



ORGANISATION EURO) ET
MEDITERRANEENNE
POUR LA PROTECTION DES� PL三字 terde 2006-06-01

EUROPEAN AND MEDITERRANEAN
PLANT PROTECTION
ORGANIZATION

EPPO *Reporting Service*

NO. 6 PARIS, 2006-06-01

CONTENTS

Pests & Diseases

- [2006/117](#) - EPPO welcomes Moldova as its 48th member country
- [2006/118](#) - New data on quarantine pests and pests of the EPPO Alert List
- [2006/119](#) - First report of *Xanthomonas arboricola* pv. *pruni* in Switzerland
- [2006/120](#) - *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* reported in Spain
- [2006/121](#) - First report of Citrus leprosis virus in Honduras
- [2006/122](#) - First report of Citrus leprosis virus in Colombia
- [2006/123](#) - Eradication of *Xanthomonas axonopodis* pv. *citri* in Florida (US) is no longer considered feasible
- [2006/124](#) - First report of brittle leaf disease of date palm (maladie des feuilles cassantes) in Algeria
- [2006/125](#) - First report of *Globodera pallida* in USA
- [2006/126](#) - First report of *Agrilus planipennis* in Illinois (US)
- [2006/127](#) - First report of *Scirtothrips dorsalis* in Trinidad and Tobago
- [2006/128](#) - *Bactrocera zonata* caught in California, USA
- [2006/129](#) - First report of *Phaedon brassicae* in Italy: addition to the EPPO Alert List
- [2006/130](#) - *Marchalina hellenica* is spreading in Greece: addition to the EPPO Alert List
- [2006/131](#) - Another report of *Heterobostrychus hamatipennis* in Europe
- [2006/132](#) - EPPO report on notifications of non-compliance

Invasive Plants

- [2006/133](#) - *Asparagus asparagoides*: an invasive plant in Australia
- [2006/134](#) - *Tagetes minuta* and *Eupatorium inulaefolium* newly naturalized in Taiwan
- [2006/135](#) - Catalogue of alien plants in the Czech Republic
- [2006/136](#) - Invasions by alien plants in the Czech Republic: a quantitative assessment across habitats
- [2006/137](#) - *Solanum elaeagnifolium* threatens Croatian hot spots of biodiversity



EPPO *Reporting Service*

2006/117 EPPO welcomes Moldova as its 48th member country

Moldova joined EPPO in 2006-07. The Organization now has 48 member countries. The contact point for Moldova is:

Mr N.V. SOYA
Main State Plant Quarantine Inspection Service of Moldova
Ul. Yalovenskaya, 100 B,
KISHINIEV 2070
Tel: 373/22 28 44 17
Fax: 373/22 28 46 66
E-mail: slungu@mail.ru

Source: French Ministry of Foreign Affairs, 2006-06.
EPPO Secretariat, 2006-06.

Additional key words: new EPPO member country

Computer codes: MD

2006/118 New data on quarantine pests and pests of the EPPO Alert List

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

- **New records**

Bemisia tabaci (Homoptera: Aleyrodidae – EPPO A2 list) occurs in Tajikistan, where it was first observed in 1994 (Sukhoruchenko and Velikan, 2005). **Present, no detail.**

Maconellicoccus hirsutus (Homoptera: Pseudococcidae - EPPO Action List A1) was found in 2006-06 in George Town, Grand Cayman. Eradication measures are being applied (NAPPO Pest Alert System, 2006). **Present, under eradication.**

Tetranychus evansi (Acari: Tetranychidae – EPPO Alert List) occurs in Senegal. Severe damage is reported on vegetable crops (*Lycopersicon esculentum*, *Solanum aethiopicum*, *Solanum melongena*) especially during the dry season (Duverney *et al.*, 2005). **Present, widespread.**



EPPO *Reporting Service*

- **Detailed records**

In Florida (US), as of June 2006, huanglongbing disease caused by *Liberibacter asiaticum* (EPPO A1 list) has been found in 12 counties (Broward, Collier, De Soto, Hendry, Highlands, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota, St Lucie). The most infected citrus are located in Miami-Dade, Broward, Palm Beach, Collier and Hendry counties. Infected trees have been found in 427 private properties (543 infected trees) and in 19 commercial orchards (89 infected trees) (USDA-APHIS, 2006).

Sugarcane smut caused by *Ustilago scitaminea* was first detected in Australia in 1997/1998 in the Ord river area, Western Australia (see EPPO RS 98/146). The disease was largely controlled by replacing susceptible cultivars by resistant ones. In June 2006, samples showing symptoms of sugarcane smut were collected near Childers, Queensland, and the presence of *U. scitaminea* was subsequently confirmed. Surveys are being made to delimit the extent of the outbreak and measures are taken to prevent any further spread (ProMed posting of 2006-06-22).

- **New host plants**

In Lombardia (Italy), *Xanthomonas arboricola* pv. *pruni* (EPPO A2 list) is reported for the first time on *Prunus laurocerasus*. The pathogen was found in one nursery in October 2005 on *P. laurocerasus* plants showing shot-hole symptoms (Regional PPO of Lombardia, IT, 2006).

Source: Duverney C, Kade N, Gueye-Ndiaye A (2005) Essais préliminaires pour limiter les dégâts de Tetranychidae sur les cultures maraichères dans le Siné-Saloum (Sénégal). Poster presented at the '2^{ème} Colloque International sur les acariens des cultures, Montpellier, FR , 2005-10-24/25'.
Sukhoruchenko GI, Velikan VS (2005) Seasonal dynamics of the sweet potato whitefly *Bemisia tabaci* Genn. (Homoptera, Aleyrodidae) in Tajikistan and its distribution among plants. *Entomological Review* **85**(4), 407-413 (abst.).
NAPPO Pest Alert System. Alerts (2006-06-28) First report of pink hibiscus mealybug in George Town, Grand Cayman. <http://www.pestalert.org/viewNewsAlert.cfm?naid=25>
ProMED posting of 2006-06-22. Sugarcane smut – Australia (Queensland). <http://www.promedmail.org>
Regional Plant Protection Organisation of Lombardia. Giunta Regionale, Direzione Generale Agricoltura, 2006-02.
USDA-APHIS Citrus greening information site (2006-06). <http://www.citrusgreening.net>

Additional key words: new records, detailed records,
new host plants

Computer codes: BEMITA, LIBEAS, PHENHI,
TETREV, USTISC, XANTPR, AU, IT, KI, SN, TJ, US

< 0.000000.000000.000000.000000.000000.000000.00一端000000atria="Image">

EPPO Reporting Service

2006/119 First report of *Xanthomonas arboricola* pv. *pruni* in Switzerland

Xanthomonas arboricola pv. *pruni* (EPPO A2 list) was reported for the first time in Switzerland in 2005. It was found in 1 apricot orchard (*Prunus armeniaca* cvs. 'Orange red', 'Jumbo Cot') and in 2 Japanese plum orchards (*Prunus salicina* cvs. 'Green Sun', 'TC Sun') near Martigny, in the Valais canton.

The situation of *Xanthomonas arboricola* pv. *pruni* in Switzerland can be described as follows:
Present, first found in 2005 in 3 orchards, in Valais canton.

Source: Stäubli A, Mayor JP (2006) Faits marquants dans la recherche à Changins. *Xanthomonas arboricola* pv. *pruni*. *Revue Suisse de Viticulture Arboriculture Horticulture* **38**(3), 195-202.

[news.search.ch]. Räber Information Management GmbH
Nouvelle – Suisse. Valais : abricotiers et prunier malades (2005-11-18).
<http://news.search.ch/inland/2005-11-18/valais-abricotiers-et-pruniers-malades>

Additional key words: new record

Computer codes: XANTPR, CH

2006/120 *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* reported in Spain

Symptoms of bacterial wilt were observed on beans (*Phaseolus vulgaris* cv. 'Donna') in Southern Spain. Samples were collected from 4 fields (coast of Granada, Andalucia) and the isolated bacterium was identified as *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* (EPPO A2 list). It is noted that this pathogen had first been isolated in Spain from seeds in 2001. According to the authors, this is the first report of damage caused by this bacterium in the field. The situation of *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* in Spain can be described as follows: **Present, found in a few fields in the south (Andalucia).**

Source: González AJ, Tello JC, Rodicio MR (2005) Bacterial wilt of beans (*Phaseolus vulgaris*) caused by *Curtobacterium flaccumfaciens* in Southern Spain. *Plant Disease* **89**(12), p 1361.

Additional key words: new record

Computer codes: CORBFL, ES



EPPO *Reporting Service*

2006/121 First report of Citrus leprosis virus in Honduras

During a survey done in 2003 in Honduras, symptoms of citrus leprosis were observed in the municipality of Siguatepeque, near La Esperanza (department of Comayagua). Affected trees showed severe symptoms, suggesting that the disease had arrived in the area several years before. Symptoms were also detected at a second site in the department of Comayagua (45 km east of La Esperanza). At both sites, symptoms were observed on sweet orange (*Citrus sinensis* cvs 'Valencia' and 'Navel') growing in backyards. The disease was also detected twice at a third site, Lago de Yojoa, but each time all symptomatic plants were destroyed. Further inspections were conducted on 206 sites in the major citrus-growing regions (El Progreso, La Ceiba), but no symptom could be found. Laboratory studies (electron microscopy, mitochondrial DNA analysis) confirmed the presence of Citrus leprosis virus. In addition, mites found in association with diseased orange trees were identified as *Brevipalpus phoenicis* (a vector of the virus). This is the first report of Citrus leprosis virus in Honduras.

The situation of Citrus leprosis virus in Honduras can be described as follows: **Present, first reported in 2003 in backyard orange trees at 2 sites (department of Comayagua).**

Source: Rodrigues JCV, Zuniga Reyes JA, Achor DS, Childers CC, Kitajima EW
(2006) Occurrence and distribution of citrus leprosis virus in Honduras.
New Disease Reports, Volume 13: February 2006 - July 2006
<http://www.bspp.org.uk/ndr/july2006/2006-45.asp>

Additional key words: new record

Computer codes: CILV00, HN

2006/122 First report of Citrus leprosis virus in Colombia

In Colombia, symptoms of Citrus leprosis virus (EPPO A1 list) were found in citrus orchards. Typical lesions of leprosis were observed on fruits and leaves of sweet orange trees (*Citrus sinensis* cv. 'Valencia') in the departments of Casanare in 2003, and Meta in 2004. It is noted that the departments of Casanare and Meta, which are located at the East plains (Llanos Orientales), contribute to approximately 10% of the Colombian citrus production. Samples were collected from symptomatic trees and tested in the laboratory (electronic microscopy and RT-PCR). Results confirmed the presence of Citrus leprosis virus. Mites collected from affected plants in the department of Meta were identified as *Brevipalpus phoenicis*, a known vector of the virus. This is the first report of Citrus leprosis virus in Colombia.

The situation of Citrus leprosis in Colombia can be described as follows: **Present, first found in 2003/2004 in the departments of Casanare and Meta.**

Source: Leon AM, Realpe CE, Garzon PA, Rodriguez JA, Moreno MG, Childers CC,



EPPO *Reporting Service*

Achor D, Freitas-Astua J, Antonioli-Luizon R, Salaroli RB, Mesa NC, Kitajima EW (2006) Occurrence of *Citrus leprosis virus* in Llanos Orientales, Colombia. *Plant Disease* **90**(5), p 682.

Additional key words: new record

Computer codes: CILV00, CO

2006/123 Eradication of *Xanthomonas axonopodis* pv. *citri* in Florida (US) is no longer considered feasible

In January 2006, USDA announced that the eradication programme against *Xanthomonas axonopodis* pv. *citri* (citrus canker – EPPO A1 list) in Florida (US) was no longer considered possible as the disease was too widespread. Efforts will now be targeted at maintaining the bacterial inoculum at levels which would still allow satisfactory citrus production. New phytosanitary measures are being developed to contain citrus canker in Florida. As a consequence, USDA announced in June 2006 a plan proposing an interim rule prohibiting Florida citrus shipments to the citrus producing states of Alabama, Arizona, California, Hawaii, Louisiana and Texas, and US territories (American Samoa, Guam, Northern Mariana Islands, Puerto Rico and the Virgin Islands). This plan raised strong debate about the risks presented by the movements of infected symptomless citrus fruits.

Source: NAPPO Pest Alert System. Alerts (2006-01-13).
USDA support of citrus canker eradication efforts terminated.
<http://www.pestalert.org/viewNewsAlert.cfm?naid=5>

Florida Fruit and Vegetable Association Weekly Newsletter.
USDA: Florida citrus banned in producing states, \$100 million in canker compensation coming.
http://www.ffva.com/publications/rapup/public/1119_USDA.asp

Additional key words: eradication

Computer codes: XANTCI, US



EPPO Reporting Service

2006/124 First report of brittle leaf disease of date palm (maladie des feuilles cassantes) in Algeria

A lethal disease of date palm (*Phoenix dactylifera*) called brittle leaf disease (maladie des feuilles cassantes - EPPO Alert List) has been reported from Tunisia since the 1960s. Although no pathogen has yet been found associated with this disease, several aspects of its epidemiology do not suggest a purely abiotic cause (e.g. diseased plants are grouped into foci). A small dsRNA (not related to a known pathogen but probably related to the host) has been found associated with symptomatic trees and presents some diagnostic value in detecting the disease. In December 2003, symptoms of brittle leaf disease were observed in the Biskra region of Algeria (east of the country). In Lichana where the disease had in fact been observed since 1974, 29% of date palm trees were affected, while in some farms of Farfar up to 100% of the trees were affected. The disease was found in traditional oases as well as in new, industrial, date palm plantations in the Bouchagroun and Dra Elbetikh areas. All samples (*P. dactylifera* cv. 'Deglet Nour') from several areas (Vieux Zaatcha, Bouchagroun, Dra Elbetikh, Farfar) tested positive for the specific dsRNA. All affected leaflets tested were deficient in manganese, which is also a characteristic observed in the disease. This is the first documented report of brittle leaf disease of date palm in Algeria.

Source: Saadi I, Namsi A, Ben Mahamoud O, Takrouni ML, Zouba A, Bové JM, Duran-Vila N (2006) First report of 'Maladie des feuilles cassantes' (brittle leaf disease) of date palm in Algeria.
New Disease Reports, Volume 13: February 2006 - July 2006
<http://www.bspp.org.uk/ndr/july2006/2006-14.asp>

Additional key words: new record

Computer codes: DZ

2006/125 First report of *Globodera pallida* in USA

In April 2006, during routine surveillance carried out in potato fields in Idaho, the presence of *Globodera pallida* (EPPO A2 list) was detected for the first time in USA. Two cysts were found in a soil sample. In June 2006, the source of the infestation was traced back to one field in Bingham county, Idaho. This field has been producing potatoes for consumption and processing, but not seed potatoes. In July 2006, a soil sample from another field within the same farm also tested positive for *G. pallida*. Phytosanitary measures were immediately taken to prevent any further spread of the nematode. So far, the infestation appears to be limited to these two fields, but surveys are continuing.

The situation of *Globodera pallida* in USA can be described as follows: **Present, first found in 2006 in 2 potato fields in Idaho, under official control.**



EPPO Reporting Service

Source: NAPPO Pest Alert System. Alerts of 2006-04-19 and 2006-06-15. Potato cyst nematode, *Globodera pallida*, found in Idaho and updates.
<http://www.pestalert.org/viewNewsAlert.cfm?naid=19>
<http://www.pestalert.org/viewNewsAlert.cfm?naid=23>
<http://www.pestalert.org/oprDetail.cfm?oprID=209>

Additional key words: new record

Computer codes: HETDPA, US

2006/126 First report of *Agrilus planipennis* in Illinois (US)

The presence of *Agrilus planipennis* (Coleoptera: Buprestidae – EPPO Action List A1) in Illinois (US) was confirmed by USDA on the 2006-06-09. The insect was discovered by a homeowner in a rural area, in Kane county. Inspections showed that several ash trees (*Fraxinus*) were infested in the vicinity of the first find (covering an area of approximately 1600 m diameter). All infested trees will be removed and measures will be taken to prevent any further spread of the pest through the movement of regulated articles. Delimiting surveys will continue in Illinois, as well as in nearby Wisconsin.

The situation of *Agrilus planipennis* in USA can be described as follows: **Present, found in 6 states (Illinois, Indiana, Maryland, Michigan, Ohio, Virginia), under official control.**

Source: NAPPO Phytosanitary Alert System - Official Pest Reports (USA, 2006-06-30). First report of Emerald Ash Borer in Illinois.
<http://www.pestalert.org/oprDetail.cfm?oprID=208>

Additional key words: detailed record

Computer codes: AGRLPL, US

2006/127 First report of *Scirtothrips dorsalis* in Trinidad and Tobago

The presence of *Scirtothrips dorsalis* (Thysanoptera: Thripidae – EPPO A2 list) has been officially reported from Trinidad and Tobago. The identity of the pest was confirmed in December 2004. *S. dorsalis* was found on Trinidad on various vegetable crops.

The situation of *Scirtothrips dorsalis* in Trinidad and Tobago can be described as follows: **Present, found in 2004 in Trinidad.**

Source: IPP web site. Official pest report (2005-11-16)
Trinidad and Tobago - chilli thrips, yellow tea thrips, Asian thrips
<https://www.ippc.int/IPP/En/default.jsp>

Additional key words: new record

Computer codes: SCITDO, TT



EPPO Reporting Service

2006/128 *Bactrocera zonata* caught in California, USA

In May 2006, 6 adult male *Bactrocera zonata* (Diptera: Tephritidae – EPPO A1 list) were caught in Fresno county in California (US). The infested area has been delimited (approximately 270 km²). Surveys are being conducted in nurseries, orchards, fruit trading companies and shops, packing houses. Treatments (male annihilation technique and foliar treatments) are also being applied to eradicate the pest. An earlier incursion of *B. zonata* had been reported in 2001 in Santa Clara county (EPPO RS 2002/020).

The situation of *Bactrocera zonata* in USA can be described as follows: **Transient, 6 specimens were caught in California in 2006, under eradication.**

Source: NAPPO Pest Alert System. Official Pest Reports (2006-06-02). *Bactrocera zonata* (peach fruit fly), quarantine area in Fresno and Madera Counties, California. <http://www.pestalert.org/oprDetail.cfm?oprID=205>

Additional key words: incursion

Computer codes: HETDPA, US

2006/129 First report of *Phaedon brassicae* in Italy: addition to the EPPO Alert List

The NPPO of Italy informed the EPPO Secretariat of the recent record of *Phaedon brassicae* (Coleoptera: Chrysomelidae) in Italy. This insect of Asian origin was found in a nursery at Parabiago (province of Milano) in Lombardia. *P. brassicae* is a polyphagous insect which is reported as a pest of Brassicaceae in its area of origin. As the Italian NPPO considered that this pest could present a risk to Europe, the EPPO Secretariat added *P. brassicae* to the EPPO Alert List.

Phaedon brassicae (Coleoptera: Chrysomelidae)

Why The NPPO of Italy notified the EPPO Secretariat of the first record on its territory of *Phaedon brassicae*, a polyphagous pest of Asian origin. In the Palearctic region, the genus *Phaedon* includes 35 described species. In Europe, only *P. cochleariae* and *P. armoraciae* are pests of cabbages, rape mustard (*Brassica rapa*) and watercress (*Nasturtium officinale*). Although the distribution of *P. brassicae* is still very limited in Italy, it was felt that it could present a risk to the EPPO region.

Where **EPPO region:** Italy (1 nursery at Parabiago, Lombardia). Many adults were collected at Parabiago on bonsai plants recently imported from Asia. Adults were collected on *Zelkova serrata* and *Ficus retusa* in 2000, on *Bambusa ventricosa* in 2001 and on *Pinus pentaphylla* in 2003. In 2003, weeds growing under the benches of the infested glasshouses were examined. Larvae and adults were observed feeding on a weed, *Cardamine hirsuta* (Brassicaceae). Larvae were only collected inside the glasshouses, whereas adults were also found outside. Although the first specimens of *P. brassicae* were collected on different bonsai plants, these are most probably occasional hosts, as the insect was feeding only on *C. hirsuta*.
Asia: China, Japan, Taiwan, Vietnam.



EPPO Reporting Service

On which plants	Polyphagous insect. It is reported on cultivated plants: <i>Allium cepa</i> , <i>Beta vulgaris</i> , <i>Brassica chinensis</i> , <i>Chrysanthemum coronarium</i> , <i>Daucus carota</i> , <i>Lactuca sativa</i> , <i>Raphanus sativum</i> , or weeds such as <i>Capsella bursa-pastoris</i> and <i>Rorippa atrovirens</i> . In Southern China, it is reported as an important pest of Brassicaceae, such as <i>Brassica alboglabra</i> , <i>B. juncea</i> var. <i>foliosa</i> , <i>B. chinensis</i> , <i>Brassica pekinensis</i> , <i>Nasturium officinale</i> , and <i>Raphanus sativus</i> .
Damage	Adults and larvae feed on leaves, perforating them. Adults are oblong, convex, metallic beetles about 3-5 mm in length (male: 3 mm – female: 5 mm). They are lucifugous and during the day they remain still on the lower leaf surface. In Italy, mating was observed at the end of July. Eggs are laid on the lower leaf surface. In Chinese experiments, at 25 °C, HR 65-75% and photoperiod 12L:12D, the larval stage lasted 10 days. Mature larvae live close to the ground on the upper leaf surface, and they feed more intensively in the dark. Pupae are 5 mm long, bright yellow. From the literature, it is not clear whether pupation takes place in the soil or on lower leaf surface. Details are lacking on the biology of the insect and its damage.
Dissemination	No data is available on the natural dispersal of the insect. Over long distances, movements of host plants could spread the pest. In Italy, it is obvious that bonsai plants have transported the pest but it is not entirely clear how this was achieved (adults hidden in the pots, in the soil, feeding on host weeds growing in the pots?).
Pathway	Plants for planting of host plants of <i>P. brassicae</i> , bonsai plants, soil?
Possible risks	Brassicaceae are widely grown in the EPPO region but data is lacking on the economic impact of <i>P. brassicae</i> in its area of origin. More data would also be needed on the biology of the pest, especially on its host range and its potential for establishment in the EPPO region. Data is also lacking on control measures (biological control is mentioned in the literature with the use of <i>Bacillus thuringiensis</i> and <i>Steinernema carpocapsae</i>). Although other <i>Phaedon</i> species are already reported as pests of Brassicaceae in the EPPO region, it is desirable to avoid the introduction of an additional species which may present a risk to many crops.
Source(s)	Kimoto S (1962) Descriptions of immature stages of Japanese Chrysomelinae belonging to the generic groups <i>Chrysolina</i> , <i>Gonioctena</i> , <i>Potaninia</i> , <i>Phola</i> and <i>Phaedon</i> (Coleoptera). <i>Journal of the Faculty of Agriculture, Kyushu University</i> 12(2), 89-104. Limonta L, Colombo M (2004) Record in Italy of <i>Phaedon brassicae</i> Baly (Coleoptera Chrysomelidae Chrysomelinae) <i>Bollettino di Zoologia Agraria e di Bachicoltura Serie II</i> 36(3), 369-371. NPPO of Italy, 2005-10.
EPPO RS 2006/129	
Panel review date	-
	Entry date 2006-06

2006/130 *Marchalina hellenica* is spreading in Greece: addition to the EPPO Alert List

The attention of the EPPO Secretariat was drawn by a Greek non-governmental organization involved in forest protection 'Philodassiki Enossi Athinon' to the uncontrolled spread of *Marchalina hellenica* on pine trees in Greece. So far, this scale insect originating from the Mediterranean region has been considered a useful species as it produces honeydew which then constitutes a significant source of food for honey bees. In recent years, *M. hellenica* was voluntarily introduced into new areas of Greece to enhance the production of honey. At the same time, outbreaks of *M. hellenica* were reported from various parts of Greece together with a severe decline of pine forests. This raised a strong debate in Greece about the exact role of *M. hellenica* in pine tree decline and mortality, and whether its deliberate release in pine forests should be continued or not. Although scientific data is lacking, the observations which are currently being made in Greece advocate for precautionary measures and it seems advisable not to introduce this insect into other parts of the EPPO region.



EPPO Reporting Service

Marchalina hellenica (Homoptera: Margarodidae)

Why	Between 1996 and 2000, Greek beekeepers were encouraged to artificially introduce a scale <i>Marchalina hellenica</i> in pine forests to increase their production of honey (it is estimated that 60% of honey produced in Greece is made from pine). The honeydew produced by the scale is used as a significant source of food by honey bees. At the same time, severe decline and significant tree mortality were observed in infested pine forests. A strong debate is currently taking place in Greece about the exact role of <i>M. hellenica</i> . Very different opinions are expressed, as for some the insect only causes cosmetic damage and for others it is the primary cause of pine mortality. It is also argued that <i>M. hellenica</i> could be a factor among many others involved in the decline of pine forests (e.g. ozone and soil pollution, drought, urban development and reduction of growth space for trees). But despite the lack of scientific information on the exact impact of <i>M. hellenica</i> on pine forests, the EPPO Secretariat added <i>M. hellenica</i> to the Alert List to draw countries' attention to the possible risks of moving this pest to new areas where it may escape control.
Where	EPPO region: Italy (only in the island of Ischia, Campania), Greece (spreading on the mainland and several islands including Crete, Rhodos), Turkey (at least in the Aegean region, data is lacking for other regions). In Italy it was officially reported on the island of Ischia (Campania) in 1984 but it is suspected that it was introduced in the 1960s. <i>M. hellenica</i> is thought to originate from the eastern Mediterranean region.
On which plants	<i>Pinus</i> species: especially <i>P. brutia</i> , <i>P. halepensis</i> and to a smaller extent, <i>P. sylvestris</i> , <i>P. nigra</i> , <i>P. pinea</i> . After artificial infestations studied at Mount Helmos in Greece, <i>M. hellenica</i> was also able to develop and established on <i>Abies cephalonica</i> .
Damage	<m. <i="" a="" also="" amounts="" and="" be="" branch="" branches="" but="" by="" can="" cause="" crete.="" death.="" desiccation="" develop.="" dieback,="" even="" eventually="" exposed="" far,="" followed="" gradual="" greece="" hellenica="" honeydew="" in="" infestations="" insect.="" is="" ischia,="" island="" it="" italy,="" large="" lower="" main="" mainly="" mortality="" moulds="" nests="" observed="" of="" on="" part="" pine="" populations="" prefers="" produces="" roots.="" sap-feeding="" so="" sooty="" southern="" the="" tree="" trunk,="" which="">M. hellenica was found damaging <i>Pinus</i> trees on the coast and in urban environments (streets and parks). In Turkey, a study was done to assess the impact of <i>M. hellenica</i> on <i>P. brutia</i> growing in the forests near Muğla (Aegean region). It showed that infestations could present a significant negative impact on trees (e.g. with up to 3.4% loss of volume increment in tree stands). But no tree mortality was mentioned in this study. <i>M. hellenica</i> can be found in bark crevices, covered by white waxy secretions. The insect has 1 generation per year (although in some cases 2 generations have been observed). It is considered that <i>M. hellenica</i> mainly reproduces through parthenogenesis, as males are rarely found. Females are apterous and lay approximately 200-300 yellow, ovalog-shaped eggs covered by waxy secretions (in April, in Greece). 1st instar larvae (antennae with 6 segments) hatch approximately 20 days after egg-laying. They are light yellow, ellipsoid in shape and they start feeding and secreting a waxy cotton-like substance (from May to October). 2nd instar larvae (antennae with 9 segments) with an ellipsoidal shape are found from October to March. Each larval instar lasts approximately 6 months and the insect overwinters as 2nd instar larvae. Bright yellow adult females (antennae with 11 segments) covered by waxy secretions are then observed (body is approximately 7-11 mm long and 3-5 mm large). Male have rarely been found in Greece. The immature male stages have spindle-shaped, yellowish bodies (5.3 mm long, 3.6 mm large) and adults are winged (wingspan of approximately 11 mm).</m.>
Dissemination	<i>M. hellenica</i> has a low mobility, females are apterous and winged males are rarely observed. Results of genetic studies done on different Greek populations of the insect were also consistent with a very low mobility of this species. Artificial and intentional infestations done by man have obviously been very efficient in disseminating <i>M. hellenica</i> into new areas in Greece, where its populations reached high levels.
Pathway	<i>Pinus</i> plants for planting, cut branches.
Possible risks	Although scientific data is lacking about the impact of <i>M. hellena</i> on <i>Pinus</i> forests, there is indication that large populations of the pest are damaging trees. In urban environments, insects producing large amounts of honeydew are always considered as a nuisance. Pines are widely



EPPO Reporting Service

present in the EPPO region, in forests but also in parks and gardens. Treatments against *M. hellenica* are being studied but most of them are difficult to apply in natural environment. The possible action of natural enemies, such as *Neoleucopis kartliana* (Diptera: Chamaemyiidae) or *Chartocerus* sp. (Hymenoptera: Signiphoridae) is being studied. In Italy, phytosanitary measures have been put in place to contain the pest within the island of Ischia (e.g. movements of host plants from the island of Ischia are prohibited, new outbreaks must be reported, pruning material should be destroyed). Although the risk presented by *M. hellenica* to *Pinus* trees is still being debated, it is advisable to avoid the introduction of *M. hellenica* into new areas.

Source(s)

Personal communication with Mr Melas, Philodassiki, Athens, 2006-02.

Personal communication with Dr P. Milonas, Benaki Phytopathological Institute, Kifisia, Greece, 2006-06.

Anonymous (2005) Linee guida per interventi urgenti nelle pinete dell'isola d'Ischia, finalizzati al contenimento delle infestazioni in atto di coleotteri corticicoli (*Tomicus destruens* ed *Orthotomicus erosus*) e di omotteri fitomizi (*Marchalina hellenica*). Servizio Fitosanitario Regionale Campania.

<http://www.sito.regione.campania.it/AGRICOLTURA/difesa/linee-guida-pinete.htm>

Bacandritsos N, Saitanis C, Papanastasiou I (2004) Morphology and life cycle of *Marchalina hellenica* (Gennadius) (Hemiptera: Margarodidae) on pine (Parnis Mt.) and fir (Helmos Mt.) forests of Greece. *Annales de la Société entomologique de France (nouvelle série)*, **40**(2), 169-176.

Bacandritsos N (2004) Establishment and honeydew honey production of *Marchalina hellenica* (Coccoidea Margarodidae) on fir tree (*Abies cephalonica*). *Bulletin of Insectology* **57**(2), 127-130.

Erlinghagen F (2001) Portrait of an insect: *Marchalina hellenica* Genn. (Sternorrhyncha: Coccinea: Margarodidae), important producer of honeydew in Greece. *Apiacta* **36**, 131-137.

Kosta H, Chondros A (2006) What ails the pines of Greece? *The American College of Greece Magazine*, no. 1, 34-35. <http://www.acg.edu/acg/Acgmagazine1.pdf>

Margaritopoulos, JT, Bacandritsos N, Pekas AN, Stamatis C, Mamuris Z, Tsitsipis JA (2003) Genetic variation of *Marchalina hellenica* (Hemiptera: Margarodidae) sampled from different hosts hosts in Greece. *Bulletin of Entomological Research* **93**, 447-453.

Petrakis P, Roussis V, Vayias C (2006) Scientists are testing what could prove the definitive way to save pine trees from a slow and certain death. *Ekathimerini*. (on-line version of a Greek newspaper - 2006-16-03) <http://www.ekathimerini.com/4dcgi/news/content.asp?aid=67533>

Yeşil A, Gürkan B, Saraçoğlu Ö, Zengin H (2005) Effect of the pest *Marchalina hellenica* Gennadius (Homoptera, Margarodidae) on the growth parameters of *Pinus brutia* Ten. in Muğla region (Turkey). *Polish Journal of Ecology* **53**(3), 451-458.

EPPO RS 2006/130

Panel review date

-

Entry date 2006-06



EPPO Reporting Service

2006/131 Another report of *Heterobostrychus hamatipennis* in Europe

As reported in EPPO RS 2005/100, an unusual xylophagous beetle of Asian origin, *Heterobostrychus hamatipennis* (Coleoptera: Bostrichidae) had been found in Belgium in a sample of osier willow imported from China and kept in storage. In May 2005, another finding was made by a homeowner in East Yorkshire, England (GB). A male and a female of *H. hamatipennis* emerged from a decorative basket (probably made with osier willow) containing flowers and given as a present. Signs of insect activity (sawdust) appeared when the basket was moved near a radiator. Following a request posted on the Internet (What is this pest?) by the homeowner, the identity of the pest was confirmed by Ing. Fassotte (CRA-W) in collaboration with Drs Constant and Grootaert from the 'Institut Royal des Sciences Naturelles de Belgique'. This is the second time that *H. hamatipennis* has been observed in Europe.

Source: Personnel communication with Ing Christine Fassotte, Département Lutte biologique et Ressources phytogénétiques, Centre Wallon de Recherches agronomiques (CRA-W), Gembloux, Belgium, 2006-03.

Internet - What is this pest?

<http://www.pestcontrolcanada.com/Questions/What%20is%20this%20pest.htm>

Additional key words: incursion

Computer codes: HETBSP, GB

2006/132 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered the notifications of non-compliance for 2006 received since the previous report (EPPO RS 2006/088) from the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Lithuania, Netherlands, Poland, Serbia, Spain, Sweden, Switzerland, Turkey, United Kingdom. When a consignment has been re-exported and the country of origin is unknown, the re-exporting country is indicated in brackets. When the occurrence of a pest in a given country is not known to the EPPO Secretariat, this is indicated by an asterisk (*).

The EPPO Secretariat has selected notifications of non-compliance made because of the detection of pests. Other notifications of non-compliance due to prohibited commodities, missing or invalid certificates are not indicated. It must be pointed out that the report is only partial, as many EPPO countries have not yet sent their notifications.



EPPO Reporting Service

Note: two corrections have to be made to an earlier report appearing in EPPO RS 2005/188.

- The consignment of oranges (*Citrus sinensis*) intercepted by Spain because of the presence of *Cryptophlebia leucotreta* did not originate from Uruguay but from South Africa. Uruguay stated that *C. leucotreta* has never been found on its territory.
- Only 10 (and not 17) consignments of oranges (*C. sinensis*) from Uruguay wereintercepted by Spain because of the presence of *Xanthomonas axonopodis* pv. *citri*.

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb																																																																																																																																																																	
<i>Agromyzidae</i>	<i>Ocimum americanum</i>	Vegetables	Thailand	France	1																																																																																																																																																																	
	<i>Ocimum basilicum</i>	Vegetables	Israel	Netherlands	1																																																																																																																																																																	
	<i>Ocimum basilicum</i>	Vegetables	Thailand	France	4																																																																																																																																																																	
<i>Aleyrodidae</i>	<i>Eryngium foetidum</i>	Vegetables	Thailand	France	6																																																																																																																																																																	
	<i>Hygrophila polysperma</i>	Aquarium plants	Singapore	France	1																																																																																																																																																																	
	<i>Ocimum basilicum</i>	Vegetables	Thailand	Netherlands	1																																																																																																																																																																	
	<i>Trichodiadema</i>	Vegetables	Thailand	Netherlands	1																																																																																																																																																																	
<i>Anoplophora</i>	<i>Acer palmatum</i>	Cuttings	China	United Kingdom	1																																																																																																																																																																	
<i>Aphididae</i>	<i>Hibiscus</i>	Plants for planting	Israel	Cyprus	1	<i>Bemisia</i>	<i>Solidago</i>	Cut flowers	Israel	Netherlands	1	<i>Bemisia tabaci</i>	<i>Amaranthus</i>	Vegetables	Nigeria	United Kingdom	1	<i>Amaranthus, Ipomoea batatas</i>	Vegetables	Sierra Leone	United Kingdom	1	<i>Anubias</i>	Aquarium plants	Singapore*	France	2	<i>Aster</i>	Cut flowers	Israel	Netherlands	1	<i>Aster</i>	Cut flowers	Zimbabwe	Netherlands	1	<i>Aster, Solidago</i>	Cut flowers	Israel	Netherlands	1	<i>Bacopa</i>	Cuttings	Thailand	Denmark	1	<i>Chrysanthemum</i>	Cut flowers	Spain (Canary Isl.)	United Kingdom	3	<i>Colocasia esculenta</i>	Vegetables	India	United Kingdom	5	<i>Corchorus olitorius</i>	Vegetables	Sierra Leone	United Kingdom	1	<i>Corchorus, Ipomoea batatas</i>	Vegetables	Ghana	United Kingdom	1	<i>Croton</i>	Plants for planting	Sri Lanka	United Kingdom	1	<i>Cryptocorine, Dracaena</i>	Aquarium plants	Singapore*	United Kingdom	1	<i>Dipladenia</i>	Plants for planting	Israel	United Kingdom 才能得到 <td 1	<i>Eryngium</i>	Vegetables	Thailand	Denmark	1	<i>Eryngium</i>	Vegetables	Thailand	France	4	<i>Eryngium</i>	Vegetables	Vietnam	France	1	<i>Eryngium</i>	Vegetables	Zimbabwe	Netherlands	1	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	2	<i>Fuchsia</i>	Cuttings	Kenya	United Kingdom	1	<i>Gardenia</i>	Plants for planting	Egypt	Netherlands	1	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1	<i>Hardenbergia violacea</i>	Plants for planting	Italy	United Kingdom	2	<i>Hemigraphis</i>	Aquarium plants	Singapore*	United Kingdom	2	<i>Hibiscus, Lantana</i>	Cut flowers	Israel	Netherlands	1	<i>Hygrophila</i>	Aquarium plants	Singapore*	United Kingdom	2	<i>Hygrophila corymbosa</i>	Aquarium plants	Singapore*	United Kingdom	1	<i>Hypericum</i>	Cut flowers	Israel	Belgium	1	<i>Ipomoea</i>	Vegetables	Gambia	United Kingdom	1	<i>Ipomoea</i>	Vegetables	Sierra Leone	United Kingdom	2	<i>Ipomoea batatas</i>	Vegetables	Gambia	United Kingdom	7
<i>Bemisia</i>	<i>Solidago</i>	Cut flowers	Israel	Netherlands	1																																																																																																																																																																	
<i>Bemisia tabaci</i>	<i>Amaranthus</i>	Vegetables	Nigeria	United Kingdom	1																																																																																																																																																																	
	<i>Amaranthus, Ipomoea batatas</i>	Vegetables	Sierra Leone	United Kingdom	1																																																																																																																																																																	
	<i>Anubias</i>	Aquarium plants	Singapore*	France	2																																																																																																																																																																	
	<i>Aster</i>	Cut flowers	Israel	Netherlands	1																																																																																																																																																																	
	<i>Aster</i>	Cut flowers	Zimbabwe	Netherlands	1																																																																																																																																																																	
	<i>Aster, Solidago</i>	Cut flowers	Israel	Netherlands	1																																																																																																																																																																	
	<i>Bacopa</i>	Cuttings	Thailand	Denmark	1																																																																																																																																																																	
	<i>Chrysanthemum</i>	Cut flowers	Spain (Canary Isl.)	United Kingdom	3																																																																																																																																																																	
	<i>Colocasia esculenta</i>	Vegetables	India	United Kingdom	5																																																																																																																																																																	
	<i>Corchorus olitorius</i>	Vegetables	Sierra Leone	United Kingdom	1																																																																																																																																																																	
	<i>Corchorus, Ipomoea batatas</i>	Vegetables	Ghana	United Kingdom	1																																																																																																																																																																	
	<i>Croton</i>	Plants for planting	Sri Lanka	United Kingdom	1																																																																																																																																																																	
	<i>Cryptocorine, Dracaena</i>	Aquarium plants	Singapore*	United Kingdom	1																																																																																																																																																																	
	<i>Dipladenia</i>	Plants for planting	Israel	United Kingdom 才能得到 <td 1																																																																																																																																																																		
	<i>Eryngium</i>	Vegetables	Thailand	Denmark	1																																																																																																																																																																	
	<i>Eryngium</i>	Vegetables	Thailand	France	4	<i>Eryngium</i>	Vegetables	Vietnam	France	1	<i>Eryngium</i>		Vegetables	Zimbabwe	Netherlands	1	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	2	<i>Fuchsia</i>	Cuttings	Kenya	United Kingdom	1	<i>Gardenia</i>	Plants for planting	Egypt	Netherlands	1	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1	<i>Hardenbergia violacea</i>	Plants for planting	Italy	United Kingdom	2	<i>Hemigraphis</i>	Aquarium plants	Singapore*	United Kingdom	2	<i>Hibiscus, Lantana</i>	Cut flowers	Israel	Netherlands	1	<i>Hygrophila</i>	Aquarium plants	Singapore*	United Kingdom	2	<i>Hygrophila corymbosa</i>	Aquarium plants	Singapore*	United Kingdom	1	<i>Hypericum</i>	Cut flowers	Israel	Belgium	1	<i>Ipomoea</i>	Vegetables	Gambia	United Kingdom	1	<i>Ipomoea</i>	Vegetables	Sierra Leone	United Kingdom	2	<i>Ipomoea batatas</i>	Vegetables	Gambia	United Kingdom	7																																																																																					
	<i>Eryngium</i>	Vegetables	Vietnam	France	1																																																																																																																																																																	
	<i>Eryngium</i>	Vegetables	Zimbabwe	Netherlands	1																																																																																																																																																																	
	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	2																																																																																																																																																																	
	<i>Fuchsia</i>	Cuttings	Kenya	United Kingdom	1																																																																																																																																																																	
	<i>Gardenia</i>	Plants for planting	Egypt	Netherlands	1																																																																																																																																																																	
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1																																																																																																																																																																	
	<i>Hardenbergia violacea</i>	Plants for planting	Italy	United Kingdom	2																																																																																																																																																																	
	<i>Hemigraphis</i>	Aquarium plants	Singapore*	United Kingdom	2																																																																																																																																																																	
	<i>Hibiscus, Lantana</i>	Cut flowers	Israel	Netherlands	1																																																																																																																																																																	
	<i>Hygrophila</i>	Aquarium plants	Singapore*	United Kingdom	2																																																																																																																																																																	
	<i>Hygrophila corymbosa</i>	Aquarium plants	Singapore*	United Kingdom	1																																																																																																																																																																	
	<i>Hypericum</i>	Cut flowers	Israel	Belgium	1																																																																																																																																																																	
	<i>Ipomoea</i>	Vegetables	Gambia	United Kingdom	1																																																																																																																																																																	
	<i>Ipomoea</i>	Vegetables	Sierra Leone	United Kingdom	2																																																																																																																																																																	
	<i>Ipomoea batatas</i>	Vegetables	Gambia	United Kingdom	7																																																																																																																																																																	



EPPO Reporting Service

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb	
<i>B. tabaci</i> (cont.)	<i>Ipomoea batatas</i>	Vegetables	Ghana	United Kingdom	2	
	<i>Lantana camara</i>	Plants for planting	Italy	United Kingdom	1	
	<i>Lisianthus</i>	Cut flowers	Israel	Netherlands	1	
	<i>Manihot esculenta</i>	Vegetables	Cameroon	Belgium	2	
	<i>Myrtus</i>	Cut flowers	Israel	Netherlands	1	
	<i>Neptunia oleracea, Ocimum</i>	Vegetables	Thailand	United Kingdom	1	
	<i>Ocimum</i>	Vegetables	Israel	Netherlands	1	
	<i>Ocimum</i>	Vegetables	Spain (Canary Isl.)	United Kingdom	1	
	<i>Ocimum</i>	Vegetables	Thailand	Netherlands	1	
	<i>Ocimum basilicum</i>	Vegetables	Israel	Netherlands	9	
	<i>Ocimum basilicum</i>	Vegetables	Thailand	Netherlands	2	
	<i>Ocimum basilicum</i>	Vegetables	Thailand	United Kingdom	1	
	<i>Ocimum basilicum, Citrus hystrix</i>	Vegetables	Thailand	United Kingdom	2	
	<i>Ocimum sanctum</i>	Vegetables	Thailand	United Kingdom	1	
	<i>Rosa</i>	Cut flowers	Brazil	Netherlands	2	
	<i>Rosa</i>	Cut flowers	Israel	Netherlands	4	
	<i>Solidago</i>	Cut flowers	Israel	Netherlands	18	
	<i>Solidago</i>	Cut flowers	Israel	United Kingdom	1	
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	15	
	<i>Solidago</i>	Cut flowers	Zimbabwe	United Kingdom	1	
	<i>Sutera</i>	Cuttings	Israel	Netherlands	1	
	<i>Trachelium</i>	Cut flowers	Israel	Belgium	1	
	<i>Trachelium</i>	Cut flowers	Israel	Netherlands	24	
	<i>Trachelium</i>	Cut flowers	Israel	Sweden	1	
	<i>Trachelium caeruleum</i>	Cut flowers	Israel	Netherlands	2	
	Unspecified	Aquarium plants	Malaysia	Belgium	2	
	Unspecified leaves	Vegetables	Ghana	United Kingdom	1	
	Unspecified leaves	Vegetables	Nigeria	United Kingdom	1	
	Unspecified leaves	Vegetables	Thailand	United Kingdom	1	
	<i>Verbena</i>	Cuttings	Israel	United Kingdom	1	
	<i>Bemisia tabaci, Spoladea recurvalis, Thripidae</i>	<i>Celosia, Corchorus olitorius, Telfairia</i>	Vegetables	Nigeria	United Kingdom	1
	<i>Clavibacter michiganensis</i> subsp. <i>sepedonicus</i>	<i>Solanum tuberosum</i>	Seed potatoes	France	Bulgaria	1
		<i>Solanum tuberosum</i>	Seed potatoes	Poland	Bulgaria	1
<i>Solanum tuberosum</i>		Ware potatoes	Sweden	Lithuania	1	
<i>Coccidae</i>	<i>Asparagus officianalis</i>	Vegetables	Thailand	Netherlands	1	
	<i>Psidium guajava</i>	Fruits	Thailand	Netherlands	1	
<i>Dermateaceae</i>	<i>Citrus paradisi</i>	Fruits	Argentina	France	1	
<i>Dialeurodes</i>	<i>Citrus aurantiifolia</i>	Fruits	Pakistan	United Kingdom	1	
<i>Diaphania indica</i>	<i>Momordica charantia</i>	Vegetables	Kenya	United Kingdom	9	
<i>Diaphania indica, Spodoptera exigua</i>	<i>Momordica charantia</i>	Vegetables	Pakistan	United Kingdom	1	
<i>Diaphania indica, Spodoptera littoralis</i>	<i>Momordica charantia</i>	Vegetables	Kenya	United Kingdom	1	
<i>Geotrichum candidum</i>	<i>Citrus paradisi</i>	Fruits	Argentina	France	1	



EPPO Reporting Service

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb
<i>Globodera pallida</i>	<i>Fragaria ananassa</i>	Cuttings	Ukraine	Netherlands	1
	<i>Solanum tuberosum</i>	Seed potatoes	Netherlands	United Kingdom	1
<i>Globodera rostochiensis</i>	<i>Solanum tuberosum</i>	Ware potatoes	Greece	Bulgaria	1
<i>Guignardia</i>	<i>Citrus</i>	Fruits	China	Netherlands	1
	<i>Citrus maxima</i>	Fruits	China	Netherlands	4
	<i>Citrus maxima</i>	Fruits	Thailand	Netherlands	2
<i>Guignardia citricarpa</i>	<i>Citrus</i>	Fruits	Benin*	France	1
	<i>Citrus</i>	Fruits	China	Netherlands	2
	<i>Citrus sinensis</i>	Fruits	Brazil	Netherlands	39
	<i>Citrus sinensis</i>	Fruits	Brazil	Spain	2
	<i>Citrus sinensis</i>	Fruits	South Africa	Netherlands	16
	<i>Citrus sinensis</i>	Fruits	Swaziland	Netherlands	1
<i>Helicotylenchus</i>	<i>Phoenix dactylifera</i>	Cuttings	Egypt	Greece	1
	<i>Phormium</i>	Plants for planting	Argentina	Belgium	2
<i>Helicoverpa armigera</i>	<i>Capsicum annuum</i>	Vegetables	Uganda	United Kingdom	1
	<i>Cucurbita</i>	Vegetables	Zambia	Netherlands	1
	<i>Dianthus</i>	Cut flowers	Egypt	Netherlands	2
	<i>Dianthus</i>	Cut flowers	Israel	Netherlands	2
	<i>Dianthus</i>	Cut flowers	Kenya	Netherlands	1
	<i>Eryngium</i>	Vegetables	Kenya	Netherlands	1
	<i>Eryngium</i>	Vegetables	Zimbabwe	Netherlands	8
	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	2
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1
	<i>Pelargonium</i>	Cuttings	Spain (Canary Isl.)	United Kingdom	2
	<i>Pisum</i>	Vegetables	Kenya	Netherlands	2
	<i>Pisum</i>	Vegetables	Kenya	United Kingdom	1
	<i>Pisum</i>	Vegetables	Tanzania	Netherlands	3
	<i>Pisum</i>	Vegetables	Zambia	Netherlands	1
	<i>Pisum sativum</i>	Vegetables	Zambia	Netherlands	1
	<i>Pisum sativum</i>	Vegetables	Zimbabwe	Netherlands	1
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	1
<i>Rosa</i>	Cut flowers	Zambia	Netherlands	2	
<i>Zea</i>	Vegetables	Senegal	United Kingdom	1	
<i>Hirchmanniella</i>	<i>Anubias</i>	Aquarium plants	Singapore	France	1
	<i>Unspecified</i>	Aquarium plants	Thailand	Belgium	1
	<i>Vallisneria</i>	Aquarium plants	Singapore	France	9
<i>Lepidoptera</i>	<i>Capsicum frutescens</i>	Vegetables	Thailand	France	1
	<i>Gramineae</i>	Cut flowers	South Africa	Cyprus	1
<i>Leptinotarsa decemlineata</i>	<i>Lactuca sativa</i>	Vegetables	France	United Kingdom	1
	<i>Petroselinum</i>	Vegetables	Netherlands	Ireland	1
<i>Leucinodes orbonalis</i>	<i>Solanum melongena</i>	Vegetables	Ghana	Germany	2
	<i>Solanum melongena</i>	Vegetables	Thailand	Germany	1
	<i>Solanum melongena,</i> <i>Ocimum, Citrus hystrix</i>	Vegetables	Thailand	Germany	1
	<i>Solanum melongena,</i> <i>Solanum torvum</i>	Vegetables	Thailand	France	1
	<i>Solanum melongena,</i> <i>Solanum torvum</i>	Vegetables	Thailand	Netherlands	15
	<i>Solanum melongena,</i> <i>Solanum torvum</i>	Vegetables	Thailand	Netherlands	15



EPPO Reporting Service

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb
<i>L. orbonalis</i> (cont.)	<i>Solanum torvum</i>	Vegetables	Thailand	France	4
	<i>Solanum torvum</i>	Vegetables	Thailand	Netherlands	3
<i>Liriomyza</i>	<i>Amaranthus</i>	Vegetables	Vietnam	United Kingdom	1
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Kenya	Netherlands	1
	<i>Gypsophila paniculata</i>	Cut flowers	Ecuador	Sweden	3
	<i>Ocimum basilicum</i>	Vegetables	Israel	Italy	1
	<i>Trigonella</i>	Vegetables	India	United Kingdom	1
<i>Liriomyza bryoniae</i>	<i>Solidago</i>	Cut flowers	Israel	Netherlands	1
<i>Liriomyza huidobrensis</i>	<i>Chrysanthemum</i>	Cut flowers	Israel	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Ecuador	Sweden	1
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	17
	<i>Gypsophila paniculata</i>	Cut flowers	Ecuador	Sweden	1
	<i>Gypsophila paniculata</i>	Cut flowers	Kenya	Netherlands	1
	<i>Leucanthemum</i>	Cuttings	Kenya	United Kingdom	1
	<i>Moluccella</i>	Cut flowers	Israel	Ireland	2
	<i>Ocimum basilicum</i>	Vegetables	Thailand	France	1
	<i>Pisum</i>	Vegetables	Kenya	United Kingdom	1
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
<i>Liriomyza sativae</i>	<i>Cassia</i>	Vegetables	(Thailand)	Czechia	1
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	2
	<i>Ocimum americanum</i>	Vegetables	Thailand	France	1
	<i>Ocimum basilicum</i>	Vegetables	Thailand	Netherlands	1
	<i>Ocimum sanctum</i>	Vegetables	Thailand	Netherlands	1
<i>Liriomyza trifolii</i>	<i>Aster</i>	Cut flowers	Israel	Netherlands	3
	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Egypt	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	4
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	8
	<i>Gypsophila, Solidago</i>	Cut flowers	Israel	Netherlands	1
	<i>Solidago</i>	Cut flowers	Israel	Netherlands	3
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
<i>Trachelium</i>	Cut flowers	Israel	Netherlands	1	
<i>Opogona sacchari</i>	<i>Crinum, Dracaena, Sansevieria</i>	Plants for planting	Netherlands	Germany	1
	<i>Dracaena, Sansevieria</i>	Plants for planting	Netherlands	Germany	1
<i>O. sacchari</i> (suspected)	<i>Alocasia</i>	Plants for planting	Netherlands	Germany	1
<i>Pepino mosaic potyvirus</i>	<i>Lycopersicon esculentum</i>	Seeds	France	United Kingdom	1
	<i>Lycopersicon esculentum</i>	Vegetables	Morocco	United Kingdom	1
	<i>Lycopersicon esculentum</i>	Seeds	Netherlands	United Kingdom	2
	<i>Lycopersicon esculentum</i>	Vegetables	Spain	United Kingdom	3
	<i>Lycopersicon esculentum</i>	Vegetables	Spain (Canary Isl.)	United Kingdom	3
<i>Phytophthora</i>	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	1
<i>Phytophthora fragariae</i> var. <i>rubi</i>	<i>Rubus idaeus</i>	Plants for planting	Poland	Serbia and Montenegro	1



EPPO Reporting Service

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb
<i>Phytophthora ramorum</i>	<i>Rhododendron</i>	Cuttings	Netherlands	United Kingdom	1
<i>Plum pox potyvirus</i>	<i>Prunus domestica</i>	Plants for planting	Serbia and Montenegro	Bulgaria	1
	<i>Prunus persicae</i>	Plants for planting	Serbia and Montenegro	Bulgaria	1
<i>Pseudaulacaspis pentagona</i>	<i>Prunus domestica</i>	Plants for planting	Greece	Bulgaria	1
<i>Puccinia</i>	<i>Momordica charantia</i>	Vegetables	Ghana	United Kingdom	1
<i>Radopholus similis</i>	<i>Anubias barteri</i>	Aquarium plants	Singapore	France	1
<i>Ralstonia solanacearum</i>	<i>Solanum tuberosum</i>	Ware potatoes	Egypt	Greece	2
	<i>Solanum tuberosum</i>	Ware potatoes	Egypt	United Kingdom	1
<i>Rhynchophorus ferrugineus</i>	<i>Phoenix canariensis</i> , <i>Washingtonia filifera</i>	Plants for planting	Egypt	France	1
	<i>Washingtonia filifera</i>	Plants for planting	Egypt	France	1
<i>Scirtothrips dorsalis</i>	<i>Momordica</i>	Vegetables	Surinam*	Netherlands	1
	<i>Momordica charantia</i>	Vegetables	Kenya*	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	Kenya*	United Kingdom	2
<i>Spodoptera exigua</i>	<i>Allium</i>	Vegetables	Thailand	Netherlands	1
<i>Spodoptera littoralis</i>	<i>Dianthus</i>	Cut flowers	Kenya	Netherlands	1
	<i>Eustoma</i>	Cut flowers	Israel	Netherlands	4
	<i>Ocimum basilicum</i>	Vegetables	Israel	Netherlands	1
<i>Spodoptera littoralis</i> , <i>Thrips</i> , <i>Spoladea recurvalis</i>	<i>Amaranthus</i>	Vegetables	Bangladesh	United Kingdom	1
<i>Spodoptera litura</i>	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	1
	<i>Ipomoea aquatica</i>	Vegetables	Thailand	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables	Thailand	Netherlands	1
<i>Temnorhynchus</i>	<i>Phoenix dactylifera</i> , <i>Washingtonia</i>	Plants for planting	Egypt	France	1
<i>Tetranychus</i>	<i>Dianthus</i>	Cut flowers	Israel	Greece	1
	<i>Solidago</i>	Cut flowers	Israel	Germany	1
<i>Thripidae</i>	<i>Chrysanthemum</i> , <i>Dianthus</i> , <i>Gypsophila</i>	Cut flowers	Egypt	Cyprus	1
	<i>Dendrobium</i>	Cut flowers	Thailand	Germany	2
	<i>Gladiolus</i> , <i>Gypsophila</i>	Cut flowers	Egypt	Cyprus	1
	<i>Lisianthus</i>	Cut flowers	Israel	Germany	1
	<i>Lisianthus</i>	Cut flowers	Israel	Germany	1
	<i>Momordica charantia</i> , <i>Solanum melongena</i>	Vegetables	India	United Kingdom	2
<i>Thripidae</i> (suspect <i>Scirtothrips dorsalis</i>)	<i>Momordica charantia</i>	Vegetables	Kenya	United Kingdom	1



EPPO Reporting Service

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb
<i>Thripidae</i> (suspect <i>Thrips palmi</i>)	<i>Hibiscus</i>	Cut flowers	Thailand	United Kingdom	1
	<i>Mangifera indica</i>	Fruits	Dominican Rep.	Netherlands	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	United Kingdom	3
	<i>Momordica charantia</i>	Vegetables	India	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	Ghana	United Kingdom	1
<i>Thrips</i>	<i>Asparagus</i>	Vegetables	Thailand	Netherlands	1
	<i>Eustoma</i>	Cut flowers	Israel	Germany	1
	<i>Momordica</i>	Vegetables	India	Germany	3
	<i>Momordica, Psidium guajava</i>	Vegetables	India	Germany	1
	<i>Solanum melongena</i>	Vegetables	Ghana	United Kingdom	1
	<i>Solanum melongena</i>	Vegetables	Thailand	Netherlands	1
<i>Thrips palmi</i>	<i>Dendrobium</i>	Cut flowers	Malaysia	France	1
	<i>Dendrobium</i>	Cut flowers	Singapore	United Kingdom	1
	<i>Dendrobium</i>	Cut flowers	Thailand	Netherlands	7
	<i>Dendrobium</i>	Cut flowers	Thailand	United Kingdom	4
	<i>Dendrobium, Mokara</i>	Cut flowers	Thailand	Netherlands	1
	<i>Luffa</i>	Vegetables	Ghana*	Netherlands	1
	<i>Mokara</i>	Cut flowers	Malaysia	Netherlands	1
	<i>Momordica</i>	Vegetables	Dominican Rep.	Netherlands	1
	<i>Momordica</i>	Vegetables	India	United Kingdom	4
	<i>Momordica</i>	Vegetables	Indonesia	United Kingdom	1
	<i>Momordica</i>	Vegetables	Suriname	Netherlands	1
	<i>Momordica</i>	Vegetables	Thailand	France	1
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	Netherlands	2
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	United Kingdom	8
	<i>Momordica charantia</i>	Vegetables	India	United Kingdom	7
	<i>Momordica charantia</i>	Vegetables	Suriname	Netherlands	1
	<i>Momordica charantia</i>	Vegetables	Thailand	France	1
	<i>Momordica, Solanum melongena</i>	Vegetables	Dominican Rep.	Germany	1
	<i>Orchidaceae</i>	Cut flowers	Thailand	Austria	13
	<i>Orchidaceae</i>	Cut flowers	Thailand	Czechia	1
	<i>Orchidaceae</i>	Cut flowers	Thailand	Hungary	1
	<i>Orchidaceae</i>	Cut flowers	Thailand	Slovakia	3
	<i>Rosa</i>	Cut flowers	India	Netherlands	1
<i>Solanum melongena</i>	Vegetables	Dominican Rep.	Netherlands	4	
<i>Solanum melongena</i>	Vegetables	Suriname	Netherlands	15	
<i>Solanum melongena</i>	Vegetables	Thailand	France	1	
<i>Solanum melongena</i>	Vegetables	Thailand	Netherlands	3	
<i>Thrips palmi, Diaphania indica</i>	<i>Momordica charantia</i>	Vegetables	India	United Kingdom	1
<i>Thrips palmi, Tephritidae, Pseudococcidae, Aphis gossypii</i>	<i>Cucurbita, Solanum melongena</i>	Vegetables	Ghana	United Kingdom	1
<i>Thrips palmi, Tephritidae, Pseudococcidae, Aphis Gossypii</i>	<i>Solanum melongena</i>	Vegetables	Ghana	United Kingdom	1
<i>Thysanoptera</i>	<i>Lisianthus</i>	Cut flowers	Israel	Germany	1
	<i>Punica granatum</i>	Cuttings	Turkey	Germany	1



EPPO Reporting Service

Pest	Consignment	Type of commodity	Country of origin	Destination country	nb
<i>Tilletia</i>	<i>Triticum aestivum</i>	Stored products	India	United Kingdom	1
<i>Tingidae</i>	<i>Solanum melongena</i>	Vegetables	Thailand	Netherlands	1
<i>Trialeurodes vaporariorum</i>	<i>Bracteantha bracteata</i>	Cuttings	Australia	Netherlands	1
	<i>Solidago</i>	Cut flowers	Zimbabwe	Netherlands	1
<i>Xanthomonas axonopodis</i> pv. <i>citri</i>	<i>Citrus sinensis</i>	Fruits	Uruguay	Spain	1
<i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i>	<i>Phaseolus</i>	Seeds	Netherlands	Poland	1
	<i>Phaseolus vulgaris</i>	Seeds	Tanzania	France	2
	<i>Phaseolus vulgaris</i> ,	Seeds	China	Germany	1
	<i>Lycopersicon</i>				
<i>Xiphinema americanum</i>	<i>Unspecified ornamentals</i>	Plants for planting	Italy	Turkey	1

• Fruit flies

Pest	Consignment	Country of origin	Destination country	nb
<i>Anastrepha</i>	<i>Mangifera indica</i>	Peru	Netherlands	1
<i>Bactrocera</i>	<i>Mangifera indica</i>	Dominican Rep.	Netherlands	1
<i>Bactrocera dorsalis</i>	<i>Annona squamosa</i>	(Thailand)	Czechia	1
<i>Ceratitis capitata</i>	<i>Momordica</i>	Thailand	Netherlands	1
<i>Ceratitis cosyra</i>	<i>Citrus sinensis</i>	South Africa	Netherlands	1
<i>Ceratitis rosa</i>	<i>Prunus persica</i> var. <i>nectarina</i>	Zimbabwe	Netherlands	1
Tephritidae (non-European)	<i>Annona squamosa</i>	Thailand	France	3
	<i>Annona squamosa</i>	Vietnam	France	3
	<i>Annona squamosa</i> ,	Vietnam	France	1
	<i>Mangifera indica</i>			
	<i>Capsicum</i>	Thailand	France	3
	<i>Capsicum annuum</i>	Thailand	France	2
	<i>Capsicum frutescens</i>	Thailand	France	17
	<i>Capsicum frutescens</i>	Vietnam	France	1
	<i>Citrus reticulata</i>	Pakistan	Netherlands	1
	<i>Citrus sinensis</i>	South Africa	Netherlands	1
	<i>Cucurbita</i>	Ghana	United Kingdom	4
	<i>Mangifera indica</i>	Pakistan	France	1
	<i>Mangifera indica</i>	Thailand	France	2
	<i>Momordica</i>	Thailand	Netherlands	2
	<i>Momordica charantia</i>	Thailand	France	1
	<i>Psidium guajava</i>	India	France	2
	<i>Psidium guajava</i>	Thailand	France	1
	<i>Pyrus</i>	Uruguay	Netherlands	1
	<i>Syzygium jambos</i>	Thailand	France	2
	<i>Syzygium samarangense</i>	Thailand	France	3
<i>Ziziphus</i>	Thailand	France	3	
<i>Ziziphus rotundifolia</i>	Thailand	France	1	



EPPO *Reporting Service*

Pest	Consignment	Country of origin	Destination country	nb
<i>Xiphinema americanum</i>	<i>Taxus cuspidata</i>	Japan	Belgium	1
	<i>Ulmus</i>	China	Netherlands	1
<i>Xiphinema americanum</i> , <i>Criconematidae</i> , <i>Pratylenchus</i>	<i>Juniperus chinensis</i>	Japan	Belgium	1
	<i>Acer</i> , <i>Ilex crenata</i>	Japan	Belgium	1
<i>Xiphinema americanum</i> , <i>Criconematidae</i> , <i>Pratylenchus</i> , <i>Tylenchidae</i>	<i>Pinus pentaphylla</i>	Japan	Belgium	1
<i>Xiphinema americanum</i> , <i>Pratylenchus</i> , <i>Tylenchorhynchus</i>	<i>Ilex crenata</i>	Japan	Belgium	1
<i>Xiphinema americanum</i> , <i>Tylenchorhynchus</i>	<i>Ilex crenata</i>	Japan	Belgium	1

Source: EPPO Secretariat, 2006-07.
NPPO of Uruguay, 2006-02; NPPO of Spain, 2006-05.



EPPO Reporting Service

2006/133 *Asparagus asparagoides*: an invasive plant in Australia

Asparagus asparagoides, a very invasive climbing vine from the Asparagaceae family, was the topic of a workshop held in Australia on 2005-11-10/11. This plant is recognized as one of the most troublesome environmental weeds in southern Australia. *Asparagus asparagoides* (= *Elide asparagoides*) is naturalized in all Australian States, except in the Northern Territory and in the Australian Capital Territory (Canberra). It is most prevalent in the temperate and Mediterranean regions of southern Australia. Climate modelling to predict potential distribution of the plant showed that slight northern expansions could be expected along the east and west coasts of the mainland.

This plant is native to South Africa and was introduced into Australia as a garden ornamental possibly via Europe, where it was first used in horticulture. It is also recorded from Namibia and further north in tropical Africa. It naturalized in New Zealand where it is considered to be a weed, and in some counties of California (US). In the EPPO region, this plant is recorded in the Azores (PT) and mainland Portugal, Islas Canarias (ES), and Sicilia (IT). It is also known as an emerging invader in Corse (FR) (EPPO RS 2006/046). It can invade a variety of habitats in warm temperate climates. According to a climatic prediction, the plant has the potential to establish in the Mediterranean basin and along the Atlantic coast of the EPPO region (Portugal, France, United Kingdom and Northern Ireland) (Scott, pers. comm. 2006).

In Australia, it prefers shaded or partly-shaded habitat and grows in hind dunes on exposed beaches, coastal cliffs and amongst shrubs on sheltered bays. Mature plants contain, on average, two or three seeds. Frugivorous birds are recognized as important contributors to *A. asparagoides* seed dispersal. Whilst seeds remain the most important means of dispersal, established plants can also increase in size through spread of branching rhizomes. It is a major problem for conservation because it can change the structure, floristic composition and ecology of natural ecosystems. As a serious invader of both disturbed and undisturbed habitats, it can quickly dominate understorey vegetation, modify the aesthetics, affect access and change the overall structure of the landscape. It is also considered by citrus growers in Australia as one of the worst weeds they face. In fact, *A. asparagoides* has been rapidly invading citrus orchards causing decline, interfering with harvesting and tree maintenance operations and increasing production costs. This plant is prohibited from import to Australia under the Commonwealth plant quarantine legislation. Biological control agents have been released in Australia. Other management methods have been tested such as herbicides, hand weeding, slashing and grazing, fire and revegetation.

Source: Plant Protection Quarterly (2006) Special National Asparagus Weeds Management Workshop Proceedings Part 1. Volume 21, Number 2. 88p.
Personal communication with John Scott, CSIRO Australia, 2006.
More information can be viewed on:
Weeds Australia: <http://www.weeds.org.au/WoNS/bridalcreeper/>

Additional key words: invasive plant

Computer codes: ASPAS, AU



EPPO *Reporting Service*

2006/134 *Tagetes minuta* and *Eupatorium inulaefolium* newly naturalized in Taiwan

The following two species are reported as newly naturalized in Taiwan.

Tagetes minuta (Asteraceae) is an herb of 1-2 m high, native to the temperate grasslands and mountain regions of southern South America. In Japan, it is recorded as a naturalized weed. It is considered to be a noxious weed as well as an environmental weed by the 'Global Compendium of Weeds'. It is naturalized in France, Italy and former-Yugoslavia (Tutin *et al.*, 1964/80) and has been quoted as invasive in Islas Canarias (ES) (Wildpret de la Torre, Osorio Martin, pers. comm. 2005) and in Cyprus (Tsintides and Christodoulou, pers. comm. 2006).

Eupatorium inulaefolium (= *Austroeupatorium inulifolium*) (Asteraceae) is a perennial erect herb or shrub, which grows to 2-3 m tall. The plant originates in South America. It is considered to be a quarantine weed and a noxious weed by the 'Global Compendium of Weeds'. It is not known to occur in the EPPO region. It is widely distributed in Argentina, Bolivia, Brazil, Colombia, Ecuador, Panama, Peru, Uruguay, Venezuela, and is casual in Indonesia, Sri Lanka and Sumatra. In Taiwan, it occurs at 1300-1400 m altitude in the Central Mountain Range. It is considered to be an aggressive species that rapidly colonizes areas cleared for the plantation of new crops, agricultural fields, fallow fields, waste lands and roadsides.

Source: Hsu TW, Peng CI, Wang CM (2006) *Austroeupatorium inulifolium* (Kunth) King & Robinson (Asteraceae) a newly naturalized plant in Taiwan. *Taiwania*, **51**(1): 41-45.

The Global Compendium of Weeds:

<http://www.hear.org/gcw/html/autogend/species/18905.HTM>

Personal communication with Messrs Tsintides and Christodoulou, Cyprus, 2006

Personal communication with Mr Wildpret de la Torre, Osorio Martin, Islas Canarias (ES), 2005.

Tutin TG, Heywood VH, Burges NA, Moore DM, Valentine DH, Walters SM and Webb DA (1964/80) *Flora Europeaea*, Vol 1-5. Cambridge University Press, Cambridge.

Wang CH, Chen CH (2006) *Tagetes minuta* L. (Asteraceae), a newly naturalized plant in Taiwan. *Taiwania*, **51**(1): 32-35.

Additional key words: new records.

Computer codes: TAGMI, AVQIN, TW



EPPO Reporting Service

2006/135 Catalogue of alien plants in the Czech Republic

This study presents presents a list of the 1378 alien taxa in the Czech Republic (33.4% of the total flora). Czech alien flora consists of 24.1% of taxa which arrived before 1500 (archaeophytes) and 75.9% neophytes. There are 891 casual, 397 naturalized and 90 invasive species. Of introduced neophytes, 21.9% became naturalized and 6.6% invasive. The proportion of hybrids amounts to 13.3% of the total number of alien plants, and hybridization is more frequent in archaeophytes (18.7%) than in neophytes (11.7%). When the 184 hybrids are excluded from the total number of alien plants, the Czech flora includes 270 archaeophytes and 924 neophytes (i.e. in total 1194 taxa). Accidental arrivals account for 53.4% of all taxa and deliberate introduction for 46.6%; the ratio is reversed for neophytes considered separately (45.5 vs. 54.5%). The majority of alien plants (62.8%) are confined to human-made habitats, 11% were recorded exclusively in natural or seminatural habitats, and 26.2% occur in both types of habitats.

The invasive species recorded by this study are the following (species in bold type are listed on the EPPO List of invasive alien plants):

Taxon	Family	Origin	Life form	Habitats	N° Localities	Introduction
<i>Acer negundo</i>	Aceraceae	N-Am	Tree	Natural, seminatural and human-made	over 500	Deliberate
<i>Ailanthus altissima</i>	Simaroubaceae	Asia	Tree	Natural, seminatural and human-made	50-499 corrup	Deliberate
<i>Amaranthus powellii</i>	Amaranthaceae	C&S Am	Annual秫	Human-made	over 500	Accidental
<i>Amaranthus retroflexus</i>	Amaranthaceae	N & C Am	Annual	Human-made	over 500	Accidental
<i>Ambrosia artemisiifolia</i>	Asteraceae	N-Am	Annual	Human-made	over 500	Accidental
<i>Amorpha fruticosa</i>	Fabaceae	N-Am	Shrub	Seminatural	15-49	Deliberate
<i>Angelica archangelica</i> subsp. <i>Archangel cope</i>	Apiaceae	Eur., Asia	Biennial, perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Apera spica-venti</i>	Poaceae	Eur-Asia	Annual	Human-made	50-499	Accidental
<i>Arrhenatherum elatius</i> subsp. <i>elatius</i>	Poaceae	Eur.	Perennial	Natural, seminatural and human-made	over 500	Accidental
<i>Aster lanceolatus</i>	Asteraceae	N-Am	Perennial	Seminatural and human-made	over 500	Deliberate
<i>Aster novi-belgii</i>	Asteraceae	N-Am	Perennial	Seminatural and human-made	50-499	Deliberate
<i>Aster xsalignus</i>	Asteraceae		Perennial	Seminatural and human-made	15-49	Deliberate
< <p><i>Aster versicolor</i></p>	Asteraceae		Perennial	Seminatural and human-made	15-49	Deliberate
<i>Atriplex oblongifolia</i>	Chenopodiaceae	Eur, Asia, Africa	Annual	Human-made	over 500	Accidental
<i>Atriplex sagittata</i>	Chenopodiaceae	Eur, Asia	Annual	Human-made	over 500	Accidental
<i>Ballota nigra</i>	Lamiaceae	Eur, Asia, Africa	Perennial	S eminatural and human-made	over 500	Accidental



EPPO Reporting Service

<i>Bidens frondosa</i>	Asteraceae	N-Am	Annual	Natural, seminatural and human-made	over 500	Accidental
<i>Brassica nigra</i>	Brassicaceae	Eur	Annual	Seminatural and human-made	15-49	Accidental, Deliberate
<i>Bryonia alba</i>	Cucurbitaceae	Eur., Asia	Perennial	Seminatural and human-made	over 500	Deliberate
<i>Bunias orientalis</i>	Brassicaceae	Eur., Asia	Biennial, perennial	Seminatural and human-made	50-499	Accidental
<i>Cannabis ruderalis</i>	Canabinaceae	Asia	Annual	Human-made	50-499	Accidental
<i>Cardaria draba</i>	Brassicaceae	Eur., Asia	Perennial	Human-made	over 500	Accidental
<i>Chenopodium ficifolium</i>	Chenopodiaceae	Eur., Asia	Annual	Seminatural and human-made	over 500	Accidental
<i>Chenopodium pedunculare</i>	Chenopodiaceae	Eur.	Annual	Seminatural and human-made	over 500	Accidental, deliberate
<i>Cirsium arvense</i>	Asteraceae	Eur., Asia	Perennial	Seminatural and human-made	over 500	Accidental
<i>Cirsium vulgare</i>	Asteraceae	Eur., Asia	Perennial	Seminatural and human-made	over 500	Accidental
<i>Conium maculatum</i>	Apiaceae	Eur, Asia, Africa	Annual, biennial	Human-made	over 500	Accidental
<i>Conyza canadensis</i>	Asteraceae	N-Am.	Annual	Human-made	over 500	Accidental
<i>Cuscuta campestris</i>	Convolvulaceae	N-Am.	Annual	Human-made	15-49	Accidental
<i>Cytisus scoparius</i> subsp <i>scoparius</i>	Fabaceae	Eur.	Shrub	Natural, seminatural and human-made	over 500	Deliberate
<i>Digitalis purpurea</i>	Scrophulariaceae	Eur.	Biennial, perennial	Natural, seminatural	over 500	Deliberate
<i>Echinocystis lobata</i>	Cucurbitaceae	N-Am.		Natural, seminatural and human-made	50-499	Deliberate
<i>Echinops sphaerocephalus</i>	Asteraceae	Eur., Asia		Seminatural and human-made	over 500	Deliberate
<i>Elodea canadensis</i>	Hydrocharitaceae	N-Am.		Natural, seminatural and human-made	over 500	Accidental
<i>Epilobium ciliatum</i>	Onagraceae	N & C Am.		Natural, seminatural and human-made	over 500	Accidental
<i>Erigeron annuus</i> subsp. <i>septentrionalis</i>	Asteraceae	N-Am.	Annual, Biennial	Human-made	over 500	Accidental
<i>Fraxinus pennsylvanica</i>	Oleaceae	N-Am.	Tree	Natural, seminatural and human-made	50-499	Deliberate
<i>Galeobdolon argentatum</i>	Lamiaceae		Perennial	Natural, seminatural and human-made	50-499	Deliberate
<i>Galinsoga ciliata</i>	Asteraceae	C & S Am.	Annual	Human-made	over 500	Accidental
<i>Galinsoga parviflora</i>	Asteraceae	S-Am.	Annual	Human-made	over 500	Accidental
<i>Geranium pyrenaicum</i>	Geraniaceae	Eur., Asia	Biennial, perennial	Human-made	over 500	Accidental, deliberate
<i>Helianthus tuberosus</i>	Asteraceae	N-Am.	Perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Heracleum mantegazzianum</i>	Apiaceae	Eur.	Biennial, Perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Impatiens glandulifera</i>	Balsaminaceae	Asia	Annual	Natural, seminatural and human-made	over 500	Deliberate



EPPO Reporting Service

<i>Impatiens parviflora</i>	Balsaminaceae	Asia	Annual	Natural, seminatural	over 500	Deliberate
<i>Imperatoria ostruthium</i>	Apiaceae	Eur.	Perennial	Seminatural and human-made	over 500	Deliberate
<i>Juncus tenuis</i>	Juncaceae	N-Am.	Perennial	Seminatural and human-made	over 500	Accidental
<i>Kochia scoparia</i>	Chenopodiaceae	Eur., Asia	Annual	Human-made	over 500	Accidental
<i>Lupinus polyphyllus</i>	Fabaceae	N-Am.	Perennial	Natural, seminatural	over 500	Deliberate
<i>Lycium barbatum</i>	Solanaceae	Eur., Asia	Shrub	Natural, seminatural and human-made	over 500	Deliberate
<i>Mahonia aquifolium</i>	Berberidaceae	N-Am.	Shrub	Natural, seminatural and human-made	over 500	Deliberate
<i>Matricaria discoidea</i>	Asteraceae	Asia	Annual	Human-made	over 500	Accidental
<i>Melilotus albus</i>	Fabaceae	Eur., Asia	Biennial, annual	Seminatural and human-made	over 500	Accidental, deliberate
<i>Melilotus officinalis</i>	Fabaceae	Eur., Asia	Biennial	Seminatural and human-made	over 500	Accidental, deliberate
<i>Mimulus guttatus</i>	Scrophulariaceae	N-Am.	Perennial	Natural, seminatural	over 500	Deliberate
<i>Myrrhis odorata</i>	Apiaceae	Eur.	Perennial	Natural, seminatural	over 500	Deliberate
<i>Oenothera biennis</i>	Onagraceae		Biennial, annual	Seminatural and human-made	over 500	Accidental, deliberate
<i>Orobanche minor</i>	Orobanchaceae	Eur, Asia, Africa	Biennial, perennial	Human-made	15-49	Accidental
<i>Parthenocissus inserta</i>	Vitaceae	N-Am.	Shrub	Natural, seminatural and human-made	over 500	Deliberate
<i>Persicaria polystachya</i>	Polygonaceae	Asia	Perennial	Seminatural and human-made	15-49	Deliberate
<i>Physocarpus opulifolius</i>	Rosaceae	N-Am.	Shrub	Natural, seminatural and human-made	50-499	Deliberate
<i>Pinus strobus</i>	Pinaceae	N-Am.	Tree	Natural	over 500	Deliberate
<i>Plantago major</i> subsp. <i>major</i>	Plantaginaceae	Eur, Asia, Africa	Perennial	Human-made	over 500	Accidental
<i>Populus x canadensis</i>	Salicaceae		Tree	Seminatural and human-made	50-499	Accidental, deliberate
<i>Prunus serotina</i>	Rosaceae	N-Am.	Tree, Shrub	Natural, seminatural	50-499	Deliberate
<i>Reynoutria x bohémica</i>	Polygonaceae		Perennial	Natural, seminatural and human-made	over 500	Accidental, deliberate
<i>Reynoutria japonica</i> var. <i>japonica</i>	Polygonaceae	Asia	Perennial	Seminatural and human-made	over 500	Deliberate
<i>Reynoutria sachalinensis</i>	Polygonaceae	Asia	Perennial	Seminatural and human-made	50-499	Deliberate
<i>Rhus hirta</i>	Anacardiaceae	N-Am.	Shrub, tree	Seminatural and human-made	15-49	Deliberate
<i>Robinia pseudoacacia</i>	Fabaceae	Eur.	Shrub	Natural, seminatural and human-made	over 500	Deliberate
<i>Rudbeckia laciniata</i>	Asteraceae	N-Am.	Perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Rumex alpinus</i>	Polygonaceae	Eur., Asia	Perennial	Seminatural and human-made	over 500	Deliberate
<i>Rumex longifolius</i>	Polygonaceae	Eur.	Perennial	Seminatural and human-made	15-49	Accidental



EPPO Reporting Service

<i>Rumex thyrsiflorus</i>	Polygonaceae	Eur., Asia	Perennial	Natural, seminatural and human-made	over 500	Accidental
<i>Sedum hispanicum</i>	Crassulaceae	Perennial	Seminatural and human-made	50-499	Deliberate	
<i>Sisymbrium loeselii</i>	Brassicaceae	Eur, Asia, Africa	Annual	Human-made	over 500	Accidental
<i>Solidago canadensis</i>	Asteraceae	N-Am.	Perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Solidago gigantea</i>	Asteraceae	N-Am.	Perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Symphoricarpos albus</i>	Caprofoliaceae	N-Am.	Shrub	Natural, seminatural and human-made	over 500	Deliberate
<i>Syringa vulgaris</i>	Oleaceae	Eur.	Natural, seminatural and human-made	over 500	Deliberate	
<i>Tanacetum vulgare</i>	Asteraceae	Eur.	Perennial	Seminatural and human-made	over 500	Accidental
<i>Telekia speciosa</i>	Asteraceae	Eur.	Perennial	Seminatural and human-made	50-499	Deliberate
<i>Tripleurospermum inodorum</i>	Asteraceae	Eur.	Annual	Human-made	over 500	Accidental
<i>Veronica filiformis</i>	Scrophulariaceae	Eur., Asia	Perennial	Seminatural and human-made	50-499	Deliberate
<i>Veronica hederifolia</i>	Scrophulariaceae	Eur, Asia, Africa	Annual	Natural, seminatural and human-made	over 500	Accidental
<i>Veronica persica</i>	Scrophulariaceae	Asia	Annual	Human-made	over 500	Accidental
<i>Viola odorata</i>	Violaceae	Eur, Asia, Africa	Perennial	Natural, seminatural and human-made	over 500	Deliberate
<i>Viola x scabra</i>	Violaceae	Eur., Asia	Perennial	Natural, seminatural and human-made	over 500	Accidental
<i>Virga strigosa</i>	Dipsacaceae	Eur., Asia	Biennial	Human-made	50-499	Deliberate

Other species of the EPPO List of invasive alien plants are recorded in the flora of Czech Republic as casual: *Acroptilon repens* (Asteraceae), *Senecio inaequidens* (Asteraceae) and *Sicyos angulatus* (Cucurbitaceae).

Source: Pyšek P, Sádlo J, Mandák B (2002) Catalogue of alien plants of the Czech Republic. *Preslia, Praha*, **74**: 97-186.

Additional key words: detailed records

Computer codes: AILAL, AMBEL, BIDFR, CENRE, HELTU, HERMZ, LUPPO, POLCU, PRNSO, REYBO, REYSA, SIYAN, SOLEL, SOOCA, SOOGI, CZ



EPPO *Reporting Service*

2006/136 Invasions by alien plants in the Czech Republic: a quantitative assessment across habitats

Occurrence of alien plant species in all major habitats of the Czech Republic was analysed using a data set of 20,468 vegetation plots, classified into 32 habitats according to the EUNIS classification. The plots contain on average 9% archaeophytes and 2.3% neophytes; for neophytes, this proportion is much smaller than 26.8% reported for the total flora of the country. Neophytes with the broadest habitat range were *Impatiens parviflora* (Balsaminaceae), *Epilobium ciliatum* (Onagraceae), *Agrostis gigantea* (Poaceae), *Bidens frondosa* (Asteraceae, EPPO List of invasive alien plants), *Conyza canadensis* (Asteraceae), *Trifolium hybridum* (Fabaceae), *Robinia pseudacacia* (Fabaceae), *Medicago sativa* (Fabaceae), *Solidago canadensis* (Asteraceae, EPPO List of invasive alien plants), *Erigeron annuus* (Asteraceae), *Aster novi-belgii* (Asteraceae), *Cytisus scoparius* (Fabaceae), *Juncus tenuis* (Juncaceae), *Lupinus polyphyllus* (Fabaceae, EPPO List of invasive alien plants) and *Veronica persica* (Scrophulariaceae). Most neophytes are found in a few habitats: only 5.6% of them were recorded in more than 10 habitats. By contrast, archaeophytes, and especially native species, tend to occur in a broader range of habitats. Highest numbers of aliens were found on arable land, in annual synantropic vegetation, trampled habitats and anthropogenic tall-forb stands. These habitats contain on average 22-56% archaeophytes and 4.4-9.6% neophytes. Neophytes are also common in artificial broadleaved forestry plantations; they also tend to constitute a high percentage of the cover in wet tall-forb stands, but are represented by fewer species there. Plots located in raised bogs, alpine grasslands, alpine and subalpine scrubs, and natural coniferous woodlands are entirely or practically free of alien species. The ratio between archaeophytes and neophytes was high in semi-natural dry and mesic grasslands and low in disturbed habitats with woody vegetation, such as artificial broadleaved forestry plantations, forest clearings and riverine willow stands. Results of this study do not support the hypothesis that species-rich communities are less prone to invasions, at least at the scale of vegetation plots.

Source: Chytr  M, Py ek P, Tich  L, Knollov  I, Danihelka J (2005) Invasions by alien plants in Czech Republic: a quantitative assessment across habitats. *Preslia, Praha*, **77**: 339-354.

Additional key words: biological invasions

Computer codes: BIDFR, LUPPO, SOOCA, CZ



EPPO Reporting Service

2006/137 *Solanum elaeagnifolium* threatens Croatian hot spots of biodiversity

Solanum elaeagnifolium (Solanaceae, EPPO List of invasive alien plants) is a very invasive plant which was studied in detail during a workshop co-organized by EPPO and FAO on 2006-05-29/31 in Sousse (TN). Conclusions and recommendations as well as pictures are available from the EPPO Website.

The presence of *Solanum elaeagnifolium* on the islet of Plavnik (Croatia) (EPPO RS 2006/018), has been confirmed by Goran Sušić from the Non-Governmental Organization 'Caput Insulae Beli'. The island of Plavnik is 8.8 km² and is not inhabited, although there are some houses. There is no transport infrastructure, and it is only possible to reach the island by boat. The main activity on this island is extensive sheep breeding although commercial hunting began to be organized there recently (15 fallow deer *Dama dama* were released on the island a few years ago). Biodiversity is very high on Plavnik:

- breeding bird species: 12 pairs of griffon vultures (*Gyps fulvus*), golden eagle (*Aquila chrysaetos*), short-toed eagle (*Circaetus gallicus*), peregrine falcon (*Falco peregrinus*), kestrel (*Falco tinnuncullus*), eagle owl (*Bubo bubo*), rock partridge (*Alectoris graeca*), 20 pairs of shags (*Phalacrocorax aristotelis desmarestii*), pallid swift (*Apus pallidus*), alpine swift (*Apus melba*), nightjar (*Caprimulgus europaeus*), scops owl (*Otus scops*), little Owl (*Athenae noctua*), tawny owl (*Strix aluco*), blue rock thrush (*Monticola solitarius*), cuckoo (*Cuculuc cannorus*), hoopoe (*Upupa epops*), woodchat shrike (*Lanius senator*), golden oriole (*Oriolus oriolus*), jackdaw (*Corvus monedula*),
- amphibians: marsh frog (*Rana ridibunda*), common tree frog (*Hyla arborea*) and green toad (*Bufo viridis*),
- reptiles: Herman's tortoise (*Testudo hermanni*), European pond terrapin (*Emys orbicularis*), green lizard (*Lacerta viridis/bilineata*), and several species of snakes...
- plants are unique because of pasturelands, old holly oak forests and cliffs with endemic plant community (*Campanulo-Centaureetum dalmaticae*).

This unique biodiversity is threatened by the very invasive *Solanum elaeagnifolium*. The pathway of introduction of *S. elaeagnifolium* on the island still remains to be discovered. One hypothesis is that the plant could have been introduced, and could therefore be spread, by sheep as there are at least 1000 sheep, with movement of lambs and wool between the continent and other islands. The plant could also be naturally spread by wind as there are strong north-east and south-west winds, sometimes attaining speeds of more than 150 km/h. After a study on the presence of *S. elaeagnifolium*, eradication may be undertaken with the help of volunteers of the Non-Governmental Organization 'Caput Insulae Beli'.

Source: Caput Insulae Beli: www.caput-insulae.com
EPPO Website – *Solanum elaeagnifolium* Workshop conclusions and recommendations:
http://archives.eppo.org/MEETINGS/2006_meetings/solanum_presentations/workshop_solanum_TN.htm
Personal communication with Goran Sušić, Non-Governmental Organization 'Caput Insulae Beli', Croatia, 2006.

Additional key words: detailed record.

Computer codes: SOLEL, HR