



Proteção das Plantas 2017

2º Simpósio SCAP de Proteção das Plantas; 8º Congresso da Sociedade Portuguesa de Fitopatologia e 11º Encontro Nacional de Proteção Integrada

Livro de Resumos

SANTARÉM, 26 e 27 de OUTUBRO 2017

S1 P03 | Diversity of fungal endophytic community in *Quercus suber* L. under different climate scenariosDANIELA COSTA¹, MARCELO MIRANDA¹, RUI MANUEL TAVARES¹, PAULA BAPTISTA², TERESA LINO-NETO¹¹BioSystems & Integrative Sciences Institute (BioSI), Plant Functional Biology Centre, University of Minho, Campus de Gualtar, 4710-057 Braga, Portugal. ²CIMO/School of Agriculture, Polytechnic Institute of Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal

Corresponding author: danielacosta@bio.uminho.pt

Cork oak (*Quercus suber* L.) is an evergreen oak tree species, typically found throughout the Mediterranean Basin that presents a great ecological and economic importance in Portugal. The ecological importance is due to the role in the protection of the soil, biodiversity control, water quality and oxygen production. The cork production and processing confers cork oak a great economic relevance in Portugal. An increase of cork oak decline due to biotic and abiotic stresses has been reported, which could damage the ecosystem and lower cork production. Fungal species as *Diplodia corticola* and *Biscogniauxia mediterranea* are cork oak pathogens that cause tree decline and affect cork productivity. The incidence of both diseases seems to increase when trees are under several environmental stresses, such as increased temperatures or drought. In this work, fungal endophytic species of cork oak were collected in different sites of Portugal (Bragança, Gerês, Alcobaca, Grândola e Gavião). The collection sites displayed differences in water availability and cork oak trees in different phytosanitary conditions. The community of fungal endophytes of young twigs and one/two-years old branches were studied by detecting fungal outgrowing from aseptic plant pieces and grouping them into morphotypes. A differentiation between live and death (xylem) branch tissue was considered by culturing the most superficial branch wood or the most inner wood. Collection sites with higher precipitation seem to display a more diverse community. Branches displayed a more diverse fungal community than young twigs, being the endophytic community, present in inner wood, more similar between sites, than young twigs or outer branch tissues. This study allowed the comparison of fungal endophytic communities living in cork oak trees with different water availability levels and disease symptoms. The results provide a good starting point towards the comprehension of the fungal community influence in disease occurrence.

Key words: cork oak, phytopathogens, drought, fungal endophytes