

# **Living and labouring soils: Metagenomic ecology and a new agricultural revolution?**

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## ***ABSTRACT ORIGINAL***

Soils teem with life, yet only in the last two decades have genomic approaches begun to reveal the secret liveliness of soil. No longer understood as 'abiotic', soil has become a dense genetic web entangling various forms of life, the majority of which remain unidentified. This paper focuses on the growing hopes to identify, categorise, and harness soil liveliness as it emerges from ongoing scientific research at the juncture of soil ecology, molecular biology, and agricultural development. Drawing upon fieldwork interviews and observations with social ecologists in France, we demonstrate how the advancement of soil metagenomics fosters new conceptions of soil as both 'living' and 'labouring'. With these refigurations of soil, soil ecologists anticipate a new agro-ecological revolution in which agrochemicals will be replaced (or at least reduced) through farmers' future employment of biota for soil services. We argue that new understandings of soil as lively and labouring are not only transforming in the sense of fostering a hoped-for agro-ecological transition, but that insights into how underground realms are becoming understood offer new ways into thinking through more-than-human biopolitics and (agricultural) bioeconomies. © 2018, Springer Nature Limited.