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POSTER ABSTRACTS

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EcoFINDERS - linking soil trophic processes and above-below ground diversity: the Mediterranean Long-Term Observatories at Berchidda-Monti (Sardinia)

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Biotic interactions between above- and below-ground communities act as powerful drivers of plant community dynamics and ecosystem properties, and play a fundamental role in regulating the response of terrestrial ecosystems to human-induced global change. A key aim of EcoFINDERS project (**E**cological **F**unction and **B**iodiversity **I**ndicators in **E**uropean **S**oils) – www.ecofinders.eu - is to identify the soil biodiversity components that regulate plant diversity and composition across a range of environmental conditions in Europe. The long-term observatories (LTOs) identified by the project will allow to evaluate the impact of different environmental filters on soil biodiversity and associated functions supporting ecosystem services. In the framework EcoFINDERS, the LTO of Berchidda (North-Eastern Sardinia) is representative of the Mediterranean bioclimatic region. Sampling sites were chosen along a vegetation chronosequence developed on similar topography and edaphic conditions, and their selection was driven by vegetation type, land-use and level of land-use intensity. There is no control over the management of the fields and rely on agreements with farmers to have the access. Three levels of land-use intensity within the chronosequence were selected: i) low (cork oak forest), ii) medium (wooded grassland) and iii) high (haycrop and fallow grassland). In the first two cases sampling was performed below and beyond canopy trees. At each selected sampling site (3 replicates for each treatment) plant community structure (species composition and relative abundance) was analysed inside a 2x2 m² sampling area. On May 2011, within each sampling area about soil samples were collected after 2 mm sieving at a 0-20 cm soil depth. Main soil physical and chemical traits (texture, total organic carbon, total nitrogen, soluble phosphorus, pH, etc.) will be determined. DNA and RNA will be extracted and analyzed to investigate soil fungal systematic and functional diversity. Previous analyses indicated differences in fungal communities mirroring the land-use gradient.

Keywords: soil organic carbon, vegetation analysis, fungi biodiversity, grassland, cork oak woodland.