ORGANISATION EUROPEENNE
ET MEDITERRANEENNE
POUR LA PROTECTION DES PLANTES

EUROPEAN AND MEDITERRANEAN
PLANT PROTECTION
ORGANIZATION

EPPO Reporting Service

NO. 10 PARIS, 2011-10-01

CONTENTS _____ ***Pests & Diseases***

_____ ***Invasive Plants***

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2011/210 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. Until 2008, these Standards were published as paper brochures but following numerous demands, the EPPO Secretariat has released, in February 2009, a new database which contains the whole series of EPPO PP1 Standards (more than 260 standards covering a wide range of crops and pests). In this new database, 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 2011.

Specific standards

- Anthracnose on olive (revision PP 1/67)
- *Cycloconium oleaginum* (revision PP 1/81)
- Foliar diseases on maize (PP 1/272) (new)
- *Pseudomonas syringae* pv. *tomato* and *Xanthomonas* spp. on tomato (PP1/273)(new)
- *Diabrotica virgifera virgifera*- larvae (revision PP 1/212)
- *Diabrotica virgifera virgifera*- adults (PP 1/274) (new)
- *Tuta absoluta* (PP 1/275) (new)
- Weeds in water-seeded rice (PP 1/62)
- Weeds in outdoor fruit vegetables (revision PP 1/118)
- Weeds in hop (revision PP 1/139)
- Reduction of lodging in water-seeded rice (revision PP 1/145)
- Control of suckers in grapevine (revision PP 1/161)
- Dwarfing of ornamental trees and shrubs (revision PP 1/183)
- Rooting of cuttings (revision PP 1/186)

General standards

- Guidance on Comparative Assessment (PP1/271) (new)

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.org

Source: EPPO Secretariat, 2011-12.

2011/211 First observation of *Drosophila suzukii* in Belgium

During the last week of November 2011, the finding of one male adult of *Drosophila suzukii* (Diptera: Drosophilidae – EPPO A2 List) was reported by a scientist in a private garden in Ostend, Belgium. The NPPO is carrying out a short PRA in order to determine further actions such as monitoring the relevant area. More detailed information will be provided by the NPPO as soon as possible.

Source: NPPO of Belgium (2011-11).

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

2011/212 First report of *Drosophila suzukii* in Mexico

As a result of a national surveillance programme, the presence of *Drosophila suzukii* (Diptera: Drosophilidae – EPPO A2 List) was detected for the first time in Mexico in 2011. *D. suzukii* was detected in the municipality of Los Reyes (State of Michoacan). Phytosanitary measures have been taken to eradicate the pest.
The pest status of *Drosophila suzukii* in Mexico is officially declared as: **Present, only in the municipality of Los Reyes, Michoacan, transient: actionable and under eradication.**

Source: NAPPO Phytosanitary Pest Alert System. Official Pest Reports. Mexico (2011-10-15) Detection of spotted-winged drosophila (*Drosophila suzukii* Matsumura) in the Municipality of Los Reyes, State of Michoacan, Mexico.
http://www.pestalert.org/oprDetail.cfm?oprID=507

Additional key words: new record **Computer codes:** DROSSU, MX

2011/213 *Drosophila suzukii* continues to spread in the USA and Canada

In mainland USA, *Drosophila suzukii* (Diptera: Drosophilidae – EPPO A2 List) was first detected in California in 2008 and subsequently in Oregon, Washington and Florida (see EPPO RS 2010/007). In 2010, it was found in Louisiana, North Carolina, South Carolina and Utah. In 2011, its presence was also reported from Maryland, Michigan, Montana, New Jersey, Pennsylvania, Virginia, and Wisconsin.
The situation of *Drosophila suzukii* in the USA can be described as follows: **Present, first detected in California in 2008, now recorded in California, Florida, Hawaii, Louisiana, Maryland, Michigan, Montana, New Jersey, North Carolina, Oregon, Pennsylvania, South Carolina, Utah, Virginia, Wisconsin, and Washington.**

In Canada, *D. suzukii* was first detected in 2009 in British Columbia (see EPPO RS 2010/007). The presence of the pest was then reported in Alberta, Manitoba, Québec and Ontario.
The situation of *Drosophila suzukii* in Canada can be described as follows: **Present, first detected in British Columbia in 2009, now recorded in Alberta, British Columbia, Manitoba, Ontario, and Québec.**

It is noted that although *D. suzukii* has been recorded from many US states and Canadian provinces, it has not established in all areas, and the main economic damage is restricted to the western part of North America.

Source: Hauser M (2011) A historic account of the invasion of *Drosophila suzukii* (Matsumura) (Diptera: Drosophilidae) in the continental United States, with remarks on their identification. *Pest Management Science* **67**(11), 1352–1357.

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http://www.agrireseau.qc.ca/petitsfruits/navigation.aspx?sid=1206

Additional key words: detailed record **Computer codes:** DROSSU, CA, US

2011/214 First report of *Bactrocera invadens* in Botswana

In 2010, the presence of *Bactrocera invadens* (Diptera: Tephritidae – EPPO A1 List) was detected for the first time in Botswana. 42 specimens were caught in traps (baited with cuelure and methyl-eugenol) which were located in several farms of the Chobe district (north of Botswana) and also at the Kazungula ferry border post (Zambezi River, adjacent to the borders with Namibia and Zimbabwe). Phytosanitary measures were taken and included: 1) a delimiting survey; 2) eradication procedures; 3) tracing-back studies to identify the source of infestation and try to prevent any further re-infestation; 4) prohibition to move host fruits from delimited areas.
The pest status of *Bactrocera invadens* in Botswana is officially declared as: **Transient, actionable, under surveillance.**

Source: IPPC website. Official Pest Reports – Botswana. First detection of *Bactrocera invadens* in Botswana (2010-09-30)
https://www.ippc.int/index.php?id=1110520&type=pestreport

Additional key words: new record **Computer codes:** BCTRIN, BW

2011/215 First report of *Bactrocera invadens* in South Africa

In South Africa, a national exotic fruit fly surveillance project has been implemented since 2006. A network of fruit fly traps was deployed as an early warning system to detect exotic fruit flies. Methyl-eugenol traps were placed in fruit production areas and potential points of entry (e.g. along roads near border points, urban areas close to municipal garbage dumps, hotels, sports grounds). In May 2010, the presence of *Bactrocera invadens* (Diptera: Tephritidae – EPPO A1 List) was detected for the first time in South Africa in the province of Limpopo (north of the country, bordering Botswana and Zimbabwe where the pest is also reported to occur).

In 2010, from May to July the following captures were made:
- 2 specimens in the northern part of Limpopo province (close to Zimbabwe)
- 2 specimens trapped near the Groblersbrug border post, Limpopo province (close to the Botswana)

Eradication measures were taken and as no further specimens were caught in these two areas, eradication was considered successful.

However, *B. invadens* was caught again in 2011. From March to July 2011, the following captures were made:
- 3 specimens in the Tshipise area, Limpopo province (close to Zimbabwe)
- 2 specimens in the Weipe area, Limpopo province (close to Zimbabwe)
- 2 specimens in the Groblersbrug area, Limpopo province (close to Botswana)

Eradication measures have been taken, and include the application of weekly protein bait sprays and the deployment of male annihilation blocks, as well as restrictions on the movements of fruits from demarcated areas.

The pest status of *Bactrocera invadens* in South Africa is officially declared as: **Transient - actionable, under eradication.**

Source: IPPC website. Official Pest Reports – South Africa.
https://www.ippc.int/index.php?id=1110520&type=pestreport
- First detection of *Bactrocera invadens* in South Africa (2010-05-24)
- Second detection of *Bactrocera invadens* in South Africa (2010-09-14)
- Eradication of *Bactrocera invadens* in the Northern Limpopo areas in South Africa (2010-11-24)
- Eradication of *Bactrocera invadens* in the Groblersbrug border post of South Africa (2011-05-04)
- Third detection of *Bactrocera invadens* in South Africa (2011-06-28)
- Fourth detection of *Bactrocera invadens* in South Africa (2011-07-27)
- Fifth detection of *Bactrocera invadens* in South Africa (2011-08-08).

Additional key words: new record **Computer codes:** BCTRIN, ZA

2011/216 Spread of *Polygraphus proximus* in Russia: addition to the EPPO Alert List

Polygraphus proximus (Coleoptera: Scolytidae) is a bark beetle originating from Asia (Far East) which mainly feeds on Far Eastern species of firs (*Abies firma, A. hollophylla, A. mariesii, A. nephrolepis, A. sachalinensis*). In its native range, which includes Northeastern China, Korean Peninsula, Japan and the Far East of Russia (Kurile and Sakhalin Islands, Primorye and Khabarovsk territories), *P. proximus* is a secondary pest attacking fresh logs and trees weakened by fires, storms, or other pests (e.g. *Monochamus* spp., *Polygraphus poligraphus*). But during the last decades the presence of *P. proximus* has been observed in the European part of Russia and in Siberia where it is causing tree mortality, in particular on Siberian firs (*A. sibirica*) in the taiga forests.
In European Russia, *P. proximus* was observed for the first time in 1999 on spruce (*Picea abies*) near St. Petersburg on the Baltic Sea coast but at that time this incursion was evaluated as a small incidental introduction. In 2006, *P. proximus* was detected in 5 distantly located places around Moscow infesting *A. sibirica* and *A. balsamea* trees in forest plantations along a main road ('Kurkinskoe highway', near Khimki, Moscow region). The insect was also found under the bark of fallen spruce trees (*P. abies*). Because mature beetles, larvae and pupae were observed under the bark of infested trees, it is considered that *P. proximus* has the capacity to multiply in the Moscow region.
In Siberia, the first occurrences of *P. proximus* were most probably unnoticed for a rather long period and probably took place in the mid-1990s in the Kemerovo region. In spring 2009, 2 outbreaks of *P. proximus* were observed in the taiga forests in the Krasnoyarsk territory (Bogotolskiy and Kozulskiy areas) in pure stands of *A. sibirica* (each outbreak

covering approximately 3 000 ha). At first, tree crowns looked healthy but trunks were coated with drops and streams of resin exuded from beetle entrance holes and in the following autumn, all infested trees were dead with yellow crowns. In June 2009, several *P. proximus* adults were also caught in pheromone traps near the city of Tomsk. These traps were located in *Pinus sibirica* stands to monitor *Ips sexdentatus* populations, and *P. proximus* was detected in 1 location where firs were present at a low density among pine trees. In 2011, the situation of *P. proximus* in Russia was briefly presented to the EPPO Panel on Quarantine Pests for Forestry. In particular, it was noted that the pest is causing significant damage to fir forests in Siberia where its outbreaks now cover approximately 30 000 hectares. The Panel considered that *P. proximus* represented a major threat to European and Siberian fir species and recommended its addition to the EPPO Alert List.

Polygraphus proximus (Coleoptera: Scolytidae – Sakhalin-fir bark beetle)

Why	*Polygraphus proximus* is a bark beetle, mainly feeding on firs (*Abies* spp.) which has been introduced from the Far East of Russia into the Western part of Siberia and European Russia. Currently, the pest has invaded Moscow and Leningrad regions in European Russia, and several areas in Siberia (Kemerov and Tomsk regions, Krasnoyarsk Territory – covering an area of approximately 30 000 ha). In Siberia, it has caused significant damage and tree mortality in forests of Siberian fir (*A. sibirica*). Because *P. proximus* may represent a major threat to European and Siberian fir species, the EPPO Panel on Quarantine Pests for Forestry recommended that *P. proximus* should be included in the EPPO Alert List.
Where	*Polygraphus proximus* is indigenous to Asia. It is commonly found in the Far East of Russia (including the Kuril Islands), Korea Democratic Peoples' Republic, Japan and the North-East of China. The native area of *P. proximus* more or less coincides with the distribution range of the Far Eastern species of *Abies*. **EPPO region:** Russia - Central Russia (introduced - Leningrad region in 1999, Moscow region in 2006), Eastern Siberia (introduced – Krasnoyarsk), Far East (native - Khabarovsk, Primorye, Sakhalin including the Kuril islands (Iturup, Kunashir, Shikotan)), Western Siberia (introduced – Kemerovo in the mid 1990s, Tomsk in 2009). **Asia:** China (North-East), Japan (Hokkaido, Honshu, Kyushu, Shikoku), Korea Democratic Peoples' Republic, Russia (Far East).
On which plants	In Asia, the major hosts of *P. proximus* are Far Eastern firs: *Abies nephrolepis*, *A. holophylla*, *A. mariesii*, *A. firma* and *A. sachalinensis*, but it can develop in other species of *Abies*. In Russia, it was found in *A. sibirica* and *A. balsamea*. In its native area, other recorded hosts are pine trees (*Pinus* spp., including *P. koraiensis*), larches (*Larix* spp.), hemlocks (*Tsuga* spp.), spruces (*Picea abies* and *P. ajanensis*). For the moment, there is no data on the host status of other *Abies* species grown in the EPPO region (e.g. *A. alba*). More information would also be needed on the damage this pest may cause to other conifers recorded as hosts.
Damage	*P. proximus* is a bivoltine species that produces subcortical galleries. In its natural habitats, this bark beetle does not cause tree mortality, unless trees are weakened by other biotic or abiotic factors. Its biological characteristics in new habitats in Europe are yet unknown, but in invaded areas in Siberia tree mortality has been observed. The crowns of newly infested fir trees initially look healthy, but trunks are fully covered by drops and streams of oleoresin exuded from beetle entry holes. On infested firs, the crown turns light brown-red and finally yellow when the trees die. Affected firs usually die 1-2 years after infestation. After tree death, needles and bark start to fall off and typical bark beetle galleries can easily be seen. Under the bark each nest consists of two to three female galleries up to 8 cm long, horizontally oriented. Larval galleries are vertically oriented along the tree trunk and reach 7 cm in length. In Siberia and European Russia, *P. proximus* is a primary pest, which can cause significant economic losses to forests. In addition to direct damage, *P. proximus* like other bark beetles, is associated with blue stain fungi which can cause wood

discoloration and necrosis of vascular tissues. In Japan, two new *Ophiostoma* species were isolated from *P. proximus* and infested *Abies* trees: *Ophiostoma aoshimae* sp. nov. and *Ophiostoma rectangulosporium* sp. nov. In Russia, the presence of *Ophiostoma aoshimae* was recently reported on *A. sibirica*, probably transferred by *P. proximus* from its natural range into Siberian forests. Further research is needed to better understand the relationships between *P. proximus* and blue-stain fungi, and to evaluate the pathogenicity of these fungi in areas where the insect has been introduced.

Dissemination — Because *P. proximus* may be hidden in the wood and therefore difficult to detect, it may be easily transported with conifer wood and wood products moving in trade. *P. proximus* could be transported as larvae, pupae or adults in round wood and wooden material with bark attached. The pest has been detected in traded wood (internal movement) by the Russian NPPO. As the adults can fly, they can ensure the pest spread over short distances, but no data is available on flying distances. The pest may also be carried as a hitchhiker on planting material.

Pathway — Wood and bark, wood products, plants for planting of host plants of *P. proximus* from countries where the pest occurs.

Possible risks — *Abies* species and other conifers are economically important forest and amenity trees in the EPPO region. Before 2009, there was no documented information on *P. proximus* in Siberia and it was generally believed that it could not develop on *A. sibirica*. The observation of two large outbreaks in Siberia (now covering 30 000 ha) in the taiga forest have clearly demonstrated that *P. proximus* could enter into new areas and damage species other than those reported in its native range. Although the pathway of introduction of *P. proximus* is not known, it is supposed that it has been introduced into Siberia during the mid-1990s with wood from the Far East. The possibility that *P. proximus* may transfer pathogenic fungi (e.g. *Ophiostoma* spp.) to living trees also adds to the risk. The aggressive and invasive behaviour observed in the forests of European Russia and Siberia indicate that *P. proximus* has the potential to become a serious pest of firs and possibly other conifers in the EPPO region and that it is desirable to prevent its further spread.

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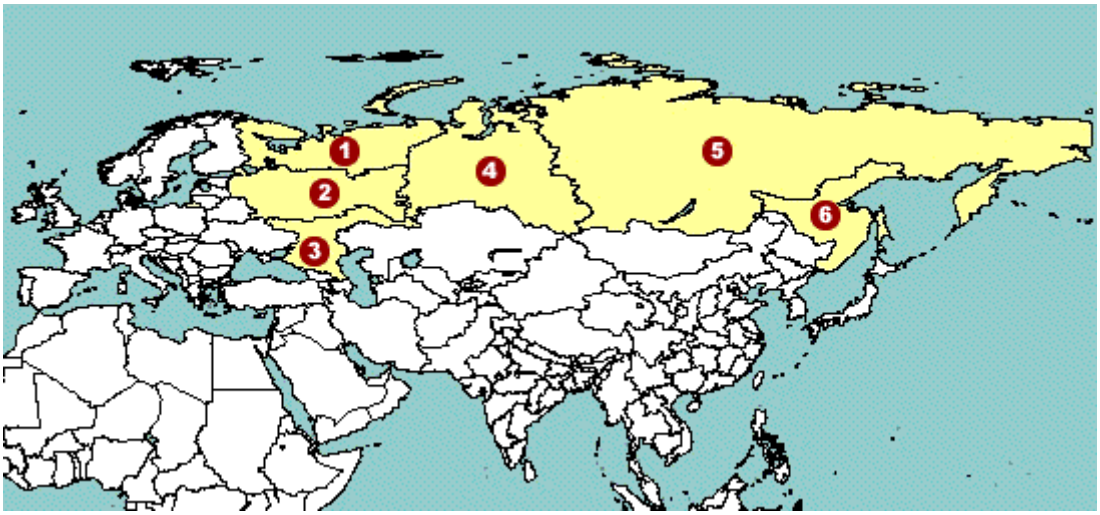
EPPO RS 2011/216
Panel review date - Entry date 2011-10

2011/217 Geographical distribution information for pests in Russia: an update

In EPPO RS 96/059, it was explained how the EPPO Secretariat stored information on the geographical distribution of pests in the Russian Federation. At that time six large units had been agreed with the Russian NPPO for reporting purposes: Northern, Central and Southern Russia; Western and Eastern Siberia; Far East. For each of these large regions, the federal administrative units (regions, territories and republics) covered were listed. In the new PQR version, the same system of six large regions has been kept (without any change in their 'borders'). But because new administrative units have been created since 1996, the EPPO Secretariat considered that it was necessary to update the list of federal units that are covered by each of these six large regions. For practical reasons, many of the Russian names have been simplified to keep geographical distribution lists short, but full names in English are also presented in the table below (last column).



EPPO reporting unit	Short name for PQR and RS	Type	Federal administrative units of Russia
Northern Russia (1)	Arkhangelsk	Region	Arkhangelskaya oblast
	Karelia	Republic	Kareliya
	Komi	Republic	Komi
	Murmansk	Region	Murmanskaya oblast
	Nenets	Autonomous area	Nenetsky avtonomny okrug
Central Russia (2)	Bashkortostan	Republic	Bashkortostan
	Bryansk	Region	Bryanskaya oblast
	Chuvashia	Republic	Chuvashia
	Ivanovo	Region	Ivanovskaya oblast
	Kaliningrad	Region	Kaliningradskaya oblast
	Kaluga	Region	Kaluzhskaya oblast
	Kirov	Region	Kirovskaya oblast
	Kostroma	Region	Kostromskaya oblast
	Leningrad	Region	Leningradskaya oblast
	Lipetsk	Region	Lipetskaya oblast
	Mari El	Republic	Marii El
	Mordovia	Republic	Mordoviya
	Moscow	City	Moskva
	Moscow Region	Region	Moskovskaya oblast
	Nizhny Novgorod	Region	Nizhegorodskaya oblast
	Novgorod	Region	Novgorodskaya oblast

EPPO reporting unit	Short name for PQR and RS	Type	Federal administrative units of Russia
Central Russia (2) (cont.)	Orel	Region	Orlovskaya oblast
	Penza	Region	Penzeskaya oblast
	Perm	Territory	Permskaya oblast
	Pskov	Region	Pskovskaya oblast
	Ryazan	Region	Ryazanskaya oblast
	Smolensk	Region	Smolenskaya oblast
	St. Petersburg	City	St. Petersburg
	Tambov	Region	Tambovskaya oblast
	Tatarstan	Republic	Tatarstan
	Tula	Region	Tulskaya oblast
	Tver	Region	Tverskaya oblast
	Udmurtia	Republic	Udmurtiya
	Ulyanovsk	Region	Ulyanovskaya oblast
	Vladimir	Region	Vladimirskaya oblast
	Vologda	Region	Vologdskaya oblast
	Yaroslavl	Region	Yaroslavskaya oblast
Southern Russia (3)	Adygeya	Republic	Adygeya
	Astrakhan	Region	Astrakhanskaya oblast
	Belgorod	Region	Belgorodskaya oblast
	Chechnya	Republic	Chechnya
	Dagestan	Republic	Dagestan
	Ingushetia	Republic	Ingushetiya
	Kabardino-Balkaria	Republic	Kabardino-Balkariya
	Kalmykia	Republic	Kalmykiya
	Karachaevo-Cherkessia	Republic	Karachaevo-Cherkessiya
	Krasnodar	Territory	Krasnodarsky krai
	Kursk	Region	Kurskaya oblast
	North Osetia-Alania	Republic	Severnaya Osetiya
	Orenburg	Region	Orenburgskaya oblast
	Rostov	Region	Rostovskaya oblast
	Samara	Region	Samaraskaya oblast
	Saratov	Region	Saratovskaya oblast
	Stavropol	Territory	Stavropolsky krai
	Volgograd	Region	Volgogradskaya oblast
	Voronezh	Region	Voronezhskaya oblast
Western Siberia (4)	Altai Republic	Republic	Altay
	Altai Territory	Territory	Altaisky krai
	Chelyabinsk	Region	Chelyabinskaya oblast
	Kemerovo	Region	Kemerovoskaya oblast
	Khakassia	Republic	Khakassiya
	Khanty-Mansi (Yugra)	Autonomous area	Khanty-Mansiysky avtonomny okrug
	Kurgan	Region	Kurganskaya oblast
	Novosibirsk	Region	Novosibirskaya oblast
	Omsk	Region	Omskaya oblast
	Sverdlovsk	Region	Sverdlovskaya oblast
	Tomsk	Region	Tomskaya oblast
	Tyumen	Region	Tumenskaya oblast
	Yamal-Nenets	Autonomous area	Yamalo-Nenetsky avtonomny okrug
Eastern Siberia (5)	Buryatia	Republic	Buryatiya
	Chukotka	Autonomous area	Chukotka avtonomny okrug
	Irkutsk	Region	Irkutskaya oblast
	Kamchatka	Territory	Kamchatkskaya oblast
	Krasnoyarsk	Territory	Krasnoyarsky krai
	Magadan	Region	Magadanskaya oblast
	Trans-Baikal	Territory	Zabayakalsky krai

EPPO reporting unit	Short name for PQR and RS	Type	Federal administrative units of Russia
Eastern Siberia (5) (cont.)	Tuva	Republic	Tyva
	Yakutia	Republic	Sakha (Yakutiya)
Far East (6)	Amur	Region	Amurskaya oblast
	Evrei	Autonomous area	Yevreyskaya avtonomnaya oblast
	Khabarovsk	Territory	Khabarovsky krai
	Primorye	Territory	Primorsky krai
	Sakhalin	Region	Sakhalinskaya oblast

Source: EPPO Secretariat (2011-11).

Additional key words: geographical distribution **Computer codes:** RU

2011/218 First report of *Aceria kuko* in Germany

The NPPO of Germany recently reported the presence of *Aceria kuko* (Acari: Eriophyidae) in Baden-Württemberg. This gall mite originates from south-east Asia (China, Japan, Republic of Korea, Taiwan) and has a limited host range which includes *Lycium barbarum*, *L. chinensis, Solanum nigrum* and *Capsicum annuum* (all Solanaceae). Its ability to feed on other Solanaceae is unknown. In Baden-Württemberg, *A. kuko* was found outdoors on 'Goji berry' plants (*Lycium* spp., and presumably in this case *Lycium barbarum*) which were grown in an orchard for fruit production. Affected plants showed leaf galls, and the mite was identified on the basis of its morphological characters.
The regional plant protection service of Baden-Württemberg is taking measures to eradicate *A. kuko*. Investigations are being carried out to trace the origin of the infested plants. It is suspected that they have been imported from China via other countries in Europe, and most probably through Internet sales.
The pest status of *Aceria kuko* in Germany is officially declared as: **Transient, actionable, under eradication.**

EPPO note: This is not the first time that the association of *A. kuko* with imports of Goji berry plants (berries are used for their nutrient richness and antioxidant qualities) is mentioned in the EPPO region. In 2008, the NPPO of the United Kingdom had also identified the pest on *Lycium* spp. plants which were all subsequently destroyed (see EPPO RS 2008/222).

Source: NPPO of Germany (2011-09).

Additional key words: new record **Computer codes:** ACEISP, DE

2011/219 First report of *Macrohomotoma gladiata* in Spain

The NPPO of Spain recently reported to the EPPO Secretariat the presence of *Macrohomotoma gladiata* (Hemiptera: Psyllidae) on its territory. This psyllid is now present in a limited number of places along the Spanish Mediterranean coast. *M. gladiata* is known to occur in Asia (Ryukyu Islands (Japan), Sumatra (Indonesia), and Taiwan) where it feeds on *Ficus microcarpa*. A brief description with pictures has been prepared by Dr Mifsud and Dr Porcelli and can be viewed on the EPPO website:
http://www.eppo.org/QUARANTINE/macrohomotoma_gladiata_ES/macrohomotoma_gladiata.htm

In Spain, the first outbreaks were detected on *F. microcarpa* in several localities in Islas Baleares (5 outbreaks in Mallorca and 1 in Ibiza). *M. gladiata* has also been detected on *F. nitida* in Alicante (Valencia), and on *F. microcarpa* in Murcia. Finally, 2 new outbreaks were detected on *F. microcarpa* in Barcelona (Cataluña). Control measures are being implemented to eradicate *M. gladiata* from the affected areas. In particular, phytosanitary treatment will be applied in winter and spring using different active substances (e.g. chlorpyrifos, cypermethrin).

Source: NPPO of Spain (2011-10).

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

2011/220 Presence of *Ditylenchus destructor* confirmed in Ontario, Canada

The NPPO of Canada has recently confirmed the presence of *Ditylenchus destructor* (EU Annexes) in garlic bulbs (*Allium sativum*) grown on a small farm in the Ottawa region, Ontario. Strict quarantine measures are being implemented on the affected property to prevent the spread of this nematode and include movement prohibitions on soil and restrictions on the end use of any harvested plant materials from the infested field. Investigations are being conducted to identify the possible source of this infestation and its extent.
The pest status of *Ditylenchus destructor* in Canada is officially declared as: **Present (only in some areas) and under official control.**

Source: NAPPO Phytosanitary Alert System. Official pest reports. Canada (2011-08-31) Potato rot nematode (*Ditylenchus destructor*) confirmed in Ontario, Canada. http://pestalert.org/oprDetail.cfm?oprID=501

Additional key words: detailed record **Computer codes:** DITYDE, CA

2011/221 First report of *Phytophthora lateralis* in Ireland

The NPPO of Ireland recently informed the EPPO Secretariat of the first report of *Phytophthora lateralis* (EPPO A2 List) on its territory. *P. lateralis* was detected in the county of Waterford (South-East Ireland) in one Lawson cypress (*Chamaecyparis lawsoniana*) growing alongside a road leading to a building accessed by the public. In Ireland, *C. lawsoniana* is a very minor forest species accounting for 0.7 % of forest tree cover but it is a widely planted ornamental species. Further survey work and sampling are on-going to delimit the infected area and determine appropriate phytosanitary measures.
The situation of *Phytophthora lateralis* in Ireland can be described as follows: **Present, first detected in 2011 in one tree of *Chamaecyparis lawsoniana*, under official control.**

Source: NPPO of Ireland (2011-10).

Additional key words: new record **Computer codes:** PHYTLA, IE

2011/222 Further detections of *Phytophthora lateralis* in the United Kingdom

In the United Kingdom, *Phytophthora lateralis* (EPPO A2 List) was detected for the first time in October 2010 in a park in Scotland (EPPO RS 2011/026). In March 2011, the disease was reported from other sites in Scotland (EPPO RS 2011/135). More recently, *P. lateralis* was found on *Chamaecyparis lawsoniana* trees in parks and gardens in England (Devon and Yorkshire) and in several forest sites in Northern Ireland (Tollymore Forest Park, Mourne, Somerset, Castlewellan, and Belvoir Forests). In addition to public forests, a small number of private sites with infected trees were also confirmed in Northern Ireland (county of Down). Phytosanitary measures are being taken to prevent any further spread of the disease.
The situation of *Phytophthora lateralis* in the United Kingdom can be described as follows: **Present, first detected in 2010 in Scotland, further findings (amenity and forest trees) in England and Northern Ireland, under official control.**

Source: INTERNET
Forestry Commission. http://www.forestry.gov.uk/plateralis
- News release no. 15023 of 2011-10-19. Urban tree disease found in England.
- News release no. 15149 of 2011-12-02. Yorkshire trees hit by new disease.

Northern Ireland Executive.
- New release of 2011-08-12. Operation underway to prevent spread of tree disease at Tollymore Forest Park. http://www.northernireland.gov.uk/index/media-centre/news-departments/news-dard/news-archive-dard-aug-11/news-dard-120811-operation-underway-to.htm
- New release of 2011-10-20. Further findings of Lawson cypress caused by the tree disease detected. http://www.northernireland.gov.uk/news-dard-201011-further-findings-of

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

2011/223 *Phytophthora ramorum* detected in the Czech Republic

The NPPO of the Czech Republic recently informed the EPPO Secretariat of 2 findings of *Phytophthora ramorum* (EPPO Alert List) on its territory in 2011. It is recalled that *P. ramorum* had been detected on imported plants on 2 previous occasions (on *Viburnum bodnantense* imported from Italy in 2003 (EPPO RS 2005/159) and on *Rhododendron* in 2009) but had been eradicated subsequently.
- In 2011, the first finding of *P. ramorum* was made on 1 plant of *Pieris japonica* in a large supermarket. The infected *P. japonica* belonged to a lot of 70 plants originating from the Netherlands, all of which had been sold by the supermarket to final consumers before an official inspection could be performed. Other potential hosts of *P. ramorum* were inspected but as no disease symptoms could be observed, no additional phytosanitary measures were taken.
- The second finding was made during an official inspection carried out in a garden centre. Symptoms were observed on 13 plants of *Rhododendron* spp., and diagnostic analysis following the EPPO diagnostic protocol PM 7/66(1) confirmed the presence of *P. ramorum*. The infected plants belonged to a lot consisting of 57 plants originating from the Netherlands. Most plants of this infected lot had been sold to final consumers before the inspection took place. Phytosanitary measures are being taken to eradicate *P. ramorum* in the premises of the garden centre, in accordance with EU Commission Decision 2002/757/EC.

The pest status of *Phytophthora ramorum* in the Czech Republic is officially declared as: **Transient, recorded in two premises in 2011, actionable, under eradication.**

Source: NPPO of the Czech Republic (2011-09).

EPPO (2006) EPPO Standards PM 7/66(1). Diagnostic protocol: *Phytophthora ramorum*. *Bulletin OEPP/EPPO Bulletin* **36**(1), 145-155. http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2338.2006.00927.x/pdf

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

2011/224 First report of *Elsinoë australis* in the USA

In July 2010, the presence of *Elsinoë australis* (EU Annexes) was reported for the first time from the USA. The fungus was detected on lemon (*Citrus limon*) and tangerine (*C. deliciosa*) trees in private gardens in Texas (Harris county). Subsequently, *E. australis* was detected in Louisiana, Mississippi, Florida, and Arizona, mainly on urban citrus trees. As of April 2011, the entire states of Arizona, Florida, Louisiana, Mississippi, and Texas were delimited as quarantine areas for *E. australis*, and phytosanitary measures are being taken to avoid any further spread of the disease.

- **Texas:** first detected in July 2010 in Harris county.
- **Louisiana**: first detected in August 2010, in a single lime tree (*C. aurantifolia*) in a private garden (Orleans Parish). Subsequent detection surveys showed that 14 additional parishes were infected by *E. australis*.
- **Mississippi**: first detected in October 2010 in fruit samples collected from private gardens (Pearl River, Hancock, Harrison Counties).
- **Florida:** first detected in December 2010 in 2 fruit samples from a grapefruit tree (*C. paradisi*) at a campground in Lakeland (Polk county) and a bitter orange tree (*C. aurantium*) at a residence in Weston (Broward county). Subsequently, *E. australis* was also detected in the following counties: Charlotte, Hillsborough, Indian River, Manatee, Orange, Palm Beach, Pinellas, and Sarasota.
- **Arizona**: first detected in January 2011 in a sample taken from a tangerine grove in Maricopa county, and shortly after in a lemon sample from Yuma county.

The pest status of *Elsinoë australis* in the USA is officially declared as: **Transient, actionable, and under surveillance.**

Source: NAPPO Phytosanitary Pest Alert System. Official Pest Reports. USA. http://www.pestalert.org/main.cfm
- Detection of sweet orange scab (*Elsinoë australis*) in Texas and Louisiana (2010-08-23)
- Detection of sweet orange scab (*Elsinoë australis*) in Mississippi (2010-12-03)
- Quarantine areas established for sweet orange scab (*Elsinoë australis*) (2010-12-23)
- Detection of sweet orange scab (*Elsinoë australis*) in Florida and Arizona (2011-01-21)
- Update for sweet orange scab (*Elsinoë australis*) in Florida and Arizona (2011-04-04)

Additional key words: new record **Computer codes:** ELSIAU, US

2011/225 Detection and eradication of *Fusarium foetens* in France

The French NPPO informed the EPPO Secretariat that in recent years *Fusarium foetens* (EPPO A2 List) has been detected twice in France but successfully eradicated.
In October 2007, *F. foetens* was detected for the first time on *Begonia elatior* plants in a nursery (Pays de la Loire region). The infected lot was destroyed. Tracing-back studies were carried out but the source of infection remained unknown, as all mother-plants tested negative.
In March 2010, *F. foetens* was detected again on *Begonia elatior* in a nursery located in Pays de la Loire region (but in another department). The whole lot was destroyed and the nursery premises were disinfected. The origin of this infection could not be traced-back. However, since then *F. foetens* has not been detected again in France, and the NPPO considers that the disease has been eradicated.
The pest status of *Fusarium foetens* in France is officially declared as: **Absent, pest eradicated.**

Source: NPPO of France (2011-10).

Additional key words: incursion, eradication **Computer codes:** FUSAFO, FR

2011/226 *Plum pox virus* detected in Aquitaine and Midi-Pyrénées (FR)

The NPPO of France recently informed the EPPO Secretariat of the detection of *Plum pox virus* (*Potyvirus*, PPV – EPPO A2 List) in two regions: Aquitaine and Midi-Pyrénées. The presence of PPV was detected for the first time in a nursery in Midi-Pyrénées region. Tracing-back studies showed that the PPV-infected material originated from another nursery in Aquitaine region which was also found to be infected. Further investigations will be carried out to determine the original source of this infection. Both nurseries were producing propagation material for the national (and even local) market, and no material belonging to the infested lots has been exported outside France. Phytosanitary measures are currently being taken: plant destruction, withdrawal of plant passports for the production sites concerned (i.e. all plots with propagation material of *Prunus* within a radius of 1000 m around the infected plot) for a minimum period of 3 years, intensive surveys in *Prunus*-growing plots within a radius of 2500 m around the infected sites, and testing of asymptomatic plants.

Source: NPPO of France (2011-09).

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

2011/227 *Plum pox virus* detected in Denmark

In Denmark, *Plum pox virus* (*Potyvirus*, PPV – EPPO A2 List) was detected for the first time in 1986 and subsequently eradicated. From 2008 to 2010, annual surveys were carried out. All Danish nurseries and garden centers were inspected twice a year and trees were sampled (at random and when suspicious symptoms were observed). As a result, PPV was detected in 5 sites (4 nurseries and 1 garden centre) during that period. Tracing back studies showed that some PPV infections were linked to imports from other EU member states and that one could be traced back to one Danish orchard. Eradication measures have been taken in all infected sites.
The pest status of *Plum pox virus* in Denmark is officially declared as: **Transient: actionable, under eradication.**

Source: IPPC website. Official Pest Reports – Denmark. Plum pox virus finding in Denmark (2011-06-24). https://www.ippc.int/index.php

Additional key words: detailed record **Computer codes:** DK

2011/228 First record of *Amaranthus palmeri* in Cataluña (Spain)

Amaranthus palmeri (Amaranthaceae) is native to Western North America, and has colonized field crops such as soybean, cotton and other disturbed sites (wastelands) in the eastern part of North America. The species is dioecious, and can reach 0.5 to 1.5 m tall. In 2007, *A. palmeri* was found for the first time in Lleida (Cataluña) in North-Eastern Spain, at the margin of a maize field. The species had previously been recorded in Andalucía at the port of Sevilla and in Palos de la Frontera (province of Huelva) in the vicinity of industrial premises where seeds and plant products are processed. In Europe, *A. palmeri* is recorded as established in Cyprus, Norway, Portugal (Madeira) and is reported as rare in Denmark, Latvia, and Sweden.
The spread of this species and its potential impact on crops and resistance to herbicides should be explored.

Source: Recasens J, Conesa JA (2011) Presencia de la mala hierba *Amaranthus palmeri* en el NE de la Península Ibérica. Una amenaza como potencial invasora de cultivos extensivos de regadió. *Boletín de Sanidad Vegetal Plagas* **37**, 129-132.

Additional key words: invasive alien plants, detailed record **Computer codes:** AMAPA, ES

2011/229 Historical aspects of commercial weed invasions in Australia

Weeds cost Australia 3.5-4.5 billion Australian dollars annually in loss of crop production and control costs, and also cause severe impacts to the environment. The garden/ornamental industry is a major pathway of introduction. By 2004, approximately 25 160 exotic plant species had been introduced to Australia via the ornamental horticulture industry, of which 1366 species naturalized and became weeds. While this represents only 5% of the species introduced by this industry in Australia to date, 56% of all weed species in Australia were introduced through horticulture.
Examples of species introduced through this pathway include some Weeds of National Significance: *Asparagus asparagoides* (Asparagaceae), *Cabomba caroliniana* (Cabombaceae, EPPO List of Invasive Alien Plants), *Chrysanthemoides monilifera* (Asteraceae), *Cryptostegia grandiflora* (Periplocoideae), *Lantana camara* (Verbenaceae), and *Salvinia molesta* (Salviniaceae, EPPO Alert List). State governments are well aware of the problem and are now working with the association 'Nursery and Garden Industry Australia'.
Botanical gardens have also played a role in the introduction and dispersal of weeds. *Rubus fruticosus* (Rosaceae) and *Mimosa pigra* (Fabaceae) are two Weeds of National Significance reported to originate from collections of the Melbourne and Darwin botanical gardens, respectively. An Australian Botanical Gardens Weed Network has been developed (75 member organizations) to prevent the introduction and dissemination of known weeds from botanical gardens collections, among other tasks.
Agriculture has also been a significant source of weeds: *Hymenachne amplexicaulis* (Poaceae) was introduced into Queensland as a fodder plant and is now declared as a Weed of National Significance, threatening the Queensland sugar industry; *Andropogon gayanus* (Poaceae) was introduced as a fodder species for the beef industry in Queensland and became a serious environmental weed enhancing fire risk. It is estimated that approximately 18% of the 1300 plant species introduced into Australia for agricultural production (cropping, pasture and forestry) have become weeds.
Another significant source of weed entry is by accidental introduction. The Australian Quarantine and Inspection Service (AQIS) employs 3300 staff members who check 150 million items, 11.9 million air passengers, 1.8 million cargo containers and 13 000

international vessels each year. It is estimated that 61% of plant species introduced into Australia by accidental importation (640 species) became weeds. Such data highlights the importance of border security and the need to pay particular attention to agricultural produce shipments.
Another issue of concern is the role of Internet sales in spreading weeds. The size of the e-commerce of the plant and seed industry is very difficult to quantify due to its global nature, but a quick search using the following "generic terms" resulted in 15 million pages being found for "mail order plants", and 5 million pages being found for "mail order seeds". E-commerce may have accounted for 0.8% of the total Australian retail plant market in June 2004. Attempts have been made in America to develop a "do not sell list" for E-commerce. This has nevertheless proven to be a failure as those who failed to comply could gain an economic advantage over those who did comply. The Agricultural Internet Monitoring System (AIMS) represents an alternative approach involving an internet surveillance tool developed and implemented in the USA. AIMS is successful in identifying, monitoring, and engaging with websites and on-line traders who are proposing declared noxious weeds for sale. The tool has been recommended for adoption in Australia and other countries.

Source: McLaren DA (2008) Historical aspects of commercial weed invasions – perennial grass case studies. *Plant Protection Quarterly* **23**, 9-13.

Additional key words: invasive alien plants, pathways **Computer codes:** ASPAS, CABCA, CSMMO, CVRGR, HYVAM, LANCA, MIMPI, RUBFR, SAVMO, AU

2011/230 Pathways of introduction: unintentionally introduced species as a threat to natural areas

Understanding the dimensions of pathways of introduction of alien plants is important to regulate species invasions. Among 1007 neophyte species recorded in the Czech Republic, 93 (6.7%) were released into the wild (from horticulture), 599 (43.1%) are escapes from cultivation, 443 (31.9%) were introduced unintentionally as contaminants and 254 (18.1%) were introduced as stowaways. These numbers reflect the fact that some species were introduced by multiple pathways.
Species released into the wild were more likely to be trees and shrubs than other life forms. The probability of a species to be introduced by escape from the cultivation pathway was generally lower for grasses than other species. It was also higher for perennials than for annuals, but for both the probability increased with longer residence time. The probability for a species to be introduced as a contaminant was high for annuals.
The 4 pathways differ strikingly in the number of species introduced that became naturalized or invasive, and are presented in the table below:

Pathway	Percentage of naturalized species	Percentage of invasive species
Deliberate releases	45.1%	20.4%
Escapes from cultivation	25.9%	7.7%
Contaminants	17.2%	5.2%
Stowaways	19.7%	5.1%

Deliberate releases thus yielded more invasive species.
It was also noted that the naturalized species introduced as contaminants were recorded in significantly more semi natural habitats than those introduced by other pathways.

As a consequence, invasions by unintentionally introduced plant species need to be considered by management as seriously as those introduced by horticulture, because they invade a wide range of semi natural habitats, hence representing an even greater threat to natural areas.

Source: Pyšek P, Jarošik V, Pergl J (2011) Alien plants introduced by different pathways differ in invasion success: unintentional introductions as a threat to natural areas. *Plos One* **6**, 24890.

Additional key words: invasive alien plants, pathways **Computer codes:** CZ

2011/231 Building green lists of ornamental plants

Ornamental horticulture is the most important pathway for plant invasion worldwide. Legislative measures are often limited to the listing of a few high-risk species banned from sale or planting. Such an approach may however give the impression that non-listed species are not considered to be a risk and are therefore safe to use.
A green list of non-native ornamental species assessed as having a low risk of escaping from cultivation could contribute to the prevention of plant invasions. The criteria identified for non-invading species to be listed in a green list include:
- sufficiently long residence time, which should be a minimum of 125 years for Britain (as it exceeds the average lag times for species introduced from the 18th century onwards);
- high propagule pressure, which can be assessed for a species through marketing time, planting frequency in a sample of gardens, volume, market frequency and plant and seed prices;
- no records of invasive behaviour elsewhere, assessed by consulting various existing invasive alien plant databases such as DAISIE;
- some robustness to climate change, assessed through the hardiness information for ornamental species in the gardening literature.

Such criteria have been applied to a random sample of 534 non-native ornamental species in Britain. It appears that 13 species represent good candidates for a British green list, these species are the following: *Amsonia tabernaemontana* var. *salicifolia* (Apocynaceae), *Baptisia australis* (Fabaceae), *Campanula thyrsoides* (Campanulaceae), *Campsis grandiflora* (Bignoniaceae), *Clematis integrifolia* (Ranunculaceae), *Dictamnus albus* (Rutaceae), *Eryngium alpinum* (Apiaceae), *Francoa sonchifolia* (Francoaceae), *Globularia cordifolia* (Plantaginaceae), *Helleborus lividus* (Ranunculaceae), *Lobelia cardinalis* (Campanulaceae), *Scabiosa graminifolia* (Caprifoliaceae) and *Tricyrtis hirta* (Asparagaceae).

Although only a small percentage of species met the criteria for a green list, the case study was based on a random sample of species offered in 19th century horticultural catalogues, many of which are not very popular today. Most species assessed then did not pass the high propagule pressure criterium as they had only been sold in small quantities in the past. Starting with species popular today, which could be proposed by the horticultural industry, would probably result in more species meeting the criteria.
This list could be particularly useful in large-scale planting and landscaping projects. The approach is seen as a possible complementary policy to existing invasive species policies.

Source: Dehnen-Schmutz K (2011) Determining non-invasiveness in ornamental plants to build green lists. *Journal of Applied Ecology* **48**, 1374-1380.

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Additional key words: invasive alien plants

Computer codes: AMVTA, BAPAU, CLVIF, CMIGR, DCMAL, ERXAL, GLBCO, HLLLC, LOBCA, SCBGR, TCYHI

2011/232 *Andropogon virginicus* in the EPPO region: addition to the EPPO Alert List

Why

Andropogon virginicus (Poaceae) is a perennial grass native to North and Central America. One of its English common names is "broomsedge". This species has been introduced into other continents; for example it has naturalized in Australia, New Zealand, and Japan. Prior to 2006, the only report from the EPPO region was in Russia. In 2006, it was first found in France in a military camp ('Camp du Poteau' – located partly in Gironde and Landes departments). Because the population of *A. virginicus* has multiplied significantly in the infested area in France (from 2 to 500 plants in two years) and the species is considered to be invasive in other parts of the world, the French NPPO suggested adding *A. virginicus* to the EPPO Alert List.

Geographical distribution

EPPO region: France, Russia.
North America (native): Canada (Ontario), Mexico, USA (Alabama, Arkansas, California (alien), Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii (West Maui - alien and invasive), Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, North Carolina, New York, New Jersey, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia).
Central America and Caribbean (native): Bahamas, Belize, Bermuda, Costa Rica, Cuba, Dominican Republic, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Puerto Rico, Trinidad and Tobago.
South America: Colombia.
Asia: Japan.
Oceania: Australia (New South Wales, Queensland, Victoria), French Polynesia, New Zealand.

Note: in France, the species has been found in 2006 on the military camp of "Camp du Poteau" (Landes and Gironde departments) and has also been recorded in Arjuzanx (Landes).

Morphology

This perennial bunchgrass has tufted stems and can reach 40-210 cm high. The leaf blade is approximately 40 cm long, and 2-5 mm wide. Ligules are yellow-brown, membranous, truncate with a white-fringe at the edge. Inflorescence branches emerge at upper nodes with 2-4 racemes 3-4 cm long, covered with silky hairs. Spikelets are sessile, 3-4 cm long.

Biology and ecology

A. virginicus is found on a wide range of soils, including infertile soils (low in nitrogen or phosphorus) where it acts as a long lived competitor. It may also grow in soils polluted with heavy metals. Vegetative growth begins in the winter or spring when the daytime temperatures average 15-18°C. *A. virginicus* has an average life span of 3-5 years, and

flowering begins when plants are 2-3 years old and continues thereafter. Flower stalks form by September and seeds ripen by late October. Dispersed seeds readily establish on exposed soils, germination levels being relatively high after cold stratification. At the end of the growing season, nearly all green material dies, leaving a large accumulation of standing dead material. Surviving burned plants quickly grow back and the cover of the species therefore increases after fires. The species can also colonize ephemeral wetlands, and is considered to be resistant to waterlogging. It is also reported to be drought and frost tolerant and to be hardy to zone 6 (-20°C).

In which habitats
In its native range, *A. virginicus* grows in grasslands, degraded pastures, abandoned agricultural land, quarries, and open woodlands. Where introduced, the species also colonizes recently burnt areas, wetlands, as well as open and dry habitats.
According to the Corine Land Cover nomenclature, the following habitats are invaded: pastures, natural grassland, conifer forests, mixed forests, broad-leaved forests, banks of continental water, inland wetlands (marshes, peat bogs), road and rail networks and associated land, other artificial surfaces (wastelands).

Pathways
In France, it is suspected that *A. virginicus* was introduced into the military camp with NATO munitions in the years 1950-1967. In Australia, seeds of *A. virginicus* are also reported to be spread through the movement of hay and livestock.
The fine achenes of the species are spread naturally by wind, by floating on water and can also adhere and be transported by waterfowl, on wool, fur or on people's clothes. The species is also likely to be spread by machinery. Concerning its natural spread potential, in 2 years the population of *A. virginicus* found in France increased from 2 plants to more than 500.

Impacts
A. virginicus forms monospecific populations and releases persistent allelopathic substances, out-competing other species. This species produces abundant material that increases risks of fires in late summer. It is also considered unpalatable and of low forage value. However as the species is mainly reported to invade poorly managed and/or marginal areas of pastures, the pastoral impact is thought to be minor. As seeds can catch in wool, they may be recognised as minor contaminants.
On steep hillsides, in particular on islands, as the species is dormant during the rainy season, its presence has led to increased erosion.

Control
The species does not tolerate close continuous grazing after mowing. To reduce its abundance, pastures should be heavily grazed in early spring when *A. virginicus* is most palatable, and then not grazed for 60 to 90 days. In Missouri (US), a combination of planting tall grasses, fertilization, winter mowing and grazing eliminated *A. virginicus* after 4 years.
Effective control has also been achieved through the use of diverse phytosanitary products, although glyphosate on intact old growth was not effective, it provided satisfying results after removal of old growth (e.g. after fire).

Source: Granereau G, Verloove F (2010) Une poacée invasive nouvelle pour la France : *Andropogon virginicus* (Andropogoneae, Poaceae). *Bulletin de la Société Linnéenne de Bordeaux* **145**, 417-421.

Global Invasive Species Database, *Andropogon virginicus*. http://www.issg.org/database/species/ecology.asp?si=200&fr=1&sts=&lang=EN

NOBANIS Database http://www.nobanis.org/

NPPO of France (2011-11).

Pacific Island Ecosystems at Risk (PIER), *Andropogon virginicus*

http://www.hear.org/pier/species/andropogon_virginicus.htm

Royaud A (2010) Note complémentaire sur l'*Andropogon virginicus* s. l. : découverte à Arjuzanx (Landes). *Bulletin de la Société Linnéenne de Bordeaux* **145**, 422.

Uchytil RJ (1992) *Andropogon virginicus*. In: Fire Effects Information System. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer).

http://www.fs.fed.us/database/feis/plants/graminoid/andvir/all.html

Victorian Department of Primary Industries (Undated) Invasiveness Assessment – Whiskey grass (*Andropogon virginicus*) in Victoria.
http://land.vic.gov.au/dpi/vro/vrosite.nsf/pages/invasive_whiskey_grass
Impact Assessment - Whiskey grass (*Andropogon virginicus*) in Victoria
http://www.land.vic.gov.au/dpi/vro/vrosite.nsf/pages/impact_whiskey_grass

Additional key words: invasive alien plant, alert list **Computer codes:** ANOVI, FR, RU

2011/233 Workshop on control projects of invasive species in rivers and wetlands, Valencia (ES), 2012-01-31

The General Directorate Environment of the Regional Government of Valencia will organize a one-day workshop on control projects for invasive species in rivers and wetlands in Valencia (Spain) on the 31st of January 2012. The workshop will examine progresses achieved in the management of invasive organisms in continental waters, and the difficulties encountered in order to explore new possibilities for action. Some talks will be in English, others in Spanish. Enquiries should be sent to: invasoras@gva.es

Source: EPPO Secretariat (2011-10).

Additional key words: invasive alien species, workshop **Computer codes:** ES

2011/234 2nd International Ragweed Conference, Lyon (FR), 2012-03-28/29

The 2nd International Ragweed Conference will be held in Lyon (FR) on 2012-03-28/29 and will focus on the theoretical and practical aspects of the spread of *Ambrosia artemisiifolia* (Asteraceae, EPPO List of Invasive Alien Plants – ragweed). Basic research together with field application will be considered, along with modeling studies leading to innovative approaches. The number of participants is limited to 100. Titles of abstracts are due by 2011-12-15, complete abstracts by 2012-01-15.
Additional information is available at: www.ambrosia2012.eu

Source: EPPO Secretariat (2011-10).

Additional key words: conference **Computer codes:** AMBEL, FR