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2012/160 New isolated outbreak of *Anoplophora glabripennis* in the Netherlands

On 2012-07-10, the presence of *Anoplophora glabripennis* (Coleoptera: Cerambycidae - EPPO A2 List) was confirmed in 1 street tree (*Acer platanoides*) in a residential area of a small town (Winterswijk) in the Netherlands. This finding was initially reported to the NPPO by a member of the public on 2012-07-09. On this tree (8 m high, 14 cm diameter), 40 exit holes (22 recently formed, others were at least 3-years old), and 12 larvae were observed. In addition, 16 live adult beetles were captured in its immediate vicinity. The most likely source of this outbreak is wood packaging material from China. The tree was located near a private home where the paving was renewed in 2007 and 2008 with granite stones imported from China. Phytosanitary measures have been taken including the delimitation of a clearcut area of relevant host plants (100 m radius). Following the destructive sampling of all relevant host plants within a radius of 100 m surrounding the finding, no other infected plants or signs of *A. glabripennis* have been detected. Specific surveillance in a 500 m zone has been completed and surveillance in the 500-1000 m zone is ongoing. It is also noted that there are no tree nurseries in the delimited area of 1 km radius surrounding the finding. Restrictions on the movement of host plant material have also been imposed. Finally, a communication campaign is taking place to explain the measures taken, to raise public awareness and encourage members of the public to report any sign of the pest. This is the second outbreak of *A. glabripennis* in the Netherlands. The first outbreak took place in 2010 in an industrial area of the city of Almere (RS 2010/020), and was eradicated in 2011 (RS 2011/050). It is considered that these two outbreaks are not related, as they are more than 150 km apart. The pest status of *Anoplophora glabripennis* in the Netherlands is officially declared as: **Transient - isolated outbreak, under eradication.**

Source: NPPO of the Netherlands (2012-08).

Additional key words: detailed record

Computer codes: ANOLGL, NL

2012/161 *Rhynchophorus ferrugineus* found in Vaucluse department (FR)

The NPPO of France recently informed the EPPO Secretariat of the occurrence of *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae - EPPO A2 List) in the department of Vaucluse (Provence-Alpes-Côte d'Azur region). In 2012-06-06, one beetle was caught in a trap located in the municipality of Cavaillon. This trap was part of the official trapping network of Provence-Alpes-Côte d'Azur region deployed in non-agricultural land and ornamental nurseries. It is supposed that this beetle had emerged from surrounding palm trees or from a nearby garden centre. Inspections are being carried out on the premises of the garden centre, as well as in the surroundings to delimit the extent of the infestation. This is the first time that *R. ferrugineus* is detected in the Vaucluse department. The pest status of *Rhynchophorus ferrugineus* in France is officially declared as: **Present, under eradication.**

Source: NPPO of France (2012-07).

Additional key words: detailed record

Computer codes: RHYCFE, FR

2012/162 *Diabrotica virgifera virgifera* found for the first time in Ardèche, Drôme, Vaucluse and Var (FR)

The NPPO of France recently informed the EPPO Secretariat of the first record of *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae - EPPO A2 List) in the departments of Ardèche, Drôme (Rhône-Alpes region), Vaucluse and Var (Provence-Alpes-Côte d'Azur region). During the annual official survey on *D. virgifera virgifera*, adult beetles were caught in 4 pheromone traps located in maize fields in these 4 departments. For the moment, only 1 beetle has been caught in each of the traps, but the trapping campaign is still ongoing. The identification of the 4 specimens caught was done by the French reference laboratory in July and August 2012. No damage has been observed in the maize crops where the beetles have been caught. In accordance with EU Decision 2008/644/EC (and French legislation), phytosanitary measures have been taken against the pest.

The pest status of *Diabrotica virgifera virgifera* in France is officially declared as: **Present, restricted distribution.**

Source: NPPO of France (2012-08).

Additional key words: detailed record

Computer codes: DIABVI, FR

2012/163 Update on the situation of *Diabrotica virgifera virgifera* in the Czech Republic

The NPPO of the Czech Republic recently informed the EPPO Secretariat that *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae - EPPO A2 List) has been found outside the delimited zones (infested zones and buffer zones). In summer 2012, 1 male beetle was caught in the district of Klatovy and 48 male beetles were caught in the district of Semily (in pheromone traps placed in maize fields). Phytosanitary measures were applied in accordance with EU Decision 2008/644/EC.

The situation of *Diabrotica virgifera virgifera* in the Czech Republic can be described as follows: **Present, restricted distribution, under official control.**

Source: NPPO of Czech Republic (2012-08).

Additional key words: detailed record

Computer codes: DIABVI, CZ

2012/164 First report of *Globodera pallida* in Slovenia

During an official survey on potato cyst nematodes carried out in autumn 2011 in Slovenia, *Globodera pallida* (EPPO A2 List) was detected in 1 soil sample. This infested soil sample (containing 2 viable cysts) had been collected from a ware potato field near Ivančna Gorica (central Slovenia). Following this initial finding, 69 additional samples were collected from the surroundings and viable cysts of *G. pallida* were found in 5 samples taken from 2 neighbouring fields (one of grassland and the other from clover). As a result, 3 fields (1.9 ha) were declared infested and eradication measures are being taken against *G. pallida*. It is suspected that *G. pallida* was introduced via infested ware potatoes, as a ware potato processing facility is situated in very close proximity to the infested fields. It is noted that this processing unit regularly imports ware potato from countries where the

nematode occurs, and that waste waters from potato tuber washing have been discharged onto the grassland field.

The situation of *Globodera pallida* in Slovenia can be described as follows: **Present, first found in 2011 in 3 fields (1.9 ha), under eradication.**

Source: Širca S, Geric Stare B, Strajnar P, Urek G, Miklič Lautar I (2012) First report of the pale cyst nematode *Globodera pallida* from Slovenia. *Plant Disease* 96(5), p 773.

Additional key words: new record

Computer codes: HETDPA, SI

2012/165 *Xylella fastidiosa* detected in a containment facility in France

In April 2012, *Xylella fastidiosa* (EPPO A1 List) was identified on *Coffea* spp. plants kept under confinement by a breeding company which regularly imports plant cuttings, in particular from South America where the bacterium is known to occur. The bacterium was detected during tests carried out at the initiative of the breeding company itself. 84 samples collected from 84 plants had been sent to a private laboratory. Out of the 84 samples, 5 tested positive by ELISA. These positive samples were tested by PCR for confirmation by the French official reference laboratory. The presence of *X. fastidiosa* was confirmed in 1 sample. The French NPPO then collected additional samples from 20 plants and the presence of the bacterium was finally confirmed in 3 plants. Strict eradication measures were taken: all 84 plants kept in the containment facility were destroyed, the premises were disinfected, visual inspections and tests (of asymptomatic plants) were conducted in all glasshouses of the breeding company, and the infrastructures of the containment facility were audited. No further detections of the bacterium were made on the premises of this breeding company. In June 2012, the NPPO considered that the bacterium has successfully been eradicated. It is also underlined that this detection should not be interpreted as an outbreak, as *X. fastidiosa* was only detected on *Coffea* plants imported for scientific purposes and kept under confinement. Finally, the NPPO noted that earlier interceptions of *X. fastidiosa* have been made on plant material imported for scientific purposes (in the framework of EU Directive 2008/61) and kept in the French quarantine station, and that an express PRA on *X. fastidiosa* is currently being carried out. The pest status of *Xylella fastidiosa* in France is officially declared as: **Absent, intercepted only.**

Source: NPPO of France (2012-07).

Additional key words: interception, eradication

Computer codes: XYLEFA, FR

2012/166 First report of 'Candidatus Liberibacter asiaticus' in Dominica

The presence of citrus huanglongbing, associated with 'Candidatus Liberibacter asiaticus', (EPPO A1 List) has recently been confirmed in Dominica. Official measures will be implemented to prevent any further spread of the disease. In particular, biological control measures will be applied against the insect vector (*Diaphorina citri*), and restrictions on the movement of citrus planting material will be implemented, as well as a strict certification system.

The situation of '*Candidatus Liberibacter asiaticus*' in Dominica can be described as follows: **Present, first found in 2012, under official control.**

Source: INTERNET (via EPICA, Exotic Pest Information Collection and Analysis, USA) Government of the Commonwealth of Dominica. Government Information Service (2012-05-31) Government takes measures to manage citrus greening disease. <http://news.gov.dm/index.php/news/4-headline-news/167-government-takes-measures-to-manage-citrus-greening-disease>

Additional key words: new record

Computer codes: LIBEAS, DO

2012/167 Updated situation of '*Candidatus Phytoplasma mali*' in Norway

In Norway, '*Candidatus Phytoplasma mali*' (associated with apple proliferation - EPPO A2 List) was detected for the first time in 1996. In 2009, regular surveys were initiated (see also EPPO RS 2011/133 which presented the results for the period from October 2009 until March 2011). In 2011, an official survey was conducted in 46 commercial orchards and 34 private gardens on *Malus* spp. (mainly *Malus domestica*). In total, 250 samples were tested (by PCR) and 139 were found to be infected. '*Ca. P. mali*' was detected in several municipalities in the following counties:

- Buskerud (5 findings in Lier - 1 in Øvre Eiker),
- Hordaland (21 findings in Ullensvang - 1 in Ulvik),
- Sogn og Fjordane (5 findings in Sogndal, 3 in Leikanger, 1 in Gloppen, 1 in Aurland),
- Telemark (5 findings in Sauherad),

The pathogen was detected in apple trees (in different 15 *M. domestica* cultivars) and in a few ornamental *Malus*. All infested host plants were destroyed and chemical treatments were applied against insect vectors when a risk of spread to nurseries was perceived. Official surveys will continue in 2012 in fruit orchards and private gardens located in the vicinity of nurseries producing *Malus*, and official production controls will be intensified in nurseries.

The pest status of '*Candidatus Phytoplasma mali*' in Norway is officially declared as: **Present, only in some areas, subject to official control.**

Source: NPPO of Norway (2012-07).

Additional key words: detailed record

Computer codes: PHYPPMA, NO

2012/168 First report of *Mycosphaerella dearnessii* in Latvia

The NPPO of Latvia recently informed the EPPO Secretariat of the first record of *Mycosphaerella dearnessii* (EPPO A2 List) on its territory. The fungus was detected in a single *Pinus pumila* tree in the National Botanical Garden in Salaspils near Riga. During the annual official survey, one sample was taken from this *P. pumila* tree on 2012-06-27. Testing was carried out by the National Phytosanitary Laboratory of Latvia and the morphological characteristics of the causal agent corresponded to *Lecanosticta acicola*, the anamorph of *Mycosphaerella dearnessii*. In 2012-08-07, the identity of the species *M. dearnessii* was confirmed by PCR-based methods by ANSES Plant Health Laboratory in France. Eradication measures were taken and additional phytosanitary measures are being developed.

The pest status of *Mycosphaerella dearnessii* in Latvia is officially declared as: **Present, under eradication.**

Source: NPPO of Latvia (2012-08).

Additional key words: new record

Computer codes: SCIRAC, LV

2012/169 Plum pox virus found for the first time in the Champagne-Ardenne region (FR)

The NPPO of France recently informed the EPPO Secretariat of the first report of *Plum pox virus* (*Potyvirus*, PPV - EPPO A2 List) in the region Champagne-Ardenne, Northeastern France. During official phytosanitary inspections carried out in a nursery, the presence of PPV was confirmed in 2012-07-02 in 3 plum trees (*Prunus domestica* cv. 'Quetsche d'Alsace' grafted on *P. cerasifera* cv. 'Myrobolan' in 2008). These infected trees belonged to a single lot (other trees had already been sold) which was cultivated on one nursery plot. It is stressed that this nursery is producing planting material only for the local French market (i.e. plants are sold within a radius of 100 km). The source of this infection remains unknown for the moment but investigations are being carried out to determine the origin of the scions and rootstocks. Phytosanitary measures have been taken in accordance with the EU Directive 2000/29/EC (and French legislation) and include: destruction of the infected lot, suspension of the issuance of plant passports for all plots located within a radius of 200 m of the infected plot, tracing-back and tracing-forward studies to identify potentially infected plants, intensification of surveillance activities in the vicinity of the nursery (within a radius of 2.5 km).

The pest status of *Plum pox virus* in France is officially declared as: **Present, restricted distribution only.**

Source: NPPO of France (2012-07).

Additional key words: detailed record

Computer codes: PPV000, FR

2012/170 First report of Plum pox virus on Prunus avium in Poland

The NPPO of Poland recently informed the EPPO Secretariat about the first record of *Plum pox virus* (*Potyvirus*, PPV - EPPO A2 List) on cherry (*Prunus avium*) on its territory. Until now in Poland, PPV was detected only in plum (*Prunus domestica*) and peach (*P. persica*) trees. In 2012, PPV was found on *P. avium* plants in a nursery in Warmińsko (Mazurskie voivodship in Northeastern Poland). Leaf samples were collected from plants showing suspicious symptoms and tested in the laboratory. Molecular tests (IC-RT-PCR) confirmed the presence of PPV. Appropriate quarantine measures were undertaken in the infected place of production. Furthermore, inspections for PPV will continue at national level.

Source: NPPO of Poland (2012-08).

Additional key words: detailed record, host plant

Computer codes: PPV000, PL

2012/171 Quarantine lists of Kazakhstan (2009)

Pests and pathogens included on the quarantine lists of Kazakhstan (2009-09-11) are listed below. This information has also been entered into PQR.

A1 List (pests absent from Kazakhstan)

Insects

Agrilus mali
Anoplophora glabripennis
Bactrocera minax (Tetradacus citri)
Bemisia tabaci
Callosobruchus analis
Callosobruchus chinensis
Callosobruchus maculatus
Callosobruchus phaseoli
Carposina niponensis
Ceratitis capitata
Ceroplastes japonicus
Ceroplastes rusci
Conotrachelus nenuphar
Dendroctonus micans
Dendrolimus sibiricus
Diabrotica virgifera virgifera
Dialeurodes citri
Epitrix cucumeris
Epitrix tuberis
Frankliniella occidentalis
Liriomyza huidobrensis
Liriomyza sativae
Liriomyza trifolii
Lopholeucaspis (Leucaspis) japonica
Monochamus galloprovincialis
Monochamus saltuarius
Monochamus sutor
Monochamus urusovi
Naupactus (Pantomorus) leucoloma
Numonia pyrivorella
Pectinophora gossypiella
Phthorimaea operculella
Phyllocnistis citrella
Popillia japonica
Premnotrypes spp.
Pseudauleucaspis pentagona
Pseudococcus calceolariae (P. gahani)
Pseudococcus citriculus
Rhagoletis pomonella
Spodoptera littoralis
Spodoptera litura
Thrips palmi
Trogoderma granarium
Unaspis citri
Unaspis yanonensis
Viteus vitifoliae

Fungi

Atropellis pinicola
Atropellis piniphila
Ceratocystis fagacearum
Cochliobolus carbonum
Cochliobolus heterostrophus race T
Diaporthe (Phomopsis) helianthi
Glomerella gossypii
Mycosphaerella (Didymella) chrysanthemi
Phymatotrichopsis omnivora
Physalospora zeicola (Diplodia frumenti)
Phytophthora fragariae
Puccinia horiana
Stenocarpella (Diplodia) macrospora
Synchytrium endobioticum
Thecaphora (Angiosorus) solani
Tilletia indica

Bacteria and phytoplasmas

Clavibacter michiganensis subsp. *sepedonicus*
Erwinia amylovora
 Grapevine flavescence dorée phytoplasma
Pantoea stewartii
Ralstonia solanacearum
Rathayibacter tritici
Xanthomonas oryzae pv. *oryzae*
Xanthomonas oryzae pv. *oryzicola*
Xylophilus ampelinus

Virus and viroids

Andean potato latent virus
Andean potato mottle virus
Cherry rasp leaf virus
Peach latent mosaic viroid
Peach rosette mosaic virus
Plum pox virus
Potato virus T
Potato yellowing virus

Nematodes

Bursaphelenchus xylophilus
Globodera pallida
Globodera rostochiensis
Meloidogyne chitwoodi

Weeds

Ambrosia trifida
Bidens pilosa
Cenchrus incertus (C. pauciflorus)
Helianthus californicus
Helianthus ciliaris
Ipomoea hederacea

Ipomoea lacunosa
Iva axillaris
Solanum carolinense
Solanum elaeagnifolium
Solanum triflorum
Striga spp.

A2 List (pests of limited distribution in Kazakhstan)

Insects

Grapholita molesta
Hyphantria cunea
Lymantria dispar Asian race
Myiopardalis pardalina
Pseudococcus comstocki
Quadraspidiotus perniciosus

Weeds

Acroptilon repens
Ambrosia artemisiifolia
Ambrosia psilostachya
Cuscuta spp.
Solanum rostratum

Source: EPPO Secretariat (2012-07).

Additional key words: quarantine list

Computer codes: KZ

2012/172 PQR - the EPPO database on quarantine pests: new update

PQR - the EPPO database on quarantine pests (geographical distributions, host plants, regulatory status, pathways, pictures) was updated on the 2012-08-28.

The following new items have been added since the previous version (2012-03-28)

- New world distributions: *Bradybaena similaris*, *Eurytoma plotnikovi*, *Neoleucinodes elegantalis*, *Pomacea insularum*, *Takecallis arundinariae*, *Thaumastocoris peregrinus*
- Quarantine Lists for Kazakhstan and Uzbekistan
- New pest pictures (e.g. *Neoleucinodes elegantalis*, *Thaumastocoris peregrinus*, *Lagarosiphon major*, *Opuntia cylindrica*, *Periploca graeca*)
- New search functionalities (e.g. you can view all pests present in the EU)
- All recent data from the EPPO Reporting Service (March to July 2012)

If you have not already installed PQR on your computer, you can download it (free) from the EPPO website: <http://www.eppo.int/DATABASES/pqr/pqr.htm>

Source: EPPO Secretariat (2012-08).

2012/173 Management methods for *Cabomba caroliniana* in the Netherlands

Cabomba caroliniana (Cabombaceae, EPPO List of Invasive Alien Plants) has been traded as an aquarium plant for decades in the Netherlands. It was first recorded in the Meuse River in 1986, but was only reported as posing a problem in 2005 in the Loosdrecht Lakes. The different behaviour of the species in various sites in the Netherlands was an incentive to investigate biotic and abiotic factors that might explain these disparities, as well as practical management options.

In cold temperate climates, *C. caroliniana* can overwinter through vegetative forms. In autumn, it forms ‘turion-like’ structures which can break off from the plant. Buoyant fragments can be carried over long distances by water currents. These fragments lose their buoyancy at the beginning of the winter and sink to the sediment surface.

Biotic and abiotic (temperature, oxygen, pH, conductivity and transparency of water samples) variables measured show that there are no limiting factors for the species to grow prolifically in any water in the Netherlands. The species responds favorably to free CO₂ in the water corresponding to low pH levels and high light intensities.

Management tests were also undertaken in the field. When blocking sunlight with opaque geotextile, all macrophytes under cover died. The effects of reopening over a long period of time remain unknown.

An experiment on regular dredging consisted of completely removing vegetation from a canal with *C. caroliniana* present over a 100% of the area. The plants were removed with a weed cutting bucket which scraped the soft sediment layer over a distance of 100 metres. These experiments highlighted that such a method will not result in the permanent removal of *C. caroliniana* and other macrophytes, even if it is applied twice a year.

Another experiment consisted of completely removing vegetation from a canal (*C. caroliniana* covering 100% of the area) over a distance of 100 metres by using a powerful water stream (‘hydro venture system’) to resuspend the vegetation as well as the soft sediment after which the loose material was removed. This method allows a temporary removal of the species.

The study also showed that the current velocity is the decisive factor hampering establishment. As a consequence all slow flowing and still waters are potentially at risk.

Source: Van Valkenburg JLCH, Roijackers RMM & Léonard R (2011) *Cabomba caroliniana* Gray in the Netherlands. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=110&session=7&type=oralpresentations. Birmensdorf, Swiss Federal Institute for Forest, Snow and Landscape Research WSL.

Additional key words: invasive alien plants, management

Computer codes: CABCA, NL

2012/174 First report of *Fallopia x bohemica* in Romania

Fallopia x bohemica (Polygonaceae, EPPO List of Invasive Alien Plants) has been identified in more than 78 localities in Eastern Transylvania, Romania since the 2000s. *F. x bohemica* is found along the Tisa River, the Bistrița River and its tributaries, as well as in the Moldavian plain. In these infested sites, *F. x bohemica* replaces the native vegetal communities over large areas. The species had initially been erroneously identified as *Polygonum cuspidatum* (= *Fallopia japonica*). As a consequence, many records relating to *F. japonica* may correspond to *F. x bohemica*. In Romania, *F. x bohemica* was either

introduced from Central Europe as an ornamental plant and then escaped from gardens, or spread naturally from west to east along watercourses.

Source: Sîrbu C, Oprea A, Truță E & Voichița G (2011) A study on biology and phytosociology of the invasive plant: *Grindelia squarrosa* (Pursh) Dunal. (Asteraceae) in Romania. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=202&session=3&type=posters
Birmensdorf, Swiss Federal Institute for Forest, Snow and Landscape Research WSL.

Sîrbu C & Oprea A (2008) Two alien species in the spreading process in Romania: *Reynoutria x bohemica* chrtek & Chrtková. *Cercetări Agronomice în Moldova*. Vol. XLI, No. 2 (134), 41-50.
http://www.uaiasi.ro/CERCET_AGROMOLD/CA2-08-05.pdf

Additional key words: invasive alien plants new report

Computer codes: POLCU, REYBO, RO

2012/175 First report of *Grindelia squarrosa* in Romania

Grindelia squarrosa (Asteraceae) originating from North America was first introduced into Europe in 1804 as a cultivated plant in the Royal garden of Madrid, Spain. Its naturalization has only been recorded in Eastern Europe since the 1950s. In the EPPO region, *G. squarrosa* is recorded in Austria, Belarus, Belgium, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Moldova, Russia, Slovakia and Ukraine. The species has now been recorded in Romania, and in particular in the surroundings of two large cities: Iași and Galați. While the species only covered few dozens of square metres 14 years ago, it has now spread over several thousands of square metres. The species is thought to have been introduced from the former USSR as a contaminant of goods, or via the movement of train passengers. This plant is annual or biennial, 20 to 60 cm high with many flower heads. The reproductive ability of the species was studied in field plots. *G. squarrosa* exhibited a high reproductive activity, as up to 76 000 achenes per individual were produced per year.

In Romania, *G. squarrosa* invades highly degraded, dry habitats, roads and railways, embankments and other ruderal places. This species could usefully be monitored in Romania to assess the impacts it may cause, which are not documented so far.

Source: CABI Invasive Species Compendium - *Grindelia squarrosa*
<http://www.cabi.org/isc/?compid=5&dsid=114634&loadmodule=datasheet&page=481&site=144>

Sîrbu C, Oprea A, Truță E & Voichița G (2011) A study on biology and phytosociology of the invasive plant: *Grindelia squarrosa* (Pursh) Dunal. (Asteraceae) in Romania. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=202&session=3&type=posters
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Sîrbu C & Oprea A (2008) Two alien species in the spreading process in Romania: *Reynoutria x bohemica* chrtek & Chrtková. *Cercetări Agronomice în Moldova*. Vol. XLI, No. 2 (134), 41-50.
http://www.uaiasi.ro/CERCET_AGROMOLD/CA2-08-05.pdf

Additional key words: invasive alien plants new report

Computer codes: GRNSQ, POLCU, REYBO, RO

2012/176 Distribution of *Parthenium hysterophorus* in the Peshawar Valley in Pakistan

Parthenium hysterophorus (Asteraceae, EPPO Alert List) is considered to have been introduced into Pakistan in the 1980s from India. The species has recently been reported in Islamabad, and is becoming a weed in the Peshawar Valley, in the Khyber Pakhtunkhwa and Punjab provinces of Pakistan. The species is spreading rapidly along roadsides, into agricultural fields and in wastelands.

Source: Khan H, Hassan G & Khan A (2011) Prevalence and distribution of *Parthenium* (*Parthenium hysterophorus* L.) weed in Peshawar Valley, Khyber Pakhtunkhwa-Pakistan. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=292
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Additional key words: invasive alien plants

Computer codes: PTNHY, PK

2012/177 Invasive alien plants in forest nurseries in Serbia

A survey of invasive alien plants was performed from 2007 to 2010 in forest nurseries in the territory of Vojvodina in Serbia. Eleven (11) species considered to be invasive alien plants were recorded: *Amaranthus retroflexus* (Amaranthaceae), *Ambrosia artemisiifolia* (Asteraceae), *Asclepias curassavica* (Apocynaceae), *Conyza canadensis* (Asteraceae), *Galinsoga parviflora* (Asteraceae), *Solidago gigantea* (Asteraceae, EPPO List of IAP), *Stenactis annua* (Asteraceae), *Polygonum aviculare* (Polygonaceae), *Portulaca oleracea* (Portulacaceae), *Panicum capillare* (Poaceae) and *Sorghum halepense* (Poaceae).

Source: Verica V, Branko K & Sasa O (2011) The presence of important invasive weeds in nurseries. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=128&session=5&type=posters
Birmensdorf, Swiss Federal Institute for Forest, Snow and Landscape Research WSL.

Additional key words: invasive alien plants

Computer codes: AMARE, AMBEL, ASCCU, ERIAN, ERICA, GASPA, PANCA, POLAV, POROL, SOOGI, SORHA, RS

2012/178 Information on the biology of *Gunnera tinctoria*

Gunnera tinctoria (Gunneraceae) has a narrow ecological niche as it needs constant water availability. It is a major invader species in Ireland. Habitat mapping of *G. tinctoria* in Ireland indicates a preference for anthropogenic habitats associated with human settlements and former agricultural land, as well as stream or river banks.

Experiments carried out in Ireland showed that a large number of seeds are produced by individual plants, leading to a large and persistent seed bank. This finding contradicts the initial belief that this species propagated solely asexually from discarded rhizomes or plant fragments. Few seeds germinate in the field. The reason for this low germination rate is

probably related to low soil temperatures. Model projections indicate, however, that relatively modest increases in temperature, consistent with climate change projections, would result in increasing numbers of seeds germinating in the field. Seed viability is thought to be up to 70 years.

Source: Osborne B, Fennell M & Armstrong C (2001) The riddle of *Gunnera tinctoria* invasions: a particularly Irish enigma. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=288&session=3&type=oralpresentations Birmensdorf, Swiss Federal Institute for Forest, Snow and Landscape Research WSL.

Additional key words: invasive alien plants

Computer codes: GUATI, IE

2012/179 Community-level impacts of *Amorpha fruticosa*, *Carpobrotus* spp. and *Lippia canescens* in several Mediterranean coastal habitats of France

Amorpha fruticosa (Fabaceae, EPPO List of Invasive Alien Plants), *Carpobrotus acinaciformis* and *C. edulis* (Aizoaceae, EPPO List of IAP) and *Lippia canescens* (Verbenaceae) are invasive alien plants in the Mediterranean part of France. The community-level impacts of these species in several Mediterranean coastal habitats have been studied in France. Field work was therefore undertaken on these 3 species to assess their impacts on 2 Natura 2000 habitats for each of them, namely:

Invasive alien plant	Habitats
<i>Amorpha fruticosa</i>	- Mediterranean clifftop phrygana - Grey dunes
<i>Carpobrotus</i> spp.	- Disturbed Mediterranean salt meadows - Mediterranean salt meadows
<i>Lippia canescens</i>	- Grey dunes - Water-fringing reed beds

In each habitat, 3 sites were studied and within each site, 5 pairs of vegetation plots of 4 m² were sampled. Plots were chosen in both heavily invaded sites (where the invasive alien plant covered more than 80% of the vegetation) and in non-invaded sites with similar conditions (e.g. slope, exposure). Cover of all plants was then estimated on each plot. The changes in native species cover between invaded and non-invaded plots were then analyzed.

The magnitude of the impacts differed among the 3 invasive plant species, with *Carpobrotus* spp. exhibiting the largest impacts (-66% in species loss), and *A. fruticosa* showing no impact on the number of species present (+2%). The impact of *Carpobrotus* spp. in invaded sand dunes can be interpreted as a result of the important amount of litter it produces, which increases organic nitrogen therefore being detrimental to specialists of poor sandy conditions. A significant impact of *Carpobrotus* spp. has been detected on a regionally protected species (*Euphorbia terracina*, Euphorbiaceae), and on a regionally rare species (*Silene nicaeensis*, Caryophyllaceae).

Lippia canescens exhibited an intermediate effect on species loss, ranging from 11 to 26%. *L. canescens* clearly reduced the cover of dominant plants in salt meadows, indicating that

this species also has an impact on agricultural activities by reducing available food for cattle.

Patches of *A. fruticosa* caused no significant loss in species richness. However, *A. fruticosa* had a drastic impact on characteristic species of grey dunes (*Artemisia campestris* subsp. *glutinosa*, Asteraceae; *Helichrysum stoechas*, Asteraceae) which were replaced by generalist ruderal species (*Bromus sterilis*, Poaceae; *Carduus pycnocephalus*, Asteraceae). This change could be related to nitrogen fixation due to root nodulation.

Source: Chagué N & Fried G (2011) Community-level impacts of three invasive alien plants in Mediterranean coastal habitats. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/authors/detail_EN?id=124&type=authors
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Additional key words: invasive alien plants, impacts

Computer codes: AMHFR, ARTCM, BROST, CBSAC, CBSED, CRUPY, EPHTE, HECST, LIPCA, SILNI, FR

2012/180 Invasive alien plants' impacts on endangered fauna in Indian natural reserves

The grasslands of the Himalayan foothills in India represent a key conservation site for biodiversity, in particular for endangered animal species such as the royal Bengal tiger (*Panthera tigris tigris*), the horned rhinoceros (*Rhinoceros unicornis*), the Pigmy hog (*Sus salvanius*), the hispid hare (*Caprolagus hispidus*), the Asian elephant (*Elephas maxima*), and the Bengal florican (*Eupodotis bengalensis*). The grasslands of protected areas hosting these species (Manas biosphere reserve, Kaziranga national park, Orang national park, Sonai-Rupai wildlife sanctuary, etc.) have been heavily threatened by different invasive alien plants, which degrade the habitats of these endangered wild animals. Remote sensing monitoring revealed that the total coverage of the grassland declined by 11-12% in comparison to earlier records. The undershrub *Leea asiatica* (Vitaceae) is naturalized in the grassland, and the tree *Bombax ceiba* (Bombacoideae) commonly occurs in forest areas, *Chromolaena odorata* (Asteraceae) is also reported as a weed. Although annual burning is undertaken in the Manas reserve for the regeneration of tender grass and to control weeds, these 3 species are spreading and their range is increasing every year. Elephant grazing significantly favoured the decline of *Bombax ceiba* in undisturbed habitats. The growth of *Leea asiatica* was also restricted by elephant grazing in the post burn season. New invasions of *Bombax ceiba* could be controlled by harvesting its seeds.

Source: Bezbarua P, Bezbarua A, Bhagoboty N & Baruah CK (2011) Management of invasive species in Assam with special reference to Manas biosphere reverse. In: Bohren C, Bertossa M, Schönenberger N, Rossinelli M, Conedera M. (ed) 3rd International Symposium of Environmental Weeds and Invasive Plants. Abstracts. October 2 to 7 2011. Monte Verità, Ascona, Switzerland.
Available from Internet
http://www.wsl.ch/epub/ewrs/sessions/detail_EN?id=155&session=3&type=posters
Birmensdorf, Swiss Federal Institute for Forest, Snow and Landscape Research WSL.

Additional key words: invasive alien plants

Computer codes: BOMCE, EUPOD, IN

2012/181 3rd International Symposium on Environmental Weeds and Invasive Plants

The abstracts and extended abstracts of the contributions presented during the 3rd International Symposium on Environmental Weeds and Invasive Plants held on 2011-10-02/07 in Ascona (Switzerland) are available on line. They can be accessed by searching through sessions, authors or keywords.

Source: Website of the 3rd International Symposium on Environmental Weeds and Invasive Plants. http://www.wsl.ch/epub/ewrs/index_EN

Additional key words: Invasive alien plants, publication