



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Exploring the effect of host genetics on ant/aphid interactions

We look for a candidate interested in ecology and/or genetics to perform an exam work exploring the effects of host genetics on the performance and behavior of aphid tending ants and their associated aphids. Recently developed framework suggests that host genetics may play a prominent role in structuring associated insect communities and thus have a significant influence on biodiversity. If proven generally applicable such patterns may influence how forest resources are managed in the future.

The aim of this project is to utilize spruce plantations in which the genetic background are known to explore how the relationship between trees may affect utilization and activity of honeydew harvesting ants within the tree canopy. Honeydew harvesting ants are considered key-stone species affecting nutrient flow, species composition and tree vigor. The interaction between these `honeydew-ants` and their associated aphid may have strong flow-on effects on the rest of the insect community associated with the tree. Exploring the strength of these interactions in a genetic context may thus function as indicators of host genetic effects on whole communities. These studies comprise a stepping stone for coming research on community genetics within this system.

The project will include both field work during the summer of 2012 and work in the lab. The candidate will gain experiences in quantitative genetics, and behavioral and community ecology. Once all practical work is completed you will compile a written report of your work and present it at a seminar.

The project is expected to generate at least one scientific publication and will work as a base for further research into community genetics of spruce.

Please contact Petter Axelsson for further information
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