

Takuji Usui

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PROFESSIONAL POSITIONS

Frederickson Lab, University of Toronto | 2023 – current

Postdoctoral Researcher

Supervisor: Prof. Megan Frederickson

Interdisciplinary Eco-Evolution Lab, University of New South Wales | 2016 – 2017

Research Studentship

Supervisor: Prof. Shinichi Nakagawa

Phillimore Group, University of Edinburgh | 2015 – 2016

Research Studentship

Supervisor: Prof. Ally Phillimore

Hadfield Group, University of Edinburgh | 2015 – 2016

Field Assistant

Supervisor: Prof. Jarrod Hadfield

EDUCATION

University of British Columbia | 2017 – 2023

PhD, Botany

Dissertation: Experimental evolution of species ranges and coexistence

Supervisor: Prof. Amy Angert

University of Edinburgh | 2011 – 2015

BSc, Evolutionary Biology (*First Class Honours with Ashworth Medal*)

Thesis: Temporal shifts and temperature sensitivity of spring migratory phenology

Supervisor: Prof. Ally Phillimore

PUBLICATIONS

10. Usui, T., Lerner, D., Angert, A.L., Eckert, I., Garroway, C.J., Hargreaves, A.L., Lancaster, L.T., Lessard, J-P., Riva, F., Schmidt, C., van der Burg, K. & Marshall, K. (2023) The evolution of plasticity at geographic range edges. *Trends in Ecology & Evolution*, In press.
9. Usui, T., Senior, A., MacLeod, M., McCann, S. & Nakagawa, S. (2021) Meta-analysis of variation suggests that embracing heterogeneity improves both replicability and generalizability in preclinical research. *PloS Biology*, 19(5), e3001009.
8. Bontrager, M., Usui, T., Lee-Yaw, J.A., Anstett, D.N., Branch, H.A., Hargreaves, A.L. & Angert, A.L. (2021) Adaptation across geographic ranges is consistent with strong selection in marginal climates and legacies of range expansion. *Evolution*, 75, 1316-1333.
7. Germain, R.M., Angert, A.L., Bassar, R.D., Henao Diaz, F.L., Hart, S.P., Otto, S.P., Rolland, J., Sakarchi, J., Schluter, D., Siepielski, A.M., Turcotte, M.M., Usui, T. & Waters, M. (2020) On the origin of coexisting species. *Trends in Ecology & Evolution*, 36, 284-283.
6. Miller, T.E.X., Angert, A.L.A., Brown, C.D., Lee-Yaw, J.A., Lewis, M., Lutscher, F., Marculis, N.G., Melbourne, B.A., Shaw, A.K., Szűcs, M., Tabares, O., Usui, T., Weiss-Lehman, C. & Williams, J.L. (2020) Eco-evolutionary dynamics of range expansion. *Ecology*, 101, e03139.
5. Baur, J., Laurentino, T.G., Usui, T. & Eichhorn M. (2019) Liana abundance and relationships to sapling and tree hosts in an East African primary forest. *African Journal of Ecology*, 57, 130-136.
4. Usui, T. & Angert, A.L.A. (2018) *Species Ranges*. Elsevier Reference Module in Life Sciences.
3. Usui, T., Noble, D.W.A., O'Dea, R.E., Fangmeier, M.L., Lagisz, M., Hesselson, D. & Nakagawa, S. (2018) The French Press: a repeatable and high-throughput approach to exercising zebrafish (*Danio rerio*). *PeerJ*, e4292.
2. Fangmeier, M., Noble, D.W.A., O'Dea, R.E., Usui, T., Lagisz, M., Hesselson, D. & Nakagawa, S. (2018) Computer animation technology in behavioral sciences: a sequential, automatic, and high-throughput approach to quantifying personality in zebrafish (*Danio rerio*). *Zebrafish*, 15, 206-210.

1. Usui, T., Butchart, S.H.M. & Phillimore, A.B. (2017) Temporal shifts and temperature sensitivity of avian spring migration phenology: a phylogenetic meta-analysis. *Journal of Animal Ecology*, 86, 250–261.

Selected press coverage:

- Birds migrating earlier as temperatures rise (BBC News)
- Climate change driving birds to migrate early (The Guardian)

AWARDS & SCHOLARSHIPS

2023 Excellence in Doctoral Research Award, CSEE (\$600 CAD)

2023 Graduate Student Travel Award, UBC (\$500 CAD)

2022 Student Travel Award, ESA Plant Population Ecology Section (\$600 USD)

2022 President's Academic Excellence Initiative PhD Award, UBC (\$540 CAD)

2021 President's Academic Excellence Initiative PhD Award, UBC (\$1030 CAD)

2021 Faculty of Science Graduate Award, UBC (\$100 CAD)

2021 Student Research Award, American Society of Naturalists (\$2000 USD)

2020 President's Academic Excellence Initiative PhD Award, UBC (\$1000 CAD)

2019 GREG Lewontin Award, Society for the Study of Evolution (\$2000 USD)

2018 Vladimir J Krajina Prize in Plant Ecology, UBC (\$2000 CAD)

2017 International Doctoral Fellowship, UBC (\$138,000 CAD; Accepted)

2017 Scientia PhD Scholarship, UNSW (\$200,000 AUD; Declined)

2017 Graduate Research Scholarship, UCL (£52,660 GBP; Declined)

2017 Overseas Research Scholarship, UCL (£78,480 GBP; Declined)

2017 NERC Science and Solutions for a Changing Planet Doctoral Training Partnership, Imperial College London (£62,935 GBP; Declined)

2015 Ashworth Medal and Prize 2015 for highest grade in Evolutionary Biology Honours, University of Edinburgh (£250 GBP)

2015 Undergraduate Summer Studentship, University of Edinburgh (£2500 GBP)

2015 Travel Bursary for National Biodiversity Network Conference 2015, Institute of Evolutionary Biology, University of Edinburgh

2015 Travel Grant, British Ecological Society (£400 GBP)

INVITED PRESENTATIONS

CSEE Doctoral Award Symposium, Winnipeg, MN | 2023

On the origins of coexistence (and the curious paradox of the duckweed)

Duckweeds: A new frontier in symbiosis research, University of Toronto | 2022

The evolution of coexistence and range expansion

Metascience Conference, Centre for Open Science | 2021

How can we embrace heterogeneity to improve replicability?

CONTRIBUTED PRESENTATIONS

† Poster ‡ Talk

Conference of the Society of American Naturalists, Asilomar | 2023

The evolution of coexistence across the species boundary[†]

CSEE & ESA Conference, Montreal, QC | 2022

Competition and temperature stress drive the evolution of range limits[†]

Botany & Zoology Conference, UBC | 2021

Range expansion across ecological gradients (*Best Talk Award*)[†]

Blackendale Ecology & Evolution Retreat, BC | 2019

Eco-evolutionary Dynamics of Range Expansions[†]

Blackendale Ecology & Evolution Retreat, BC | 2018

The Role of Evolution in Predicting Range Expansion Across Spatially Heterogeneous Landscapes (*Best Poster Award*)[†]

Blackendale Ecology & Evolution Retreat, BC | 2017

Are Range-Edge Populations Maladapted? A Synthesis of Transplant Experiments[†]

SYNERGISTIC ACTIVITIES

Member of working group: Plasticity Across Species' Ranges, UBC | 2023

PI: Katie Marshall and Jean-Philippe Lessard

Member of working group: Coexistence Across Evolutionary Scales, UBC | 2019

PI: Rachel Germain and Adam Siepielski

Member of working group: Eco-evo Dynamics of Range Expansion, UBC | 2018

PI: Tom Miller and Jennifer Williams

Member of tropical field research course: Kibale National Park, Uganda | 2015

Group: Tropical Biology Association

TEACHING & MENTORING

Teaching Assistant, UBC | 2020 – 2023

BIOL 121: Genetics, Ecology & Evolution

BIOL 300: Biostatistics

BIOL 336: Fundamentals of Evolution (Lead/Senior TA, 2021 and 2023)

BIOL 406: Plant Ecology (Lead in R tutorials redesign, 2021)

Undergraduate Mentorship, UBC | 2018 – 2023

Amy Wong (Work-learn, 2022 & 2023)

Burak Ozkan (Volunteer, 2022)

Kenzie Chute (Volunteer, 2022)

Sourena Oveisi (Work-learn, 2022)

Vicky Kim (Volunteer, 2022)

Emma Pflanz (Indigenous Undergraduate Research Mentorship Program, 2022)

Graydon Gillies (NSERC Undergraduate Student Research Award, 2020 & 2021)

Chris Spangenberg (Work-learn research experience, 2020 & 2021)

Hafsa Ahmed (Work-learn research experience, 2019)

Emma Menchions (Work-learn research experience, 2018)

SERVICE & OUTREACH

Peer Reviewer for: *American Journal of Botany, American Naturalist, Ecography, Evolution, Global Change Biology, Journal of Animal Ecology, Journal of Avian Biology, Journal of Biogeography*

Memberships: American Naturalist Society; Botanical Society of America; Canadian Society for Ecology & Evolution; National Biodiversity Network; Society for the Study of Evolution; Tropical Biology Association

Workshop lead, Make your own origami model organism with Botany/Zoology
Wellness Initiative, UBC | 2023

Mentor, Indigenous Undergraduate Research Mentorship Program, UBC | 2022–2023

Teaching Spotlight, Getting to Know Diverse Scientists, UBC | 2022

Link: <https://blogs.ubc.ca/bionews/2022/03/02/teaching-spotlight-getting-to-know-diverse-scientists-in-biol-336/>

Conference Planning Committee, Canadian Society for Ecology & Evolution | 2021

Graduate Student Representative, Biodiversity Postdoctoral Fellowship Search, UBC
| 2020

Selection Committee, Annual Evolution Lecture, UBC | 2020

Botany Department Peer Mentor for starting graduate students, UBC | 2020

Researchers Revealed, UBC. A video series for the Beaty Biodiversity Museum | 2020

Co-director, Annual Zoology/Botany Huts Skit & Show, UBC | 2019

Symposium Organizer and Host, Annual Evolution Lecture, UBC | 2019

Member, STEM Culture, UBC. A cross-departmental action group on STEM issues |
2018

Member, People & Planet, University of Edinburgh. An environmental discussion &
action group | 2015

Volunteer, Navdanya Biodiversity Conservation Farm, India. A sustainable farming
initiative | 2014

REFERENCES

Prof. Amy Angert (PhD Supervisor)
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University of British Columbia
604-827-3892
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Dr. Rachel Germain (PhD Committee Member)
Department of Zoology
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