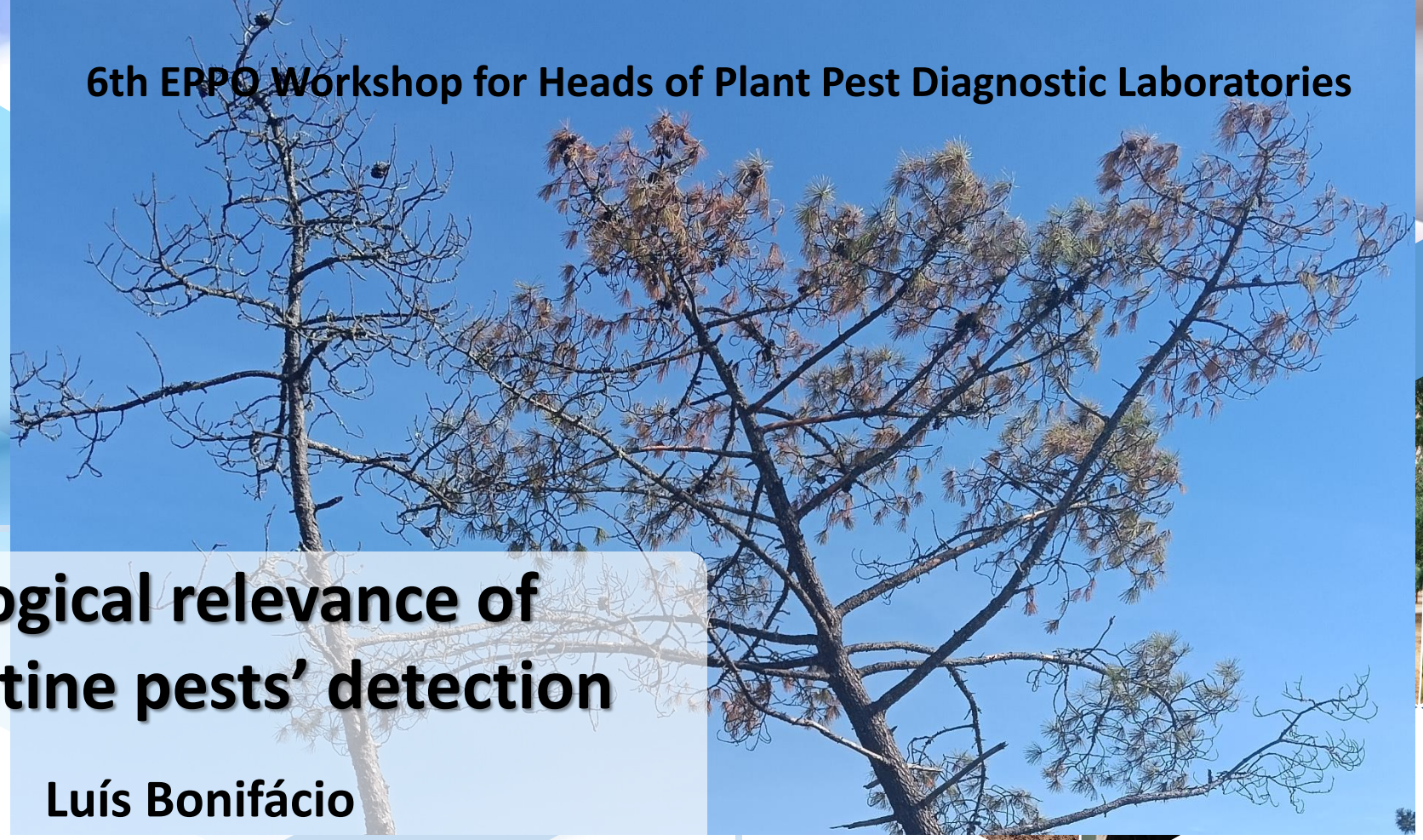
6th EPPO Workshop for Heads of Plant Pest Diagnostic Laboratories



# Biological relevance of quarantine pests' detection

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07 March 2025

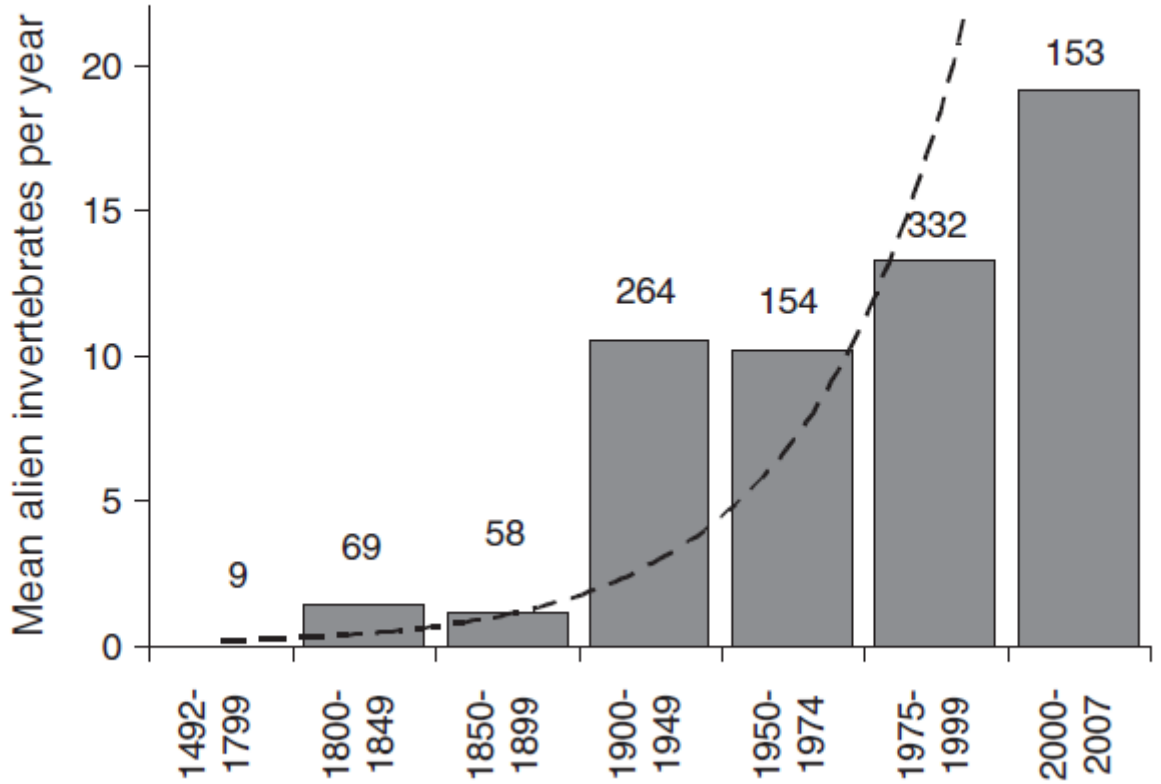
REPÚBLICA PORTUGUESA | AGRICULTURA E PESCAS

Instituto Nacional de Investigação Agrária e Veterinária, I.P.

# Biological relevance of quarantine pests detection

# Invasions of Pests and Diseases

Alien Terrestrial Invertebrates of Europe




(Roques *et al.*, 2008)

# Invasions of Pests and Diseases

## Chestnut Blight
## *(Cryphonectria parasitica)*

From: Asia

To: North America and Europe (early 1900')

# Invasions of Pests and Diseases

## Dutch Elm Disease
### *(Ophiostoma novo-ulmi)* + Scolytinae


From: Asia

To: Europe (1910) and North America (1928)

# Invasions of Pests and Diseases

## Pine Wilt Disease
### *(Bursaphelenchus xylophilus) + Monochamus spp.*

From: North America

To: Asia (early 1900’) and Europe (1999)

# EPPO Alert Lists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## EPPO A1 List of pests recommended for regulation as quarantine pests

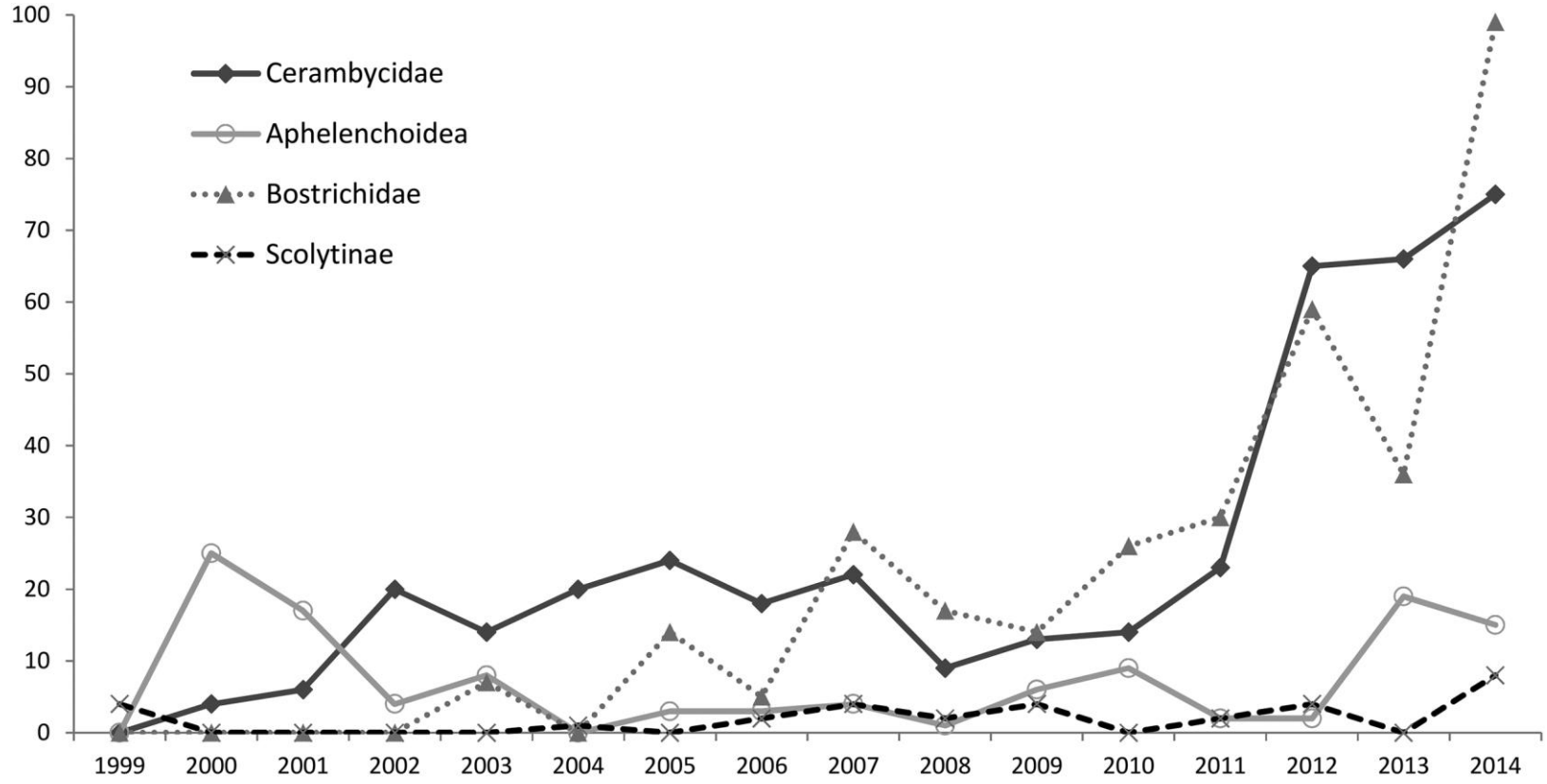
**- version 2024-09 –**

EPPO recommends its member countries to regulate the pests listed below as quarantine pests (A1 pests are absent from the EPPO region). The EPPO A1 List is reviewed every year by the Working Party on Phytosanitary Regulations and approved by Council.

In the tables below, click on the links to access pest-specific information stored in EPPO Global Database (geographical distributions, host plants, pictures, data sheets, PRAs, diagnostic protocols and other EPPO Standards).

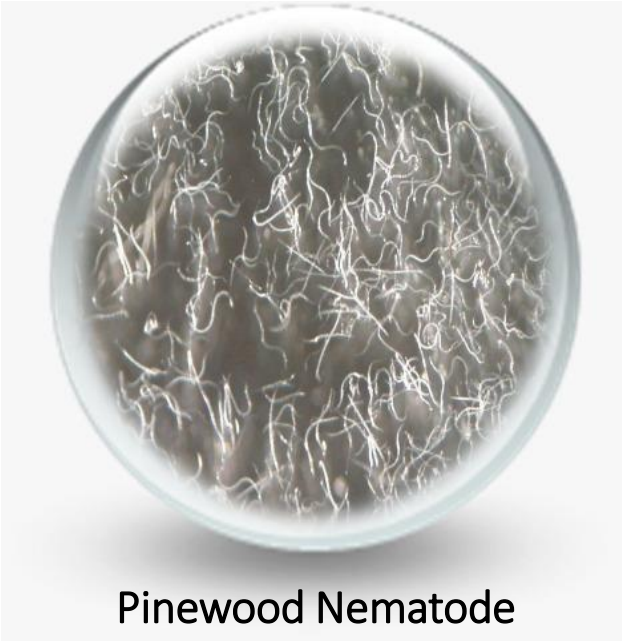
Click here to view A2 List >

# Surveillance and Interceptions




Wood Packaging Material Entering the European Union (Eyre *et al.*, 2018)

# Pine Wilt Disease



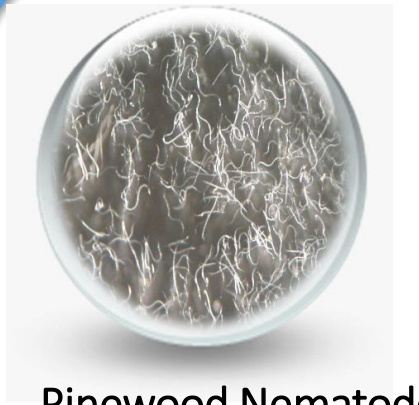
Pinewood Nematode

(quarantine organism)

*Monochamus* spp.

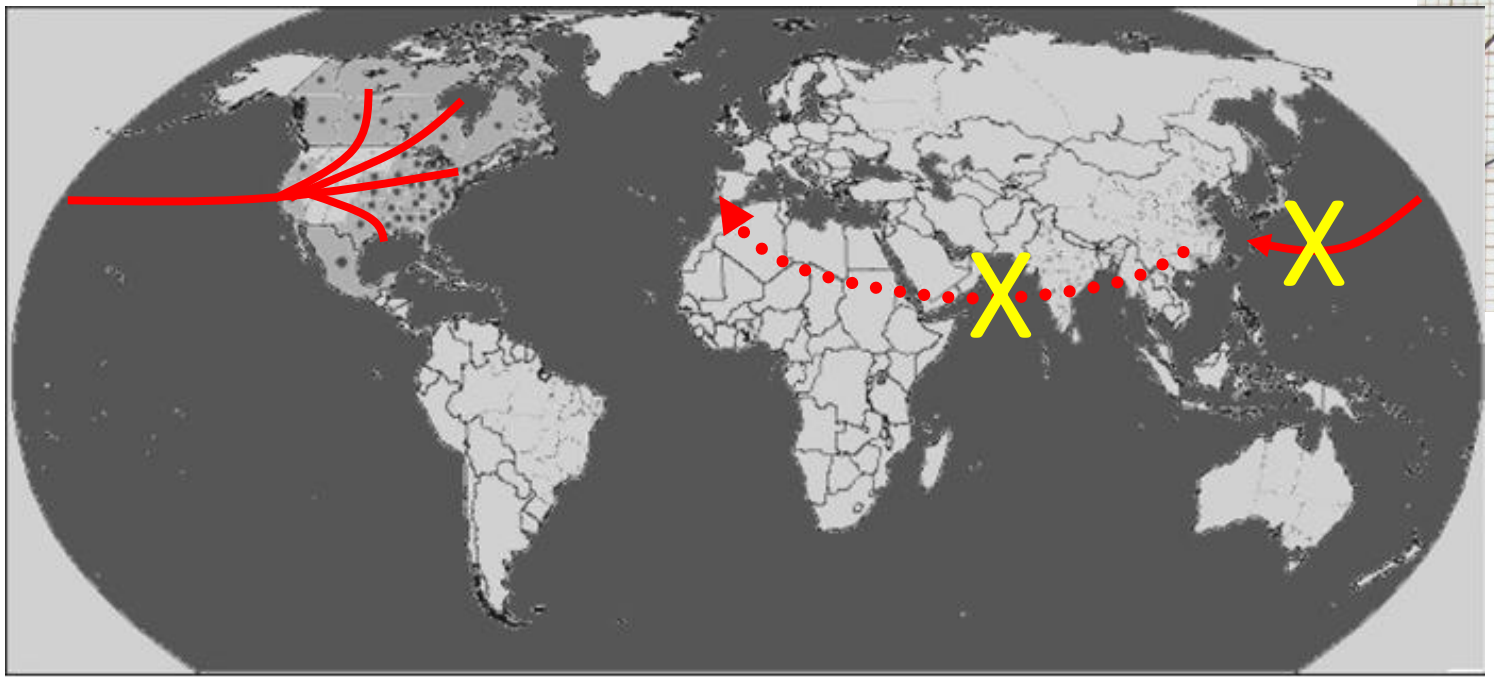
(PWN insect-vector)

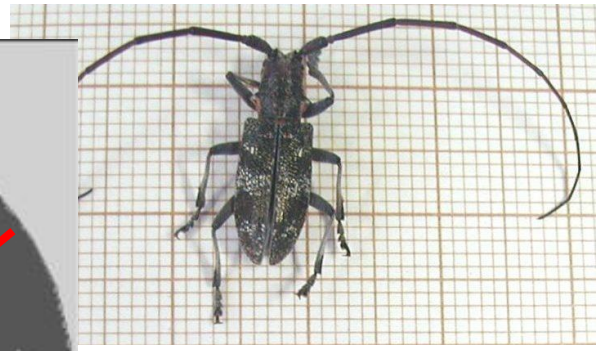
# Pine Wilt Disease



Pinewood Nematode

(quarantine organism)





*Monochamus* spp.

(PWN insect-vector)

North America

~~*North American Monochamus* spp.~~

Asia (Japan ,China, Korea e Taiwan)

~~*Monochamus alternatus*~~

Europe (Portugal)

# Pine Wilt Disease

Roundwood

Firewood

# Pine Wilt Disease


Pallets

# Pine Wilt Disease

Wood chips

Sawdust

Bark with wood shaves

# Biological relevance of quarantine pests detection (PWN)

PWN detection is a danger IF ASSOCIATED to insect-vector *Monochamus* spp.

Wood matrix of interception MUST hold *Monochamus*

VISIBLE SIGNS of *Monochamus* activity (galleries with larvae or frass)

PWN alone is NO THREAT to forests

PWD IS HUGE THREAT TO FORESTS AND MUST BE EARLY DETECTED

# Biological relevance of quarantine pests detection (PWN)

## Biological relevance of research on the Pine Wilt Disease

Arbu: of Forest Science (2023) 80:6
https://doi.org/10.1186/s13595-023-01174-y
INRAE
Annals of Forest Science
RESEARCH PAPER Open Access

Infestation of pine (*Pinus sylvestris* L.) seedlings with the pinewood nematode *Bursaphelenchus xylophilus* Steiner and Buhrer (Nickle) through wood sawdust


**Are you serious !?**

# Biological relevance of quarantine pests detection (PWN)

## Biological relevance of research on the Pine Wilt Disease

More than 4 years ago !

bioRxiv preprint doi: https://doi.org/10.1101/2020.06.09.142588; this version posted June 10, 2020. The copyright holder for this preprint (which was not certified by peer review) is the author/funder. All rights reserved. No reuse allowed without permission.

***Arhopalus rusticus*** **(Coleoptera: Cerambycidae): a new vector for pine wood nematode, *Bursaphelenchus xylophilus* (Nematoda: Aphelenchoididae)**

J. For. Res. (2021) 32:1745–1751
https://doi.org/10.1007/s11676-020-01146-2

Check for updates

ORIGINAL PAPER

**Investigation of beetle species that carry the pine wood nematode, *Bursaphelenchus xylophilus* (Steiner and Buhrer) Nickle, in China**

**Are you serious !?**

# Thank you

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