VRG22-007 - Biotrophic fungal diversity & functional responses to climate change

Zusammenfassung

Fungi are an incredibly diverse kingdom of life with 13× more fungal compared to plant species. If you compare pine and oak forests, it is obvious how different the plants appear, but because almost all fungi are microscopic, we have long over-looked them in global forest systems. There is increasing interest in linking variation in fungal communities to the forest functions upon which humanity relies. Forests provide invaluable habitat for biodiversity and natural resources and constitute one of the world's largest carbon sinks. Some fungi are decomposers while others are beneficial partners of plants or harmful pathogens. As such, which fungi are found where should have effects that ripple to influence a whole range of forest functions. In this project, we will comprehensively evaluate what environmental factors influence where different fungi live, and how this will change in the future. A major outcome of this work will identify which individual and clusters of co-occurring fungal species cause variation in fundamental forests functions like tree growth and death today and into the future. The work is highly innovative because it combines all major approaches of scientific inquiry from observation and experimentation to large-scale, mathematical modeling. This will not just provide novel insights that build strong and reliable biodiversity theory, but it will also enable us to better prepare for the uncertain future of our global forests.

Wissenschaftliche Disziplinen:
Ecosystem research (50%) | Plant ecology (25%) | Mycology (25%)

Schlagworte:
microbial ecology, fungal ecology, biogeochemistry, forestry, global change biology

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Status: Laufend (15.01.2024 – 14.01.2032)
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Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://www.wwtf.at/funding/programmes/vrg/VRG22-007/