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THE CURRENT STATUS OF FUNGAL BIODIVERSITY IN ITALY

High spots for diversity of soil and litter microfungi in Italy

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Abstract

Soil fungal diversity plays a fundamental role in delivering key ecosystem goods and services. This article assesses diversity of saprobic soil and litter microfungi, as taxonomical and functional components which affect above- and below-ground relationships within Alpine and Mediterranean regions of Italy. We highlighted biodiversity high spots focusing on four research topics that have been developed over time and are currently in progress in Italy. Preliminary quantitative data concerning soil microfungi in the Raethian Alps showed a strong reduction of Colony Forming Unit (CFU)s with altitude. Keratinophilic microfungi in natural and anthropogenic environments were widespread among filamentous fungi and 121 species have been isolated in Italy since 1960. Heat stimulated microfungi in Mediterranean region soils showed high values both in abundance and species density even two years after the experimental fire, with *Neosartorya* spp. playing a pivotal role. The diversity of microfungi of *Quercus ilex* (150 species), in the Mediterranean region, higher than that in leaf litter of other species, was explained mainly by different forms of growth and the phytoclimatic characters of the areas under study.

Keywords: *Alpine, biodiversity, litter, Mediterranean, saprobic microfungi, soil*