

# Species functioning in contaminated soils; the relevance of environmental heterogeneity

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## Abstract

Vertical distribution of soil organisms is affected by abiotic and biotic factors. Soil contamination may interfere with the natural patterns of distribution by deterioration of microsites in the soil profile otherwise favorable for specifically related species. In this presentation we show the results of both laboratory and field studies performed to test the hypothesis that exposure to contaminants can affect vertical stratification of soil fauna and consequently influence soil functioning. Functioning was assessed by measuring the effect of the fauna on decomposition processes. In the field, soil profiles were inserted containing a 5 cm layer of polluted soil positioned at different depths: 0-5, 5-10, 10-15, 20-25 and 30-35 cm. Columns were accessible to all fauna and vegetation. In the laboratory experiment a microcosms study was used to assess the effect of varying contaminations profiles on the functioning of individual species. Detritivore species tested differed in their life history traits. The results of the species functioning and their relation to soil contamination will be presented, with discussion on ecological relevance.

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