

*Curriculum Vitae*  
July 2020

**Jacob B. Landis, PhD**

School of Integrative Plant Sciences – Plant Biology  
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**Education**

Ph.D. Botany, University of Florida, Gainesville, FL, expected graduation August 2016  
Ph.D. Dissertation Title: “The developmental genetics of floral variation in Polemoniaceae: Linking cellular phenotypes, genetics, and pollinator shifts”  
M.A. Ecology and Evolutionary Biology, University of Kansas, Lawrence, KS July 2011  
Thesis: "Pollinator attractors: petaloidy and petal epidermal cell shape in close relatives of snapdragon"  
B.S. Ecology and Evolutionary Biology, University of Kansas, Lawrence, KS, December 2008

**Appointments**

Cornell University - Lecturer July 2020 – Present  
Cornell University - Visiting Postdoctoral Scholar August 2018 – June 2020  
NSF Plant Genome Postdoctoral Fellow July 2017 – June 2020  
University of California Riverside - Postdoctoral Researcher August 2016 – June 2017

**Research Experience**

Cornell University – Chelsea Specht August 2018 – Present  
University of California Riverside - Daniel Koenig August 2016 – June 2020  
University of Florida – Pam and Doug Soltis August 2011 – August 2016  
Cambridge University - Beverley Glover August 2012 - September 2012  
University of Kansas - Lena Hileman January 2009 – July 2011  
University of Kansas - Sam James August 2008 – January 2009  
Sam Houston State University - Raelynn Deaton and Chad Hargrave May 2008 – July 2008  
KU Natural History Museum - Mike Grose and Ed Wiley August 2007 – May 2008  
University of Kansas - Garrick Skalski May 2006 – August 2007

**Research Interests**

Evolutionary Genomics, Comparative and Applied Phylogenetics, Pollinator Strategies, Natural Selection, Parallel versus Convergent Evolution, Genome Wide Association, Nanopore Sequencing

**Fellowships** (Total: \$318,000)

NSF Plant Genome Postdoctoral Fellow (\$216,000) 2017-2020  
Title: “Elucidating the genetic control of long-term success in the agricultural environment.”  
Digging Deeper Planting Science Fellow, Botanical Society of America (\$2000) 2016  
Graduate Student Fellowship, Dept of Biology, University of Florida (\$100,000) 2011-2015

**Grants (Total: \$34,291)**

UF Department of Biology Michael L. May Interdisciplinary Grant - \$1000	2015
Title: "Are lichens monogamous? Variation within the <i>Leptogium cyanescens</i> complex and its associated photobiont in Florida." Co-authored with Barry Kaminsky	
Southern California Botanist Annual Research Grant and Desert Grant - \$1000	2015
Title: "Evolution of flower color and its significance in Polemoniaceae: Adding potential new Southern California species to phylogeny reconstruction and character mapping in <i>Leptosiphon</i> and <i>Linanthus</i> "	
Sigma Xi Grants-in-Aid of Research - \$500	2015
Title: "The cellular component of flower size differences in <i>Saltugilia</i> (Polemoniaceae)"	
American Society of Plant Taxonomy W. Hardy Eshbaugh Research Award - \$1000	2014
Title: "Evolution of Flower Color and its Significance in Polemoniaceae: Phylogeny Reconstruction and Character Mapping in <i>Leptosiphon</i> and <i>Linanthus</i> ."	
International Association for Plant Taxonomy - \$1000	2014
Title: "Evolution of Flower Color and its Significance in Polemoniaceae: Phylogeny Reconstruction and Character Mapping in <i>Leptosiphon</i> and <i>Linanthus</i> ."	
NSF Doctoral Dissertation Improvement Grant, DEB-1406650 - \$19291	2014
Title: "The developmental genetics of floral size variation in <i>Saltugilia</i> (Polemoniaceae): Linking cellular phenotypes, genetics, floral size, and pollinator shifts."	
UF Department of Biology John Paul Olowo Memorial Fund Research Grant - \$300	2014
Title: "Evolution of Flower Color and its Significance in Polemoniaceae: Integrating Phylogenetic Reconstruction and Character Mapping in <i>Leptosiphon</i> ."	
Desert Legacy Fund, California Desert Research Program grant - \$3200	2013
Title: "Evolution of flower color and its significance in Polemoniaceae: Phylogenetic reconstruction and character mapping <i>Linanthus</i> and <i>Leptosiphon</i> "	
Torrey Botanical Society Graduate Research Fellowship - \$2500	2013
Title: "Evolution of flower color and its significance in Polemoniaceae"	
Sigma Xi Grants-in-Aid of Research - \$500	2013
Title: "Evolution of flower color and its significance in Polemoniaceae"	
microMorph training grant to work with Dr. Beverley Glover, Cambridge - \$3500	2012
Title: "Corolla length does matter: investigating genetic underpinnings of size"	
Botanical Society of America Graduate Student Research Award - \$500	2012
Title: "Corolla length does matter: investigating genetic underpinnings of size"	

**Awards (Total: \$10,399)**

XSEDE Startup Allocation - \$1,604	2020
American Society of Plant Taxonomists Travel Award for Botany Conference - \$300	2016
UF Department of Biology Graduate Student Mentor of the Year - \$250	2016
BSA Genetics Section Travel Award - \$500	2015
BSA Vernon I. Cheadle Student Travel Award - \$500	2015
UF Department of Biology Summer Travel Award - \$175	2015
UF Graduate Student Council Travel Award - \$350	2015
UF College of Liberal Arts and Sciences Summer 2015 Graduate Travel Award - \$300	2015
American Society of Plant Taxonomists Travel Award for Botany Conference - \$300	2015
FLMNH Lockhart Fellowship Endowment - \$250	2014
UF I-Cubed 2014 Mentoring Award - \$500	2014
UF Department of Biology Summer Travel Award - \$175	2014

UF College of Liberal Arts and Sciences Summer 2014 Graduate Travel Award - \$300	2014
American Society of Plant Taxonomists Travel Award for Botany Conference - \$335	2014
American Society of Plant Taxonomists Travel Award for Botany Conference - \$335	2013
UF Graduate Student Council March Travel Award - \$250	2013
UF Department of Biology Spring Travel Award - \$150	2013
University of Florida Open Access Award	2012
Developmental and Structural BSA Student Travel Award for Botany Conference - \$100	2012
American Society of Plant Taxonomists Travel Award for Botany Conference - \$335	2012
KU Botany Endowment Summer Fellowship - \$1800	2010
Sigma Xi Research Paper Competition, 2nd Place Early Graduate Category	2010
Developmental and Structural BSA Student Travel Award for Botany Conference - \$200	2009
University of Kansas Graduate Student Botany Award - \$690	2009
American Society of Naturalists Travel Award to Evolution - \$300	2009
University of Kansas Graduate Studies Graduate Student Paper Presenter - \$400	2009

**Peer Reviewed Publications** (+ undergrad mentee)( † equal contribution)

32. E Valderrama, C Sass, M Pinilla, D Skinner, PJM Maas, H Maas-van de Kamer, **JB Landis**, CJ Guan, and CD Specht. *Accepted*. Unraveling the spiraling radiation: a phylogenomic analysis of Neotropical *Costus* L. **Frontiers in Plant Science**.
31. X Zhang, Y Sun, **JB Landis**, Z Lv, J Shen, H Zhang, N Lin, L Li, J Sun, T Deng, H Sung, and H Wang. **2020**. Plastome phylogenomic study of Gentianeae (Gentianeaceae): widespread gene tree discordance and its association with evolutionary rate heterogeneity of plastid genes. **BMC Plant Biology** 20:340. doi:10.1186/s12870-020-02518-w
30. X Guo, C Liu, G Zhang, W Su, **JB Landis**, X Zhang, H Wang, and Y Ji. **2020**. The complete plastomes of five hemiparasitic plants (*Osyris wightiana*, *Pyrularia edulis*, *Santalum album*, *Viscum liquidambaricolum*, and *V. ovalifolium*): comparative and evolutionary analyses within Santalales. **Frontiers in Genetics**. doi: 10.3389/fgene.2020.00597
29. X Zhang, Y Sun, **JB Landis**, J Zhang, L Yang, N Lin, H Zhang, R Guo, L Li, Y Zhang, T Deng, H Sun, and H Wang. **2020**. Genome wide sequencing provides evidence of adaptation to heterogenous environments for the ancient relictual *Circaeaster agrestis* (Circaeasteraceae, Ranunculales). **New Phytologist**
28. KF Adelalu, X Zhang, X Qu, **JB Landis**, Y Sun, A Meng, H Sun, and H Wang. **2020**. Plastome phylogenomic and biogeographic study on *Thuja* (Cupressaceae). **BioMed Research International**. 20: 8426287. doi:10.1155/2020/8426287
27. Y Sun, T Deng, A Zhang, MJ Moore, **JB Landis**, N Lin, H Zhang, X Zhang, T Feng, Z Zhang, H Sun, and H Wang. **2020**. The draft genome of the endangered, relictual plant *Kingdonia uniflora* (Circaeasteraceae, Ranunculales) reveals potential mechanisms and perils of evolutionary specialization. **iScience** 23:101124. doi:10.1016/j.isci.2020.101124
26. Y Zhang†, T Deng†, L Sun†, **JB Landis**†, MJ Moore, H Wang, Y Wang, X Hao, J Chen, S Li, M Xu, P Puno, PH Raven, and H Sun. **2020**. Phylogenetic patterns and signal in secondary metabolites across the seed plant tree of life. **National Science Review** nwaa105. doi:10.1093/nsr/nwaa105
25. J Shen, X Zhang, **JB Landis**, H Zhang, T Deng, H Sun, and H Wang. **2020**. Plastome evolution in *Dolomiaea* (Asteraceae, Cardueae) using phylogenomic and comparative analyses. **Frontiers in Plant Science**. 11:376. doi:10.3389/fpls.2020.00376
24. HR Philips, **JB Landis**, CD Specht. *Accepted*. Floral Fusion: The evolution and molecular basis of a developmental innovation. **Journal of Experimental Biology**. 71:3390-3404.

- doi: 10.1093/jxb/eraa125
23. B Xue, X Guo, **JB Landis**, M Sun, CC Tang, PS Soltis, DE Soltis, and RMK Saunders. **2020**. Accelerated diversification correlated with functional traits shape extant diversity of the early divergent angiosperm family Annonaceae. **Molecular Phylogenetics and Evolution** 142:106659. doi: 10.1016/j.ympev.2019.106659
  22. Howard CC, **JB Landis**, JM Beaulieu and N Cellinese. **2020**. Implications of geophytism in the diversification of monocots. **New Phytologist** 225:1023-1032. doi: 10.1111/nph.16155
  21. Zhang H, T Feng, **JB Landis**, X Zhang, A Meng, T Deng, H Sun, and H Wang. **2019**. Circumscription of *Sibbaldia procumbens* complex (Potentilleae, Rosaceae) based on evidence from SSR markers and morphology. **Botanical Journal of the Linnean Society** 191:305-314. doi: 10.1093/botlinnean/boz056
  20. McCarthy EW, **JB Landis**, A Kurti, AJ Lawhorn, MW Chase, S Napp, SC Le Comber, AR Leitch, and A Litt. **2019**. Early consequences of allopolyploidy alter floral evolution in *Nicotiana* (Solanaceae). **BMC Plant Biology** 19:162. doi:10.1186/s12870-019-1771-5
  19. Zhang H, T Feng, **JB Landis**, T Deng, H Sun, Y Sun, and H Wang. **2019**. Molecular phylogeography and ecological niche modeling of *Sibbaldia procumbens* s.l. (Rosaceae). **Frontiers in Genetics** 10:201. doi:10.3389/fgene.2019.00201
  18. Zhang X, H Zhang, **JB Landis**, T Deng, A Meng, H Sun, Y Peng, H Wang, and Y Sun. **2019**. Plastome phylogenomic analysis of *Torreya* (Taxaceae). **Journal of Systematics and Evolution** 57:607-615. doi:10.1111/jse.12482
  17. Sun Y, MJ Moore, **JB Landis**, N Lin, L Chen, T Deng, J Zhang, S Zhang, KS Tojibaev, H Sun, and H Wang. **2018**. Plastome phylogenomics of the early-diverging eudicot family Berberidaceae. **Molecular Phylogenetics and Evolution** 128:203-211. doi:10.1016/j.ympev.2018.07.021
  16. **Landis JB**, CD Bell, M Hernandez+, R Zenil-Ferguson, EW McCarthy, DE Soltis, and PS Soltis. **2018**. Evolution of Floral Traits and Impact of Reproductive Mode on Diversification in the Phlox Family (Polemoniaceae). **Molecular Phylogenetics and Evolution** 127:878-890. doi:10.1016/j.ympev.2018.06.035
  15. **Landis JB**, DE Soltis, Z Li, HE Marx, MS Barker, DC Tank, and PS Soltis. **2018**. Impact of whole-genome duplication events on diversification rate in angiosperms. **American Journal of Botany** 105(3):1-16. doi:10.1002/ajb2.1060
  14. Guo R, **JB Landis**, MJ Moore, A Meng, S Jian, X Yao, and H Wang. **2017**. Development and application in population genetics of microsatellites based on the transcriptome of *Actinidia eriantha* (Actinidiaceae). **Frontiers in Plant Science** 8:1383. doi:10.3389/fpls.2017.01383
  13. **Landis JB**, DE Soltis, and PS Soltis. **2017**. Comparative transcriptomic analysis of the evolution and development of flower size in *Saltugilia* (Polemoniaceae). **BMC Genomics** 18:475. doi:10.1186/s12864-017-3868-2
  12. Hodel RG, MC Salcedo-Segovia, **JB Landis**, AA Crawl, M. Sun, X. Liu, MA Gitzendanner, NA Douglas, CC Germain-Aubrey, S Chen, DE Soltis and PS Soltis. **2016**. The report of my death was an exaggeration: a review for researchers using microsatellites in the 21<sup>st</sup> century. **Applications in Plant Sciences** 4:1600025. doi:10.3732/apps.1600025
  11. Hodel RG, MA Gitzendanner, CC Germain-Aubrey, X Liu, AA Crawl, M Sun, **JB Landis**, MC Salcedo-Segovia, NA Douglas, S Chen, DE Soltis and PS Solits. **2016**. A new resource for the development of SSR markers: Millions of loci from a thousand plant transcriptomes. **Applications in Plant Sciences** 4:1600024. doi:10.3732/apps.1600024

10. **Landis JB**, R O'Toole+, KL Ventura+, MA Gitzendanner, DG Oppenheimer, DE Soltis and PS Soltis. **2016**. The phenotypic and genetic underpinnings of flower size in Polemoniaceae. **Frontiers in Plant Science** 6:1144. doi: 10.3389/fpls.2015.01144
9. **Landis JB**, KL Ventura+, DE Soltis, PS Soltis and DG Oppenheimer. **2015**. Optical sectioning and 3D reconstructions as an alternative to scanning electron microscopy for analysis of cell shape. **Applications in Plant Sciences** 3: 1400112, DOI: 10.3732/apps.1400112
8. Bokor JR, **JB Landis**, and KJ Crippen. **2014**. High school student learning and perceptions of phylogenetics of flowering plants. **CBE Life Sciences Education** 13: 653-665. DOI: 10.1187/cbe.14-04-0074
7. Brockington SF, R Alvarez-Fernandez, **JB Landis**, K Alcorn, RH Walker, MM Thomas, LC Hileman, and BJ Glover. **2012**. Phylogeny and evolution of the *MIXTAs*: New targets in the study of epidermal differentiation. **Molecular Biology and Evolution** 30: 526-540. DOI:10.1093/molbev/mss260
6. **Landis JB**, LL Barnett, and LC Hileman. **2012**. Evolution of petaloid sepals independent of shifts in B-class MADS box gene expression. **Development, Genes and Evolution** 222: 19-28. DOI: 10.1007/s00427-011-0385-1
5. Molecular Ecology Resources Primer Development Consortium, Almany, De Arruda, Arthofer, Atallah, Beissinger, Berumen, Bogdanowicz, Brown, Bruford, Burdine, Busch, Campbell, Carey, Carstens, Chu, Cubeta, Cuda, Cui, Datnoff, Davila, Davis, Davis, Diekmann, Eizirik, Fargallo, Fernandes, Fukuda, Gale, Gallagher, Gao, Girard, Godhe, Goncalves, Gouveia, Grajczyk, Grose, Gu, Hallden, Harnstrom, Hemmingsen, Holmes, Huang, Huang, Hudman, Jones, Kanetis, Karunasagar, Karunasagar, Keyghobadi, Klosterman, Klug, Kcoh, Koopman, Koppler, Koshimizu, Krumbock, Kubisiak, **Landis** et al. **2009**. Permanent Genetic Resources added to Molecular Ecology Resources Database 1 May 2009-31 July 2009. **Molecular Ecology Resources** 9: 1460-1559. DOI: 10.1111/j.1755-0998.2009.02759.x
4. **Landis JB**, MJ Grose, EO Wiley, and SP Hudman. **2009**. Characterization of 35 novel microsatellite loci for ecological and evolutionary studies of the bluntnose minnow (*Pimephales notatus*). **Molecular Ecology Resources** 9: 864-867. DOI: 10.1111/j.1755-0998.2008.02404.x.
3. **Landis JB**, SP Hudman, MJ Grose, GT Skalski, and EO Wiley. **2009**. Characterization of 32 novel microsatellite loci for population and mating system studies using *Campostoma anomalum* (central stoneroller). **Molecular Ecology Resources** 9: 251-254. DOI: 10.1111/j.1755-0998.2008.02430.x
2. Hudman SP, MJ Grose, **JB Landis**, GT Skalski, and EO Wiley. **2008**. Twenty-three microsatellite DNA loci for population genetic studies and parentage assignment in orangethroat darter, *Etheostoma spectabile*. **Molecular Ecology Resources** 8: 1483-1485. DOI: 10.1111/j.1755-0998.2008.02312.x
1. Skalski GT, **JB Landis**, MJ Grose, and SP Hudman. **2008** Genetic Structure of Creek Chub, a Headwater Minnow, in an Impounded River System. **Transactions of the American Fisheries Society** 137: 962-975. DOI: 10.1577/T07-060.1

### **Book Chapters**

- EW McCarthy, **JB Landis**, A Kurti, AJ Lawhorn, and A Litt. 2020. The genetic basis of flower color differences in *Nicotiana tabacum*. In "The Tobacco Genome". Eds NV Ivanov, N Sierro, and MC Peitsch. Pages 175-193. Springer, New York City, New York.

## **Invited Presentations**

- JB Landis.** Genomic components underlying evolutionary patterns of plant adaptation: from populations to the angiosperm tree of life. Smithsonian Institution, (Virtual), July 16<sup>th</sup>, 2020, Washington, DC.
- JB Landis.** Use of phylogenetics at different scales. Hobart and William Smith Colleges, (Virtual), April 10, 2020, Geneva, NY.
- JB Landis,** R Glos, M Royall, Y Seo, S Harrington, IE Edwards, CD Specht, S McCouch, and E Styger. Genome diversity of Saamaka rice varieties in Suriname. Plant and Animal Genome Conference, January 11-15, 2019, San Diego, CA.
- JB Landis.** Genomic components underlying evolutionary patterns of plant adaptation: from populations to the angiosperm tree of life. University of Rochester, November 22, 2019, Rochester, NY.
- JB Landis.** Using hybrid-assemblies of genomes and transcriptomes to address evolutionary and ecological questions in species with complex genomes. Boyce Thompson Institute, October 28, 2019, Ithaca, NY.
- JB Landis.** Genetic diversity underlying evolutionary patterns of plant adaptation: A multi scaled approach. Cornell University, March 29, 2019, Ithaca, NY.
- JB Landis.** Evidence for adaptation in California systems: examples from the gilies (Polemoniaceae) and barley (Poaceae). Rancho Santa Ana Botanic Garden, October 25, 2018, Claremont, CA.
- JB Landis.** Floral evolution in Polemoniaceae in light of shifts in pollinators. Stetson University, April 13, 2016, DeLand, FL.
- JB Landis.** Floral evolution in Polemoniaceae in light of shifts in pollinators. New York Botanic Garden, September 12, 2014, New York, NY.

## **Contributed Presentations** (\*First author presenter unless denoted) (+ undergrad mentee)

- SL Jensen, **JB Landis**, G Otto, and EW McCarthy. Simulating evolution of flower color in *Nicotiana*. (Poster). Botany 2020 Conference, July 27-31, Virtual.
- E WMcCarthy, A Kurti, A Lawhorn, A Litt, **JB Landis**. Homeolog expression bias increases with allopolyploidy age, but does not correlate with floral color differences in *Nicotiana tabacum* allopolyploids. (Oral). Botany 2020 Conference, July 27-31, Virtual.
- E Valderrama, C Sass, M Pinilla-Vargas, D Skinner, **JB Landis**, CJ Guan, A Almeida, N Grunder, and CD Specht. Unraveling the spiraling radiation: a phylogenomic analysis of Neotropical *Costus* L. (Oral). Botany 2020 Conference, July 27-31, Virtual.
- CJ Guan, **JB Landis**, E Valderrama, H Philips, D Skinner, and CD Specht. Pieces of the Puzzle: Investigations of spiromonostichy in the spiral gingers (*Costus*, Costaceae). (Oral). Botany 2020 Conference, July 27-31, Virtual.
- JB Landis**, E Valderrama, N Grunder, D Skinner, C Sass, M Pinilla-Vargas, CJ Guan, A Almeida, and CD Specht. The genomic signatures of convergent evolution of pollination syndromes in *Costus* (Costaceae). (Oral). Botany 2020 Conference, July 27-31, Virtual.
- A Hernandez, **JB Landis**, CD Specht. Exploring the population dynamics of the highly polymorphic California endemic *Calochortus venustus* (Liliaceae). (Oral). Botany 2020 Conference, July 27-31, Virtual.
- H Phillips, R Bruenn, **JB Landis**, and CD Specht. To Fuse or not to Fuse: Investigating the evolution and development of floral fusion in the Zingiberales. (Oral). Botany 2020 Conference, July 27-31, Virtual.
- A Hernandez, **JB Landis**, CD Specht. Testing the ring species hypothesis with RAD-Sequencing

- and minion genome sequencing in the California endemic *Calochortus venustus* (Liliaceae). (Oral). Botany 2019 Conference, July 27-31, Tucson, AZ.
- H Phillips, R Bruenn, **JB Landis**, and CD Specht. Elucidating the roles of MYB-related transcription factors in Zingiberales zygomorphy. (Poster). Botany 2019 Conference, July 27-31, Tucson, AZ.
- EW McCarthy, **JB Landis**, A Kurti, A Lawhorn, and A Litt. Homeolog expression bias in floral color evolution in natural and synthetic *Nicotiana tabacum* allopolyploids. (Oral). Botany 2019 Conference, July 27-31, Tucson, AZ.
- JB Landis**, J Nguyen, I Villamor, A Guercio, CF Fiscus, M Quigley, T Ophelders, M Eithun, E Munch, DH Chitwood, and D Koenig. Integrating next-generation high resolution phenotype acquisition with genotypes to study adaptation in barley (*Hordeum vulgare*). (Oral). Botany 2019 Conference, July 27-31, Tucson, AZ.
- L Villanueva-Almanza, **JB Landis**, E Ezcurra, and D Koenig. Reviving a century-old palm (*Washingtonia*) mystery using the power of Genotyping by Sequencing (GBS). (Oral). Botany 2019 Conference, July 27-31, Tucson, AZ.
- R Glos, **JB Landis**, M Royall, S Harrington, S McCouch, CD Specht, and E Styger. Characterization of Saamakan rice diversity in Suriname. (Poster). Botany 2019 Conference, July 27-31, Tucson, AZ.
- L Kaminsky, **JB Landis**, ME Smith, and S McDaniel. A preliminary taxonomic revision of the *Leptogium austroamericanum* and *L. cyanescens* species complexes in Florida, USA. (Poster). ABLs 2018, August 12-16, University of Colorado Mountain Research Station.
- JB Landis** J Cohen. Flower size evolution and patterns of selection in organ size genes across the evolutionary history of the angiosperms. (Oral). Botany 2018 Conference, July 21-25, Rochester, MN.
- JB Landis**, A Guercio, CF Fiscus, and D Koenig. Phenotypic variation and genetic control of long-term success in a near century long study of barley (*Hordeum vulgare*). (Oral). Botany 2018 Conference, July 21-25, Rochester, MN.
- S Carey, M Johnson, A Payton, R Conrad, **JB Landis**, S Olsson, S Huttunen, G Burleigh, and S McDaniel. Ancient sex chromosome systems in plants. (Oral). Botany 2018 Conference, July 21-25, Rochester, MN.
- CC Howard, **JB Landis**, R Folk, J Beaulieu, and N Cellinese. Global phylogenetic patterns and diversification of monocotyledonous geophytes. (Oral). Botany 2018 Conference, July 21-25, Rochester, MN.
- EW McCarthy, **JB Landis**, A Kurti, A Lawhorn, and A Litt. The genetic basis of flower color differences in *Nicotiana tabacum*. (Oral). Botany 2018 Conference, July 21-25, Rochester, MN.
- JB Landis**, A Guercio, CF Fiscus, and D Koenig. Elucidating the genetic control of long-term success in a near century long study of barley (*Hordeum vulgare*). (Oral). Evolution 2017 Conference, June 23-27, Portland, OR.
- JB Landis**, DE Soltis and PS Soltis. Comparative transcriptomic analysis of the evolution and development of flower size differences in *Saltugilia* (Polemoniaceae). (Oral). Botany 2016 Conference, July 31-August 3, Savannah, GA.
- JB Landis**, SB Carey, AC Payton, ED Woodruff, RE Conrad, K Barry, J Jenkins, J Grimwood, J Schmutz, and SF McDaniel. Sexual dimorphic expression patterns in the transcriptome of juvenile tissue of *Ceratodon purpureus*. (Oral). Botany 2016 Conference, July 31-August 3, Savannah, GA.
- SB Carey, **JB Landis**, AC Payton, ED Woodruff, RE Conrad, K Barry, J Jenkins, J Grimwood, J Schmutz, and SF McDaniel. Using a SNP corrected genome-guided approach to infer

- transcriptional sexual dimorphism in *Ceratodon purpureus*. (Oral) Evolution 2015 Conference, June 17-21, Austin, TX.
- JB Landis**, RD O'Toole+, KL Ventura+, DE Soltis and PS Soltis. Investigating the genetic underpinnings of corolla size and shape differences in *Saltugilia* (Polemoniaceae). (Oral). Botany 2015 Conference, July 25-29, Edmonton, Alberta, Canada.
- KL Ventura+, **JB Landis**, DE Soltis, and PS Soltis. Cell number or cell shape: which has a larger effect on flower size in *Gilia* (Polemoniaceae). (Poster). Botany 2015 Conference, July 25-29, Edmonton, Alberta, Canada.
- EW McCarthy, **JB Landis**, and A Litt. Does reconstructing ancestral progenitor phenotypes alter the interpretation of morphological evolution in allopolyploids? (Oral). Botany 2015 Conference, July 25-29, Edmonton, Alberta, Canada.
- M Hernandez+, **JB Landis**, DE Soltis, and PS Soltis. *Leptosiphon* and flower color: investigating color acquisition in Polemoniaceae using phylogenetics. (Poster). Botany 2015 Conference, July 25-29, Edmonton, Alberta, Canada.
- JR Bokor, KJ Crippen and **JB Landis**. Using scaffolding to build phylogenetic trees with high school students. (Oral). National Association for Research in Science Teaching, April 11-14, 2015, Chicago, IL.
- JB Landis**, J Broo, J Mahoney, and JR Bokor. Co-Evolution in the High School Classroom: Constructing and Applying Phylogenies to Interpret Plant and Pollinator Interactions. (Oral). National Association of Biology Teachers, November 12-15, 2014 Cleveland, OH.
- JB Landis** and JR Bokor\*. Flowers, Birds, and Bees: Constructing Phylogenies and Interpreting Plant/Pollinator Interactions in the High School Classroom. (Oral). National Association of Science Teachers Area Conference on Science Education, November 6-8, 2014, Orlando, FL.
- JB Landis** and JR Bokor. Forensic Botany in the High School Classroom: Real-World Application of Molecular Techniques. (Oral). National Association of Science Teachers Area Conference on Science Education, November 6-8, 2014, Orlando, FL.
- JB Landis**, RD O'Toole+, DG Oppenheimer, DE Soltis, and PS Soltis. Determining the cellular component of flower size differences in *Saltugilia* (Polemoniaceae). (Oral). Botany 2014 Conference, July 26-30, Boise, ID.
- JB Landis** and JR Bokor. High school student learning and perceptions of phylogenetics of flowering plants. (Poster). Botany 2014 Conference, July 26-30, Boise, ID.
- M Hernandez+, **JB Landis**, DE Soltis, and PS Soltis. *Leptosiphon* and flower color: investigating color acquisition in Polemoniaceae using phylogenetics. (Poster). Botany 2014 Conference, July 26-30, Boise, ID.
- CD Bell, **JB Landis**, PS Soltis, DE Soltis. Clocks and *Phlox*: testing hypotheses of the association of life history with diversification in Polemoniaceae. (Oral). Botany 2014 Conference, July 26-30, 2014, Boise, ID.
- JB Landis**, M Hernandez\*+, DE Soltis, and PS Soltis. Floral and pollinator evolution in light of a near-complete phylogeny for Polemoniaceae. (Poster). Evolution Conference 2014, June 20-24, Raleigh, NC.
- JB Landis**, ML Gredler, DE Soltis, and PS Soltis. Corolla length does matter: investigating the phenotypic and genetic underpinnings of flower size in Polemoniaceae. (Oral). Botany 2013 Conference, July 28-31, 2013, New Orleans, LA.



- JB Landis**, M Hernandez\*+, DE Soltis, and PS Soltis. Floral and pollinator evolution in light of a near-complete phylogeny for Polemoniaceae. (Poster). Botany Conference, July 28-31, 2013, New Orleans, LA.
- JB Landis**, DE Soltis, and PS Soltis. All in the family: Pollination syndromes and floral traits in the flowering plant family Polemoniaceae. (Oral). Botany 2012 Conference, July 7-11, 2012, Columbus, OH.
- JB Landis**. Phenotypic and genetic components associated with pollinator shifts in the Phlox family (Polemoniaceae). (Oral). microMorph "The Microevolution of Flower Form and Function" workshop, May 11, 2012, Boston, MA.
- JB Landis** and LC Hileman. The birds and the bees: testing for correlated evolution between petal shape and pollinators. (Oral). KU EEB Department seminar, January 25, 2011, Lawrence, KS.
- JB Landis** and LC Hileman. The birds and the bees: investigating the role of *MIXTA* genes in pollinator shifts. (Oral). Botany 2010 Conference, July 3-August 4, 2010, Providence, RI.
- JB Landis** and LC Hileman. The birds and the bees: investigating the role of *MIXTA* genes in pollinator shifts. (Oral). Evolution 2010 Conference, June 25-29, 2010, Portland, OR.
- JB Landis**, LL Baldrige, and LC Hileman. Determining the genetic basis for petal-like sepals in a close relative of snapdragon. (Oral). Sigma Xi University of Kansas Chapter Research paper competition, April 24th, 2010, Lawrence, KS.
- JB Landis**, LL Baldrige, and LC Hileman. Determining the genetic basis for petal-like sepals in a close relative of snapdragon. (Poster). Ecological Genomics, November 13-15, 2009, Kansas City, MO.
- JB Landis**, LL Baldrige, and LC Hileman. Determining the genetic basis for petal-like sepals in a close relative of snapdragon. (Oral). Natural History Museum/Ecology and Evolutionary Biology Graduate Student Retreat, October 31, 2009, Lawrence, KS.
- JB Landis**, LL Baldrige, and LC Hileman. Determining the genetic basis for petal-like sepals in a close relative of snapdragon. (Poster). Botany 2009 Conference, July 25-29, 2009, Snowbird, UT.
- JB Landis**, LL Baldrige, and LC Hileman. Determining the genetic basis for petal-like sepals in a close relative of snapdragon. (Poster). Evolution Conference, June 12-16, 2009, Moscow, ID.
- JB Landis**, JC Cureton, EA Lamb, S Stoops, and R Deaton. An Analysis of Time and Environmental Conditions on Peak Mating Behavior in the Western Mosquitofish (Poeciliidae): It Matters When But Not Where... (Oral). Texas Academy of Science, March 6, 2009, Junction, TX.
- JC Cureton II, **JB Landis**, EA Lamb, C Kroll, R Lewis, SK Rosado, S Sendelbach, A Titlow, S Stoops, J West, and R Deaton. An Analysis of Time and Environmental Conditions on Peak Mating Behavior in the Western Mosquitofish (Poeciliidae): It Matters When But Not Where... (Oral). Third Triennial OK-TX Aquatic Research Group Meeting and 35th Annual Great Plains Limnology Conference, September 26, 2008, Norman, OK.
- SK Rosado, **JB Landis**, R Deaton, and CW Hargrave. Predator-induced Phenotypic Plasticity in the Western Mosquitofish (*Gambusia affinis*). (Oral). Third Triennial OK-TX Aquatic Research Group Meeting and 35th Annual Great Plains Limnology Conference, September 26, 2008, Norman, OK.

## **Teaching Experience**

Instructor of Record

Plant Systematics PLBIO 2480 – Cornell University	Fall 2020
Workshops taught	
<i>de novo</i> Genome Assembly and Annotation – Botany 2020	July 2020
<i>de novo</i> Genome Assembly and Annotation – Cornell University	July 2020
Guest Lectures at Cornell University	
Hyb-Seq lecture for PLBIO4000	Spring 2020
Forensic botany lecture PLSCI 1150	Spring 2020
Beast and divergence time estimation lab PLBIO 6410	Fall 2019
Maximum likelihood phylogenetics lab PLBIO 6410	Fall 2019
Beast and divergence time estimation, lab and lecture PLBIO 4400	Spring 2019
Bayesian phylogenetics and model testing, lab and lecture PLBIO 4400	Spring 2019
Trait evolution and comparative phylogenetics for PLBIO 4831	Fall 2018
Bayesian phylogenetics lab module PLBIO 6410	Fall 2018
Comparative phylogenetics and diversification lab PLBIO 6410	Fall 2018
Graduate Teaching Assistant at the University of Florida	
Head TA for Integrated Principles of Biology 2	Spring 2016
Head TA for Integrated Principles of Biology 2	Fall 2015
Created and implemented molecular phylogenetics module for Bio 2 lab	Summer 2015
Three lab sections of Integrated Principles of Biology 2	Fall 2014
Guest Lecture in Broader Impacts	Fall 2014
Online instructor for lecture of Integrated Principles of Biology 2	Fall 2013
Three lab sections of Integrated Principles of Biology 2	Spring 2013
Three lab sections of Integrated Principles of Biology 2	Spring 2012
Interdisciplinary Honors Seminar in Scientific Inquiry: Evolution with an Evo-Devo Emphasis, Co-taught with Bonnie Kircher	Summer 2015
Graduate Teaching Assistant at the University of Kansas	
Three lab sections of Intro to Cell and Molecular Biology	Spring 2011
Three lab sections of Honors Introduction to Cellular and Molecular Biology	Fall 2010
Guest Lecture for Honors Introduction to Cellular and Molecular Biology	Fall 2010
Two lab sections of Honors/one section of Intro to Cell and Molecular Bio	Spring 2009
Undergraduate Teaching Assistant at the University of Kansas	
Introduction to Biology lab for non-science majors	Spring and Fall 2008
Biostatistics lecture grader and lab assistant	Fall 2008
<b>Undergraduate Mentoring</b>	
Yuna Seo	Spring 2019 – Spring 2020
Dan Nichols	Fall 2018 – Spring 2019
Hrushikesh Gore – EEB Mentor Match	Fall 2018 – Spring 2019
Asa Peters – BSA Junior Plants Mentor	July 2018

Imma Villamor	Summer 2017 – Spring 2018
Jessica Nguyen	Summer 2017 – Spring 2018
Selena Burke (co-mentored with Christopher Fiscus) REU student	Summer 2017
Kayla Ventura BSA Young Botanist Award 2016 HHMI scholar 2014-2015 BSA Undergraduate Student Research Award 2014	Spring 2013 – Spring 2016
Rebecca O'Toole BSA Young Botanist Award 2016 NSF Research Experience for Undergraduates 2014 – Auburn University	Spring 2013 – Fall 2015
Margarita Hernandez NSF GFRP recipient BSA Young Botanist Award 2015 Undergraduate Diversity Evolution Travel Award 2014 Beckman scholars 2013-2014 BSA Undergraduate Student Research Award 2013	Fall 2012 – Spring 2015
Kimberly Segovia	Spring 2014 – Summer 2014
Milda Stanislauskas	Summer 2013
David Syckle – BSA Junior Plants Mentor	July 2013
Megan Galarza	Fall 2012 - Spring 2013
Jacob Holland	Summer and Fall 2012
Rylan Sprague – BSA Junior Plants Mentor	July 2012
Alejandra Rodriguez	Summer 2011
Michelle Mezger	Fall 2009
Nicole Nebitsi	Summer 2009

### **Memberships in Professional Societies**

Botanical Society of America	March 2009 - Present
American Society of Plant Taxonomists	February 2012 - Present
California Botanical Society	August 2018 - Present
Society for the Study of Evolution	March 2010-December 2010; October 2016 - Present
Sigma Xi	May 2013 - Present
National Association of Biology Teachers	August 2014 - December 2015
American Society of Naturalists	March 2009 - March 2010; January 2014 - December 2014
Society of Integrative Comparative Biology	October 2013 - January 2014
Torrey Botanical Society	January 2013 - December 2013
Society of Systematic Biologists	March 2012 - December 2013

### **Professional Development**

RevBayes for Botanist: Introduction to Bayesian Inference in Phylogenetics	July 2018
Short Course on the Analysis of Diversification Rates from Phylogenies	June 2017
Florida Museum of Natural History Science Communication Workshop	October 2014
University of Florida TA Workshop: “Using Technology to Enhance Learning”	Fall 2013
Bodega Bay Applied Phylogenetic Workshop	March 2013
microMorph workshop: The Microevolution of Flower Form and Function	May 2012

**Outreach**

Letters to a Pre-Scientist	October 2017 - Present
Planting Science Scientist Mentor and Liaison	September 2017 – December 2018
Judy's Day: Plants have families too at Cornell Botanical Garden	September 2018
Scientist participant for Girls Build LA STEM Career Fair Equitas Academy	March 2018
Guest Lecturer at Paideia High School, Atlanta, GA	March 2016
Plant Evolution lecture to two 9 <sup>th</sup> grade biology classes; Plant phylogenetics module for two AP Biology classes; lecture on getting involved with research to upper level students	
Florida Museum of Natural History Ask a Scientist Presenter	May 2015
CPET STEM Immersion, University of Florida	July 2014
Design and led 2-day plant systematics module for students from rural Florida high schools	
Assessments: <a href="http://www.cpet.ufl.edu/students/stem-immersion/stem-immersion-2014/">http://www.cpet.ufl.edu/students/stem-immersion/stem-immersion-2014/</a>	
CPET Summer Science Institute: Advanced Topics in Evolution	June 2014
Full day module with 10 high school teachers covering plant systematics in the classroom	
CPET Summer Science Quest, University of Florida	June 2014
Design and led a full day forensic module for rising Florida 10th graders	
PlantingScience Master Plant Science Team (MPST)	September 2013 – April 2014
CPET STEM Immersion, University of Florida	July 2013
Design and led 2-day plant systematics module for students from rural Florida high schools	
CPET Summer Science Quest, University of Florida	June 2013
Design and led 2-day plant systematics module for rising 10th graders	

**Cornell University Service**

Speed Networking for Undergraduates Interested in Research	March 2019
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**University of California, Riverside Service**

Riverside Postdoctoral Association President	April 2017 – March 2018
Organizer for Riverside Postdoctoral Symposium	September 2016

**University of Florida Service**

Graduate Student Advisory Council	February 2014 – August 2016
Mentoring/Teaching subcommittee chair	February 2015 – December 2015
President	May 2014 – March 2015
Vice President	April 2014
Biology Department Graduate Student Council Rep	August 2012 – April 2015
Graduate Student Senator, UF Student Government	February 2014 – August 2014
Rules and Ethics committee	May 2014 – August 2014
Grant reviewer for Graduate Student Council travel grants	July 2013 – May 2014
Poster Judge Graduate Student Research Day 2013	October 2013
University of Florida Library Committee	September 2012 - May 2013
Biology Department Awards Committee	January 2012- May 2013
Biology Department Undergraduate Research Symposium Poster Judge	April 2012

**University of Kansas Service**

Ecology & Evolutionary Biology Grad Student Organization President	August 2010-July 2011
Graduate and Executive Council voting member (GradEx)	February 210-August 2010

Graduate and Professional Affairs Committee voting member	August 2009-August 2010
Women's and Non-Revenue Intercollegiate Sports Adv. Board	September 2009-May 2010
Ecology & Evolutionary Biology Grad. Student Organization Treasurer	Aug 2009-July 2010

### **Broad Scientific Service**

Associate Editor BMC Genomics – Section Plant Genomics	March 2018 - Present
CV Reviewer during Botany 2020	July 2020
External Referee for PhD Thesis – University of Granada	July 2020
Reviewer for ASPT Graduate Student Research Grants	March 2020
Reviewer for SSB Graduate Student Research Awards	January 2020
Reviewer for ASPT Graduate Student Research Grants	March 2019
Ad hoc Proposal Reviewer for Czech Science Foundation	July 2018
Reviewer for ASPT Graduate Student Research Grants	March 2018

Journal Article Reviewer (<https://publons.com/researcher/1273678/jacob-landis>)  
 Agronomy, American Journal of Botany, Annals of Botany, Applications in Plant Science, Austral Ecology, Biotropica, BMC Evolutionary Biology, BMC Genomics, Botany, Diversity, EvoDevo, Frontiers in Plant Science, Genes, Genetica, Genomics, International Journal of Molecular Science, Journal of Systematics and Evolution, Molecular Ecology, National Academy Science Letters, New Phytologist, Plant Biotechnology Journal, Plant Direct, Plant Diversity, Plant Science, Plants - Open Access Journal, Scientific Reports

### **Other Service**

Expert Witness for Florida State Prosecutor, Tampa, FL	September 2019
Judge for Riverside (CA) Unified School District Science and Engineering Fair	February 2018
Judge for Riverside (CA) Unified School District History Day, Senior Division	January 2018
Judge for Southern California Junior Science and Humanities Symposium	January 2017
Reviewer for Florida Regional Jr Science, Engineering, & Humanities Symp.	December 2016
Science Fair Judge Gainesville, FL	December 2012, 2013, and 2015
Reviewer for Florida Regional Jr Science, Engineering, & Humanities Symp.	December 2015
Assist Hillsborough County Sheriff's Office with a Forensic Botany case	June 2014
Assist St. Johns County Sheriff's Office with a Forensic Botany case	August 2013–January 2014
Panel 51 <sup>st</sup> Florida Regional Jr Science, Engineering, & Humanities Symposium	January 2014