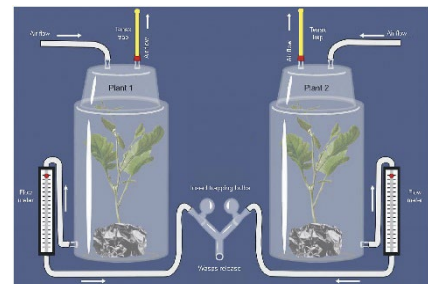


Impact of environmental stress for ash tree volatile chemistry and tree location preference of an invasive beetle

Background: A serious future threat for European forests, and for European ash in particular, is the emerald ash borer (EAB), a wood-boring beetle which so far killed millions of ash trees in the USA and more recently also started to cause substantial damage in Russia, which might have been facilitated by several extreme hot and dry summers. EAB females lay their eggs on ash bark surfaces. Few days after oviposition EAB-larvae hatch, chew through the outer bark and feed for several weeks on the vascular tissue ultimately causing the attacked tree to die. There is evidence that EAB females rely on foliar-volatile organic compounds (VOCs) and leaf-palatability to identify suitable host-trees for oviposition.



Goal: We offer an MSc project in the forest entomology group at WSL (part of the ETH domain) in Birmensdorf. Your project focuses on understanding how drought stress and the infection with a fungal pathogen affect VOCs composition and beetle tree location preference. You will subject ash trees to different environmental stressors, conduct behavioral experiments with beetles and collect ash tree VOCs. The study will be conducted in early summer 2022 in a biosafety laboratory at. However, you should ideally begin with preparatory work in April/May 2022.



Requirements: The results of the MSc-project are expected to be published in a peer-reviewed scientific journal. You should have a strong interest in plant-insect interactions, chemical ecology and behavioral biology and some basic skills in statistics with R. For application or additional information, please contact Dr. Michael Eisenring (michael.eisenring@wsl.ch) or Prof Dr. Martin Gossner (martin.gossner@wsl.ch)

