

Morgane Henry, MSc

Department of Biology

McGill University, Montreal, Canada

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EDUCATION

- 2021 – Present **McGill University, Montreal, Canada**
Ph.D. Candidate in Biology (Quantitative Ecology)
Supervisory Committee: Brian Leung (co-supervisor), Patrick M. A. James (co-supervisor), Daniel Kneeshaw
Thesis: *Modelling spruce budworm outbreaks: from local population dynamics to landscape-level spread*
- 2019 – 2020 **University of Aberdeen, Scotland, UK**
MSc in Marine Conservation
Supervisor: Thomas Cornulier
Thesis: *Monitoring Mauritian flying fox (*Pteropus niger*) behaviour with accelerometer data*
- 2015 - 2018 **University of Lausanne, Switzerland**
BSc in Biology
Specialisation in Ecology, Evolution, and Conservation
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RESEARCH EXPERIENCE

- 2021 – Present **McGill University**, Ph.D. Candidate, **Supervisor:** Brian Leung
Spatial and temporal predictive model, forest insect outbreak, Statistical modelling (frequentist and Bayesian), invasion ecology
- 2021 – 2023 **McGill University**, Research Assistant, **Supervisor:** Brian Leung
Remote sensing, satellite imagery analyses, invasive species
- 2018 – 2019 **University of Lausanne**, Intern/Technician, **Supervisor:** Tanja Schwander
Field technician, Topic: evolution of asexuality and patterns of local adaptation in grasshoppers
- 2017 **University of Lausanne**, Student Assistant, **Supervisor:** Alexandre Roulin
Field work, data analyses, video analyses, barn owl (*Tyto alba*)

2016 **Mériscope, Marine Research Station**, intern, **Supervisor:** Dany Zbinden
Internship in marine biology, data collection, photo identification of minke whale (*Balaenoptera acutorostrata*), effects of Anthropogenic noise in the marine environment of the St. Lawrence, Québec, Canada

AWARDS & GRANTS

Awards & Funding

2026	McGill GREAT Award	CAD\$750
2026	McGill Writing-Year Award Scholarship	CAD\$7000
2025	QCBS (Québec Center for Biodiversity Science) Excellence Award	CAD\$1450
2024	CSEE (Canadian Society for Ecology & Evolution) Travel Award	CAD\$700
2023	FRQNT B2X Doctoral Training Scholarship	CAD\$66,668
2022	Best talk McGill Biology Department Day	

Distinctions

2020 Distinction for my Master's Thesis "*Monitoring Mauritian flying fox (Pteropus niger) behaviour with accelerometer data*" and Degree. University of Aberdeen, Scotland, UK.

TEACHING EXPERIENCE

2025	Teaching Assistant , BIOL 206, Methods in Biology of Organisms. McGill University. Leading tutorial, grading assignments and reports.
2024	Lead Instructor , QCBS (Quebec Centre for Biodiversity Science) R workshops – Working and loading data in R (taught in French and in English) – Introduction to data visualisation using “ggplot2” (taught in French and in English)
2023	Lead Instructor , QCBS (Quebec Centre for Biodiversity Science) R workshop – Working and loading data in R
2023	Teaching Assistant , FSCI 198, Climate Crisis and Climate Action. McGill University. Tutorial, grading, office hours.

- 2022 **Lead Instructor**, QCBS (Quebec Centre for Biodiversity Science) R workshop – Working and loading data in R (taught in French and in English)
- 2021 **Teaching Assistant**, BIOL 2015 Introduction to Ecology and Evolution. Tutorials, assignments and exam grading
- 2021 **Instructor**, QCBS (Quebec Centre for Biodiversity Science) R workshop – Implementing Linear Models in R.
- 2020 **Substitute Teacher** for classes of children between 12 and 15 years old. Subjects taught: life sciences, mathematics, history, and geography. School of Oron-la-Ville (Switzerland).
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PUBLICATIONS

Henry, M., James, P. M. A, Kneeshaw, D. & Leung, B. (2026) Connecting the dots: Elucidating the relationship between spruce budworm population dynamics and defoliation. *Canadian Journal of Forest Research* <https://doi.org/10.1139/cjfr-2025-0197>

Ghali, K., Ramella, E., **Henry, M.**, Schwander, T., & van der Kooi, C. J. (2025). Ecological specialization, clonal diversity, and local adaptation explain the co-existence of sexual and asexual grass thrips. *Journal of evolutionary biology*, 38(7), 1016-1022. <https://doi.org/10.1093/jeb/voaf076>

Hudgins, E. J., Leung, B., MacQuarrie, C. J., McCullough, D. G., Francis, A., Lovett, G., ..., **Henry, M.**, Chen, Yuyan, C. & Bennett, J. R. (2024). Five organizing themes for invasive forest insect and disease management in Canada and the United States. *Forest Ecology and Management*, 566, 122046. <https://doi.org/10.1016/j.foreco.2024.122046>

Henry, M., Leung, B., Cuthbert, R. N., Bodey, T. W., Ahmed, D. A., Angulo, E., ... & Haubrock, P. J. (2023). Unveiling the hidden economic toll of biological invasions in the European Union. *Environmental Sciences Europe*, 35(1), 1-16. <https://doi.org/10.1186/s12302-023-00750-3>

PREPRINTS

de Oliveira Caetano, G.H., Angulo, E., Carneiro, L., Cuthbert, R.N., Evans, T., **Henry, M.**, Hudgins, E., Soto, I., Touza, J., Turbelin, A.J., Jarić, I. & Courchamp, F. (2025) Global extrapolation drastically increases estimated economic costs of biological invasions [preprint] <https://doi.org/10.21203/rs.3.rs-5825547/v1>

PRESENTATIONS

ORAL PRESENTATIONS

Henry, M.*, Leung, B., James, P.M.A. *How outbreaks emerge: modelling the spatiotemporal population dynamics of a forest insect*. Annual symposium of the Québec Centre for Biodiversity Science (QCBS), UQAM, Montréal, Québec, Canada. February 25, 2026.

Henry, M.*, Leung, B., James, P.M.A. *The value of zeros: detecting Allee effect in low density population time series*. Annual conference of the Canadian Society for Ecology & Evolution (CSEE), UBC, Vancouver, British Columbia, Canada. May 27, 2024.

Henry, M.*, James, P.M.A & Leung B. *Demographic dynamics of spruce budworm during the rising phase of an outbreak*. Spruce Budworm Symposium, Montreal – Canada. May 4, 2023.

Henry M.*, James, P.M.A & Leung B. *Dynamiques démographiques et impacts des conditions environnementales lors de la phase ascendante d'une épidémie de défoliateur*. Carrefour Forêts - Ministère des Ressources Naturelles et des Forêts, Québec City – Canada. April 26, 2023.
Invited presentation.

Henry, M.*, James, P.M.A & Leung B. *Spruce budworm (*Choristoneura fumiferana*) outbreaks: a story of population dynamics, environmental conditions, and defoliation*. Annual Conference of the Centre d'Étude de la Forêt, Sherbrooke – Canada. Sept. 28, 2022.

Henry, M.*, James, P.M.A & Leung B. *Spruce budworm (*Choristoneura fumiferana*) outbreaks: a story of population dynamics, environmental conditions, and defoliation*. Joint meeting of the Ecological Society of America and the Canadian Society for Ecology and Evolution, Montreal – Canada. August 16, 2022.

Henry, M.*, James, P.M.A & Leung B. *Temporal dynamics of spruce budworm (*Choristoneura fumiferana*) during the rising phase of an outbreak*. North American Forest Ecology Workshop, online meeting. June 20, 2022.

Henry, M.*, James, P.M.A & Leung B. *Small bugs, big damage: modelling the early stage of an insect outbreak*. Biology Department Day, McGill University, Montreal – Canada. April 29, 2022. Award for best talk.

Henry, M.*, Aeimerton, O., Lanz, L., Ory, F. & Wildi, J. *Pathogen avoidance in *Themnothorax nylanderi**. Université de Lausanne, Switzerland. May 2018.

POSTER PRESENTATIONS

Henry M.*, James, P.M.A & Leung B. *Dynamiques démographiques et impacts des conditions environnementales lors de la phase ascendante d'une épidémie de défoliateur*. Carrefour Forêts -

Ministère des Ressources Naturelles et des Forêts, Québec City – Canada. April 26, 2023.
Invited poster.

Henry, M.* & Scott, B. Marine litter – knowledge and data gaps. Department of Biology, Master’s program conference, University of Aberdeen. February 8, 2020.

RESEARCH SKILLS

Programming Languages: R (excellent), (R)Markdown (excellent), bash/shell (good), Stan (and RStan) (excellent). Software: Rstudio, QGIS/ArcGIS, Git(Hub)

Quantitative Methods: Bayesian methods, state-space modelling, dynamic modelling, Random Forest, GLMM

Languages: French (native), English (fluent), German (beginner)

Certifications: PADI Open Water, First Aid

SERVICE

Journal referee

- Nature Communications
- Agricultural and Forest Entomology
- Biological Invasions

Faculty and Student Governance

QCBS (Québec Centre for Biodiversity Science) Global Student Representative	2025 - Present
QCBS (Québec Centre for Biodiversity Science) McGill Student Representative	2024 - 2025
BGSA (Biology Graduate Student Association) Social Representative	2022 - 2024

Media coverage

Henry, M. Interview with Guillaume Dumas. C'est encore mieux l'après-midi - L'Union européenne aux mains des envahisseurs : Une étude sonne l'alarme concernant les coûts économiques des invasions biologiques. Radio-Canada, July 13, 2023.

Workshop organization

A new perspective on forest pest management conventional wisdom. Role: rapporteur and facilitator. Two-day virtual workshop co-organized by Emma Hudgins (University of Melbourne), Joseph R. Bennett (Carleton University) and Brian Leung (McGill University). January 17-18, 2022 with 15 experts across disciplines.

Fourth PRISM (Panama Research and Integrated Sustainability Model) Workshop. Role: facilitator, responsible for the session on Mangrove Dynamics. Organized in Panama City (Panama) by Brian Leung (McGill University). May 30th, 2022.

Workshop attendance

InvaPact III – Barcelona (Spain)	2025
InvaPact II – Paris Saclay (France)	2024
Spruce Budworm Symposium – Montreal (Canada)	2023
InvaCost II – Marrakech (Morocco)	2022
NAFEW (North American Forest Ecology Workshop) – Online	2022
McGill Organismal Seminar Series	2021 - present