

YA YANG 杨涯

Department of Plant & Microbial Biology
 University of Minnesota, Twin Cities
 1445 Gortner Avenue
 St. Paul, MN 55108

Email: yangya@umn.edu
 Phone: (612) 625-6292
 Lab website: yangya.org
[Google Scholar profile](#)

EDUCATION

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| 2012 | Ph.D. in Ecology and Evolutionary Biology, University of Michigan, Ann Arbor |
| 2005 | B.S. in Biology, Peking University, Beijing, China |

ACADEMIC APPOINTMENTS

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| 11/2016– | Assistant Professor, Department of Plant and Microbial Biology, University of Minnesota |
| 11/2016– | Curator, University of Minnesota Herbarium (MIN) |
| 2012–2016 | Postdoctoral Fellow, University of Michigan |
| 2006–2011 | Graduate Student Teaching, Research, and Curatorial Assistant, University of Michigan |

Other academic affiliations at University of Minnesota:

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|-------|---|
| 2017– | Full Member, Microbial and Plant Genomics Institute |
| 2017– | Graduate Faculty, Ecology, Evolution, and Behavior Graduate Program |
| 2016– | Graduate Faculty, Plant and Microbial Biology Graduate Program |

RESEARCH SUPPORT

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| 2020–2025 | BII-Implementation: The causes and consequences of plant biodiversity across scales in a rapidly changing world. Co-PI. Lead PI: Jeannine Cavender-Bares. \$12.5 M total, %4 role. |
| 2020–2023 | NSF DEB-NERC: Collaborative research: Plant chemistry and its impact on diversification and habitat of plants adapted to extreme environments. Lead PI. Co-PIs: Hiroshi Maeda (U Wisconsin), Samuel Brockington (U Cambridge), and Stephen Smith (U Michigan). \$1.4M total, \$482,198 to Yang. |
| 2020–2022 | NSF DEB SG: Phylogenomics, chromosome evolution, and diversification of the sundews, a group of carnivorous plants. Sole PI, proposal developed by graduate student Rebekah Mohn. \$199,994. |
| 2020–2021 | US Army Corp of Engineers (USACE): Multiple Species Inventory and Management Analysis Mississippi Headwaters Project, St. Paul District. Co-PI. Lead PI: Kenneth Kozak. \$34,496 total, \$5,864 to Yang. |
| 2018–2021 | NSF Digitization TCN: Collaborative: Digitizing “Endless forms most beautiful and most wonderful”: Facilitating Research on Imperiled Plants with Extreme Morphologies. PI for \$27,426 subaward to U Minnesota. Lead PI: Matthew Pace, New York Botanical Garden. |
| 2018–2021 | Minnesota Environment & Natural Resources Trust Fund (ENRTF): Minnesota Biodiversity Atlas: Phase II Expansion. Co-PI. Lead PI: George Weiblen. \$350,000 total (5–10% to Yang). |
| 2019 | US Army Corp of Engineers (USACE): Multiple Species Inventory and Management Analysis Mississippi Headwaters Project, St. Paul District. Co-PI. Lead PI: Kenneth Kozak. \$164,299 total (7% to Yang). |
| 2010 | McBryde Fellowship, National Tropical Botanical Garden (\$10,000) |
| 2008 | Winifred B. Chase Fellowship, U Michigan (\$1,500) |
| 2006 | Rackham Graduate Student Research Grant, U Michigan (\$1,500) |

PUBLICATIONS

Lab members in bold

2020

24. **Morales-Briones, D.F.**, G. Kadereit, D.T. Tefarikis, M.J. Moore, S.A. Smith, S.F. Brockington, A. Timoneda, W.C. Yim, J.C. Cushman, and **Y. Yang**. Disentangling sources of gene tree discordance in phylogenomic datasets: Testing ancient hybridizations in Amaranthaceae s.l. *Systematic Biology*. *In press*.

2019

23. Qiu, Y.-J., C.D. Hirsch, **Y. Yang**, and E. Watkins. Towards improved molecular identification tools in Fine Fescue (*Festuca* L., Poaceae) turfgrasses: Nuclear genome size, ploidy, and chloroplast genome sequencing. *Frontiers in Genetics*.10:1223

22. **Chen L.-Y., D.F. Morales-Briones**, C.N. Passow, and **Yang Y.** Performance of gene expression analyses using de novo assembled transcripts in polyploid species. *Bioinformatics*. 35(21): 4314–4320.

21. Feng T., **Y. Yang**, L. Busta, E.B. Cahoon, H.-C. Wang, and S.-Y. Lu. FAD2 gene radiation and positive selection contributed to polyacetylene metabolism evolution in Campanulids. *Plant Physiology*. 181(2):714–728.

20. Wang, N., **Y. Yang**, M.J. Moore, S.F. Brockington, J.F. Walker, J.W. Brown, B. Liang, T. Feng, C. Edwards, J. Mikenas, J. Olivieri, V. Hutchison, A. Timoneda, T. Stoughton, R. Puente, L.C. Majure, U. Eggli and S.A. Smith (2019). Evolution of Portulacineae marked by gene tree conflict and gene family expansion associated with adaptation to harsh environments. *Molecular Biology and Evolution* 36(1): 112–126.

2018

19. **Yang, Y.**, C.W. Morden, M.J. Sporck-Koehler, L. Sack, W.L. Wagner, and P.E. Berry. Repeated range expansion and niche shift in a volcanic hotspot archipelago: radiation of C₄ Hawaiian *Euphorbia* (Euphorbiaceae). *Ecology and Evolution*. doi:10.1002/ece3.4354

18. Walker, J.F., **Y. Yang**, T. Feng, A. Timoneda, J. Mikenas, V. Hutchison, C. Edwards, N. Wang, S. Ahluwalia, J. Olivieri, N. Walker-Hale, L.C. Majure, R. Puente, G. Kadereit, M. Lauterbach, U. Eggli, H. Flores-Olvera, H. Ochoterena, S.F. Brockington, M.J. Moore, and S.A. Smith. From cacti to carnivores: Improved phylotranscriptomic sampling and hierarchical homology inference provides further insight to the evolution of Caryophyllales. *American Journal of Botany*. 105(3):446–462

17. McKain, M.R., M.G. Johnson, S. Uribe-Convers, D. Eaton, and **Y. Yang**. Practical considerations for plant phylogenomics. *Applications in Plant Sciences* 6(3): e1038.

16. Lopez-Nieves, S., **Y. Yang**, A. Timoneda, M.-M. Wang, T. Feng, S.A. Smith, S.F. Brockington, and H.A. Maeda. 2018. Relaxation of tyrosine pathway regulation underlies the evolution of betalain pigmentation in Caryophyllales. *New Phytologist* 217(2): 896–908.

15. **Yang, Y.**, M.J. Moore, S.F. Brockington, J. Mikenas, J. Olivieri, J.F. Walker, and S.A. Smith. 2018. Improved transcriptome sampling pinpoints 26 ancient and more recent polyploidy events in Caryophyllales, including two allopolyploidy events. *New Phytologist*. 217(2): 855–870.

14. Smith, S.A., J.W. Brown, **Y. Yang**, R. Bruenn, C.P. Drummond, S.F. Brockington, J.F. Walker, N. Last, N.A. Douglas, and M.J. Moore. 2018. Disparity, diversity, and duplications in the Caryophyllales. *New Phytologist* 217(2): 836–854.

2017

13. Walker, J.F., **Y. Yang**, M.J. Moore, J. Mikenas, A. Timoneda, S.F. Brockington, and S.A. Smith. Widespread paleopolyploidy, gene tree conflict, and recalcitrant relationships among the carnivorous Caryophyllales. *American Journal of Botany*. 104(6): 858–867

12. **Yang, Y.**, M.J. Moore, S.F. Brockington, A. Timoneda, T. Feng, H.E. Marx, J.F. Walker, and S.A. Smith. An efficient field and laboratory workflow for plant phylotranscriptomic projects. *Applications in Plant Sciences* 5(3):1600128.

2016 and earlier (during Ph.D. and postdoc, both at U Michigan)

11. Smith, S.A., M.J. Moore, J.W. Brown, and **Y. Yang**. 2015. Analysis of phylogenomic datasets reveals conflict, concordance, and gene duplications with examples from animals and plants. *BMC Evolutionary Biology*. 15:150. doi:10.1186/s12862-015-0423-0. *Highly accessed

10. Brockington S.F.*, **Y. Yang***, F. Gandia-Herrero, S. Covshoff, J.M. Hibberd, R.F. Sage, G.K.-S. Wong, M.J. Moore, and S.A. Smith. 2015. Lineage-specific gene radiations underlie the evolution of novel betalain pigmentation in Caryophyllales. *New Phytologist*. 207(4) 1170–1180 *Co-first author. Highlighted in New Phytologist by David L. Des Marais

9. **Yang, Y.**, M.J. Moore, S.F. Brockington, D.E. Soltis, G.K.-S. Wong, E.J. Carpenter, Y. Zhang, L. Chen, Z.-X. Yan, Y.-L. Xie, R.F. Sage, S. Covshoff, J.M. Hibberd, M.N. Nelson, and S.A. Smith. 2015. Dissecting molecular evolution in the highly diverse plant clade Caryophyllales using transcriptome sequencing. *Molecular Biology and Evolution* 32(8): 2001–2014.

8. **Yang, Y.** and S.A. Smith. 2014. Orthology inference in non-model organisms using transcriptomes and low-coverage genomes: improving accuracy and matrix occupancy for phylogenomics. *Molecular Biology and Evolution* 31(11):3081–3092.

7. Horn, J.W., Z.-X. Xi, R. Riina, J.A. Peirson, **Y. Yang**, B.L. Dorsey, P.E. Berry, C.C. Davis, and K.J. Wurdack. 2014. Evolutionary bursts in the *Euphorbia* (Euphorbiaceae) are linked with photosynthetic pathway. *Evolution*. 68(12):3485–3504

6. Yang, X.-X, **Y. Yang**, C.-J. Ji, T. Feng, Y. Shi, L. Lin, J.-J. Ma, and J.-S. He. 2014. Large-scale patterns of stomatal traits in Tibetan and Mongolian grassland species. *Basic and Applied Ecology* 15(2):122–132

5. **Yang, Y.** and S.A. Smith. 2013. Optimizing de novo assembly of short-read RNA-seq data for phylogenomics. *BMC Genomics* 14:328. doi:10.1186/1471-2164-14-328. *Highly accessed

4. **Yang, Y.**, R. Riina, J.J. Morawetz, T. Haevermans, X. Aubriot, and P.E. Berry. 2012. Molecular phylogenetics and classification of *Euphorbia* subgenus *Chamaesyce*. *Taxon* 61(4): 764–789

3. **Yang, Y.** and P.E. Berry. 2011. Phylogenetics of the Chamaesyce clade (*Euphorbia*, Euphorbiaceae): reticulate evolution and long-distance dispersal in a prominent C₄ lineage. *American Journal of Botany* 98(9):1486–1503

2. Berry, P.E., V.W. Steinmann, and **Y. Yang**. 2011. Proposal to conserve the name *Euphorbia acuta* Engelm. against *Euphorbia acuta* Bellardi ex Colla (Euphorbiaceae). *Taxon* 60 (2):603–604

1. Hendry, T.A., B. Wang, **Y. Yang**, E.C. Davis, J.E. Braggins, R.M. Schuster, and Y.-L. Qiu. 2007. Evaluating phylogenetic positions of four liverworts from New Zealand, *Neogrollea notabilis*, *Jackiella curvata*, *Goebelobryum unguiculatum* and *Herzogianthus vaginatus*, using three chloroplast genes. *The Bryologist* 110:738–751

Book chapter

Berry, P.E., J.A. Peirson, J.J. Morawetz, V.W. Steinmann, R. Riina, **Y. Yang**, D. Geltman, & N.I. Cacho. *Euphorbia*. 2016. Flora of North America Editorial Committee, eds. *Flora of North America North of Mexico*. Vol. 12. 240–324. New York and Oxford.

TEACHING

University of Minnesota

Instructor

Spring 2019 PMB 2022 General Botany (3 credits, 72 students). Course re-design for active learning classroom.

Spring 2018 BIOL 2022 General Botany (3 credits, 74 students). With John Ward.

Fall 2017 EEB 8990 Introduction to Phylogenetics (1 credit, 8 students). With Keith Barker.

Collaborative Efforts and Activities

2017 Guest lecture in BIOL 1020 Biology Colloquium

University of Michigan

2006–2011 Graduate Student Instructor. BIO305 Genetics ×1, BIO230 Plant Biology ×2, BIO162/171/173 Introductory Biology ×4.

Instructor for External Workshops

2015–2020 Half-day workshop on transcriptome analyses for non-model plants.

Society for Systematic Biologists Meeting, Ann Arbor, MI (2015)

Botany, Savannah, GA (2016)

Botany, Rochester, MN (2018)

Virtual Botany Conference (2020)

2018 Full-day workshop “Practical considerations for plant phylogenomics”. With Michael Moore and Diego Morales-Briones. Instituto de Biología, Universidad Nacional Autónoma de México.

MENTORING

Post-doctoral Fellows:

2017– Diego F. Morales-Briones

2017–2019 Lingyun Chen

Graduate Students:

Doctoral Dissertations Directed

2020– Aaron Lee. Dissertation topic TBD.

2019– Alexandra Crum. Dissertation topic TBD.

2017– Rebekah Mohn. Chromosome evolution in *Drosera*, Droseraceae.

Doctoral Committees Served on

2019– Nicole Mihelich

2017– Zacky Ezedin

2019–2020 Yinjie Qiu

2018–2019 Zachary Sperstad

Visiting Scholars Hosted:

2019–2020 Nan Lin (Wuhan Botanical Garden, Chinese Academy of Sciences; 12 months)

2018 Delphine Tefarikis (Johannes Gutenberg University Mainz, Germany; 5 weeks)

Undergraduate Students:

2019 Ailin Wang (U Minnesota)

2015–2016 Sonia Ahluwalia (U Michigan)

2015 Julia Olivieri (Oberlin College)

2007 Rebecca Povilus (U Michigan)

PRESENTATIONS

Invited seminar presentations

- 2020 Dept. of Biology, Duke University, NC (virtual)
- 2020 Bonnie Templeton Lecture, Oregon State University Herbarium, Corvallis, OR (virtual)
- 2020 Dept. of Biological Sciences, Texas Tech University, TX (virtual)
- 2019 Dept. of Biological Sciences, U Illinois at Chicago, IL
- 2019 Dept. of Biology, U Minnesota, Duluth, MN
- 2017 Dept. of Biology, U Idaho, Boise, ID
- 2017 Dept. of Horticultural Science, U Minnesota, Twin Cities, MN
- 2017 Wuhan Botanical Garden, Chinese Academy of Sciences, Wuhan, China
- 2017 Microbial and Plant Genome Institute, U Minnesota, Twin Cities, MN
- 2017 Dept. of Ecology, Evolution, and Behavior, U Minnesota, Twin Cities, MN
- 2016 Dept. of Plant Biology, U Minnesota, Twin Cities, MN
- 2016 Dept. of Biological Sciences, U Alabama, Tuscaloosa, AL
- 2016 Dept. of Ecology and Evolutionary Biology, U Tennessee, Knoxville, TN
- 2015 National Center for Integrative Biomedical Informatics, Ann Arbor, MI

Invited conference presentations

- 2020 Society for Molecular Biology and Evolution annual conference (virtual)
- 2018 Botany, Rochester, MN
- 2018 Plant & Animal Genome Conference (PAG) XXVI, San Diego, CA
- 2017 XIX International Botanical Congress, Shenzhen, China
- 2015 Botany, Edmonton, Alberta, Canada
- 2014 Botany, Boise, ID

Contributed conference presentations

- 2020 Society of Systematic Biologists standalone meeting, Gainesville, FL
- 2018 Caryophyllales 2018, Mexico City, Mexico
- 2017 Society of Systematic Biologists standalone meeting, Baton Rouge, LA
- 2016 Botany, Savanna, GA
- 2016 Evolution, Austin, TX
- 2014 Evolution, Raleigh, NC
- 2013 Society for Molecular Biology and Evolution, Chicago, IL
- 2011 XVIII International Botanical Congress, Melbourne, Australia
- 2011 Evolution, Norman, OK
- 2009 Botany and Mycology, Snowbird, UT
- 2008 Botany, Vancouver, British Columbia, Canada
- 2007 Botany and Plant Biology, Chicago, IL

FIELD EXPERIENCE

- 2019 USA: MN; 2 weeks. *Drosera*; floristic survey.
- 2015 Southwestern USA; 3.5 weeks. Caryophyllales.
- 2014 Northern Mexico; 2 weeks. Caryophyllales.
- 2009 USA: HI; 1.5 weeks. *Euphorbia*.
- 2008 USA: Southern FL; 1.5 weeks. *Euphorbia*.
- 2008 Mexico: Baja California Sur; 1 week. *Euphorbia*.
- 2007 Central Mexico; 1 week. *Euphorbia*.
- 2007 USA: Western TX; 2 weeks. *Euphorbia*.
- 2003 China: Guangxi Province; 4 weeks. Undergraduate field assistant on behavior study of *Trachypithecus leucocephalus* (White-headed langur).

SERVICE AND OUTREACH

Service to the discipline

Review for journals, book proposals, and conference proceedings:

American Journal of Botany	Molecular Ecology Resources
Bioinformatics	Molecular Phylogenetics and Evolution
BMC Bioinformatics	New Phytologist
BMC Biology	Pacific Science
Botanical Journal of the Linnaean Society	PeerJ
CRC Press/Taylor and Francis Group	Plant Physiology
Evolution	Phytotaxa
Frontiers in Plant Science	PloS One
Genome Biology and Evolution	Pacific Symposium on Biocomputing
Integrative and Comparative Biology	Scientific Reports
Journal of Ecology	Systematic Botany
Journal of Systematics and Evolution	Systematic Biology
Molecular Biology and Evolution	

Review for grants:

- 2016–2020 Society of Systematic Biologists Graduate Student Research Award (2016, 2017, 2020)
 2016, 2018 Panelist, Division of Environmental Biology, National Science Foundation (NSF DEB).

Editorial services:

- 2021– Associate Editor, Systematic Biology
 2018– Associate Editor, Applications in Plant Sciences
 2017 Guest Editor, Tree of Life special issue, Applications in Plant Sciences

Conferences and workshops organized

- 2018 Field trip coordinator, Botany, Rochester, MN
 2018 Panelist, Job Transparency Workshop, Botany, Rochester, MN

Service to the University of Minnesota

- 2017–2019 Plant Biological Sciences graduate program steering committee
 2018 Search Committee for the U Minnesota Herbarium collection manager
 2017–2019 Bell Museum Diversity Committee
 2017–2019 College of Biological Sciences Conservatory planning committee

Service to the University of Michigan

- 2012–2013 Organizer for EEB postdoc career development monthly events
 2012 Judge for “EEB Outstanding Graduate Student Paper”
 2012 Organization committee, Early Career Scientist Symposium “Biodiversity Informatics”
 2009–2010 EEB Seminar Committee

Public service

- 2017– Bell Museum public outreach events: Minnesota State Fair booth, Master Naturalist citizen science workshop, herbarium tours (several each year), educator preview (×2), scientific partner luncheon, grand opening Science Sunday events, Botany Bonanza special exhibition.
 2018 Market Science volunteer, Minneapolis, MN
 2017 Invited lightning talk, SciSpark Women in Science, St. Paul, MN
 2016 Panelist, Career in academia, Peking University Alumni Symposium, San Francisco, CA
 2014 Teaching assistant, one-day high school teacher workshop “Genes and Genomes”. Ann Arbor, MI

PROFESSIONAL DEVELOPMENT & ADDITIONAL TRAININGS

- 2016– On-campus and virtual workshops offered by the Center for Educational Innovation (CEI), the New Faculty Program, and Broadening Representation and Equity with Science (BREWS), U Minnesota.
- 2020 Supervisory Development Cohort, virtual course by U Minnesota.
- 2019 Reintegrating Biology Jumpstart meeting, virtual workshop by National Science Foundation.
- 2018 Faculty Success Program, National Center for Faculty Development & Diversity (NCFDD).
- 2018 Grant Writing Workshop, Mountain Lake Biological Station, VA.
- 2018 Strategic Planning for Herbarium short course, Society of Herbarium Curators and iDigBio.
- 2018 Advancing Digitization of Biodiversity Collections (ADBC) Summit, iDigBio, Gainesville, FL.
- 2017 ForestGEO Genomics Workshop, Smithsonian Tropical Research Institute, Barro Colorado Island, Panama.
- 2016 Plant Systems Cyberinfrastructure Strategic Plan, Rockville, MD.
- 2013–2015 Workshops offered by the annual Prepare Future Faculty conference, U Michigan.
- 2009 Fast, Free Phylogenies: HPC for Phylogenetics Tutorial. National Institute for Mathematical and Biological Synthesis (NIMBioS), Knoxville, KY.
- 2006 Five-week course “Biodiversity of Tropical Plants” with P. Barry Tomlinson, Harvard Summer School. Fairchild Tropical Botanic Garden, Miami, FL.
- 2005 Three-week intensive Graduate Student Instructor training program “Teaching and Classroom Communication”, U Michigan.

AWARDS & FELLOWSHIPS

- 2012 Peter Buck Postdoctoral Fellowship, Smithsonian National Museum of Natural History (declined to accept a postdoc position at the U Michigan)

PROFESSIONAL AFFILIATIONS

American Society of Plant Taxonomists (ASPT)
 Botanical Society of America (BSA)
 Society of Systematic Biologists (SSB)
 Society for Molecular Biology and Evolution (SMBE)

Languages: Chinese (native), English (fluent)