

WENDY E. VAN DRUNEN

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EDUCATION

- 2018 Ph.D. Integrative Biology, University of Guelph. Advisor: B.C. Husband
- 2011 M.Sc. Environmental and Life Sciences, Trent University. Advisor: M.E. Dorken
- 2009 B.Sc. Physics and Astronomy/Biology Joint Major. Trent University.

RESEARCH & PROFESSIONAL APPOINTMENTS

- 2021 – pres. Postdoctoral Fellow. Department of Biology, University of Toronto at Mississauga (Ecology and Evolutionary Biology, University of Toronto)
- 2020 Program Assistant – Curriculum Development, Department of Biology, Queen's University
- 2019 – 2021 NSERC Postdoctoral Fellow. Department of Biology, Queen's University
- 2019 Sessional Instructor. Department of Integrative Biology, University of Guelph
- 2012 - 2013 Research Technician. Department of Biology, Trent University

PUBLICATIONS

* - indicates undergraduate mentee

IN REVIEW:

W.E. Van Drunen, and M.T.J. Johnson. Polyploid evolution and ecology in urban environments. In review at: *Trends in Ecology & Evolution*

PREPRINTS:

Van Drunen, W.E. and J. Friedman. 2021. Autopolyploid establishment depends on life history strategy and the mating outcomes of clonal architecture. *bioRxiv* (<https://doi.org/10.1101/2021.10.21.465190>)
Submitted to *The American Naturalist*

PEER REVIEWED:

11. **Van Drunen, W.E.**, and B.C. Husband. 2019. The evolutionary association between polyploidy and clonal reproduction in the angiosperms. *New Phytologist* 224:1266-1277. (<https://doi.org/10.1111/nph.15999>)

10. **Van Drunen, W.E.**, and B.C. Husband. 2018. Whole-genome duplication decreases clonal stolon production and genet size in the wild strawberry *Fragaria vesca*. *American Journal of Botany* 105:1712-1724. (<https://doi.org/10.1002/ajb2.1159>)
9. Dorken, M.E., and **W.E. Van Drunen**. 2018. Life-history trade-offs promote the evolution of dioecy. *Journal of Evolutionary Biology* 31:1405-1412. (<https://doi.org/10.1111/jeb.13335>)
8. **Van Drunen, W.E.**, and B.C. Husband. 2018. Immediate vs. evolutionary consequences of polyploidy on clonal reproduction in an autopolyploid plant. *Annals of Botany* 122:195-205. (<https://doi.org/10.1093/aob/mcy071>)
7. **Van Drunen, W.E.**, M. van Kleunen, and M.E. Dorken. 2015. The consequences of clonal expansion for sexual fitness: clonal expansion enhances fitness under spatially restricted dispersal. *Proceedings of the National Academy of Sciences*. 112:8929-8936. (<https://doi.org/10.1073/pnas.1501720112>)
6. Ahee, J.E., **W.E. Van Drunen**, and M.E. Dorken. 2015. Small pollination neighbourhoods in the broadleaf cattail (*Typha latifolia*) inferred from spatial analysis of pollen and seed production. *Botany*. 93:91-100. (<https://doi.org/10.1139/cjb-2014-0169>)
5. **Van Drunen, W.E.**, and M.E. Dorken. 2014. Wind pollination, clonality, and the evolutionary maintenance of spatial segregation of the sexes. *Evolutionary Ecology*. 28:1121-1138. (<https://doi.org/10.1007/s10682-014-9733-8>)
4. **Van Drunen, W.E.**, and M.E. Dorken. 2012. Trade-offs between clonal and sexual propagation in *Sagittaria latifolia* (Alismataceae) scale up to affect the fitness of entire clones. *New Phytologist*. 196:606-616. (<https://doi.org/10.1111/j.1469-8137.2012.04260.x>)
3. **Van Drunen, W.E.**, and M.E. Dorken. 2012. Sex-ratio variation versus interplant distances in the regulation of pollen deposition and seed production in dioecious *Cirsium arvense* (Asteraceae). *Botany*. 90:565-573. (<https://doi.org/10.1139/b2012-014>)
2. McKenzie-Gopsill, A., H. Kirk, **W. Van Drunen**, J. Freeland and M. Dorken. 2012. No evidence for niche segregation in a North American cattail (*Typha*) species complex. *Ecology and Evolution*. 2:952-961. (<https://doi.org/10.1002/ece3.225>)
1. Dorken M.E., and **W.E. Van Drunen**. 2010. Sex allocation in clonal plants: might clonal expansion enhance fitness gains through male function? *Evolutionary Ecology – Special Issue on Clonal Plants*. 24:1463-1474. (<https://doi.org/10.1007/s10682-010-9393-2>)

IN PREPARATION:

Mortazavi, A.*, J. Friedman, and **W.E. Van Drunen**. The impact of urbanisation on polyploid vs. diploid plant species distributions in Canada's largest metropolitan area. Target Journal: *Global Change Biology*

A.F. Green, A.F., **W.E. Van Drunen**, and B.C. Husband. Phenotypic effects of whole-genome duplication are genotype dependent. Target Journal: *Annals of Botany*

FELLOWSHIPS, SCHOLARSHIPS, & AWARDS

2019 - 2021	\$90,000	NSERC Postdoctoral Fellowship (NSERC PDF). Queen's University
2019	\$500	Best Graduate Student Paper (College of Biological Science). University of Guelph
2018	\$300	Distinguished Graduate Student Speaker (Department of Integrative Biology). University of Guelph
2016 - 2017	\$15,000	Ontario Graduate Scholarship (OGS). University of Guelph
2013 - 2016	\$105,000	NSERC Alexander Graham Bell Canadian Graduate Scholarship (CGS-D). University of Guelph
2013 - 2016	\$15,000	Tri-council Scholarship Top-up. University of Guelph
2011	\$15,000	Ontario Graduate Scholarship for Science and Technology (OGSST). Trent University
2009	\$4,800	NSERC Undergraduate Summer Research Award (USRA). Trent University
2008	\$4,500	Herzberg Summer Research Award. Trent University
2005, 2007	\$1,500	Trent University National Scholarship. Trent University

INVITED TALKS

- 2021 Polyploidy Webinar. *The impact of urbanisation on polyploid vs. diploid plant species in Canada's largest metropolitan area.*
- 2020 Guest Lecture: Plants and Human Culture (BIOL315), Queen's University. *Plants, Polyploidy, and People.*
- 2019 Ecology, Evolution, and Behaviour Seminar Series, Queen's University. *The immediate phenotypic effects of whole-genome duplication on asexual reproduction through clonality.*
- 2019 Department of Biology Seminar Series, Trent University. *Interactions between polyploidy and clonal reproduction in the angiosperms: From the macro- to micro-evolutionary.*
- 2018 Integrative Biology Distinguished Graduate Student Speaker, University of Guelph. *Clonal reproduction and polyploidy in the flowering plants.*

CONFERENCE PRESENTATIONS

- 2021 **Van Drunen, W.E.** and J. Friedman. 2021. *The influence of life history strategy and clonality on autopolyploid establishment.* Botanical Society of America.
- 2018 **Van Drunen, W.E.,** and B.C. Husband. *The immediate vs. evolutionary consequences of polyploidy on clonal reproduction.* Canadian Society for Ecology and Evolution.

- 2015 **Van Drunen, W.E.**, and B.C. Husband. *The association between clonal reproduction and polyploidy in the angiosperms: A comparative approach*. Botanical Society of America.
- 2011 **Van Drunen, W.E.**, and M.E. Dorken. *Genet-level resource trade-offs and the cost of reproduction in Sagittaria latifolia (Alismataceae)*. Canadian Society for Ecology and Evolution.
- 2011 **Van Drunen, W.E.**, and M.E. Dorken. *Genet-level resource trade-offs and the cost of reproduction in Sagittaria latifolia (Alismataceae)*. Ontario Ecology, Ethology, and Evolution Colloquium.

TEACHING EXPERIENCE

INSTRUCTOR:

2019 *Plant Diversity and Evolution*. University of Guelph

TEACHING ASSISTANT:

2015 - 2017 *Plant Diversity and Evolution*. University of Guelph
2013 *Evolution*. University of Guelph
2011 *Evolutionary Ecology*. Trent University
2010 *Current Issues in Biology II*. Trent University
2009 - 2011 *Current Issues in Biology I*. Trent University
2007 *Physical Science for Teacher Education*. Trent University

CURRICULUM DEVELOPMENT:

2020 *Evolutionary Genetics*. Queen's University

UNDERGRADUATE MENTORING & SUPERVISION

UNIVERSITY OF TORONTO AT MISSISSAUGA

2021 – 2022 Sophie Mosler. Research Opportunity Program (3rd year).

QUEEN'S UNIVERSITY:

2020 - 2021 Aida Mortazavi. Co-supervised Honour's Thesis
* Current MSc student University of Guelph

UNIVERSITY OF GUELPH:

2017 Hanna Peters. Integrative Biology Undergraduate Mentorship Program
* Current MSc student University of Guelph
2017 Rachael Keighan. Undergraduate Research Assistant
2016 - 2017 Alexia Abbruzzese. Undergraduate Research Assistant
2016 James Seery. Undergraduate Research Assistant
2014 - 2015 Lindsay Bennett. Undergraduate Research Assistant
* Completed MSc University of Ottawa

TRENT UNIVERSITY:

2010 Andrew McKenzie-Gopsil, Research Assistant/Honour's Thesis
* Completed PhD University of Guelph, Research Scientist at AAF Canada

2010 Jorden Ahee. Undergraduate Research Assistant
* Completed MSc Trent University

PROFESSIONAL SERVICE

DEPARTMENT & UNIVERSITY:

2021 Inquiry@Queen's Undergraduate Conference Session Moderator. Queen's University
2020 – 2021 Postdoctoral Representative, Biology Graduate Student Council. Queen's University
2019 - 2020 Coordinator, Plant Ecology and Evolution Discussion Group. Queen's University
2018 Graduate Student Representative, Department of Integrative Biology Chair Search. University of Guelph
2008 - 2009 Executive Member, Physics Undergraduate Society (PUGS). Trent University

JOURNAL PEER REVIEW (20 total):

2021 American Journal of Botany, Perspectives in Plant Ecology Evolution & Systematics, Botany
2020 Molecular Ecology, Annals of Botany (2), Proceedings B, Scientific Reports (2), Journal of Plant Ecology
2019 New Phytologist (2), The American Naturalist
2018 Evolutionary Ecology, American Journal of Botany, The American Naturalist, American Midland Naturalist
2016 Journal of Ecology, Botany, American Journal of Botany

GRANT REVIEW:

2021 Czech Science Foundation (GACR)

SOCIETY MEMBERSHIPS:

Botanical Society of America (BSA)
Canadian Society for Ecology and Evolution (CSEE)

WORKSHOPS & TRAINING

EQUITY, DIVERSITY, & INCLUSION:

2020 *Exploring Indigenous Research Ethics*. Indigenous Research Collaboration Day, Queen's University
2020 *This is Canada: Living Anti-racism*. Queen's University
2020 *Positive Space*. Queen's University
2020 *Equity, Diversity and Inclusion in Pedagogy and Practice*. Queen's University
2018 *Gender and Beyond: Identifying and Addressing Everyday Oppression*, Symposium for Women Entering Ecology & Evolution (SWEEET)
2018 *Hiring Committee Training: Implicit Bias Awareness*. University of Guelph

RESEARCH:

- 2021 *Using Deep Learning with Digitized Herbarium Specimen Images*. Botanical Society of America
- 2021 *Data Sensitivity Training*. Ontario Natural Heritage Information Centre (NHIC).
- 2020 *Digitized Collections-Based Data in Research: Applications for Ecology, Phylogenetics, and Biogeography*. Botanical Society of America
- 2016 *Spatial Ecology: Applications of the Mathematical Sciences*. Guelph Biomathematics and Biostatistics Symposium
- 2016 *Research Compute Workshop: Intro to Unix, Git, and Programming with Python*. SHARCNET and Software Carpentry