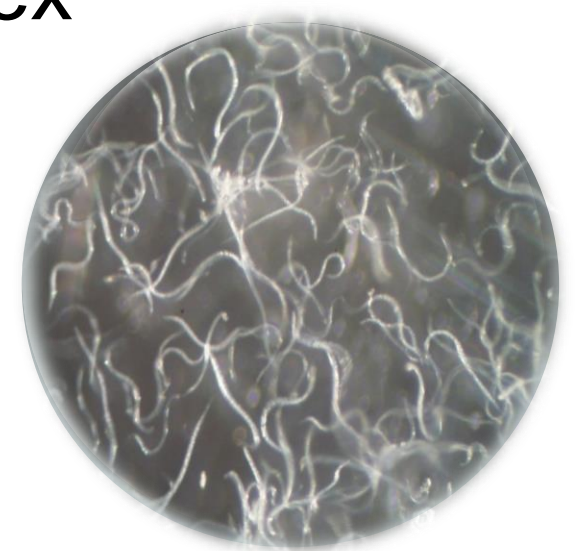


# PineEnemy – Exploring the Nematode-Mycobiota interactions in Pine Wilt Disease

**Pine Wilt Disease (PWD)** is a major threat to conifer forests worldwide and a problem causing great economic losses in Portugal; besides, concern over the possible impact of PWD is Europe-wide. The disease results from a complex interaction between three distinctive biological agents: the pinewood nematode (PWN), *Bursaphelenchus xylophilus*, its insect-vector, *Monochamus galloprovincialis*, and the host tree, *Pinus* spp. Furthermore, the involvement of fungi in the development of the PWN populations and in PWD progress has been pointed out in the last years without further investigations to clarify these complex relations. PWN utilises blue-stain fungi inhabiting the host to improve its own reproduction and overcome tree resistance but these relations are yet to be fully investigated.

## PineEnemy

focus on the clarification of structure and dynamics of the interactions between the PWN and its associated fungal community, aiming to better understand the PWD complex and the development of novel approaches to the control of this devastating disease complex



**Task 1 | Wood sampling and nematode collection**



**Task 2 | Identification of PWD-associated fungal communities through metagenomics analysis**



**Task 3 | Characterization of candidate fungi (Ophiostomatales) for PWN feeding**



**Task 4 | Testing the effect of PWN specific associated fungi on the nematode life-cycle**



**Task 5 | Investigation of the putative transport of blue-stain fungi by the insect-vector *M. galloprovincialis***

Proponent Institute



Partner



Consultants



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