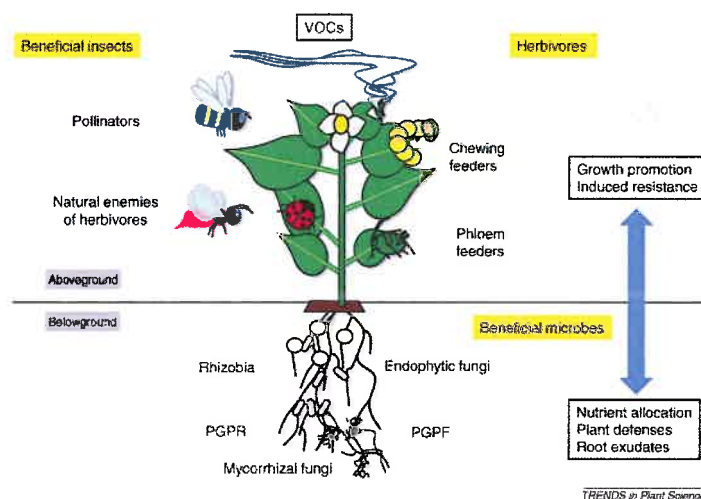


3rd Annual Meeting of the COST Action FA1405

in collaboration with

Institute of Earth Systems
University of Malta

*“Three-way interactions between
plants, microbes and arthropods:
impacts, mechanisms and utilisation”*



after Pineda *et al.* 2010 TiPS

Venues:

24th & 25th January 2018

Marina Hotel at the Corinthia Beach Resort, St Julians

26th January 2018

University of Malta Valletta Campus

Old University Building, St Paul Street, Valletta



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Exploitation of *Coleostephus myconis*-associated endophytic fungi for repel or attract *Xylella fastidiosa* vector

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ABSTRACT: *Xylella fastidiosa* is a bacterium transmitted by insect vectors that cause high losses in a variety of agriculturally important crops. In Europe, an outbreak of the disease was recently detected in olive trees, being *Philaenus spumarius* so far identified as the only vector involved in this outbreak. Thus, vector control by using bait plants and/or insect repellents that emit volatile compounds produced by microorganisms that colonize host plants (endophyte) may help to reduce the dissemination of the disease. In this work the endophytic fungal community of *Coleostephus myconis*, a ground cover plant present in the olive groves and commonly infested by *P. spumarius*, was studied. Fungi were isolated from stems, leaves and inflorescences of plants with three levels of *P. spumarius* infestation, collected in an olive grove located in Mirandela. The fungal isolates obtained were identified by sequencing the ITS region of rDNA the partial *tef1*. A total of 121 species/genera were identified, being *Alternaria*, *Chalastospora* and *Valsa* the most abundant genera. The diversity and abundance of endophytic fungi was higher in the leaf and inflorescences than in the stem. The composition and diversity of endophytic fungal community was different between infested and non-infested plants, especially at the level of their leaves. Endophyte community similarity between the different plant organs was low, especially between stem and inflorescences. Altogether, the results show that *P. spumarius* affects the composition and structure of endophytic fungal community associated to *C. myconis*, especially in their leaves. The effect of this change in the fungal community in attractiveness/repulsion of *P. spumarius* should be studied in the future.

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