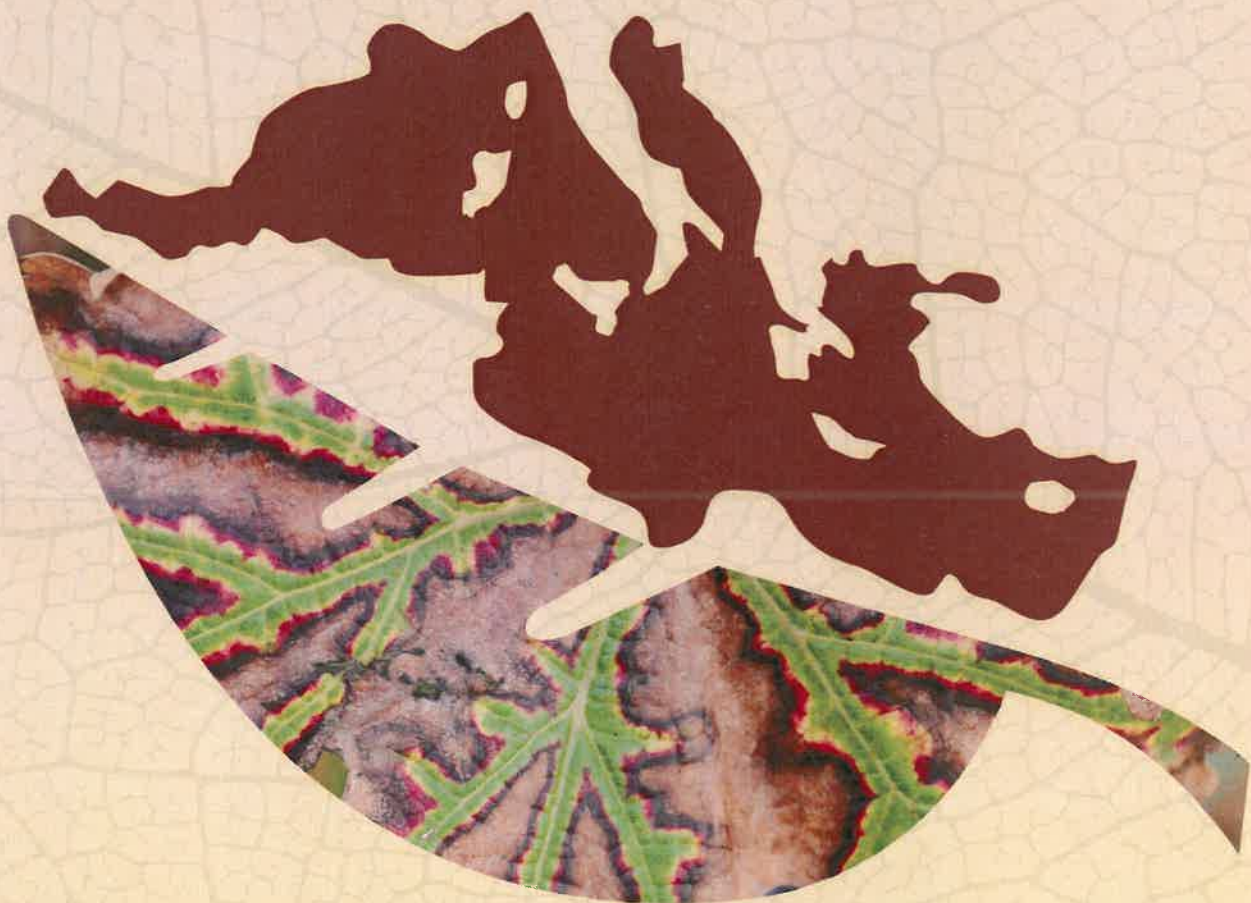




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THE MEDITERRANEAN
PHYTOPATHOLOGICAL UNION

PLANT HEALTH SUSTAINING MEDITERRANEAN ECOSYSTEMS

ABSTRACTS BOOK



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O.48 Dynamics of fungal endophytes over different phenological stages of the olive tree host. F. MARTINS^{1,2}, J.A. PEREIRA¹ and P. BAPTISTA¹. ¹CIMO / School of Agriculture, Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal Email: pbaptista@ipb.pt. ² University of León, Department of Engineering and Agricultural Sciences, Av. Portugal, nº 41, 24071 León, Spain

Endophytic fungi are a diversified group of microorganisms that reside asymptotically in the tissues of most plant species. Despite their known role in protecting host against several diseases, still little is known on the source of established endophytes as well as on how plants select specific microbial communities to establish associations. In the present study, we used cultivation-dependent approaches to assess the endophytic fungal community in above-ground parts (i.e. floral buds, inflorescences and fruits) of olive tree, in order to follow the phenological stages from floral buds (D) to fruits (G). The fungal endophytes were identified by rDNA sequencing. From the D to flower (F) stage, the frequency of colonization and abundance of endophytes increased significantly and progressively up to 2.4-fold; and afterwards decreased up to 5.0-fold until G stage. *Biscogniauxia mediterranea* was the most frequent species isolated from the buds and inflorescences (N = 89), whereas at fruit level the most abundant species was *Neofabraea vagabunda* (N = 38). Endophytic fungal communities also differed in composition over the phenological stages, probably due to variations of weather conditions and chemical nature of the plant organ. Fungi of the genera *Phomopsis*, *Venturia* and *Coniozyma* which appeared in floral buds and inflorescences, disappeared in the fruits giving rise to new genera such as *Aspergillus*, *Coriolopsis* and *Eutypella*. Overall, the results indicate that endophytic fungal community was distinct and specific to the phenological stages under study, raising the question of whether these specific species may induce plant protection against biotic stresses.

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