



# EPPO PRA activities 2018/2019 & PRA Work Programme for 2019/2020

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**13th Annual Meeting** - Poznan, Poland  
International Pest Risk Research Group  
2019-09-3/6



# EPPO Activities on Pest Risk Analysis

Decision-Support Schemes used for pest-specific PRAs

## Assessment: PM 5/5 (1) Decision-Support Scheme for an **Express** Pest Risk Analysis

- to determine whether an organism has the characteristics of a quarantine pest.

*Remark: EPPO is currently developing a detailed guidance of PM 5/5*

## Management: PM 5/3 (5) Decision-support scheme for quarantine pests

- to identify potential management options.

[Available at https://gd.eppo.int/standards/PM5/](https://gd.eppo.int/standards/PM5/)

# 1 - EPPO PRA activities in 2018/2019

## Pest-specific PRAs

These PRAs are used for recommendations to member countries on which pests to regulate (A1/A2 Lists)

- *Agrilus bilineatus* (2018-12-3/7): EPPO A2 List

- *Agrilus fleischeri* (2018-12-3/7): EPPO A2 List

Asian Buprestidae - Hosts: poplar and willow

Conclusion: **Low** phytosanitary risk with **high** uncertainty

- *Ambrosia trifida* (2019-02-19/21): EPPO A2 List

Native from North America - Habitats at risk includes annual summer crops (maize, soybean and sunflower)

Conclusion: **High** phytosanitary risk with **low** uncertainty (endangered area = EPPO countries south of 55° latitude)

- *Naupactus xanthographus* (2019-03-25/29): recommendation to be discussed in EPPO risk management and decision-making bodies

*Agrilus fleischeri* (left side) and *A. ater* (right)

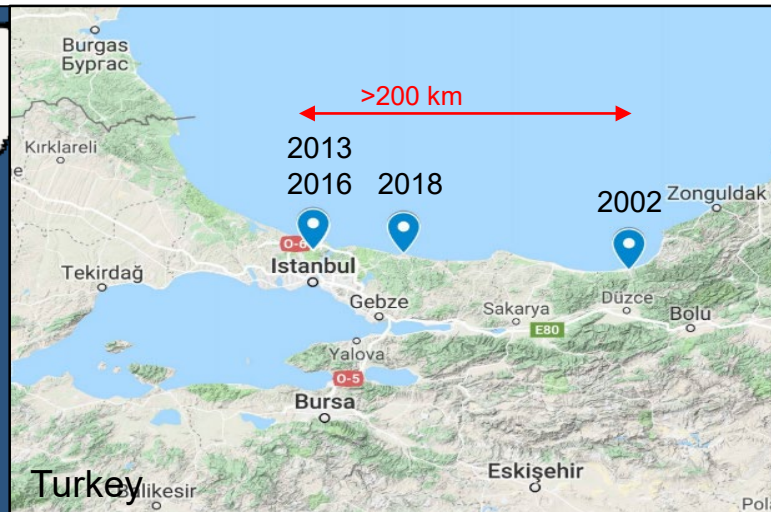
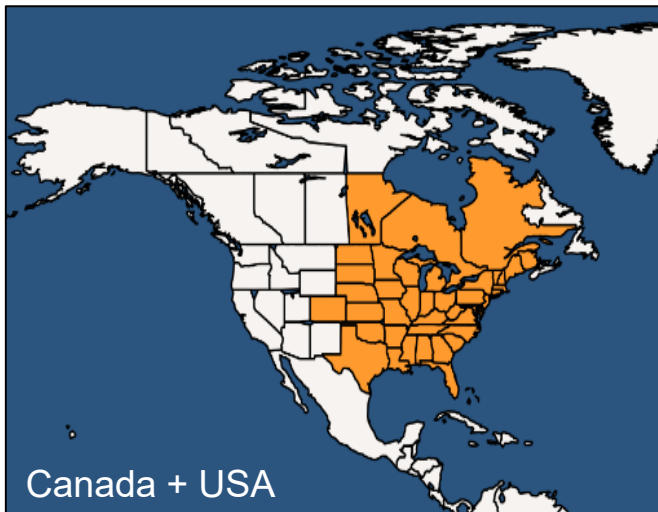


# 1 - EPPO PRA activities in 2018/2019

*Agrilus bilineatus* (Two-lined chestnut borer)

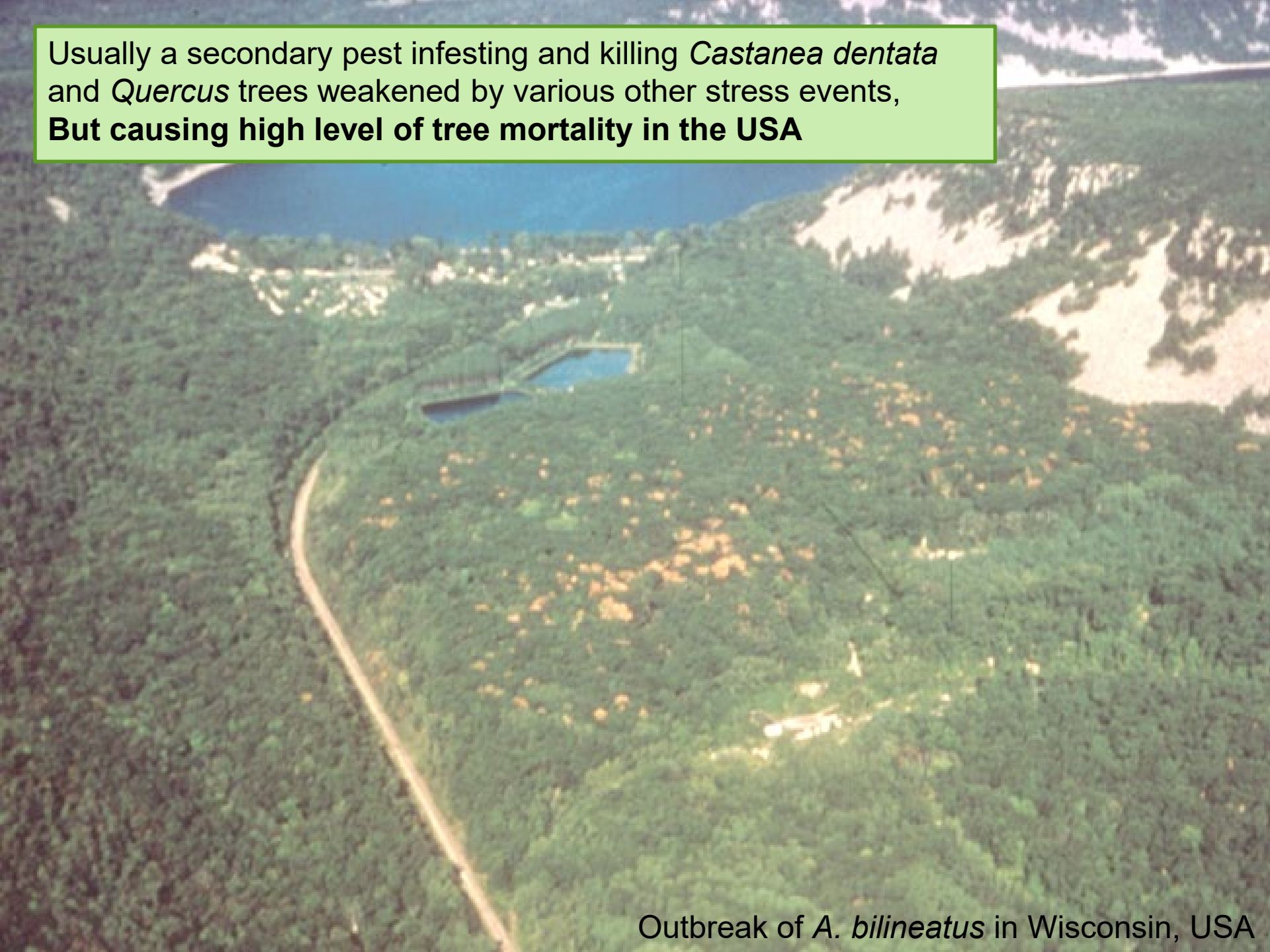
EWG 2018-12-3/7

- Coleoptera: Buprestidae
- Host plants: Oak and chestnut
- Damages: Larvae feed in the cambial region, affect usage of wood, can lead to tree death in a single year





Usually a secondary pest infesting and killing *Castanea dentata* and *Quercus* trees weakened by various other stress events,  
**But causing high level of tree mortality in the USA**



Outbreak of *A. bilineatus* in Wisconsin, USA

## Conclusions *Agrilus bilineatus* → A2 List

- Endangered area: whole EPPPO region where *Quercus* and *Castanea* are present



- Phytosanitary risk: **high** with **moderate** uncertainty (sources of uncertainty: host range, higher susceptibility of European native host species, potential impact on *Castanea sativa* and European *Quercus* species [other than *Q. robur*], spread capacity, very limited information on distribution and impact in Turkey)

# Measures to reduce probability of entry:

Remark: considered hosts for risk management measures are:

*Quercus* spp. and *Castanea* spp. for *A. bilineatus*;



- Host plants for planting (except seeds, tissue cultures and pollen):
  - PFA + packed in conditions preventing infestation during transport.
  - Pest-free site of production under complete physical isolation (PM 5/8) + packed in conditions preventing infestation during transport (or commercialized outside the period where adults are present).



<https://nativeforestnursery.com/trees/oak-pin/>

- Round wood and sawn wood (> 6mm) of hosts
  - PFA, or
  - Heat treatment (PM 10/6(1)), or
  - Irradiation (PM 10/8(1)), or
  - Fumigation with sulfuryl fluoride (only for debarked wood <20 cm in cross section) (ISPM 28 PT 22), or
  - Removal of bark and 2,5cm of outer xylem in authorized facilities.
- Wood chips, hogwood, processing wood residues obtained in whole or part from hosts
  - PFA. Storage and transport to prevent contamination by adults under control of the NPPO.
- Wood packaging material obtained in whole or part from hosts
  - ISPM 15.
- Bark and cut branches of hosts
  - PFA.





# 1 - EPPO PRA activities in 2018/2019

EPPO Study on bark beetles and ambrosia beetles on non-coniferous wood

## Background



*In past decade numerous introductions worldwide of bark and ambrosia beetles and in some cases massive damage.*

Identified as priority by EPPO Working Party on Phytosanitary Measures in June 2017  
Specification adopted at the end of 2017

### OBJECTIVES OF THE STUDY

Identify **indicator species** of bark beetles and ambrosia beetles (Scolytinae, Platypodinae)  
.... to **define measures for non-coniferous wood** that may cover the risk of introduction for other species

- **Scope:**

Species absent from EPP0, or present but not widely distributed, and that can present a potential risk

- **Commodities:**

Round and sawn wood / Bark / Harvesting wood residues, processing wood residues, wood chips and hogwood

- **Wood:**

All non-coniferous wood

- **Origins:**

All

- **Planned publication:**

Autumn 2019



# Study's structure

- Introduction
- Section 1 Risk factors
- Section 2 Measures

## Annexes

- Case studies

(26 representative species selected)

- Individual pest information sheets
- Data on non-coniferous woody plants in EPPO region
- Data on commodities covered
- Data on trade of wood into the EPPO region
- Köppen Geiger maps

### EPPO STUDY ON BARK AND AMBROSIA BEETLES ON NON-CONIFEROUS WOOD

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# Table for biological and other risk factors influencing the potential risk of entry, establishment, spread and impact for the EPP0 region

		Sub-rating	<i>Acanthotomicus</i> sp.	<i>Ambrosiodmus rubricollis</i>	<i>Austroplatypus incompterus</i>	<i>Cnestus mutilatus</i>	<i>Euplatypus parallelus</i>	<i>Euwallacea fornicatus</i>	<i>Euwallacea interjectus</i>	<i>Euwallacea validus</i>	<i>Gnathotrupes</i> spp. of <i>Nothofagus</i>	<i>Hypothenemus eruditus</i>	<i>Megaplatypus mutatus</i>	<i>Monarthrum mali</i>	<i>Pityophthorus juglandis</i>	<i>Platypus apicalis</i>	<i>Platypus gracilis</i>	<i>Platypus koryoensis</i>	<i>Platypus quercivorus</i>	<i>Platypus subgranosus</i>	<i>Phloeotribus liminaris</i>	<i>Scolytus schevyrewi</i>	<i>Xyleborinus artemisatus</i>	<i>Xyleborinus octoidentatus</i>	<i>Xyleborus bispinatus</i>	<i>Xyleborus glabratus</i>	<i>Xylosandrus compactus</i>	<i>Xylosandrus crassiusculus</i>	
Bark / ambrosia		b	a	a	a	a	a	a	a	a	a	b	a	a	a	a	a	a	a	a	b	b	a	a	a	a	a	a	A
Mating strategy	Inbreeding	N	Y	N	Y	N	Y	Y	Y	N	Y	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	
Host condition	Live trees	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Host specificity	Polyphagous	N	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	
	nb families (indicative)	1	20+	1	20+	30+	60+	18+	13+	1	50+	30+	14+	1	5+	5+	1	15+	5+	1	2	9+	4+	10+	5+	60+	50+		
	New hosts	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	
Associated fungi	Fung. farm.	N	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	
	Pathog.	N	N	N	N	Y	Y	Y	Y	N	Y	N	N	Y	Y	Y	N	Y	Y	N	Y	N	N	Y	Y	Y	Y	Y	
	Mat. feed.	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	Y	N	N	N	N	N	N	
Climatic requirements	Climate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Mass attacks	Aggreg. pherom.	N	N		N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y		N	N	N	N	N	N	N	N	
Voltinism and sister broods	Multiv.	Y		N	N		Y		N		Y	N	Y	Y	N	N	N	Y	N	Y	Y				Y	Y	Y		
Assoc. with wood commod.	Wood comm.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N?	Y	
Known introductions	Introd.	N	Y	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	
Impact	Kill trees	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N?	Y	Y	Y	Y	
	Decreased value	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	
Category in case studies		2	3	3	2	1	1	2	2	2	2	2	2	1	1	1	2	1	2	2	3	2	3	3	2	1	2	2	
In EPP0?		N	Y	N	N	N	Y	N	N	N	Y	Y	Y	Y	N	N	N	N	N	N	Y	Y	N	N	Y	N	Y	Y	



# Recommended measures for all non-coniferous wood from all origins

- EWG considered ISPM 39 (*International movement of wood*), existing measures and measures recommended in PRAs
- Minimum requirement: phytosanitary certificate.

Round wood with or without bark and sawn wood	Heat treatment according to EPPO Standard PM 10/6 OR Treated with ionizing radiation according to EPPO Standard PM 10/8 OR Appropriate fumigation, details to be specified on the phytosanitary certificate. AND Stored in conditions to prevent infestation prior to export and transported closed, to prevent infestation  A higher level of protection can be achieved if the wood is debarked in addition to the measures proposed above.
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Isolated bark	Heat treatment (until the core temperature reaches at least 56 °C for at least 30 min). OR Appropriate fumigation, details to be specified on the phytosanitary certificate. AND Stored in conditions to prevent infestation prior to export and transported closed, to prevent infestation
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Harvesting wood residues, processing wood residues (except sawdust and shavings), wood chips, and hogwood	Heat treatment (until the core temperature reaches at least 56 °C for at least 30 min). OR Appropriate fumigation, details to be specified on the phytosanitary certificate. AND Stored in conditions to prevent infestation prior to export and transported closed, to prevent infestation
---	---

- retained measures applying both to bark beetles and ambrosia beetles.

- recognized that very likely to have an impact on trade particularly for round wood

- also encouraged NPPOs to establish generic trapping programs near entry points

# 2 - EPPO Work Programme in 2019/2020 on PRA

## *Tomato brown rugose fruit virus (Tobamovirus, ToBRFV)*

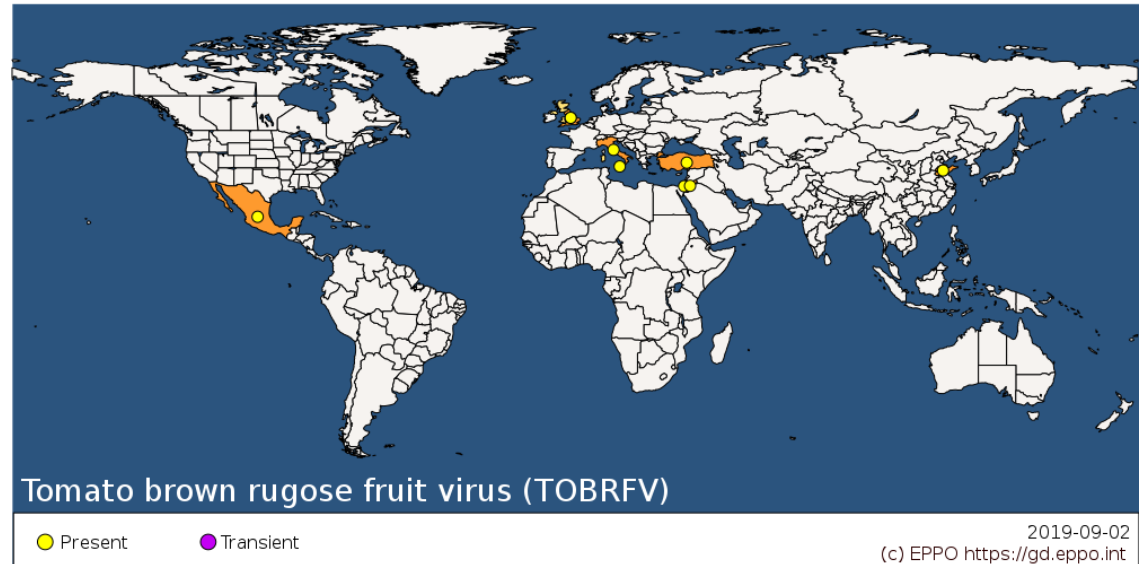
EWG 2019-11-18/21 in Israël

First identified on tomatoes in Jordan (2015 – but symptoms were seen in Israel in 2014), then in other EPPO member countries (Germany, Italy & Turkey, UK) as well as in China and Mexico.

**Main hosts:** tomato and capsicum.

**Level of damage** varies depending on countries.

Could be moved on plants for planting, seeds or by contact.



# 2 - EPPO Work Programme in 2019/2020 on PRA

## *Gymnandrosoma aurantianum*

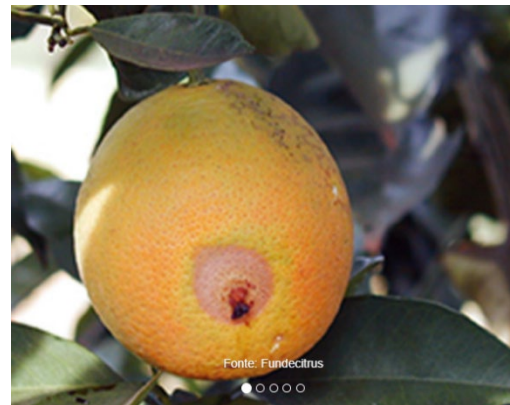
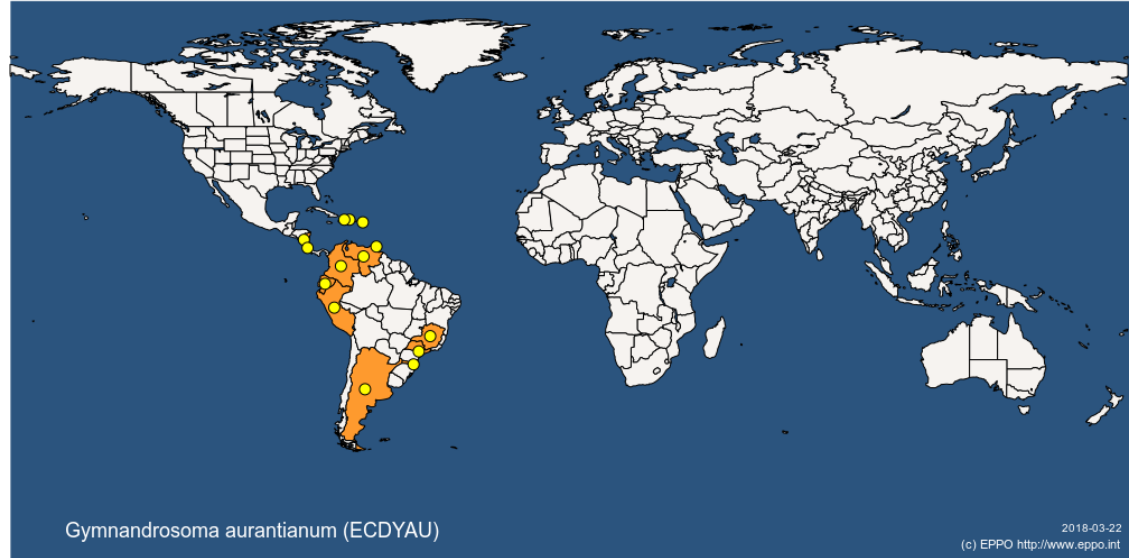
(Citrus fruit borer - Lepidoptera: Tortricidae)



EWG  
2019-11-18/21  
in Paris

Suggested by Spain (also identified as a potential risk by DROPSA) following several interceptions.

Pest of citrus and other fruit crops (incl. *Eriobotrya*, *Macadamia*, *Prunus persica*, *Punica granatum*) in other regions of the Americas.





# 2 - EPPO Work Programme in 2019/2020 on PRA

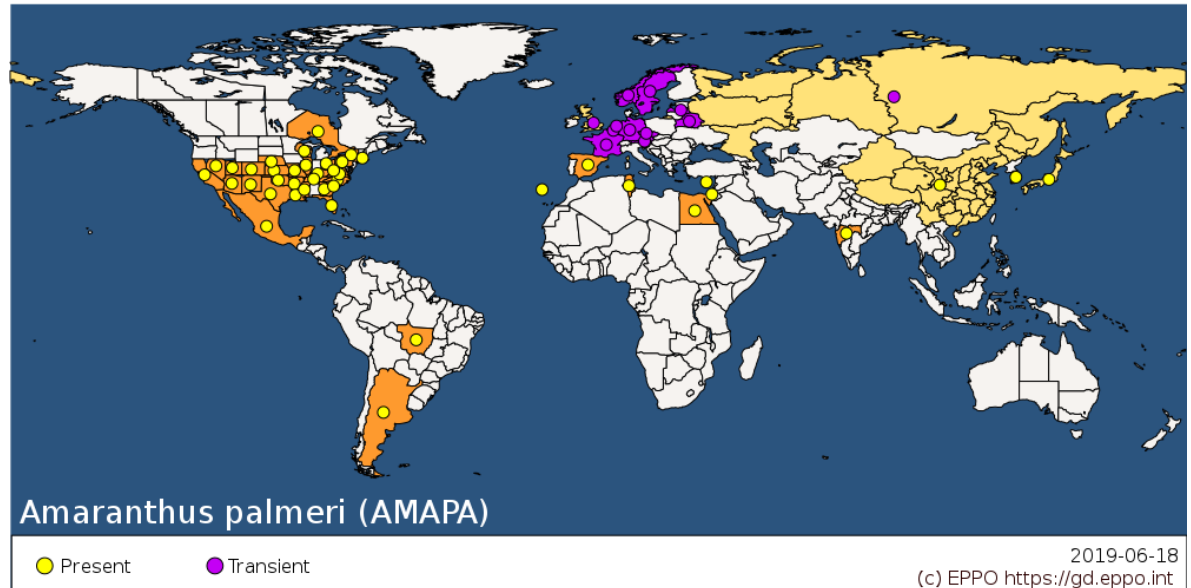
*Amaranthus palmeri* (Amaranthaceae), Palmer's Amaranth.

**Native range:** North America

**Introduced range:** Europe (established in Cyprus, Israel, Madeira and Spain), Asia and Australia

**Pathways:** Contaminant of seeds and grain, machinery

**Impacts:** Negative impacts on agriculture (reduced yields in cotton, soybean, peanut, corn, sweet potato; increased harvesting time) & biodiversity





# 2 - EPPO Work Programme in 2019/2020 on PRA

## Testing of guidelines on the design and implementation of a buffer zone

- **Scope:** provides general guidance on buffer zones to minimize the probability of spread of a pest into or out of delimited areas;

- **Public:** risk assessors and risk managers

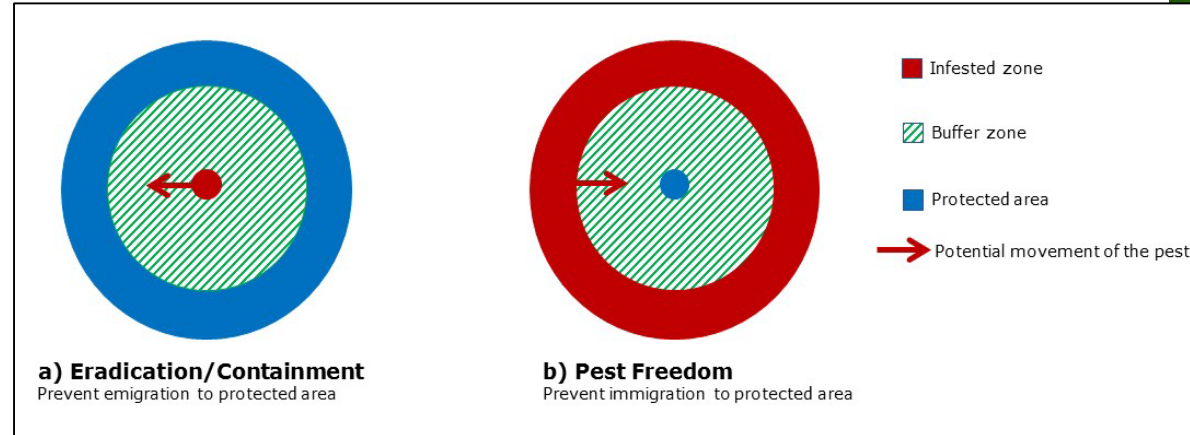
- **Guideline structure:**

1/ Introduction;

2/ Objective of delimited areas including buffer zones;

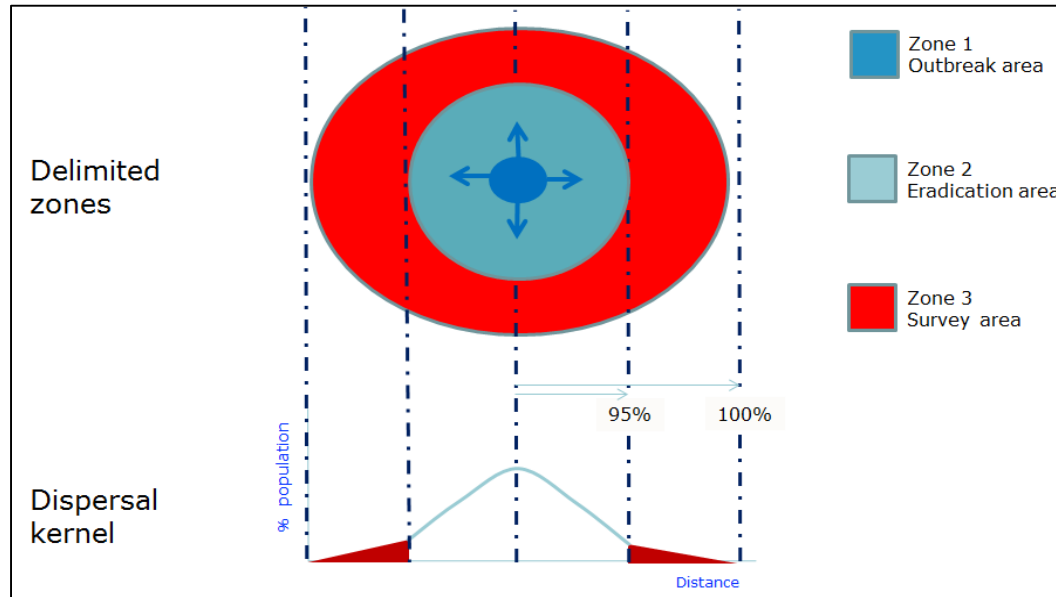
3/ Guidance to define an appropriate size of the buffer zone (incl. factors to consider, description of the dispersal behaviour of a pest & estimation of the dispersal)

4/ General measures to be implemented in delimited areas



# Estimation of dispersal behaviour

- Based on Literature review, data retrieval & expert judgement)
- Dispersal behaviour usually described by a dispersal kernel



- When possible, models analysing suitable data should be used
  - Estimation of a risk parameter can also be done using expert knowledge elicitation (EKE): estimation of the range, median, lower and upper quartile of a parameter
- > EWG with experts on the biology, risk manager & a facilitator

# Draft guidance to be tested in an EWG for



Heterobasidion irregulare (HETEIR) - <https://gd.eppo.int>



Heterobasidion irregulare (HETEIR) - <https://gd.eppo.int>

*Heterobasidion irregulare*,



*Geosmithia morbida* (GEOHMO) - <https://gd.eppo.int>



*Geosmithia morbida* (the thousand cankers disease) and its vector  
*Pityophthorus juglandis*

So that the guidance could be finalized in March 2020 by the EPPO Panel on Phytosanitary Measures

# 2 - EPPO Work Programme in 2019/2020 on PRA

## Additional potential EWGs identified

- **viruses of grapevine breeding material:**

This topic has been put aside, waiting for the publication of the categorization on non-European grapevine viruses by EFSA.

*To be further discussed at next EPPO Panel on Phytosanitary Measures.*

- **risk management measures for *Meloidogyne ethiopica*, *M. luci* and *M. graminicola*:**

Use the revised Slovenian PRA on *Meloidogyne ethiopica* and *M. luci* and the Italian PRA on *M. graminicola* to develop, within an EWG, appropriate measures with clear justifications.

Such measures would cover the risk of entry of other *Meloidogyne* species.

*To be further discussed at next EPPO Panel on Phytosanitary Measures.*



# Additional activities to improve the quality and facilitate the drafting of PRAs in the future

- **EPPO Platforms on PRAs**

EPPO is also considering allowing non-EPPO countries to upload their own PRAs on the EPPO PRA platform (<https://pra.eppo.int/>).



The screenshot displays the EPPO Platform on PRAs website. The browser address bar shows the URL <https://pra.eppo.int/>. The website header includes the EPPO logo and the text 'EPPO Platform on PRAs'. A search bar is present with a 'Go!' button and a link to 'advanced search...'. Below the header is a navigation menu with the following items: Home, Browse PRAs, Browse by type of pests, Useful links, and Download user guide.

## EPPO Platform on PRAs

### Background

A survey conducted by EPPO showed that many Pest Risk Analyses are produced at the national level and that providing a database to present them would be useful for EPPO countries, to increase awareness on new pests and share knowledge.

The beta version of this database was tested by users in early 2018 and a subsequent version was made publicly available in September 2018.

Go to EPPO website to read more on [EPPO activities on PRA](#).

### Purpose

This platform aims to share information on activities on evaluation of pest risk in the EPPO region. It includes national PRAs produced by EPPO countries (e.g. Express PRAs, quick scans, interception PRAs, commodities PRAs) on all pests including invasive plants in any language. Countries may also share draft PRAs, or plans for future PRAs.

**Please note that only part of the information is public and more information is available to registered users (e.g. draft PRAs, PRAs from non-EPPO countries).**

EPPO is not responsible for the content and conclusions of the PRAs prepared by other entities and presented in this platform.

### Countries participation

A world map is shown with several countries highlighted in green, indicating their participation in the platform.

### Tweets

by @MurielSuffert

EPPO Pest Risk Retweeted

**Mariangela Ciampitti**  
@pestsurvey

Third year of #FallArmyWorm survey program in #Lombardy #Italy to maintain Pest Free Area status. #planthealth

The Windows taskbar at the bottom shows the time as 13:37 on 06/08/2019. Several application icons are visible, including a search bar with the text 'Taper ici pour rechercher'.

# Additional activities to improve the quality and facilitate the drafting of PRAs in the future

- **The EPPO Secretariat is compiling risk management measures included in EPPO recommendations over the last 10 years into a database**

## **Main aims:**

- Search for measures in PRAs
- Enhance consistency when identifying phytosanitary measures

To facilitate the search for measures, the EPPO Secretariat is also drafting a tree of pathways (Hierarchical tree with 3 levels and an additional column containing pathways exactly as in the PRAs).

# Conclusion:

EPPO's Work Programme on PRAs in 2019/2020 includes

- **Pest-specific PRAs**

➔ **to provide recommendations;**

- **Guidance documents and additional activities**

➔ **to improve the quality and facilitate the drafting of PRAs in the future.**

The EPPO Secretariat acknowledges all experts and Panel members for the work performed on these PRA activities...

