

ORGANISATION EUROPEENNE ET MEDITERRANEENNE POUR LA PROTECTION DES PLANTES EUROPEAN AND MEDITERRANEAN PLANT PROTECTION ORGANIZATION

# **EPPO** Reporting Service

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### 2010/077 First report of *Guignardia citricarpa* in the USA

In March 2010, symptoms of citrus black spot were detected in the USA on commercial Valencia sweet oranges (*Citrus sinensis*) in the Immokalee area (Collier county), Florida. Laboratory analysis confirmed the presence of *Guignardia citricarpa* (EPPO A1 List). This is the first time that *G. citricarpa* is reported from North America. For the moment, it is not known how this pathogen was introduced into Florida. An appropriate regulatory response for this incursion is being devised and delimiting surveys are underway.

The situation of *Guignardia citricarpa* in the USA can be described as follows: Present, an incursion was first found in March 2010 in Florida (Collier county), under official control.

Source: Schubert T, Sutton B, Jeyaprakash A (2010) Pest Alert - Citrus black spot (*Guignardia citricarpa*) discovered in Florida. Florida Department of Agriculture and Consumer Services. <u>http://www.doacs.state.fl.us/pi/enpp/pi-pest-alert.html</u>

USDA (2010) USDA confirms new citrus disease in Florida. News Release of 2010-04-08. <u>http://www.aphis.usda.gov/newsroom/content/2010/04/fla\_citrus\_disease.shtml</u>

Additional key words: new record

Computer codes: GUIGCI, US

### 2010/078 First report of *Meloidogyne enterolobii* in Vietnam

In Southern Vietnam, citrus trees are often planted together with guava (*Psidium guajava*) for the management of huanglongbing (citrus disease associated with '*Candidatus* Liberibacter asiaticus'). Some guava seedlings showed decline symptoms including brown discouloration of the leaves, growth inhibition, leaf drop and finally died. Affected seedlings also presented numerous galls on the roots, suggesting the presence of root-knot nematodes. Morphological and molecular studies confirmed the presence of *Meloidogyne enterolobii* (EPPO Alert List) on diseased guava seedlings. This is the first report of this nematode in Vietnam.

The situation of *Meloidogyne enterolobii* in Vietnam can be described as follows: Present, first reported in 2009 on *Psidium guajava* in the southern part of the country.

Source: Iwahori H, Truc NTN, Ban DV, Ichinose K (2009) First report of root-knot nematode *Meloidogyne enterolobii* on guava in Vietnam. *Plant Disease* 93(6), p 675.

Additional key words: new record

Computer codes: MELGMY, VN

#### 2010/079 First record of Phytophthora alni in Alaska, USA

Surveys were initiated in 2007/2008 to identify the possible causes of the widespread dieback and mortality which is currently being observed on *Alnus incana* subsp. *tenuifolia* (thinleaf alder) across South-Central and Interior Alaska (US). More than 500 isolates of *Phytophthora* and *Pythium* species were recovered from baiting watercourses or saturated rhizosphere soil. *Phytophthora alni* subsp. *uniformis* (formerly EPPO Alert List) was recovered from soil samples collected beneath alder trees in the Kenai Peninsula, through Anchorage and up to Fairbanks in the North. As of February 2009, *P. alni* subsp. *uniformis* was isolated in 11 sites. During these studies other *Phytophthora* species were also recovered: *P. gonapodyides*, *P. megasperma*, *P. pseudosyringae*, *P. gallica*, and an

unknown *Phytophthora* species. This is the first time that *P. alni* is reported from North America but further studies are needed to better understand its possible role in the alder disease, as other pathogens could also be involved (e.g. *Valsa* or *Cytospora* spp.). It is stressed that for the moment there is no field evidence that *Phytophthora* species are causing root disease or are involved in the dieback and mortality of alder in Alaska. Studies are also needed to determine the possible origins of these new *Phytophthora* species in Alaska (i.e. are they native or introduced exotic species?).

Source: INTERNET Adams GC, Catal M, Trummer L, Hansen EM, Reeser P, Worrall JJ (2008) *Phytophthora alni* subsp. *uniformis* found in Alaska beneath thinleaf alders. *Plant Health Progress*. <u>http://www.forestpathology.org/pdfs/adams2008Palni.pdf</u>

Trummer L (2009) Alder *Phytophthora* (*Phytophthora alni* subsp. *uniformis*) in Alaska. <u>http://www.fs.fed.us/r10/spf/fhp/phytophthora/uniformis.html</u>

Additional key words: new record

Computer codes: PHYTAL, US

### 2010/080 First report of *Ophiostoma ulmi* and *O. novo-ulmi* in Japan

During a survey carried out in 2007, the causal agents of Dutch elm disease, *Ophiostoma ulmi* and *O. novo-ulmi*, were detected for the first time in Japan. Isolates had been obtained from bark of fallen *Ulmus davidiana* and *U. Iaciniata* trees infested by *Scolytus esuriens* (Coleoptera: Scolytidae) at two sites in Hokkaido. So far, no damage on elm trees has been reported from Hokkaido. Genetic and field studies are in progress to assess the status and history of the two pathogens in Japan (e.g. endemic/invasive) and their association with the native elms and bark beetles.

Source: Masuya H, Brasier C, Ichihara Y, Kubono T, Kanzaki N (2009) First report of the Dutch elm disease pathogens *Ophiostoma ulmi* and *O. novo-ulmi* in Japan. *New Disease Reports* Volume 20 (2009-09 to 2010-01). http://www.bspp.org.uk/publications/new-disease-reports/ndr.php?id=020006

Additional key words: new record

Computer codes: CERAUL, OPHSNU, JP

### 2010/081 First report of *Euphorbia mosaic virus* in Cuba

In January 2007, unusual symptoms were observed in tobacco plants (*Nicotiana tabacum*) in a field in the eastern part of Cuba. These symptoms included downward curling, rugosity and yellow mottle of leaves with a reduction in plant height. Affected leaves could no longer be used for the manufacture of cigarettes. Laboratory analysis revealed the presence of *Euphorbia mosaic virus* (Begomovirus, EuMV - EU Annexes). It is stated that additional work is now needed to determine the epidemiological risk of the presence of *this virus* on tobacco in Cuba. In particular, it is noted that studies should be done on *Euphorbia heterophylla* (a known host plant of EuMV) because it is a common weed in many cultivated areas in Cuba which could act as a reservoir and thus contribute to disease spread. This is the first time that EuMV is reported from Cuba, and from tobacco plants. The situation of *Euphorbia mosaic virus* in Cuba can be described as follows: Present, first detected in 2007 in one tobacco field.

Source: Fiallo-Olivé E, Rivera-Bustamante RF, Martínez-Zubiaur Y (2009) First report of tobacco as a natural host of *Euphorbia mosaic virus* in Cuba. *New Disease Reports* Volume 20 (2009-09 to 2010-01). http://www.bspp.org.uk/publications/new-disease-reports/ndr.php?id=020005

Additional key words: new record, host plant

Computer codes: EUMV00, CU

# 2010/082 'Candidatus Liberibacter solanacearum' detected on tomato and capsicum crops in Mexico

In Mexico, the potato disease called Zebra chip (associated with '*Candidatus* Liberibacter solanacearum' - EPPO Alert List) was first identified in 1994. It has caused significant economic damage, often leading to abandonment of entire potato fields. Recent studies have showed that '*Ca*. L. solanacearum' was also causing damage to tomato (*Lycopersicon esculentum*) and capsicum (*Capsicum annuum*) crops in Mexico.

- In March 2009, capsicum plants showing symptoms resembling those caused by *Bactericera cockerelli* (psyllid vector of '*Ca.* L. solanacearum') were observed in a field in La Cruz de Elota, Sinaloa. Affected plants showed chlorotic or pale green apical growth and leaf cupping, sharp tapering of the leaf apex, shortened internodes, and general stunting. Molecular analysis confirmed the presence of '*Ca.* L. solanacearum' (Munyaneza *et al.*, 2009a).

- In March 2009, plants showing symptoms resembling those of a phytoplasma disease called 'permanente del tomato' (permanent yellowing disease) were observed in tomato fields in Sinaloa. It was noted that these symptoms also resembled those caused by 'Ca. L. solanacearum' in New Zealand. Affected tomato plants showed an overall chlorosis, severe stunting, leaf cupping, purple discoloration of veins, excessive branching of axillary shoots, and leaf scorching. Symptom incidence ranged from 18 to 40%. Samples (8 symptomatic and 5 asymptomatic) were collected from two tomato fields in La Cruz de Elota and Culiacán. Molecular analysis confirmed the presence of 'Ca. L. solanacearum' (Munyaneza et al., 2009a).

Source: Munyaneza JE, Sengoda VG, Crosslin JM, Garzón-Tiznado JA, Cardenas-Valenzuela OG (2009a) First report of '*Candidatus* Liberibacter solanacearum' in pepper plants in Mexico. *Plant Disease* 93(10), p 1076.

Munyaneza JE, Sengoda VG, Crosslin JM, Garzón-Tiznado JA, Cardenas-Valenzuela OG (2009b) First report of '*Candidatus* Liberibacter solanacearum' in tomato plants in Mexico. *Plant Disease* 93(10), p 1076.

Additional key words: detailed record, host plant

Computer codes: LIBEPS, MX

### 2010/083 'Candidatus Liberibacter solanacearum' detected on tomato crops in Colorado (US)

In 2002, glasshouse tomato growers from Fort Lupton in Colorado (US) noticed symptoms resembling those of 'psyllid yellows' caused by *Bactericera cockerelli* (vector of '*Ca.* Liberibacter solanacearum' - EPPO Alert List). Symptoms appeared approximately 6 weeks after the first psyllids were observed in the crops. Symptoms usually began with retarded growth, erectness of new growth, chlorosis and purpling of leaves, followed by an overall chlorosis and production of many small, poor-quality fruits. Samples from symptomatic and

asymptomatic plants were collected in September and December 2002. These samples have been stored (in RNA*later* bottles) for 6 years, and tested later to verify the possible presence of '*Ca*. Liberibacter solanacearum'. Results clearly indicated that the symptoms of psyllid yellows observed in Colorado in 2002 were associated with the presence of '*Ca*. Liberibacter solanacearum'\* in glasshouse tomato crops.

\* In their studies McKenzie *et al.* have used the other name '*Ca.* L. psyllaurous'. It is not entirely clear whether '*Ca.* L. solanacearum' and '*Ca.* L. psyllaurous' correspond to the same pathogen, but for simplification the EPPO Secretariat has chosen to consider them as synonymous.

Source: McKenzie CL, Shatters Jr RG (2009) First report of '*Candidatus* Liberibacter psyllaurous' associated with psyllid yellows of tomato in Colorado. *Plant Disease* 93(10), p 1074.

Additional key words: detailed record, host plant

Computer codes: LIBEPS, US

### 2010/084 Details on guarantine pests in Spain: 2008 situation

The magazine 'Phytoma-España' presented the phytosanitary situation of the main crops in each region of Spain (except Comunidad Valenciana) for the year 2008. The EPPO Secretariat has extracted the following information on the presence of several quarantine pests or pests of the Alert List.

Bemisia tabaci (Homoptera: Aleyrodidae - EPPO A2 List): Andalucía, Cataluña, País Vasco.

*Ceratitis capitata* (Diptera: Tephritidae - EPPO A2 List): Andalucía, Aragón, Baleares, Cataluña, Extremadura, La Rioja, Murcia.

*Chrysomphalus aonidum* (Hemiptera: Diaspididae): Baleares (first found in 2008 in Mallorca on ornamental citrus).

*Clavibacter michiganensis* subsp. *michiganensis* (EPPO A2 List): Aragón (in tomato fields).

Ctenarytaina spatulata (Hemiptera: Psyllidae - formerly EPPO Alert List): Asturias.

Cucumber vein yellowing virus (*Ipomovirus* - EPPO A2 List): Andalucía.

Cucurbit yellow stunting disorder virus (Crinivirus - EPPO A2 List): Andalucía.

*Erwinia amylovora* (EPPO A2 List): Castilla y Léon, La Rioja, Pais Vasco (1 outbreak on *Cotoneaster*). In all cases, eradication measures were applied and all infected trees were destroyed.

Eutetranychus orientalis (Acari: Tetranychidae - EPPO A2 List): Andalucía, Murcia.

*Frankliniella occidentalis* (Thysanoptera: Thripidae - EPPO A2 List): Andalucía, Castilla-La Mancha, Cataluña, Extremadura, Murcia, Navarra.

*Gibberella circinata* (anamorph *Fusarium circinatum* - EPPO A2 List): País Vasco (found in 1 nursery, and on *P. radiata* in forests).

*Globodera rostochiensis* and *G. pallida* (EPPO A2 List): outbreaks were observed in Islas Baleares.

Grapevine flavescence dorée phytoplasma (EPPO A2 List): Cataluña (not found since 2004 in Alt Empordá, isolated cases remain in Baix Empordá).

*Gonipterus scutellatus* (Coleoptera: Curculionidae - EPPO A2 List): Asturias (under biological control).

*Helicoverpa armigera* (Lepidoptera: Noctuidae - EPPO A2 List): Andalucía, Asturias, Cataluña, Extremadura, Navarra.

*Paysandisia archon* (Lepidoptera: Castniidae - EPPO A2 List): Baleares (Mallorca, Menorca), Cataluña.

Pepino mosaic virus (Potexvirus - EPPO Alert List): Cataluña, Murcia.

Pezothrips kellyanus (formerly EPPO Alert List): Cataluña (first found in 2008).

Plum pox virus (Potyvirus - EPPO A2 List): Murcia.

*Ralstonia solanacearum* (EPPO A2 List): Castilla y Léon (6 positive samples on ware potatoes).

*Rhynchophorus ferrugineus* (Coleoptera: Curculionidae - EPPO A2 List): Baleares (Ibiza, Mallorca), Cataluña.

*Spodoptera littoralis* (Lepidoptera: Noctuidae - EPPO A2 List): Andalucía (low impact on cotton).

*Tomato spotted wilt virus* (*Tospovirus* - EPPO A2 List): Andalucía, Cataluña, País Vasco, Murcia, Navarra.

Tomato yellow leaf curl virus (Begomovirus - EPPO A2 List): Andalucía, Cataluña, Murcia.

Tomato torrado virus (EPPO Alert List): Cataluña, Murcia (low incidence).

*Toxoptera citricidus* (Homoptera: Aphididae - EPPO A1 List): Asturias (found on the coastal area where citrus are grown).

*Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A2 List): Andalucía, Aragón, Baleares (all islands), Cataluña, Castilla-La Mancha, Extremadura, Murcia, Navarra, País Vasco.

*Unaspis yanonensis* (Hemiptera: - Diaspididae - formerly EPPO A2 List): Cataluña (first found in January 2003 in Castello d'Epuries, province of Girona, now also present in the province of Barcelona).

Xanthomonas axonopodis pv. pruni (EPPO A2 List): Aragón (found for the first time in August 2008 in one commercial orchard, surveys and eradication are under way), Cataluña (2 cases, under eradication).

Xanthomonas fragariae (EPPO A2 List): Andalucía (low incidence).

Xanthomonas vesicatoria (EPPO A2 List): Navarra (on capsicum).

Source: Anonymous (2009) Incidencia de plagas y enfermedades en las Comunidades Autónomas en 2008. *Phytoma-España* no. 207, 14-50. *Phytoma-España* no. 208, 36-62. *Phytoma-España* no. 209, 44-52. *Phytoma-España* no. 210, 50-55.

Additional key words: new record, detailed records

Computer codes: BEMITA, CERTCA, CHRYFI, CORBMI, CTNRST, CVYV00, CYSDV0, ERWIAM, EUTEOR, FRANOC, GIBBCI, GNORAB, GONPSC, HELIAR, HETDPA, HETDRO, PAYSAR, PEPMV0, PEZTKE, PHYP64, PPV000, PSDMSO, RHYCFE, SPODLI, TOTV00, TOXOCI, TSWV00, TYLCV0, UNASYA, XANTFR, XANTPR, XANTVE, ES

### 2010/085 *Nysius huttoni* found in the United Kingdom

In September 2007, *Nysius huttoni* (Heteroptera: Lygaeidae - EPPO Alert List) was found for the first time in the United Kingdom. *N. huttoni* was observed in 4 sites along the Suffolk coast, in natural environments (North Warren and Minsmere reserves, Sizewell, Southwold). The habitat favoured by this bug was sparsely vegetated sandy soil with *Rumex acetosella* (Sheep's sorrel). In 2009, *N. huttoni* was also observed in Essex. No particular damage to plants was noticed.

Source: Bowdrey J (2009) *Nysius huttoni* spreading. *Het News* no.14, p 14. Available online: http://www.hetnews.org.uk/pdfs/lssue%2014\_Autumn%202009\_966kb.pdf

Cuming N (2008) New to British Isles: *Nysius huttoni* White, 1878. *Het News* no.11, p 10. Available online: <a href="http://www.hetnews.org.uk/pdfs/lssue%2011\_Spring%202008\_1667Kb.pdf">http://www.hetnews.org.uk/pdfs/lssue%2011\_Spring%202008\_1667Kb.pdf</a>

INTERNET (last retrieved in 2010-01) The Suffolk biological records centre. *Nysius huttoni* by N. Cuming (October 2008) <u>http://www.boxvalley.co.uk/nature/sns/wad70/w70-sbrc.asp</u>

Additional key words: new record

Computer codes: NYSIHU, GB

#### 2010/086 Situation of *Nysius huttoni* in Belgium and first record in France

In 2002, the presence of *Nysius huttoni* (Heteroptera: Lygaeidae - EPPO Alert List) was observed for the first time in Belgium and the Netherlands. It is suspected that this polyphagous bug has been introduced from New Zealand via imports of apple and kiwi fruits. In Belgium, *N. huttoni* is now present across the entire region of Flanders (except Limburg), and it also occurs in the Walloon region (provinces of Hainaut and Brabant). In infested areas, no crop damage has been reported. The insect was mainly found in dry and sparsely vegetated habitats, and only 14% of these sites were located near agricultural fields. In addition to Belgium, the presence of *N. huttoni* is also reported from the Northern France. Several specimens were collected from Comines, Wervicq-Sud and Halluin (Nord département) in 2006.

Source: Aukema B, Bruers JM, Viskens GM (2007) [New and rare Belgian bugs II (Hemiptera: Heteroptera)]. *Bulletin de la Société royale belge d'Entomologie* 143, 83-89 (in Dutch).

Bonte J, Casteels H, de Clercq P, Maes M (2009) Occurrence, ecology, impact and management of *Nysius huttoni* in Belgium (NYSHUT). Abstract of a paper presented at the 6<sup>th</sup> International Symposium on Crop Protection (Gent, BE, 2009-05-19).

Bonte J, Casteels H, Maes M, De Clercq P (2010) Occurrence, ecology and potential impact of the New Zealand wheat bug *Nysius huttoni* White (Hemiptera: Lygaeidae) in Belgium. *Bulletin OEPP/EPPO Bulletin* (in press).

Additional key words: detailed record, new record

Computer codes: NYSIHU, BE, FR

#### 2010/087 Diuraphis noxia does not occur in the United Kingdom

The presence of *Diuraphis noxia* in the United Kingdom was erroneously mentioned in the EPPO database PQR (currently under revision). The source of this record was an old datasheet (USDA, 1963). The datasheet did not provide any reference to substantiate this record, but it is now supposed that it might have been a paper written by Stroyan in 1950 on 'recent additions to the British Aphid Fauna' which included *Cuernavaca noxius* (the old name of *D. noxia*). It is likely that the species found was actually *Cuernavaca muehlei* with which *D. noxia* was once incorrectly synonymised. In later publications about the British aphid fauna, as well as in the two editions of 'Aphids on the World's Crops (Blackman and Eastop, 2000 and 2006), *D. noxia* is not listed as being present in the United Kingdom. Finally, *D. noxia* has never been caught in suction traps of the 'Rothamsted Insect Survey'. It is now considered that this old record is erroneous and that *D. noxia* is absent from the United Kingdom.

Source: Personal communication with Dr Bishop, Fera (2010-04).

Blackman RL, Eastop VF (2006) Aphids on the World's. Herbaceous plants and shrubs. Volume 2: The Aphids. The Natural History Museum, London.

Blackman RL, Eastop VF (2000) Aphids on the World's Crops - An Identification and Information guide. Wiley, 466 pp.

USDA (1963) Insects not known to occur in the United States. Cooperative Economic Insect Report, Vol. 2 (July to December) p 1357.

Additional key words: absence, denied record

Computer codes: BRAYNO, GB

#### 2010/088 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2009 received since the previous report (EPPO RS 2009/201). Notifications have been sent directly to EPPO by Israel, and via Europhyt for the EU countries. 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. 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 (\*).

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Acari	Malus Malus	Fruits Fruits	Hungary USA	Israel Israel	1 1
Acinetobacter calcoaceticus		Pollen	Slovakia	Israel	1
Agromyzidae	Dendrobium Eryngium foetidum, Osimum basilisum	Cut flowers Vegetables	Thailand Thailand	Switzerland France	1 1
	Ocimum basilicum Ocimum basilicum Ocimum basilicum	Vegetables Vegetables	Thailand Thailand	France France	1 1
Aleyrodidae	Apium graveolens	Vegetables	Thailand	France	1
Alternaria brassicicola	Brassica	Seeds	Italy	Israel	1
Ambrosia	Zea mays Zea mays Zea mays	Stored products Stored products Stored products	Russia Ukraine USA	Israel Israel Israel	1 1 1
Aphididae	Primula	Pot plants	Netherlands	Israel	1
Arhopalus rusticus	Unspecified	Dunnage	Unknown origin	Israel	1
Ascaris	-	Soil and growing	Ireland	Israel	1
Ascochyta fabae	Vicia faba	Seeds	Spain	Israel	1
Aspergillus flavus	-	Stored products (hay)	USA	Israel	1
Bemisia	Erysimum Euphorbia pulcherrima Ocimum basilicum Ocimum basilicum	Plants for planting Plants for planting Vegetables (leaves) Vegetables (leaves)	Israel Germany Israel Israel	United Kingdom United Kingdom Czech Republic Switzerland	1 1 1 2
Bemisia tabaci	Artemisia dracunculus Dipladenia Dipladenia Dipladenia Duranta Eryngium foetidum Eryngium foetidum, Ocimum basilicum Erysimum	Plants for planting Plants for planting Plants for planting Plants for planting Plants for planting Vegetables Vegetables Plants for planting	Israel Belgium Netherlands Portugal Portugal Thailand Thailand Israel	United Kingdom United Kingdom United Kingdom United Kingdom France France United Kingdom	4 1 2 1 1 20 4 2
	Euphorbia pulcherrima Euphorbia pulcherrima Euphorbia pulcherrima Euphorbia pulcherrima Euphorbia pulcherrima Euphorbia pulcherrima Euphorbia pulcherrima Euphorbia pulcherrima Eustoma	Cuttings Plants for planting Plants for planting Cuttings Plants for planting Plants for planting Cuttings Cuttings Cuttings Cut flowers	Denmark* Germany Germany Germany Netherlands Netherlands Sweden Israel	United Kingdom Finland Ireland United Kingdom United Kingdom Ireland United Kingdom United Kingdom Netherlands	1 4 2 3 5 1 2 1 1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>B ; tabaci</i> (cont.)	Hemigraphis Hibiscus Hibiscus Hibiscus rosa-sinensis Hygrophila Hygrophila salicifolia Hypericum Hypericum androsaemum Lantana Limnophila aromatica Lisianthus Mandevilla Mandevilla Manihot esculenta Manihot esculenta Mentha Ocimum basilicum Ocimum basilicum Solidago Solidago Solidago	Plants for planting Plants for planting Plants for planting Plants for planting Plants for planting Plants for planting Cut flowers Cut flowers Plants for planting Vegetables Cuttings Vegetables Cuttings Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Plants for planting Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Cut flowers Cut flowers Cut flowers Cut flowers Cut flowers Cut flowers	Singapore Belgium Netherlands Netherlands Singapore Ecuador* Netherlands Italy Sri Lanka Netherlands Spain (Canary Isl.) Spain	United Kingdom United Kingdom United Kingdom France United Kingdom Sweden United Kingdom United Kingdom France United Kingdom Switzerland Switzerland France Ineland Switzerland France United Kingdom France Switzerland France Switzerland France United Kingdom France Switzerland Ireland United Kingdom	1 2 4 1 1 1 1 3 1 1 1 1 3 1 5 2 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Bemisia tabaci, Heliothis	Ocimum basilicum	Vegetables (leaves)	Israel	Czech Republic	1
Bemisia tabaci, Liriomyza	Ocimum basilicum	Vegetables (leaves)	Israel	Ireland	1
Bemisia tabaci, Thrips palmi	Solanum macrocarpon	Vegetables	Surinam	Netherlands	1
Brachiaria humidicola	Chloris gayana	Seeds	Australia	Israel	1
Cadra cautella	Helianthus annuus Tamarindus indica	Stored products Stored products	Egypt Thailand	Israel Israel	1 1
Carnation mottle virus	Dianthus Dianthus Dianthus	Cuttings Cuttings Cuttings	Italy Netherlands Spain	Israel Israel Israel	1 1 1
Carposinidae	Syzygium	Fruits	India	United Kingdom	1
Cerastium semidecandrum	Chloris gayana	Seeds	Australia	Israel	1
Chenopodium	Petroselinum crispum	Seeds	France	Israel	1
Chenopodium hybridum	Anethum graveolens	Seeds	France	Israel	1
Cheyletidae	Coffea	Stored products	Congo	Israel	1
Chironomidae	-	Soil and growing medium (peat)	Ireland	Israel	1
Chrysanthemum stunt viroid	Chrysanthemum	Plants for planting	Netherlands	United Kingdom	1
Citrus tristeza virus	Citrus	Plants for planting	Spain	Portugal	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Clavibacter michiganensis subsp. michiganensis	Lycopersicon esculentum Lycopersicon esculentum	Seeds Seeds	India Thailand	France France	1 1
Clavibacter michiganensis subsp. sepedonicus	Solanum tuberosum	Ware potatoes	Germany	Netherlands	1
Claviceps	Petroselinum crispum	Seeds	France	Israel	1
Claviceps purpurea	Lolium	Seeds	USA	Israel	1
Colletotrichum gloeosporioides	Medicago sativa	Stored products	USA	Israel	1
Comamonas acidovorans	-	Stored products (hay)	USA	Israel	1
Corynesporasca	Ocimum	Vegetables (leaves)	Thailand	Germany	1
Crepis capillaris	Thymus vulgaris	Seeds	Netherlands	Israel	1
Cuscuta	Coriandrum sativum Foeniculum Ocimum basilicum Petroselinum crispum	Seeds Seeds Seeds Seeds	Italy Italy USA Italy	Israel Israel Israel Israel	1 1 1 1
Diaphania indica	Momordica	Vegetables	Kenya	United Kingdom	1
Digitaria eriantha	Chloris gayana	Seeds	Australia	Israel	1
Dreschlera	Lolium	Seeds	USA	Israel	1
Erwinia carotovora	Brassica oleracea var. capitata f. alba	Vegetables	Netherlands	Israel	1
Euchrysops cnejus, Maruca vitrata	Dolichos lablab	Vegetables	Bangladesh	Germany	1
Fallopia convolvulus	Beta vulgaris Beta vulgaris Brassica oleracea var. botrytis Coriandrum sativum Fagopyrum Hordeum Hordeum Raphanus sativus Spinacia oleracea Spinacia oleracea Triticum Triticum Triticum Triticum	Seeds Seeds Seeds Stored products Stored products Stored products Seeds Seeds Seeds Stored products Stored products Stored products Stored products Stored products Stored products	Germany Italy Italy Italy Ukraine Russia Ukraine Netherlands Japan USA Hungary Moldova Russia Ukraine USA	Israel Israel Israel Israel Israel Israel Israel Israel Israel Israel Israel Israel Israel Israel Israel	1 3 1 1 1 1 1 1 1 1 1 6 16 1
Frankliniella occidentalis	Euphorbia	Pot plants	Netherlands	Israel	1
Fusarium oxysporum	Lycopersicon esculentum	Seeds	Netherlands	Israel	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Fusarium solani	-	Stored products (hay)	USA	Israel	1
Galeopsis tetrahit	Spinacia oleracea	Seeds	USA	Israel	1
Gelechiidae	Lycopersicon esculentum	Fruits	Spain	United Kingdom	1
Globodera pallida	Solanum tuberosum	Ware potatoes	Italy	Lithuania	4
Globodera rostochiensis	Solanum tuberosum Solanum tuberosum	Ware potatoes Ware potatoes	Cyprus Italy	Ireland Ireland	1 9
Guignardia	Citrus reticulata	Fruits	South Africa	Netherlands	2
Guignardia citricarpa	Citrus limon Citrus limon Citrus sinensis Citrus sinensis	Fruits Fruits Fruits Fruits	Argentina South Africa Brazil Brazil	Netherlands United Kingdom Belgium United Kingdom	1 1 2 2
Helicotylenchus dihystera, Tylenchorhynchus	Unspecified	Plants for planting	China	United Kingdom	1
Helicoverpa armigera	Pisum sativum	Vegetables	Kenya	Ireland	1
Heliothis	Annona squamosa	Fruits	Thailand	Germany	1
Hirschmanniella	Vallisneria	Plants for planting	Singapore	France	2
Leptinotarsa decemlineata	Spinacia oleracea	Vegetables (leaves)	Portugal	United Kingdom	1
Leptosphaeria maculans	Brassica Brassica oleracea var. caulorapa	Seeds Seeds	ltaly USA	Israel Israel	1 2
Leucinodes orbonalis	Solanum aethiopicum Solanum melongena	Vegetables Vegetables	Ghana Thailand	Germany Luxemburg	1 1
Liriomyza Liriomyza huidobrensis	Apium graveolens Apium graveolens Chrysanthemum Coriandrum sativum Eryngium foetidum, Ocimum sanctum Ocimum americanum, Ocimum basilicum Ocimum basilicum Trigonella Chrysanthemum	Vegetables Vegetables Cut flowers Vegetables Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Vegetables (leaves) Cut flowers	Thailand Thailand Colombia Israel Thailand Thailand Thailand India Colombia	Czech Republic Denmark United Kingdom France France France France France France France France United Kingdom	1 2 1 1 1 1 2 16 1 1 2
	Eryngium Gypsophila Gypsophila	Cut flowers Cut flowers Cut flowers	Kenya Ecuador Kenya	Netherlands Netherlands Netherlands	2 2 2
Liriomyza huidobrensis, Liriomyza sativae	Eryngium	Cut flowers	Kenya	Netherlands	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Liriomyza sativae	Ocimum basilicum	Vegetables (leaves)	Thailand	France	4
Liriomyza sativae, Liriomyza trifolii	Ocimum Ocimum basilicum	Vegetables (leaves) Vegetables (leaves)	Ethiopia Ethiopia	United Kingdom United Kingdom	1 1
Liriomyza trifolii	Apium Apium graveolens Apium graveolens Apium graveolens Gypsophila	Vegetables Vegetables Vegetables Cut flowers	Thailand* Thailand* Thailand* Thailand* Israel	Netherlands Denmark Netherlands Sweden Netherlands	1 2 1 1
Meloidogyne	Livistona Trachycarpus fortunei	Plants for planting Plants for planting	USA China	Belgium France	1 1
Meloidogyne incognita	Zingiber officinale	Tubers	China	Israel	1
Myrothecium roridum	Brassica oleracea var. capitata f. alba	Vegetables	Netherlands	Israel	1
Myzus ascalonicus	Sempervivum	Pot Plants	Netherlands	Israel	1
Opogona sacchari	Cycas revoluta	Plants for planting	Unknown origin	Netherlands	1
Oribatidae, Eulophidae ?	Malus	Fruits	Italy	Israel	1
Penicillium	-	Stored products (hay)	USA	Israel	1
Pepino mosaic virus	Lycopersicon esculentum Lycopersicon esculentum Lycopersicon esculentum Lycopersicon esculentum Lycopersicon esculentum Lycopersicon esculentum Lycopersicon esculentum Lycopersicon esculentum	Fruits Fruits Fruits Fruits Fruits Plants for planting Fruits Fruits Fruits	Belgium France Italy Netherlands Netherlands Netherlands Spain Spain	Poland Poland Austria Poland Poland United Kingdom Poland United Kingdom	1 2 1 12 1 1 4 1
Persicaria maculosa	Anethum graveolens Spinacia oleracea	Seeds Seeds	France USA	Israel Israel	1 1
Phylloxera quercus	Quercus ilex	Plants for planting	Italy	United Kingdom	1
Phytophthora ramorum	Camellia Pieris Pieris japonica Pieris, Rhododendron japonicum Rhododendon Rhododendon Rhododendon Rhododendon Rhododendon Rhododendon catawbiense Rhododendon catawbiense Phododendon pontícum	Plants for planting Plants for planting	France Netherlands Netherlands Germany France Germany Germany Netherlands Denmark Germany Netherlands	United Kingdom United Kingdom Slovenia United Kingdom Denmark United Kingdom Slovenia United Kingdom Finland Finland	1 1 1 1 1 1 2 1 1
	Viburnum tinus	Plants for planting	Italy	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Plum pox virus	Prunus domestica	Plants for planting	Germany	Netherlands	1
Polygonum argyrocoleon	Ocimum basilicum	Seeds	USA	Israel	1
Pseudococcidae	Annona	Fruits	India	Germany	3
Pseudomonas cichorii	Brassica oleracea var. capitata f. alba	Vegetables	Netherlands	Israel	1
Psocoptera	Coffea	Stored products	Congo	Israel	1
Pythium		Stored products (hay)	USA	Israel	1
Quadraspidiotus perniciosus	Malus	Fruits	France	Israel	1
Radopholus similis	Scindapsus	Plants for planting	Sri Lanka	Netherlands	1
Ralstonia solanacearum	Solanum melongena Solanum melongena Solanum tuberosum	Seeds Seeds Ware potatoes	Netherlands Thailand Greece	Israel Israel Czech Republic	1 1 1
Rhizoctonia solani	-	Stored products (hay)	USA	Israel	1
Rhizopus	-	Stored products (hay)	USA	Israel	1
Rumex acetosella	Thymus vulgaris	Seeds	Netherlands	Israel	1
Scatopsidae	Allium cepa	Vegetables	Netherlands	Israel	3
Sclerotinia sclerotiorum	Brassica campestris Coriandrum sativum Petroselinum crispum Raphanus sativus	Seeds Stored products Seeds Seeds	Italy Ukraine France USA	Israel Israel Israel Israel	1 1 1 1
Setaria palmifolia	Chloris gayana	Seeds	Australia	Israel	1
Sitotroga cerealella	Sorghum	Stored products	Hungary	Israel	1
Spodoptera littoralis	Rosa	Cut flowers	Zimbabwe	Netherlands	1
Spodoptera litura	Rosa Rosa	Cut flowers Cut flowers	India India	Netherlands United Kingdom	3 1
Stenocarpella maydis	Zea mays	Seeds	USA	Israel	1
Sternochetus mangiferae	Mangifera indica	Fruits	India	Sweden	1
Thrips palmi	Dendrobium Dendrobium Dendrobium Mangifera, Momordica charantia, Solanum melongena	Cut flowers Cut flowers Cut flowers Fruits and vegetables	Thailand Thailand Thailand Surinam	Belgium France Netherlands Netherlands	1 1 2 1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>T ; palmi</i> (cont.)	Mangifera, Momordica, Solanum melongena	Fruits and	Surinam	Netherlands	1
	Mangifera, Solanum melongena	Fruits and	Surinam	Netherlands	1
	Solanum melongena	Vegetables	Surinam	Netherlands	1
Thrips palmi, Dacus	Momordica	Vegetables	Ghana	United Kingdom	1
Thysanoptera	Dendrobium	Cut flowers	Thailand	Switzerland	6
	Momordica charantia Momordica charantia, Solanum melongena	Vegetables Vegetables	Thailand Thailand	France France	3 1
	Ocimum sanctum	Vegetables (leaves)	Thailand	France	3
	Ocimum sanctum,	Fruits and	Thailand	France	1
	Solanum melongena	vegetables	The fille start	Curitzardan d	~
	Urchidaceae Selenum melengene	Cut flowers	I nalland	Switzerland	2
	Solanum melongena	Vegetables	Sri Lanka	Franco	ა 1
	Solanum melongena	Vegetables	Thailand	France	4
	Colandin molongona	Vogotabios	- Thailand	Tranco	•
Tobamoviruses	Lycopersicon esculentum	Seeds	Netherlands	Israel	1
Tomato apical stunt viroid	Lycopersicon esculentum	Seeds	USA*	Israel	1
Trichoderma	-	Stored products (hay)	USA	Israel	1
Tuta absoluta	Lycopersicon esculentum	Fruits	Italy	United Kingdom	1
	Lycopersicon esculentum	Fruits	Spain	Netherlands	1
	Lycopersicon esculentum	Fruits	Spain	United Kingdom	7
	Lycopersicon esculentum	Plants for planting	Spain	United Kingdom	1
Xanthomonas	Euphorbia pulcherrima	Plants for planting	Germany	United Kingdom	1
Xanthomonas axonopodis pv.	Citrus	Fruits	Bangladesh	United Kingdom	2
citri	Citrus aurantifolia	Fruits	Bangladesh	United Kingdom	3
	Citrus aurantifolia	Fruits	Pakistan	United Kingdom	1
	Citrus aurantifolia, Prunus	Fruits	Pakistan	United Kingdom	1
	armeniaca Citrus, Momordica, Solanum melongena	Fruits and vegetables	Bangladesh	United Kingdom	1
Xanthomonas axonopodis pv. phaseoli	Phaseolus vulgaris	Seeds	Tunisia	France	1
Xiphinema	-	Soil and growing	Surinam	Netherlands	1
	Vitis vinifera	Plants for planting	Turkey	Germany	1
Zonitoides arboreus	Nertera	Pot plants	Netherlands	Israel	1

### • Fruit flies

Pest	Consignment	Country of origin	Destination	nb
Anastrepha	Mangifera Mangifera indica	Dominican Rep. Dominican Rep.	United Kingdom United Kingdom	1 1
Anastrepha obliqua	Mangifera indica Mangifera indica	Dominican Rep. Dominican Rep.	Netherlands United Kingdom	1 1
Bactrocera	Mangifera indica Mangifera indica Mangifera indica Mangifera indica Psidium	Cameroon Pakistan Senegal Togo Thailand	Switzerland United Kingdom Belgium France United Kingdom	1 1 1 1
Bactrocera correcta	Syzygium samarangense	Thailand	Switzerland	1
Bactrocera dorsalis	Annona muricata Annona muricata, Annona	Vietnam	France	5
	squamosa, Mangifera indica	Vietnam	France	1
	Annona squamosa	Thailand	France	2
	Capsicum annuum, Syzygium samarangense	Thailand	France	1
	Mangifera	Pakistan	United Kingdom	1
	Mangifera indica	India	France	6
	Mangifera indica	India	United Kingdom	1
	Mangifera indica	Pakistan	France	2
	Mangifera indica	Thailand	France	1
	Psidium guajava	Thailand	France	1
	Syzygium samarangense	Thailand	France	1
Bactrocera invadens	Mangifera indica	Cameroon	France	1
	Mangifera indica	Mali	France	2
	Mangifera indica	Senegal	France	1
	Mangifera indica	Senegal	United Kingdom	1
Bactrocera latifrons	Capsicum annuum	Thailand	France	2
Bactrocera zonata	Mangifera	Pakistan	United Kingdom	1
	Mangifera indica	Egypt	France	1
	Mangifera indica	Pakistan	France	1
	Mangifera indica	Pakistan	United Kingdom	4
Ceratitis cosyra	Mangifera indica	Mali	France	2
Tephritidae (non-European)	Annona	India	Germany	1
	Annona squamosa, Mangifera indica, Momordica charantia, Psidium guajava, Solanum melongena	India	Switzerland	1

Pest	Consignment	Country of origin	Destination	nb
Tephritidae (non-European	Capsicum annuum	Thailand	France	3
	Mangifera indica	Côte d'Ivoire	France	1
	Mangifera indica	Dominican Rep.	France	2
	Mangifera indica	Dominican Rep.	Germany	2
	Mangifera indica	Dominican Rep.	United Kingdom	1
	Mangifera indica	India	United Kingdom	1
	Mangifera indica	Mali	France	2
	Mangifera indica	Pakistan	France	3
	Mangifera indica	Pakistan	United Kingdom	6
	Mangifera indica	Senegal	France	1
	Mangifera, Syzygium	Surinam	Netherlands	1
	Momordica charantia	Thailand	France	1
	Momordica charantia	Thailand	France	1
	Psidium guajava	India	Switzerland	1
	Syzygium samarangense	Thailand	France	1
	Syzygium samarangense	Thailand	France	1
Tephritidae (non-European),	Annona squamosa	India	Germany	3
Pseudococcidae	Annona squamosa	Thailand	Germany	1

• Wood

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Acantholyctus cornifrons	Bamboo	Wood (canes)	China	Israel	1
Anoplophora glabripennis	Unspecified	Wood packing material	China	Sweden	1
Arhopalus rusticus	Unspecified	Wood	Ukraine	Israel	1
Berginus	Unspecified	Wood	Ukraine	Israel	1
Bostrichidae	Unspecified	Wood packing material	India	Germany	2
Buprestidae	Unspecified	Wood packing material	India	Germany	1
Bursaphelenchus	Unspecified	Wood packing material (pallets)	Portugal	Latvia	2
Camponotus fallax	Unspecified	Wood	Ukraine	Israel	1
Cerambycidae	Unspecified Unspecified Unspecified <i>Bambusa</i> Unspecified	Wood packing material Wood packing material Wood Wood (canes) Wood	Brazil China Ukraine China Ukraine	Germany Poland Israel Israel Israel	1 2 1 1 1
Chrysididae	Unspecified	Wood	Ukraine	Israel	1
Coleoptera	Unspecified	Wood packing material (pallets)	Vietnam	Germany	1
Cossioninae	Bambusa	Wood (canes)	China	Israel	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Cryptophagidae	Bambusa	Wood (canes)	China	Israel	1
Dinoderus	Unspecified	Wood	China	Israel	1
Dinoderus bifoveolatus	Bambusa	Wood (canes)	China	Israel	2
Dinoderus minutus	<i>Bambusa</i> Unspecified	Wood (canes) Wood	China Ukraine	Israel Israel	2 1
Dolopsidae	Bambusa	Wood (canes)	China	Israel	1
Dryocoetes villosus	Unspecified	Wood	Ukraine	Israel	1
Eurytomidae	Bambusa	Wood (canes)	China	Israel	1
Gnathotrichus	Unspecified	Wood	China	Israel	1
Grub holes > 3 mm	Larix	Wood and bark	Russia	Finland	1
Hippodamia tredecimpunctata	Unspecified	Wood	Ukraine	Israel	1
Lasioderma	Unspecified	Wood	Ukraine	Israel	1
Minthea	Unspecified	Wood packing material	India	Germany	1
Monochamus	Unspecified	Wood packing material	China	Germany	1
	Unspecified	(pallets) Wood packing material (crates)	India	Germany	1
Nematoda	<i>Picea abies</i> Unspecified	Wood and bark Wood packing material	Canada China	Finland Finland	1 1
Odontocolon dentipes	Unspecified	Wood	Ukraine	Israel	1
Orthotomicus lasiocarpi	Unspecified	Wood	China	Israel	1
Phoracantha semipunctata	Unspecified	Wood packing material (pallets)	Brazil	Belgium	1
Pollenia	Unspecified	Wood	Ukraine	Israel	1
Scolytidae	Bambusa	Wood (canes)	China	Israel	1
Scolytus intricatus	Unspecified	Wood	Ukraine	Israel	1
Scolytus pygmaeus	Unspecified	Wood	Ukraine	Israel	1
Scolytus rugulosus	Unspecified	Wood	Ukraine	Israel	1
Silvanus	Bambusa	Wood (canes)	China	Israel	1
Sinoxylon	Unspecified Unspecified Unspecified	Wood packing material Wood packing material Wood packing material (crates)	Bangladesh India India	Germany Austria Austria	1 2 1
	Unspecified	Wood packing material	India	Germany	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
Sinoxylon (cont.)	Unspecified	Wood packing material (crates)	India	Germany	11
	Unspecified	Wood packing material (pallets)	India	Germany	5
	Unspecified	Wooden objects	India	Germany	1
	Unspecified	Wood packing material	Malaysia	Germany	1
	Unspecified	Wood packing material (pallets)	Vietnam	Germany	1
Taphrorychus bicolor	Unspecified	Wood	Ukraine	Israel	1
Vespula germanica	Unspecified	Wood	Belgium	Israel	1

• Bonsais

Pest	Consignment	Country of origin	Destination	nb
Helicotylenchus dihystera	Ulmus	Netherlands	United Kingdom	1
Helicotylenchus dihystera, Meloidogyne	Unspecified	China	United Kingdom	1
Helicotylenchus dihystera, Tylenchorhynchus	Unspecified	China	United Kingdom	1
Helicotylenchus dihystera, Tylenchorhynchus annulatus	Unspecified	China	United Kingdom	1

Source: EPPO Secretariat, 2010-04.

### 2010/089 New record: Galenia pubescens in Spain

*Galenia pubescens* (Aizoaceae) is a prostrate perennial plant native to South Africa where it colonizes inland karoo vegetation (arid vegetation composed of dwarf, succulent shrubs mainly belonging to the families Mesembryanthemaceae, Crassulaceae and Asteraceae, and constituing a hotspot of biodiversity) and coastal areas (between altitudes of 15 to 1830 m). *G. pubescens* has been introduced either voluntarily or accidentally and naturalized in other Mediterranean Types regions: in Southern Australia, in Chile, in California and in the Mediterranean Basin (Israel and Southern Spain). Nevertheless, it is not included in national lists of invasive alien plants, as it is known to colonize mainly disturbed environments.

*G. pubescens* was recently recorded in Andalucía (Southern Spain) in 3 coastal areas in Huelva, Cádiz and Málaga. Its potential invasiveness has been assessed both in salty wetlands and dunes by analyzing the following factors:

<u>Time since introduction in Spain</u>: it is estimated that the species has been present in Spain for at least 40 years and that it currently covers 15 804 ha.

<u>Growth type</u>: in dunes and wetlands, *G. pubescens* was the only perennial species forming dense prostrate mats.

<u>Flowering and seed production</u>: in coastal dunes, *G. pubescens* flowered throughout the year. Annual seed production in dunes was estimated around 100 000 seeds/m<sup>2</sup>/year. The flowering period of *G. pubescens* was longer than the one measured for the invasive *Carpobrotus edulis* (Aizoaceae, EPPO List of Invasive Alien Plants) in Californian coastal areas, and the amount of seeds produced was about 4 times higher. Additionally, the small seeds produced by *G. pubescens* are rapidly spread along transport corridors such as road sides were the plant is usually found. Further studies on seed persistence and germination should be done.

<u>Light attenuation</u>: specific light attenuation values measured for *G. pubescens* were 98.3-99.6%, and were significantly higher than those measured for any other species in dunes and in wetlands.

<u>Overlapping with flowering period of native species</u>: the flowering period of *G. pubescens* was the longest among dune plant species. Percentage of overlap reached mean values of  $94\pm10\%$  in dunes, and  $73\pm38\%$  in wetlands.

Loss of native species richness and diversity: a significant decrease in the native species richness and Shannon's diversity index was found in the invaded plots of both dunes and wetlands. The loss of native richness and diversity persisted in all seasons. These indices were higher than those reported for *Carpobrotus edulis* invading Mediterranean islands.

<u>Changes in plant functional types in invaded dunes</u>: perennial species were substituted by annual, ruderal grasses or forbs such as *Bromus* spp. (Poaceae), *Ecballium elaterium* (Cucurbitaceae), *Anacyclus radiatus* (Asteraceae) as well as the invasive *Oxalis pes-caprae* (Oxalidaceae, EPPO List of IAP). In wetlands, changes were less evident as the contribution of ruderal species was already relatively high.

From the analysis of all these factors, it could be concluded that *G. pubescens* has a competitive advantage over native vegetation. Monitoring and control measures to prevent the spread of this species are therefore recommended.

Source: Garcia-de-Lomas J, Cozar A, Dana ED, Hernandez I, Sanchez-Garcia I, Garcia CM (2010) Invasiveness of *Galenia pubescens* (Aizoaceae): a new threat to Mediterranean-climate coastal ecosystems. *Acta Oecologica* 36(1), 39-45.

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Additional key words: invasive alien plants, new record

Computer codes: ANYRA, BROSS, CBSED, ECAEL, GAJPU, OXAPC, ES

### 2010/090 The situation of *Pistia stratiotes* in the EPPO region

In Russia, *Pistia stratiotes* (Araceae, EPPO Alert List) and *Eichhornia crassipes* (Pontederiaceae, EPPO A2 List) were recorded in 2003 in ponds and rivers of Moscow and its neighbourhood. Both species are grown for ornamental purposes and escape summertime cultivation, *E. crassipes* being also used for wastewater treatment. Despite forming large floating mats during hot summers, the first frosts of October kill these plants completely. The only area were they could be potentially invasive is Southern Russia. However, an overwintering population has been observed in 1993 in the Kazachii channel in the Volga delta in Astrakhan; it was able to thrive because of warm water discharged from a power station.

In Germany, *P. stratiotes* had been observed in the river Erft in 1981 as a consequence of warm water discharged from mining activities, but in 2005, the species was no longer found.

In Northern Spain, the botanist Aispuru collected the plant in 2001 in Guipuzcoa (Pais Vasco) as well as in Southern France, in the Landes department (lake of Garros, near the cities of Tarnos and Ondres). It was suggested that the species had been introduced by waterfowl. The species could not be found again in 2004 in the Landes, suggesting that the species was not able to establish. No recent information is available concerning the Spanish record in Pais Vasco. In Southern Spain, *Pistia stratiotes* was observed in 2005 in the Doñana National Park, forming monospecific stands 3 km long in a canal coming from the Guadalquivir river and receiving water from agricultural land. These waters were rich in nutrients, with traces of pesticides, and had a low oxygen content according to the analysis made by the Consejería de Medio Ambiante de Andalucía. These conditions did not allow growth of native hydrophyte species, but fitted *P. stratiotes*' requirements. However, *P. stratiotes* is no longer found there.

In Slovenia, the species was also recorded as naturalized in a natural thermal stream (Topla) near Čatez, where the water is at 17°C all year round. Plants developed and flowered from April to August. Over the winter, older rosettes decayed, but small rosettes survived, and new rosettes formed new stolons in spring. Viable seeds were also present in the sediments, although no seedlings were found. Only 2 years after its first occurrence in 2001, *P. stratiotes* had spread along 3 km and covered about 25 ha, and a decline in native vegetation was observed.

Source: García Murillo P, Dana Sánchez ED, Rodríguez Hiraldo C (2005) *Pistia stratiotes* L. (Araceae) una planta acuática exotica en las proximidades del parque nacional de Doñana (SW España). *Acta Botanica Malacitana* 20, 235-236.

Šajna N, Haler M, Škornik S, Kaligarič M (2007) Survival and expansion of *Pistia* stratiotes L. in a thermal stream in Slovenia. Aquatic Botany 87, 75-79.
 Schanzer IA, Shvetsov AN, Ivanov MV (2003) Eichhornia crassipes and Pistia

stratiotes are spreading in ponds and rivers of Moscow and Moscow region. Byulleten Moskovskogo Obshchestva Ispytatelei Prirody Otdel Biologicheskii 108, 85-88.

Vivant J (2004) Plantes signalées dans les Landes et Pyrénées atlantiques en 2004. Blog de Jean Vivant. <u>http://www.jean-vivant.net/doc\_02.php</u>

Additional key words: invasive alien plants, new records

Computer codes: EICCR, PIIST, DE, ES, FR, RU, SL

### 2010/091 Restoration of the Bagaud Island (FR) through the eradication of *Carpobrotus* spp. and rats

The National Park of Port Cros (FR) has planned an ecological restoration of the Bagaud Island, invaded by *Carpobrotus* spp. (Aizoaceae, EPPO List of IAP) and rats (*Rattus rattus*, Muridae). Without taking any action, the site would have lost its biological diversity due to the progression of the invasive *Carpobrotus* spp. which are also spread by rats eating seeds. This project associates land managers, scientists and private donnors. The objective of this project is to restore an island which has nature reserve status, and to provide a case study in the field of eradication. Additionally, a documentary film will be produced to raise public awareness on eradication of invasive alien species.

Source: Parc National de Port Cros, Institut Méditerranéen d'Ecologie et de Paléoécologie (2008) Retauration écologique de l'île de Bagaud (Parc National de Port Cros). Approche intégrée entre science et conservation, 4 pp.

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Additional key words: invasive alien plants, eradication

Computer codes: CBSSS, FR

### 2010/092 Risk analysis of potential invasive plants in Spain

Non native plant species that could potentially become invasive in Spain if introduced have been identified and assessed. Species ranking has been performed by applying 2 different risk assessment protocols: the Australian Weed Risk Assessment system developed by Pheloung *et al.*, 2009 (hereafter called WRA), and the Risk Assessment for Central Europe developed by Weber & Gut (2004) (hereafter called WG-WRA). The WRA has been chosen because of its success and consistency in different regions, while the WG-WRA has been selected because it has specifically been developed for Europe.

A plant data set has been aggregated by listing species that are absent from Spain and invasive in neighbouring countries (France, Italy, Northern African countries, Portugal, as well as in other Mediterranean type regions of the world such as Chile, South Africa, and California). The IUCN, DAISIE and EPPO Lists were used. A preliminary list of 80 species was obtained, and each of these species was then assessed through the WRA and the WG-WRA on the basis of information available in the literature and the Internet.

According to the WRA protocol, species which obtained a score higher than 6 or should be subjected to import prohibition. According to the WG-WRA protocol, species are considered to present a "high risk" when scores are above 28, "intermediate risk" for scores between 21 and 27, and "low risk" for scores between 3 and 20.

All species assessed, together with their scores given by both WRA and WG-WRA protocols are listed in the table below. Species are ordered according to the score obtained with the WRA, and the "high risk" scores given by the WG-WRA protocol are indicated in bold:

Potential invasive alien plants in Spain		WG-WRA
	score	score
Chromolaena odorata (Asteraceae)	27	33
Cabomba caroliniana (Cabombaceae, EPPO List of Invasive Alien		30
Plants)		
Hydrocotyle ranunculoides (Apiaceae, EPPO A2 List)		28
Salvinia molesta (Salviniaceae, EPPO Alert List)		32
Hydrilla verticillata (Hydrocharitaceae, EPPO Alert List)		27

Potential invasive alien plants in Spain	WRA	WG-WRA
	score	score
Prosopis glandulosa (Fabaceae)	22	32
Cryptostegia grandiflora (Apocynaceae)	22	29
Ludwigia peploides (Onagraceae, EPPO List of IAP)	21	30
Alternanthera philoxeroides (Amaranthaceae, EPPO Alert List)	21	33
Nassella tenuissima (Poaceae, EPPO Alert List)	20	30
Cortaderia jubata (Poaceae)	20	32
Panicum maximum (Poaceae)	19	31
Elodea nuttallii (Hydrocharitaceae, EPPO List of IAP)	19	28
Crassula helmsii (Crassulaceae, EPPO A2 List)	19	26
Asparagus asparagoides (Asparagaceae)	19	29
Acacia mearnsii (Fabaceae)	19	31
Opuntia aurantiaca (Cactaceae)	18	25
Mimosa pigra (Fabaceae)	18	29
Lupinus arboreus (Fabaceae)	18	28
Lagarosiphon major (Hydrocharitaceae, FPPO List of IAP)	18	28
Heracleum mantegazzianum (Anjaceae, EPPO List of IAP)	18	32
Lysichiton americanus (Araceae, EPPO List of IAP)	17	26
<i>Clidemia hirta</i> (Melastomataceae)	17	20
Watsonia hulhillifera (Iridaceae)	16	23
Tamarix ramosissima (Tamaricaceae)	16	32
Tamarix anbylla (Tamaricaceae)	16	32
Hedychium gardnerianum (Zingiberaceae)	16	20
Gunnera tinctoria (Gunneraceae)	16	27
Catanastar franchatii (Dasacaza)	16	20
Dubus allinticus (Posacoao)	10	24
Puoraria Johata (Esbacoso, EPDO A2 List)	15	20
Miscanthus sinonsis (Poscoso)	15	20
Miconia calvoscons (Molastomatacoao)	15	24
Enilohium ciliatum (Onogracopo)	15	24
Corous martinii (Castasoao)	15	24
Acacia nilatica (Fabacaza)	15	24
Parthonium hystorenhorus (Astorasoaa)	1J 14	30
Partinemum myster opnorus (Asteraceae)	14	20
Wikding milling (Asterdeede)	14	29
Cochania nunicoa (Espaceso, EDPO Alart List)	13	24
Jesuaria pullicea (Fabaceae, EPPO Alert List)	13	23
Delbergie sissee (Dedcede)	13	27
Dalber gla Sissou (Fabaceae)	13	23
Coltia sinensia (Ulumesses)	13	14
Certis sinensis (Ulmaceae)	13	23
Ainagi pseudainagi (Fabaceae)	13	27
Acroption repens (Poaceae, EPPO List of IAP)	13	22
Psidium cattleianum (Myrtaceae)	12	24
Passifiora subpeltata (Passifioraceae)	12	25
Leptospermum laevigatum (Myrtaceae)	12	25
Heracieum sosnowskyi (Apiaceae, EPPO AZ List)	12	23
Berberis thunbergii (Berberidaceae)	12	27
Acacia paradoxa (Fabaceae)	12	23
Spathodea campanulata (Bignoniaceae)	11	24
<i>Reynoutria x bohemica</i> (Polygonaceae, EPPO List of IAP)	11	25

Potential invasive alien plants in Spain	WRA	WG-WRA
	score	score
Reynoutria sachalinensis (Polygonaceae, EPPO List of IAP)	11	26
Coreopsis Ianceolata (Asteraceae)	11	24
Cinnamomum camphora (Lauraceae)	11	22
Wedelia trilobata (Asteraceae)	10	23
Rosa rugosa (Rosaceae)	10	27
Melaleuca quinquenervia (Myrtaceae)	10	23
Eugenia uniflora (Myrtaceae)	10	20
Cinchona pubescens (Rubiaceae)	10	20
Cecropia peltata (Urticaceae)	10	23
Aristolochia elegans (Aristolochiaceae)	10	21
Ardisia elliptica (Primulaceae)	10	21
Humulus scandens (Cannabaceae)	9	20
Dipogon lignosus (Fabaceae)	9	18
Hakea salicifolia (Proteaceae)	8	22
Solidago nemoralis (Asteraceae)	7	22
<i>Cassia laevigata</i> (Fabaceae)	7	18
Amelanchier spicata (Rosaceae, EPPO List of IAP)	7	22
Spartina anglica (Poaceae)	6	21
Rivina humilis (Phytolaccaceae)	6	16
Passiflora edulis (Passifloraceae)	6	23
Syzygium cumini (Myrtaceae)	5	20
Solanum seaforthianum (Solanaceae)	5	19
Hiptage benghalensis (Malpighiaceae)	5	20
Echinocystis lobata (Cucurbitaceae)	5	20
Bidens connata (Asteraceae)	5	18
Pinus elliottii (Pinaceae)	2	18

According to both risk assessment protocols, most screened species are potentially invasive in Spain. In particular, *Chromolaena odorata* which is a fast growing perennial shrub native to South and Central America has obtained the highest score in both tests. The next most potentially invasive species were the aquatic species: *Cabomba caroliniana*, *Hydrocotyle ranunculoides*, *Ludwigia peploides* and *Alternanthera philoxeroides*.

Source: Andreu J, Vilà M (2009) Risk analysis of potential plants in Spain. *Journal for Nature Conservation.* doi: 10.1016/j.jnc.2009.02.002. http://www.montsevila.org/paperssci.asp

- Pheloung PC, Williams PA, Halloy SR (1999) A weed risk assessment model for use as a biosecurity tool evaluating plant introductions. *Journal of Environmental Management* 57, 239-251.
- Weber E, Gut D (2004) Assessing the risk of potentially invasive plant species in central Europe. *Journal for Nature Conservation* 12, 171-179.

Additional key words: invasive alien plants, risk analysis Computer codes: ACAAR, ACAMR, ACANL, ADASO, ALHPS, ALRPH, AMESP, ARPEL, ASPAS, BEBTH, BIDCN, CABCA, *CASLA*, CDTJU, CECPE, CENRE, CETSI, CIHPU, CINCA, COBTE, CRLLA, CSBHE, CTTFR, CVRGR, CXAHI, DAGSI, DGOLI, ECNLO, EEUMA, ELDNU, EPIAC, EUEUN, EUPOD, HERSO, HEYGA, HKASA, HUMJA, GUATI, HERMZ, HTGBE, HYDRA, HYLLI, LEKLA, LGAMA, LIGSI, LUDPE, LUPAB, LSYAM, MICCA, MIKMI, MIMPI, MISSI, MLAQU, OPUAU, PANMA, PAQED, PAQSP, PIUEL, PRCJG, PSILO, PTNHY, PUELO, REYBO, REYSA, RIVHU, ROSRG, RUBEL, SAQSE, SAVMO, SEBPU, SOLSE, SOONE, SPOCA, SPTAN, STDTN, SYZCU, TAAPE, TAAAP, WASME, WEDTR, ES

### 2010/093 Biology and ecology of *Kochia scoparia*, an invasive species in Algeria

*Kochia scoparia* (Chenopodiaceae) is an annual plant, 0.4-2.5 m tall, originating from Eurasia. It occurs in Australia, Canada, Afghanistan, Pakistan, South Africa and the USA. Within the EPPO region, the plant is exotic and has invaded the Ouatya valley near Biskra in Algeria, as well as being recorded in Morocco.

In Algeria, the life cycle of *K. scoparia* begins in March, it flowers in September or October and each plant produces around 2 000 seeds. In November, the plant then dries and stands on the ground, making tillage difficult. *K. scoparia* prefers humid and disturbed habitats, it grows on any soil and can tolerate salinity. The species prefers sunny places, and is particularly abundant in fields with micro-irrigation. Seeds are spread through wind, and dead plants are transported as tumbleweed. The plant is also spread through human activities when used as a fodder, and is also used to control soil erosion.

In Algeria it is commonly found in cultivated fields and is particularly abundant in irrigated crops and has not been reported in natural habitats so far. It is also found along road sides. In the Ouatya valley, it almost invaded the totality of the 1137 ha of irrigated crop land since 2003. Land has been abandoned in this area because of the presence of this invasive plant. In addition to its impacts to agriculture, the pollen of *K. scoparia* is allergenic. In the USA, the plant is recorded as a weed of cereals. In Canada, it is recorded as a weed of lentils and chick peas.

Source: Benmeddour T, Fenni M (2008) Biologie et écologie de Ganida (*Kochia scoparia* (L.) Schrad) : plante envahissante du périmètre de l'Ouatya, Biskra. Actes du colloque international sur l'aridoculture: optimisation des productions agricoles et développement durable (Biskra, DZ, 2008-12-13/14). Tome 1: communications orales, 341-356. http://www.crstra.dz/Information/S2010-1.htm

USDA (2010) Germplasm Resources Information Network's. *Bassia scoparia* (L.) A. J. Scott. <u>http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?404228</u>

Additional key words: invasive alien plants

Computer codes: KCHSC, DZ

### 2010/094 6th NEOBIOTA Conference: Biological Invasions in a Changing World from Science to Management, Copenhagen (DK), 2010-09-10/14

The 6th NEOBIOTA Conference: Biological Invasions in a Changing World - from Science to Management will be held in Copenhagen (DK) on 2010-09-10/14, and not on 2010-09-14/17 as was erroneously announced in the previous issue of the EPPO Reporting Service.

Source: NEOBIOTA 2010 Conference, "Biological Invasions in a Changing World - from Science to Management". <u>http://cis.danbif.dk/neobiota2010</u>

Additional key words: invasive alien plants

Computer codes: DK