RYAN FOLK

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PROFESSIONAL APPOINTMENTS:

Assistant professor and herbarium curator	Mississippi State University	2019 –
Postdoctoral associate	University of Florida	2017 – 2019
Postdoctoral fellow	NSF (courtesy appt. at UF)	2015 – 2017

EDUCATION:

Ph.D., Evolution, Ecology, and Organismal Biology, The Ohio State University, 2010-2015. Dissertation: *Biosystematics of the Genus* Heuchera *(Saxifragaceae)*. 594 pp.

B.S., Biology, *Summa cum Laude,* University of Akron, 2006-2010. Minor, Chemistry.

RESEARCH GRANTS:

2020, PI: DEB core (NSF DEB-1916632, $749,003). Origin and impact of nitrogen-fixing symbioses in a major clade of flowering plants.

2019, Sr. Pers: DBI (NSF DBI-1930007, $880,172). CIBR: Collaborative Research: Integrating data communities with BiotaPhy: A computational platform for data-intensive biodiversity research and training.

2017, Sr. Pers.: Systems Biology Research to Advance Sustainable Bioenergy Crop Development (DOE DE-SC0018247, $7,309,576). Phylogenomic discovery and engineering of nitrogen fixation into the bioenergy woody crop poplar. Press release: http://blogs.ifas.ufl.edu/news/2017/10/02/uf-researchers-awarded-7m-grant-improve-plants-get-nitrogen-reduce-pollution/. Project website: http://nitfix.org/.

2017, co-PI: Research Opportunity Fund (University of Florida, $67,226, PI D. Soltis). Using the tree of life to develop novel approaches for public engagement in science.

2017, PI, co-PI: Two XSEDE start-up allocations (50,000 Stampede system units ea., approx. $1,739 equivalent value).

2017, co-PI: Biodiversity Institute Seed Grant (University of Florida, co-funded with the University of Florida Informatics Institute, $40,000, PI D. Soltis). An integrative resource for trait-based evolutionary synthesis: Uncovering hidden enablers of nitrogen fixation in the rosids.

2016, co-PI: Genetics Institute Pilot Grant (University of Florida, $49,727, PI R. Guralnick). Next Generation Bioinformatics—Tools for rapid mining and assembly from genomic repositories.

2015, PI: Post-Doctoral Fellowship in Biology (NSF DBI-1523667, $138,000). Niche biology in deep time: New methods for ancestral niche reconstruction applied to the Saxifragales.

2014, co-PI: Doctoral Dissertation Improvement Grant (NSF DEB-1406721, $15,502; PI J. Freudenstein). Investigating the impact of hybridization on diversification: A case study in the plant genus *Heuchera*.
2013, PI: American Society of Plant Taxonomists Research Grant ($800)
2013, PI: AGGRS Alumni Grant (The Ohio State University, $1,900)
2012, PI: R. L. Stuckey Endowment Fund (The Ohio State University, $1,500)
2011, PI: Beatley Fund (The Ohio State University, $1,200)
2008, 2009, PI: Dr. Paul Acquarone Award in Plant Sciences (University of Akron, $450 each)

FOREIGN PERSONNEL ROLES:
2017, foreign collaborator: Major international joint research project (NSFC of P.R. China, 3.1066 million yuan RMB = ~$450,000; PI T. Yi) The global diversification of Rosales in space and time.

PUBLICATIONS:
24. **Folk, R.A.**, R.L. Stubbs, M.E. Mort, N. Cellinese, J.M. Allen, P.S. Soltis, D.E. Soltis, and R.P. Guralnick. 2019. Rates of niche and phenotype evolution lag behind diversification in a temperate radiation. *Proceedings of the National Academy of Sciences* 116: 10874–10882. Recommended by F1000: https://f1000.com/prime/735754205
23. Oswald, J.A., J.M. Allen, K.E. Witt, **R.A. Folk**, N.A. Albury, D.W. Steadman, and R.P. Guralnick. 2019. Ancient DNA from a 2,500-year-old Caribbean fossil places an extinct bird (*Caracara creightoni*) in a phylogenetic context. *Molecular Phylogenetics and Evolution* 140, 106576.
22. Howard, C.C., **R.A. Folk**, J.M. Beaulieu, and N. Cellinese. 2019. The monocotyledonous underground: Global climatic and phylogenetic patterns of geophyte diversity. *American Journal of Botany* 106: 850–863.
21. Soltis, P.S., **R.A. Folk**, and D.E. Soltis. 2019. Darwin review: Angiosperm phylogeny and evolutionary radiations. *Proceedings of the Royal Society B* 286: 20190099.
20. Allen, J.M.*, **R.A. Folk***, P.S. Soltis, R.P. Guralnick, and D.E. Soltis. 2019. Space, traits, and history: Biodiversity synthesis in the green branches of the Tree of Life. *Nature Plants* 5: 11–13.
19. Yang, R., **R.A. Folk**, N. Zhang, X. Gong. In press. Formation and population dynamics of hybrids in the Hengduan Mountains flora. *Ecology and Evolution*.
18. **Folk, R.A.**, C.J. Visger, D.E. Soltis, P.S. Soltis, and R.P. Guralnick. 2018. Geographic range dynamics drove ancient hybridization in a lineage of angiosperms. *American Naturalist* 192: 171–187.
17. **Folk, R.A.**, M. Sun, S.A. Smith, P.S. Soltis, R.P. Guralnick, and D.E. Soltis. 2018. Challenges of comprehensive taxon sampling in comparative biology: Wrestling with rosids. *American Journal of Botany* 105: 433–444. Invited review, special Tree of Life issue.
16. **Folk, R.A.**, P.S. Soltis, R.P. Guralnick, and D.E. Soltis, and R.P. Guralnick. 2018. New prospects in the detection and comparative analysis of hybridization. *American Journal of Botany* 105: 363–374. Invited review, special Tree of Life issue.
15. Allen, J.M., R. LaFrance, **R.A. Folk**, K. Johnson, and R.P. Guralnick. 2018. aTRAM 2.0: An improved, flexible locus assembler for NGS data. *Evolutionary Bioinformatics* 14: 1176934318774546.

14. **Folk, R.A.***, J.C. Ginori*†, D.E. Soltis, and A.J. Floden. 2018. Integrative identification of incipient lineages in *Heuchera longiflora* (Saxifragaceae). *Botanical Journal of the Linnean Society* 187: 327–345.
13. Zhang N.-N., Y.-P Ma., **R.A. Folk**, J.-J. Yu, Y.-Z. Pan, and X. Gong. 2018. Maintenance of species boundaries in three sympatric *Ligularia* (Senecioneae, Asteraceae) species. *Journal of Integrative Plant Biology* 60: 986–999.
12. Schuette, S., **R.A. Folk**, J.T. Cantley, and C.T. Martine. 2018. The hidden *Heuchera:* How science Twitter uncovered a globally imperiled species in Pennsylvania, USA. *PhytoKeys* 96: 87–97.
11. Stubbs, R.L., **R.A. Folk**, C. Xiang, D.E. Soltis, and N. Cellinese. 2018. Pseudo-parallel patterns of disjunctions in an Arctic-alpine plant lineage. *Molecular Phylogenetics and Evolution*. 123: 88–100.
10. **Folk, R.A.**, J.R. Mandel, and J.V. Freudenstein. 2017. Ancestral gene flow and parallel organellar genome capture result in extreme phylogenomic discord in a lineage of angiosperms. *Systematic Biology* 66: 320–337.
9. Zhang, R., X. Gong, and **R.A. Folk**. 2017. Evidence for continual hybridization rather than hybrid speciation between *Ligularia duciformis* and *L. paradoxa* (Asteraceae). *PeerJ* 5: e3884.
8. García, N., **R.A Folk**, A.W. Meerow, S. Chamala, M.A. Gitzendanner, R.S de Oliveira, D.E. Soltis, and P.S. Soltis. 2017. Deep reticulation and incomplete lineage sorting obscure the diploid phylogeny of rain-lilies and allies (Amaryllidaceae tribe Hippeastreae). *Molecular Phylogenetics and Evolution.* 111: 231–247.
7. Freudenstein, J.V., M.B. Broe*, **R.A. Folk***, and B.T. Sinn*. 2017. Biodiversity and the species concept – Lineages are not enough. *Systematic Biology* 66(4): 644–656.
6. **Folk R.A.** and P.J. Alexander. 2015. Two new species, *Heuchera soltisii* and *H. inconstans*, with further taxonomic notes for the western group of *Heuchera* section *Heuchera* (Saxifragaceae). *Systematic Botany* 40: 489–500.
5. **Folk, R.A.**, J.R. Mandel, and J.V. Freudenstein. 2015. A protocol for targeted enrichment of intron-containing sequence markers for recent radiations: A phylogenomic example with genomic resources from *Heuchera* (Saxifragaceae). *Applications in Plant Sciences* 3: 1500039.
4. **Folk, R.A.** and J.V. Freudenstein. 2015. "Sky islands" in the eastern U.S.A.? – Strong phylogenetic structure in the *Heuchera parviflora* group (Saxifragaceae). *Taxon* 64: 254–271.
3. **Folk, R.A.** and J.V. Freudenstein. 2014. Phylogenetic relationships and character evolution in the genus *Heuchera* L. (Saxifragaceae) on the basis of nuclear loci. *American Journal of Botany* 101: 1532–1550.
2. **Folk, R.A.** and J.V. Freudenstein. 2014. Revision of *Heuchera* section *Rhodoheuchera* subsections *Hemsleyanae* and *Rosendahliae* subsect. nova (Saxifragaceae). *Systematic Botany* 39: 850–874.
1. **Folk, R.A.** 2013. *Heuchera lakelae* (Saxifragaceae), a new species from the Sierra La Marta and Sierra Coahuilón, Coahuila and Nuevo León, Mexico. *Phytotaxa* 124: 37–42.

MANUSCRIPTS IN PROCESS:

25. Liu, L., Y. Du, **R.A. Folk**, P. Li, D.E. Soltis, and C. Fu. Submitted. Plastid genome evolution in Saxifragaceae and multiple plastid capture events involving *Heuchera* and *Tiarella. BMC Plant Biology.*

26. Stubbs, R.L., **R.A. Folk**, C.-L. Xiang S. Chen, D.E. Soltis, N. Cellinese. Resubmission in preparation for *Frontiers in Plant Sciences*. Phylogenomics reveals evolutionary processes and historical biogeography within an arctic-alpine lineage (*Micranthes*, Saxifragaceae).
27. Sun, M., **R.A. Folk**, M.A. Gitzendanner, S.A. Smith, C. Germain-Aubrey, R.P. Guralnick, P.S. Soltis, Z. Chen, and D.E. Soltis. In revision. Exploring the phylogeny and diversification of rosids with a five-locus supermatrix. *Journal of Systematics and Evolution*. Preprint available at: https://www.biorxiv.org/content/10.1101/694950v1
28. Sun, M.*, **R.A. Folk***, M.A. Gitzendanner, R.P. Guralnick, P.S. Soltis, Z. Chen, and D.E. Soltis. In review. Estimating rates and patterns of diversification with incomplete sampling: A case study in the rosids. *American Journal of Botany*. Preprint available at: https://www.biorxiv.org/content/10.1101/749325v1
29. Barve, V., L. Brenskelle, D. Li, B. Stucky, N. Barve, M. Hantak, B. McLean, D. Paluh, J. Oswald, M. Belitz, **R.A Folk**, andR.P. Guralnick. In review. Methods for broad-scale plant phenology assessments using citizen scientists' photographs. *Applications in Plant Sciences*. Preprint available at: https://www.biorxiv.org/content/10.1101/754275v1
30. Oswald, J.A., J.M. Allen, M.J. LeFebvre, B.J. Stucky, **R.A. Folk**, N.A. Albury, R.P. Guralnick, G.S. Morgan, D.W. Steadman. Submitted. Ancient DNA and high-resolution chronometry reveal a long-term human role in the historical diversity and biogeography of the Bahamian hutia. *Scientific Reports*.
31. Jantzen J.R., A.P.P.R. Amarasinghe, **R.A. Folk**, M. Reginato, F.A. Michelangeli, D.E. Soltis, N. Cellinese, P.S. Soltis. In review. A two-tier bioinformatic pipeline to develop probes for target capture of nuclear loci with applications in Melastomataceae. *Applications in Plant Sciences*.
32. **R.A. Folk***, N. Sewnath*, C.-L. Xiang, B.T. Sinn, R.P. Guralnick. In review. Degradation of key photosynthetic genes in the critically endangered semi-aquatic flowering plant *Saniculiphyllum guangxiense* (Saxifragaceae). *Genome Biology and Evolution*.

BOOK CHAPTERS AND OTHER NON-PEER-REVIEWED CONTRIBUTIONS:

Folk, R.A. and R.L. Stubbs. [In press] Treatment of Saxifragaceae. In R.F.C. Naczi, *New Manual of Vascular Plants of the Northeastern United States and Adjacent Canada*. [Initially issued as digital fascicles; print edition to follow on series completion]

Folk, R.A. and A.S. Weakley. Treatment of *Heuchera*. In A.S. Weakley. *Flora of the Southern and Mid-Atlantic States*. [Online e-book with print editions at irregular intervals]

**equally contributing authors*
†undergraduate author

AWARDS:

2017, Travel award, Florida Museum of Natural History ($1,000)
2015, Travel award for the Phylogenomics Symposium and Software School, Ann Arbor, Michigan ($500)
2014, George R. Cooley Award for best contributed paper in plant systematics ("Sky islands' in the eastern US? – Strong phylogeographic structure in the *Heuchera parviflora* group (Saxifragaceae)"; American Society of Plant Taxonomists, $500)
2010, Susan L. Huntington Distinguished University Fellowship (3 yr; $64,800)
2010, Young Botanist Award (Botanical Society of America)
2006 – 2010, Dean's List (The University of Akron)

DEPARTMENTAL SEMINARS:

Folk, R.A. 2019. Macroevolutionary approaches to habitat evolution in flowering plants. *Mississippi State University* (Department of Biochemistry, Molecular Biology, Entomology and Plant Pathology).

Folk, R.A. 2019. Macroevolutionary approaches to niche evolution in flowering plants. *Kunming Institute of Botany* (P.R. China).

Folk, R.A. 2019. Macroevolutionary approaches to niche evolution in flowering plants. *University of Hawai'i at Mānoa.*

Folk, R.A. 2019. Macroevolutionary approaches to niche evolution in flowering plants. *Mississippi State University* (Department of Biological Sciences).

Folk, R.A. 2019. Macroevolutionary approaches to niche evolution in flowering plants. *Marshall University.*

Folk, R.A. 2018. Large-scale approaches to understanding niche evolution and symbiosis in the flowering plants. *University of Florida.*

Folk, R.A. 2017. Large-scale approaches to understanding niche evolution and symbiosis in the flowering plants. *San Diego State University.*

Soltis, D.E.*, P.S. Soltis*, and **R.A. Folk***. 2017. The Tree of Life and the evolution of nitrogen-fixing symbioses. *New York Botanical Garden.*

Folk, R.A. 2017. Hybridization and diversification: Extreme phylogenomic discord in *Heuchera*. *Kunming Institute of Botany* (P.R. China).

Folk, R.A. 2017. Hybridization and diversification: Extreme phylogenomic discord in *Heuchera*. School of Integrative Plant Science, *Cornell University.*

Folk, R.A. 2017. Hybridization and diversification: Extreme phylogenomic discord in *Heuchera*. Department of Biology, *San Francisco State University.*

Folk, R.A. 2017. Hybridization and diversification: Extreme phylogenomic discord in *Heuchera*. Department of Biological Sciences, *University of Alabama.*

Folk, R.A. 2016. Hybridization and diversification: Extreme phylogenomic discord in *Heuchera*. Department of Biological Sciences, *Texas Tech University.*

Folk, R.A. 2016. New sequencing strategies for radiations ancient and recent—An explicit test of reticulate evolution in the *Heuchera* clade (Saxifragaceae). *Royal Botanic Garden Edinburgh* (United Kingdom).

Folk, R.A. 2015. Phylogenomics of *Heuchera*—Organellar capture and trait evolution. Florida Museum of Natural History, *University of Florida.*

Folk, R.A. 2014. Phylogenetic relationships in *Heuchera* (Saxifragaceae) based on ribosomal and low-copy nuclear loci. Department of Evolution, Ecology, and Organismal Biology, *The Ohio State University.*

**co-presented/tag-team*

INVITED SYMPOSIUM PRESENTATIONS:

Folk, R.A., M. Gaynor, Y. Okuyama, P.S. Soltis, D.E. Soltis, R.P. Guralnick. 2019. New prospects in studying hybridization: Assessing historical climatic drivers. Botanical Society of America symposium: Phylogenomic Perspectives on Reproductive Isolation and Introgression.

Folk, R.A. 2019. Hybridization and diversification: Extreme phylogenomic discord in *Heuchera*. Chicago Plant Science Symposium.

Kates, H.*, **R.A. Folk***, B. Ruben, C. Dervinis, R. LaFrance, M. Kirst, R.P. Guralnick, D.E. Soltis, P.S. Soltis. 2018. Rapid workflows from specimens to sequences: Global-scale

phylogenomics from collections. Botanical Society of America colloquium: Revolutionizing systematics: Herbaria in the Genomics Age.

Folk, R.A., D.E. Soltis, P.S. Soltis, N. Cellinese, M.E. Mort, J.M. Allen, R.L. Stubbs, R.P. Guralnick. 2018. Large-scale integration of specimens, literature, and database infrastructure in Saxifragales. Botanical Society of America colloquium: Revolutionizing systematics: Herbaria in the Genomics Age.

Folk, R.A.*, R.P. Guralnick, P.S. Soltis, D.E. Soltis, J.M. Allen*. 2017. Data assembly and post-processing in aTRAM for museum phylogenomics. International Botanical Congress (Shenzhen, P.R. China) symposium: Use of target capture and high-throughput sequencing as a tool for plant systematics.

Folk, R.A., C.J. Visger, R.P. Guralnick, D.E. Soltis, P.S. Soltis. 2017. Assessing ancestral niche suitability and geographic range dynamics as drivers of hybridization in *Heuchera* (Saxifragaceae). International Botanical Congress (Shenzhen, P.R. China) symposium: Hybridization and phylogenetic reconstruction.

Soltis, D.E.*, R.P. Guralnick, S.R. Manchester, J.M. Allen, M. Kirst, J. Oliverio, and **R.A. Folk***. Uncovering hidden enablers of nitrogen fixation in a major clade of flowering plants. University of Florida symposium: Collaborations in Biodiversity Research.

**co-presented/tag-team*

CONTRIBUTED CONFERENCE PRESENTATIONS:

García N., **R.A. Folk**. 2019. Progreso en la delimitación de especies en *Phycella* s.l. (Amaryllidaceae tribu Hippeastreae) ("Progress in species delimitation in *Phycella* s.l. [Amaryllidaceae tribe Hippeastreae]). Argentine Botanical Society meeting.

Folk, R.A., P.S. Soltis, D.E. Soltis, R.P. Guralnick. 2019. Drivers of inverse biodiversity gradients in Saxifragales. Botanical Society of America meeting.

Kates, H.R., **R.A. Folk**, M. Kirst, S. Roy, J.-M. Ané, R.P. Guralnick, D.E. Soltis, and P.S. Soltis. Phylogenomics of the nitrogen-fixing clade to uncover genomic novelties required for evolution of root nodule symbioses.

Melton, A., **R.A. Folk**, C.J. Grady, A. Stewart, J. Beach, P.S., Soltis, D.E. Soltis. 2019. Does ecology or biogeography better explain the eastern Asia–eastern North America species richness anomaly? Botanical Society of America meeting.

Oswald J., J.M. Allen, **R.A. Folk**, B. Stucky, D. Steadman, R.P. Guralnick. 2019. Using ancient DNA from fossils to place an extinct flightless bird genus in a phylogenetic context. American Ornithological Meeting.

Howard, C.C., J.B. Landis, **R.A. Folk**, J.M. Beaulieu, N. Cellinese. 2019. Digging for answers: The causes and consequences of geophytism in the monocots. SICB (Society for Integrative and Comparative Biology) 2019 meeting.

Stubbs, R.L., **R.A. Folk**, D.E. Soltis, N. Cellinese. 2019. Phylogenomics resolves relationships within an alpine-Arctic plant clade (*Micranthes,* Saxifragaceae) and reveals evolutionary processes and historical biogeography. SICB 2019 meeting.

Kates, H.R., J.-M. Ane, K. Balmant, D. Conde, M. Crook, C. Dervinis, R.P. Guralnick, T. Irving, M. Kirst, S. Knaack, L. Maia, S. Roy, **R.A. Folk**, D.E. Soltis, P.S. Soltis. 2019. Global-scale phylogenomics of the nitrogen-fixing clade. PAG XXVII (Plant and Animal Genome Conference).

Kirst, M., J.-M. Ane, D.E. Soltis, S. Roy, P.S. Soltis, R.P. Guralnick, D. Conde, **R.A. Folk**, T. Irving, L. Maia, H.R. Kates, K. Balmant, S. Knaack, M. Crook, C. Dervinis. 2019. Engineering nitrogen-fixing symbiosis into poplar. PAG XXVII.

Folk, R.A., D.E. Soltis, P.S. Soltis, N. Cellinese, M.E. Mort, J.M. Allen, R.L. Stubbs, R.P. Guralnick. 2018. Correlation among functional trait shifts, habitat shifts, and diversification patterns in the flowering plant clade Saxifragales. Botanical Society of America meeting.

Howard, C., J. Landis, **R.A. Folk,** J. Beaulieu, N. Cellinese. 2018. Global phylogenetic patterns and diversification of monocotyledonous geophytes. Botanical Society of America meeting.

Schuette, S., **R.A. Folk**, J.T. Cantley, C. Martine. 2018. The hidden *Heuchera*: How science and Twitter uncovered a globally imperiled species in Pennsylvania, USA. Botanical Society of America meeting.

Stubbs, R.L.; **R.A. Folk**, C.-L. Xiang, D.E. Soltis, N. Cellinese. 2018. The evolution of cold-adapted plants: A phylogenomic analysis of *Micranthes* (Saxifragaceae). Botanical Society of America meeting.

Folk, R.A., D.E. Soltis, P.S. Soltis, N. Cellinese, M.E. Mort, J.M. Allen, R.L. Stubbs, R.P. Guralnick. 2018. Correlation among functional trait shifts, habitat shifts, and diversification patterns in the flowering plant clade Saxifragales. Society of Systematic Biologists meeting.

García N., A.W. Meerow, S. Arroyo-Leuenberger, J. Dutilh, R.S. Oliveira, W.S. Judd, **R.A. Folk**, D.E. Soltis, & P.S. Soltis. 2017. Propuesta de classificación genérica de Amaryllidaceae tribu Hippeastreae basada en su filogenia ("Proposal of a generic classification of Amaryllidaceae tribe Hippeastreae based on their phylogeny"). Argentine Botanical Society meeting.

Allen, J.M., R. LaFrance, **R.A. Folk**, K. Bell, K. Johnson, R.P. Guralnick. 2017. aTRAM 2.0: Targeted assembly of loci from both reduced and whole genome NGS data. Evolution meeting.

Soltis, D.E., P.S. Soltis, J. Beach, A. Stewart, A. Thompson, J. Cavner, C.J. Grady, S. Smith, J. Fortes, **R.A. Folk**, M. Gitzendanner. 2017. Biotaphy—Connecting resources to enable large scale biodiversity analyses. International Botanical Congress (Shenzhen, China).

Stubbs, R.L., **R.A. Folk**, D.E. Soltis, N. Cellinese. 2017. Investigating the Sierra Nevada-Rocky Mountain disjunction in *Micranthes* (Saxifragaceae) with a target enrichment approach. Botanical Society of America meeting.

Naranjo, A., **R.A. Folk**, P.S. Soltis, D.E. Soltis. 2017. *Dicerandra*: Understanding ancestral niches of a narrow endemic. Botanical Society of America meeting.

Soltis, D.E., P.S., Soltis, J. Beach, A. Stewart, A. Thompson, J. Cavner, C.J. Grady, S. Smith, J. Fortes, **R.A. Folk**, M. Gitzendanner. 2017. Biotaphy: Mobilizing and integrating big data in studies of spatial and phylogenetic patterns of biodiversity. Botanical Society of America meeting.

Folk, R.A., R.L. Stubbs, N. Cellinese, M.E. Mort, P.S. Soltis, D.E. Soltis, R.P. Guralnick. 2017. Dynamics of niche evolution in the Saxifragales. Botanical Society of America.

Folk, R.A., R.P. Guralnick, P.S. Soltis, D.E. Soltis, J.M. Allen. 2017. Data assembly and post-processing in aTRAM for museum phylogenomics. Botanical Society of America meeting.

Folk, R.A., C.J. Visger, R.P. Guralnick, D.E. Soltis, P.S. Soltis. 2017. Historical range dynamics drove hybridization in a lineage of angiosperms. Society of Systematic Biologists standalone meeting.

Soltis, D.E., M. Sun, C. Germain-Aubrey; S. Smith; P.S. Soltis, Z. Chen, **R.A. Folk**, R.P. Guralnick. 2016. Wrestling with the rosids II: Too big to nail–Challenges in conducting comprehensive analyses in the angiosperms. Botanical Society of America meeting.

Stubbs, R., **R.A. Folk**, D.E. Soltis, N. Cellinese. 2016. Specialized adaptations and restricted niche preferences of cold-adapted saxifrages (*Micranthes*, Saxifragaceae). Botanical Society of America meeting.

Folk, R.A., C.J. Visger, R.P. Guralnick, D.E. Soltis, P.S. Soltis. 2016. Ancestral reconstruction of habitat shifts from ecological niche models of extant species: A pipeline with applications to ancestral hybridization in *Heuchera* (Saxifragaceae). Botanical Society of America meeting.

García, N., A.W. Meerow; S. Chamala, M. Gitzendanner, R.S. Oliveira, **R.A. Folk**, D.E. Soltis, P.S. Soltis, 2016. Revisiting incongruence in the diploid phylogeny of Amaryllidaceae tribe Hippeastreae (Asparagales): Hybridization or incomplete lineage sorting? Botanical Society of America meeting.

Folk, R.A., J.R. Mandel, J.V. Freudenstein. 2015. Phylogenomic approaches in the genus *Heuchera* (Saxifragaceae) elucidate deep reticulation and simultaneous mitochondrial and chloroplast capture. Botanical Society of America meeting.

Folk, R.A., J.R. Mandel, J.V. Freudenstein. 2015. Protocol for targeted enrichment of intron-containing sequence markers for recent radiations: A phylogenomic example from *Heuchera* (Saxifragaceae). Botanical Society of America meeting.

Folk, R.A., J.V. Freudenstein. 2014. "Sky islands" in the eastern US? – Strong phylogeographic structure in the *Heuchera parviflora* group (Saxifragaceae). Botanical Society of America meeting (Cooley Award winner).

Folk, R.A., J.V. Freudenstein. 2013. Phylogenetic relationships in *Heuchera* (Saxifragaceae) based on ribosomal and low-copy nuclear loci. Botanical Society of America meeting.

Folk, R.A., J.V. Freudenstein. 2012. Reticulate evolution and phylogenetic relationships in the genus *Heuchera* (Saxifragaceae). Botanical Society of America meeting.

**co-presented/tag-team*

POSTERS:

Amarasinghe P., J. Jantzen, **R.A. Folk**, D.E. Soltis, P.S. Soltis, N. Cellinese. 2019. Developing a new bioinformatics pipeline to capture low-copy nuclear loci for two distant clades of Melastomataceae. Botanical Society of America meeting.

García N. and **R.A. Folk**. 2019. Genomic phylogeography and species delimitation in *Phycella* s.l. (Amaryllidaceae tribe Hippeastreae). Botanical Society of America meeting.

Kates, H.R., J.-M. Ane, K. Balmant, D. Conde, M. Crook, C. Dervinis, R.P. Guralnick, T. Irving, M. Kirst, S. Knaack, L. Maia, S.Roy, **R.A. Folk** (*presenting author*), D.E. Soltis, and P.S. Soltis. 2019. NitFix: Global-Scale Phylogenomics of the Nitrogen-fixing Clade. Department of Energy PI meeting (Genomic Sciences Program).

R.A. Folk, D.E. Soltis, P.S. Soltis, R.P. Guralnick. 2017. Dynamics of niche evolution in the Saxifragales. Research Using Biological Collections (RUBC) PRFB Symposium.

Tarullo, C., **R.A. Folk**, D.E. Soltis, P.S. Soltis, B. Drew. 2016. Using a supermatrix approach to explore historical biogeography, divergence times and phylogenetics of Saxifragales. Botanical Society of America meeting.

FORMAL TEACHING EXPERIENCE:

2018, UF, co-instructor of record, Taxonomy of Vascular Plants (undergraduate/graduate; BOT5725)
2016, UF, co-instructor of record, Principles of Systematics (graduate; BOT6726/ZOO6927)
2014, OSU, Graduate Teaching Assistant, Honors Evolution, Ecology, and Systematic (early undergraduate; BIO1114H)
2013, OSU, Graduate Teaching Assistant, EEOB (advanced undergraduate; EEOB3410: Ecology)
2012 – 2013, OSU, Graduate Teaching Assistant, CSLE (early undergraduate; BIO1114: Evolution, Ecology, and Systematics)

MENTORSHIP:
Graduate students: Nicholas Engle-Wrye (M.S., 2019 –)
Dissertation committee memberships: Alexander Tice (MSU, 2019 –)

Undergraduates and highschool students: Minji Ku, Clara Brandon (now on an internship), Jeffry Flenniken, Minji Ku, Joseph Wigley, Joshua Gil (now at U Conn in graduate school), Julian Ginori (NSF REU, recipient of Botanical Society of America Young Botanist Award, UF Biology Undergraduate Assistant Award, now at University of Florida in graduate school), Jay Talati (UF SSTP high school summer program, now at Emory University in undergraduate studies), Tatyana Srybnykh (now a lab tech), Ian Cooney (now at University of Utah in graduate school), Amelia Krusell, Kaitlyn Robis (now a high school biology teacher)
Formal mentorship programs: REU mentor to one student (UF; 12 wk, 15 hr/wk); research mentor to a high school student under UF's SSTP program (7 wk, 35 hr/wk).

SERVICE:
Committee memberships:
2019 –, Museums and Galleries Committee, Greenhouse Committee (Mississippi State University)
2018 – 2019, American Society of Plant Taxonomists Awards and Honors Committee
Peer reviews (~15/yr) for: *Molecular Biology and Evolution, New Phytologist, Evolution, American Naturalist, Molecular Ecology, Ecological Monographs, Genome Biology and Evolution, BMC Evolutionary Biology, BMC Plant Biology, Frontiers in Plant Science, Biology Letters, Taxon, American Journal of Botany, Ecography, Frontiers in Genetics, Heredity, PLoS One, PeerJ, Applications in Plant Science, Botanical Journal of the Linnaean Society, Systematic Botany, Botany Letters, Botany, Phytotaxa, Journal of Systematics and Evolution, Evolutionary Bioinformatics*
Grant reviews for:
2016 – 2017, NSF ad hoc reviewer (for the following DEB programs: OPUS [2016]; Population and Community Ecology [2017])
2017 – 2019, American Society of Plant Taxonomists (graduate student awards)
Miscellaneous:
2018, presentation judge, Cooley Award (American Society of Plant Taxonomists)
2017 – 2018, session chair, Macroevolution (Botanical Society of America meeting)

PUBLIC OUTREACH, MEDIA COVERAGE:

2019, Talk delivered to the Mississippi Native Plant Society: "Hidden coral bells in the southeast"

2019, Media coverage: *Science Daily:* https://www.sciencedaily.com/releases/2019/01/190101094500.htm. *Morning Ag Clips:* https://www.morningagclips.com/using-big-data-for-planet-sized-plant-questions/. *Seed Daily:* http://www.seeddaily.com/reports/Scientists_Time_is_ripe_to_use_big_data_for_planet_sized_plant_questions_999.html. *Phys.org:* https://phys.org/news/2019-01-scientists-ripe-big-planet-sized.html.

2018, Media coverage: *BBC Radio:* https://www.bbc.co.uk/programmes/w3cswmpk. *Quartz:* https://qz.com/1258508/botany-twitter-just-helped-discover-a-rare-plant-clinging-to-a-cliff-in-pennsylvania/amp/. *IFL Science:* http://www.iflscience.com/plants-and-animals/how-twitter-helped-find-and-possibly-save-an-endangered-plant/. *Phys.org:* https://phys.org/news/2018-04-science-twitter-uncover-globally-imperiled.html. *PLoS Blogs:* https://blogs.plos.org/ecology/2018/06/12/science-twitter-and-the-secretly-super-rare-saxifragaceae/.

2018, Cameo appearance on "Plants are Cool, Too!" – rediscovery of *Heuchera alba* (https://youtu.be/SFApGT8cHcE).

2017, Scientific advisor (credited), multimedia outreach video "TreeTender" on the relevance of the Tree of Life; in collaboration with the UF Digital Worlds institute and coordinated with the 100-year anniversary celebration of FLMNH (press release and trailer https://www.floridamuseum.ufl.edu/science/tree-of-life-events/; impact ~1,500 visitors over two days)

2016, Organizing volunteer, several Tree of Life pop-up tent events (UF campus, FLMNH public museum, local brew-pub)

2016, Table volunteer for iDigBio at BSA

2014, Talk delivered at the Ohio Botany Research Symposium: "Evolutionary relationships and hybridization among species of coral bells (*Heuchera*)"

2011 – 2015, Organizing volunteer, OSU Museum of Biological Diversity Open House (impact ~1000-3000 visitors on single-day event)

2009, Talk delivered at the Ohio Natural History Conference: "The jaw morphology of the parasitic rotifer *Proales werneckii*"

SCIENTIFIC WORKSHOP OUTREACH:

2017 – 2019, Co-organizer and lecturer for Botanical Society of America iDigBio/BiotaPhy workshop: "Using Digitized Herbarium Data in Research: Applications for Ecology, Phylogenetics, and Biogeography"

2018, Lecturer for iDigBio ADBC (Advancing Digitization of Biodiversity Collections) Summit: "BiotaPhy web platform"

2016, Co-organizer and lecturer for Botanical Society of America iDigBio workshop: "Using Digitized Herbarium Data in Research: A Crash Course"

INVITED WORKSHOPS, ETC.:

2020, NSF mini-ideas lab, Gainesville FL – "the Future of Systematics"

2020, Society of Systematic Biologists discussion panelist (topic: Integrating phylogenies and ecological data layers)

2017, BCoN Workshop (Next-Generation Natural History Collections; Harvard University, Cambridge)

2017, FuturePhy SoTol ("State of the Tree of Life"; Field Museum, Chicago)

SOFTWARE REPOSITORIES:
https://github.com/ryanafolk

FIELDWORK: Western U.S.A. (2011 – 2012, 2014, 2019), eastern U.S.A. (2011 – 2013, 2016, 2019), eastern Mexico (2011).

HERBARIA VISITED: The Ohio State University (OS), University of Florida (FLAS), New York Botanical Garden (NY), Missouri Botanical Garden (MO), California Academy of Sciences (CAS), University of Texas Austin (TEX, LL), Botanical Research Institute of Texas (BRIT), Kunming Institute of Botany (KUN), University of Tokyo (TI), Royal Botanic Gardens Kew (K), Royal Botanic Garden Edinburgh (E), Natural History Museum London (BM), Harvard University Herbaria (GH, A), San Diego State University (SDSU), Rancho Santa Anna Botanical Garden (RSA), Eastern Kentucky University (EKY), University of Minnesota (MIN), Instituto de Ecología, A.C. (XAL).

OUTSIDE COURSES:
2015, 2018 Phylogenomics Symposium and Software School (Ann Arbor, Michigan; Columbus, Ohio)
2011, Cladistics Workshop by the Willi Hennig Society (INECOL, Xalapa, Mexico)

PROFESSIONAL SOCIETIES:
Botanical Society of America; American Society of Plant Taxonomists; Society of Systematic Biologists.

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