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A HUGE, UNDESCRIBED SOIL CILIATE (PROTOZOA: CILIOPHORA) DIVERSITY IN AUSTRIAN NATURAL FOREST STANDS

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We investigated 12 Austrian natural forest stands (eight beech forests, two lowland forests, two *Pinus nigra* forests) for soil ciliate diversity. Samples were taken at each stand in autumn and late spring and analyzed with the non-flooded Petri dish method. A total of 233 species were found, of which 33 were undescribed, a surprising number showing that soil ciliate diversity is largely unknown, even in Central Europe. Species numbers varied from 45 (beech forest on silicate) to 120 (lowland forest), and unexpected high diversities occurred in the pine forests, viz., 86 and 98 species. Individual numbers varied highly from 135 ml^{-1} (lowland forest) to 10925 ml^{-1} (beech forest on silicate) soil eluate. Species composition was different in the three main forest types, though many species occurred at all sites. Multivariate analysis showed a rather strong correlation between species number, pH, C/N ratio, nitrogen, and urease activity, while correlations between species numbers and individual biotic and abiotic parameters were insignificant, except of pH. This suggests that soil ciliate diversity is regulated by a complex assemblage of parameters.

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