



The role of topographic structure and soil macrofauna presence at spoil heaps during spontaneous succession.

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This research was investigating whether topographic features, which determine soil nutrient and moisture distribution, in combination with soil fauna (wireworm and earthworm) presence, affect plant community composition at a spontaneously revegetated post mining area with an undulating surface. Two sites of different age with 3 types of topographic features were selected, soil moisture and nutrient content were measured, plant community composition and soil macrofauna community was sampled at each position. Wireworms were present at all positions and were most abundant at bottoms of waves at the younger site; their presence was correlated with several plant species, but the direction of the interaction isn't clear. Earthworms were only present at the older site and had highest abundance at flat sections. Earthworm presence affected the amount of nitrogen in soil – the most nitrogen content was at the site with highest earthworm density and was followed by higher diversity of plant community. The plant community composition was generally correlated with plant available nutrient content – especially P and N. We infer that topographic features affect nutrient and soil fauna distribution, which consequently influences plant community composition.