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Soil mesofauna in disturbed spruce forest stands near Čertovo and Plešné Lakes, the Bohemian Forest: preliminary results

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The soil microarthropod communities were studied in disturbed spruce forest stands in the catchments areas of Čertovo (CT) and Plešné (PL) Lakes in the Bohemian Forest, Czech Republic. The study is focused on the impact of the windthrow, bark beetle outbreak damage and consecutive changes in the forest stands including soil environment. Within the soil microarthropods, two main groups, Collembola (Hexapoda) and Oribatida (Acari) are analysed. Four different treatments were selected for the study on both study areas: CT1 and PL1 stands - undamaged control forest stands, CT2 and PL2 stands - "dead" forest stands damaged by bark beetle, CT3 and PL3 stands - slightly managed windthrown forest stands left for the natural succession, and CT4 and PL4 stands - harvested windthrown stands. Soil samples were taken in June (CT1/PL1 - CT3/PL3), July and October (CT1/PL1 - CT4/PL4) 2012 from each treatment. Microarthropods were subsequently extracted in a modified high-gradient apparatus in the laboratory for seven days. Finally, the comparison of the microarthropod assemblages found at different treatment stands was performed. The most abundant groups in both study areas (Čertovo and Plešné Lakes) were Collembola and Oribatida with considerable diferences within particular treatments and in time as well.