

Marie-Hélène Brice

Phd candidate in forest ecology
Master in urban ecology

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French: mother tong
English: fluency
Spanish: beginner

Scientific skills

Plant ecology
Community ecology
Urban ecology
Landscape ecology
Plant identification
Functional ecology
Multivariate statistics
Spatial statistics

Technical skills

■■■■■ R
■■■■■ Markdown
■■■■■ HTML/CSS
■■■■■ ArcGIS
■■■■■ Inkscape
■■■■■ Microsoft Office

🎓 Education

- 2016– **Phd Thesis.** Université de Montréal, University of Toronto.
Spatio-temporal response of trees in the boreal-temperate ecotone in the face of climate change.
Advisors: Pierre Legendre & Marie-Josée Fortin
Cumulative mean 4.3/4.3
Understand and quantify the combined effect of recent climate change and disturbances on forest community dynamics in Québec's boreal-temperate ecotone over the past 50 years.
- 2013–2015 **Master Thesis.** Université de Montréal, Institut de recherche en biologie végétale & Université Laval
Impacts de l'urbanisation sur la diversité spécifique et fonctionnelle dans les forêts riveraines.
Advisors: Stéphanie Pellerin & Monique Poulin
Mention of excellence. Cumulative mean 4.3/4.3
Understand and quantify the effects of urbanization on the functional composition and biotic homogenization in riparian forests of the Montreal Metropolitan Community.
- 2010–2013 **Honors' bachelor degree in Biology. Ecology, biodiversity & evolution.** Université de Montréal
Honor project: Distribution et diversité des espèces lianescentes dans les écosystèmes urbains.
Advisors: Stéphanie Pellerin
Mention of excellence. Cumulative mean 4.27/4.3

📈 Working experience

- 2020 **Research internship**, Direction de la recherche forestière, Ministère des forêts, de la faune et des parcs (MFFP)
Collaboration and discussion on various research projects about the recent and future effects of climate change on Quebec forests. Duration: 2 weeks
- 2017– **R workshop coordinator**, Quebec Center for Biodiversity Science (QCBS)
Organize annual R symposium and R workshops for students from different universities in Quebec, revamp online materials. Duration: 3 years part time.
- 2018 **Consultant in biostatistic and ecology**, Nature Action Québec
Analyze population trends of a rare plant (Panax quinquefolius) in Montérégie. Duration: 5 months part time.
- 2017–2018 **Research assistant in biostatistic and ecology**, Institut de recherche en biologie végétale
Perform various biodiversity analysis. Duration: 6 months part time
- 2014 **Consultant in plant ecology**, Institut national de la recherche scientifique (INRS)
Work on plant functional groups for a study on environmental equity. Duration: 1 months part time

- 2013–2014 **Administrative associate**, Société Québécoise de Phytotechnologie
Duration: 1 year part time
- 2013 **Botanist**, Arold Lavoie - Biologist, botanical consultant.
Rare plant surveys. Duration: 5 days
- 2011–2013 **Research assistant**, Institut de recherche en biologie végétale
Lab and field work in plant ecology. Duration: 1 year (3 x 4 months)

Teaching

- 2015–2017, 2020 **Multivariate analysis and Advance multivariate analysis**. R workshop presenter
Université de Montréal, Université du Québec à Montréal & Université du Québec à Rimouski. Quebec Center for Biodiversity Science (QCBS) (6h/year)
- 2016–2019 **Forest ecology course**. Teaching assistant
Université de Montréal (BIO2703)
- 2013–2014, 2019 **Plant ecology course**. Teaching assistant
Université de Montréal (BIO3753)
- 2019 **Introduction to the Rmarkdown universe**. Instructor
R Symposium, Quebec Center for Biodiversity Science (QCBS) (0.5 day)
- 2019 **Introduction to R**. Instructor
Geotop, Université du Québec à Montréal (2 days)
- 2018 **Advanced R course on geospatial analysis and map editing**. Instructor
R Symposium, Quebec Center for Biodiversity Science (QCBS) (0.5 day)
- 2015–2017 **Biostatistic 2**. Teaching assistant
Université de Montréal (BIO2042)
- 2014 **Biostatistic 1**. Teaching assistant
Université de Montréal (BIO2041)

Papers published in peer-reviewed journal

1. **Brice M.**, Vissault S., Vieira W., Gravel D., Legendre P., Fortin M., 2020. Moderate disturbances accelerate forest transition dynamics under climate change in the temperate-boreal ecotone of eastern North America. *Global Change Biology* **00**(00):1-8.
<https://onlinelibrary.wiley.com/doi/abs/10.1111/gcb.15143>
2. Pinceloup N., Poulin M., **Brice M.**, Pellerin S., 2020. Vegetation changes in temperate ombrotrophic peatlands over a 35 year period. *PLOS ONE* **15**(2):e0229146.
<https://dx.plos.org/10.1371/journal.pone.0229146>
3. Cazelles K., Bartley T., Guzzo M., **Brice M.**, MacDougall A., Bennett J., Esch E., Kadoya T., Kelly J., Matsuzaki S., Nilsson K., McCann K., 2019. Homogenization of freshwater lakes: Recent compositional shifts in fish communities are explained by gamefish movement and not climate change. *Global Change Biology* **25**(12):4222-4233.
<https://doi.org/10.1111%2Fgcb.14829>
4. **Brice M.**, Cazelles K., Legendre P., Fortin M., 2019. Disturbances amplify tree community responses to climate change in the temperate-boreal ecotone. *Global Ecology and Biogeography* **28**(11):1668-1681.
<https://doi.org/10.1111%2Fgeb.12971>
5. Deschênes É., **Brice M.**, Brisson J., 2019. Long-Term Impact of a Major Ice Storm on Tree Mortality in an Old-Growth Forest. *Forest Ecology and Management* **448**(2019):386-394.
<https://doi.org/10.1016/j.foreco.2019.06.018>
6. Delmas E., Besson M., **Brice M.**, Burkle L., Dalla Riva G., Fortin M., Gravel D., Guimarães P., Hembry D., Newman E., Olesen J., Pires M., Yeakel J., Poisot T., 2018. Analysing ecological networks of species interactions: Analyzing ecological networks. *Biological Reviews* **94**(1):16-36.
<http://doi.wiley.com/10.1111/brv.12433>

7. **Brice M.**, Pellerin S., Poulin M., 2017. Does urbanization lead to taxonomic and functional homogenization in riparian forests? *Diversity and Distributions* **23**(7):828-840.
<http://doi.wiley.com/10.1111/ddi.12565>
8. **Brice M.**, Pellerin S., Poulin M., 2016. Environmental filtering and spatial processes in urban riparian forests. *Journal of Vegetation Science* **27**(5):1023-1035.
<http://doi.wiley.com/10.1111/jvs.12425>
9. **Brice M.**, Bergeron A., Pellerin S., 2014. Liana distribution in response to urbanization in temperate forests. *Écoscience* **21**(2):104-113.
<https://www.tandfonline.com/doi/full/10.2980/21-2-3692>

Thesis & Reports

1. **Brice M.**, 2020. Dynamique spatio-temporelle des forêts dans l'écotone boréal-tempéré en réponse aux changements globaux. Thèse de doctorat (dépot initial). Université de Montréal.
2. **Brice M.**, 2018. Tendances temporelles dans les populations de Ginseng à cinq folioles (*Panax quinquefolius*) de la Montérégie. Report for Nature Action Québec.
3. **Brice M.**, 2015. Impacts de l'urbanisation sur la diversité spécifique et fonctionnelle dans les forêts riveraines. Mémoire de maîtrise. Université de Montréal.
<https://papyrus.bib.umontreal.ca/xmlui/handle/1866/13639>
4. **Brice M.**, 2015. Comparaison de la biodiversité des plantes vasculaires des tourbières entre des régions laurentienne et boréale du Québec et le long d'un gradient bordure-centre. Mémoire de premier cycle. Université de Montréal.

Talks & posters

1. **Brice M.**, Legendre P., Fortin M., 2020. Contraintes et moteurs des changements dans les forêts du Québec. Rencontre à la Direction de la recherche forestière - MFFP. Québec, Qc.
2. **Brice M.**, Legendre P., Fortin M., 2019. Moderate disturbances catalyse forest transitions in the temperate-boreal ecotone. Quebec Center of Biodiversity Science (QCBS) annual symposium. Montréal, Qc.
3. **Brice M.**, Legendre P., Fortin M., 2019. Les perturbations modérées catalysent les transitions forestières dans l'écotone boréal-tempéré. Journée Modèle Québec - Ministère Forêts, Faune et Parcs. Québec, Qc.
4. **Brice M.**, Legendre P., Fortin M., 2018. Dynamique de transition des communautés forestières dans l'écotone boréal-tempéré. Journée Modèle Québec - Ministère Forêts, Faune et Parcs. Québec, Qc.
5. Deschênes E., **Brice M.**, Brisson J., 2018. Facteurs de mortalité dans une forêt ancienne - Pourquoi certains arbres meurent-ils plus que d'autres?. Journée Modèle Québec - Ministère Forêts, Faune et Parcs. Québec, Qc.
6. **Brice M.**, Cazelles K., Legendre P., Fortin M., 2018. Long-term forest community changes in the boreal-temperate ecotone. Ecological Society of America annual meeting. New-Orleans, LA.
7. **Brice M.**, Legendre P., Fortin M., 2018. Changements dans les communautés forestières du Québec méridional au cours des 4 dernières décennies. Invited speaker at Flora Quebeca annual meeting. Saint-Augustin-de-Desmaures, Qc.
8. **Brice M.**, Legendre P., Fortin M., 2018. Dynamique de transition des communautés forestières dans l'écotone boréal-tempéré. Department of Biological Sciences Symposium - Université de Montréal. Montréal, Qc.
9. **Brice M.**, Legendre P., Fortin M., 2017. Tendances démographiques dans la forêt tempérée nordique. Congrès international francophone en écologie végétale (ECOVEG13). Forêt Montmorency, Qc.
10. **Brice M.**, Pellerin S., Poulin M., 2016. Is urbanization driving riparian forests toward taxonomic and functional homogenization?. Quebec Center of Biodiversity Science (QCBS) annual symposium. Montréal, Qc.

11. **Brice M.**, Pellerin S., Poulin M., 2015. Disentangling environmental filtering and spatial processes structuring plant functional communities in urban riparian forests. Ecological Society of America annual meeting. Baltimore, MD.
12. **Brice M.**, Pellerin S., Poulin M., 2015. Impact de l'urbanisation sur la distribution de la diversité spécifique et fonctionnelle dans les forêts riveraines. Master exit seminar. Institut de Recherche en Biologie Végétale, Montréal, Qc.
13. **Brice M.**, Pellerin S., Poulin M., 2014. The role of land use, flood variability and spatial processes in structuring functional plant communities in urban riparian forests. Quebec Center of Biodiversity Science (QCBS) annual symposium. Montréal, Qc.
14. **Brice M.**, Bergeron A., Pellerin S., 2014. Climbing towards the light: Liana distribution and diversity in urban ecosystems. Partnerships for the Living City: Promoting Urban Biodiversity - A Partnership with the Secretariat of the Convention on Biological Diversity. Montréal, Qc.
15. **Brice M.**, Bergeron A., Pellerin S., 2013. Impact de l'urbanisation sur la distribution des espèces lianescentes. Department of Biological Sciences Symposium - Université de Montréal. Montréal, Qc.

Grants & scholarships

2018-2019	BIOS2 Fellow
2019	Excellence awards - Faculté des études supérieures et postdoctorales, Université de Montréal
2019	Bourse de fin d'études doctorales - Faculté des études supérieures et postdoctorales, Université de Montréal
2019	Bourse de la réussite étudiante - Faculté des études supérieures et postdoctorales, Université de Montréal
2018	Excellence awards - Faculté des études supérieures et postdoctorales, Université de Montréal
2017	Excellence awards - Faculté des études supérieures et postdoctorales, Université de Montréal
2016	Excellence awards - Quebec Centre for Biodiversity Science (QCBS)
2016	Excellence awards - Faculté des études supérieures et postdoctorales, Université de Montréal
2015–2018	Postgraduate Scholarships for doctoral research - NSERC
2014–2015	Master's research scholarships - Fonds de Recherche du Québec Nature et Technologies (FRQNT)
2013–2014	Alexander Graham Bell Canada Graduate Scholarships for master's research - NSERC
2013	Dean excellence awards
2013	Undergraduate Student Research Awards - NSERC
2012	Undergraduate Student Research Awards - NSERC
2011	Undergraduate Student Research Awards - NSERC
2010	Entrance scholarship - Université de Montréal

Honors & Awards

2018	Best Presentation Award - Symposium de biologie, Université de Montréal
2017	Governor General's Academic Medal
2017	Best Presentation Award - Congrès international francophone en écologie végétale (ECOVEG13)
2014	Best Presentation Award - Annual symposium of Quebec Center for Biodiversity Science (QCBS)
2013	Best Presentation Award - Symposium de biologie, Université de Montréal

Community involvement

2020	Community kitchen "FEED-back Ahuntsic-Cartierville". Revalorization and distribution of food collected from grocery stores.
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2019-2020	Citizen committee "VerRecycle" to implement glass recycling in Ahuntsic-Cartierville.
2019	Environmental Comity of the Association des étudiants chercheurs en biologie de l'Université de Montréal (AECBUM).
2017	Organizing committee of the Congrès international d'écologie végétale, ECOVEG13.
2016–2017	Scout leader for a group of 12-15 year-old girls.
2016–2017	Organizing committee of Symposium de biologie de l'Université de Montréal.