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CONTENTS

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2004/058 Situation of *Diabrotica virgifera* in the EPPO region

The situation of *Diabrotica virgifera* (Coleoptera: Chrysomelidae – EPPO A2 list) in Europe was reviewed during the 8th Meeting of the EPPO *ad hoc* Panel on *D. virgifera* held jointly with the 10th International IWGO Workshop in Engelberg, Switzerland (2004-01-14/16). *D. virgifera* has continued to spread in Central Europe in 2003 (see Fig. 1), and the outbreak has now reached Slovenia. *D. virgifera* was also found for the first time in Belgium (no information was provided during the Conference), Netherlands and United Kingdom. In France, a new outbreak was found in Alsace (near Germany and Switzerland). In Italy, eradication measures taken in the Veneto region proved to be effective and very few adults were caught. However, *D. virgifera* continued to spread in Lombardia, Piemonte, and has now reached Emilia Romagna and Trentino-Alto Adige. A rather large outbreak has also been found in Friuli-Venezia-Giulia, near Slovenia. In Switzerland, several new outbreaks have also been found north of the Alps. Fig. 2 presents the area of economic damage of *D. virgifera* since 1998. For the European Union, 2003 has also been highlighted by the official publication of emergency measures against *D. virgifera* (Commission Decision 2003/766/EC*).

Albania
National monitoring started in 1999. In 2003, pheromone traps and yellow sticky traps were placed at 6 locations in maize fields (Shokodra, Rinas International Airport, Elbasan, Dibra, Durres, Saranda). *D. virgifera* was not found.

Austria
The first beetles were caught in 2002, in the eastern part of Austria. In 2003, the monitoring programme was intensified (581 traps) and extended to all Austrian provinces. As a result, 8673 beetles were caught in 256 traps: 8330 beetles in Burgenland (all districts), 339 in Niederösterreich (Mistelbach, Gänserndorf, Bruck/Leita), and 4 in Steiermark (Fürstenfeld, Radkersburg). In 2003, it was observed that the insect had spread from Hungary and Slovakia, along the entire eastern border (231 km from north to south), and up to 30 km into Austrian territory. Faster dispersal and higher population levels were observed in the most intensive maize-growing areas. For 2004, it is expected that the pest will continue to spread within Austria. The main problem will be the dispersal of the pest towards the region of Graz which is one of the most important maize-growing region.

Bosnia and Herzegovina
Monitoring has been conducted in Bosnia and Herzegovina since 1997. In 2003, Hungarian pheromone traps and yellow sticky traps were placed at 60 sites (30 permanent and 30 new sites). Most traps were located near the front line of spread. The most important agricultural areas are located in the north part of Bosnia, mainly along river valleys. The first catch was made on the 18th of June (pheromone trap) in the north of the country. Monitoring showed that, as usual, the insect spread along rivers and roads. In 2003, only limited spread was observed. *D. virgifera* spread a little towards the west and slightly more to the east. The pest was found near Sarajevo airport. Further spread towards the east and central parts of the country may be more difficult because of the presence of mountains and of limited cultivation of maize. Although *D. virgifera* was first found in 1997, no economic damage has yet been recorded in Bosnia and Herzegovina.
Results of monitoring in the Republika Srpska were presented. In 2003, weather conditions were very dry and hot. In the eastern part, a decrease of pest populations was observed as probably egg laying was rendered more difficult by hard and desiccated soils. But in the west part where maize is grown on larger areas, a significant population increase was recorded (up to 3 fold in some localities). Similarly, no economic damage was observed.

* Commission Decision (2003/766/EC) of 24 October 2003 on emergency measures to prevent the spread within the Community of *Diabrotica virgifera* Le Conte.

Bulgaria
D. virgifera was first found in 1998 and that monitoring programmes have been regularly carried out since then. 2003 results showed that the pest is slowly spreading toward the east and south. It was found for the first time in the region of Dragoman. In 2003, the total number of adults caught was 4,770. The highest numbers were caught in the regions of Dolna Biala Rechka, Prevala, Gramada and Dolni Lom. Larval damage was observed in the regions of Bregovo, Gramada, Dolna Biala Rechka and Prevala but it did not reach economic levels. In 2003, climatic conditions were unfavourable to maize growth, and the most important insect populations were found in irrigated areas or areas with sufficient amounts of ground water.

Croatia
A progressive increase of adult populations has been recorded in Croatia, since the first appearance of the pest in 1995. For several years, the pest has been spreading within the most important maize-growing areas without any visible damage. However, in 2002 the first economic damage was seen in the region of Baranja. In 2003, pheromone and yellow sticky traps were placed at 121 monitoring sites. A significant spread was noted towards the west (30 km), nearly reaching Zagreb. The total infested area is now 23,500 km² (covering approximately 80% of Croatian maize production). Population densities continued to increase in general, but were still much higher in the east than in the west. In 2003, extreme climatic conditions were not favourable to maize cultivation, and it is estimated that these conditions led to yield losses of 30%. Damage caused by larvae was recorded again in the eastern part of Croatia, in the counties of Osječko-Baranjska, Vukovarsko-Srijemska, Požeško-Slavonska and Virovitičko-Podravska. Damage was seen over a area of 12,500 km², essentially in continuous maize fields. In observed fields, yield losses varied from 4.8 to 45 %. In Croatia, no chemical treatments are currently recommended against *D. virgifera*, the main recommendation being the use of crop rotation.

Czech Republic
Monitoring started in 1999 in the region of South Moravia. *D. virgifera* was caught for the first time in 2002, in the districts of Breclav, Hodonin and Uherske Hradiste. In 2003, monitoring continued with the help of GPS to locate precisely the 61 trapping points. Pheromone traps were placed in South Moravia, as well as near international airports. In total, 19 males were caught in the districts of Breclav, Hodonin, Uherske Hradiste, and Vyskov.

France
Since 1999, a trapping network has been implemented in France. In 2002, two outbreaks were reported in the region Ile-de-France, near the airports of Roissy and Orly. Eradication measures were immediately taken. In 2003, the national monitoring programme continued (401 sites with 2 pheromones traps per site) in all maize-growing areas, as well as near airports and motorways. In July 2003, a new outbreak was detected at Blotzheim, in Alsace, near the Basel-Mulhouse-Freiburg airport and close to the German and Swiss borders. In Alsace, maize is a very important fodder crop and occupies 70 % of arable land. In accordance with EU Commission Decision 2003/766/EC, eradication programmes were followed in Ile-de-France and Alsace. In each case, an outbreak area (5 km radius), a safety zone (10 km) and a buffer zone were delimited. Prohibition of maize monoculture, treatments, various restrictions and intense monitoring are applied in these zones. In Alsace, an increase of trapping intensity (92 traps) led to the capture of 9 beetles (in 6 traps). In Ile-de-France, 192 traps were distributed in the outbreak, safety and buffer zones. In total, 9 adults were found in fields at 2 localities which were already infested in 2002 (i.e. inside the outbreak area). Some additional beetles were caught on volunteer maize on fallow land. This finding stressed the necessity to destroy volunteer maize plants, as they support small populations of the pest. It is considered that eradication measures applied in Ile-de-France were very effective. Official phytosanitary measures will continue in 2004.

Germany
Monitoring programmes have been implemented since 1997. In 2003, 459 traps were placed (increase of 43% compared to 2002) at 305 monitoring places, covering nearly all federal lands. Traps were located in maize fields near points of entry, airports, ports, railways, motorways, maize breeding stations, etc. The most intensive trapping was done in Baden-Württemberg because of the latest introductions of *D. virgifera* into Alsace (France) and Basel canton (Switzerland). Because parts of the delimited zones around the outbreak in Alsace are located

on German territory, phytosanitary measures will be applied in 2004. But so far, no beetle was found in Germany. A simulation model of *D. virgifera* spread was presented during the Conference. It showed very clearly the benefit from taking containment/eradication measures in comparison to the absence of any measures, taking the example of the newly infested location in Alsace.

Greece
A monitoring programme which was carried out in Greece in 2002 and 2003. The study focussed on maize fields near civil or military airports. In 2002, four areas were surveyed (Thessaloniki, Kavala, Alexandroupoli and Patra). In total, 16 pheromone traps were placed. In 2003, three airport areas were selected (Thessaloniki, Kavala and Alexandroupoli), as well as two additional maize-growing regions (Promahonas, Serres and Orestiada, Evros). In total 32 traps were set up. No *D. virgifera* was found in either year. Monitoring will continue in 2004.

Hungary
D. virgifera was first found in 1995, and nationwide surveys have been conducted since 1996. In Hungary, maize is the most important fodder crop and most profitable field crop. It is grown over 1.2 -1.3. million ha with 40% in monoculture. In 2003, spread continued towards the north, so that almost all Hungary is now infested. The first adults were caught on the 16th of June and adult flight peaked in June-early July. Over the years, the general trend in adult captures is a significant increase (in 1997: an average of 147 beetles was captured per trap – in 2003: nearly 900 beetles). In 2003, 1145 locations were inspected for larval damage. As a result, damage was observed on 10,922 ha (compared with 7,488 ha in 2002). In these areas, the economic threshold for root injury was reached in 5,955 ha. In terms of geographical coverage, larval damage is expanding towards the north. Chemical treatments and crop rotation are applied in Hungary.

Italy
In 2003, monitoring was conducted in already infested areas, in maize monoculture, and at potential places of entry (airports, custom stations etc.). The following numbers of pheromone traps have been placed in: Friuli Venezia-Giulia (>270), Veneto (1488), Emilia-Romagna (212), Lombardia (>350), Piemonte (520), Trentino (74), Campania (20), Lazio (9). In infested areas, yellow sticky traps were also included.

Veneto region
D. virgifera was first caught in 1998, near Marco Polo airport (Venezia). Since then eradication measures based on compulsory crop rotation and treatments against the adults have been applied. In 2003, only 4 beetles were caught in the outbreak area and 4 in the safety area (very close to the outbreak area). It is concluded that eradication measures followed in Veneto region are very effective as populations have been kept at a very low level for 6 years, and the pest has not significantly spread from the initial outbreak area. Eradication measures will continue in 2004.

Friuli-Venezia-Giulia region
D. virgifera was caught for the first time in 2002 (31 beetles in 10 traps) in maize fields near the military airport of Aviano (north of Pordenone). In 2003, 3 beetles were caught in the outbreak area (near Pordenone) and 19 in the adjoining safety zone. New infestations were found in the provinces of Udine and Gorizia (close to Slovenia). In a very small part of Udine province (Buttrio municipality) a population peak of 75 males per trap per day was recorded in monoculture fields, in other parts only small populations were detected.

Lombardia region
In 2002, a large population was first reported and some economic damage was seen. In the area where economic damage was seen (on approximately 5,000 ha in the province of Como), maize planting was allowed only after the 15th June, which resulted in a significant decrease of maize cultivation. But in other parts, no specific prohibitions of maize monoculture were made. In 2003, *D. virgifera* was found in a new province (Mantova), so all cultivated land in Lombardia can be considered as infested by the pest with the exception of a restricted area along the border with the Veneto region. Significant populations (reaching up to 200 males per trap per day) were observed in the provinces of Como, Varese and Milano, but low captures were made in the rest of the region. In 2003, no economic damage was seen in Lombardia.

Piemonte region
No containment strategies were applied in this region. In 2003, all provinces, except Asti, were at least partially infested. The highest levels of populations were detected in the area where the pest had been detected in 2001, in all other parts only low levels were detected.

Emilia-Romagna region
In 2003, the first adults were caught in the provinces of Parma and Piacenza close to the border with Lombardia.

Trentino- Alto Adige region
In 2003, *D. virgifera* was caught for the first time in a small valley (Chiese) on about 270 ha of cultivated land bordering the northern part of Lombardia region.

No beetles were found in Campania and Lazio regions.

Netherlands
Monitoring has been done in the Netherlands since 1997. In 2003, 120 pheromone traps were placed mainly in maize fields in monoculture and in areas at risk (airports, harbours, military airbases). On the 14th of August 2003, two adults of *D. virgifera* were caught in one maize field near the international airport of Schiphol and the Aalsmeer flower auction. This particular field had been surveyed for 5 years. Eradication measures, in conformity with the EU Commission Decision 2003/766, were applied. As no other beetle was found, it is assumed that the situation is under control. However, monitoring programmes will be intensified in 2004.

Romania
D. virgifera was first found in 1996 (Arad county) near the Hungarian border. In 2003, pheromone and yellow sticky traps were placed on 193 sites in 25 counties (15 infested in 2002 and 10 non-infested). No new county was found infested in 2003, but population densities increased. In 2003, the total number of captures was 71,206 beetles (368.9 beetles/trap), compared to 14,959 beetles (138.5 beetles/trap) in 2002. Economic damage was sporadically seen in continuous maize fields, in the counties of Arad and Timis.

Serbia and Montenegro
Since the first observation of *D. virgifera* in 1992, population densities fluctuated from year to year. In the beginning, populations increased and spread, thus causing more and more damage. However, this increase was not linear as it mainly depended on the area of maize fields in monoculture and climatic conditions. The most significant levels of damage were recorded from 1998 to 2000. 2000 was an exceptionally warm and dry year which resulted in a severe reduction of pest populations. In 2001 and 2002, only sporadic damage was seen in small maize-producing areas in the north and south of Serbia. In 2003, populations probably started to recover, as a small increase in numbers of damaged fields was recorded. In 2003, the infested area was 73,000 km^2. No further spread was observed towards the south, and only minor spread towards the southwest. Economic damage was observed on 3,000 ha (in the north of Serbia, near Novi Sad, Belgrade, and Kragujevac).

Slovakia
D. virgifera was first found in Slovakia in 2000. In 2003, the monitoring programme continued. Pheromone and yellow sticky traps were placed at 44 sites. Results showed that the insect has spread towards the north and now occupies the main maize-growing areas. The insect was also caught in the east part of the country, coming from Ukraine or Hungary. The highest populations were observed in the south (where the first infestations were discovered). The average number of beetle per trap increased from year to year. In 2003, no economic damage was observed but this may be expected in 2004.

Slovenia
Monitoring started in 1997. In 2003, pheromone and yellow sticky traps were placed in maize and pumpkin fields in the regions of Pomurje, Podravje, Posavje, Gorenjska and Northern Primorska. The first catches of *D. virgifera* were made in the region of Pomurje on the 23rd of July, and as a consequence more traps were placed. In total 62 localities were monitored. At the end of the growing season, results showed that *D. virgifera* occurred in the eastern part of Slovenia (regions of Pomurje and Podravje) along the borders with Croatia and Hungary,

and also in the western part (region of northern Primorska) near the city of Nova Gorica and the Italian border (see situation of Italy described above).

Switzerland
Monitoring started in 1999 in the surroundings of the airports of Genève, Zürich and Lugano. The first 4 beetles were caught in 2000 near Lugano (south of the Alps). From 2001 to 2003, the monitoring programme gradually extended to all areas in Switzerland where maize is grown (both north and south of the Alps). In 2003, 120 traps were placed in maize fields, mostly near airports, main roads, and railways. In the south of the Alps, the number of catches has increased since 2000. In 2003, *D. virgifera* was caught for the first time north of the Alps. The first catch occurred in a maize field near the exit of the Gotthard tunnel (canton of Uri). Further finds were then made in July and August: 3 males were caught along the motorway going to Lucerne, 3 beetles were trapped near Basel in an isolated maize field (20 km south of the airport), 1 beetle was caught near Zürich airport. Five to ten traps were added in these 4 sites within five days after the first catch. Only one beetle was caught in the supplementary traps. In 2004, maize monoculture will be prohibited within 10 km around finds and the monitoring network will be strengthened north of the Alps. Containment strategies are based on compulsory crop rotation and elimination of volunteer plants. Results showed that strictly controlled crop rotation can be successful in keeping populations below the economic threshold.

Ukraine
D. virgifera was reported for the first time in 2001, in the Transcarpathian region (districts of Vinogradovsky and Beregovsky). From 2001 to 2003, visual inspections were done and pheromone traps were placed. Gradually, *D. virgifera* has spread in maize fields along railways, highways and river valleys (Tisza, Uzh). In 2003, the infested area continued to increase (3000 km² in 2003 - 575 km² in 2002, 60 km² in 2001). The insect continued to spread from the Hungarian and Romanian borders towards the north-west where it has reached Užgorod and Mukačevo. In total, 656 beetles were caught during 2003. A poster presented the results obtained from the Plant Quarantine Service in Ukraine which were basically the same. The Plant Quarantine Service caught in total 2590 beetles on 61 sites, in 10 districts of the Transcarpathian region (which is isolated by the Carpathians from the rest of Ukraine).

United Kingdom
In United Kingdom a PRA was done in 1994. It supported the inclusion of *D. virgifera* in the EU regulations, but indicated only a marginal risk to the UK due to the limited area of maize production and cool summer temperatures. In UK, only 20% of maize is in continuous cultivation. This PRA was revised after the finding near Paris, and showed that conditions have slightly changed in UK: maize-growing areas have increased in the west and south of England during the last 10 years (mostly grown as silage for animal feed), and climate matching showed that *D. virgifera* can now complete its cycle in most years, although it remains at the edge of its range in the UK. In 2003, a monitoring programme was initiated and covered sites of greatest risk in southern England (e.g. maize holdings near airports). In late August/early September, positive finds were made at 5 farms: 4 near Heathrow airport and 1 near Gatwick airport. After these findings, the trapping programme was intensified. In total, 91 males and 4 females were caught. This could indicate that the pest has been present for one or more years prior to these findings. Phytosanitary measures were applied to minimize risk of spread: rotation was required for outbreak farms, rotation and seed treatment was required in surrounding areas and chlorpyrifos was applied to stubble (post-harvest). Investigations will continue in 2004 to clarify the extent of the current outbreak, to determine the potential establishment of the pest in UK, its potential economic impact and the suppression measures which could be implemented.

Figure 1. Spread of *D. virgifera* in Europe from 1992 to 2003.

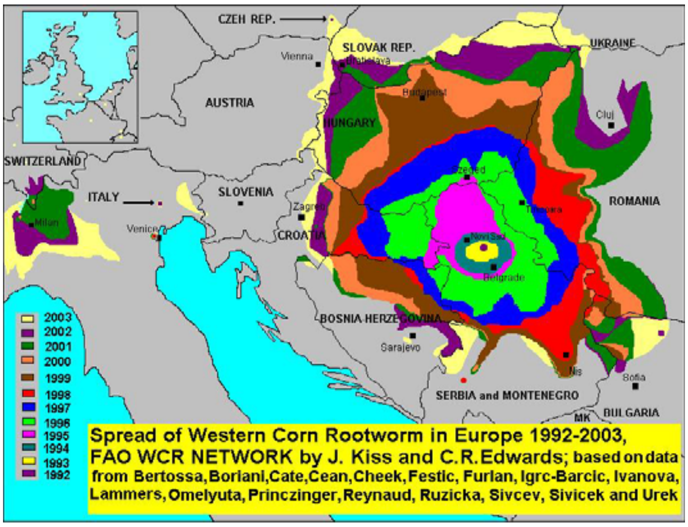
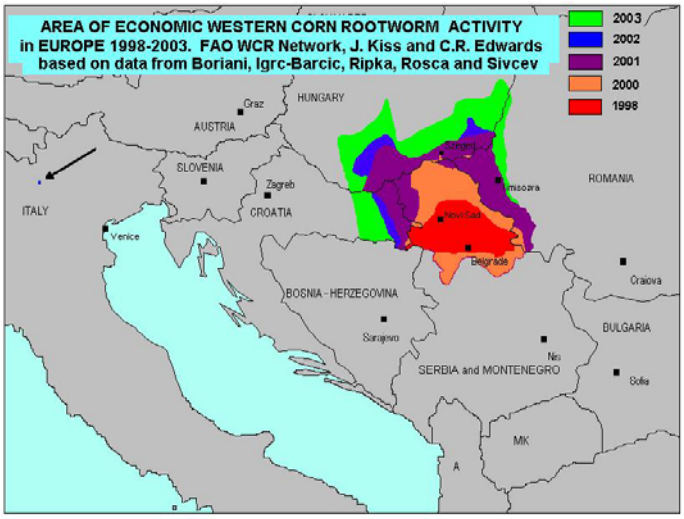


Figure 2. Area of economic activity of *D. virgifera* in Europe from 1998 to 2003.



Maps were kindly provided from Prof. J. Kiss, University of Gödöllö, HU.
Spread and economic activity maps from previous years can be downloaded from the website of the University of Gödöllö (http://www.mkk.szie.hu/dep/nvtt/wcrnet/wcrnet-2.htm)

Source: Papers and posters presented at the 8th Meeting of the EPPO ad hoc Panel on *Diabrotica virgifera virgifera* held jointly with the 10th International IWGO Workshop on *Diabrotica virgifera virgifera* held at Engelberg, CH, 2004-01-14/16.

Additional key words: new records, detailed records

Computer codes: DIABVI, AL, AT, BA, BE, BG, CH, CZ, DE, FR, GB, GR, HR, HU, NL, IT, RO, SI, SK, UA, YU

2004/059 First report of *Trioza erythreae* in Islas Canarias (Spain)

In Islas Canarias (Spain), citrus is grown on a small scale (1.475 ha in 2002 with a production of 18.126 t of fruits) and only for local consumption. Under current phytosanitary regulations, citrus plants for planting can only be imported from mainland Spain. In spring 2002, the presence of *Trioza erythreae* (Homoptera: Psyllidae – EPPO A1 list) was first detected in the north of the island of Tenerife. *T. erythreae* is a known vector of greening (a bacterial disease caused by *Liberibacter africanum*). In Europe, *T. erythreae* was also found in 1994 in the island of Madeira (Portugal), but the disease has not been detected. Delimiting surveys were carried out in Tenerife and showed that the insect was present in the north of the island, along the coast, from sea level up to altitudes of 700/800 m. In summer and autumn 2002, *T. erythreae* was also discovered on the islands of La Gomera, La Palma and El Hierro. It is suspected that trade winds transported the pest from Tenerife to the other islands. It was observed that *T. erythreae* remained located in the north of the islands where cool and humid conditions prevail, and was not found in the south where climates are drier and hotter. In Islas Canarias, *T. erythreae* was observed on oranges, mandarins, lime and lemon. Eradication and containment measures are being applied by the authorities. Compulsory chemical treatments have been made in 2002 with dimethoate and imidacloprid in all infested areas. Restrictions on the movement of citrus planting material between the islands and the mainland are now imposed. In 2003, the incidence of the pest was much reduced, and further treatments were made. It must be also stressed that citrus greening has not been detected in Islas Canarias.
The situation of *Trioza erythreae* in Spain can be described as follows: **Present, first found in 2002 in Islas Canarias (Tenerife, La Gomera, La Palma, El Hierro), under eradication.**

Source: Hernández (2003) *Trioza erytreae* (Del Guercio 1918): nueva plaga de los cítricos en Canarias.
Phytoma España, no. 153, 112-118.

Additional key words: new record **Computer codes:** TRIZER, ES

2004/060 *Rhynchophorus ferrugineus* found in Comunidad Valenciana, Spain

Until now, *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae – EPPO Alert List) was only reported in Spain in the coastal area near Grenada, in Andalucía (see EPPO RS 96/096), but, in February 2004, its presence in the Comunidad Valenciana was officially reported. In this region, very valuable palm groves are located (Elche, Orihuela, Alicante). Official phytosanitary measures are being taken to eradicate the pest, and they include: destruction of all infested palm trees and those growing in their immediate vicinity (with compensation for the owners), intensive surveys with pheromone and kairomone traps, delimitation of a focus zone of 5 km radius around each finding with a buffer zone of 10 km radius, and restrictions on the movement of palm material. The situation of *Rhynchophorus ferrugineus* in Spain can be described as follows: **Present, found in limited areas in Andalucía and Comunidad Valenciana, under official control.**

Source: Orden de 24 de febrero de 2004, de la Conselleria de Agricultura, Pesca y Alimentación, por la cual se declara la existencia oficial de la plaga *Rhynchophorus ferrugineus* (Olivier, 1790) en la Comunidad Valenciana, se califica de utilidad pública la lucha contra el género *Rhynchophorus* spp. y se establecen las medidas obligatorias para su erradicación y control.
Diari Oficial de la Generalitat Valenciana, no. 4.707, 2004-03-08, pp5149-5156.
http://www.pre.gva.es/dogvimg/2004_03/pdf/4707.pdf

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

2004/061 First report of *Platypus mutatus* in Italy: addition to the EPPO Alert List

A xylophagous insect *Platypus mutatus* (syn. *P. sulcatus*, Coleoptera: Platypodidae) has recently been introduced into Italy from South America. Its presence was first noticed in 2000 near Caserta (Campania) where major damage was seen in a stand of *Populus canadensis*. It is suspected that this species was introduced via wood imports. Unlike other 'ambrosia beetles' which live on recently cut or dying wood, *P. mutatus* attacks standing and vigorous trees. Considering that *P. mutatus* could present a risk to woody trees and wood production in Europe, it was decided to add it on the EPPO Alert List.

Platypus mutatus (Coleoptera: Platypodidae)

Why: *Platypus mutatus* (syn. *P. sulcatus*) has recently been introduced into Italy (personal communication with M. Finelli, NPPO of Italy) where it caused damage to poplar plantations. It is reported as a damaging pest of woody trees in its area of origin (South America).

Where: **EPPO region**: Italy (first observed near Caserta (Campania) in 2000, studies are being done to delimit the extent of infestation and possibly envisage eradication).
South America: Argentina, Brazil, Uruguay.

On which plants	*P. mutatus* can attack a very wide range of woody trees. Among its various host plants, the following are mentioned: *Acer, Citrus, Eucalyptus, Fraxinus, Laurus nobilis, Magnolia grandiflora, Malus domestica, Platanus, Populus, Prunus persica, Persea americana, Pyrus communis, Quercus, Robinia pseudacacia, Salix, Tilia, Ulmus*.
Damage	*P. mutatus* bores 3 mm-wide holes in the trunk, approximately 4 m above ground level. It creates long, sinuous galleries lined with black mycelium of symbiotic fungi associated with this species (first and second instar larvae are mycetophagous). In Argentina, the Ascomycete anamorph *Raffaellea santoroi* was identified in *Laurus nobilis, Quercus robur* and *Eucalyptus camaldulensis* tunnels and sawdust produced by *P. mutatus*. In Argentina and similarly in Italy, *P. mutatus* attacks standing and vigorous trees unlike other ambrosia beetles which live on recently cut wood or dying trees. It is considered in Argentina as a primary pest causing serious problem in commercial plantations of *Populus* (in particular, *P. deltoides*). In plantations, the presence of *P. mutatus* led to lower yield in wood volume per unit area due to breakage of trees (weakened by galleries) and reduced vigour. The quality of wood is also diminished by the presence of galleries and dark stained tunnels caused by the decay of fungal mycelium.
Dissemination	More data is needed on the biology of the pest, but over short distances adult movements can ensure species dispersal. Over long distances, trade of woody plants for planting and wood can ensure dissemination.
Pathway	Plants for planting of woody hosts, wood and wood products from countries where *P. mutatus* occurs.
Possible risks	*P. mutatus* could present a risk to many woody species which are widely grown in Europe: in particular poplar plantations but also other tree species used for wood and fruit production as well as for ornamental purposes. As most of the life cycle is accomplished within wood tissues, this species is difficult to detect and control (although some chemicals are apparently available against it). More data is needed on the biology of the pest, its economic impact and on the present situation in Italy.

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INTERNET

Istituto di Sperimentazione per la Pioppicoltura, Casale Monferrato, Italy

Research on *Platypus mutatus* Chapuis, a South American parasite recently introduced in Italy (Coleoptera, Platypodidae). http://www.populus.it/ (consult activities and downloads)

EPPO RS 2004/061

Panel review date - Entry date 2004-04

2004/062 *Ralstonia solanacearum* race 3 biovar 2 found again on *Pelargonium* in USA

Another finding of *Ralstonia solanacearum* race 3 biovar 2 (EPPO A2 list) on *Pelargonium* has recently been made in USA (see EPPO RS 2003/064). The presence of the bacterium was confirmed in December 2003 on *Pelargonium* (cvs. Americana Coral, Americana Bright Red) in one commercial glasshouse in New York State. The origin of this outbreak could be traced to imports of infected propagation material from one producer in Guatemala. In response to this recent detection, USDA/APHIS has temporarily suspended imports of *Pelargonium* from the producer concerned in Guatemala. It is recalled that between January and May 2003, because of the detection of *R. solanacearum* on *Pelargonium,* APHIS had to place holds on 921 glasshouses in 47 states, resulting in the finding of the bacterium and destruction of nearly 2 million plants (mostly *Pelargonium*) in 127 facilities.

Source: **USDA-APHIS web site**
Stakeholder Announcement. *Ralstonia Solanacearum* found in New York greenhouse, 2004-01-21.
http://www.aphis.usda.gov/oa/pubs/sa_ralstoniagreenhouse.html

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

2004/063 Image analysis to identify teliospores of *Tilletia indica*

An image analysis system has been developed in United Kingdom to confirm the identification of teliospores of *Tilletia indica* (EPPO A2 list) in wash tests of wheat grain, as the spores can be confused with other species (e.g. *T. walkeri*). Before the analysis, teliospores are bleached in order to reveal additional morphological characters (spore profile and spore wall layers). Then, an image-processing software has been developed to automatically locate spores on a given image and recognize those of *T. indica* by calculating various specific parameters (perimeter, surface area, number and size of spines, maximum and minimum ray, aspect ratio, roundness). In preliminary tests, image analysis was able to separate *T. indica* and *T. walkeri* with an accuracy of 97%, using principal components analysis (PCA). These preliminary results showed that image analysis could be used to identify rapidly teliospores of *T. indica*, although further evaluation is needed using additional isolates, other species like *T. horrida*, and a larger number of spores.

Source: Chesmore, D.; Bernard, T.; Inman, A.J.; Bowyer, R.J. (2003) Image analysis for the identification of the quarantine pest *Tilletia indica*.
Bulletin OEPP/EPPO Bulletin, 33(3), 495-499.

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

2004/064 Inoculation studies of *Gibberella circinata* to different *Pinus* species

The susceptibility of 5 *Pinus* species (*P. banksiana, P. nigra, P. resinosa, P. strobus, P. sylvestris*) to *Gibberella circinata* (causing pitch canker – EPPO A2 list) was studied in USA. These species were chosen to determine whether they would be threatened by the introduction of *Gibberella circinata* in the Great Lakes region of North America, as they are commonly present there. Three-year-old seedlings, growing in pots under glasshouse conditions were inoculated by conidia of the fungus. Resin production, canker length and seedling mortality were recorded 12 weeks later. Incidence of severity varied significantly among the 5 species. *P. banksiana, P. nigra, P. strobus, P. sylvestris* were all considered susceptible while *P. resinosa* was resistant. It is concluded that while many questions remained to be answered concerning the effect of temperature and genetic variation within host species on the impact of the fungus, these trials showed that there at least 4 susceptible *Pinus* species at risk if *G. circinata* was introduced into forests of the great Lakes region of North America.

Source: Enebak, S.A.; Stanosz, G.R. (2003) Responses of conifer species of the Great Lakes region of North America to inoculation with the pitch canker pathogen *Fusarium circinatum*.
Forest Pathology, 33(5), 333-338.

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

2004/065 Survey on *Plum pox potyvirus* in Slovenia

In Slovenia, typical symptoms of *Plum pox potyvirus* (PPV – EPPO A2 list) were first observed in 1987 in several apricot, peach and plum orchards. PPV was detected in intensive orchards (where incidence varied from 10 to 70%), in nurseries and on single trees throughout the country. In 1998, a systematic survey was initiated to prevent and control the spread of PPV, to establish pest-free production sites and ensure production of healthy planting material. Numerous samples were collected and tested by DAS-ELISA. During the period 1998-2000, despite phytosanitary measures, results showed that PPV was widespread in Slovenia and that PPV infections gradually increased in nurseries and parent plantations (1 site in 1998 to 22 sites in 2000). In addition, an alarming incidence of infected trees was found in buffer zones. It is thought that this rapid increase of PPV could be related to the rapid spread of the Marcus strain (PPV-M). In 2002, phytosanitary measures were strengthened. As a consequence, 44,105 mother trees, rootstocks and grafted plants were destroyed in 2000. In 2001/2002, the survey focused mainly on nurseries, mother trees and stool beds. In 2001, a high incidence of PPV was still found in nurseries and parent plantations, and many plants were destroyed (72 mother trees and 25,027 grafted rootstocks). Finally in 2002, a significant decrease was observed in nurseries, plantations and stool beds, as a consequence of the vast effort dedicated to containment of PPV. It is estimated that the cost of survey reached 495,000 EUR for the last 3 years and that compensations paid to the growers from 1999 to 2002 amounted 312,859 EUR. In spite of the high costs, the survey will continue in coming years.
The situation of *Plum pox potyvirus* in Slovenia can be described as follows: **Present, first found in 1987, widespread but decreasing since 2002, under official control.**

Source: Viršček Marn, M.; Mavrič, I.; Benko-Beloglavec, A. Knapič, V.; Weilguny, H. (2004) Results of the systematic survey and control of *Plum pox potyvirus* in Slovenia.
Bulletin OEPP/EPPO Bulletin, 34(1), 127-131.

Additional key words: detailed record **Computer codes:** PPV000, SI

2004/066 Serological tests for the detection of *Cucurbit yellow stunting disorder crinivirus*

In order to detect *Cucurbit yellow stunting disorder crinivirus* (CYSDV - EPPO Alert List), polyclonal antibodies have been prepared in Lebanon. Recombinant DNA technology was used to express CYSDV coat protein in bacterial cultures, to purify it and to use it as an antigen. The antiserum produced was used in different serological tests: tissue blot immunoassay (TBIA), dot blot immunoassay (DBIA) and in two different ELISA techniques. The antiserum gave good results with all tested methods, and could detect CYSDV in infected cucumber and melon plant tissues. However, the authors concluded that TBIA could be recommended for large scale surveys, as it was found very specific, easier to use and more economical.

Note: In this paper, CYSDV is reported as present in Syria. The EPPO Secretariat had previously no data on the presence of this pathogen.

Source: Hourani, H.; Abou-Jawdah, Y. (2003) Immunodiagnosis of *Cucurbit yellow stunting disorder virus* using polyclonal antibodies developed against recombinant coat protein.
Journal of Plant Pathology, 85(3), 197-204.

Additional key words: diagnostics, new record **Computer codes:** CYSDV0, SY

2004/067 New detection method for *Strawberry vein banding caulimovirus*

In certification schemes for strawberry, routine detection of *Strawberry vein banding caulimovirus* (EPPO A2 list) was, until now, essentially based on biological testing on *Fragaria* indicator clones. Molecular techniques have been developed but, so far, it was recommended to use them in combination (PCR together with molecular hybridization to a SVBV-specific probe). Recently, a real-time NASBA method (nucleic acid sequence base amplification) was developed to detect SVBV specifically in strawberry plants, and compared with the other existing tests. The authors felt that this method was rapid, sensitive, and reliable. Although it was tested on a limited number of SVBV isolates, this method offers good prospects for routine detection of the virus in strawberry planting material.

Source: Vašková, D.; Špak, J.; Klerks, M.M.; Schoen, C.D.; Thompson, J.R.; Jelkmann, W. (2004) Real-time NASBA for detection of Strawberry vein banding virus. **European Journal of Plant Pathology, 110(2), 213-221.**

Additional key words: diagnostics **Computer codes:** SVBV00

<u>2004/068</u> <u>Tissue blot immunoassay to detect *Tomato spotted wilt tospovirus*</u>

A tissue blot immunoassay (TBIA) was developed in USA to detect *Tomato spotted wilt tospovirus* (TSWV - EPPO A2 list) in *Ranunculus asiaticus* tubers (as the virus can persists in tubers after harvest) and in plant tissues of other ornamentals. In terms of accuracy and reliability, TBIA gave similar results to DAS-ELISA. With this method, TSWV was successfully detected in: *Begonia x hiemalis, Chrysanthemum, Eustoma, Impatiens, Malva parviflora, Senecio cruentus, Datura stramonium* and *Tropaeolum*. However, false positive results were obtained with *Kalanchoe* and *Limonium latifolium*. It was concluded that TBIA was a useful tool in TSWV management programmes to identify infected plants.

Source: Whitfield, A.E.; Campbell, L.R.; Sherwood, J.L.; Ullman, D.E. (2003) Tissue blot immunoassay for detection of *Tomato spotted wilt tospovirus* in *Ranunculus asiaticus* and other ornamentals.
Plant Disease, 87(6), 618-622.

Additional key words: diagnostics **Computer codes:** TSWV00

2004/069 *Heterodera glycines* can reduce soybean yield even in the absence of obvious symptoms

Heterodera glycines (EPPO A2 list) is an economically important pest of soybean in the north-central region of USA where most soybean production occurs. In Illinois, Iowa and Missouri, the annual yield loss caused by *H. glycines* exceeds 300 million USD. In this part of USA, significant yield losses are observed without above-ground symptoms (i.e. stunting, yellowing). It is therefore difficult to convince growers to implement management practices before symptoms become obvious. From 1997 to 1999, field experiments were conducted in Illinois, Iowa and Missouri to investigate the effects of *H. glycines* on soybean growth, development and yield throughout the growing season. At each location studied, 2 locally adapted cultivars (one resistant, one susceptible) were grown according to a special plot design allowing for destructive sampling. Population densities of *H. glycines* were determined at each location, and a wide range of infestation levels was found. Four weeks after planting, soybean plants were sampled every two weeks. On resistant cultivars, it was observed that infection by *H. glycines* reduced plant height and leaf/stem/canopy weight in the first 12 weeks after planting, and delayed pod/seed development 12 to 14 weeks after planting. However, resistant cultivars consistently produced higher yields than susceptible cultivars (on the average, yield is double than that of susceptible). On susceptible cultivars, reduction of biomass accumulation started 10 weeks after planting and reduction in pod and seed development occurred throughout the reproductive stages. Above-ground symptoms were not observed during the experiment. These results demonstrate that on both types of cultivars, yield reduction occurs without visually detectable symptoms.

Source: Wang, J.; Niblack, T.L.; Tremain, J.A.; Wiebold, W.J.; Tylka, G.L.; Marett, C.C.; Noel, G.R.; Myers, O.; Schmidt, M.E. (2003) Soybean cyst nematodes reduces soybean yield without causing obvious aboveground symptoms.
Plant Disease, 87(6), 623-628.

Additional key words: crop losses **Computer codes:** HETDGL, US

2004/070 Hot-water treatments of potted palms to control *Radopholus similis*

Studies were carried out in Hawaii (US) on the efficacy of hot-water treatments of potted palms (*Chamaedora seifrizii* and *Caryota mitis*) to kill *Radopholus similis* (EPPO A2 list). Results showed that a continuous hot-water drenching (50°C for 15 min) of potted palms or hot-water dipping (50 °C for 15 min) of bare-rooted plants were successful in eliminating all nematodes. But dipping of potted plants at a constant temperature was not sufficiently effective. It is noted that in Hawaii, potting media for palms contain volcanic cinders that allow free movement of water. Treated plants were also observed for possible thermal damage after the treatment. Rapid cooling immediately after heat treatment appears essential to prevent thermal damage. Plants should be water-cooled (ambient temperature) but not air-cooled, as air-cooled palms showed reduced growth and required a longer recovery period.

Source: Tsang, M.M.; Hara, A.H.; Sipes, B. (2003) Hot-water treatments of potted palms to control the burrowing nematode, *Radopholus similis*.
Crop Protection, 22(4), 589-593.

Additional key words: quarantine treatment **Computer codes:** RADOSI