* (de Cock & Lévesque, 2004).

Phytophthora nemorosa

So far, *P. nemorosa* has only been reported from USA in California and Oregon. It is associated with stem cankers on *Lithocarpus densiflorus* and *Quercus agrifolia*, and foliar lesions on *Umbellularia californica*, *Sequoia sempervirens* and *Arctostaphylos* spp. Lethal cankers have been observed but usually occur on isolated trees.

Phytophthora pseudosyringae

P. pseudosyringae was first isolated and described from forest soils around mature *Q. petraea, Q. robur,* and *Q. cerris* in Europe. It was also isolated from necrotic roots and necrotic bark at the stem base of *Fagus sylvatica*, and from necrotic bark and rhizosphere soil of *Alnus glutinosa*. In USA, *P. pseudosyringae* was isolated from *Umbellularia californica* and *Q. agrifolia*. So far, *P. pseudosyringae* is reported in Europe (Italy, France and Germany) and from USA (California, Oregon).

Host range and symptoms of *P. nemorosa* and *P. pseudosyringae* are similar to those of *P. ramorum* but apparently, they seem less virulent. In California where the 3 species occur, *P. nemorosa* and *P. pseudosyringae* do not cause severe mortality on oaks and tanoaks (*Lithocarpus densiflorus*). In Europe, *P. pseudosyringae* is not reported to cause widespread mortality on oak or other tree species.

Phytophthora hedraiandra

P. hedraiandra was described as a new species in 2004. It had been isolated in the Netherlands in 2001 from *Viburnum* plants showing leaf spots, but its pathogenicity and geographic distribution were unknown. Interestingly, recent records of this new species have been made from other countries. In Spain, during surveys on *P. ramorum* done at garden centres in Majorca (Baleares), several potted plants of *Viburnum tinus* showing branch dieback and basal stem cankers were observed. The causal agent was identified as *P. hedraiandra* (Moralejo *et al*., 2005). In Italy in spring 2004, several cases of decline and mortality of *Viburnum tinus* were observed in nurseries in Toscana (particularly in the province of Pistoia). Symptoms were characterized by collar and root rot. Affected plants showed wilting of leaves and shoots. The causal agent was also identified as *P. hedraiandra* (Belisario *et al*., 2005). Finally in Minnesota (US), surveys on the

possible presence of *P. ramorum* revealed the presence of *P. hedraiandra* on *Rhododendron* plants showing leaf lesions and shoot dieback (Schwingle *et al.*, 2006).

Source:

Belisario A, Gilli G, Maccaroni M (2005) First report of *Phytophthora hedraiandra* on *Viburnum tinus* in Italy. *New Disease Report*, Volume 12: August 2005 - January 2006. http://www.bspp.org.uk/ndr/jan2006/2005-85.asp

De Cock AWAM, Lévesque CA (2004) New species of *Pythium* and *Phytophthora*. *Studies in Mycology*, **50**, 481-487.

Fleischmann F, Gottlein A, Rodenkirchen H, Lutz C, Osswald W (2004) Biomass, nutrient and pigment content of beech (*Fagus sylvatica*) saplings infected with *Phytophthora citricola*, *P. cambivora*, *P. pseudosyringae* and *P. undulata*. *Forest Pathology* **34**(2), 79-92.

Hansen EM, Reeser P, Davidson JN, Garbelotto M, Ivors K, Douhan L, Rizzo DM, (2003) *Phytophthora nemorosa*, a new species causing cankers and leaf blight of forest trees in California and Oregon, USA. *Mycotaxon* **88**, 129-138.

Jung T, Nechwatal J, Cooke DEL, Hartmann G, Blaschke M, Osswald WF, Duncan JM, Delatour C (2003) *Phytophthora pseudosyringae* sp. nov., a new species causing root and collar rot of deciduous tree species in Europe. *Mycological Research* **107**(7), 772-789.

Martin FN, Tooley PW (2003) Phylogenetic relationships of *Phytophthora ramorum*, *P. nemorosa*, and *P. pseudosyringae*, three species recovered from areas in California with sudden oak death. *Mycological Research* **107**(12), 1379-1391.

Moralejo E, Belbahri L, Calmin G., Lefort F, García JA, Descals E (2005) First report of *Phytophthora hedraiandra* on *Viburnum tinus* in Spain. *New Disease Report*, Volume 12: August 2005 - January 2006. http://www.bspp.org.uk/ndr/jan2006/2005-90.asp

Motta E, Annesi T, Pane A, Cooke DEL, Cacciola SO (2003) A new *Phytophthora* sp. causing a basal canker on beech in Italy. *Plant Disease* **87**(8), p 1005.

Schwingle BW, Smith JA, Blanchette RA, Gould S, Blanchette L, Pokorny J, Cohen SD (2006) First report of dieback and leaf lesions on *Rhododendron* sp. caused by *Phytophthora hedraiandra* in the United States. *Plant Disease* **90**(1), p 109.

Additional key words: new pests **Computer codes:** PHYTRA, PHYTSP, DE, ES, FR, IT, US

2005/163 *Phytophthora* species involved in the decline of *Fagus sylvatica* (beech)

In the past decade, an increasing number of *Fagus sylvatica* trees and stands have been showing symptoms of *Phytophthora* diseases both in Europe (e.g. in Italy, Germany, Sweden, UK) and USA. Affected trees may show abnormally small and yellowish foliage, crown dieback, bark necroses, collar rot, bleeding cankers, fine root destruction, and may eventually die. Large scale studies were done in Europe and USA, and showed that several *Phytophthora* species are associated with declining *F. sylvatica*.

- In USA, the pathogen found on declining *F. sylvatica* was tentatively identified as *P. inflata**.
- In Bayern (Germany), 6 different *Phytophthora* species were recorded. *P. citricola* was most frequently found, followed by *P. cambivora* and *P. cactorum*. *P. gonapodyoides*, *P. syringae*, *P. pseudosyringae* and an unidentified *Phytophthora* isolate were each isolated from a few trees. In Northern Germany, earlier studies showed that *P. cambivora* was predominant, while *P. gonapodyoides* and *P. pseudosyringae* were isolated infrequently.

- In UK, studies done in 1938 had showed that *P. cambivora* and *P. syringae* were recorded from root and collar rot of *F. sylvatica* in several forests. More recent studies showed that *P. ramorum* and *P. kernoviae* were responsible for bleeding cankers of *F. sylvatica* trees growing in the vicinity of infected *Rhododendron*.
- In Switzerland, *P. citricola* and *P. cactorum* were recovered from the rhizosphere of a declining tree.
- In southern and central Italy, *P. pseudosyringae* and *P. cactorum* were isolated from necrotic bark lesions.
- Finally in Turkey, another study showed that *P. cambivora* was isolated from necrotic collar tissues of *F. sylvatica* subsp. *orientalis*.

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* **Note**: *P. inflata* was described by Caroselli and Tucker (1949) causing cankers on *Ulmus americana* and *U. fulva* in Michigan (US). Since then, it has rarely been found. It was once reported in England (Hall *et al*., 1992) from rotting roots of *Sambucus tenuifolium* and *Syringa vulgaris* grown in a nursery in Suffolk. Very recently, it was isolated from a *Rhododendron ponticum* showing wilting foliage and blackened shoot tips in a nursery in Scotland (Schlenzig, 2005). In an adjoining nursery, *P. inflata* was also isolated from a *Gaultheria shalon* and a *Vaccinium vitis-idaea* plant with leaf lesions and dieback symptoms. Its pathogenicity was confirmed on *Rhododendron* and *Gaultheria* (not yet on *Vaccinium*).

Caroselli NE, Tucker CM (1949) Pit canker of elm. *Phytopathology* **39**, 481-488.
Hall G, Dobson S, Nicholls C (1992) First record of *Phytophthora inflata* in the United Kingdom. *Plant Pathology* **41**, 95-97.
Schlenzig A (2005) First report of *Phytophthora inflata* on nursery plants of *Rhododendron* spp. *Gaultheria shalon* and *Vaccinium vitis-idaea* in Scotland. *Plant Pathology* **54**, p 582.

Source: Jung T, Hudler GW, Jensen-Stacy SL, Griffiths HM, Fleischmann F, Osswald W (2005) Involvement of *Phytophthora* species in the decline of European beech in Europe and the USA. *Mycologist,* **19**(4), 159-166.

Additional key words: etiology **Computer codes:** PHYTSP, FAUSY

2005/164 *Phytophthora kernoviae*: addition to the EPPO Alert List

During surveys done on *Phytophthora ramorum* (EPPO Alert List) in United Kingdom, a new and unknown *Phytophthora* species was isolated in Cornwall from dying rhododendrons and *Fagus sylvatica* (beech). The pathogen was then described and named *Phytophthora kernoviae* sp. nov. (Brasier *et al.*, 2005). This pathogen causes symptoms similar to those of *P. ramorum*. On mature *F. sylvatica, P. kernoviae* causes bleeding stem lesions. On rhododendron (particularly *R. ponticum*), it causes foliar and stem necrosis. Since the first discoveries, other forestry or ornamental hosts have also been identified. Considering the risk that this pathogen may present to both the forestry and nursery industries, the EPPO Secretariat decided to add it to the Alert List.

Phytophthora kernoviae

Why	In late autumn 2003, during surveys on *Phytophthora ramorum*, an unknown *Phytophthora* species was isolated in Cornwall (GB) from rhododendrons showing leaf and stem necrosis in a woodland area near a commercial nursery. The same pathogen was isolated at another site from a large bleeding canker on a mature *Fagus sylvatica* and from nearby rhododendrons with foliar necrosis and shoot dieback symptoms. The pathogen was initially referred to as *Phytophthora* taxon C and then described as a new species called *Phytophthora kernoviae* (from 'Kernow', the Cornish noun for Cornwall - Brasier *et al.*, 2005). It is morphologically distinct from other known *Phytophthora* species. In phylogenetic studies (comparison of ITS rDNA sequences), its closest relative was *P. boehmeriae.* It is hypothetized that it could be an exotic species of recent introduction.
Where	**EPPO region:** United Kingdom (England and Wales). So far, *P. kernoviae* has not been reported from other countries. *P. kernoviae* has been found at a few sites (24 sites as of September 2005) in England and Wales, with most findings on rhododendron in small areas of woodland in Cornwall. Diseased *Fagus* trees were found in woods dominated by rhododendrons. There have been limited findings on rhododendron bushes in South Wales and on a commercial nursery in the North West of England (Cheshire). Eradication measures are being taken in UK (*P. kernoviae* is there a 'notifiable pest'). In the nursery found contaminated, all infected plants have been destroyed and the outbreak is considered eradicated. In infected woodlands, rhododendrons are eliminated to contain the disease.
On which plants	Mainly *Fagus sylvatica* (Fagaceae) and *Rhododendron* spp. (notably *R. ponticum* - Ericaceae), but also found on other plant species: *Drimys winteri* (Winteraceae), *Gevuina avellana* (Proteaceae), *Liriodendron tulipifera* (Magnoliaceae), *Magnolia* spp. (Magnoliaceae), *Michelia doltsopa* (Magnoliaceae), *Pieris formosa* (Ericaceae), *Quercus ilex* (Fagaceae), *Quercus robur* (Fagaceae). Full host range is not known and needs to be further investigated. For example, studies are currently being done on the susceptibility of heathland species in UK.
Damage	As for *P. ramorum*, two different types of symptoms are observed: bleeding cankers and leaf lesions. On *F. sylvatica*, *Q. robur* and *L. tulipifera*, bark necrosis and bleeding lesions are observed. Lesions often develop into sunken and bleeding cankers (gummy brown to black ooze). Cankers size can range from a few centimetres to large lesions (> 3 m). On *Rhododendron*, shoot dieback, foliar necrosis and wilting are observed. In severe infection, bush may be killed. Similar foliar necrotic lesions are observed on other ornamental host species. Leaf and shoot dieback are observed on *Q. ilex*. Symptoms can be viewed on Internet: http://www.defra.gov.uk/planth/pkernovii3.htm
Dissemination	Caduceus sporangia (containing zoospores) can most probably be spread locally by water splash or in airborne mist droplets. Under suitable conditions, asexual reproduction takes place and new sporangia are being produced. Oospores (sexual reproduction) have been produced by *P. kernoviae* in the laboratory but have not been observed in naturally infected plants. Chlamydospores (ensuring survival under adverse conditions) have never been observed nor in the laboratory or in the field. Further studies are still needed on the biology and epidemiology of *P. kernoviae.* Long distance spread can be ensured by movement of infected plants of rhododendron, beech and other hosts (it is thought that isolated occurrences of *P. kernoviae* in south Wales and Cheshire may reflect its further spread via plant trade). *P. kernoviae* is apparently not a root pathogen, but it can be isolated from soil. Movements of soil (or litter and plant debris) could probably spread the disease.
Pathway	Plants for planting, cut branches, soil, wood? (apparently no sporulation has been observed on mature bark lesions).
Possible risks	In the EPPO region, *F. sylvatica* is an important forest tree, also planted for amenity purposes. Rhododendrons are commonly grown as ornamentals in parks and gardens, although *R. ponticum* is considered as an invasive plant in woodlands (EPPO list of invasive alien plants). *Q. ilex* is more important for the Mediterranean area. The other ornamental species which are hosts of the pathogen are also valuable trees or shrubs. *P. kernoviae* appears more virulent on

some hosts than *P. ramorum*. It has killed some established *R. ponticum* and apparently caused lethal cankers on *F. sylvatica*. So far, control measures are essentially based on the destruction of infected plants, and in particular of rhododendrons in infected woodlands. More studies are needed on possible control measures. Finally, from a more fundamental point of view, the potential risk of lateral transfer of genes from other *Phytophthora* needs to be further investigated. Like *P. ramorum*, *P. kernoviae* represents a risk to both the forestry and nursery industries.

Source(s)

Brasier CM, Beales PA, Kirk SA, Denman S, Rose J (2005) *Phytophthora kernoviae* sp. nov., an invasive pathogen causing bleeding stem lesions on forest trees and foliar necrosis of ornamentals in Britain. *Mycological Research*, **109**(8), 853-859.

INTERNET

DEFRA website.

Phytophthora kernoviae. A new threat to our trees and woodlands. http://www.defra.gov.uk/planth/pestnote/kern.pdf

Pest Risk Analysis for *P. kernoviae* (2005-02). http://www.defra.gov.uk/planth/pra/forest.pdf

Host plants of *P. kernoviae.* http://www.defra.gov.uk/planth/kernovii/kernhost.pdf

P. kernoviae - Latest findings (2005-09). http://www.defra.gov.uk/planth/pkernovii2.htm

Forestry Commission website.

Phytophthora kernoviae. http://www.forestry.gov.uk/forestry/infd-66jlgb

BBA website.

BBA factsheet (in German) by Dr S. Werres. http://www.bba.de/inst/g/pkernoviae/p_kernoviae.pdf

EPPO RS 2005/164

Panel review date - Entry date 2005-10

2005/165 *Diabrotica virgifera* found again in the Netherlands

In the Netherlands, few specimens of *Diabrotica virgifera* (EPPO A2 list) had been caught in 2003 near the airport of Schiphol and Alsmeer flower auction. Eradication measures had been applied and the pest was no longer reported (EPPO RS 2004/058). In August 2005, one specimen of *Diabrotica virgifera* was found in a maize field near Maastricht airport. According to EU Commission Decision 2003/766, eradication measures were applied. Part of the delimited security zone (no pest found) is in Belgium (Limburg province) where a trapping programme will be put in place.

Source:

Anonymous (2005) Phyto Europe. Diabrotica à Maastricht. *Phytoma – La Défense des Végétaux* no. 585, p 4.

Site web de l'Agence Alimentaire, Belgique (AFSCA)
Communiqué de presse du 2005-08-19. Découverte de la chrysomèle du maïs dans le Limbourg hollandais. http://www.favv-afsca.fgov.be

Additional key words: detailed record **Computer codes:** DIABVI, NL

2005/166 *Diabrotica virgifera* has probably been introduced several times into Europe from North America

In Europe, *Diabrotica virgifera* (EPPO A2 list) was first detected in 1992 near Belgrade (Serbia), and then spread naturally to many countries in Central Europe. Other distant outbreaks were also discovered in Western Europe, in particular in north-east Italy and southern Switzerland, in Belgium, in United Kingdom, in the Netherlands and in France. So far, it had generally been assumed that outbreaks in Western Europe originated from Central Europe. But this idea was largely contradicted by recent genetic studies on the variation of European and American populations using 8 microsatellites as genetic markers. The analysis was done on European populations collected from 5 outbreak sites: 2 near Paris (outbreaks first detected in 2002 and 2004), 1 in Alsace (2003), 1 near Venezia (2000), and 1 in north-east Italy (2003). Comparisons were made with populations from USA (Illinois, Ohio, Iowa). Results showed that only the outbreak in north-east Italy originated from Central Europe. Outbreaks near Paris (2002) and Venezia (2000) resulted from independent introductions from North America. The outbreak found near Paris in 2004 most probably originated also from North America. The outbreak in Alsace originated from the other French one detected in 2002 near Paris. In summary, this showed that there had been at least 3 independent introductions from North America into Europe, suggesting that incursions from North America are chronic. However, conditions allowing these repeated introductions remain unknown and need to be further investigated to try to prevent them.

Source: Guillemaud T, Miller N, Estoup A, Derridj S, Lapchin L, Reynaud P, Bourguet D (2005) *Diabrotica* débarqua trois fois (au moins!). La génétique des populations de la chrysomèle des racines du maïs en Europe révèle de multiples introductions provenant d'Amérique du Nord. *Phytoma-La Défense des Végétaux*, no. 588, 41-42.

Miller N, Estoup A, Toepfer S, Bourguet D, Lapchin L, Derridj S, Kim KS, Reynaud P, Furlan L, Guillemaud T (2005) Multiple transatlantic introductions of the Western corn rootworm. *Science*, **310**, 992.

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

2005/167 Incursion of *Xanthomonas axonopodis* pv. *dieffenbachiae* in Germany

In August 2004, the presence of *Xanthomonas axonopodis* pv. *diffenbachiae* (EPPO A2 list) was detected on symptomatic *Anthurium* at 1 site producing and selling plants. All infected plants were destroyed and the premises disinfected. This is the first time an incursion of *X. axonopodis* pv. *dieffenbachiae* is reported from Germany.

Source: Moltmann E (2005) [Bacterial disease *Xanthomonas axonopodis* pv. *dieffenbachiae* of *Anthurium* sp.]
Nachrichtenblatt des Deutschen Pflanzenschutzdienstes **57**(6), 134-136.

Additional key words: phytosanitary incident **Computer codes:** XANTDF, DE

2005/168 First report of *Tomato chlorosis crinivirus* in Cyprus

During summer 2004, yellowing symptoms were observed in field and greenhouse-tomatoes (*Lycopersicon esculentum*), in the Parekklisia area of Cyprus (south coast, near Limassol). Similar symptoms were observed in 2005 on greenhouse tomatoes grown on the southwest coast. The abundance of whiteflies on the diseased plants suggested the presence of *Tomato chlorosis crinivirus* (EPPO A2 list) and/or *Tomato infectious chlorosis crinivirus* (EPPO Alert List). Molecular tests revealed the presence of *Tomato chlorosis crinivirus* (ToCV). This is the first report of ToCV in Cyprus.
The situation of *Tomato chlorosis crinivirus* in Cyprus can be described as follows: **Present, first found in 2004, on the south and southwest coast.**

Source: Papayiannis LC, Ioannou N, Dovas CI, Maliogka VI, Katis NI (2005) First report of *Tomato chlorosis virus* (ToCV) on tomato crops in Cyprus. *New Disease Report* Volume 12 August 2005-January 2006. http://www.bspp.org.uk/ndr/jan2006/2005-102.asp

Additional key words: new record **Computer codes:** TOCV00, CY

2005/169 Potato deforming mosaic disease is caused by *Tomato yellow vein streak begomovirus*

In Brazil, a disease called potato deforming mosaic was first reported in the 1980s, in Rio Grande do Sul. Affected potato plants showed leaf distortion and mosaic with yellow blotches, and a virus was suspected to be the causal agent. Until recently the disease remained of little economic importance. In 1997, a new disease was observed on tomato crops near Campinas State of São Paulo (EPPO RS 97/094). Young tomato plants showed yellow streaking of veins on the apical shoots and *Bemisia tabaci* was able to transmit the pathogen. Research showed that a new virus called *Tomato yellow vein streak virus* (formerly on the EPPO Alert List) was associated with the disease. Recent studies have now demonstrated that both potato mosaic and tomato yellow vein streak diseases are caused by the same virus: *Tomato yellow vein streak begomovirus* (ToYVSV). It is noted that this virus is currently the major begomovirus affecting tomatoes and potatoes in the state of São Paulo.

Note: a disease of unknown etiology, also called potato deforming mosaic, was described in Argentina (Delhey *et al*., 1981), but it is not known whether ToYVSV is involved or not, and what is its current economic impact.

Source: Ribeiro SG, Inoue-Nagata AK, Daniels J, de Ávila AC (2005) Potato deforming mosaic disease is caused by an isolate of Tomato yellow vein streak virus. *New Disease Report* Volume 12 August 2005-January 2006. http://www.bspp.org.uk/ndr/jan2006/2005-70.asp

Delhey R, Kiehr-Delhey M, Heinze K, Calderoni AV (1981) Symptoms and transmission of potato deforming mosaic of Argentina. *Potato Research* **24**(2), 123-133 (abstract).

Additional key words: etiology **Computer codes:** ToYVSV, BR

2005/170 The correct anamorph stage of *Mycosphaerella eumusae* is *Pseudocercospora eumusae*

In EPPO RS 2005/120 which described a banana leaf spot caused by a new fungal species, *Mycosphaerella eumusae*, it was stated that the anamorph stage was a *Septoria*. Dr Jones (CSL, GB) informed the EPPO Secretariat that later research (Crous & Mourichon, 2002) has shown that the anamorph was in fact a *Pseudocercospora*. As a consequence, it was proposed to call the disease caused by *M. eumusae*, eumusae leaf spot instead of Septoria leaf spot. In this paper, it is also considered that the anamorph of *M. fijiensis* (black Sigatoka) should be referred to as a *Pseudocercospora*, as *Paracercospora* was merged back with *Pseudocercospora*.

Source: Personal communication with Dr D Jones, CSL (GB), 2005-11.

Crous PW, Mourichon X (2002) *Mycosphaerella eumusae* and its anamorph *Pseudocercospora eumusae* spp. nov.: causal agent of eumusae leaf spot disease of banana. *Sydowia* **44**(1),35-43.

Additional key words: taxonomy **Computer codes:** MYCOSP