

Catherine Rushworth

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Contact for phone number

PROFESSIONAL APPOINTMENTS

Assistant Professor: Utah State University	July 2022 – current
Postdoctoral Associate: University of Minnesota and UC Davis	July 2018 – June 2022
Research Associate and Curator: University of California, Berkeley	June 2018 – June 2022
Louise Kellogg Postdoctoral Fellow: University of California, Berkeley	Sept. 2015 – June 2018
Parental leave	2018

EDUCATION

Ph.D. Biology: Duke University	2009 – 2016
B.S. Management, Communication, and Public Relations: Emerson College	1998 – 2002

PUBLICATIONS (Peer reviewed and preprints)

19. **Rushworth, C.A.**, M.R. Wagner, T. Mitchell-Olds, and J.T. Anderson. The *Boechera* model system for evolutionary ecology. Resubmitted following revision, *American Journal of Botany*.
18. **Rushworth, C.A.**, A. Wardlaw, J. Ross-Ibarra, and Y. Brandvain. Conflict over fertilization underlies the transient evolution of reinforcement. Resubmitted following revision, *PLOS Biology*. bioRxiv preprint: <https://www.biorxiv.org/content/10.1101/2020.11.10.377481v2>
17. Carley, L.N., J.P. Mojica, B. Wang, C.-Y. Chen, Y.-P. Lin, K.V.S.K. Prasad, E. Chan, C.-W. Hsu, R. Keith, C.L. Nuñez, C.F. Olson-Manning, **C.A. Rushworth**, M.R. Wagner, J. Wang, P.-M. Yeh, M. Reichelt, K. Ghattas, J. Gershenzon, C.-R. Lee, and T. Mitchell-Olds. 2021. Ecological factors influence balancing selection on leaf chemical profiles of a wildflower. *Nature Ecology and Evolution* <https://doi.org/10.1038/s41559-021-01486-0>.
16. **Rushworth, C.A.**, R.S. Baucom, B.K. Blackman, M. Neiman, M.E. Orive, A. Sethuraman, J. Ware, and D.R. Matute. 2021. Who are we now? A demographic assessment of the evolution societies. *Evolution* 75(2): 208-218 <https://onlinelibrary.wiley.com/doi/10.1111/evo.14168>.
15. **Rushworth, C.A.**, and T. Mitchell-Olds. 2021. The evolution of sex is tempered by costly hybridization in *Boechera* (rock cress). *Journal of Heredity* 112(1): 67-77 <https://doi.org/10.1093/jhered/esaa041>.

14. **Rushworth, C.A.**, Y. J. Brandvain, and T. Mitchell-Olds. 2020. Identifying the fitness consequences of sex in complex natural environments. *Evolution Letters* 4-6: 516-529. <https://dx.doi.org/10.1002/evl3.194>
13. Jordon-Thaden, I., J. Beck, **C.A. Rushworth**, M.D. Windham, N. Diaz, J. Cantley, C. Martine, and C.J. Rothfels. 2020. RADseq for any lab: a basic two-enzyme protocol performs well in herbarium and silica-dried tissues across four genera. *Applications in Plant Sciences* 8(4): e11344.
12. **Rushworth, C.A.**, M.D. Windham, R.A. Keith, and T. Mitchell-Olds. Ecological differentiation facilitates fine-scale coexistence of sexual and asexual *Boechera*. 2018. *American Journal of Botany* 105(12): 1-14.
11. Kliver, S., M. Rayko, A. Komissarov, E. Bakin, D. Zhernakova, K.V.S. Prasad, **C.A. Rushworth**, R. Baskar, D. Smetanin, J. Schmutz, D.S. Rokhsar, T. Mitchell-Olds, U. Grossniklaus, and V. Brukhin. Assembly of the *Boechera retrofracta* genome and evolutionary analysis of apomixis-associated genes. 2018. *Genes* 9(4): 185.
10. Moore, G., P. Zika, and **C.A. Rushworth**. Balsaminaceae. Accepted. Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. New York and Oxford. Vol. 13.
9. Li, F.-W., **C.A. Rushworth**, J.B. Beck, and M.D. Windham. 2017. *Boechera* Microsatellite Website: an online portal for species identification and determination of hybrid parentage. *Database* 1: baw169.
8. Cai, L., Z. Xi, K. Peterson, **C.A. Rushworth**, J. Beaulieu, and C.C. Davis. 2016. Phylogeny of Elatinaceae and the tropical Gondwanan origin of the Centroplacaceae (Malpighiaceae, Elatinaceae) Clade. *PLoS ONE* 11(9): e0161881.
7. Windham, M.D., J.B. Beck, F.-W. Li, L. Allphin, J.G. Carman, **C.A. Rushworth**, E.M. Sigel, P. Alexander, C.D. Bailey, I.A. Al-Shehbaz. 2015. Searching for diamonds in the apomictic rough. I: Do rare sexual populations of *Boechera lignifera* (Brassicaceae) represent a distinct species? *Systematic Botany* 40(4): 1031-1044.
6. Anderson, J.T., M.R. Wagner, **C.A. Rushworth**, K. Prasad, and T. Mitchell-Olds. 2014. The evolution of quantitative traits in complex environments. *Heredity* 112:4-12.
5. Anderson, J.T., C.-R. Lee, **C.A. Rushworth**, R.I. Colautti, and T. Mitchell-Olds. 2013. Genetic tradeoffs and conditional neutrality contribute to local adaptation. *Molecular Ecology* 22(3): 699-708.
4. Moore, G., P.F. Zika, and **C.A. Rushworth**. 2012. *Impatiens ecornuta*, a new name for *Impatiens ecalcarata* (Balsaminaceae), a jewelweed from the United States and Canada. *Novon* 22(1): 60-61.
3. Beck, J.B., P.J. Alexander, L. Allphin, I.A. Al-Shehbaz, **C.A. Rushworth**, C. D. Bailey, and M.D. Windham. 2012. Does hybridization drive the transition to asexuality in diploid *Boechera*? *Evolution* 66(4): 985-995.
2. **Rushworth, C.A.**, B.-H. Song, C.-R. Lee, and T. Mitchell-Olds. 2011. *Boechera*, a model system for ecological genomics. *Molecular Ecology* 20(23): 4843-4857.
1. Soltis, D.E., S.A. Smith, N. Cellinese, K.J. Wurdack, D.C. Tank, S.F. Brockington, N.F. Refulio-Rodriguez, J.B. Walker, M.J. Moore, B.S. Carlswald, C.D. Bell, M. Latvis, S. Crawley, C. Black, D. Diouf, Z. Xi, **C.A. Rushworth**, M.A. Gitzendanner, K.J. Sytsma, Y.-L. Qiu, K.W. Hilu, C.C. Davis, M.J. Sanderson, R.S. Beaman, R.G. Olmstead, W.S. Judd, M.J. Donoghue, and P.S. Soltis. 2011. Angiosperm phylogeny: 17 genes, 640 taxa. *American Journal of Botany* 98:704-730.

Non-peer reviewed PUBLICATIONS

Moore, G. and **C. Rushworth**. 2008. Proposals to amend the Code regarding orthographic conservation. *Taxon* 57(1): 316-317.

Moore, G., **C. Rushworth**, J. Ma and S. Glenn. 2006. Interactive keys to the woody plants of the New York Metropolitan region. Brooklyn Botanic Garden.

Moore, G., **C. Rushworth**, J. Ma and S. Glenn. 2006. Interactive keys to the woody plants of New York State. Brooklyn Botanic Garden.

FELLOWSHIPS AND AWARDS

2020 Postdoc Service to Community Award, University of Minnesota College of Biological Sciences

2015 Professional Development Grant, Duke University Graduate School

2014 Katherine Goodman Stern Fellowship, Duke University

2014 J.S. Karling Graduate Student Research Award, Botanical Society of America

2013 NSF Doctoral Dissertation Improvement Grant, Evolutionary Processes Program

2013 ASN Student Research Award, American Society of Naturalists

2013 Torrey Botanical Society Graduate Student Research Fellowship, Torrey Botanical Society

2012 Sally Hughes-Schrader Travel Award, Sigma Xi

2012 Giles Fellowship Grant in Aid, Duke Biology Department

2011 – 2015 NSF Graduate Research Fellowship

2010 Keever Fellowship Grant in Aid, Duke Biology Department

2010 NSF Graduate Research Fellowship Program Honorable Mention

2009 Biology Graduate Student Fellowship, Duke University

TEACHING AND MENTORSHIP

Teaching experience

Spring 2020, UC Davis: *Instructor of Record*, Introduction to Evolution (220 student enrollment)

Spring 2015, Duke: *Co-creator and co-Instructor of Record*, Professional Development for Careers in Biology

Spring 2014, Duke: *Co-creator and co-Instructor of Record*, People Management: the Key to Successful Research Post-PhD (half semester course)

Spring 2013 *Teaching assistant and Lab instructor*, Introduction to Genetics and Evolution

Guest lecturer

Spring 2021 Plant Evolution and Diversity

Spring 2017 Plant Systematics

Spring 2015 Topics in Evolutionary Ecology: Extreme Life Styles

Mentorship: 8 undergraduate students (2011 – 2018)

Judith Okoro: now MPH student, UC Berkeley	2016-2018
Eunice Kim: now PhD student, Stonybrook University	2016-2018
Rachel Patterson	2017
Dhivyaa Mailvaganam	2017
Matthew Lide	2015
Samuel Chin	2015
Rui-Min “Diana” Mao: now surgery resident, UT Galveston	2012-2015
Mathias Skadow	2011-2012

INVITED PRESENTATIONS & SYMPOSIA

- 2022** University of Wisconsin Green Bay, Natural and Applied Sciences departmental seminar
 - 2022** Indiana University, Biology departmental seminar
 - 2021** Yale University, Ecology and Evolutionary Biology departmental seminar
 - 2021** Symposium organizer and speaker, Botany 2021 “The Hills are Alive: Ecology and Evolution of the Intermountain West Flora”
 - 2021** University of Kansas, Biology departmental seminar
 - 2021** Northern Arizona University, Biology departmental seminar
 - 2020** Queen’s University, Biology departmental seminar
 - 2020** North Carolina State University, INTRINSyC Plant Biology seminar
 - 2020** University of California Berkeley, Integrative Biology departmental seminar
 - 2019** AGA President’s Symposium “Sex and Asex: The genetics of complex life cycles”
 - 2018** Cornell University, CALS Plant Biology Section seminar
 - 2018** University of Montana, UNVEIL seminar
 - 2018** University of California Davis, Center for Population Biology special seminar
 - 2017** University of San Francisco
 - 2017** *Evolution* SSE Spotlight Symposium “Sex in the wild”
 - 2017** *Evolution* SSE Spotlight Symposium “Genetic transmission at the population level”
 - 2016** University of California Davis, Center for Population Biology seminar
 - 2014** University of North Carolina at Charlotte, Biological Sciences Friday Seminar Series
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SERVICE AND OUTREACH

Diversity, Equity, and Inclusion (DEI)

Co-chair: Diversity Committee, Society for the Study of Evolution (SSE), 2019 – 2022

Responsibilities/tasks: Work with SSE Council to implement DEI in all aspects of societal leadership and governance; collect and analyze demographic data; create and

implement society action plans; work with *Evolution* Editor in Chief to implement DEI in editorial board selection, mentoring, and publication; coordinate *Evolution* conference events relevant to DEI

Member: Diversity Committee, SSE, 2017 – current

Administrative member: Women in the Life Sciences at Davis (WiLD), 2018 – 2020

Founder, Chair, and Member: Graduate Student Advisory Council, SSE, 2013 – 2017

Co-organizer: Diversity in Science luncheon, *Evolution* 2017, 2018

Organizer: Women in Science luncheon, *Evolution* 2016

Mentor: Women and Mathematics (WAM), Spring 2010

Leadership service

Organizer: Botany Lunch seminar series, UC Berkeley, 2017 – 2018

Member: Biology Steering Committee, Duke University, 2012 – 2013

Executive Council Member: Torrey Botanical Society 2007 – 2009

Membership Committee Chair: Torrey Botanical Society 2007 – 2008

Co-Editor: New York Flora Association Newsletter 2006 – 2008

Outreach

Herbarium volunteer: University of California Berkeley "Cal Day," 2016

Host: Plant pollination booth, NC Museum of Natural Sciences "Darwin Days," 2013

Volunteer: Girl Scouts Council of the Silver Sage, Shoup, Idaho 2011

Mentor: Brooklyn Academy of Science and the Environment, 2006-2008

Mentor: Harlem Children Society, Summer 2007

Reviewer service

American Journal of Botany, Annals of Botany, Current Biology, Evolution, Evolution Letters, Frontiers in Plant Science, Genes, Journal of Evolutionary Biology, Molecular Ecology, New Phytologist, PLOS ONE, PNAS, Trends in Ecology and Evolution
Duke University Sigma Xi Sally Hughes-Schrader Travel Awards, 2013

PROFESSIONAL MEMBERSHIPS

Society for the Study of Evolution, American Society of Naturalists, Botanical Society of America, American Genetic Association