

Daniel Blaine Marchant
Postdoctoral Researcher, Walbot Lab
Stanford University, Stanford, CA
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EDUCATION

- University of Florida**, Gainesville, Florida 2018
Ph.D., Department of Biology
Dissertation: *Elucidating monilophyte genomics: how polyploidy, transposable elements, and the alternation of independent generations drive fern evolution*
Advisors: Drs. Doug and Pam Soltis
- University of Puget Sound**, Tacoma, Washington 2011
B.Sc. with Honors, Biology
Senior Thesis: *Reproductive limitations of Goodyera oblongifolia (Orchidaceae) in the south Puget Sound region*
Advisor: Dr. Betsy Kirkpatrick

TEACHING EXPERIENCE

- Botany Conference**, Rochester, Minnesota 2018
Workshop Co-organizer, "*Using digitized herbarium data in research: applications for ecology, phylogenetics, and biogeography*"
- University of Florida**, Gainesville, Florida 2017
Teaching Assistant, Botany 2710: *Plant Taxonomy*
- 2016
Teaching Assistant, Botany 6935: *Phylogenomics*
- Integrated Digitized Biocollections**, Gainesville, Florida 2017 – 2018
Research Assistant, Production of ecological niche modeling webinar and video tutorials
- University of Colorado**, Denver, Colorado 2016
Workshop Organizer, "*Using digitized collections-based data in research: a free hands-on, crash course in ecological niche modeling*"
- Botany Conference**, Savannah, Georgia 2016
Workshop Co-organizer, "*Using digitized herbarium data in research: a crash course*"
- Botany Conference**, Edmonton, Alberta 2015
Workshop Co-organizer, "*Ecological niche modeling: a crash course*"
- Botany Conference**, Boise, Idaho 2014
Workshop Co-organizer, "*Georeferencing natural history collections*"
- CIEE: Sustainability and the Environment**, Monteverde, Costa Rica 2012 – 2013
Teaching Assistant, Tropical Conservation Biology
- University of Puget Sound**, Tacoma, Washington 2010
Teaching Assistant, Biology 112: Evolution and Diversity

ADDITIONAL RESEARCH EXPERIENCE

- Integrated Digitized Biocollections**, Gainesville, Florida 2013 – 2018
Applications of ecological niche modeling to digitized museum specimen records
- Khinganski Nature Reserve**, Amur Oblast, Russia Summer 2013
Large mammal population monitoring
- Stanford University**, Stanford, California 2011 – 2012
Hypoxia triggers meiotic fate acquisitions in maize
- CIEE: Tropical Ecology and Conservation**, Monteverde, Costa Rica Fall 2009
Size-related niche-partitioning of epiphytic orchids in the cloud forest canopies of Monteverde, Costa Rica

PEER REVIEWED PUBLICATIONS

1. Zhao C, Wang Y, Chan KX, **Marchant DB**, Franks PJ, Randall D, Tee EE, Chen G, Ramesh S, Phua SY, Zhang B, Hills A, Dai F, Xue D, Gilliam M, Tyerman S, Nevo E, Wu F, Zhang G, Wong GKS, Leebens-Mack JH, Melkonian M, Blatt MR, Soltis PS, Soltis DE, Pogson BJ, Chen ZH. *In revision*. Evolution of chloroplast retrograde signaling facilitates green plant adaptation to land. *Proceedings of the National Academy of Sciences*
2. Gaynor ML*, **Marchant DB**, Soltis DE, Soltis PS. 2018. Climatic niche comparison among ploidal levels in the classic autopolyploid system, *Galax urceolata* (Diapensiaceae). *American Journal of Botany*.
* undergraduate researcher mentored by DBM
3. Cai S, Chen G, Wang Y, Huang Y, **Marchant DB**, Wang Y, Yang Q, Dai F, Hills A, Franks PJ, Nevo E, Soltis DE, Soltis PS, Sessa EB, Wolf PG, Xue D, Zhang G, Pogson BJ, Blatt MR, Chen ZH. 2017. Evolutionary conservation of ABA signaling for stomatal closure in ferns. *Plant Physiology* pp.01848.2016.
4. **Marchant DB**, Soltis DE, Soltis PS. 2016. Genome evolution in plants. *Encyclopedia of Life Sciences*.
5. **Marchant DB**, Soltis DE, Soltis PS. 2016. Patterns of abiotic niche shifts in polyploids relative to their progenitors. *New Phytologist* 212: 708-718.
6. Soltis DE, Visger CJ, **Marchant DB**, Soltis PS. 2016. Polyploidy: Paths and pitfalls to a paradigm. *American Journal of Botany* 103:1146-1166.
7. Solhaug E, Ihinger J, Jost M, Gamboa V, **Marchant B**, Bradford D, Doerge RW, Tyagi A, Replogle A, Madlung A. 2016. Environmental regulation of heterosis in the allopolyploid *Arabidopsis suecica*. *Plant Physiology* 170: 2251-2263.
8. Soltis PS, **Marchant DB**, Van de Peer Y, Soltis DE. 2015. Polyploidy and genome evolution in plants. *Current Opinion in Genetics and Development* 35: 119-125.
9. Wolf PG, Sessa EB, **Marchant DB**, Li FW, Rothfels CJ, Sigel EM, Gitzendanner MA, Visger CJ, Banks JA, Soltis DE, Soltis PS, Pryer KM, Der JP. 2015. An exploration into fern genome space. *Genome Biology and Evolution*. 7: 2533-2544.
10. Nelson G, Sweeney P, Wallace LE, Rabeler RK, Allard D, Brown H, Carter JR, Denslow MW, Ellwood ER, Germain-Aubrey CC, Gilbert E, Gillespie E, Goertzen LR, Legler B, **Marchant DB**, Marsico TD, Morris AB, Murrell Z, Nazaire M, Neefus C, Oberreiter S, Paul D, Ruhfel BR, Sasek T, Shaw J, Soltis PS, Watson K, Weeks A, Mast AR. 2015. Digitization workflows for flat sheets and packets of plants, algae, and fungi. *Applications in Plant Sciences*. 3.9.
11. Soltis PS, Liu X, **Marchant DB**, Visger C, Soltis DE. 2014. Polyploidy and Novelty: Gottlieb's Legacy *Philosophical Transactions of the Royal Society B* 369.
12. Sessa EB, Banks JA, Barker MS, Der JP, Duffy AM, Graham SW, Hasebe M, Langdale J, Li FW, **Marchant DB**, Pryer KM, Rothfels CJ, Roux SJ, Salmi ML, Sigel EM, Soltis DE, Soltis PS, Stevenson DW, Wolf PG. 2014. Between two fern genomes. *GigaScience* 3:15.
13. Cho A, Johnson SA, Schuman C, Adler J, Gonzalez O, Graves SJ, Huebner J, **Marchant DB**, Rafi S, Skinner I, Bruna E. 2014. Women are underrepresented on the editorial boards of journals in environmental biology and natural resource management. *PeerJ* 2:e542.

NON-PEER REVIEWED PUBLICATIONS

14. **Marchant DB**, Stein AC, Herman T. 2015. Natural History Notes: *Agalychnis callidryas* and *Cruziohyala calcarifer* reproductive behavior. *Herpetological Review* 46(2).

PRESENTATIONS

- Botany Conference**, Rochester, Minnesota
“*Incorporating a fern genome into land plant evolutionary genomics*”± 2018
- Florida Museum of Natural History**, Gainesville, Florida
Dissertation Seminar: “*Elucidating monilophyte genomics: how transposable elements, and the alternation of independent generations drive fern evolution*”± 2018
- International Plant and Animal Genome Conference**, San Diego, California
Invited Presentation: “*Unfurling monilophyte genomics: how polyploidy, transposable elements, and the alternation of independent generations drive fern evolution*”± 2018
- International Botanical Congress**, Shenzhen, China
“*Unfurling monilophyte genomics: how polyploidy, transposable elements, and the alternation of independent generations drive fern evolution*”± 2017
- University of Colorado**, Denver, Colorado
Invited Seminar: “*Big data, phylogeny, and plant diversity*”
co-presented with PS Soltis 2016
- Botany Conference**, Savannah, Georgia
Invited Presentation: “*Gene evolution and specificity underlying the alternation of generations in *Ceratopteris richardii**”± 2016
“*Patterns of abiotic niche shifts in polyploids relative to their progenitors*”± 2016
- International Conference on Polyploidy, Hybridization, and Biodiversity**, Rovinj, Croatia
“*How polyploidy, transposable elements, and life history traits shape fern genome evolution*” ± 2016
- International Plant and Animal Genome Conference**, San Diego, California
Invited Presentation: “*Explorations into the C-Fern genome*”± 2016
- Next Generation Pteridology Botanical Symposium Conference**, Smithsonian Institute, Washington, D.C.
Invited Speaker: “*Delving into the C-Fern genome*”± 2015
- Botany Conference**, Edmonton, Alberta
“*Transcriptomic and genomic investigations of the homosporous fern, *Ceratopteris richardii**” ± 2015
- Florida Genetics Symposium**, University of Florida, Gainesville, Florida
“*Delving into the C-Fern genome and euphylllophyte evolution*”* 2014
- Botany Conference**, Boise, Idaho
“*Delving into the C-Fern genome and euphylllophyte evolution*”* 2014
- 1KP Sporophyte-Gametophyte Transcriptome Meeting**, University of Florida, Gainesville, Florida
“*Delving into the C-Fern genome and euphylllophyte evolution*”± 2014

* denotes poster presentation; ± denotes formal oral presentation

OUTREACH

- Preparing Leaders and Nurturing Tomorrow’s Scientists (PLANTS) Mentor
http://botany.org/awards_grants/detail/PLANTS.php
- PlantingScience Mentor and Liaison
<http://www.plantingscience.org/>
- Center for Precollegiate Education and Training Summer Science Quest
<https://www.cpet.ufl.edu/students/sciquest/>
- Center for Precollegiate Education and Training Summer Science Institute: Advanced Topics in Evolution

<http://www.cpet.ufl.edu/teachers/ssi/evolution/>
Data Carpentry Genomics & Assessment Hackathon, Cold Spring Harbor, New York
<http://www.datacarpentry.org/>
“Broadening careers and graduate study in the biological sciences” workshop, University
of Central Florida, Orlando, Florida
[https://www.idigbio.org/content/broadening-minority-participation-biological-
sciences-workshop-focused-careers-and-graduate](https://www.idigbio.org/content/broadening-minority-participation-biological-sciences-workshop-focused-careers-and-graduate)
Reviewer for *Nature*, *PLOS ONE*, *New Phytologist*, *American Journal of Botany*,
Molecular Ecology, *Molecular Biology and Evolution*

AWARDS AND LEADERSHIP

Botanical Society of America Travel Grant (\$2,400)
CLAS Travel Grant (\$300)
Biology Department Travel Award (\$150)
Mildreth Mason Griffith Botany Grant (\$1,000)
NSF East Asia and Pacific Summer Institutes (EAPSI) Fellowship (\$10,000)
University of Florida Genetics Institute SEED Award (\$15,000)
Lockhart Fellowship Endowment (\$500)
Graduate Student Council Travel Grant (\$350)
Botanical Society of America Graduate Student Research Award (\$500)
Honorable Mention of the NSF Graduate Research Fellowship Program
University of Florida Biology Graduate Student Association Officer
Executive Board of Phi Sigma Biological Honors Society