

C.3 Assessment of Soil Biodiversity from different land use: preliminary research through QBS-ar approach in Sardinia Island

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The lack of quantitative standardized data at a large scale has resulted in poor understanding of how soil biodiversity could be incorporated into legislation for the protection of soil quality. Among several indices developed in the last years, QBS-ar (Soil Biological Quality-arthropod) index joins the biodiversity of soil microarthropods community with the degree of soil vulnerability. In this study, data (n=140 samples) from 10 continuous years of QBS-ar measurements over 10 ecosystems of Sardinian were summarized to analyze the response of the index to climate and soil. Stepwise regression analysis indicated that, the QBS-ar decreased ($P<0.001$) with an increase in Temperature ($R^2=-0.67$) and Bulk density ($R^2=-0.33$); however, the index increased ($P<0.001$) with an increase in CSC, Organic carbon, Water content and Concentrations of nitrogen ($R^2=-0.43$, -0.37, -0.25, -0.25, respectively). Analyzing the index as the number of taxa per sample shows different behaviors of the microfauna for land use (forest, cultivated and grazing area) and temporal phase (corresponding to phenological dynamics: T1 green, T2 dry and T3 regreen). Considering the importance of soil biodiversity to support the provision of ecosystem services, the ability to create knowledge on the diversity of microarthropod within soil biodiversity is a key to future environmental policy, optimization of land use and support for land management decisions, considering the loss and profits on soil biodiversity.

C.4 Ornithological diversity of the ecological network and the sheep tracks connecting Cervaro and Candelaro rivers (FG)

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Aim of this work is to present first data on ornithological biodiversity of natural and agricultural areas of local ecological network and sheep-tracks located between the Cervaro and Candelaro rivers (province of Foggia, Italy). The study area is characterized by a large agricultural context, made up of non-irrigated arable land (cereal crops), irrigated arable land (vegetables) and, to a lesser extent, vineyards and olive groves. In this context, characterized by small fragments of natural and semi-natural ecosystems (riparian woods, tree-lined strips and old reforestation of *Eucalyptus* sp.), there are also important natural biotopes such as the forests and grasslands of the Bosco Incoronata Regional Natural Park (also Natura 2000 Site) and the wetlands and coastal lagoons of the Oasi Laguna del Re, both sites are also in Natura 2000 network.

From April to July 2023, 20 minutes sessions of bird watching and listening of 16 sampling points were carried out in order to detect the species and their numerical consistency. These data, associated with land use and presence of natural ecosystems and agroecosystems, was therefore used to calculate and compare ornithological biodiversity in the study area. The first results show evident differences in biodiversity according to the contexts under study.