



Euphresco Success story

November 2015

Monochamus* spp.: insect vectors of *Bursaphelenchus xylophilus

Longhorned beetles of the genus *Monochamus* spp. are vectors of the pinewood nematode *Bursaphelenchus xylophilus* (PWN) that may cause the death of pine trees.

In the EPPO region, PWN has established in continental Portugal, where the main vector is *Monochamus galloprovincialis*. Beetles of *Monochamus* emerging from PWN-infested trees/wood are able to carry PWN and transmit it to non-infested trees during maturation feeding. Theoretically, hitchhiking beetles could present a risk of introducing PWN to new areas/countries but information on hitchhiking *Monochamus* is missing.



Information is missing on the vectors of the genus *Monochamus*, in particular data on flight distances and total dispersal over the lifetime of the adult beetle but also about the best methods for monitoring. In case of introduction of pinewood nematode in a new country, this information is indispensable for risk assessment and emergency measures.

The project will gather and process available information for best prediction of damage risk of *Monochamus* spp.

Five countries and seven institutions participate in this project:

Portugal, Slovenia, Belgium, The Netherlands and Denmark. These countries are different in status with respect to both the presence of *Monochamus* spp. and of pinewood nematode. The project's main results include:

- Best monitoring strategies for *Monochamus* spp.
- Mapping of PWN and occurrence of native *Monochamus* species across Europe
- Phenology studies of *Monochamus* spp., prevalence of nematodes in longhorned beetles and dispersal studies of *M. galloprovincialis*
- Identification of factors that lead to variations in expression of disease due to *Bursaphelenchus* spp. in different regions of Europe
- Forest management practices and their impact on *Monochamus* spp.
- Molecular detection methods for *Monochamus* spp.

Project ID: *Monochamus* spp.: insect vectors of *Bursaphelenchus xylophilus* (MONOCHAMUS)