

MSc Project Opportunity

Do trees possess a drought memory and does it affect tree-feeding insects?

Background: There is increasing evidence that trees that have experienced extreme drought effects in the past show differences in their leaf chemical profile compared to trees that have not been exposed to drought. Such “drought memory” effects are likely modulating the interaction between trees and insect herbivores whose community composition and performance is driven by leaf chemistry. Yet, our understanding of how drought memory effects on tree chemistry modulates ecological relationships between trees and insects is just unfolding.



The Project: The Msc student will have the opportunity to make use of a large drought stress experiment near Munich. You will collect insects and compare the insect communities in European beech trees that have previously been experimentally drought stressed with trees that have not been exposed to drought. Optionally you may also conduct experiments with caterpillars and aphids to test if insects perform differently on previously drought-stressed trees vs. non-stressed trees. The study will be conducted in late spring 2027. You should have a strong interest in plant-insect interactions and insect taxonomy (sorting of sampled insects will be required). Also, you should not be afraid of heights as you may be working in a canopy crane. Basic skills in statistics with R are advantageous.

Project start: Early 2027

Project duration: 6 month-1 year

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