



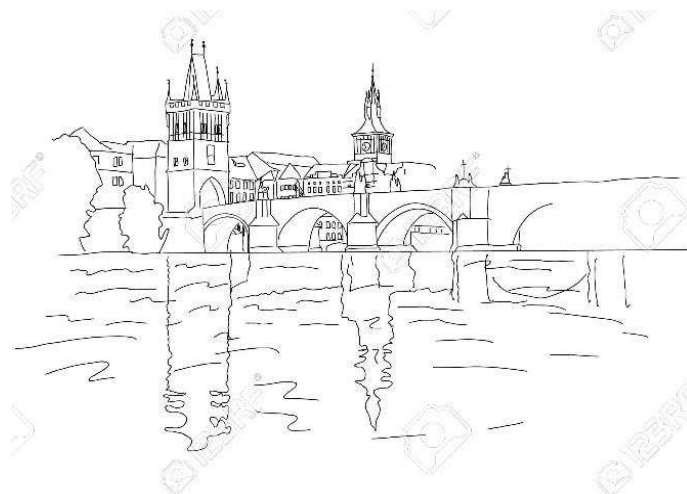
5th meeting of COST Action FP1305 Biolink

Belowground biodiversity and global change

BOOK OF ABSTRACTS

**COST Action FP1305 BioLink: Linking belowground biodiversity and
ecosystem function in European forests**

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EFFECTS OF TREE SPECIES BIODIVERSITY ON SOIL C AND N POOLS: A REGIONAL CASE STUDY IN NORTHERN ITALY.

Mirco Rodeghiero¹, Lorenzo Frizzera¹, Damiano Gianelle¹

¹*Sustainable Agro-ecosystems and Bioresources Department, IASMA Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige, (TN), Italy.*

mirco.rodeghiero@fmach.it

Site conditions are known to affect local resource availability, therefore being an important driver of plant species diversity. In this context, soil fertility is thought to influence the relationship between plant species diversity and climate in forests ecosystems. The data collected with the Regional Forest Carbon Inventory of the Trento Province (InFoCarb), on 150 plots of 600 m² size, were used to investigate possible impacts of tree biodiversity on local soil conditions. Biodiversity was quantified both as Species Richness and with Biodiversity Indexes (Simpson's Index and Shannon-Wiener index) moreover, canopy species evenness was expressed by the Simpson's dominance index by using the proportions of basal area for each constituent species. Forest floor and mineral soil were collected on three mini-pits inside each sampling plot. Relationships between the soil C and N pools and tree biodiversity were investigated with linear regressions whereas Boosted Regression Trees models were used to highlight the main determinants of canopy species diversity.

Keywords: Soil carbon, soil nitrogen, Forest Carbon Inventory, Tree Biodiversity.

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