Geophysical Research Abstracts
Vol. 21, EGU2019-4324, 2019
EGU General Assembly 2019

Soil biodiversity and soil aggregation

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Soil structure is a key property of soils, influencing a range of soil processes and soil biota. A range of different soil biota in turn contribute to soil aggregation, as compiled in a recent meta-analysis. Interestingly, organismal interaction were important in understanding soil aggregation effects. Our survey of the literature showed that, at the level of individual organisms, we know very little about the traits that are important for soil aggregation or its component processes. We have worked with a set of about 30 soil saprobic fungi, all isolated from the same soil, pursuing a trait-based approach to learning about the role of fungi in soil aggregation. This way, we could identify important traits for soil aggregation. Such approaches could also be employed for other groups of soil biota, thus leading to a better understanding of the role of biodiversity for this ecosystem process.