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2017/206 New data on quarantine pests and pests of the EPPO Alert List

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

- **New records**

During summer 2016, symptoms of plant stunting and leaf chlorosis were observed in 2 sunflower fields (*Helianthus annuus*) in Fuentes de Andalucia (Spain) and Serpa (Portugal). Studies confirmed the presence of the highly virulent race 705 of *Plasmopara halstedii* (EU Annexes) in these 2 fields. Downy mildew of sunflower is frequently observed in Spain (although it is the first time that race 705 is found there), but this is the first time that the disease is reported from Portugal (García-Carneros and Molinero-Ruiz, 2017). **Present, few records (one field in Serpa).**

In Australia, *Dickeya dianthicola* (EPPO A2 List) was initially detected in seed potato (*Solanum tuberosum*) crops in Dandaragan and Myalup (Western Australia) in June 2017. Further studies detected the bacterium in dahlia tubers in Albany, Western Australia. Eradication of *D. dianthicola* from Australia is not considered technically feasible (IPPC, 2017). **Present: only in some areas.**

In Morocco, *Dickeya dianthicola* (EPPO A2 List) has recently been detected for the first time on potato (*Solanum tuberosum*). In March 2016, blackleg symptoms were observed in commercial potato fields in the north of Morocco. The identity of the bacterium was confirmed using molecular tools (PCR, sequencing, pathogenicity tests to verify Koch's postulates) (Oulghazi *et al.*, 2017). **Present, only in some areas (Northern Morocco).**

Drosophila suzukii (Diptera: Drosophilidae - EPPO A2 List) has recently been detected in French Polynesia. The first specimens were collected by a scientist (on holiday) in Moorea in January 2017. The identity of the pest was confirmed by the Australia Museum Research Institute in February 2017. The pest was then also found in Tahiti. The pest occurs at low prevalence and no damage has been recorded in fruit orchards (IPPC, 2017). **Present: at low prevalence.**

- **Detailed records**

In Croatia, the occurrence of '*Candidatus Phytoplasma mali*' (EPPO A2 List) which was previously suspected on the basis of symptoms, has now been confirmed by molecular tests. During a survey conducted from 2011 to 2014, the pathogen was detected in apple trees (*Malus domestica*) and psyllid vectors (*Cacopsylla picta*) (Križanac *et al.*, 2017).

Ditylenchus destructor (EU Annexes) occurs in Inner Mongolia, China. In July 2016, lesions were observed on potatoes (*Solanum tuberosum*) collected from Hohhot. Laboratory studies (morphology, molecular and pathogenicity tests) confirmed the identity of the nematode. The infested field has been subjected to strict quarantine measures to prevent any further spread (Ou *et al.*, 2017).

In the Republic of Korea, *Erwinia amylovora* (EPPO A2 List) was confirmed by using molecular techniques in 18 pear orchards and 4 apple orchards, as of August 2017. These orchards are located within an area of 16 km diameter in Anseong and Cheonan. Eradication continues

(IPPC, 2017). The pest status of *Erwinia amylovora* in the Republic of Korea is officially declared as: **Transient: actionable, under eradication**.

In Canada, *Halyomorpha halys* (Hemiptera: Pentatomidae - formerly EPPO Alert List) was first detected in 2012 in Hamilton, Ontario. Its presence was then reported in Alberta and Québec. In British Columbia, it was first detected in 2015. In this province and as of October 2017, *H. halys* occurs at low levels in urban areas of Fraser Valley and Vancouver, Brentwood Bay on Vancouver Island and the Okanagan Valley (INTERNET, 2017).

Leptoglossus occidentalis (Hemiptera: Coreidae) is reported for the first time from the island of Crete (GR). The first specimen was observed in 2015-08-21 in Ferma, in the Southeastern coastal part of the island (van der Heyden, 2017).

- **Host plants**

In Taiwan, symptoms of brownish necrotic spots surrounded by a yellowish halo were observed for the first time on leaves of *Citrus depressa* in Chiayi city in 2015 and 2016. Laboratory studies confirmed the presence of *Xanthomonas citri* subsp. *citri* (EPPO A1 List) pathotype A in symptomatic samples. This is the first time that *C. depressa* is reported as a natural host of *X. citri* subsp. *citri* (Huang and Ni, 2017).

- Sources:**
- García-Carneros AB, Molinero-Ruiz L (2017) First report of the highly virulent race 705 of *Plasmopara halstedii* (downy mildew of sunflower) in Portugal and in Spain. *Plant Disease* 101(8), p 1555.
 - Huang CJ, Ni HF (2017) First report of *Citrus depressa* as a new natural host of *Xanthomonas citri* subsp. *citri* pathotype A in Taiwan. *Journal of Plant Pathology* 99(1), p 289.
 - INTERNET
 - British Columbia. Brown Marmorated Stink Bug (BMSB) Pest Alert. <https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/plant-health/insects-and-plant-diseases/tree-fruits/brown-marmorated-stink-bug>
 - IPPC website
 - Australia (AUS-86/2 of 2017-08) *Dickeya dianthicola* in Western Australia. <https://www.ippc.int/en/countries/australia/pestreports/2017/11/dickeya-dianthicola-in-western-australia/>
 - French Polynesia (PYF-10/2 of 2017-07-12) *Drosophila suzukii* présent à Tahiti & Moorea. <https://www.ippc.int/en/countries/french-polynesia/pestreports/2017/07/drosophila-suzukii-present-a-tahiti-moorea/>
 - Republic of Korea (KOR-05/2 of 2017-08-24) Report of outbreak of *Erwinia amylovora* in Rep. of Korea in 2017. <https://www.ippc.int/en/countries/republic-of-korea/pestreports/2017/08/report-of-outbreak-of-erwinia-amylovora-in-rep-of-korea-in-2017/>
 - Križanac I, Plavec J, Budinščak Ž, Ivić D, Škorić D, Šegura Musić M (2017) Apple proliferation disease in Croatian orchards: a molecular characterization of 'Candidatus Phytoplasma mali'. *Journal of Plant Pathology* 99(1), 95-101.
 - Ou SQ, Wang YW, Peng DL, Qiu H, Bai QR, Shi SS (2017) Discovery of potato rot nematode, *Ditylenchus destructor*, infesting potato in Inner Mongolia, China. *Plant Disease* 101(8), p 1554.
 - Oulghazi S, Khayi S, Lafkih N, Massaoudi Y, El Karkouri A, El Hassouni M, Faure D, Moumni M (2017) First report of *Dickeya dianthicola* causing blackleg disease on potato in Morocco. *Plant Disease* 101(9), 1671-1672.
 - van der Heyden T (2017) *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae: Coreinae: Anisoscelini) has reached the Greek island of Crete. *Arquivos Entomolóxicos* 18, 185-187.

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

Computer codes: DITYDE, DROSSU, ERWIAM, ERWICD, ERWICD, HALYHA, LEPLOC, PHYPPMA, PLASHA, XANTCI, AU, CA, CN, ES, FP, GR, HR, KR, MA, PT, TW

2017/207 Changes made to the EU list of regulated pests

The EU list of regulated pests included in the Annexes I to V of Council Directive 2000/29/EC has recently been modified and published in the Commission Implementing Directive 2017/1279 of 14 July 2017. This Directive entered into force on the 18th of July 2017. The EPPO Secretariat has summarized below the main changes.

Additions to Annex I/A1

- *Bactericera cockerelli*
- *Keiferia lycopersicella*
- *Saperda candida*
- *Thaumatotibia leucotreta*

Addition to Annex I/B

- *Globodera rostochiensis*

Additions to Annex II/B

- *Paysandisia archon*
- *Rhynchophorus ferrugineus*
- *Thaumetopoea pityocampa*
- *Xanthomonas arboricola* pv. *pruni*

Transfers from Annex I to Annex II

- *Potato spindle tuber viroid* is transferred from Annex I/A1 to Annex II/A2
- *Xylella fastidiosa* is transferred from Annex I/A1 to Annex I/A2

Taxonomic revisions or changes in nomenclature

- Elm phloem necrosis mycoplasma is renamed '*Candidatus Phytoplasma ulmi*' and moved from Annex I/A1 to Annex I/A2.
- *Guignardia citricarpa* is renamed *Phyllosticta citricarpa* and moved from Annex II/A1 to Annex I/A1.
- *Xanthomonas campestris* (all strains pathogenic to *Citrus*) is removed from Annex II/A1, and *Xanthomonas citri* pv. *aurantifolii* and *Xanthomonas citri* pv. *citri* are added to Annex I/A1.

Other changes made to the EU Annexes mainly relate to the delimitation of protected zones within the EU territory, regulated host plants, and revision of special requirements for wood to align them with ISPM 15.

Source: Commission Implementing Directive (EU) 2017/1279 of 14 July 2017 amending Annexes I to V to Council Directive 2000/29/EC on protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community. <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017L1279>

Additional key words: phytosanitary regulations

Computer codes: ARGPLE, GNORLY, GUIGCI, HETDRO, PARZCO, PAYSAR PHYPPUL, PSTVDO, RHYCFE, SAPECN, THAUPI, XANTAU, XANTCI, XANTPR, EU

2017/208 EPPO report on notifications of non-compliance

The EPPO Secretariat has gathered below the notifications of non-compliance for 2017 received since the previous report (EPPO RS 2017/114). Notifications have been sent directly to EPPO by Norway and via Europhyt for the EU countries and Switzerland. 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
<i>Anthonomus eugenii</i>	<i>Capsicum</i>	Vegetables	Dominican Rep.	Italy	1
	<i>Capsicum</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Capsicum</i>	Vegetables	Mexico	United Kingdom	1
<i>Bemisia</i>	<i>Mentha</i>	Vegetables (leaves)	Israel	Netherlands	2
	<i>Salvadora</i>	Vegetables (leaves)	Israel	Netherlands	1
<i>Bemisia tabaci</i>	<i>Abelmoschus esculentus</i> , <i>Corchorus</i>	Vegetables	Jordan	Sweden	1
	<i>Abutilon</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Alternanthera</i>	Plants for planting	Thailand	United Kingdom	1
	<i>Amaranthus</i> , <i>Rumex</i> , <i>Solanum</i>	Vegetables	Nigeria	United Kingdom	1
	<i>Capsicum</i>	Vegetables	Egypt	United Kingdom	1
	<i>Capsicum annuum</i>	Vegetables	Turkey	United Kingdom	1
	<i>Capsicum frutescens</i>	Vegetables	Turkey	United Kingdom	6
	<i>Colocasia</i>	Vegetables	India	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Jordan	Netherlands	1
	<i>Corchorus</i>	Vegetables (leaves)	Jordan	United Kingdom	1
	<i>Corchorus</i>	Vegetables (leaves)	Vietnam	United Kingdom	3
	<i>Corchorus olitorius</i>	Vegetables (leaves)	India	United Kingdom	2
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Jordan	Sweden	2
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Jordan	United Kingdom	8
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Lebanon	United Kingdom	2
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Malaysia	United Kingdom	2
	<i>Corchorus olitorius</i>	Vegetables (leaves)	Nigeria	United Kingdom	1
	<i>Crossandra</i>	Plants for planting	Netherlands	United Kingdom	2
	<i>Crossandra infundibuliformis</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Crossandra</i> , <i>Mandevilla</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Echinodorus</i>	Plants for planting	Singapore	United Kingdom	1
	<i>Eryngium</i>	Vegetables (leaves)	Malaysia	Netherlands	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Malaysia	Netherlands	5
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Malaysia	United Kingdom	1
	<i>Eryngium foetidum</i>	Vegetables (leaves)	Thailand	United Kingdom	1
	<i>Eryngium foetidum</i> , <i>Ocimum</i> <i>tenuiflorum</i>	Vegetables (leaves)	Malaysia	Netherlands	1
	<i>Eupatorium</i>	Cuttings	Uganda	Netherlands	1
	<i>Euphorbia pulcherrima</i>	Plants for planting	Ethiopia	United Kingdom	1
	<i>Hibiscus</i>	Cuttings	Netherlands	United Kingdom	1
	<i>Hibiscus</i>	Plants for planting	Netherlands	United Kingdom	3
	<i>Hibiscus</i>	Vegetables (leaves)	Congo, Dem. Rep.	France	1
<i>Hibiscus rosa-sinensis</i>	Cuttings	Pakistan	United Kingdom	1	
<i>Hibiscus rosa-sinensis</i>	Plants for planting	Netherlands	United Kingdom	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Bemisia tabaci</i> (cont.)	<i>Hibiscus sabdariffa</i>	Vegetables	Thailand	United Kingdom	1
	<i>Hibiscus sabdariffa</i>	Vegetables	Togo	Belgium	1
	<i>Hibiscus sabdariffa, Solanum</i>	Vegetables	Togo	Belgium	1
	<i>Hibiscus sabdariffa, Vernonia amygdalina</i>	Vegetables	Nigeria	United Kingdom	1
	<i>Hibiscus, Mandevilla splendens</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Hibiscus, Mandevilla splendens</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Hygrophila</i>	Plants for planting	Indonesia	United Kingdom	1
	<i>Ipomoea batatas</i>	Vegetables	Congo, Dem. Rep. of	Belgium	1
	<i>Lepidium</i>	Stored products	Israel	Netherlands	1
	<i>Limnophila aromatica</i>	Vegetables (leaves)	Thailand	Sweden	2
	<i>Mandevilla</i>	Plants for planting	Netherlands	United Kingdom	8
	<i>Mandevilla splendens</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Manihot esculenta</i>	Vegetables	Nigeria	United Kingdom	1
	<i>Manihot esculenta, Rumex rugosus, Solanum macrocarpon</i>	Vegetables	Nigeria	United Kingdom	1
	<i>Mentha</i>	Cuttings	Netherlands	United Kingdom	1
	<i>Mentha</i>	Vegetables (leaves)	Israel	Netherlands	4
	<i>Mentha</i>	Vegetables (leaves)	Thailand	Sweden	1
	<i>Mentha arvensis, Piper</i>	Vegetables	Laos	Sweden	1
	<i>Mentha longifolia</i>	Vegetables (leaves)	Israel	Ireland	1
	<i>Mentha spicata, Salvia officinalis</i>	Plants for planting	Morocco	Spain	1
	<i>Mentha x piperita</i>	Plants for planting	Morocco	Spain	1
	<i>Nerium oleander</i>	Plants for planting	Italy	United Kingdom	1
	<i>Nerium oleander</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Nerium oleander</i>	Plants for planting	Spain	United Kingdom	6
	<i>Ocimum</i>	Vegetables (leaves)	Cambodia	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Malaysia	United Kingdom	1
	<i>Ocimum</i>	Vegetables (leaves)	Thailand	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Latvia	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Netherlands	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Switzerland	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	United Kingdom	2
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Laos	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Malaysia	Netherlands	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Morocco	France	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Morocco	Spain	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	France	1
	<i>Ocimum gratissimum</i>	Vegetables (leaves)	Nigeria	United Kingdom	1
	<i>Ocimum gratissimum, Solanum</i>	Vegetables (leaves)	Togo	Belgium	1
	<i>Ocimum tenuiflorum</i>	Vegetables (leaves)	Cambodia	United Kingdom	2
	<i>Ocimum tenuiflorum</i>	Vegetables (leaves)	Laos	Sweden	2
	<i>Ocimum tenuiflorum</i>	Vegetables (leaves)	Vietnam	Switzerland	1
	<i>Origanum</i>	Vegetables (leaves)	Israel	Netherlands	2
	<i>Origanum vulgare</i>	Vegetables (leaves)	Israel	Ireland	3
	<i>Oxypetalum</i>	Cut flowers	Israel	Netherlands	1
	<i>Paederia</i>	Vegetables (leaves)	Laos	United Kingdom	1
	<i>Perilla</i>	Vegetables (leaves)	Japan	Netherlands	1
	<i>Persicaria odorata</i>	Vegetables (leaves)	Laos	United Kingdom	1
<i>Piper</i>	Vegetables	Laos	Sweden	1	
<i>Rosa</i>	Cut flowers	India	United Kingdom	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Bemisia tabaci</i> (cont.)	<i>Scutellaria</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Solanum macrocarpon</i>	Vegetables	Suriname*	Netherlands	1
	<i>Solanum melongena</i>	Vegetables	Lebanon	Netherlands	1
	<i>Solanum melongena</i>	Vegetables	Mexico	Netherlands	1
	<i>Spinacia oleracea</i>	Vegetables (leaves)	Togo	Belgium	1
	<i>Symphytum</i>	Cuttings	Kenya	Netherlands	1
	<i>Thlaspi</i>	Cut flowers	Israel	United Kingdom	1
	Unspecified ornamentals	Plants for planting	Spain (Canary Isl.)	Germany	1
	<i>Veronica</i>	Cuttings	Turkey	Germany	1
<i>Xanthosoma</i>	Vegetables	Suriname*	Netherlands	1	
<i>Bephratelloides</i>	<i>Annona muricata</i>	Fruit	Peru	Italy	1
<i>Earias vittella</i>	<i>Abelmoschus esculentus</i>	Vegetables	Sri Lanka	Switzerland	1
<i>Elsinoe fawcettii</i>	<i>Citrus latifolia</i>	Fruit	Brazil	Spain	1
<i>Ephestia kuehniella</i> , <i>Plodia interpunctella</i> , <i>Tribolium castaneum</i> , <i>Tribolium confusum</i>	<i>Prunus dulcis</i>	Fruit	USA	Spain	1
<i>Erwinia amylovora</i>	<i>Crataegus monogyna</i>	Plants for planting	Netherlands	United Kingdom	1
Grub holes	<i>Bambusa</i>	Plants for planting	Thailand	Cyprus	1
<i>Helicoverpa</i>	<i>Capsicum</i>	Vegetables	Mauritius	France	1
<i>Helicoverpa armigera</i>	<i>Dianthus</i>	Cut flowers	Kenya	United Kingdom	1
	<i>Rosa</i>	Cut flowers	Morocco	Spain	1
	<i>Rosmarinus</i>	Vegetables (leaves)	Spain (Canary Isl.)	Switzerland	1
	<i>Solanum melongena</i>	Vegetables	Mauritius	France	1
<i>Helicoverpa armigera</i> , <i>Liriomyza sativae</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Thailand	Czech Republic	1
<i>Helicoverpa zea</i>	Rosa Tea hybrids	Cut flowers	Ecuador	Italy	1
Insecta	<i>Foeniculum vulgare</i>	Seeds	Chile	Italy	1
	<i>Malus domestica</i>	Fruit	Chile	France	1
<i>Lasioderma</i>	<i>Capsicum annum</i>	Plant waste	China	Spain	1
<i>Liriomyza</i>	<i>Amaranthus</i>	Vegetables	Sri Lanka	United Kingdom	3
	<i>Amaranthus viridis</i>	Vegetables	Sri Lanka	United Kingdom	1
	<i>Apium graveolens</i>	Vegetables	Laos	United Kingdom	1
	<i>Chrysanthemum coronarium</i> var. <i>spatiosum</i>	Cut flowers	Vietnam	United Kingdom	1
	<i>Dendranthema x grandiflorum</i>	Cut flowers	Colombia	United Kingdom	1
	<i>Eryngium</i>	Cut flowers	Kenya	United Kingdom	2
	<i>Ocimum</i>	Vegetables (leaves)	Kenya	United Kingdom	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Laos	United Kingdom	1
<i>Liriomyza huidobrensis</i>	<i>Apium graveolens</i>	Vegetables	Laos*	Sweden	1
	<i>Aster</i>	Cut flowers	Zimbabwe	Netherlands	1
	<i>Dianthus</i>	Cuttings	Tanzania	Netherlands	1
	<i>Eryngium</i>	Cut flowers	Zimbabwe	Netherlands	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>L. huidobrensis</i> (cont.)	<i>Gypsophila</i>	Cut flowers	Ecuador	Netherlands	1
<i>Liriomyza sativae</i>	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	France	1
<i>Liriomyza trifolii</i>	<i>Apium graveolens</i>	Vegetables	Kenya	Netherlands	1
	<i>Chrysanthemum</i>	Cut flowers	Colombia	United Kingdom	1
	<i>Gypsophila</i>	Cut flowers	Israel	Belgium	2
	<i>Gypsophila</i>	Cut flowers	Israel	Germany	2
	<i>Gypsophila</i>	Cut flowers	Israel	Netherlands	1
	<i>Gypsophila</i>	Cut flowers	Netherlands	Norway	1
	<i>Ocimum</i>	Vegetables (leaves)	Laos*	Netherlands	1
	<i>Ocimum basilicum</i>	Plants for planting	Morocco	Spain	1
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Israel	Latvia	1
<i>Milviscutulus mangiferae</i>	<i>Mangifera indica</i>	Plants for planting	Israel	Italy	1
Noctuidae	<i>Capsicum</i>	Vegetables	Dominican Rep.	United Kingdom	1
	<i>Rosa</i>	Cut flowers	India	United Kingdom	1
	<i>Rosa</i>	Cut flowers	India	United Kingdom	1
<i>Oryzaephilus</i>	<i>Oryza sativa</i>	Stored products	India	Italy	1
<i>Phyllosticta citricarpa</i>	<i>Citrus limon</i>	Fruit	Argentina	France	1
	<i>Citrus limon</i>	Fruit	Argentina	Germany	1
	<i>Citrus limon</i>	Fruit	South Africa	France	1
	<i>Citrus limon</i>	Fruit	South Africa	Netherlands	2
	<i>Citrus limon</i>	Fruit	South Africa	Switzerland	1
	<i>Citrus paradisi</i>	Fruit	Swaziland*	United Kingdom	2
	<i>Citrus reticulata</i>	Fruit	Argentina	Netherlands	2
	<i>Citrus reticulata</i>	Fruit	South Africa	Germany	1
	<i>Citrus sinensis</i>	Fruit	Argentina	Belgium	1
	<i>Citrus sinensis</i>	Fruit	South Africa	France	1
	<i>Citrus sinensis</i>	Fruit	South Africa	Italy	1
	<i>Citrus sinensis</i>	Fruit	South Africa	Netherlands	14
	<i>Citrus sinensis</i>	Fruit	South Africa	United Kingdom	1
	<i>Citrus sinensis</i>	Fruit	Uruguay*	Netherlands	2
	<i>Citrus sinensis</i>	Fruit	Uruguay*	United Kingdom	1
	<i>Citrus sinensis</i>	Fruit	Zimbabwe	France	1
<i>Phytophthora ramorum</i>	<i>Pieris japonica</i>	Plants for planting	Germany	United Kingdom	1
	<i>Pieris japonica</i>	Plants for planting	Netherlands	United Kingdom	1
	<i>Rhododendron</i>	Plants for planting	Belgium	United Kingdom	1
	<i>Rhododendron</i>	Plants for planting	Germany	Estonia	1
	<i>Rhododendron</i>	Plants for planting	Netherlands	Norway	1
	<i>Rhododendron</i> hybrids	Plants for planting	Netherlands	United Kingdom	1
<i>Piezodorus guildinii</i>	<i>Malus domestica</i>	Fruit	Uruguay	France	2
<i>Potato spindle tuber viroid</i>	<i>Capsicum annum</i>	Seeds	USA*	United Kingdom	1
<i>Puccinia horiana</i>	<i>Chrysanthemum</i>	Cuttings	Kenya*	Netherlands	1
<i>Radopholus similis</i>	<i>Epipremnum, Monstera</i>	Plants for planting	Thailand	Netherlands	2
	<i>Philodendron</i>	Plants for planting	Costa Rica	Netherlands	1
<i>Scirtothrips</i>	<i>Momordica charantia</i>	Vegetables	Sri Lanka	France	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb	
<i>Spodoptera</i>	<i>Limnophila aromatica</i>	Vegetables (leaves)	Vietnam	Switzerland	1	
	<i>Chrysanthemum</i>	Cuttings	Brazil	Belgium	1	
<i>Spodoptera frugiperda</i>	<i>Abelmoschus esculentus</i>	Vegetables	Suriname	Netherlands	1	
	<i>Asparagus officinalis</i>	Vegetables	Peru	Netherlands	1	
	<i>Eryngium</i>	Cut flowers	Ecuador	United Kingdom	1	
	<i>Momordica</i>	Vegetables	Suriname	Netherlands	2	
	<i>Momordica charantia</i>	Vegetables	Suriname	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	1	
	<i>Rosa</i>	Vegetables (leaves)	Kenya	Netherlands	1	
	<i>Solanum melongena</i>	Vegetables	Suriname	Netherlands	4	
<i>Spodoptera littoralis</i>	<i>Eustoma russellianum</i>	Cut flowers	Tanzania	United Kingdom	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Kenya	Denmark	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Kenya	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Tanzania	Germany	1	
	<i>Rosa</i>	Cut flowers	Tanzania	Netherlands	2	
	<i>Rosa</i>	Cut flowers	Uganda	Netherlands	2	
	<i>Rosa</i>	Cut flowers	Zambia	Netherlands	1	
	<i>Rosa Tea hybrids</i>	Cut flowers	Rwanda	Netherlands	2	
	<i>Solidago</i>	Cut flowers	Kenya	Netherlands	1	
<i>Spodoptera litura</i>	<i>Asparagus</i>	Vegetables	Thailand	Netherlands	1	
	<i>Polyscias</i>	Potted plants	Denmark*	Norway	1	
	<i>Rosa</i>	Cut flowers	India	Netherlands	1	
	<i>Rosa</i>	Cut flowers	Thailand	Switzerland	1	
	<i>Tagetes erecta</i>	Cut flowers	Thailand	Switzerland	1	
<i>Sternochetus</i>	<i>Mangifera indica</i>	Fruit	Sri Lanka	Italy	1	
<i>Thaumatotibia leucotreta</i>	<i>Annona muricata</i>	Fruit	Senegal	Belgium	1	
	<i>Capsicum</i>	Vegetables	Kenya	United Kingdom	5	
	<i>Capsicum</i>	Vegetables	Mozambique	Netherlands	1	
	<i>Capsicum</i>	Vegetables	Rwanda	United Kingdom	2	
	<i>Capsicum</i>	Vegetables	Uganda	United Kingdom	16	
	<i>Capsicum</i>	Vegetables	Zimbabwe	Netherlands	1	
	<i>Capsicum</i>	Vegetables	Zimbabwe	United Kingdom	1	
	<i>Capsicum annum</i>	Vegetables	Mozambique	United Kingdom	1	
	<i>Capsicum annum</i>	Vegetables	Rwanda	United Kingdom	2	
	<i>Capsicum annum</i>	Vegetables	Uganda	Belgium	1	
	<i>Capsicum annum</i>	Vegetables	Uganda	Germany	1	
	<i>Capsicum annum</i>	Vegetables	Uganda	United Kingdom	10	
	<i>Capsicum chinense</i>	Vegetables	Uganda	Sweden	2	
	<i>Capsicum chinense</i>	Vegetables	Uganda	United Kingdom	2	
	<i>Capsicum frutescens</i>	Vegetables	Uganda	Sweden	1	
	<i>Capsicum frutescens</i>	Vegetables	Uganda	United Kingdom	1	
	<i>Citrus paradisi</i>	Fruit	South Africa	France	5	
	<i>Citrus paradisi</i>	Fruit	South Africa	Lithuania	1	
	<i>Citrus paradisi</i>	Fruit	South Africa	Spain	1	
	<i>Citrus sinensis</i>	Fruit	South Africa	Lithuania	1	
	<i>Citrus sinensis</i>	Fruit	South Africa	Portugal	1	
	<i>Citrus sinensis</i>	Fruit	Swaziland	Spain	1	
	<i>Citrus sinensis</i>	Fruit	Zimbabwe	France	2	
	<i>Citrus sinensis</i>	Fruit	Zimbabwe	Spain	7	
	<i>Fortunella</i>	Fruit	South Africa	France	1	
	<i>Thripidae</i>	<i>Dendrobium</i>	Cut flowers	Vietnam	United Kingdom	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb	
Thripidae (cont.)	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	3	
	<i>Momordica</i>	Vegetables	India	United Kingdom	1	
	<i>Momordica</i>	Vegetables	Vietnam	Switzerland	1	
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	United Kingdom	11	
	<i>Momordica charantia</i> , <i>Solanum melongena</i> var. <i>serpentinum</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Momordica charantia</i> , <i>Solanum melongena</i> var. <i>serpentinum</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Momordica charantia</i> , <i>Solanum melongena</i> var. <i>serpentinum</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Ocimum tenuiflorum</i>	Vegetables (leaves)	Cambodia	United Kingdom	1	
	<i>Solanum melongena</i> var. <i>serpentinum</i>	Vegetables	Dominican Rep.	United Kingdom	3	
	Unspecified	Vegetables	Nigeria	Ireland	1	
	Thrips	<i>Momordica charantia</i> , <i>Solanum melongena</i> var. <i>serpentinum</i>	Vegetables	Dominican Rep.	United Kingdom	1
		<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	1
		<i>Cucumis sativus</i> , <i>Solanum</i>	Vegetables	Sri Lanka	Cyprus	1
Thrips palmi	<i>Dendrobium</i>	Cut flowers	Malaysia	Italy	3	
	<i>Dendrobium</i>	Cut flowers	Malaysia	Netherlands	3	
	<i>Dendrobium</i>	Cut flowers	Thailand	Czech Republic	1	
	<i>Momordica</i>	Vegetables	Dominican Rep.	United Kingdom	1	
	<i>Momordica charantia</i>	Vegetables	Dominican Rep.	France	1	
	<i>Solanum macrocarpon</i>	Vegetables	Sri Lanka	Switzerland	1	
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	1	
Thysanoptera	<i>Chrysanthemum</i> , <i>Dianthus</i> <i>caryophyllus</i> , <i>Gypsophila</i> <i>paniculata</i> , <i>Gypsophila</i> <i>paniculata</i> , <i>Solidago</i>	Cuttings	Kenya	Spain	1	
	<i>Ocimum basilicum</i>	Vegetables (leaves)	Cambodia	France	1	
	<i>Rosa canina</i>	Cut flowers	Colombia	Spain	1	
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	France	1	
	<i>Solanum melongena</i>	Vegetables	Dominican Rep.	United Kingdom	2	
	Tortricidae	<i>Malus domestica</i>	Fruit	Uruguay	Italy	2
<i>Trialeurodes vaporariorum</i>	<i>Hypericum</i>	Cut flowers	Kenya	Netherlands	2	
<i>Tribolium confusum</i>	<i>Cyperus esculentus</i>	Vegetables	Burkina Faso	Spain	2	
	<i>Cyperus esculentus</i>	Vegetables	Niger	Spain	1	
<i>Trioza erytreae</i>	<i>Murraya koenigii</i>	Vegetables (leaves)	Uganda	Czech Republic	1	
	<i>Murraya koenigii</i>	Vegetables (leaves)	Uganda	Germany	1	
<i>Viteus vitifoliae</i>	<i>Vitis</i>	Plants for planting	Netherlands	United Kingdom	1	
<i>Xanthomonas arboricola</i> pv. <i>pruni</i>	<i>Prunus laurocerasus</i>	Plants for planting	Netherlands	United Kingdom	1	

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Xanthomonas axonopodis</i> pv. <i>phaseoli</i>	<i>Phaseolus vulgaris</i>	Seeds	China	Germany	1
<i>Xanthomonas citri</i> subsp. <i>citri</i>	<i>Citroncirus</i>	Fruit	India	United Kingdom	1
	<i>Citrus latifolia</i>	Fruit	Brazil	United Kingdom	1
	<i>Citrus latifolia</i>	Fruit	Vietnam	Greece	1
<i>Xanthomonas fragariae</i>	<i>Fragaria</i>	Plants for planting	Switzerland	Germany	1

• Fruit flies

Pest	Consignment	Country of origin	Destination	nb
<i>Anastrepha</i>	<i>Mangifera indica</i>	Dominican Rep.	France	2
	<i>Mangifera indica</i>	Mexico	United Kingdom	1
	<i>Mangifera indica</i>	Puerto Rico	France	1
	<i>Mangifera indica</i>	Colombia	France	4
	<i>Mangifera indica</i>	Cuba	Netherlands	1
	<i>Psidium guajava</i>	Dominican Rep.	Netherlands	1
	<i>Syzygium aqueum</i>	Dominican Rep.	Netherlands	1
<i>Anastrepha obliqua</i>	<i>Mangifera indica</i>	Puerto Rico	United Kingdom	1
<i>Bactrocera</i>	<i>Annona squamosa</i>	Thailand	Switzerland	1
	<i>Averrhoa carambola</i>	Malaysia	Netherlands	1
	<i>Capsicum</i>	Cambodia	United Kingdom	1
	<i>Capsicum frutescens</i>	Vietnam	Switzerland	1
	<i>Mangifera</i>	Senegal	Netherlands	1
	<i>Mangifera indica</i>	Mali	Netherlands	3
	<i>Mangifera indica</i>	Senegal	France	3
	<i>Mangifera indica</i>	Senegal	Netherlands	1
	<i>Mangifera indica</i>	Senegal	Poland	1
	<i>Mangifera indica</i>	Vietnam	France	1
	<i>Psidium guajava</i>	Vietnam	United Kingdom	1
<i>Bactrocera dorsalis</i>	<i>Annona muricata</i>	Laos	France	1
	<i>Annona squamosa</i>	Thailand	Sweden	1
	<i>Annona squamosa</i>	Thailand	Switzerland	1
	<i>Mangifera indica</i>	Burkina Faso	France	3
	<i>Mangifera indica</i>	Mali	France	3
	<i>Mangifera indica</i>	Senegal	France	10
	<i>Mangifera indica</i>	Senegal	United Kingdom	1
<i>Bactrocera dorsalis, Ceratitis</i> <i>cosyra</i>	<i>Mangifera indica</i>	Senegal	France	1
<i>Bactrocera latifrons</i>	<i>Capsicum</i>	India	France	1
	<i>Solanum melongena</i>	Laos	France	1
<i>Ceratitis</i>	<i>Mangifera indica</i>	Côte d'Ivoire	Netherlands	2
<i>Ceratitis capitata</i>	<i>Capsicum</i>	Madagascar	France	1
	<i>Capsicum</i>	Senegal	France	1
	<i>Capsicum annum</i>	Uganda	Switzerland	1
	<i>Malus</i>	Lebanon	France	1

Pest	Consignment	Country of origin	Destination	nb
<i>C. capitata</i> (cont.)	<i>Mangifera indica</i>	Egypt	France	1
	<i>Prunus armeniaca</i>	Lebanon	France	1
<i>Ceratitis cosyra</i>	<i>Mangifera indica</i>	Burkina Faso	France	2
	<i>Mangifera indica</i>	Côte d'Ivoire	France	2
	<i>Mangifera indica</i>	Côte d'Ivoire	Netherlands	2
	<i>Mangifera indica</i>	Mali	France	2
	<i>Mangifera indica</i>	Senegal	France	1
<i>Dacus</i>	<i>Momordica charantia</i>	Uganda	Sweden	1
Tephritidae (non-European)	<i>Annona</i>	Egypt	United Kingdom	1
	<i>Annona cherimola</i>	Uganda	Germany	1
	<i>Annona muricata</i>	Congo	Italy	1
	<i>Annona muricata</i>	Uganda	Belgium	1
	<i>Annona muricata</i>	Vietnam	France	1
	<i>Annona squamosa</i>	Egypt	United Kingdom	1
	<i>Annona squamosa</i>	Thailand	United Kingdom	1
	<i>Capsicum</i>	Cambodia	United Kingdom	1
	<i>Capsicum</i>	Mauritius	France	3
	<i>Capsicum</i>	Nigeria	Germany	1
	<i>Capsicum</i>	Senegal	France	1
	<i>Capsicum annum</i>	Cambodia	United Kingdom	1
	<i>Capsicum annum</i>	Uganda	Belgium	2
	<i>Capsicum, Mangifera, Solanum lycopersicum</i>	Vietnam	Germany	1
	<i>Citrus paradisi</i>	South Africa	Netherlands	1
	<i>Citrus sinensis</i>	Egypt	Spain	1
	<i>Citrus sinensis</i>	Tunisia	Spain	1
	<i>Coccinia grandis</i>	India	United Kingdom	1
	<i>Litchi, Luffa</i>	Vietnam	Germany	1
	<i>Luffa</i>	India	United Kingdom	1
	<i>Mangifera</i>	Bangladesh	United Kingdom	1
	<i>Mangifera</i>	Côte d'Ivoire	United Kingdom	2
	<i>Mangifera indica</i>	Bangladesh	France	2
	<i>Mangifera indica</i>	Burkina Faso	France	1
	<i>Mangifera indica</i>	Burkina Faso	Germany	1
	<i>Mangifera indica</i>	Burkina Faso	Netherlands	2
	<i>Mangifera indica</i>	Cameroon	France	1
	<i>Mangifera indica</i>	Colombia	France	2
	<i>Mangifera indica</i>	Côte d'Ivoire	Belgium	1
	<i>Mangifera indica</i>	Côte d'Ivoire	France	2
	<i>Mangifera indica</i>	Côte d'Ivoire	Netherlands	4
	<i>Mangifera indica</i>	Côte d'Ivoire	Spain	1
	<i>Mangifera indica</i>	Côte d'Ivoire	United Kingdom	1
	<i>Mangifera indica</i>	Dominican Rep.	France	1
	<i>Mangifera indica</i>	Dominican Rep.	United Kingdom	3
	<i>Mangifera indica</i>	Egypt	United Kingdom	1
	<i>Mangifera indica</i>	Gambia	Belgium	1
	<i>Mangifera indica</i>	Guinea	Belgium	2
	<i>Mangifera indica</i>	Guinea	Netherlands	1
	<i>Mangifera indica</i>	India	France	1
	<i>Mangifera indica</i>	India	United Kingdom	1
	<i>Mangifera indica</i>	Mali	Belgium	2
	<i>Mangifera indica</i>	Mali	France	4
	<i>Mangifera indica</i>	Mali	Netherlands	2
	<i>Mangifera indica</i>	Pakistan	United Kingdom	2

Pest	Consignment	Country of origin	Destination	nb
Tephritidae (non-European)	<i>Mangifera indica</i>	Senegal	France	1
	<i>Mangifera indica</i>	Senegal	Germany	2
	<i>Mangifera indica</i>	Senegal	Netherlands	3
	<i>Mangifera indica</i>	United Arab Emirates	United Kingdom	1
	<i>Mangifera indica</i>	Vietnam	United Kingdom	1
	<i>Momordica</i>	Sri Lanka	United Kingdom	1
	<i>Momordica charantia</i>	Sri Lanka	United Kingdom	1
	<i>Momordica charantia</i>	Uganda	Belgium	1
	<i>Passiflora edulis</i>	Vietnam	France	1
	<i>Prunus salicina</i>	Vietnam	United Kingdom	1
	<i>Psidium guajava</i>	Mauritius	France	1
	<i>Psidium guajava</i>	Vietnam	United Kingdom	1
	<i>Syzygium</i>	Sri Lanka	United Kingdom	1
	<i>Trichosanthes</i>	Vietnam	Germany	1
	<i>Trichosanthes cucumerina</i>	India	United Kingdom	1
<i>Zeugodacus</i>	<i>Trichosanthes cucumerina</i>	India	United Kingdom	2
<i>Zeugodacus cucurbitae</i>	<i>Momordica charantia</i>	Laos	Sweden	1
	<i>Momordica charantia</i>	Sri Lanka	France	2

• Wood

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Anoplophora</i>	Unspecified	Wood packaging material (crate)	China	Switzerland	1
<i>Anoplophora glabripennis</i>	Unspecified	Wood packaging material	China	Finland	1
<i>Aphelenchoides</i>	Unspecified	Wood packaging material (pallet)	Belarus	Germany	3
	Unspecified	Wood packaging material (pallet)	Taiwan	Bulgaria	1
<i>Aphelenchoides, Rhabditis</i>	Unspecified	Wood packaging material (pallet)	Belarus	Lithuania	1
	Unspecified	Wood packaging material (pallet)	Belarus	Germany	1
<i>Aphelenchoides, Rhabditis, Tylenchus</i>	Unspecified	Wood packaging material	Ukraine	Lithuania	1
<i>Blepephaeus succinator</i>	Unspecified	Wood packaging material	China	Finland	2
Bostrichidae	Unspecified	Wood packaging material (crate)	India	Switzerland	1
	Unspecified	Wood packaging material (pallet)	China	Austria	1
Bostrichidae, Braconidae	Unspecified	Wood packaging material (pallet)	Malaysia	Italy	1
Buprestidae, Lepidoptera	<i>Juglans, Ulmus rubra</i>	Wood and bark	USA	Italy	1
<i>Bursaphelenchus</i>	Unspecified	Wood packaging material (pallet)	Taiwan	Bulgaria	1
<i>Bursaphelenchus mucronatus</i>	Unspecified	Wood packaging material	Belarus	Latvia	1
	Unspecified	Wood packaging material	China	Netherlands	1
	Unspecified	Wood packaging material	Russia	Lithuania	1
	Unspecified	Wood packaging material (pallet)	Belarus	Belgium	1
	Unspecified	Wood packaging material (pallet)	Belarus	France	1
	Unspecified	Wood packaging material (pallet)	Belarus	Germany	7
	Unspecified	Wood packaging material (pallet)	Taiwan	Bulgaria	1
	Unspecified	Wood packaging material (pallet)	Ukraine	Lithuania	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Bursaphelenchus mucronatus</i> , <i>Seinura</i>	Unspecified	Wood packaging material (pallet)	Belarus	Italy	1
<i>Bursaphelenchus mucronatus</i> , <i>Tylenchus</i>	Unspecified	Wood packaging material (pallet)	Belarus	Germany	1
Cerambycidae	<i>Ulmus rubra</i>	Wood and bark	USA	Italy	1
	Unspecified	Wood packaging material	China	Germany	1
	Unspecified	Wood packaging material (crate)	China	Switzerland	1
<i>Chrysobothris femorata</i>	<i>Juglans nigra</i>	Wood and bark	USA	Germany	1
<i>Clytus</i>	Unspecified	Wood packaging material (pallet)	China	Austria	1
<i>Coleoptera</i>	<i>Juglans</i> , <i>Machaerium</i> <i>scleroxylon</i>	Wood and bark	Bolivia	Spain	1
<i>Cordylomera spinicornis</i>	<i>Chlorophora excelsa</i> , <i>Entandrophragma</i> <i>cylindricum</i> , <i>Entandrophragma</i> <i>utile</i>	Wood and bark	Cameroon	Italy	1
	<i>Entandrophragma</i> <i>cylindricum</i>	Cut tree with foliage	Congo, Dem. Rep. of	Spain	1
<i>Dinoderus minutus</i>	Unspecified	Wood packaging material	China	Germany	1
<i>Euzophera semifuneralis</i> , <i>Scolytidae</i>	<i>Prunus</i>	Wood and bark	USA	Italy	1
Grub holes	Unspecified	Wood packaging material	Belarus	Germany	1
	Unspecified	Wood packaging material	Ukraine	Slovakia	5
<i>Heterobostrychus aequalis</i>	Unspecified	Wood packaging material (pallet)	Vietnam	Germany	1
Insecta	<i>Quercus alba</i>	Wood and bark	USA	France	3
	<i>Thuja plicata</i>	Wood and bark	Canada	France	1
	Unspecified	Dunnage	USA	France	1
	Unspecified	Wood packaging material (crate)	China	Switzerland	2
	Unspecified	Wood packaging material (crate)	India	Switzerland	2
	Unspecified	Wood packaging material (pallet)	China	Switzerland	2
	Unspecified	Wood packaging material (pallet)	Vietnam	Switzerland	1
Lyctidae	Unspecified	Wood packaging material	China	Finland	1
<i>Lyctus</i>	Unspecified	Wood packaging material (pallet)	India	Germany	1
	Unspecified	Dunnage	India	Spain	1
<i>Lyctus brunneus</i>	<i>Juglans nigra</i>	Cut tree with foliage	USA	Spain	1
	<i>Liriodendron tulipifera</i>	Cut tree with foliage	USA	Spain	1
	Unspecified	Wood packaging material	India	Germany	1
<i>Lyctus brunneus</i> , <i>Sinoxylon</i> <i>anale</i>	Unspecified	Wood packaging material	China	Germany	1
<i>Lyctus linearis</i>	Unspecified	Wood packaging material (crate)	India	Lithuania	1

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Minthea</i>	Unspecified	Wood packaging material (pallet)	India	Germany	1
	Unspecified	Wood packaging material (pallet)	China	Austria	1
Nematoda	Unspecified	Wood packaging material	China	Finland	2
	Unspecified	Wood packaging material	Japan	Finland	1
	Unspecified	Wood packaging material	Taiwan	Bulgaria	1
	Unspecified	Wood packaging material (pallet)	China	Finland	1
	Unspecified	Wood packaging material (pallet)	Taiwan	Bulgaria	4
	Unspecified	Wood packaging material (pallet)	USA	Finland	1
<i>Pterolophia multinodeata</i>	Unspecified	Object with wooden parts	China	Germany	1
<i>Rhabditis</i>	Unspecified	Wood packaging material (pallet)	Belarus	Germany	3
<i>Rhabditis, Tylenchus</i>	Unspecified	Wood packaging material (pallet)	Belarus	Germany	1
<i>Saperda tridentata</i>	<i>Ulmus rubra</i>	Wood and bark	USA	Italy	1
Scolytidae	<i>Diospyros crassiflora</i>	Wood and bark	Congo	Spain	1
	Unspecified	Wood packaging material	China	Germany	1
<i>Seinura</i>	Unspecified	Wood packaging material (pallet)	Belarus	Germany	1
<i>Sinoxylon</i>	Unspecified	Wood packaging material	China	Germany	2
	Unspecified	Wood packaging material	India	Germany	5
	Unspecified	Wood packaging material (crate)	India	Czech Republic	1
	Unspecified	Wood packaging material (crate)	India	Germany	9
	Unspecified	Wood packaging material (crate)	Malaysia	Germany	1
	Unspecified	Wood packaging material (pallet)	India	Germany	5
	Unspecified	Wood packaging material (pallet)	Indonesia	Germany	2
	Unspecified	Wood packaging material (pallet)	Malaysia	Czech Republic	1
	Unspecified	Wood packaging material (pallet)	Malaysia	Germany	1
	Unspecified	Wood packaging material (pallet)	India	Switzerland	1
<i>Sinoxylon anale</i>	Unspecified	Dunnage	India	Lithuania	1
	Unspecified	Wood packaging material	India	Germany	6
	Unspecified	Wood packaging material (crate)	India	Lithuania	3
	Unspecified	Wood packaging material (pallet)	India	Germany	1
<i>Trichoferus</i>	Unspecified	Wood packaging material (pallet)	China	Austria	1
<i>Trichoferus campestris</i>	Unspecified	Object with wooden parts	China	Netherlands	1
	Unspecified	Wood packaging material (pallet)	China	Austria	1
	Unspecified	Wood packaging material (pallet)	China	Sweden	1
<i>Trichoferus campestris, Xylotrechus chinensis</i>	Unspecified	Object with wooden parts	China	Germany	1
<i>Tylenchus</i>	Unspecified	Wood packaging material	Belarus	Belgium	1
	Unspecified	Wood packaging material (pallet)	Belarus	Germany	1
<i>Xyleborinus</i>	Unspecified	Wood packaging material (pallet)	China	Austria	1
<i>Xyleborinus saxeseni</i>	Unspecified	Wood packaging material (pallet)	China	Austria	2

Pest	Consignment	Type of commodity	Country of origin	Destination	nb
<i>Xylosandrus crassiusculus</i>	Unspecified	Wood packaging material	China	Sweden	1
	Unspecified	Wood packaging material (pallet)	China	Sweden	1

- **Bonsais**

Pest	Consignment	Country of origin	Destination	nb
<i>Anoplophora chinensis</i>	<i>Chaenomeles</i>	Japan	Germany	1

Source: EPPO Secretariat (2017-11).

INTERNET

EUROPHYT. Annual and monthly reports of interceptions of harmful organisms in imported plants and other objects.

http://ec.europa.eu/food/plant/plant_health_biosecurity/europhyt/interceptions/index_en.htm

2017/209 First report of *Ceratothripoides brunneus* in the USA

Ceratothripoides brunneus (Thysanoptera: Thripidae - EPPO A1 List) is reported for the first time from the USA and from North America. In Florida, females and males of *C. brunneus* were collected in Miami-Dade county (no date is given) from flowers of *Asystasia gangetica* (Acanthaceae) which is an invasive and widely distributed weed in Southern Florida.

The situation of *Ceratothripoides brunneus* in the USA can be described as follows: **Present, only in some areas (reported in 2017 in Miami-Dade county, Florida).**

Source: Skarlinsky T, Funderburk J, Soto-Adames F (2017) *Ceratothripoides brunneus* (Thysanoptera: Thripidae) recorded from Florida. *Florida Entomologist* 100(2), 495-497. [\[Link\]](#)

Additional key words: new record

Computer codes: CRTZBR, US

2017/210 First report of *Tetranychus evansi* in Australia

In Australia, *Tetranychus evansi* (Acari: Tetranychidae - EPPO A2 List) was first found in 2013, at 3 locations near Sydney (New South Wales) on solanaceous weed species. In October 2017, *T. evansi* was also reported from Queensland. The mite was found on tomato (*Solanum lycopersicum*) and nightshade plants (*Solanum* spp.) in a backyard garden in Brisbane. For the moment, *T. evansi* has not been reported in any commercial production areas. As *T. evansi* is established in Australia, its eradication is not considered technically feasible.

The pest status of *Tetranychus evansi* in Australia is officially declared as: **Present: only in some areas.**

Source: IPPC website. Official Pest Reports - Australia (AUS-87/1 of 2017-11-23) Detection of *Tetranychus evansi* in New South Wales and Queensland. <https://www.ippc.int/en/countries/australia/pestreports/2017/11/detection-of-tetranychus-evansi-in-new-south-wales-and-queensland/>

Pictures: *Tetranychus evansi*. <https://gd.eppo.int/taxon/TETREV/photos>

Additional key words: new record

Computer codes: TETREV, AU

2017/211 *Lycorma delicatula* found in Delaware (US)

In the USA, *Lycorma delicatula* (Hemiptera: Fulgoridae - EPPO A1 List) was first found in September 2014 in Pennsylvania where an eradication programme is being implemented (EPPO RS 2015/023). Since its first record in the Berks county, *L. delicatula* has spread to other localities and currently occurs in 13 Pennsylvania counties (Berks, Bucks, Carbon, Chester, Delaware, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton, Philadelphia, Schuylkill). In November 2017, the presence of *L. delicatula* in the state of Delaware was confirmed. A single specimen has been collected in New Castle county. For the moment, it is not known whether this specimen is a hitchhiker or an indicator of an establishing population. Intensive surveys will be conducted around the detection location in Delaware.

The situation of *Lycorma delicatula* in the USA can be described as follows: **Present, only in some areas (13 counties in Pennsylvania, 1 specimen in Delaware), under eradication.**

Source: INTERNET
 Delaware.gov (2017-11-20) Spotted lanternfly confirmed in Delaware.
<https://news.delaware.gov/2017/11/20/spotted-lanternfly-confirmed-delaware/>
 Pennsylvania Department of Agriculture. Spotted Lanternfly. Quarantine.
http://www.agriculture.pa.gov/Plants_Land_Water/PlantIndustry/Entomology/spot_ted_lanternfly/quarantine/Pages/default.aspx

Pictures: *Lycorma delicatula*. <https://gd.eppo.int/taxon/LYCMDE/photos>

Additional key words: detailed record

Computer codes: LYCMDE, US

2017/212 First report of *Rhagoletis batava* in the Czech Republic

The NPPO of the Czech Republic recently informed the EPPO Secretariat of the detection of *Rhagoletis batava* (Diptera: Tephritidae) on its territory. During summer 2017, 17 adults were caught in yellow sticky traps located in a plantation (12 ha) of *Hippophae rhamnoides* (Elaeagnaceae - common sea buckthorn) located in the municipality of Příklad. The identity of the pest was confirmed morphologically. According to the grower, *R. batava* has been causing economically significant damage to fruit production since 2016. As *R. batava* is probably of European origin and recorded in several European countries, no official measures will be taken. However, it is noted that during the last decades, *R. batava* has been expanding its geographical range in Europe.

The pest status of *Rhagoletis batava* in the Czech Republic is officially declared as: **Present: only in some parts of the Member State concerned.**

EPPO note: According to a recent review (Stalažs and Balakaikins, 2017), *R. batava* was initially described in the Netherlands and remained for a long time of limited distribution in a small number of European countries. Larvae of *R. batava* feed on *H. rhamnoides* fruit and heavy infestations can lead to total loss of fruit production. *R. batava* has been considered as a serious pest of *H. rhamnoides* in Western Siberia and Altai region, but was not known as a serious pest in European countries. Its expansion started in 2001 in the European part of Russia and in the 2010s, *R. batava* started to be reported as a serious problem by *H. rhamnoides* growers in Belarus (2010), Latvia (2011), Lithuania (2012), Germany (2013), and Poland (2014). In 2015, larvae were recorded in 2 production sites in Estonia and Finland, and adult flies were caught during a survey in Hungary. A geographical distribution of *R. batava* can be viewed in the EPPO Global Database:

<https://gd.eppo.int/taxon/RHAGBA/distribution>

Source: NPPO of Czech Republic (2017-09).

Stalažs A, Balalaikins M (2017) Country checklist of *Rhagoletis* Loew (Diptera: Tephritidae) for Europe, with focus on *R. batava* and its recent range expansion. *Proceedings of the Latvian Academy of Sciences. Section B* 71(3), 103-110.

Additional key words: new record

Computer codes: RHAGBA, CZ

2017/213 *Spodoptera frugiperda* continues to spread in Africa

In early 2016, outbreaks of *Spodoptera frugiperda* (Lepidoptera: Noctuidae - EPPO A1 List) were reported for the first time in Africa where high armyworm populations damaging maize (*Zea mays*) crops have been noticed (EPPO RS 2016/188, 2017/035, 2017/116). According to a recent study published by CABI and UK Aid, the presence of the pest has now been confirmed from **Angola, Cameroon, Chad, Guinea, Republic of Congo, South Sudan**. The presence of the pest is also suspected in other African countries (Central African Republic, Côte d'Ivoire, Gabon, Liberia, Mali, Senegal, Sierra Leone) but this remains to be confirmed. In this study, impacts of the introduction of this major pest in Africa on maize crops have been estimated. In July 2017, a socio-economic survey has been conducted in Ghana and Zambia. The estimated national mean loss of maize in Ghana was 45% (ranging from 22 to 67%) and in Zambia 40% (ranging from 25 to 50%). Based on data collected from Ghana and Zambia, the potential impacts on maize yield and revenue in 10 other major maize-producing countries of Africa have been estimated. As a result, the estimated mean yield loss was 16 105 000 tonnes and the estimated economic loss ranged from 2 482 to 6 187 million USD. In addition to this analysis of economic impacts, recommendations are provided to NPPOs and farmers on the management of *S. frugiperda*.

Source: Abrahams P, Bateman M, Beale T, Clottey V, Cock M, Colmenarez Y, Corniani N, Day R, Early R, Godwin Julien, Gomez J, Gonzalez Moreno P, Murphy ST, Oppong-Mensah B, Phiri N, Pratt C, Richards G, Silvestri S, Witt A (2017) Fall Armyworm: impacts and implications for Africa. Evidence Note (2), September 2017. CABI - UK Aid, 144 pp. Summary version: [\[Link\]](#) - Full document: [\[Link\]](#)

Pictures: *Spodoptera frugiperda*. <https://gd.eppo.int/taxon/LAPHFR/photos>

Additional key words: new record, impacts, publication

Computer codes: LAPHFR, AO, CG, CM, GN, SS, TD

2017/214 First report of *Meloidogyne enterolobii* in Niger

In 2013, during disease surveillance activities conducted in Niger on sweet pepper (*Capsicum annuum*) crops, a severe infestation of root-knot nematodes was found in the district of Diffa (main Nigerian capsicum-growing area). Above-ground symptoms were characterized by stunted growth, yellowing leaves, chlorosis and even plant death. These symptoms were also accompanied by the presence of numerous root galls. Laboratory studies (morphological, molecular methods) confirmed the identity of *Meloidogyne enterolobii* (EPPO A2 List). In addition, pathogenicity tests showed that potted *C. annuum* plants which were inoculated with infective juveniles of *M. enterolobii* collected from an infested field, developed typical root galls. DNA extracted from juveniles collected from these infested potted plants was tested by PCR and gave the expected amplicons for *M. enterolobii*. This is the first time that *M. enterolobii* is reported from Niger.

The situation of *Meloidogyne enterolobii* in Niger can be described as follows: **Present, only in some areas (first found in 2013 in Diffa district).**

Source: Assoumana BT, Habash S, Ndiaye M, Van der Puije G, Sarr E, Adamou H, Grundler FMW, Elashry A (2017) First report of the root-knot nematode *Meloidogyne enterolobii* parasitising sweet pepper (*Capsicum annuum*) in Niger. *New Disease Reports* 36, 18. [\[Link\]](#)

Pictures: *Meloidogyne enterolobii*. <https://gd.eppo.int/taxon/MELGMY/photos>

Additional key words: new record

Computer codes: MELGMY, NE

2017/215 *Meloidogyne graminicola*: addition to the EPPO Alert List

Why: *Meloidogyne graminicola* (Nematoda: Meloidogynidae - rice root-knot nematode) was first described in 1965 from grasses and oats in Louisiana (US). Since then, it has been found attacking primarily irrigated rice crops in Asia, and parts of the Americas and Africa. As in July 2016, *M. graminicola* was detected for the first time in the EPPO region in several rice fields of Northern Italy, the EPPO Secretariat decided to add this nematode to the EPPO Alert List.

Where: Until recently, *M. graminicola* was only known to occur in Asia, parts of the Americas and in South Africa. In July 2016, it was detected for the first time in Northern Italy in 7 rice fields in the Piemonte region (provinces of Biella and Vercelli), where eradication measures were put in place.

EPPO region: Italy (Piemonte region, under eradication).

Africa: South Africa (only one report).

Asia: Bangladesh, China (Fujian, Hainan, Hubei), India (Andaman and Nicobar Islands, Assam, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Orissa, Punjab, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal), Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam.

North America: USA (Georgia, Louisiana, Mississippi).

South America: Brazil (Sao Paulo), Colombia.

On which plants: The main economically important host of *M. graminicola* is rice (*Oryza sativa*) but this nematode has a wide host range of more than 98 host plants belonging to Poaceae and other plant families. *M. graminicola* has been found associated with other cereals and grasses, including weeds that are commonly present in rice fields and which may represent the main hosts for *M. graminicola*. Within Poaceae, *M. graminicola* has been recorded on cultivated plants, such as: *Avena sativa* (oat), *Hordeum vulgare* (barley), *Panicum miliaceum* (millet), *Pennisetum glaucum* (pearl millet), *Saccharum officinarum* (sugarcane), *Setaria italica* (foxtail millet), *Triticum aestivum* (wheat), *Zea mays* (maize), and many weed species (e.g. *Alopecurus* spp., *Brachiaria* spp., *Cymbopogon citratus*, *Cynodon dactylon*, *Digitaria* spp., *Echinochloa colona*, *Imperata cylindrica*, *Leersia hexandra*, *Paspalum scrobiculatum*, *Pennisetum pedicellatum*, *Phyllanthus urinaria*, *Poa annua*, *Sacciolepis indica*).

In addition, several cultivated plant species belonging to Asteraceae, Cucurbitaceae, Fabaceae, Solanaceae and a few other families have been recorded as hosts of *M. graminicola*, such as: *Allium cepa* (onion), *Brassica juncea* (mustard), *Brassica oleracea* (cabbages), *Cucumis sativus* (cucumber), *Glycine max* (soybean), *Lactuca sativa* (lettuce), *Musa* sp. (banana), *Petunia* sp. (petunia), *Phaseolus vulgaris* (common bean), *Pisum sativum* (pea), *Phlox drummondii*, *Solanum lycopersicum* (tomato), *Solanum melongena* (aubergine), *Solanum tuberosum* (potato), *Spinacia oleracea* (spinach), *Vicia faba* (broad bean), *Vigna* spp.

In Italy, *M. graminicola* has been found associated with rice and weeds growing in the vicinity of affected rice plants (*Alisma plantago*, *Cyperus difformis*, *Echinochloa crus-galli*, *Heteranthera reniformis*, *Murdannia keisak*, *O. sativa* var. *selvatica* (wild rice), *Panicum dichotomiflorum*, *Panicum* spp.).

Damage: As is the case with other root-knot nematodes, *M. graminicola* damages plants by affecting the development of their root systems which are distorted by multiple galls and devoid of fine roots. In upland and lowland rice fields infested by *M. graminicola*, when plants are in their first stages of vegetative development (early summer), patches of plants showing poor growth, loss of vigour, stunting, chlorosis with heavily affected root systems can be observed. In late summer and autumn, the above-ground symptoms may regress after

flooding and fertilizing, as patches are colonised by the vegetation of growing and tillering plants. At this stage rice fields appear more uniform but infested plants show poor caryopsis production and empty spikelets. These symptoms are more evident in drained fields than in flooded fields. The infested roots present swellings and characteristic hook-shaped galls of different shapes and sizes, mainly formed at the root tips. According to the literature, it is estimated that *M. graminicola* can decrease rice yield by 20 to 80%, depending on the mode of cultivation (flooded or dry), environmental conditions, and soil structure. Severe infestation and large galls can be also observed on weeds. In Italy, *Alisma plantago*, *Cyperus difformis*, *Echinochloa crus-galli*, *Heteranthera reniformis*, *Murdannia keisa*, *Oryza sativa* var. *selvatica* and *Panicum dichotomiflorum* were found to be infested and showed the same above-ground symptoms as rice plants.

M. graminicola is an obligate sedentary endoparasite. Females lay eggs in masses within the root cortex which induces the formation of galls. Second-stage juveniles (J2) then hatch, either remaining within the maternal gall or migrating in the same root to multiply. Infested roots may contain large numbers of eggs and J2s. *M. graminicola* can survive in waterlogged soil for long periods, as eggs (within egg masses) or as juveniles. Female and male specimens occur within the same gall. Males can be present in large numbers within galls, but scarcely occur in the soil. Numbers of *M. graminicola* decline rapidly after 4 months but some egg masses can remain viable for at least 14 months in waterlogged soil. The nematode can also survive in flooded soil to a depth of 1 m for at least 5 months. In flooded conditions, J2s cannot infect rice plants but when fields are drained, they resume their infectivity by attacking the root tips. The optimum soil moisture for *M. graminicola* is between 20-30% (with a dry soil at rice tillering and panicle initiation). The optimum soil temperature for nematode development ranges from 22 to 29°C. Under these optimal conditions, *M. graminicola* completes its life cycle in 19-27 days on rice.

Dissemination: Natural spread is very limited, as juveniles can only move over short distances towards roots in the soil. In paddy fields, passive transport may also be facilitated by movements of water and wild animals. As a root-knot nematode species, *M. graminicola* can easily be disseminated with soil, plants with roots, and root material (roots, tubers and rhizomes). Aerial plant parts on their own (flowers, fruits, seeds and leaves) will not spread the nematode. Eggs and juveniles can be carried by soil (including sand and gravel) transported as such or adhering to clothing, footwear, vehicles, agricultural and other earthmoving machinery.

Pathway: Plants for planting, soil, soil attached to machinery or other material, soil debris mixed with unselected seeds from countries where the pest occurs. In addition, travelers coming from infested areas may transport the nematode (e.g. on hiking shoes, clothing, collected seeds or plants with adhering soil).

Possible risks: *M. graminicola* infests many plant species belonging to different families (mainly Poaceae but also Asteraceae, Cucurbitaceae, Fabaceae, Solanaceae) that include cultivated plants of economic importance to the EPPO region. The large host range of *M. graminicola* and its ability to survive for long periods in environments with low oxygen render its control difficult. Crop rotation with either non-host or poor-host crops is desirable, but may be difficult to implement in practice. Submerging fields with water for more than 18 months can control juvenile populations in the soil. Soil applications of nematicides in dry rice crops, biofumigations, and use of trap-crops in the rotation, can help in significantly reducing nematode populations in the soil. In addition, detection and determination of *M. graminicola* is difficult. Identification has usually been based on the presence of hook-like root galls on plant roots, however two molecular methods have recently been developed specifically for *M. graminicola* (i.e. SCAR marker for a rapid and reproducible identification; real-time PCR primers for the nematode quantification in the soil). As the possible

establishment of *M. graminicola* in new areas represents a serious threat for economically important crops, in particular rice, cereals and other Poaceae, it seems desirable to avoid its further spread within the EPPO region.

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EPPO RS 2016/211, 2017/215

Panel review date -

Entry date 2017-11

Additional key words: Alert List

Computer codes: MELGGC

2017/216 Populations of *Meloidogyne ethiopica* reported in the EPPO region belong in fact to *Meloidogyne luci*

Meloidogyne ethiopica (EPPO Alert List) is a tropical root knot nematode which was initially described in Tanzania. Considering that this polyphagous nematode is an emerging pest, it was added to the EPPO Alert List in 2011. In the EPPO region, *M. ethiopica* was first found in Slovenia on glasshouse tomatoes (EPPO RS 201/004) and then reported from Italy (Maleita *et al.*, 2012), Greece (EPPO RS 2013/006) and Turkey (EPPO RS 2014/007) on several crops (cucumber, kiwifruit, maize, tomato). In 2015, studies had already showed that the population found in Slovenia, originally identified as *M. ethiopica*, corresponded in fact to another newly described species, *Meloidogyne luci* (EPPO RS 2016/212). In a more recent study, *M. ethiopica* populations from Slovenia, Greece, Turkey, Brazil and South Africa were re-examined and compared with a population of *M. luci* from Iran. Results confirmed that populations from Europe and Turkey correspond to *M. luci*. In addition, a closer examination of the published esterase profile of the *M. ethiopica* population from Italy revealed that it also corresponded to the profile of *M. luci*. Therefore, it is concluded that all populations previously reported as *M. ethiopica* in Europe and Turkey belong to *M. luci*. These studies also confirmed the close relationships between *M. luci*, *M. inornata* and *M. ethiopica*. As *M. luci* has already shown its potential to establish and spread in Europe, the authors considered that *M. luci* should be added to national and international lists of harmful organisms of phytosanitary concern.

Source: Gerič Stare B, Strajnar P, Susič N, Urek G, Širca S (2017) Reported populations of *Meloidogyne ethiopica* in Europe identified as *Meloidogyne luci*. *Plant Disease* 101(9), 1627-1632.

Maleita CM, Simões MJ, Egas C, Curtis RHC, Abrantes IM de O (2012) Biometrical, biochemical, and molecular diagnosis of Portuguese *Meloidogyne hispanica* isolates. *Plant Disease* 96(6), 865-874.

Pictures: *Meloidogyne ethiopica*. <https://gd.eppo.int/taxon/MELGET/photos>

Additional key words: new record, denied record

Computer codes: MELGET, MELGLC, GR, IT, SI, TR

2017/217 First report of *Meloidogyne luci* in Portugal

In 2013, during a field survey conducted in Portugal on potato (*Solanum tuberosum*) in the framework of a research project, an unusual esterase phenotype was detected in a root-knot nematode collected from potato roots near Coimbra. In April 2016, further analysis revealed the presence of *Meloidogyne luci* in 1 plot (2000 m²) located in the municipality of Cantanhede. The pathogenicity of *M. luci* was assessed in 16 potato commercial cultivars and compared with *M. chitwoodi*. All tested potato cultivars were found to be susceptible to both *Meloidogyne* species. The NPPO was informed of this finding in August 2017. In order to evaluate the distribution and potential impact of this nematode, a survey programme will be established around the infested plot, as well as at national level. The NPPO added that within the framework of the official potato cyst nematode survey carried out in potato fields, samples were also tested (103 in 2016 - 57 in 2017) for the possible presence of *Meloidogyne* species but all results were negative. The official pest status of *Meloidogyne luci* in Portugal is officially declared as: Present, only in specific parts of the area concerned.

Source: Maleita C, Esteves I, Cardoso JMS, Cunha MJ, Carneiro MDG, Abrantes I (2017) *Meloidogyne luci*, a new root-knot nematode parasitizing potato in Portugal. *Plant Pathology* (early view) DOI: 10.1111/ppa.12755

Maleita C, Esteves I, Cardoso JMS, Cunha MJ, Carneiro MDG, Abrantes I (2017) First report of *Meloidogyne luci* in Portugal - a potential threat to the potato crop. Abstract of a paper presented at the 32nd Symposium of the European Society of Nematologists (Braga, PT, 2016-08-28/09-01).

NPPO of Portugal (2017-11).

Pictures: *Meloidogyne luci*. <https://gd.eppo.int/taxon/MELGLC/photos>

Additional key words: new record

Computer codes: MELGLC, PT

2017/218 EPPO Alert List: addition of *Meloidogyne luci* together with *M. ethiopica*

Considering the recent description of *Meloidogyne luci* as a new and distinct species, and the fact that all populations found in the EPPO region, initially identified as *M. ethiopica* (added to the EPPO Alert List in 2011) are now considered to be *M. luci*, the EPPO Secretariat estimated that both species could usefully be included in the EPPO Alert List, even if the difficulties in identifying them have created some confusion about their geographical distribution, host range and biology.

Meloidogyne ethiopica and *Meloidogyne luci* (root-knot nematodes)

Why

In 2003, a tropical root-knot nematode species, initially identified as '*Meloidogyne ethiopica*' was found for the first time in a tomato greenhouse in Slovenia. As *M. ethiopica* is a polyphagous species which can multiply on many different types of plants (dicotyledons and monocotyledons), it was added in 2011 to the EPPO Alert List. In 2014, a morphologically similar species, *M. luci*, was described. In 2015 and 2017, molecular studies on populations of *Meloidogyne* species collected from a wide range of geographical origins and host plants showed that the populations found in the EPPO region and originally identified as *M. ethiopica*, corresponded in fact to *M. luci*. As both *M. ethiopica* and *M. luci* can damage a large number of economically important crops, the EPPO Secretariat decided that both *M. ethiopica* and *M. luci* should be included in the EPPO Alert List.

Where

M. ethiopica is a tropical root-knot species which was first described in 1968 in Southern Africa (Tanzania). Considering the recent confusion between *M. ethiopica* and *M. luci*, the geographical distribution is now rather uncertain.

EPPO region: absent (all populations of '*M. ethiopica*' reported from Italy, Greece, Slovenia, and Turkey correspond to *M. luci*).

Africa: Ethiopia, Kenya, Mozambique, South Africa, Tanzania, Zimbabwe.

South America: Brazil (Distrito Federal, Minas Gerais, Parana, Rio Grande do Sul, Santa Catarina, Sao Paulo), Chile (detected in the Central Valley from Copiapo (north of Santiago) to Talca), Peru.

M. luci was first described in 2014 from different plant species in Brazil, Chile and Iran. In the EPPO region, *M. luci* (initially identified as '*M. ethiopica*') was first found in 2003 on glasshouse tomatoes in 1 location (Dornberk) in Slovenia. All infested plants were destroyed and the nematode was no longer found. In 2009, *M. luci* (as '*M. ethiopica*') was detected in

2 soil samples which had been collected from maize (*Zea mays*) and kiwifruit (*Actinidia deliciosa*) near Kavalla, Northern Greece. The situation of this nematode in Greece needs to be further investigated. In 2009, *M. luci* (as '*M. ethiopica*') was also detected in Turkey in 2 tomato greenhouses of the University of Ondokuz Mayıs and in several commercial cucumber greenhouses in Çarşamba district (Samsun province). In 2013, *M. luci* was found in a single plot on potato (*Solanum tuberosum*) in Portugal. In the literature, there is a record of this nematode in Italy but data is lacking on its current situation.

EPPO region: Italy, Greece, Portugal (1 field), Slovenia (eradicated), Turkey.

South America: Brazil (Distrito Federal, Rio Grande do Sul, Parana), Chile, Guatemala.

Asia: Iran.

On which plants

M. ethiopica is a polyphagous pest that is able to parasitize at least 80 different host plants, including many economically important crops. Considering the recent confusion between *M. ethiopica* and *M. luci*, the following host plant list is now rather uncertain. In Africa and South America, *M. ethiopica* has been observed on many different cultivated species such as: *Actinidia deliciosa* (kiwi), *Agave sisalana* (sisal), *Asparagus officinalis*, *Beta vulgaris* (beetroot), *Brassica oleracea* (cabbages), *Capsicum frutescens* (chilli pepper), *Citrullus lanatus* (watermelon), *Cucurbita* spp., *Ensete ventricosum* (ensete), *Glycine max* (soybean), *Lactuca sativa* (lettuce), *Nicotiana tabacum* (tobacco), *Phaseolus vulgaris* (common bean), *Polymnia sonchifolia* (yacon), *Solanum lycopersicum* (tomato), *Solanum tuberosum* (potato), *Vicia faba* (faba bean), *Vigna unguiculata* (cowpea), *Vitis vinifera* (grapevine), as well as on trees (*Acacia mearnsii*) and weeds (*Ageratum conyzoides*, *Datura stramonium*, *Solanum nigrum*).

M. luci has been found on the following plant species: *Abelmoschus esculentus* (okra), *Actinidia deliciosa* (kiwifruit), *Antirrhinum majus* (snapdragon), *Brassica oleracea* var. *italica* (broccoli), *Cucumis sativus* (cucumber), *Daucus carota* (carrot), *Glycine max* (soybean), *Hylotelephium spectabile* (sedum), *Lactuca sativa* (lettuce), *Lavandula angustifolia* (lavender), *Phaseolus vulgaris* (common bean), *Polymnia sonchifolia* (yakon), *Rosa* sp. (rose), *Solanum lycopersicum* (tomato), *Solanum tuberosum* (potato), *Vitis vinifera* (grapevine). At least on bean, tomato, and soybean crops, symptoms of decline and stunting, as well as root galling have been reported.

Host range experiments have also showed that *M. luci* (as '*M. ethiopica*') can also multiply on a large number of cultivated plants of economic importance, for example: *Allium cepa* (onion), *Apium graveolens* (celery), *Fagopyrum esculentum* (buckwheat), *Helianthus annuus* (sunflower), *Hordeum vulgare* (barley), *Medicago sativa* (lucerne), *Oryza sativa* (rice), *Pisum sativum* (pea), *Prunus persica* (peach), *Solanum melongena* (aubergine), *Spinacia oleracea* (spinach), *Zea mays* (maize).

Damage

As is the case with other root-knot nematodes, both *M. ethiopica* and *M. luci* damage plants by affecting the development of their root systems which are distorted by multiple small and large galls and devoid of fine roots. Affected plants can also show above ground symptoms such as stunting and wilting. In Brazil and Chile, *M. ethiopica* is considered to be a damaging species on kiwi and grapevine, as infestations lead to a reduction of plant growth, fruit size and quality. In Brazil, it has also been reported to cause multiple galls on potato root systems, as well as protuberances on tubers. Data is generally lacking on the extent of damage and the economic impact these nematodes may cause on their different host plants. Data is also lacking on their biology.

Transmission

As a root-knot nematode species, both *M. ethiopica* and *M. luci* can easily be transmitted with soil and plant root material. In Chile, it is suspected that movements of contaminated grapevine nursery stock have probably resulted in serious infestations in various vineyards. In Brazil, it is also suggested that *M. ethiopica* was introduced in 1989 to Rio Grande do Sul on kiwi seedlings imported from Curicó (Chile), and that the pest was then moved to Distrito Federal on infested bulbs of *Polymnia sonchifolia* (yacón or Peruvian ground apple) from Rio Grande do Sul.

Pathway

Infested soil and growing media, plants for planting, bulbs and tubers from countries where *M. ethiopica* or *M. luci* occur are the most probable pathways to introduce and spread these pests into the EPPO region. Soil attached to machinery, tools, footwear, or plant products is also another possible pathway.

Possible risks

Both *M. ethiopica* and *M. luci* are polyphagous species and many of their host plants are of economic importance to the EPPO region as they are cultivated as arable, vegetable, ornamental or fruit crops. The detection of *M. luci* in the EPPO region clearly demonstrated that it has the potential to enter the region, although its pathway of introduction remains unknown. Studies had shown that, despite its probable tropical origin, *M. luci* (as '*M. ethiopica*') has the potential to survive outdoors under a continental climate (hot summers and cold winters) even in areas where soil temperatures fall below zero during winter, as well as under a sub-Mediterranean climate (hot summers and mild winters). More studies on the potential of establishment of *M. ethiopica* in the EPPO region would be needed but its similarities with *M. luci* suggest that it may also survive under temperate conditions. Once root-knot nematodes have been introduced, it is in general difficult to control or eradicate them. The confusion between *M. ethiopica* and *M. luci* underlines the difficulties faced in establishing a reliable identification between morphologically similar species. Considering the wide host range of both species and their probable (or verified) ability to establish under temperate conditions, it seems desirable to avoid the introduction of *M. ethiopica* and the spread of *M. luci* in the EPPO region.

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EPPO RS 2011/004, 2013/006, 2014/007, 2016/212, 2017/216, 2017/217, 2017/218

Panel review date 2017-03

Entry date 2011-01

Pictures: *Meloidogyne ethiopica*. <https://gd.eppo.int/taxon/MELGET/photos>
Meloidogyne luci. <https://gd.eppo.int/taxon/MELGLC/photos>

Additional key words: Alert List

Computer codes: MELGET, MELGLC

2017/219 First report of *Phytophthora austrocedri* on *Cupressus sempervirens* in Iran

In Iran, symptoms of foliage bronzing were observed in 2016 on *Cupressus sempervirens* trees in a public park in Qazvin city. Affected trees were also displaying orange-brown lesions in the phloem around the stem collar. Samples were taken from phloem tissues in the lesion edges for diagnosis. Results of the laboratory tests (morphological, molecular, and pathogenicity tests) confirmed the presence of *Phytophthora austrocedri* in symptomatic samples. This is the first time that *P. austrocedri* is reported from Iran, as well as the first time that it is found in association with symptoms on *Cupressus sempervirens*. The possible source of introduction of *P. austrocedri* into Iran remains unknown.

Source: Mahdikhani M, Matinfar M, Aghaalikhani A (2017) First report of *Phytophthora austrocedri* causing phloem lesions and bronzing on *Cupressus sempervirens* in northern Iran. *New Disease Reports* 36, 10. <http://dx.doi.org/10.5197/j.2044-0588.2017.036.010>

Pictures: *Phytophthora austrocedri*. <https://gd.eppo.int/taxon/PHYTAU/photos>

Additional key words: new record, host plant

Computer codes: PHYTAU, IR

2017/220 First report of *Monilinia fructicola* in Montenegro

In Montenegro, symptoms of brown rot were observed in June and July 2016 on nectarine (*Prunus persica* var. *nucipersica* cv. Adriana). Diseased fruit had been collected from a 19-year-old commercial orchard (3.8 ha) located near Podgorica. Symptoms could be found throughout the orchard and included twig blight and rotted fruit with large, brown lesions covered by greyish brown sporodochia that consequently resulted in fruit mummification, which caused considerable yield losses. Laboratory analysis (morphological, molecular, pathogenicity tests) confirmed the presence of *Monilinia fructicola* (EPPO A2 List). This is the first time that *M. fructicola* is reported from Montenegro. It is noted that further studies are needed to determine the distribution and impact of *M. fructicola* in peach and nectarine production in the country.

The situation of *Monilinia fructicola* in Montenegro can be described as follows: Present, first found in 2016 in 1 commercial nectarine orchard near Podgorica.

Source: Latinović J, Latinović N, Karaoglanidis GS (2017) First report of brown rot caused by *Monilinia fructicola* on nectarine fruit in Montenegro. *Plant Disease* 101(6), 1045-1046.

Pictures: *Monilinia fructicola*. <https://gd.eppo.int/taxon/MONIFC/photos>

Additional key words: new record

Computer codes: MONIFC, ME

2017/221 Update on the situation of *Pseudomonas syringae* pv. *actinidiae* in Switzerland

In Switzerland, *Pseudomonas syringae* pv. *actinidiae* (EPPO A2 List) was detected for the first time in June 2011 in the Canton of Geneva in a small kiwifruit commercial orchard shortly after planting (EPPO RS 2011/168). In 2015, the bacterium was found in a commercial orchard in the Canton of Vaud and a nursery in the Canton of Thurgau (EPPO RS 2015/132). Both findings could be traced back to a lot imported from Italy in May 2013 and distributed by the nursery. Although eradication measures were taken at both sites, the bacterium was detected again in June 2016 on asymptomatic plants in the same orchard (in a plot of 0.6 ha neighbouring the one of the initial finding). Eradication measures were taken and included the uprooting and destruction of all kiwifruit plants in the infested plot. In addition, *P. syringae* pv. *actinidiae* was detected in May 2016 on kiwifruit plants in 2 private gardens (Canton of Fribourg) and in a garden centre (Canton of Ticino). Infected plants had been delivered by a second nursery in close proximity to the aforementioned nursery in Canton of Thurgau. The two nurseries were exchanging kiwifruit plants. In the same year (2016), plants originating from the second nursery were also found to be infected (following a notification from Germany). Investigations revealed that a mother plant (initially grown in Italy and imported in 2014) in the first nursery was the most likely source of infection. In May 2017, *P. syringae* pv. *actinidiae* was found during an official survey in a private garden in the vicinity of the orchard affected by the outbreaks in 2015 and 2016 (Canton of Vaud). On every site, eradication measures were immediately taken according to the Swiss legislation (equivalent to Implementing Decision 2012/756/EU) to eradicate the disease. These measures included the preventive destruction of all kiwifruit plants and disinfection of the nurseries in the Canton of Thurgau in 2016. Surveillance for *P. syringae* pv. *actinidiae* is ongoing.

The pest status of *Pseudomonas syringae* pv. *actinidiae* in Switzerland is officially declared as: **Transient: actionable, under eradication**

Source: NPP0 of Switzerland (2017-07).

Pictures: *Pseudomonas syringae* pv. *actinidiae*. <https://gd.eppo.int/taxon/PSDMAK/photos>

Additional key words: detailed record

Computer codes: PSDMAK, CH

2017/222 First report of *Symphyotrichum pilosum* var. *pilosum* in Turkey

Symphyotrichum pilosum var. *pilosum* (Asteraceae) was first reported in Turkey from the Ereğli district of Zonguldak province between August and September 2016. The genus *Symphyotrichum* contains approximately 100 species – most of which are native to North, Central and South America. Before the discovery of *S. pilosum* var. *pilosum* in country, only two species of *Symphyotrichum* had been recorded in Turkey (*S. laeve* and *S. squamatum*). *S. pilosum* var. *pilosum* is native to the eastern part of North America and several provinces of Canada. The species is recorded as naturalised in India and more recently it has been reported as naturalised in the Piemonte region of Italy. In Europe the species occurs in a variety of habitats, mostly in agricultural areas, along the coastline and at sides of roads, in vine yards, city parks and disturbed habitats. In Turkey, the population is found in the Ereğli district of Zonguldak province at an elevation of 10-150 m. The habitats where the species is found include abandoned fields and roadsides.

Source: Tunçkol B, Aksoy N, Yaşayacak H (2017) A new record for alien flora of Turkey: *Symphyotrichum pilosum* (Willd.) G.L. Nesom var. *pilosum*. *Modern Phytomorphology* 11, 105-109.

Additional key words: new record, invasive alien plants

Computer codes: ASTPI, TR

2017/223 Factors limiting and promoting the invasion of *Impatiens balfourii*

Impatiens balfourii (Balsaminaceae) is native to the western Himalayas and has been introduced into the EPPO region as an ornamental plant species. The species has been cultivated in France, Great Britain and Italy since the early 20th century. The species has shown invasive tendencies in the EPPO region over the last 15 years and it is recorded as invasive in France, Italy and Croatia. Plant performance parameters in populations straddling the Swiss-Italian border were measured in different habitat types (ruderal areas, forest, roadside and stream habitats) along with natural enemy damage. In Italy, populations of *I. balfourii* were concentrated along roadsides, whereas in Switzerland the populations were located in ruderal areas, forest and stream habitats. Plant size differed significantly between all studied habitat types where the largest individuals were found along roadsides and the smallest were found along streams. Plant fecundity (expressed as seed weight and number of flowers) was highest in ruderal areas and lowest in forests. Leaf damage by natural enemies was lowest for plants growing along roadsides. There were no significant differences in terms of natural enemy damage between plants growing in other habitats.

Source: Najberek K, Nentwig W, Olejniczak P, Krol W, Baś, Solarz W (2017) Factors limiting and promoting invasion of alien *Impatiens balfourii* in Alpine foothills. *Flora* 234, 224-232.

Additional key words: invasive alien plants

Computer codes: IPABF, CH, IT

2017/224 Impacts of *Acacia saligna* on soil characteristics can persist up to 10 years

It is often thought that following the control and removal of an invasive alien plant that its impacts will quickly diminish. However, it is becoming more evident that some invasive plants leave long lasting impacts after their removal. *Acacia saligna* (Fabaceae) is native to Australia and has been recorded as an invasive species in a number of regions including the EPPO region (e.g. Cyprus, Portugal and Israel), South Africa and South America. The present study collected soil from invaded, non-invaded and previously managed areas (sites where *A. saligna* had been cleared 2, 6 and 10 years ago). The soil was analyzed for pH levels, carbon, nitrogen, available phosphorus, ammonium and nitrates. *A. saligna* invasion alters overall soil characteristics but specifically raises pH by 0.6 - 1.8. Soil characteristics (e.g. pH) were not restored to the natural conditions after control highlighting that soil effects persist up to 10 years following clearing. Furthermore, *A. saligna* control elevates soil nitrate levels and these can remain higher in invaded sites (1.55-6.67 mg per kg) compared to non-invaded (2.16-4.35 mg per kg) sites, up to 10 years post clearing. Elevated nitrate levels often facilitate secondary invasion which may further act to hinder restoration attempts.

Source: Nsikani MM, Novoa A, van Wilgen BW, Keet JH, Gaertner M (2017) *Acacia saligna's* soil legacy effects persist up to 10 years after clearing: Implications for ecological restoration. *Austral Ecology*. DOI: 10.1111/aec.12515.

Additional key words: invasive alien plants

Computer codes: ACASA, ZA

2017/225 First report of *Dysphania pumilio* in Serbia

Dysphania pumilio (Amaranthaceae) is native to Australia and was first identified in Serbia along the Pčinja River (South east Serbia) in 2006. *D. pumilio* is an annual species up to 80 cm tall. Individual plants produce a large number of seeds which are dispersed by animals (attached to fur) or by wind. In Serbia, *D. pumilio* was found in ruderal vegetation on sandy ground near Novo Selo and Donja Trnica villages, where in the case of the latter several hectares are invaded. At this site, the population consists of several thousand individuals. The maximum abundance occurred in abandoned cultivated fields under constant movement of domestic animals, as well as on sand and gravel river sediments. An additional population was identified close to the town of Trgovište in ruderal vegetation on well-trodden soil. At present, the population of *D. pumilio* in Serbia has not established in preserved natural areas in Serbia and in order to ensure this does not happen in the future, annual monitoring of the established populations should continue.

Source: Bogosavljević S, Zlatkovic B (2017) First report of *Dysphania pumilio* (R.BR.) Mosyakin & Clemants (Amaranthaceae), a new allochthonous species in the flora of Serbia. *Botanica Serbica* 41, 83-87.

Additional key words: Invasive alien plants, regulation

Computer codes: CHEPU, SB