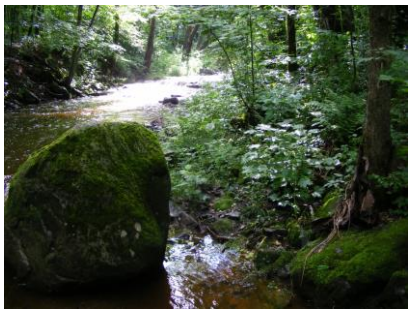
Ph.D. project in plant ecology

Comparison of approaches for assessing ecological restoration in afforested riparian zones





Project summary: Tree planting is a technique commonly used worldwide to restore riparian zones in agricultural landscapes. The ecological processes favoring the successful restoration of riparian plant communities remain however poorly understood. This project will be based on one summer campaign of botanical surveys in riparian zones that will be compared to surveys carried out in the same sites in 2011. This comparison will allow to determine the mechanisms of plant succession governing the restoration of forest communities using taxonomic and trait-based approaches. A meta-analysis based on a database already available and including several hundreds of articles is also planned to identify relevant research perspectives for optimizing the restoration and sustainable management of riparian plant communities.

Supervisor: Pr Bérenger Bourgeois, Department of Plant Sciences, Université Laval, Quebec, Canada (Google Scholar)
Co-supervisor: Pr Monique Poulin, Department of Plant Sciences, Université Laval, Quebec, Canada (ResearchGate)
Main collaborator: Dr Eduardo González, Department of Biology, Colorado State University, CO, USA (Google Scholar, ResearchGate)

Beginning of the project: September 2022

Desired skills:

- Master's degree in ecology, biology or any other related discipline considered relevant
- Interest in botany, plant community ecology and restoration ecology
- Aptitude or strong interest in biostatistics, data analysis and scientific writing
- Fieldwork experience
- A first experience in scientific research is an asset

Grant: 21 000 Can$/year for 3 years. Students are encouraged to apply for scholarships.

References:

González E., Felipe-Lucia M.R., Bourgeois B., Boz B., Nilsson C., Palmer G., Sher A.A. 2017. Integrative conservation of riparian zones. *Biological Conservation* 211B, 20-29.

Bourgeois B., Vanasse A., González E., Andersen R. and Poulin M. 2016. Threshold dynamics in plant succession after tree planting in agricultural riparian zones. *Journal of Applied Ecology* 53, 1704-1713.

Bourgeois B., González E., Vanasse A., Aubin I. and Poulin M. 2016. Spatial processes structuring riparian plant communities in agroecosystems: implications for restoration. *Ecological Applications* 26, 2103-2115.

Bourgeois B., Vanasse A., Rivest D., Poulin M. 2016. Establishment success of trees planted in riparian buffer zones along an agricultural intensification gradient. *Agriculture, Ecosystems & Environment* 222, 60-66.

To apply, send a cover letter explaining your interests, a CV and a copy of your university transcripts along with the contact details of three references before June 30, 2022 to Bérenger Bourgeois at berenger.bourgeois.1@ulaval.ca