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CONTENTS ***Pests & Diseases***

Invasive Plants

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2014/102 First report of *Meloidogyne mali* in the Netherlands: addition to the EPPO Alert List

The NPPO of the Netherlands recently informed the EPPO Secretariat of the first record of *Meloidogyne mali* on its territory. *M. mali* is a polyphagous species, originally described from Japan, which can produce large root galls and severely damage its host plants. Recent studies have showed that *Meloidogyne ulmi*, described as a new species from Ulmus *chenmoui* in Italy, was in fact a junior synonym of *M. mali*. In the Netherlands, *M. mali* was found in 2012/2013 on roots of several *Ulmus* trees of at least 50 years old in an arboretum in Wageningen, as well as in 3 experimental fields where trees were tested for their resistance to *Ceratocystis ulmi* (Dutch elm disease) in the municipalities of Wageningen and Baarn. It is noted that already in 1960, a root-knot nematode had been reported from elm trees at Baarn, but was associated at that time to *M. arenaria* (which presents morphological similarities). From February to March 2014, *M. mali* was also detected in several street trees at 4 different sites in the Hague. However, it is noted that *M. mali* was not detected during a survey conducted in 2013 in tree nurseries (50 sites were inspected and uprooted trees of *Acer, Quercus,* and *Ulmus* were inspected). It is suspected that *M. mali* entered Europe via imports of elm rootstocks from Japan, at least 50 years ago. The following phytosanitary measures are being taken: a specific survey will be conducted in *Ulmus* and *Malus* nurseries, eradication actions will be considered if *M. mali* is found in nurseries, and an information campaign is being conducted to warn municipalities and tree nurseries about the risks posed by this nematode.
The pest status of *Meloidogyne mali* in the Netherlands is officially declared as: **Present, limited distribution, actionable in case of findings at nurseries.**

Meloidogyne mali
Why: *Meloidogyne mali* is a polyphagous root-knot nematode originating from Japan whose presence in the EPPO region has been noticed recently, although its introduction probably took place several decades ago. *M. mali* is a damaging nematode which can produce large root galls on its host plants, interfering with their water and nutrient uptake from the soil and thus reducing their growth. Taking into account the information presented in a preliminary risk assessment carried out by the Dutch NPPO, it was considered that *M. mali* should be added to the EPPO Alert List.

Where: *M. mali* was originally described in Japan from roots of an apple rootstock (*Malus prunifolia*). It has probably been introduced into the EPPO region with elm trees from Japan, at least 50 years ago.
EPPO region: Italy, Netherlands.
Asia: Japan (Honshu, Hokkaido).
In the Netherlands, *M. mali* was first found in 2012/2013 on roots of several *Ulmus* trees of at least 50 years old in an arboretum in Wageningen, as well as in 3 experimental fields where elm trees were tested for their resistance to *Ceratocystis ulmi* (Dutch elm disease) in Wageningen and Baarn. In 2014, *M. mali* was detected in several street trees in the Hague. In Italy, the nematode was first found on root samples collected during 1995-98 from slowly declining *Ulmus chenmoui* trees at San Rossore (Pisa, Toscana region). The nematode was initially described as a new species, *Meloidogyne ulmi,* which was later synonymized with *M. mali.* These elm trees had been imported from the Netherlands as 3 year old plants. Subsequently, populations of *M. mali* were found at Mantignano (Firenze, Toscana region) on *U. chenmoui* and *U. glabra* plants imported from the Netherlands and used as rootstocks of *Ulmus* hybrid selections. Although the presence of *M. mali* has only been confirmed in Italy and the Netherlands, it is thought that its distribution in the EPPO region might be wider because elm trees grown on the infected plots in the Netherlands

(breeding programme for the resistance against Dutch elm disease) have been sent to other European countries.

On which plants: In Japan, *M. mali* is considered to be a significant pest of apple (*Malus domestica/M. pumila,* including rootstocks such as *M. prunifolia*) and mulberry (*Morus alba, M. bombycis*) trees. In Italy and the Netherlands, it has been found primarily on elms (*U. chenmoui, U. glabra*). According to the Japanese literature and experiments carried out in the Netherlands, *M. mali* has a wide host range which includes trees, shrubs and herbaceous plants (e.g. *Acer palmatum, Acer pseudoplatanus, Arctium lappa, Brassica pekinensis, Broussonetia kazinoki, Broussonetia papyrifera, Castanea crenata, Citrullus lanatus, Cucumis sativus, Daucus carota, Dryopteris carthusiana, D. filix-mas, Fagus sylvatica, Ficus carica, Geranium robertianum, Geum coccineum, Glycine max, Impatiens parviflora, Maclura tricuspidata, Malus prunifolia, Malus sieboldii, Prunus x yedoensis, Quercus robur, Rubus idaeus, Solanum melongena, Sorbus aucuparia, Taraxacum officinale, Taxus baccata, Ulmus davidiana* var*. japonica, Ulmus x hollandica, Urtica dioica*).

Damage: *M. mali* induces large root galls ('bead-like' galls) on its host plants resulting in malformed root systems and retarded plant growth. In Japan, stunting and severe decline has been reported in apple orchards infested by this nematode. Inoculation studies done in Japan on potted mulberry seedlings (*Morus* spp.) showed that 30 to 60% of the plants were killed by the nematode within a year. On 2-3 year old mulberry trees, inoculation resulted in a 10-20 % reduction of leaf weight. *M. mali* has sedentary endoparasitic habits. On apple, *M. mali* requires 18-22 weeks to complete its life cycle and there is one generation per year. It is suspected that the nematode overwinters in the roots (but the development stage at which this occurs needs to be studied).

Dissemination: natural spread in the soil is slow but *M. mali* can easily be transported with soil and plants for planting over long distances.

Pathway: Infested soil and growing media, plants for planting from countries where *M. mali* occurs. Soil attached to machinery, tools, footwear, or plant products is also another possible pathway.

Possible risks: The host range of *M. mali* includes many species which are of economic importance in horticulture (e.g. apple) and forestry (e.g. elm). According to the Japanese literature, *M. mali* is an important pest in apple orchards. However, no data is available on its current economic impact on apple production. Its impact on vegetable crops (*Brassicaceae, Cucurbitaceae, Solanaceae*) and other major forest trees (*Fagus* spp., *Quercus* spp.) remains to be clarified but its potential capacity to develop on these economically important plants might add to the risk for the EPPO region. Once root-knot nematodes have been introduced into new areas, it is in general difficult to control or eradicate them. In its preliminary risk assessment, the Dutch NPPO underlined that *M. mali* presented a particular risk to tree species because of their retarded growth and their increased vulnerability to windthrow. The high cost of their replacement, either in orchards or in urban environments, was also underlined. Its seems desirable that more attention is given to *M. mali*, as its distribution in the EPPO region might be wider than originally thought, and to envisage possible measures to prevent its further spread.

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EPPO RS 2014/102
Panel review date - Entry date 2014-06

2014/103 First report of *Dryocosmus kuriphilus* in Portugal

The NPPO of Portugal recently informed the EPPO Secretariat of the first record of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae - EPPO A2 List) on its territory. The pest was first found in May 2014 in the municipality of Barcelos, Northwestern Portugal on *Castanea sativa* trees grown for fruit and wood production. The regional PPO was contacted by the owner of scattered chestnut trees who had observed unusual symptoms. A sample was collected to confirm the identity of the pest on the basis of its morphological characteristics. Intensive surveys are currently being carried out by the regional PPO to determine the extent of the infested area. At present, symptoms have been found in chestnut trees (including large mature trees) within an area of 7.5 km radius. The source of this outbreak is unknown but possibly related to the introduction of infested propagating material. The following phytosanitary measures were immediately taken: pruning and destruction of affected branches (to lower the infestation pressure, although some adults have already emerged), intensive survey and establishment of a demarcated area, prohibition of movements of plants out of the demarcated area. An action plan is being elaborated in order to define possible measures, including biological control which could start in 2015.

The situation of *Dryocosmus kuriphilus* in Portugal can be described as follows: **Present, first found in May 2014 in the municipality of Barcelos, Northwestern Portugal, under official control.**

Source: NPPO of Portugal (2014-06).

Additional key words: new record **Computer codes:** DRYCKU, PT

2014/104 First report of *Dryocosmus kuriphilus* in Turkey

The NPPO of Turkey recently informed the EPPO Secretariat of the first record of *Dryocosmus kuriphilus* (Hymenoptera: Cynipidae - EPPO A2 List) on its territory. The pest was first found in April 2014 on chestnut trees (*Castanea sativa*) in several forest areas in the province of Yalova (Marmara region). *D. kuriphilus* was identified on the basis of its morphological characteristics. These findings were made during an official survey initiated in March 2014. Results showed that the pest is still of limited distribution in Turkey, as it has only been found in the province of Yalova. The infested areas in Yalova province are defined as follows: villages of Sugören, Kirazlı, Elmalık, Kurtköy, Soğucak, Güneyköy (Merkez county), Sermayecik (Altınova county), Gacık, Çukur, Laledere, Dereköy, Burhaniye (Çİftlikköy county), Ortaburun (Çınarcık county). It is suspected the pest has been introduced through the movement of infested twigs and young plants. Phytosanitary measures elaborated on the basis of the EU Commission Decision 2006/464/EC were taken.
The pest status of *Dryocosmus kuriphilus* in Turkey is officially declared as: **Present, only in some areas where host plants are grown. The infested areas in Yalova province are indicated above.**

Source: NPPO of Turkey (2014-05).

Additional key words: new record **Computer codes:** DRYCKU, TR

2014/105 First report of *Helicoverpa armigera* in Paraguay and Argentina

In Paraguay, the presence of *Helicoverpa armigera* (Lepidoptera: Noctuidae – EPPO A2 List) was first reported in October 2013. Adults and larvae were collected on several crops in the departments of Canindeyú, Itapúa, Alto Paraná and San Pedro. Because of the recent detection of *H. armigera* in Brazil and Paraguay, a survey was carried out in Argentina. As a result, the pest was caught in pheromone traps which had been deployed in *Cicer arietinum* (chickpea) crops at 2 localities (Viclos and La Cocha) in the province of Tucumán.
The situation of *Helicoverpa armigera* in both countries (Argentina and Paraguay) can be described as follows: **Present, only in some areas, under official control.**

Source: Murúa MG, Scalora FS, Navarro, FR, Cazado LE, Casmuz A, Villagrán ME, Lobos E, Gastaminza G (2014) First record of *Helicoverpa armigera* (Lepidoptera: Noctuidae) in Argentina. *Florida Entomologist* **97**(2), 854-856.

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Additional key words: new record **Computer codes:** HELIAR, AR, PY

2014/106 First report of *Euaresta aequalis* in Slovenia

The NPPO of Slovenia recently informed the EPPO Secretariat of the first record of *Euaresta aequalis* (Diptera: Tephritidae - burr-seed fly) on its territory, as *E. aequalis* is regulated by Directive 2000/29/EC as a 'Non- European Tephritidae'. Species belonging to the *Euaresta* genus are endemic to the Americas and their larvae are associated with either *Xanthium* or *Ambrosia*. As some *Xanthium* and *Ambrosia* are important agricultural weeds, several *Euaresta* species have been introduced and released in different parts of the world for biological control.
In July 2008, *E. aequalis* was collected for the first time in Europe near Nova Gorica on *Xanthium strumarium* subsp*. italicum*. *E. aequalis* is native to North America and its larvae live in burrs of *X. strumarium*, destroying seeds. During summer 2012, additional findings were made at several places in the Vipava valley, as well as in bordering areas in Northeastern Italy. These results showed that *E. aequalis* is already widely distributed and has become established as an alien species in this part of Europe. It is noted that this is also the first time that *X. strumarium* subsp*. italicum* is recorded as a host plant of this fruit fly. It is possible that in this case the introduction of a new alien species will be beneficial, as *E. aequalis* might help reducing *Xanthium* weed populations. No phytosanitary measures were taken in Slovenia.
The pest status of *Euaresta aequalis* in Slovenia is officially declared as: **Present, only in some areas.**

Source: NPPO of Slovenia (2014-06).
Seljak G (2013) The burr-seed fly, *Euaresta aequalis* (Loew) (Diptera: Tephritidae), new recorded in Europe, with new observations on its biology. *Studia dipterologica* **20**(1), 31-38.

Additional key words: new record **Computer codes:** EUARAE, IT, SI

2014/107 First reports of *Zaprionus tuberculatus* in Italy and in Turkey

In 2013, *Zaprionus tuberculatus* (Diptera: Drosophilidae) was caught for the first time in Italy during a survey targeting another drosophilid, *Drosophila suzukii* (EPPO A2 List). In September and October 2013, 19 specimens were trapped at 2 locations: deciduous woodland located in Vattaro (near Trento) and a public garden in Trento, Trentino-Alto Adige region. Interestingly, *Z. tuberculatus* has also been found recently in Turkey. In August 2011, several specimens were caught in the city of Adana and its surroundings in urban and suburban environments, as well as in forested rural areas. In a taxonomic revision of the Afrotropical species of *Zaprionus*, the presence of *Z. tuberculatus* is also mentioned in Cyprus, Greece and Malta. *Z. tuberculatus* originates from Africa and its larvae develop on decaying fruits. However, no data is available about the potential risk this species may present for agriculture. It is noted that a closely related species *Z. indianus* has also been introduced into new parts of the world, and has been recognized as a pest of fig orchards in Central and South America. It is concluded that further field research would be needed to monitor *Z. tuberculatus* and assess its possible damage to cultivated plants, in particular to soft fruit.
According to the literature, *Z. tuberculatus* occurs in the following countries:
EPPO region: Cyprus, Greece, Israel, Italy, Malta, Spain (Islas Canarias only), Turkey.
Africa: Cameroon, Cape Verde, Central African Republic, Chad, Congo, Congo (Democratic republic), Cote d'Ivoire, Egypt, Gabon, Kenya, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Niger, Nigeria, Réunion, Saint Helena, Seychelles, South Africa, Tanzania, Uganda, Zambia, Zimbabwe.

Source: Raspi A, Grassi A, Benelli G (2014) *Zaprionus tuberculatus* (Diptera Drosophilidae) first records from the European mainland. *Bulletin of Insectology* **67**(1), 157-160. (via PestLens https://pestlens.info/public/register.cfm)
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Additional key words: new record, geographical distribution **Computer codes:** ZAPRTU, IT, TR

2014/108 First report of *Phoracantha recurva* in Cyprus

The NPPO of Cyprus recently informed the EPPO Secretariat of the first record of *Phoracantha recurva* (Coleoptera: Cerambycidae – formerly EPPO Alert List) on its territory. In May 2014, a single adult was incidentally found in the municipality of Nicosia (Kennedy street in the area of Agia Paraskevi Church). The identity of the pest was confirmed by Fera (GB). No phytosanitary measures were taken.
The pest status of *Phoracantha recurva* in Cyprus is officially declared as: **established in the Mediterranean region, first record for Cyprus.**

Source: NPPO of Cyprus (2014-06).

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

2014/109 First report of *Thaumastocoris peregrinus* in Portugal

The occurrence of *Thaumastocoris peregrinus* (Hemiptera: Thaumastocoridae – EPPO Alert List) is reported for the first time from Portugal. This pest was initially detected in April 2012 in a eucalyptus arboretum in Lisbon during a research project (Garcia *et al*., 2013). A survey showed that *T. peregrinus* occurred in 2 urban areas in Lisbon (Tapada da Ajuda and Zoo parks) and in Fernão Ferro (Setúbal peninsula). In May 2014, the outbreak was confirmed by the Portuguese NPPO. High infestation levels (>50% of young leaves showing symptoms) were observed on *Eucalyptus camaldulensis*, but not on *E. globolus* which is the main eucalyptus species in Portugal. The source of this outbreak remains unknown but it is suspected that infested wood or fresh foliage from South America may have introduced the pest. No specific measures were taken, although an intensive survey will be conducted to determine the pest distribution in Portugal and to determine any possible measures. It is also noted that during the initial scientific studies, *Hemerobius bolivari* (Neuroptera: Hemerobiidae) was observed preying on *T. peregrinus* nymphs. It is suspected that this predator originating from South America, may have reached Europe together with its prey.
The situation of *Thaumastocoris peregrinus* in Portugal can be described as follows: **Present, first found in 2012, occurring only in some areas (Lisbon, Setúbal peninsula).**

Source: NPPO of Portugal (2014-07).

Garcia A, Figueiredo E, Valente C, Monserrat V, Branco M (2013) First record of *Thaumastocoris peregrinus* in Portugal and the neotropical predator *Hemerobius bolivari* in Europe. *Bulletin of Insectology* **66**(2), 251-256.

Additional key words: new record **Computer codes:** THMCPE, PT

2014/110 *Thaumastocoris peregrinus* found in Sicilia (IT)

Thaumastocoris peregrinus (Hemiptera: Thaumastocoridae – EPPO Alert List) is a pest of eucalyptus. Originating from Australia, it has been introduced into Africa and South America where it has shown an invasive behaviour. In 2011, infestations were noticed for the first time in Italy in Lazio region (see EPPO RS 2012/147, 2012/234). In 2012, it was also found in Campania region, in the locality of Cercola (province of Napoli). In April 2014, during monitoring activities on eucalyptus pests, *T. peregrinus* was found in Sicilia on eucalyptus trees in urban and suburban areas in the municipalities of Catania and Palermo. Affected trees showed leaf discoloration and decay. The source of this infestation remains unknown. No phytosanitary measures were taken.
The pest status of *Thaumastocoris peregrinus* found in Italy is officially declared as: **Present, only in some areas where host crop(s) are grown.**

Source: NPPO of Italy (2014-05).

INTERNET
Regione Campania. *Thaumastocoris peregrinus* Carpintero & Dellapé (Hemiptera: Thaumastocoridae), cimicetta della bronzatura dell'Eucalipto.
http://www.sito.regione.campania.it/agricoltura/difesa/files/Thaumastocoris.pdf

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

2014/111 Incursion of *Tetranychus agropyronus* in the Netherlands

In the Netherlands, the presence of *Tetranychus agropyronus* (Acari: Tetranychidae) was detected in 2013 on a plant sample (Poaceae) originating from a quarantine compartment in a University greenhouse. Little information about this mite is available from the literature but *T. agropyronus* is known to occur in Northern China (at least in Gansu, Ningxia, Xinjiang) and to feed on Poaceae (*Agropyron cristatum, Dactylus glomerata, Lolium perenne, Oryza sativa, Triticum aestivum, Zea mays*). Moraceae (*Morus* spp.) are mentioned as hosts but this would need to be confirmed.
Following this finding in the Netherlands, an official inspection of the glasshouse compartment concerned and of all other compartments where Poaceae were grown was conducted, but it did not detect *T. agropyronus*. The origin of this incursion remains unknown. The grasses from which the sample had been collected were destroyed. Because of the quarantine conditions under which the plants were grown, it is unlikely that the mite had escaped. No further measures are planned and *T. agropyronus* is considered eradicated from the Netherlands.
The pest status of *Tetranychus agropyronus* in the Netherlands is officially declared as: **Absent, incidental finding, eradicated.**

Source: NPPO of the Netherlands (2014-04).
Quickscan on *Tetranychus agropyronus* (2013-12)
http://www.vwa.nl/txmpub/files/?p_file_id=2204583

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

2014/112 Pepper leafroll virus: a new begomovirus from Peru

In Peru, a new *Begomovirus* has been identified from a yellow Peruvian chilli pepper (*Capsicum baccatum* var. *pendulum*) plant showing severe leaf curl symptoms and collected from a crop located in San Carlos Alto (Viru province, La Libertad department). The name Pepper leafroll virus (PepLRV) was proposed. Further studies conducted in 2009 and 2010 showed that PepLRV could be detected in different parts of Peru from several cultivated species, such as tomato (*Solanum lycopersicum*), pepper (*C. baccatum* var. *pendulum*), bean (*Phaseolus vulgaris*, *P. lunatus*) and the weed species *Nicandra physaloides*.

Source: Martínez-Ayala A, Sánchez-Campos S, Cáceres F, Aragón-Caballero L, Navas-Castillo J, Moriones E (2014) Characterization and genetic diversity of Pepper leafroll virus, a new bipartite begomovirus infecting pepper, bean and tomato in Peru. *Annals of Applied Biology* **164**(1), 62-72.

Additional key words: new pest **Computer codes:** PE

2014/113 Pepper chlorotic spot virus: a new tospovirus from Taiwan

Since 2009, unusual symptoms resembling those of a virus disease have been observed in Taiwan on glasshouse crops of sweet pepper (*Capsicum annum*). Affected plants presented mottling and deformation on leaves and fruits. Studies have shown that the causal agent is a new *Tospovirus* which has tentatively been called Pepper chlorotic spot virus (PCSV). Further studies are needed on to its distribution, epidemiology (e.g. thrips and seed transmission), and management strategies.

Source: Cheng YH, Zheng YX, Tai CH, Yen JH, Chen YK, Jan FJ (2014) Identification, characterisation and detection of a new tospovirus on sweet pepper. *Annals of Applied Biology* **164**(1), 107-115.

Additional key words: new pest **Computer codes:** TW

2014/114 Citrus vein enation virus: a new virus associated with citrus vein enation disease

Citrus vein enation disease (EU Annexes) is a graft- and aphid-transmitted disease of citrus which is thought to be of viral etiology. Recent molecular studies (deep-sequencing) conducted in Spain have showed that a new virus belonging to the genus *Enamovirus* and provisionally named Citrus vein enation virus (CVEV) was present in diseased plants. Specific diagnostic tools have been developed for CVEV and have been adopted within Spanish sanitation, quarantine and certification programmes.

Source: Vives MC, Velázquez K, Pina JA, Moreno P, Guerri J, Navarro L (2013) Identification of a new enamovirus associated with Citrus vein enation disease by deep sequencing of small RNAs. *Phytopathology* **103**(10), 1077-1086.

Additional key words: etiology **Computer codes:** CVEV00

2014/115 Citrus leprosis virus cytoplasmic type 2: a new virus associated with citrus leprosis

Citrus leprosis (EU Annexes) is an important disease of citrus in South and Central America which is associated with two types of virions: one found in the cytoplasm (*Citrus leprosis virus* cytoplasmic type CiLV-C) and another one in the nucleus (*Citrus leprosis virus* nuclear type CiLV-N). CiLV-N is restricted to the states of São Paulo, Rio Grande do Sul and Minas Gerais in Brazil and Boquete district in Panama, whereas CiLV-C has been spreading rapidly in South and Central America. In Colombia, symptoms resembling those of citrus leprosis were observed in multiple locations but CiLV-C could not be detected in affected plants. Recent molecular studies have indicated that a new virus closely related to CiLV-C and belonging to the genus *Cilevirus* was present in diseased plants. This new virus was tentatively called Citrus leprosis virus cytoplasmic type 2 (CiLV-C2).

Source: Roy A, Choudhary N, Guillermo LM, Shao J, Govindarajulu A, Achor D, Wei G, Picton DD, Levy L, Nakhla MK, Hartung JS, Brlansky RH (2013) A novel virus of the genus *Cilevirus* causing symptoms similar to Citrus leprosis. *Phytopathology* **103**(5), 488-500.

Additional key words: etiology **Computer codes:** CILV00

2014/116 New data on quarantine pests and pests of the EPPO Alert List

By searching through the literature, the EPPO Secretariat has extracted the following new data concerning quarantine pests and pests included on the EPPO Alert List, and indicated in bold the situation of the pest concerned using the terms of ISPM no. 8.

- **New records**

Callidiellum rufipenne (Coleoptera: Cerambycidae – formerly EPPO Alert List) was first found in France in 2011. It was found in a *Chamaecyparis lawsoniana* tree located in a forest (forêt de la Sare, Pyrénées-Atlantiques department). Other infested sites were then also found in nearby areas (another tree in the same forest, 2 sites in the Urrugne forest) (van Meer and Cocquempot, 2013). **Present, few occurrences.**

During studies on *Cerambycidae,* several specimens of *Callidiellum rufipenne* (Coleoptera: Cerambycidae – formerly EPPO Alert List) were found in 2007 and 2008 on Krk Island, Croatia. One larva was found on *Thuja* sp. and several adults were collected (Łos and Plewa, 2011). **Present, few occurrences.**

In Belgium, *Callidiellum rufipenne* (Coleoptera: Cerambycidae – formerly EPPO Alert List) was observed in 2009 at Nijlen, near Anvers, on cut branches of *Chamaecyparis lawsoniana* (Verbeelen, 2006). **Present, few occurrences.**

Cameraria ohridella (Lepidoptera: Gracillariidae – formerly EPPO Alert List) was first found in Latvia during summer 2002, and then spread across the whole territory of Latvia (Metla *et al.*, 2013). **Present, widespread**.

The NPPO of Luxembourg recently confirmed the presence of *Chalara fraxinea* (teleomorph: *Hymenoscyphus pseudoalbidus* – EPPO Alert List) on its territory (NPPO of Luxembourg, 2014). **Present, no details.**

Cydalima perspectalis (Lepidoptera: Crambidae – formerly EPPO Alert List) occurs in Romania. The first specimen was observed in October 2011 in the Northwestern part of Bucharest (Székely *et al*., 2011). **Present, no details.**

In Poland, *Ditylenchus gigas* (formerly known as the 'giant race' of *Ditylenchus dipsaci* – EPPO A2 List) has been identified in seeds of *Vicia faba* subsp. *minor* which had been collected in the 1990s. However, the current distribution and the economic importance of this nematode in Poland need to be further investigated (Jeszke e*t al.,* 2014). **Present, no details.**

Leptoglossus occidentalis (Heteroptera: Coreidae) was first found in 2010 in Russia (Rostov Province) and in 2011 in Ukraine (Crimea and Zaporizhia Province) (Gapon, 2013). **Present, few occurrences.**

Leptoglossus occidentalis (Heteroptera: Coreidae) was first reported from Greece in 2011. The insect was collected from Central Evia, Attica and Peloponnese (north), mainly from *Pinus halepensis* (Petrakis, 2011). **Present, no details.**

In April 2010, a bacterial wilt was observed on *Dracaena sanderiana* plants in glasshouses located in Seongnam (Gyeonggi province), Republic of Korea, with an incidence of 35-50%. *D. sanderiana* is marketed as the decorative plant 'Lucky bamboo' and is propagated from short cuttings, usually in water. It is mentioned that the diseased plants had been imported but their origin is not given. Laboratory studies showed that the causal agent was *Erwinia stewartii* (EPPO A2 List). This is the first time that *E. stewartii* is recorded on *D. sanderiana,* as well as in the Republic of Korea (Choi and Kim, 2013). **Present, few occurrences**.

Little cherry virus 2 (*Ampelovirus*, LChV2 – EU Annexes) was reported the first time in March 2014 from Australia. LChV2 was detected in one cherry orchard in Tasmania (ProMed, 2014). **Present, no details.**

In Portugal, one male specimen of *Papilio demoleus* (Lepidoptera: Papilionidae) was found in April 2012 in the municipality of Loulé (Algarve). The butterfly was flying in the citrus garden of the villa Quinta Mimosa. This is the first record for Europe of this potential citrus pest (see EPPO RS 2006/212). However, it is not known whether *P. demoleus* is established in Portugal (Morgun and Wiemers, 2012).

In Mauritius, *Phenacoccus solenopsis* (Hemiptera: Pseudococcidae) was first found in February 2013 on *Euphorbia pulcherrima* at Pointe aux Sables. The presence of this invasive scale is also reported from Seychelles where it was collected in Cap Mahé in December 2007 (Germain *et al*., 2014).

- **Detailed records**

In Croatia, *Cacyreus marshalli* (Lepidoptera: Lycaenidae – EPPO A2 List) was first found in 2008 on the island of Lošinj. In 2009-2010, it was also found on the island of Silba, and in the towns of Mali Lošinj and Labin. More recent studies have detected the pest in 14 new localities in Istria (3 localities), Hrvatsko primorje region (8 localities in coastal areas and islands) and Dalmatia (3 localities), thus showing that the pest has been spreading southwards along the Adriatic coast (Kučinić *et al*., 2013).

Cacyreus marshalli (Lepidoptera: Lycaenidae – EPPO A2 List) occurs in Sardegna, Italy. It occurs almost everywhere on the Island (Pantaleoni *et al*., 2012).

Elsinoe australis (EU Annexes) has recently been detected in California (US). It was found in 2 commercial groves of lemons (*Citrus limon*) in Imperial county, as well as on grapefruit (*C. paradisi*) from a residential area in Los Angeles county (Stocks, 2014).

In Brazil, *Helicoverpa armigera* (Lepidoptera: Noctuidae – EPPO A2 List) occurs on Goias and Mato Grosso states, mainly on cotton and soybean crops (Czepak *et al*., 2013).

A study on *Monilinia* species causing brown rot on peach (*Prunus persica*) has been carried out in China. 145 samples of peaches and nectarines showing symptoms of brown rot have been collected from 29 commercial and 1 experimental orchards in several Chinese provinces. Three species, *Monilinia fructicola* (EPPO A2 List), *M. mumecola* (originally isolated from Japan on *Prunus mume*) and a previously undescribed species *Monilia yunnanenis* sp. nov. were detected. *M. fructicola* was found in samples from Beijing, Fujian, Gansu, Shandong, and Zhejiang. *M. mumecola* was found in samples from Hubei and *M. yunnanensis* in samples from Shanxi and Yunnan (Hu *et al*., 2011).

- **New host plants**

Studies conducted in the USA have confirmed that *Gaultheria procumbens* (Ericaceae) is a host plant for *Phytophthora ramorum* (EPPO A2 List) (Osterbauer *et al.*, 2014).

In spring 2008, *Dothistroma septosporum* (anamorph: *Mycosphaerella pini* – EU Annexes) was found in Järvelja, southeastern Estonia, on *Abies concolor*. Further studies conducted in Southeastern Estonia and Northern Latvia also detected the fungus on *Abies alba* (Drenkhan *et al*., 2014).

- **Diagnostics**

A multiplex real-time PCR assay has been developed in Belgium to detect simultaneously *Ralstonia solanacearum* race 3 and *Clavibacter michiganensis* subsp*. sepedonicus* (both EPPO A2 list). It is noted that this method is well adapted to the primary screening of potato tubers (Massart *et al.*, 2014).

- **New species**

Two new species of *Dryocosmus* (Hymenoptera: Cynipidae), *Dryocosmus sefuriensis* sp. nov. and *Dryocosmus sakureiensis* sp. nov. have been described from Kyushu, Japan. These two new species are causing galls on the Japanese evergreen oak, *Quercus acuta* (Ide *et al.*, 2013).

Source: Choi O, Kim J (2013) *Pantoea stewartii* causing Stewart's wilt on *Dracaena sanderiana* in Korea. *Journal of Phytopathology* **161**(7-8), 578-581.

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Additional key words: new record, detailed record, new host plant, diagnostics, new species

Computer codes: CACYMA, CACYMA, CHAAFR, CLLRU, CORBMI, DITYGI, DPHNPE, DRYCSA, DRYCSE, ELSIAU, ERWIST, HELIAR, LCHV20, LEPLOC, LITHOD, MONIFC, MONIMM, MONIYU, PAPIDE, PCSV00, PEPLRV, PHENSO, PHYTRA, RALSSO, SCIRPI, AU, BE, BR, CN, EE, ES, FR, GR, HR, IT, JP, KR, LU, LV, LV, MU, PL, PT, RO, RU, SC, UA, US

2014/117 International Conference on Global Plant Health Risks and Consequences: Linking Science, Economics and Policy (York, GB, 2014-10-27/28)

Fera are hosting a 2-day international conference on 'Global Plant Health Risks and Consequences: Linking Science, Economics and Policy', sponsored by OECD and supported by York, North Yorkshire & East Riding Local Enterprise Partnership (LEP). This Conference will focus on the interface of plant health policy, economics and interdisciplinary science and is addressed to representatives from industry, public authorities, and research.

The conference will begin by reviewing the economic impacts of key plant pests and diseases on different stakeholders and move on to investigate the drivers for future plant health policy making. The third area the conference will explore the future role of interdisciplinary science and how this can be used to develop novel and innovative approaches to enhance biosecurity.

Early registration is available until September 1st 2014 at the discounted rate of £300 (standard rate £400). Information about the conference programme, venue and registration is available at: http://fera.co.uk/events/biosecurityConference/index.cfm

Source: EPPO Secretariat (2014-06).

Additional key words: conference

2014/118 Preliminary study on the ecological requirements of *Humulus japonicus* in France

Humulus japonicus (Cannabaceae, EPPO List of Invasive Alien Plants) is an annual vine originating from Eastern Asia which was introduced to Europe and to the USA as an ornamental plant. Within the EPPO region, the species is established in France, Hungary and Italy. The plant displays invasive behaviour in the USA and in Hungary.
To consider the influence of abiotic and biotic factors on the success of establishment of *H. japonicus* in France, the following parameters were measured: the cover of the species, the propagule pressure, soil moisture, light availability and nutrient levels. This study revealed that high densities of *H. japonicus* were mainly correlated with high soil moisture and low cover of other plants. The establishment and invasion successes were determined to be correlated to a high propagule pressure (28 seedlings/ha), an early germination and the fact that this climbing vine has long stems which can be prostrate and a plant can cover up to 50 m². *H. japonicus* acts as an opportunistic species that benefits from habitat disturbance (floods in the site studied in France). In these studies, species diversity was reduced by 50% between non-invaded and invaded quadrats. However, the removal of *H. japonicus* allowed species richness to be restored.

Source: Mahaut L, Reygrobellet JP, Fried G (2014) Preliminary study on the ecological requirements and establishment success of the Japanese hop (*Humulus japonicus* Siebold & Zucc.) Abstract of the 4th International Symposium on Environmental Weeds and Invasive Plants, Montpellier (FR), 2014-06-19-23.

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Additional key words: invasive alien plants **Computer codes:** HUMJA, FR

2014/119 Q-bank interactive image-driven identification keys of invasive alien plants

Q-bank is a database on quarantine pests (including invasive alien plants). Interactive image-driven identification keys have been developed for invasive alien plants. The following electronic identification keys have been developed and are freely available:

- Keys for the identification of seeds in animal feed: this key helps to identify seeds as contaminants in birdseed ingredients and seeds of quarantine weeds for the Russian Federation;
- Keys for the identification of weeds in bonsai plants: these keys help users identifying weeds as contaminants in imported bonsai plants;
- Keys for the identification of seedlings of invasive alien plants;
- Keys for the identification of invasive alien terrestrial plants: these keys help users to identify invasive terrestrial plants which may be found in the agricultural and natural environment.

The keys provide drawings to be selected on the shape of the seed, its outline, colouration, appendages, hairs, etc. Once these parameters have been selected, the keys propose pictures of seeds of species which match the selection.

Source: Q-bank, Links to interactive identification keys

http://www.q-bank.eu/Plants/DefaultInfo.aspx?Page=IdentInfo

Additional key words: invasive alien plants, database

2014/120 Potential for classical biological control of *Crassula helmsii* and *Hydrocotyle ranunculoides*

Crassula helsmii (Crassulaceae, EPPO A2 List) and *Hydrocotyle ranunculoides* (Apiaceae, EPPO A2 List) are invasive alien aquatic plants which are very difficult to manage as the use of herbicides is tightly regulated in waterbodies. Research into biological control for these two species has been funded by the UK Government as a long-term sustainable solution for their management. Surveys in each of the plants' native range have revealed many natural enemies which have been narrowed down to a small subset that have the potential to act as biological control agents. *Hydrellia perplexa* (Insecta: Diptera), *Aculus* sp. (Arachnida: Eriophydae) and *Colletotrichum* sp. (Pezizomycotina: Glomerellaceae) have been found to cause significant damage to *C. helmsii* in Australia and are currently being safely tested under quarantine conditions.
Similar testing is underway on *Listronotus elongatus* (Insecta: Coleoptera), *Eugaurax* sp. (Diptera: Chloropidae) and *Puccinia hydrocotyles* (Basidiomycotina: Pucciniaceae) to be potentially used as biological control agents against *H. ranunculoides*.

Source: Wood S, Varia S, Djeddour D, Jones K, Seier M, Shaw R (2014) Potential for classical biological control of two non-native aquatic weeds in Europe: *Crassula helmsii* (Kirk) Cockayne and *Hydrocotyle ranunculoides* L.f. Abstract of the 4th International Symposium on Environmental Weeds and Invasive Plants, Montpellier (FR), 2014-06-19-23.

Additional key words: invasive alien plants, biological control

Computer codes: 1ACULG, 1COLLG, 1EUGXG, CSBHE, HYDRA, PUCCHY

2014/121 *Ludwigia grandiflora* and *L. peploides*, a target for biological control in Europe

Ludwigia grandiflora and *L. peploides* (Onagraceae, EPPO A2 List) are invasive alien aquatic plants originating from South America which have detrimental effects on aquatic ecosystems. These species are increasingly spreading in the EPPO region and are extremely difficult to manage once large scale control is required. Biological control would represent a suitable management option for these species and is currently being explored by CABI. Promising natural enemies have already been identified in the native range of the species. Host range studies tailored to Europe are now required to determine the safety and potential of these agents.

Source: Shaw RH (2014) *Ludwigia* – a prime target for biocontrol in Europe. Abstract of the 4th International Symposium on Environmental Weeds and Invasive Plants, Montpellier (FR), 2014-06-19-23.

Additional key words: invasive alien plants, biological control

Computer codes: LUDUR, LUDPE

2014/122 The biological control of *Impatiens glandulifera* by *Puccinia komarovii* var. *glanduliferae*

Impatiens glandulifera (Balsaminaceae, EPPO List of Invasive Alien Plants) was introduced in the EPPO region as an ornamental plant and it is now widespread. The plant can rapidly colonize riparian systems, damp woodlands and waste ground where it reduces native plant diversity, retards woodland regeneration, outcompetes native plants for space, light and pollinators and increases the risk of flooding. Current control methods are often unsuccessful due to the need to control the plant on a catchment scale.
Since 2006, CABI and its collaborators have surveyed populations of *I. glandulifera* throughout its native range where numerous natural enemies have been collected and identified. One potential candidate has been identified: *Puccinia komarovii* var. *glanduliferae* (Basidomycota: Pucciniaceae). This autoecious, monocyclic pathogen seems promising, not only due to its impacts on the host but also due to its high specificity as observed in the field and preliminary host range testing.

Source: Tanner R, Ellison C, Varia S, Pollard K (2014) The biological control of *Impatiens glandulifera* Royle using the rust pathogen *Puccinia komarovii* var. *glanduliferae.* Abstract of the 4th International Symposium on Environmental Weeds and Invasive Plants, Montpellier (FR), 2014-06-19-23.

Additional key words: invasive alien plants, biological control **Computer codes:** IPAGL

2014/123 A citizen science project for weed identification and knowledge in the Western Indian Ocean

Weeds are responsible for at least 20% harvest losses in food and cash crops worldwide. Efficient control of weeds requires identification, effective control methods and dissemination of information to increase awareness and sharing of data among scientists, teachers, agronomists, field workers and farmers.
A collaborative project untitled WIKWIO has been initiated in the Western Indian Ocean region to provide a participatory platform and a range of computer-driven tools.
The following applications will be developed and be made freely available on-line:

- A participatory portal from which species information can be consulted and observations can be uploaded;
- A computer-aided plant identification application.

The project covers 320 weeds of 14 food or cash crops in the area.

Source: Le Bourgeois T, Grard P, Balasubramanian D, Ramesh BR, Gaungoo A, Andrianaivo AP, Randriamampianina JA, Yahaya I, Marnotte P (2014) IT&C and citizen science for a better management of weeds in the Western Indian Ocean Region. Abstract of the 4th International Symposium on Environmental Weeds and Invasive Plants, Montpellier (FR), 2014-06-19-23.

Weed Identification and Knowledge in the Western Ocean (WIKWIO) http://www.wikwio.org/

Additional key words: invasive alien plants, citizen sciences

2014/124 *Ambrosia trifida* in the EPPO region: addition to the EPPO Alert list

Why
Ambrosia trifida (Asteraceae) is a tall annual plant originating from North-America. One of its English common names is 'Giant Ragweed'. The species is declared as a noxious weed in the USA, and is a quarantine weed in Poland and Russia. Because some populations were recently observed in Southwestern France in maize and soybean crops, the French NPPO suggested adding *A. trifida* to the EPPO Alert List.

Geographical distribution

EPPO region: France, Georgia, Germany, Italy, the Netherlands, Romania, Russia, Serbia, Spain, Switzerland.

North-America (native): United States of America (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming), Canada (Alberta, Manitoba, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec, Saskachewan).

Central America (native): Mexico.

Asia: China, Japan, Republic of Korea.

Note: *A. trifida* is transient (= casual) in Belgium and was observed for the first time in 1829 and lately in 2005 and is considered to have entered as a contaminant of grain and wool. The plant has also been observed as transient in Austria, Belarus, Czech Republic, Denmark, the United Kingdom, Estonia, Ireland, Latvia, Lithuania, Moldova, Norway, Poland, Slovakia, Slovenia, Ukraine. It is often quite difficult to determine whether the species is established or transient.
In Israel, the plant was found during summer 2001 and was eradicated with herbicide treatments (2,4-D).

Morphology
A. trifida is an erect summer annual plant generally growing about 1.5 m tall, but which can reach 4-6 m tall in fertile and moist soils. Roots are primarily fibrous, but a short taproot is also present. Stems are unbranched to frequently branched and have large distinctive opposite 3 palmate-lobed leaves (occasionally 5-lobed or simple) 10-20 cm wide, 15 cm long. Lobes are ovate to lanceolate, and the margins are toothed. Mature plants have stems that are rough and hairy. Individual flowers are small, greenish-yellowish and inconspicuous. Male/staminate flowers are in long (up to 30 cm) narrow racemes at the end of branches. Female/pistillate flowers are clustered at the base of the racemes and in the axils of the upper leaves. A single seed is enclosed in the large (6-12 mm long) fruit (achene). The brown or grey achene, usually referred to as the seed, is crown-shaped with a long, pointed central beak surrounded by 5 shorter points.

Biology and Ecology
A. trifida occurs in a wide range of soils and rainfall zones, but generally prefers finer, moister soils with a summer rainfall regime, and will develop into a very large plant in the right conditions. Flowers are present from July to September in the USA and are wind

pollinated. Seeds generally begin to mature in mid-August. Most germination in the field occurs from early- to mid-spring. Seeds can germinate at a wide range of temperatures from 8°C to 41°C, but with an optimum range of 10-24°C.
When present in disturbed habitats, *A. trifida* can become the dominant species throughout the entire growing season. By being one of the first plants to emerge in early spring, *A. trifida* has an initial competitive advantage over other summer annuals in sites cultivated in late autumn or early spring.
Seed numbers are generally low to average (around 275 seeds up to 5000 seeds have been reported). In the native range of the plant, seeds generally begin to mature in mid-August.

Habitats
A. trifida is most commonly found in disturbed sites, such as cultivated fields including irrigated fields, gardens, ditches, roadsides, earthworks, field margins, pastures and grasslands. Within the EPPO region, *Ambrosia trifida* is mainly found around ports (engaged in grain import) and in places of cereal processing. The species is very often found on riverbanks. According to the Corine Land Cover nomenclature, these habitats correspond to: arable land; permanents crops (e.g. fruit tree and berry plantations, olive); pastures; natural grassland; banks of continental water, riverbanks/canalsides (dry river beds); road and rail networks and associated land; other artificial surfaces (wastelands); green urban areas, including parks, gardens, sport and leisure facilities.

Pathways
The main pathway for the spread of *A. trifida* is through contamination of seed lots as well as through accidental movement via agricultural equipment. Most seeds fall next to the parent plant, but some are able to disperse long distances with water. Seeds are also reported to be spread with the help of human or animal action, though birds and other animals do not consume seeds of *A. trifida* as these are not an attractive food source. Seeds remain viable in the soil for several years.

Impacts
A. trifida is a serious pest in cultivated fields in particular in soybean (*Glycine max*), beans (*Phaseolus* spp.) and maize (*Zea mays*), as well as in other cereals such as wheat (*Triticum* spp.) or in cotton (*Gossypium hirsutum*). Yield losses (though competition and allelopathy) can be over 50% in annual crops such as soybean (Weaver, 2003) In Southwestern France, *A. trifida* has also been found in sunflower (*Helianthus annuus*) and sorghum (*Sorghum* spp.) crops. *A. trifida* competes for nutrients and light, and interferes with harvesting. *A. trifida* is also considered to act through allelopathic interference. As the species is very competitive, it may have a negative impact on biodiversity, in particular in moist flood plains.
As with other *Ambrosia* species, *A. trifida* produces a large amount of pollen which is severely allergenic, causing allergic rhinitis and bronchial asthma, as well as skin reactions in susceptible people.

Control
A. trifida is extremely competitive and is difficult to control. Although the species has several natural predators, none seem to cause sufficient impact to damage the plant.
Intensive agriculture and not allowing any emerging plant to mature can manage *A. trifida* over time. Early tillage, hand-pulling, repeated mowing and pre-/post-emergence herbicides are effective ways of managing *A.trifida,* although long-term management efforts must include a combination of cultural, mechanical and chemical measures. Herbicide resistance to glyphosate has been noted. Perennial grazing sites, or fodder production sites, where grazing or mowing is frequent, will also destroy *A. trifida* over time.

Source: ANSES, Guillaume Fried, Fiche d'alerte ou de signal, 2013.

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Euro+Med PlantBase, *Ambrosia trifida.*
http://ww2.bgbm.org/EuroPlusMed/PTaxonDetail.asp?NameCache=Ambrosia+trifida

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Additional key words: invasive alien plants, alert list **Computer codes:** AMBT

2014/125 Citizen observations of *Ambrosia psilostachya* in France

The 'Observatoire des Ambroisies', in partnership with the 'Laboratoire de la santé des végétaux of Anses' (FR) and Tela Botanica have launched a survey to gather observations on the distribution and potential impacts on *Ambrosia psilostachya* (Asteraceae) in France. *A. psylostachya* is less widespread than *A. artemisiifolia* (Asteraceae, EPPO List of Invasive Alien Plants) in France, but is present in the Camargue and seems to be spreading. This species is as allergenic as *A. artemisiifolia* and can also represent a threat to biodiversity in protected prairie habitats.
A citizen science survey targeted at botanists and the general public has been launched to gather distribution data as well as possible information on impacts of the species. This citizen project is in line with the requirements of the forthcoming EU legislation on invasive alien species. An online form is available, providing help through geo-referencing tools, identification keys on *Ambrosia* spp. and illustrations of *A. psilostachya*.

Source: Tela Botanica, Participez à l'opération "Ambroisie à épis lisses" http://www.tela-botanica.org/actu/article6378.html

Additional key words: invasive alien plants, citizen sciences **Computer codes:** AMBEL, AMBPS, FR