ORGANISATION EUROPEENNE
ET MEDITERRANEENNE
POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN
PLANT PROTECTION
ORGANIZATION

EPPO Reporting Service

NO. 10 PARIS, 2013-10-01

CONTENTS

21 Bld Richard Lenoir
75011 Paris

Tel: 33 1 45 20 77 94
Fax: 33 1 70 76 65 47

E-mail: hq@eppo.int
Web: www.eppo.int

2013/210 *Heterobasidion irregulare* is an invasive pathogen in Italy: addition to the EPPO Alert List

Heterobasidion annosum sensu lato includes some of the most destructive pathogens of conifers. Financial losses associated with root and butt rots caused by these fungi have been estimated at about 800 million euros per year in Europe. *H. annosum* s.l. was long regarded as a single species until mating experiments, phylogenetic studies, and the existence of different host preferences led to the description of separate fungal species. This species complex currently consists of 5 species:
- 3 occurring in Europe: *H. annosum* sensu stricto*, H. parviporum* and *H. abietinum*.
- 2 occurring in North America: *H. irregulare* and *H. occidentale*.

Fungal species	Main host plants	Broad geographical distribution
H. annosum sensu stricto	Mainly *Pinus sylvestris* and other *Pinus* spp.; but also other conifers and even some broad-leaved trees	Widespread in Europe (except in the very Northern regions), its distribution area extends East to the Altai region (Southern Siberia)
H. parviporum	*Picea abies* (also *Abies sibirica* in Northeastern Europe)	Occurs from the most Northern parts of Europe to the Southern Alps – from Western Europe to China, Japan and Southern Siberia
H. abietinum	*Abies alba* and other *Abies* spp.	Central and Southern Europe, Mediterranean Basin
H. irregulare	*Pinus* spp., *Juniperus* spp., *Calocedrus decurrens*	Eastern and Western parts of North America, less common in the central part of North America. Introduced into Italy during World War II (Lazzio region)
H. occidentale	*Abies, Picea, Tsuga, Pseudostuga, Sequoiadendron*	Western part of North America (from Alaska to Southern Mexico)

Because of the short life span of their airborne spores and their inability to freely grow in the soil, the dispersal of *Heterobasidion* species between continents has not been considered likely to occur. Until recently, the only evidence for human-mediated dispersal of *Heterobasidion* spp. was limited to short-range movement of the organism through the use of infected fence posts. However, in 2002 the North American species *H. irregulare* was found associated with mortality of stone pine trees (*Pinus pinea*) in the Presidential estate of Castelporziano near Rome (Lazio region), Italy. All lines of evidence, including the results of population genetic analyses, support an introduction in the hunting grounds of the Presidential Estate of Castelporziano from a single source located in the South-East of the USA. It is hypothetized that *H. irregulare* was unknowingly introduced towards the end of World War II by US troops. The high-walls of this large estate were breached by a division of the US Army in June 1944, and a tent camp was subsequently established near the area where most of the tree mortality is currently observed. In this area, wooden crates and wooden structures (latrines) were abandoned as the allied troops marched north. In Lazio region, *H. irregulare* is now distributed along the Tyrrhenian coast (over a distance of approximately 100 km) and is causing tree mortality in *P. pinea* trees. Dr Gonthier (University of Torino) and Dr Garbelotto (University of California, Berkeley) who have studied *H. irregulare* extensively during the last decade, recently contacted the EPPO Secretariat and suggested that this invasive pathogen should be added to the EPPO Alert List because of the risk it may present to pine trees in the EPPO region.

Heterobasidion irregulare

Why — *Heterobasidion annosum* sensu lato, associated with root and butt rots, was long regarded as a single species until mating experiments, phylogenetic studies, and the existence of different host preferences led to the description of separate fungal species. Among these, *Heterobasidion irregulare* has recently been described as a new species belonging to the *H. annosum* complex and originating from North America. However, *H. irregulare* was introduced into Lazio region in Italy, most probably during World War II by US troops via infected wood material. Research studies have demonstrated that *H. irregulare* has spread from its initial introduction site (Castelporziano) and is currently causing extensive mortality in several *Pinus pinea* stands. Dr Gonthier (University of Torino) and Dr Garbelotto (University of California, Berkeley) who have studied *H. irregulare* extensively during the last decade, recently contacted the EPPO Secretariat and suggested that this pathogen should be added to the EPPO Alert List because of the risk it may present to pine trees in the EPPO region.

Where — *H. irregulare* originates from North America, where it is commonly found in the Eastern and Western parts, and less commonly found in the central part.

North America: Canada (Ontario, Québec), Cuba, Dominican Republic, Mexico, USA (Alabama, California, Louisiana, Michigan, Mississippi, Missouri, Montana, Oregon, South Carolina, Vermont, Washington, Wisconsin).

EPPO region: Italy (Lazio region). Data from spore trapping studies performed in 30 sites have shown that *H. irregulare* is currently distributed in all coastal pine stands along 103 km of the Tyrrhenian coastline from Fregene in the north to San Felice Circeo in the south. Inland, it has been found as far as 9 km from the coast at Castel di Guido in the north and 18 km from the coast at Fossanova in the south. There is no continuity between infected areas (Fregene, Coccia di Morto, Castelfusano, Castelporziano, Anzio, Nettuno, Circeo), as each forest is surrounded by agricultural and urban areas. *H. irregulare* has also been detected in the gardens of several historical villas in the city of Rome (Villa Ada, Villa Borghese, Villa Doria-Pamphili), infecting *P. pinea* and *P. halepensis* trees. Genetic studies have suggested that the outbreak of *H. irregulare* in Italy results from a single introduction (most probably in Castelporziano) originating from a single (unknown) location in the Southeastern USA.

On which plants — *H. irregulare* mainly attacks *Pinus* spp. In its native range, it has been found in several *Pinus* species (e.g. *P. elliottii, P. jeffreyi, P. palustris, P. ponderosa, P. radiata, P. resinosa, P. taeda*), as well as on *Calocedrus decurrens* and *Juniperus virginiana*. In its invaded range, *H. irregulare* has mostly been found on *P. pinea*, and occasionally on *P. halepensis*. Inoculation experiments have confirmed that *H. irregulare* is pathogenic on both *P. pinea* and *P. halepensis*, and have showed that *P. sylvestris*, which is the most widely distributed pine species in Europe, is also susceptible. Since *H. irregulare* commonly attacks *Juniperus virginiana* in the USA, attention should be paid to the possible susceptibility of *Juniperus* species present in the EPPO region. Finally, during spore trapping studies, the presence of *H. irregulare* was observed in Italian oak woodlands, probably living as a saprophyte without causing any disease, but this suggest that oak stands can be a habitat for *H. irregulare.*

Damage — *H. irregulare* causes root and butt rots on its host plants. In both its native and invaded range, tree mortality is observed. *H. irregulare* colonizes the cambial layer and sapwood of its hosts, both in the root system and at or just above the root collar. The mycelium colonizes the wood, resulting in the early stages of infection in a darker, almost purple stain in the wood, and later producing a stringy white rot. The sexual reproductive structures of the fungus (basidiocarps) appear on decomposing stumps and at the base of dead trees. Disease incidence is reported to increase with stand age at rates that depend on host species and sylvicultural management techniques. The disease affects species composition, stand density and structure of forests. When tree mortality occurs, gaps develop in the forest canopy, resulting in changes of light, moisture and temperature of the forest. In Italy, extensive tree mortality occurs in the dry costal *P. pinea*

stands around Rome. In the most affected sites, mortality centres including dozens of trees and with diameters larger than 50 m have been observed.

Dissemination

H. irregulare spreads from tree to tree by root contact or grafts, spreading outward in concentric rings emanating from the stump or tree that represented the original infection site. Primary infection is effected by airborne propagules (mainly basidiospores) on freshly exposed wood surfaces (e.g. in particular stump tops, or stem and root wounds). Once established through primary infections, the fungus may spread and infect uninjured trees by vegetative growth of the mycelium through root contacts or grafts (secondary infections). Although the fungus produces both sexual spores and conidia, only sexual spores seem to cause infections in nature. Colonization proceeds downward to the root system at a rate of up to 20 cm per month, depending on climate and host species. *H. irregulare*, as is the case for other species in the *H. annosum* s.l. complex, is not able to freely grow in the soil but may remain active in dead stumps and in the root system for decades. Although spores of *H. annosum* s.l. have been reported to travel hundreds of kilometres, there is an increasing body of evidence pointing to a geographically limited range of effective spore dispersal that results in fungal establishment. A model has proposed that only 0.1% spores travel 100 m. Other studies indicated that effective spore dispersal was between 98 and 1255 m. In Italy, the rate of spread of *H. irregulare* has been estimated at 1.3 km per year, but considering that available habitats are very fragmented in the outbreak area, a much faster rate of colonization may be expected in other parts of the EPPO region. Over long distances, the introduction into Italy clearly shows that wood packaging material and other wood products can be a pathway. The possible role of non-host plants carrying saprophytic populations of the fungus remains to be clarified.

Pathway

Plants for planting, wood and wood products (including wood packaging material) of *Pinus* spp and other host species.

Possible risks

Pinus spp. trees are widely planted across the EPPO region for forestry and amenity purposes. In both its native and invaded range, *H. irregulare* causes extensive tree mortality. The most affected pine species in Italy, *P. pinea*, has been used and cultivated for its edible pine nuts since prehistoric times around the Mediterranean Basin, and is a valuable tree in the Mediterranean landscape. The fact that *P. sylvestris, P. halepensis* and *Juniperus* spp. might also be susceptible to *H. irregulare* adds to the risk. In North America, control measures against *Heterobasidion* spp. are mainly preventive, and generally aim for containment rather than eradication. These control measures can include: careful stump and root removal combined with digging of trenches (150 cm deep) around infected sites, conducting thinning and logging operations during periods when spore release is absent or low, immediate treatment of stump surfaces with chemicals or a biocontrol agent (e.g. *Phlebiopsis gigantea*).

In the invaded area in Italy, studies have shown that both the exotic *H. irregulare* and the native *H. annosum* sensu stricto were occurring. Although *H. annosum* s.s. was relatively rare and causing very limited mortality, the native species is being gradually replaced by the exotic one. In some conditions, *H. irregulare* has been shown to be a faster colonizer than the native species *H. annosum* s.s. In addition, studies have demonstrated that *H. irregulare* and *H. annosum* s.s. could hybridize which could potentially accelerate the evolution of both pathogenic species and facilitate the adaptation of the invasive species to new environments. Considering the invasive behaviour of *H. irregulare* in Italy, its interaction with native fungal populations, and the currently observed mortality on *P. pinea*, it is desirable to prevent any further spread of this pathogen in the EPPO region.

Sources

D'Amico L, Motta E, Annesi T, Scire M, Luchi N, Hantula J, Korhonen K, Capretti P (2007) The North American P group of *Heterobasidion annosum* s.l. is widely distributed in *Pinus pinea* forests of the western coast of central Italy. *Forest Pathology* **37**, 303-320.

Dalman K, Olson Å, Stenlid J (2010) Evolutionary history of the conifer root rot fungus *Heterobasidion annosum* sensu lato. *Molecular Ecology* **19**, 4979-4993.

Garbelotto M, Gonthier P (2013) Biology, epidemiology and control of *Heterobasidion* species worldwide. *Annual Review of Phytopathology* **51**, 39-59.
Garbelotto M, Guglielmo F, Mascheretti S, Croucher PJP, Gonthier P (2013) Population genetic analyses provide insights on the introduction pathway and spread patterns of the North American forest pathogen *Heterobasidion irregulare* in Italy. *Molecular Ecology* **22**, 4855-4869.
Garbelotto M, Linzer R, Nicolotti G, Gonthier P (2010) Comparing the influences of ecological and evolutionary factors on the successful invasion of a fungal forest pathogen. *Biological Invasions* **12**, 943-957.
Garbelotto M, Pautasso M (2012) Impacts of exotic forest pathogens on Mediterranean ecosystems: four case studies. *European Journal of Plant Pathology* **133**(1), 101-116.
Giordano L, Gonthier P, Lione G, Capretti P, Garbelotto M (2013) The saprobic and fruiting abilities of the exotic forest pathogen *Heterobasidion irregulare* may explain its invasiveness. *Biological Invasions* doi 10.1007/s10530-013-0538-4
Gonthier P, Garbelotto M (2011) Amplified fragment length polymorphism and sequence analyses reveal massive gene introgression from the European fungal pathogen *Heterobasidion annosum* into its introduced congener *H. irregulare*. *Molecular Ecology* **20**, 2756-2770.
Gonthier P, Lione G, Giordano L, Garbelotto M (2012) The American forest pathogen *Heterobasidion irregulare* colonizes unexpected habitats after its introduction in Italy. *Ecological Applications* **22**(8), 2135-2143.
Gonthier P, Nicolotti G, Linzer R, Guglielmo F, Garbelotto M (2007) Invasion of European pine stands by a North American forest pathogen and its hybridization with a native interfertile taxon. *Molecular Ecology* **16**, 1389-1400.
Gonthier P, Warner R, Nicolotti G, Mazzaglia A, Garbelotto M (2004) Pathogen introduction as a collateral effect of military activity. *Mycological Research* **108**(5), 467-470.
Laflamme G (2011) Spread of *Heterobasidion irregulare* in eastern Canada towards northern natural forests of *Pinus banksiana*. Proceedings of the XIII Conference (Root and butt rot of forest trees). IUFRO Working Party (Firenze, IT, 2011-09-04/10), 162-163.
Linzer RE, Otrosina WJ, Gonthier P, Bruhn J, Laflamme G, Bussières G, Garbelotto M (2008) Inferences on the phylogeography of the fungal pathogen *Heterobasidion annosum*, including evidence of interspecific horizontal genetic transfer and of human-mediated, long-range dispersal. *Molecular Phylogenetics and Evolution* **46**, 844-862.
Otrosina WJ, Garbelotto M (2010) *Heterobasidion occidentale* sp. nov. and *Heterobasidion irregulare* nom. nov.: a disposition of North American *Heterobasidion* biological species. *Fungal Biology* **114**(1), 16-25.
Scirè M, D'Amico L, Motta E, Annesi T (2008) North American P type of *Heterobasidion annosum* shows pathogenicity towards *Pinus halepensis* in Italy. *Forest Pathology* **38**, 299-301.
Scirè M, D'Amico L, Motta E, Annesi T (2009) [Some phytopathological aspects in the 'urban forest' in Rome]. Proceedings of the III Congresso Nazionale di Selvicoltura (Taormina, IT, 2008-10-16/19). Accademia Italiana di Scienze Forestali, Firenze, 1424-1428 (in Italian).
Scirè M, Motta E, D'Amico L (2011) Behaviour of *Heterobasidion annosum* and *Heterobasidion irregulare* isolates from central Italy in inoculated *Pinus pinea* seedlings. *Mycological Progress* **10**, 85-91.

EPPO RS 2013/210
Panel review date - Entry date 2013-10

2013/211 First report of Grapevine flavescence dorée phytoplasma in Hungary

The NPPO of Hungary recently informed the EPPO Secretariat of the first confirmed record of Grapevine flavescence dorée phytoplasma (EPPO A2 List) on its territory. At the end of August 2013, flavescence dorée was detected in 2 locations (Lenti and Kerkateskánd) in the county of Zala (Southwestern Hungary) during a specific survey carried out in a region bordering Slovenia where the disease occurs. The identity of the pathogen was confirmed by the Plant Health and Molecular Biology National Reference Laboratory of the NPPO using molecular methods: 1) for plant samples: multiplex-nested PCR (following EPPO Standard PM 7/79) confirmed by real-time PCR and sequencing; 2) for insect vector samples: real-time PCR.

- At Lenti, Grapevine flavescence dorée phytoplasma was found in grapevine (*Vitis vinifolia*) and *Clematis vitalba* plants in 1 household vineyard (500 m², about 500 vines). Symptoms of grapevine yellows were observed in approximately 5 % of the plants, and 4 out of the 6 collected grapevine samples tested positive for Grapevine flavescence dorée phytoplasma. Two samples were collected from an adjacent vineyard but gave negative results. A sample of *C. vitalba* collected in the vicinity of the vineyard was also found to be infected. In this locality, no specimens of the insect vector, *Scaphoideus*

titanus, could be caught during the survey. An infected area of 1 km radius has been delimited around the affected vineyard, with a buffer zone of 3 km radius around the infected area.

- At Kerkateskánd, Grapevine flavescence dorée phytoplasma was detected in the insect vector, *Scaphoideus titanus*, and in *C. vitalba* plants in 1 household vineyard (2500 m², about 1000 vines). Grapevine plants growing in this vineyard did not show any symptoms. An infected area of 1 km area has been delimited around the affected clematis plants.

The possible origin of these infections is unknown, but the close proximity with infected vineyards in Slovenia strongly suggests that the disease has spread naturally from these infected areas to Hungary. The following phytosanitary measures are being implemented to contain the disease.

- In infected areas:
- prohibition to move propagating and planting material;
- intensive survey of all vine-growing areas, including sampling and testing;
- removal and destruction of plants (roots included) of *Vitis* sp. and *C. alba* which test positive for this phytoplasma, as well as of all *Vitis* plants showing characteristic symptoms of grapevine yellows;
- application of emergency chemical treatments in 2013 against *S. titanus* on behalf of the NPPO, mandatory chemical treatments will then be performed by growers in the following years.
- In the buffer zone:
- survey to determine the incidence of plants showing characteristic symptoms of grapevine yellows, including sampling and testing;
- removal and destruction of plants with confirmed positive laboratory test.
- application of mandatory chemical treatments to be performed by growers in the following years.

Finally, a nation-wide information campaign has been launched to draw the attention of grapevine-growers and the general public to the need for preventive actions to stop the spread of the disease.

The pest status of Grapevine flavescence dorée phytoplasma in Hungary is officially declared as: **Present, only in some areas (Southwestern Hungary).**

Source: NPPO of Hungary (2013-09).

Additional key words: new record **Computer codes:** PHYP64, HU

2013/212 First report of *Pseudomonas syringae* pv. *aesculi* in Hungary

At the request of the horticultural manager of the Park of the Gödöllő Royal Palace which is located near Budapest, a senior pathologist from the Hungarian NPPO examined several diseased horse chestnut trees at the beginning of May 2013. Some trees displayed a sparse, yellowish, and chlorotic canopy, and a few trees were already dead. Bleeding cankers were also observed at various heights on tree trunks, either still oozing or covered by black and cracked remains of dried exudates. Under the bark, patches of brownish and dying tissues could be observed in the phloem. These symptoms were observed in a row of 98, four-years old trees (*Aesculus carnea* cv. 'Briotti') originating from a nursery in Germany. It is estimated that 40 to 50% of these trees were symptomatic, and it is noted that these symptoms appeared shortly after tree plantation. Samples were collected and tested using biochemical, molecular and biological tests. In June 2013, the presence of *Pseudomonas syringae* pv. *aesculi* (EPPO Alert List) was confirmed in diseased trees. The origin of this

infection could not be ascertained but it is suspected that the bacterium was introduced with infected planting material. As *P. syringae* pv*. aesculi* is not a regulated pest, no official measures were taken. However, the Park management was recommended to destroy and dispose of these horse chestnut trees, as it is expected that within a few years many of them will die anyway. Finally, *P. syringae* pv*. aesculi* will be included in the survey programme of amenity trees that is conducted in Hungarian public green areas.
The pest status of *Pseudomonas syringae* pv*. aesculi* in Hungary is officially declared as: **Present, at one location.**

Source: NPPO of Hungary (2013-08).

Additional key words: new record **Computer codes:** PSDMAX, HU

2013/213 First record of *Hymenoscyphus pseudoalbidus* (*Chalara fraxinea)* in Ukraine

In Ukraine symptoms of ash dieback were noted for the first time in 2010. Studies were conducted in May and September 2010 in the regions of Kharkiv and Sumy (Eastern Ukraine). Samples (shoots and leaf petioles) were collected from symptomatic and asymptomatic ash trees (*Fraxinus excelsior*) growing in mixed forest plantations and shelter belts dominated by *Quercus robur* and *F. excelsior*. Laboratory analysis (PCR, sequencing) confirmed the presence of *Hymenoscyphus pseudoalbidus* (anamorph: *Chalara fraxinea* – EPPO Alert List) in symptomatic samples. Results also showed that *H. pseudoalbidus* was present in a low proportion (5.6%) of symptomatic shoots. This is the first time that *H. pseudoalbidus* is reported from Ukraine.
The situation of *Hymenoscyphus pseudoalbidus* can be described as follows: **Present, first found in 2010 in the Eastern part of the country (Kharkiv and Sumy regions).**

Source: Davydenko K, Vasaitis R, Stenlid J, Menkis A (2013) Fungi in foliage and shoots of Fraxinus excelsior in eastern Ukraine: a first report on *Hymenoscyphus pseudoalbidus*. *Forest Pathology*. doi:10.1111/efp.12055.

Additional key words: new record **Computer codes:** CHAAFR, UA

2013/214 Update on the situation of *Cryphonectria parasitica* in the United Kingdom

In the United Kingdom, *Cryphonectria parasitica* (EPPO A2 List) was first found in 2011 in 2 orchards of sweet chestnut (*Castanea sativa*) in Warwickshire and Sussex where eradication measures were taken (EPPO RS 2012/048). Subsequent studies showed that the fungus had been introduced with chestnut planting material imported from one nursery in France. These studies also detected *C. parasitica* in more than 30 trees on a farm in East Sussex, 2 trees at a private residence in Herefordshire, as well as in several trees in 7 private residences and 1 nursery of Southwestern England. In all cases, eradication measures were taken. The vast majority of infested trees had been supplied by the French nursery (by mail order).
The pest status of *Cryphonectria parasitica* in the United Kingdom is officially declared as: **Present, under eradication.**

Source: Fera (2013) Rapid Pest Risk analysis for *Cryphonectria parasitica*.

http://www.fera.defra.gov.uk/plants/plantHealth/pestsDiseases/documents/rapidAssessmentCryphonectriaParasitica.pdf

Hunter GC, Wylder B, Jones B, Webber JF (2013) First finding of *Cryphonectria parasitica* causing chestnut blight on *Castanea sativa* trees in England. *New Disease Reports* **27**, 1. http://dx.doi.org/10.5197/j.2044-0588.2013.027.001

Additional key words: detailed record **Computer codes:** ENDOPA, GB

2013/215 First report of *Spongospora subterranea* in Malta

The NPPO of Malta recently informed the EPPO Secretariat of the first record of *Spongospora subterranea* (powdery scab of potato) on its territory. In August 2012, the disease was found in commercial ware potato crops (*Solanum tuberosum*) in 3 different localities of Malta (Luqa, Gharghur and Siggiewi). Damage was limited to 3 fields which were found infected with a moderate severity. During laboratory testing, 3 samples were found positive and the identity of the pathogen was confirmed by the Institute of Integrative Biology (Switzerland). It is suspected that infected seed potatoes were the likely source of this infection. Farmers were instructed to burn the infected crops and to leave their fields fallow for a minimum period of 3-5 years. They were also instructed to only use resistant varieties of seed potatoes following this fallow period.
The pest status of *Spongospora subterranea* in Malta is officially declared as: **Transient, actionable, under surveillance.**

Source: NPPO of Malta (2013-08).

Additional key words: new record **Computer codes:** SPONSU, MT

2013/216 *Plum pox virus* found for the first time on *Prunus cerasus* in Poland

Until recently, *Plum pox virus* (*Potyvirus*, PPV – EPPO A2 List) was only recorded in Poland on *Prunus domestica* (plum), *P. persica* (peach), and *P. avium* (sweet cherry). On *P. avium*, it was first found in 2012 in a nursery in Northeastern Poland (see EPPO RS 2012/170). In 2013, PPV was found for the first time on *P. cerasus* (sour cherry) in a nursery in the Lubelskie voivodeship in the Eastern part of the country. Leaves were collected from plants showing suspicious symptoms and were tested in the laboratory for PPV (IC-RT-PCR test). Appropriate quarantine measures were undertaken in the infected place of production. Official inspections for PPV will continue at national level.

Source: NPPO of Poland (2013-08).

Additional key words: host plant, detailed record **Computer codes:** PPV000, PL

2013/217 First report of *Meloidogyne fallax* in the United Kingdom

In the United Kingdom, the presence of *Meloidogyne fallax* (EPPO A2 List) was first recorded in 2011, in England and Northern Ireland, when it was found in sports turf. In 2013, the NPPO of the United Kingdom reported a new outbreak in an organic crop of leeks (*Allium ampeloprasum*) in one field of 12.5 ha in Staffordshire. This infestation was discovered because of the grower's concern about the stunted growth of plants in several rows of leeks and in several other patches. Affected plants were around half the size of other plants, were noticeably paler and had very obvious root nodulation. The total area affected was approximately 1 ha. The identity of the nematode was confirmed in August 2013. The source of this infestation is unknown. The leek plants were supplied by a UK propagator in March 2013 and had been grown from seed in peat blocks. One possibility is that the pest could have been introduced into the infested field with plant waste and soil resulting from the on-site processing of leeks produced in other EU member states. The infested field is close to the packhouse and for many years has received processing waste.
The grower does not produce any plants for planting and does not grow ware or seed potatoes. Therefore the past and current risk to other growers is considered to be relatively low. In the samples of leeks examined at Fera, *M. fallax* has only been found in the roots. The roots are removed before the plants are marketed therefore the risk of spreading the pest on the leeks is considered to be relatively low. In order to reduce the risk of spread of the pest, hygiene measures have been introduced and the symptomatic plants have been destroyed by mechanical cultivation. Further measures, including placing restrictions on the crops that can be grown in the infested field are being developed.
The pest status of *Meloidogyne fallax* in the United Kingdom is officially declared as: **Present, under eradication.**

Source: NPPO of the United Kingdom (2013-09).

Additional key words: new record **Computer codes:** MELGFA, GB

2013/218 *Trichoferus campestris* is spreading in the EPPO region

Trichoferus (=Hesperophanes) campestris (Coleoptera: Cerambycidae – EPPO A2 List) is a wood-boring insect which originates from Asia (including a large part of Russia). It develops in broadleaved trees, including fruit crops (e.g. *Malus)* and a wide range of forest and amenity trees (e.g. *Betula, Broussonetia, Gleditsia, Salix, Sorbus*). In addition, *T. campestris* has been reported to develop in dry wood, both hardwood and conifer wood (*Abies, Picea, Pinus*). A picture of the adult can be viewed on the Internet: http://www.zin.ru/animalia/coleoptera/eng/tricamms.htm
Scientific literature indicates that *T. campestris* is currently spreading in Central and Eastern Europe from East to West, probably starting from the Southeastern part of European Russia where it was recorded in the 1980s. For the moment, only isolated findings (mainly trapped specimens) are reported, and no particular damage is observed. Interceptions of *T. campestris* have been made in the EPPO region on wood packing material imported from China. Although, there is currently no clear indication of damage caused by *T. campestris* to living trees in the EPPO region, this insect is obviously spreading, probably as a combination of natural and human-assisted spread, it thus seems wise to pay more attention to this species in surveillance programmes and import inspections.

- **Czech Republic**: several specimens of *T. campestris* were recorded in the 2 following localities in Moravia.

  - Otrokovice: 1 female was found in August 2006 in a store of the Barum company (tyre manufacturer) on wooden pallets imported from Russia, and several specimens were collected and reared from cut birch firewood in 2009.
  - Olomouc: 1 specimen was captured on the uprooted and drying stem of a *Gleditsia triachanthos* tree in a park in 2008.
- **Hungary**: *T. campestris* was reported for the first time in 2010 (no further details).
- **Moldova**: several specimens were collected in 2003, 2004, and 2008 from various localities (Ivanchya and Ketrosu villages).
- **Poland**: the first specimens were collected in 2009 (no further details).
- **Romania**: the first specimen was collected in 2003. The occurrence of *T. campestris* was then confirmed in Southern and Eastern Romania, as several specimens were collected from different localities s (e.g. Agigea, Bucureşti, Craiova, Iaşi, Ivești).
- **Slovakia**: 1 specimen was found near Štúrovo in 2007.
- **Ukraine**: *T. campestris* was first collected from Eastern Ukraine in 1998, but was correctly identified only in 2006. Other specimens were then found in the following localities: Donetsk, Dyakove, Evpatoria, Ivano-Frankivsk, Kharkiv, Odessa, Sevastopol, as well as from the Natural reserve 'Kam'yani Mohyly' and the National Park 'Homilshanski Lisy'.

Interestingly in North America, *T. campestris* has been intercepted regularly in Canadian and US ports. For example, at the Port of Vancouver (CA) numerous adults, larvae and pupae have been intercepted on wooden dunnage in containers arriving from China (including Hong-Kong). Occasional findings of *T. campestris* have also been made in both Canada and the USA, but for the moment no particular damage has been reported on living trees.

- **Canada**: 2 specimens of *T. campestris* were first collected in Repentigny, near Montreal (Québec) in 2002 and 2006. These specimens were found on a window screen in a residential area. However, follow up surveys with light traps did not detect additional beetles. In 2012, live adults and larvae of *T. campestris* were extracted from a log taken from a dying Norway maple tree (*Acer platanoides*) in Mississauga, Ontario.
- **USA:** *T. campestris* has been detected in small numbers in several states. In New Jersey, a small localized infestation occurred in 1997 in a storage site in the city of New Brunswick, but was later eradicated. In Minnesota, a single adult beetle was trapped in June 2010 in an industrial area in Minneapolis; it is not known whether the pest has been able to establish in this area. In Ohio, its presence was noticed in 2009 and 2010. In Illinois, *T. campestris* was first found in 2009 near O'Hare airport and in the county of Crawford where it was captured near a pallet manufacturer. Intensive trapping was conducted in 2011 and 2012 in state parks, forests, natural areas, but the insect was not caught again. In Utah, the insect was detected in South Salt Lake City in 2010, and again in 2012 in Murray City.

Source: Bullas-Appleton E, Kimoto T, Turgeon J (2013) Discovery of *Trichoferus campestris* (Coleoptera: Cerambycidae) in Ontario, Canada and first host record in North America. *The Canadian Entomologist*, 1-6. doi: 10.4039/tce.2013.61.

Chyubchik VY (2010) The annotated list of longicorn-beetles (Coleoptera: Cerambycidae) of Central Moldova. *Russian Entomological Journal* **19**(2), 111-118.

Dascălu MM, Serafim R (2011) *Trichoferus campestris* (Faldermann, 1835): an alien longhorn beetle in Romania. *Proceedings of the Annual Zoological Congress of 'Grigore Antipa' Museum (Bucarest, 2011-11-23/25)*, p 103.

Grebennikov VV, Gill BD, Neatby KW, Vigneault R (2010) *Trichoferus campestris* (Faldermann) (Coleoptera: Cerambycidae) an Asian wood-boring beetle recorded in North America. *The Coleopterists Bulletin* **64**(1), 13-20.

Hegyessy G, Kutasi C (2010) *Trichoferus* species new to Hungary (Coleoptera: Cerambycidae). *Folia Entomologica Hungarica* **71**, 35-41 (abst.).

Kruszelnicki L (2010) [*Trichoferus campestris* (Faldermann, 1835) (Coleoptera: Cerambycidae)

in Poland]. *Acta entomologica silesiana* **18**, 39-40 (in Polish).
Sabol O (2009) [*Trichoferus campestris* (Coleoptera: Cerambycidae) – a new species of longhorn beetle for the Czech Republic and Slovakia]. *Klapalekiana* **45**, 199-201 (in Czech).
Zamoroka AM, Panin RY (2011) Recent records of rare and new for Ukrainian Carpathians species of longhorn beetles (Insecta: Coleoptera: Cerambycidae) with notes on their distribution. *Munis Entomology and Zoology* **6**(1), 155-165.
INTERNET
Cooperative Agricultural Pest Survey (CAPS) Exotic Wood Borer/Bark Beetle. Survey Reference. http://caps.ceris.purdue.edu/webfm_send/1973
Illinois Natural Resources. 2012 Illinois Forest Health Highlights. http://fhm.fs.fed.us/fhh/fhh_12/IL_FHH_2012.pdf
Minnesota Department of Agriculture. Chinese longhorned beetle. Invasive Pest Alert. https://www.mda.state.mn.us/plants/insects/clhbeetle.aspx
Utah Department of Agriculture and Food. 2012 Utah agriculture statistics and Utah Department of Agriculture and Food Annual Report. http://ag.utah.gov/documents/AnnualReport.pdf
Utah State University – Extension. 2010 Wood Boring and Bark Beetle Detection Survey Final Report by CA Stanley-Vorel, C Burfitt & R Davis. http://utahpests.usu.edu/caps/files/uploads/10-CAPS-WbbbSurveyReport.pdf

Additional key words: new record **Computer codes:** HESOCA, CA, CZ, HU, MD, PL, RO, SK, UA, US

2013/219 *Dryocosmus kuriphilus* found in Hesse, Germany

The NPPO of Germany recently informed the EPPO Secretariat of the occurrence of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae – EPPO A2 List) in Hesse. It can be recalled that the pest was first recorded in 2012 (see EPPO RS 2013/141) in several German länder. In September 2013, *D. kuriphilus* was found on sweet chestnut trees (*Castanea sativa*) at 2 locations, Zwingenberg and Hirschhorn (Neckar) in the state of Hesse. In Zwingenberg, one single tree was found to be infested. In Hirschhorn, 2 trees and their natural regeneration were infested. They belonged to a small group of approximately 25 trees in a forest. Galls were found on the leaves of the trees. The pest was identified morphologically. Official control measures were taken. The single infested tree in Zwingenberg has been destroyed. A survey in the surroundings of the infested trees has been initiated to delimit the infested areas, and it will continue in 2014. Demarcated zones in accordance with the EU Decision 2006/464/EC have been defined.
The pest status of *Dryocosmus kuriphilus* in Germany is officially declared as: **Present, only in some areas (Baden-Württemberg, Nordrhein-Westfalen, Hesse), under official control.**

Source: NPPO of Germany (2013-10).

Additional key words: detailed record **Computer codes:** DRYCKU, DE

2013/220 Eradication of *Dryocosmus kuriphilus* from the Netherlands

In the Netherlands, the presence of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae – EPPO A2 List) was first noticed in July 2010 on 5 sweet chestnut trees (*Castanea sativa*), in a wholesale company located in Boskoop (see EPPO RS 2010/134). These infested trees were found during a regular plant passport field inspection in one lot (5 trees, 4-5 m high) which had been delivered in 2008 from an Italian nursery. All infested trees were destroyed. Three successive specific surveys were conducted in 2010, 2011 and 2012 and did not detect the pest. Therefore, the NPPO of the Netherlands considers that *D.*

kuriphilus has successfully been eradicated. Nevertheless, specific surveys on *D. kuriphilus* will continue in the Netherlands.
The pest status of *Dryocosmus kuriphilus* in the Netherlands is officially declared as: **Absent, eradicated.**

Source: NPPO of the Netherlands (2013-10).

Additional key words: absence, eradication **Computer codes:** DRYCKU, NL

2013/221 Situation of *Rhynchophorus ferrugineus* in Malta

In Malta, *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae – EPPO A2 List) was first found in October 2007 (see EPPO RS 2010/204). It now occurs in all parts of the island of Malta. In October 2012, it was found for the first time on the island of Gozo during monitoring activities. Beetles were caught in pheromone traps placed in 4 different localities in Gozo. The identity of the pest was confirmed by the Plant Health Directorate. The origin of this introduction into Gozo is unknown. In August 2013, *R. ferrugineus* was detected for the first time on the island of Comino, also during monitoring activities. Infested palm trees were found in a private plantation. In the Maltese archipelago, *R. ferrugineus* attacks palm trees (*Phoenix canariensis, Chamaerops humilis, Washingtonia* spp.) growing in nurseries, gardens or as landscaping trees. Phytosanitary measures are being implemented against the pest. Malta, Gozo and Comino have been declared as demarcated areas for *R. ferrugineus*. An action plan has been set up and different measures are being implemented to control and eradicate the pest. These measures include: installation of various traps across the islands of Malta and Gozo, monitoring and surveillance, application of preventive and curative treatments, destruction of severely infested palm trees, palm tagging in nurseries, and restrictions on the movements of palm trees in accordance with the Commission Decision 2007/365/EC and Maltese legislation.
The pest status of *Rhynchophorus ferrugineus* in Malta is officially declared as:
Malta: Present in all parts of the area.
Gozo: Present only in some areas.
Comino: Present at low prevalence.

Source: NPPO of Malta (2013-08).

Additional key words: detailed record **Computer codes:** RHYCFE, MT

2013/222 Situation of *Aproceros leucopoda* in Germany

In Germany, *Aproceros leucopoda* (Hymenoptera: Argidae – EPPO Alert List) was first found in Bayern in November 2011 on *Ulmus minor* trees (EPPO RS 2011/198). The infestation was noticed in a forest by an entomologist and the pest was identified on the basis of its morphological characteristics. The source of this infestation could not be traced but it was supposed that *A. leucopoda* had been occurring in this area since summer 2011. In 2013, *A. leucopoda* was also found in 2 locations in Brandenburg: a few infested trees in one location, and heavily infested trees planted along an alley, approximately 3 km long in the other location. It is noted that the alley trees had been planted in 2012. No official control measures were taken as no effective ones could be identified. An Express-PRA has been carried out and is available on the JKI website (in German): http://pflanzengesundheit.jki.bund.de/index.php?menuid=57

The pest status of *Aproceros leucopoda* in Germany is officially declared as: **Present, only in some areas (Bayern, Brandenburg).**

Source: NPPO of Germany (2013-08).

Additional key words: detailed record **Computer codes:** APRCLE, DE

2013/223 *Aproceros leucopoda* found for the first time in the Autonomous province of Trento (IT)

In Italy, *Aproceros leucopoda* (Hymenoptera: Argidae – EPPO Alert List) was first found in 2009 on elm trees (*Ulmus* spp.) in Friuli-Venezia-Giulia region (EPPO RS 2011/198). In July 2013, an outbreak was detected in 2 municipalities (Grigno and Ospedaletto) in the Autonomous province of Trento. The infestation was incidentally detected on elm trees in the riparian area along the river Brenta (along approximately 10 km). It is estimated that the crown defoliation reached up to 70-80%. The source of this infestation remains unknown. For the moment, no specific measures have been taken against the pest. However, surveys will be conducted to determine the extent of the infestation.
The pest status of *Aproceros leucopoda* in Italy is officially declared as: **Present, only in some areas of Northeastern Italy.**

Source: NPPO of Italy (2013-09).

Additional key words: detailed record **Computer codes:** APRCLE, IT

2013/224 Situation of several regulated pests in Latvia

The NPPO of Latvia recently provided the EPPO Secretariat with an updated official pest status (indicated in bold) for the following regulated pests:

***Clavibacter michiganensis* subsp. *michiganensis** (EPPO A2 List)**
In 2004, *C. michiganensis* subsp*. michiganensis* was found for the first time in protected cultivation. Since then, regular surveys have been conducted by the NPPO. Surveillance results confirmed that the bacterium was detected for the last time in 2010.
Present, only in protected cultivation.

***Diaporthe vaccinii* (EPPO A2 List)**
In Latvia, *D. vaccinii* was first found in 2009, and detected again during the following years. In 2012, the identity of the fungus was confirmed by using molecular methods.
Present, only in some areas where host crops are grown.

***Ditylenchus dipsaci* (EPPO A2 List)**
Since the first finding of *D. dipsaci* in 2010, surveys have been carried out by the NPPO. They have shown that the nematode has a restricted distribution.
Present, only in some areas.

* New record according to PQR.

***Erwinia amylovora* (EPPO A2 List)**
E. amylovora was first found in 2007 and since then, specific surveys have been conducted across the whole territory of Latvia. In 2013, 8 outbreaks of *E. amylovora* were detected. Phytosanitary measures have been taken to eradicate the disease (by destroying infected plants and their surrounding host plants).
Present, only in some areas, under eradication.

***Grapholita molesta* (Lepidoptera: Tortricidae – formerly A2 EPPO List)**
In 2003, several imago specimens of *G. molesta* were caught in pheromone traps (see EPPO RS 2003/119). Since that time, no stages of the pest have ever been detected during inspections. There is no evidence that *G. molesta* has been able to overwinter and establish in Latvia.
Absent, confirmed by survey.

***Heracleum sosnowskyi* (Apiaceae – EPPO A2 List)**
Since 2007, surveys for *H. sosnowskyi* have been conducted in Latvia. From 2007 to 2013, the NPPO has estimated that 10 460 ha were invaded by this plant. *H. sosnowskyi* was found in 101 of the 119 administrative divisions in Latvia.
Present, in all parts of the area.

***Phialophora cinerescens* (EPPO A2 List)**
P. cinerea was found in the past in glasshouse carnations (EPPO RS 93/128). It was recorded for the last time in 2004, and since then general surveillance has confirmed that this fungus no longer occurs in Latvia.
Absent, pest no longer present.

***Phytophthora ramorum* (EPPO A2 List)**
In Latvia, *P. ramorum* was intercepted for the first time in 2007 on imports of potted plants of rhododendron. Since 2010, no further interceptions have been made. Official surveillance programmes have confirmed that *P. ramorum* is not established in Latvia.
Absent, intercepted only.

***Plum pox virus* (*Potyvirus*, PPV – EPPO A2 List)**
PPV was first found in Latvia in 2008, and since then regular surveys have been carried out by the NPPO. The last findings were notified in 2010. Phytosanitary measures were taken to eradicate PPV (all infected plants and the surrounding host plants were destroyed).
Present, only in some areas, under eradication.

Ralstonia solanacearum (EPPO A2 List)
Old records of *R. solanacearum* race 3 in Latvia have never been confirmed (EPPO RS 96/002) and should be considered as unreliable. The absence of the bacterium has been confirmed by surveys conducted from 1998 to 2013.
Absent, confirmed by survey.

Source: NPPO of Latvia (2013-10).

Additional key words: new record, detailed record, eradication

Computer codes: CORBMI, DIAPVA, DITYDE, ERWIAM, HERSO, LASPMO, PHIACI, PHYTRA, PPV000, PSDMSO, LV

2013/225 EPPO Standards on efficacy evaluation of plant protection products: update of the web-based database

The EPPO Standards for the efficacy evaluation of plant protection products (PP1) describe the conduct of trials carried out to assess the efficacy of plant protection products against specific pests. They are addressed to all institutions, official registration authorities, public institutes or private firms carrying out such trials. Since February 2009 the whole series of EPPO PP1 Standards (more than 260 Standards covering a wide range of crops and pests) is available in an online database. A new interface has been released in July 2012 to facilitate access to PP1 Standards. All Standards can be easily retrieved as PDF files by using a simple search tool.

The database has been updated with new and revised Standards adopted by EPPO Council in September 2013.

Specific Standards

- *Rhizoctonia solani* on potato (revision PP 1/32)
- Aphids on beet (revision PP 1/228)
- *Drosophila suzukii* (PP 1/281) New
- *Pseudomonas syringae* pv. *actinidiae, P. syringae*, and *P. viridiflava* on kiwifruit (PP 1/282) New

In addition, two new extrapolation tables have been adopted to accompany EPPO Standard PP 1/257 *Efficacy and crop safety extrapolations for minor uses* (http://www.eppo.int/PPPRODUCTS/minor_uses/minor_uses.htm) and two examples of zonal efficacy evaluation to accompany EPPO Standard PP 1/278 *Principles of zonal data production and evaluation* are now available on the EPPO website (http://www.eppo.int/PPPRODUCTS/zonal_efficacy/zonal_efficacy.htm):

- Clarification of efficacy data requirements for the authorization of fungicide for the control of Septoria leaf blotch (*Mycosphaerella graminicola*) on winter wheat (*Triticum aestivum*) in the European Central authorization zone,
- Clarification of efficacy data requirements for the authorization of herbicide for the control of weeds in maize in the European Central authorization zone.

All general Standards (e.g. design, conduct, reporting and analysis of trials, phytotoxicity, effects on succeeding crops, analysis of resistance risk, minor uses) can be accessed free of charge. Access to specific Standards (e.g. aphids on potato, weeds in cereals) is provided for an annual fee. Subscriptions should be made directly online via the database. For more information on the detailed contents of the database and subscriptions, please consult our web page: http://www.eppo.org/DATABASES/pp1/pp1.htm

Direct access to the database: http://pp1.eppo.int.

Source: EPPO Secretariat (2013-11).

2013/226 Workshop on 'Predicting pests & diseases in European forests' (Joensuu, FI, 2014-02-19/20)

A Workshop on 'Predicting pests & diseases in European forests' will be organized by ISEFOR at Joensuu (Finland) on the 19th and 20th February 2014. ISEFOR (Increasing Sustainability of European Forest) is a consortium of researchers funded by European Union Seventh Framework Programme. More information about ISEFOR can be found on the Internet: http://www.isefor.com. This meeting is the final workshop from the ISEFOR research project 2010-2014. The models that have been developed and tested over 3 years through the collaboration of pathologists, entomologists and mathematical modellers in ISEFOR to predict the spead of invasive pests and diseases will be presented and discussed during the Workshop.

1. Pinewood nematode, *Bursaphelenchus xylophilus*
2. Ash dieback, *Chalara fraxinea*
3. Pine pitch canker, *Fusarium circinatum*
4. Dothistroma needle blight, *Dothistroma septosporum*
5. Siberian moth, *Dendrolimus sibiricus*
6. Emerald ash borer, *Agrilus planipennis*
7. Alder phytophthora

Contact (booking and additional information): Colette Jones c.d.jones@abdn.ac.uk
Download information: http://www.isefor.com/downloads/invasive_forest_disease_workshop2014.pdf

Source: Personal communication with Dr Colette Jones, Scientific Administrator of ISEFOR (2013-09).

Additional key words: conference

2013/227 Revision of the Spanish legislation on invasive alien species including plants

Following the experience gained with the application of the Real Decreto 1648/2011 on invasive alien species in Spain (see RS 2012/043), a new decree (630/2013) was produced on the 3rd of August 2013. The legislation updated the 'Catalogue of Invasive Alien Species' which was first developed in 1648/2011. The introduction of species listed in this Catalogue is prohibited in the natural environment. Their possession, transport, movement, trade of live or dead specimens or propagules are also prohibited within Spain, as well as their export. Authorisations may nevertheless be granted for research or health reasons. The Catalogue has been updated as follows:

- *Helianthus tuberosus* (Asteraceae, EPPO List of Invasive Alien Plants) which was regulated for the whole of Spain is removed from the Catalogue;
- *Arbutus unedo* (Ericaceae), *Centranthus ruber* (Caprifoliaceae), *Cytisus scoparius* (Fabaceae), *Eschscholzia californica* (Papaveraceae), *Ricinus communis* (Euphorbiaceae) and *Spartium junceum* (Fabaceae) are added to the Catalogue for Canarias;
- *Crassula helmsii* (Crassulaceae, EPPO A2 List), *Elodea nuttallii* (Hydrocharitaceae, EPPO List of IAP), *Fallopia baldschuanica* (Polygonaceae, EPPO List of IAP), *Hedychium gardnerianum* (Zingiberaceae), *Hydrocotyle ranunculoides* (Apiaceae, EPPO A2 List), *Nicotiana glauca* (Solanaceae), *Nymphaea mexicana* (Nymphaeceae) and *Oxalis pes-caprae* (Oxalidaceae) are added to the Catalogue for the whole of Spain.

Source: Ministerio de agricultura, alimentación y medio ambiente, Boletín Official de Estado, Lunes 12 de diciembre de 2011, Núm. 29, Sec. I., 25 pp
http://www.boe.es/boe/dias/2011/12/12/pdfs/BOE-A-2011-19398.pdf

Real Decreto 630/2013, de 2 de agosto, por el que se regula el Catálogo español de especies exóticas invasoras. Boletín Oficial del Estado, Sábado 3 de agosto de 2013, Núm. 185.
http://www.boe.es/boe/dias/2013/08/03/pdfs/BOE-A-2013-8565.pdf

RS 2012/043 New legislation on invasive alien species including plants in Spain
http://archives.eppo.int/EPPOReporting/2012/Rse-1202.pdf

Additional key words: invasive alien plants, legislation

Computer codes: ARDUN, BIKBA, CNERU, CSBHE, ELDNU, ESHCA, HELTU, HEYGA, HYDRA, NIOGL, NYMME, OXAPC, RIICO, SAOSC, SPUJU, ES

2013/228 Organization of training courses on the detection of alien flora in Gran Canaria (ES)

The Department of Nature Protection of the Government of Canarias (ES) organized in collaboration with the NGO 'Dracaena', training courses for citizens to recognize alien plants in the field. These courses were held on the 20th and 21st of September 2013. These training courses aimed to promote citizens' subsequent participation in the development of surveillance and management measures of invasive alien plants recommended in the framework of the Real Decreto 630/2013. A field trip was also organized in order to detect and map invasive alien plants present in the Tufia protected site.

Source: Gobierno de Canarias, Consejería de Educación, Universidades y Sostenibilidad Website

http://www.gobiernodecanarias.org/medioambiente/piac/_noticias/_detalles.html?uid=4d114d79-25d8-11e3-8729-005056a8406c

La invasión en el blog : invasiones biológicas en Canarias (2013) Primeras 'Jornadas de iniciación a la detección de flora exótica en la isla de Gran Canarias'. Un primer paso de un largo camino.
http://invasionesbiologicas.blogspot.com.es/2013/09/primeras-jornadas-de-iniciacion-la.html

Additional key words: invasive alien plants, training course, citizen science

Computer codes: ES

2013/229 *Ambrosia confertiflora*: addition to the EPPO Alert List

Why

Ambrosia confertiflora (Asteraceae) is a perennial herb native to northern Mexico and the southwestern United States. One of its English common names is 'burr ragweed'. This species has been introduced to Australia and Israel. *A. confertiflora* has severe agricultural and environmental impacts, and its pollen is a severe allergen. This species has a limited distribution in the EPPO region, and can be considered an emerging invader.

Geographic distribution

EPPO region: Israel.
North America: USA (native) (Arizona, California, Colorado, Hawaii (alien), Kansas, Nebraska, New Mexico, Oklahoma, Tennessee, Texas, Utah).
Central America and Caribbean: México (native) (Aguascalientes, Baja California Norte, Baja California Sur, Chihuahua, Coahuila, Colima, Durango, Guanajuato, Guerrero, Jalisco, México, Nuevo León, Querétaro, San Luis Potosí, Sinaloa, Sonora, Tamaulipas and Zacatecas), Puerto Rico (alien).
Oceania: Australia (alien) (New South Wales, Queensland, South Australia).

Note: In Israel, *A. confertiflora* began to spread in the Shechem area in central Samaria during the mid-1990s. It is now widespread in Samaria, especially along roads and in cultivated areas, but also in Nature Reserves such as wadi Qana. The plant spread westwards and is now present in the Emek Hefer area (Sharon region), where 480 ha of riverbanks along the Alexander river are already heavily infested. The plant also spread eastward along wadi Tirza and has reached the Northern Jordan Valley. Additional foci were recently discovered along the Yarkon River, on the Carmel mount, in the Haifa region, in the southern part of Yizre'el valley in lower Galilee, and in the south near Gadera and in the Ashdod area.
In Australia, the species was introduced into Queensland in 1950 and is confined to small colonies in the western Darling Downs and the Burnett Pastoral District. In New South Wales, populations occur on the Far Western and North Western Plains and on the Central Western Slopes, while in South Australia the species is only recorded in the surroundings of Adelaide.
The species has been reported as present in the Dominican Republic (alien), but this could not be confirmed.

Morphology

A. confertiflora is an erect perennial herb reaching 75-200 cm high, forming large stands from creeping runner-like roots that are part of a very dense root system concentrated in the upper soil layer extending down to a depth of 30 cm.

It has grey-green, bipinnate, fern-like leaves, 12-16 cm long and 10-15 cm wide. Flowers are yellow-green, and the species is monoecious. The female florets, without petals, form 1-flowered head, 5 mm long and 4 mm wide, clustered between the base of the upper leaves and the stems, and surrounded by a ring of spiny bracts. Male flowers are numerous and small, 1 cm in diameter, they consist of shortly stalked hemispherical heads (made up of many tiny male florets) which are grouped into branching spikes at the ends of the stems. In the male flowers, the bracts are not spiny and they are fused together. Fruits are achenes covered with 10-20 short, hooked spines, each containing one seed. The seeds are brown, woody, 3-4 mm in diameter.

Biology and ecology

A. confertiflora generally forms very dense stands and outcompetes many other plants. It reproduces from seeds and through vegetative propagation. The seeds germinate in autumn and the roots and runners are established during winter. Growth increases in spring and flower stems are produced in early summer. Flowering begins in mid-summer and continues until early autumn. The numerous spiny seeds are dispersed when they stick to the fur of mammals. Dispersal can also occur by flowing water, particularly during floods. Vegetative reproduction happens through adaptive buds found on spreading horizontal roots. The plants can renew themselves five weeks after mowing. The plant spreads very fast both vegetatively and through seeds and is considered to have the fastest rate of spread among land invasive alien plants in Israel. Aerial growth dies back in autumn.

Low winter temperatures, such as those found around the Mediterranean basin, do not seem to affect the plant's survival.

In which habitats

A. confertiflora occurs in various natural and disturbed habitats, including dry plains and semi-arid valleys, run-down pastures, cultivated orchards, avocado and date groves, along roadsides, river-banks, and wadi beds, in wastelands and other disturbed areas. According to the CORINE land cover classification, the following habitats are suitable for the plant: arable land, pastures, sclerophyllous vegetation (e.g. garrigue, maquis); inland wetlands (marshes, peat bogs); banks of continental water, riverbanks / canalsides (dry river beds), road and rail networks and associated land; other artificial surfaces (wastelands); green urban areas, including parks, gardens, sport and leisure facilities.

Pathways

A. confertiflora can spread naturally over short distances through creeping roots. The seeds can also be spread over long distances when the hooked spines attach to livestock and wild animals, or can be spread by water, especially during flooding, as the woody burr floats.

The plant is spread through human activities when seeds attach to clothing and other fibrous material (e.g. tents). Root fragments may also be spread over long distance as a contaminant of machinery and vehicles, in particular agricultural machinery. It is unknown how *A. confertiflora* arrived in Australia. Seeds of the species are suspected to have entered Israel as contaminants in seed mixes imported from the United States for feeding birds and pond fish.

Impacts

Ambrosia confertiflora forms very dense stands. The plant is also a serious pest in cultivated fields, citrus groves and orchards in general, competing for nutrients, interfering with the harvest. In addition, the plant is unpalatable to stock and excludes other pastures plant and can therefore reduce carrying capacity. The burrs of the plant contaminate wool and can lower its value.

The plant radically modifies the vegetation cover and consequently the whole ecosystem, readily suppressing understory native plants which results in environmental impacts, in particular in humid habitats and in pastures.
As with the other *Ambrosia* species, *A. confertiflora* produces a large amount of pollen considered to be severely allergenic, causing hay fever and contact dermatitis in susceptible people, although no report on this allergenic effect were found in Israel.
The plant also invades gardens and parks and is reported to disrupt their maintenance.

Control

A. confertiflora is not effectively controlled by cultural practices. In fact, cultural practices usually makes the infestation worse by spreading pieces of the perennial root and stimulating development of root buds. Mechanical control can even exacerbate the intensity of the invasion, as the plant regenerates very quickly after mowing. Uprooting may only be effective against very young plants as otherwise, the root remains in the soil and the plant regenerates. A study conducted in Israel showed that natural vegetation restoration along river banks with *Arundo donax* and *Arundo mediterranea* (Poaceae) successfully prevented *A. confertiflora* re-establishment in previously infested areas.
Herbicides such as glyphosate, triclopyr, and fluroxypyr are not very effective as the plant recovers quickly after the spraying. However, these herbicides are not registered for use in wetlands and riparian habitats. Though, herbicides have been recorded as providing satisfying results in controlling *A. confertiflora* in pastures in Australia. A recent experiment in Israel suggests imazapyr is effective in killing mature specimens of the burr ragweed.
No biological control agents have been tested so far against this species.

Source:

Australian Government, Weeds in Australia, *Ambrosia confertiflora*. http://www.environment.gov.au/cgi-bin/biodiversity/invasive/weeds/weeddetails.pl?taxon_id=15367

Australia's Virtual Herbarium, *Ambrosia confertiflora*. http://avh.ala.org.au/occurrences/search?taxa=ambrosia+confertiflora#tab_mapView

CONABIO, *Ambrosia confertiflora*. http://www.conabio.gob.mx/malezasdemexico/asteraceae/ambrosia-confertiflora/fichas/ficha.htm

Dufour-Dror JM (2012) Alien invasive plants in Israel. The Middle East Nature Conservation Promotion Association. ISBN 978-965-90292-2-8. 213 pp.

Flora of Israel online, *Ambrosia confertiflora*. http://flora.huji.ac.il/browse.asp?action=specie&specie=AMBCON

GBIF, *Ambrosia confertiflora* DC. http://www.gbif.org/species/3110654

Israel Ministry of Environmental Protection (Undated) *Ambrosia confertiflora*, Burr Ragweed, Information booklet. 7 p. http://www.sviva.gov.il/InfoServices/ReservoirInfo/DocLib2/Publications/P0701-P0800/P0707.pdf

Liogier A & Martorell L (2000) Flora of Puerto Rico and adjacent islands: a systematic synopsis, second edition revised, Editorial de la Universidad de Puerto Rico.

Parsons WT & Cuthbertson EG (2001) Noxious Weeds of Australia. CSIRO Publishing, ISBN 978-0643065147. 712 pp.

Pollenlibrary Website, *Ambrosia confertiflora* DC. http://pollenlibrary.com/Specie/Ambrosia+confertiflora/

Southern Tablelands and South Coast Noxious Plants Committee Website, Burr Ragweed. http://www.southeastweeds.org.au/index.pl?page=134

United States Department of Agriculture, Natural Resources Conservation Service, *Ambrosia confertiflora* DC. http://plants.usda.gov/core/profile?symbol=AMCO3

Victorian Resources Online, Department of Environment and Primary Industries. Impact Assessment Burr Ragweed (Ambrosia confertiflora) in Victoria.
http://vro.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/impact_burr_ragweed

Additional key words: invasive alien plant, alert list **Computer codes:** FRSCO

2013/230 First meeting of the COST European Information System for Alien Species (Ispra, IT, 2013-12-11/12)

This COST Action 'European Information System for Alien Species' or 'ALIEN Challenge' aims to facilitate data gathering and sharing through a network of experts, providing support to a European IAS information system which shall enable effective and informed decision-making in relation to IAS. The priority will be to identify the needs and formats required for alien species (AS) information by different user groups and specifically for implementation of EU 2020 Biodiversity Strategy. In addition, early warning tools and rapid response protocols will be developed. The work packages of this project are:

- Early warning and rapid response (EWRR): recommendations will be developed for rapid dissemination of IAS notifications within and between countries.
- Trends and analyses on pathways and priority species: innovative approaches to analysis of trends will be explored in relation to pathways of introduction and priority species for rapid response at various spatial scales.
- Trends and analyses on impacts of priority species: IAS impacts in Europe and impact assessment methods will be reviewed. This will allow standardized assessment methods to be proposed and to assess present and expected impacts of priority IAS species to support risk assessments in the framework of an EWRR system.
- Data standardisation and harmonization: guidelines will be developed for the collation of alien species information including (a) consensus on terminology, in coordination with the IUCN to avoid the risk of inconsistencies between the adopted terms at the European and global scale, and (b) identification of minimum and desirable data requirements for quality assurance.
- Communication: the COST Action will provide rapid and high quality information on IAS and the main beneficiaries from this research are 1) policy makers, government decision makers and non-governmental organizations (NGOs), 2) the general public and schools, 3) relevant industries, 4) researchers.

The first meeting of the ALIEN challenge will be held on the 11th and 12th of December 2013 in Ispra (IT).

Source: ALIEN Challenge (COST Action TD1209)
http://www.brc.ac.uk/alien-challenge/home

COST, European Cooperation in Science and Technology, FA COST Action TD1209, European Information System for Alien Species
http://www.cost.eu/domains_actions/fa/Actions/TD1209

Additional key words: invasive alien plants

2013/231 EPPO Training course on the EPPO prioritization process for invasive alien plants for the Balkan countries

EPPO organized a training course on the EPPO prioritization process for invasive alien plants attended by 30 participants from 7 Balkan countries (Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Serbia, Slovakia, Slovenia). This training course was organized along the same lines as the one held in Paris on 2013-03-12/14.
Participants also assessed, individually or in small groups, plant species of concern for their country, on which they had collected information before the meeting. The presentations of the following prioritization assessments are available online: *Acer negundo* (Sapindaceae) for the North of Serbia, *Ambrosia trifida* (Asteraceae) for Slovenia, *Asclepias syriaca* (Apocynaceae) for Vojvodina (autonomous province of Serbia), *Aster lanceolatus* (Astercaeae) for Serbia, *Buddleia davidii* (Scrophulariaceae, EPPO List of Invasive Alien Plants) for Croatia, *Carpobrotus* spp. (Aizoaceae, EPPO list of IAP) for Croatia, *Cuscuta campestris* (Convolvulaceae) for Serbia, *Fallopia japonica* (Polygonaceae, EPPO List of IAP) for Serbia, *Iva xanthifolia* (Asteraceae) for Serbia, *Opuntia humifusa* (Cactaceae) for Bulgaria, *Solanum elaeagnifolium* (Solanaceae, EPPO A2 List), *Xanthium spinosum* (Asteraceae) for Serbia.

Source: EPPO Webpage on the EPPO Training course on the EPPO prioritization process for invasive alien plants, Belgrade, 2013-07-09/11
http://archives.eppo.int/MEETINGS/2013_conferences/training_priorization.htm

Additional key words: invasive alien plants

Computer codes: 1CBSG, ACRNE, AMBTR, ASCSY, ASTLN, BUDDA, CVCCA, IVAXA, OPUHU, POLCU, SOLEL, XANSP, BA, BG, HR, MK, RS, SI, SK

2013/232 Outcomes of the EPPO/CoE/IUCN ISSG International Workshop 'How to communicate on pests and invasive alien plants?' (Oeiras, PT, 2013-10-08/10)

A joint EPPO/CoE/IUCN ISSG Workshop took place on 2013-10-08/10 in Oeiras in Portugal at the kind invitation of the Direcção-Geral de Alimentação e Veterinária (Portuguese Plant Protection Organization), the Centre for Functional Ecology (University of Coimbra) and the Agrarian School of Coimbra (Instituto Politécnico de Coimbra). The Workshop targetted civil servants, scientists, land managers, members of NGOs, journalists, and any other interested persons. It was attended by 65 participants from 25 countries (Australia, Belgium, Czech Republic, Denmark, Finland, France, Germany, India, Israel, Italy, Jersey, Kenya, the Netherlands, Portugal, the Russian Federation, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, United States).
The Workshop conclusions and all the presentations are available on the EPPO website.

Source: EPPO Webpage on the EPPO/CoE/IUCN ISSG International Workshop How to communicate on pests and invasive alien plants? Oeiras (PT), 2013-10-08/10
http://archives.eppo.int/MEETINGS/2013_conferences/communication_pt.htm

Additional key words: invasive alien plants

2013/233 Follow-up from the Seminar on International Trade and Invasive Alien Species

Following the Seminar on International Trade and Invasive Alien Species (IAS) in Geneva in July 2012 organized by the Standards and Trade Development Facility (STDF), in collaboration with the International Plant Protection Convention (IPPC) and the World Organisation for Animal Health (OIE), a study entitled 'International Trade and Invasive Alien Species' was elaborated and published in 2013. This study analyses key concepts relevant to Invasive Alien Species (IAS) and international trade in the context of the Convention on Biological Diversity (CBD) and the SPS Agreement, as well as in relation to the IPPC and the OIE. It considers various initiatives to enhance capacities for managing the entry and spread of IAS (including plant pests and animal diseases), reviews common challenges and good practices, and makes a number of targeted recommendations.

Source: International Trade and Invasive Alien Species, Standards and Trade Development Facility
http://www.standardsfacility.org/Files/IAS/STDF_IAS_EN.pdf

Standard and Trade Development Facility Website, Invasive Alien Species
http://www.standardsfacility.org/en/TAIAS.htm

Additional key words: invasive alien plants, international trade