

Nematodes associated with cork oak, *Quercus suber*, in Montado ecosystems

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The largest stands of cork oaks, *Quercus suber*, are present in the semi-natural Montado ecosystems, usually with pastures or agricultural crops as understory. Changes in land management have led to Montado degradation, accompanied by cork oak decline and sudden death. This multi-factor event is being studied by the RESCOE Project that aims to integrate research on the various interacting components in these ecosystems. The aim of this study was to investigate the nematode community associated with healthy and declining cork oaks in the Montado. Trees were sampled seasonally and nematodes were extracted from rhizosphere soil and wood collected from the tree crown. Nematodes were classified into trophic groups and, whenever possible, to genus level through the observation of their morphology using a microscope; ecological indices were calculated. We have compiled inventories of nematodes associated with healthy and declining cork oaks both below- and above- ground. Bacterial-feeders, fungal-feeders, omnivores, predators and over 12 genera of plant parasitic nematodes with different life strategies (endo-, semiendo- and ectoparasites, including potential virus-vectors) were detected. Cork oak seems to be the preferred host of *Rotylenchus*, *Tylenchorhynchus* and *Xiphinema*, whereas many nematode populations seem to associate with the herbaceous layer. The Nematode Channel Ratio was significantly higher in healthy areas. Our results form the basis for further investigation on the role of the nematode community in cork oak decline in Montado ecosystems.

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