



How habitat structures the communities of a major group of soil protists (Cercozoa, Rhizaria) at a small-scale in a temperate grassland

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How are soil protists communities structured? Which are the main factors - biotic and abiotic - shaping their distribution? We contributed to these questions by an intensive survey of a 10x10 m unfertilized grassland soil in Germany, unveiling the small-scale temporal and spatial distribution of the Cercozoa, a very common group of amoebae and flagellate protists. We compiled a functional traits database, since Cercozoa contain both amoebal and flagellate forms, various nutrition modes as parasites or free-living bacterivores and omnivores, and locomotion modes like freely swimming or gliding on substrates. This will allowing to infer how each of this functional groups is differentially influenced by biotic and abiotic factors and how they influence ecosystems processes and services. From 177 soil samples, collected at six dates from April to November 2011, we obtained 694 cercozoan Operational Taxonomy Units (OTUs) at 97% similarity threshold, representing > 6 millions sequences. All major cercozoan groups were present in this small grassland plot. Saturation was reached - more sequencing would not have revealed more diversity, allowing full comparison between soil samples. Cercozoan communities were both spatially and seasonally structured. Mantel correlograms revealed that communities shared composition similarity up to a distance of ca. 4 m, giving interesting hints to understand how far usually protists disperse. More statistical analyses are in progress and results will be presented and discussed.