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The effect of soil macrofauna on water regime of post mining soils

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The effect of soil macrofauna on soil hydraulic properties was studied in field and laboratory conditions. Field microcosms consisting from litter (autochthonous litter) and mineral (tertiary clay from pioneer site) layer were exposed on reclaimed post mining sites, near Sokolov (Czech Republic) for one and three years. Microcosmos were either accessible for soil macrofauna or not. Access of soil macrofauna, namely earthworms in to enclosures resulted in higher carbon and content in mineral layer, double the value of water holding capacity and increased water field capacity for 30%.

The effect of leaf litter transformation by *Bibio* larvae was studied in laboratory conditions. Transformation of oak litter in *Bibio* excrement doubled of both, water holding capacity and water field capacity.

Results indicate that beside plant roots soil fauna may contribute to improvements of hydraulic properties in post mining soils.