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EDUCATION/APPOINTMENTS

2022–present	Utah State University, Logan UT	<i>Associate Professor and Herbarium Director</i>
2015–2022	University of California, Berkeley CA	<i>Assistant Professor and Faculty Curator</i>
2015	National Evolutionary Synthesis Center, Durham NC	<i>Visiting Scholar</i>
2013–2015	University of British Columbia, Vancouver BC <ul style="list-style-type: none">▪ Advisor: Dr. Sarah Otto	<i>Postdoctoral Fellow</i>
2006–2012	Duke University, Durham NC <ul style="list-style-type: none">▪ Advisor: Dr. Kathleen Pryer	<i>PhD Biology</i>
1996–2001	McMaster University, Hamilton ON	<i>Bachelor of Arts & Science Comb. Hon. Biology</i>

PUBLICATIONS

88. Schafran, P., F.-W. Li, and C.J. Rothfels. PURC v2.0: A program for improved sequence inference for polyploid phylogenetics and other manifestations of the multiple-copy problem. *bioRxiv* 2021.11.18.468666; doi: <https://doi.org/10.1101/2021.11.18.468666>
87. May, M.R., and C.J. Rothfels. Mistreating birth-death models as priors in phylogenetic analysis compromises our ability to compare models. *bioRxiv* 2021.07.12.452074; doi: <https://doi.org/10.1101/2021.07.12.452074>
86. Tribble, C.M., M.R. May, A. Jackson-Gain, R. Zenil-Ferguson, C.D. Specht, and C.J. Rothfels. Unearthing modes of climatic adaptation in underground storage organs across Liliales. *bioRxiv* 2021.09.03.458928; doi: <https://doi.org/10.1101/2021.09.03.458928>
85. González-Ramírez, I., S.R.S. Cevallos-Ferriz, and C.J. Rothfels. Three new Cenomanian conifers from El Chango (Chiapas, Mexico) offer a snapshot of the geographic mosaic of the Mesozoic conifer decline. *bioRxiv* 2021.09.01.458614; doi: <https://doi.org/10.1101/2021.09.01.458614>
84. Freyman, W.A., M.G. Johnson, and C.J. Rothfels. homologizer: Phylogenetic phasing of gene copies into polyploid subgenomes. *bioRxiv* 2020.10.22.351486; doi: <https://doi.org/10.1101/2020.10.22.351486>
83. Triana-Moreno, L.A., A. Yañez, L.-Y. Kuo, C.J. Rothfels, N.T.L. Pena, P.B. Schwartzburd, and M. Sundue. 2022. Phylogenetic revision of Dennstaedtioidae (Dennstaedtiaceae: Polypodiiales) with description of *Mucura*, gen. nov. *Taxon*. <https://doi.org/10.1002/tax.12858>
82. Ahlstrand, N.I., S. Gopalakrishnan, F.G. Vieira, V.C. Bieker, H.M. Meudt, S. Dunbar-Co, C.J. Rothfels, K.A. Martinez-Swatson, C. Maldonado, G. Hassemmer, A. Shipunov, M.D. Bowers, E. Gardner, M. Xu, A. Ghorbani, M. Amano, O.M. Grace, J.S. Pringle, M. Bishop, V. Manzanilla, H. Cotrim, S. Blaney, D. Zubov, H.-K. Choi, Y. Yesil, B. Bennett, S. Vimolmangkang, H.R. El-Seedi, P.O. Staub, Z. Li, D. Boldbaatar, M. Hislop, L.J. Caddy, A.M. Muasya, C.H. Saslis-Lagoudakis, M.T.P. Gilbert, N.J. Zerega, and N. Rønsted. 2022. Travel tales of a worldwide weed: Genomic signatures of *Plantago major* L. reveal distinct genotypic groups with links to colonial trade routes. *Frontiers in Plant Science* 13.
81. Mehlferber, E.C., M.J. Song, J.N. Pelaez, J. Jaenisch, J.E. Coate, B. Koskella, and C.J. Rothfels. 2022. Induction of autotetraploidy and microbiome associations mediate differential responses to pathogens. *Current Biology*
80. Ekrt, L., J. Košnar, C.J. Rothfels, K. Hanušová, O. Hornych, and T. Urfus. 2022. Cytogenetic, geographical, spore type and plastid haplotype data reveal cryptic patterns of species diversity in the cosmopolitan *Cystopteris fragilis* complex (Polypodiopsida: Cystopteridaceae). *Bot J Linn Soc.* 10.1093/botlinnean/boab078
79. Triana-Moreno, L.A., P.B. Schwartzburd, A. Yañez, N.T.L. Pena, L.-Y. Kuo, C.J. Rothfels, and M.A. Sundue. 2022. (2892) Proposal to conserve the name *Dennstaedtia* (Dennstaedtiaceae) with a conserved type. *Taxon* 71(3): 688–690. <http://doi.org/10.1002/tax.12756>

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77. May, M.R., D.L. Contreras, M.A. Sundue, N.S. Nagalingum, C.V. Looy, and **C.J. Rothfels**. 2021. Inferring the total-evidence timescale of marattialean fern evolution in the face of model sensitivity. Syst Biol. 70(6): 2134–2255. doi: <https://doi.org/10.1101/2020.09.25.313643>
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74. Chery, J.G., I.L. da Cunha Neto, M.R. Pace, P. Acevedo-Rodríguez, C.D. Specht, and **C.J. Rothfels**. 2020. Wood anatomy of the neotropical liana lineage *Paullinia* L. (Sapindaceae). IAWA Journal, 1–23. <http://doi.org/10.1163/22941932-bja10027>. WINNER: 2020 I.W. Bailey Award for Best Paper.
73. Jordon-Thaden, I.E., J.B. Beck, C.A. Rushworth, M.D. Windham, N.Diaz, J.T. Cantley, C.T. Martine, and **C.J. Rothfels**. 2020. A basic ddRADseq two-enzyme protocol performs well with herbarium and silica-dried tissues across four genera. Applications in Plant Sciences, 93:351–7. <http://doi.org/10.1002/aps3.11344>
72. Windham, M. D., K.M. Pryer, D.B. Poindexter, F.-W. Li, **C.J. Rothfels**, and J.B. Beck. 2020. A step-by-step protocol for meiotic chromosome counts in flowering plants: A powerful and economical technique revisited. Applications in Plant Sciences, 25, 44–8. <http://doi.org/10.1002/aps3.11342>
71. Kao, T.-T., **C.J. Rothfels**, A. Melgoza-Castillo, K.M. Pryer, and M.D. Windham. 2020. Intraspecific diversification of the star cloak fern (*Notholaena standleyi*) in the deserts of the United States and Mexico. American Journal of Botany 107(4): 1–18.
70. Bell, D., Q. Lin, W.K. Gerelle, S. Joya, Y. Chang, Z.N. Taylor, **C.J. Rothfels**, A. Larsson, J.C. Villarreal, F.-W. Li, L. Pokorny, P. Szövényi, B. Crandall-Stotler, L. DeGironimo, S.K. Floyd, D.J. Beerling, M.K. Deyholos, M. von Konrat, S. Ellis, A.J. Shaw, T. Chen, G.K.-S. Wong, D.W. Stevenson, J.D. Palmer, and S.W. Graham. 2020. Organellomic data sets confirm a cryptic consensus on (unrooted) land-plant relationships and provide new insights into bryophyte molecular evolution. American Journal of Botany 107(1): 91–115.
69. Chery, J.G., M.R. Pace, P. Acevedo-Rodríguez, C.D. Specht, and **C.J. Rothfels**. 2020. Modifications during early plant development promote the evolution of nature’s most complex woods. Current Biol, 30(2): 237–244. COVER ARTICLE.
68. One Thousand Plant Transcriptome Initiative*. 2019. One thousand plant transcriptomes and phylogenomics of green plants. Nature 574: 379–385. COVER ARTICLE. *I am one of the 21 authors who “jointly supervised” this work.
67. Chery, J.G, P. Acevedo-Rodríguez, **C.J. Rothfels**, and C.D. Specht. 2019. Phylogeny of *Paullinia* L. (Paulliniaceae: Sapindaceae), a diverse genus of lianas with dynamic fruit evolution. Mol Phylo Evol. 140
66. Xu, K. W., L. Zhang, **C.J. Rothfels**, A.R. Smith, R. Viane, D.H. Lorence, K.R. Wood, C.-W. Chen, R. Knapp, L. Zhou, N.T. Lu, X.-M. Zhou, H.-J. Wei, F. Qiang, S.F. Chen, D. Cicuzza, X.-F. Gao, W.B. Liao, and L.-B. Zhang. 2020. A global plastid phylogeny of the fern genus *Asplenium* (Aspleniaceae). Cladistics 19:716–50.
65. Kao, T.T., K.M. Pryer, F.D. Freund, M.D. Windham, and **C.J. Rothfels**. 2019. Low-copy nuclear sequence data confirm complex patterns of farina evolution in notholaenid ferns (Pteridaceae). Molecular Phylogenetics and Evolution 138: 139–155.
64. Hanušová, K., M. Certner, T. Urfus, P. Koutecký, J. Košnar, **C.J. Rothfels**, V. Jarolímová, J. Ptáček, and L. Ekrt. 2018. Widespread co-occurrence of multiple ploidy levels in fragile ferns (*Cystopteris fragilis* complex; Cystopteridaceae) probably stems from similar ecology of cytotypes, their efficient dispersal and inter-ploidy hybridization. Annals of Botany 123: 845–855.
63. Li, F.-W., P. Brouwer, L. Carretero-Paulet, S. Cheng, J. De Vries, P.-M. Delaux, A. Eily, N. Koppers, L.-Y. Kuo, Z. Li, M. Simenc, I. Small, E. Wafula, S. Angarita, M.S. Barker, A. Bräutigam, S. Gould, P.S. Hosmani, Y.-M. Huang, B. Huettel, Y. Kato, X. Liu, S. Maere, R. McDowell, L.A. Mueller, K.G.J. Nierop, S.A. Rensing, T. Robison, **C.J. Rothfels**, E.M. Sigel, Y. Song, P.R. Timilsena, Y. Van de Peer, H. Wang, P.K. Wilhelmsson, P.G. Wolf, X. Xu, J.P. Der, H. Schluepmann, G.K-S. Wong, and K.M. Pryer. 2018. Fern genomes elucidate land plant evolution and cyanobacterial symbioses. Nature Plants 4(70):460–472.
62. Schuettelpelz, E., G. Rouhan, K.M. Pryer, **C.J. Rothfels**, J. Prado, M.A. Sundue, M.D. Windham, R.C. Moran, and A.R. Smith. 2018. Are there too many fern genera? Taxon 67(3): 473–480.
61. Wolf, P.G., T.A. Robinson, M.G. Johnson, M.A. Sundue, W.L. Testo, and **C.J. Rothfels**. 2018. Target sequence capture of nuclear-encoded genes for phylogenetic analysis in ferns. Applications in Plant Sciences 6:5 e01148 doi: 10.1002/aps3.1148

60. Mutte, S.K., H. Kato, **C.J. Rothfels**, M. Melkonian, G.K.-S. Wong, and D. Weijers. 2018. Origin and evolution of the nuclear auxin response system. *eLIFE* 7.
59. Freund, F.D., W.A. Freyman, and **C.J. Rothfels**. 2018. Inferring the evolutionary reduction of corm lobation in *Isoetes* using Bayesian model-averaged ancestral state reconstruction. *Am J Bot* 105(2):275–286.
58. **Rothfels, C.J.**, J.M. Costa, L.-B. Zhang, R.C. Moran, A. Salino, and A.R. Smith. 2018. Proposal to conserve *Aspidium draconopterum* (*Draconopteris draconoptera*) (Tectariaceae) with a conserved type. *Taxon*. 67(1): 204–205. doi: 10.12705/671.17.
57. Song, M., L.-Y. Kuo, L. Huiet, K.M. Pryer, **C.J. Rothfels**, and F.-W. Li. 2018. A novel chloroplast gene reported for flagellate plants. *American Journal of Botany*. 105(1): 117–121. doi: 10.1002/ajb2.1010.
56. Dauphin, B., J.R. Grant, D.R. Farrar, and **C.J. Rothfels**. 2018. Rapid allopolyploid radiation of moonwort ferns (*Botrychium*; Ophioglossaceae) revealed by PacBio sequencing of homologous and homeologous nuclear regions. *Molecular Phylogenetics and Evolution*. 120: 342–353. doi.org/10.1016/j.ympev.2017.11.025.
55. Lang, D., K.K. Ullrich, F. Murat, J. Fuchs, J. Jenkins, F.B. Haas, M. Piednoel, H. Gundlach, M. Van Bel, R. Meyberg, C. Vives, J. Morata, A. Symeonidi, M. Hiss, W. Muchero, Y. Kamisugi, O. Saleh, G. Blanc, E.L. Decker, N. van Gessel, J. Grimwood, R.D. Hayes, S.W. Graham, L.E. Gunter, S.F. McDaniel, S.N.W. Hoernstein, A. Larsson, F.-W. Li, P.-F. Perroud, J. Phillips, P. Ranjan, D.S. Rokshar, **C.J. Rothfels**, L. Schneider, S. Shu, D.W. Stevenson, D. W., F. Thümmel, M. Tillich, J.C. Villarreal Aguilar, T. Widiez, G.K.-S. Wong, A. Wymore, Y. Zhang, A.D. Zimmer, R.S. Quatrano, K. Mayer, D. Goodstein, J.M. Casacuberta, K. Vandepoele, R. Reski, A.C. Cuming, G.A. Tuskan, F. Maumus, J. Salse, J. Schmutz, and S.A. Rensing. 2018. The *Physcomitrella patens* chromosome-scale assembly reveals moss genome structure and evolution. *Plant J*. 93: 515–533. doi:10.1111/tpj.13801.
- First prize, original article category: Most Outstanding Paper 2018 (The Plant Journal).
54. Chen, C.-W.* , **C.J. Rothfels***, A.M.A. Mustapeng, M. Gubilil, D.N. Karger, M. Kessler, and Y.-M. Huang. 2018. End of an enigma: *Aenigmopteris* belongs in *Tectaria* (Tectariaceae: Polypodiopsida). *J Plant Res*. 131(1): 67–76. doi: 10.1007/s10265-017-0966-9 *Equally contributing.
53. Bythell-Douglas R., **C.J. Rothfels**, D.W. Stevenson, S.W. Graham, G.K.-S. Wong, D.C. Nelson, and T.A. Bennett. 2017. Evolution of strigolactone receptors by gradual neo-functionalization of KAI2 paralogues. *BMC Biology* 15(1). doi: 10.1186/s12915-017-0397-z
52. Johnson, K.L., A.M. Cassin, A. Lonsdale, G.K.-S. Wong, D. Soltis, N.W. Miles, M. Melkonian, B. Melkonian, M.K. Deyholos, J.H. Leebens-Mack, **C.J. Rothfels**, D.W. Stevenson, S.W. Graham, X. Wang, S. Wu, C.J. Pires, P.P. Edger, E.J. Carpenter, A. Bacic, M.S. Doblin, and C.J. Schultz. 2017. Insights into the evolution of hydroxyproline rich glycoproteins from 1000 plant transcriptomes. *Plant Physiology*.
51. Han J.-D., X. Li, C.-K. Jiang, G.K.-S. Wong, **C.J. Rothfels**, and G.-Y. Rao. 2017. Evolutionary analysis of the LAFL genes involved in the land plant seed maturation program. *Frontiers in Plant Science* 8: 2104. doi: 10.1111/jipb.12025
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48. Hsu, P.Y., L. Calviello, H.-Y.L. Wu, F.-W. Li, **C.J. Rothfels**, U. Ohler, and P.N. Benfey. 2016. Super-resolution ribosome profiling reveals unannotated translation events in *Arabidopsis*. *PNAS*. 113(35).
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- in molecular evolutionary rate among ferns. *BMC Genomics*. 17(1): 692.
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Press: http://www.eurekalert.org/pub_releases/2015-02/du-dsp021315.php.
 28. Bennett, T., S.F. Brockington, **C.J. Rothfels**, S. Graham, D. Stevenson, T. Kutchan, M. Rolf, P. Thomas, G.K.S. Wong, O. Leyser, B.J. Glover, and C.J. Harrison. 2014. Paralogous radiations of PIN proteins with multiple origins of non-canonical PIN structure. *Molecular Biology and Evolution*. 31(8): 2042–2060.

27. Mayrose, I., S. Zhan, **C.J. Rothfels**, N. Arrigo, M. Barker, L. Rieseberg, S. Otto. 2015. Methods for studying polyploid diversification and the dead end hypothesis: A reply to Soltis et al. (2014). *New Phytologist*. doi: 10.1111/nph.13192
26. Wickett, N.J., S. Mirarab, N. Nguyen, T. Warnow, E.J. Carpenter, N. Matasci, S. Ayyampalayam, M. Barker, G.J. Burleigh, M.A. Gitzendanner, B. Ruhfel, E. Wafula, J. Der, S.W. Graham, S. Mathews, M. Melkonian, D.E. Soltis, P.S. Soltis, **C.J. Rothfels**, L. Pokorny, J. Shaw, L. DeGironimo, D. Stevenson, B. Surek, J.C. Villarreal, B. Roure, H. Philippe, C.W. dePamphilis, T. Chen, M. Deyholos, J. Wang, Y. Zhang, Z. Tian, Z. Yan, X. Wu, X. Sun, G.K-S. Wong, J. Leebens-Mack. 2014. A phylotranscriptomics analysis of the origin and early diversification of land plants. *PNAS* 111(45): E4859–E4868.
25. Matasci, N., L-H. Hung, Z. Yan, E.J. Carpenter, N.J. Wickett, S. Mirarab, N. Nguyen, T. Warnow, S. Ayyampalayam, M. Barker, J.G. Burleigh, M.A. Gitzendanner, E. Wafula, J.P. Der, C.W. dePamphilis, B. Roure, H. Philippe, B.R. Ruhfel, N.W. Miles, S.W. Graham, S. Mathews, B. Surek, M. Melkonian, D.E. Soltis, P.S. Soltis, **C.J. Rothfels**, L. Pokorny, A.J. Shaw, L. DeGironimo, D.W. Stevenson, J.C. Villarreal, T. Chen, T.M. Kutchan, M. Rolf, R.S. Baucom, M.K. Deyholos, R. Samudrala, Z. Tian, X. Wu, X. Sun, Y. Zhang, J. Wang, J. Leebens-Mack, G.K-S. Wong. 2014. Data access for the 1,000 Plants (1KP) project. *GigaScience* 3:17.
24. **Rothfels, C.J.**, A.K. Johnson*, M.D. Windham, K.M. Pryer. 2014. Low-copy nuclear data confirm rampant allopolyploidy in the Cystopteridaceae (Polypodiales). *Taxon* 63(5): 1026–1036 *Undergraduate mentee.
23. Floyd, S.K., J.G. Ryan, S.J. Conway, E. Brenner, K.P. Burris, J.N. Burris, T. Chen, P.P. Edger, S.W. Graham, J.H. Leebens-Mack, J.C. Pires, **C.J. Rothfels**, E.M. Sigel, D.W. Stevenson, C.N. Stewart Jr., G.K-S. Wong, J.L. Bowman. 2014. Origin of a novel regulatory module by duplication and degeneration of an ancient plant transcription factor. *Molecular Phylogenetics and Evolution*. 81: 159–173.
22. Sessa, E.B., J.A. Banks, M.S. Barker, J.P. Der, A.M. Duffy, S.W. Graham, M. Hasebe, J. Langdale, F.-W. Li, D.B. Marchant, K.M. Pryer, **C.J. Rothfels**, S.J. Roux, M.L. Salmi, E.M. Sigel, D.E. Soltis, P.S. Soltis, D.W. Stevenson, P.G. Wolf. 2014. Between two fern genomes. *GigaScience* 3(15). doi:10.1186/2047-217X-3-15
21. Li, F-W., J.C. Villarreal, S. Kelly, **C.J. Rothfels**, M. Melkonian, E. Frangedakis, M. Ruhsam, E.M. Sigel, J.P. Der, J. Pittermann, D.O. Burge, L. Pokorny, A. Larsson, T. Chen, S. Weststrand, P. Thomas, E. Carpenter, Y. Zhang, Z. Tian, L. Chen, Z. Yan, Y. Zhu, X. Sun, J. Wang, D. Stevenson, B. Crandall-Stotler, A.J. Shaw, M.K. Deyholos, D.E. Soltis, S. Graham, M.D. Windham, J.A. Langdale, G.K-S. Wong, S. Mathews, K.M. Pryer. 2014. Horizontal transfer of an adaptive chimeric photoreceptor from bryophytes to ferns. *PNAS* 11(18): 6672–6677. doi: 10.1073/pnas.1319929111
20. **Rothfels, C.J.**, and E. Schuettpelz. 2014. Accelerated rate of molecular evolution for vittarioid ferns is strong and not driven by selection. *Systematic Biology* 63(1): 31–54. doi:10.1093/sysbio/syt058.
19. Sundue, M.A., and **C.J. Rothfels**. 2014. Stasis and convergence characterize morphological evolution in eupolypod II ferns. *Annals of Botany* 113(1): 35–54. doi:10.1093/aob/mct247.
18. **Rothfels, C.J.**, A. Larsson, F-W. Li, E.M. Sigel, L.Huiet, D.O. Burge, M. Ruhsam, S.W. Graham, D. Stevenson, G.K.-S. Wong, P. Korall, K.M. Pryer. 2013. Transcriptome-mining for single-copy nuclear markers in ferns. *PLoS ONE* 8(10): e76957. doi:10.1371/journal.pone.0076957.
17. León, B., **C.J. Rothfels**, M. Arakaki, K.R. Young, K.M. Pryer. 2013. Revealing a cryptic fern distribution through DNA sequencing: *Pityrogramma trifoliata* in the western Andes of Peru. *Amer Fern J* 103(1): 40–48.
16. **Rothfels, C.J.**, M.D. Windham, and K.M. Pryer. 2013. A plastid phylogeny of the cosmopolitan fern family Cystopteridaceae (Polypodiopsida). *Systematic Botany* 38(2): 295–306.
15. **Rothfels, C.J.**, E. Gaya, L. Pokorny, Paul Rothfels, Peter Rothfels, and G.R. Feulner. 2012. Five new records for the Arabian Peninsula and other significant fern, lichen and bryophyte collections from the UAE and northern Oman. *Tribulus* 20: 4–20.
14. **Rothfels, C.J.**, E.M. Sigel, and M.D. Windham. 2012. *Cheilanthes feei* T. Moore (Pteridaceae) and *Dryopteris erythrosora* (D.C. Eaton) Kunze (Dryopteridaceae) new for the flora of North Carolina. *American Fern Journal* 102(2): 184–186.
13. **Rothfels, C.J.***, M.A. Sundue*, L.Y. Kuo, A. Larsson, M. Kato, E. Schuettpelz, and K.M. Pryer. 2012. A revised family-level classification for eupolypod II ferns (Polypodiidae: Polypodiales). *Taxon* 61(3): 515–533. *Equally contributing.
12. **Rothfels, C.J.***, A. Larsson*, L.-Y. Kuo*, P. Korall, W.-L. Chiou, and K.M. Pryer. 2012. Overcoming deep roots, fast rates, and short internodes to resolve the ancient rapid radiation of eupolypod II ferns. *Systematic Biology* 61(3): 490–509. COVER ARTICLE. *Equally contributing.

11. Johnson, A.K. *, **C.J. Rothfels**, M.D. Windham, and K.M. Pryer. 2012. Unique expression of a sporophytic character on the gametophytes of notholaenid ferns (Pteridaceae). American Journal of Botany 99: 1118–1124. *Undergraduate mentee.
10. Li, F.-W., L.-Y. Kuo, **C.J. Rothfels**, A. Ebihara, W.-L. Chiou, M.D. Windham, and K.M. Pryer. 2011. *rbcL* and *matK* earn two thumbs up as the core DNA barcode for ferns. PLoS ONE 6: e26597.
9. Mayrose, I, S.H. Zhan, **C.J. Rothfels**, K. Magnuson-Ford, L. Rieseberg, M.S. Barker, and S.P. Otto. 2011. Recently formed polyploid plants diversify at lower rates. Science 333: 1257.
8. Galbraith, D.A., N.E. Iwanycki, B.V. McGoey, J. McGregor, J.S. Pringle, **C.J. Rothfels**, and T.W. Smith. 2011. The evolving role of botanical gardens and natural areas: A floristic case study from Royal Botanical Gardens, Canada. Plant Diversity and Resources 33(1): 123–131.
7. Pryer, K.M., E. Schuettpelz, L. Huiet, A.L. Grusz, **C.J. Rothfels**, T. Avent, D. Schwartz, and M.D. Windham. 2010. DNA barcoding exposes a case of mistaken identity in the fern horticultural trade. Molecular Ecology Resources 10: 979–985.
6. Windham, M.D., L. Huiet, E. Schuettpelz, A.L. Grusz, **C.J. Rothfels**, J.B. Beck, G. Yatskievych, K.M. Pryer. 2009. Using plastid DNA sequences to redraw generic boundaries in cheilanthoid ferns (Pteridaceae). American Fern Journal 99: 128–132.
5. **Rothfels, C.J.**, M.D. Windham, A.L. Grusz, G.J. Gastony, and K.M. Pryer. 2008. Toward a monophyletic *Notholaena* (Pteridaceae): Resolving patterns of evolutionary convergence in xeric-adapted ferns. Taxon 57(3): 712–724.
4. Jaramillo, A., M.T.J. Johnson, **C.J. Rothfels**, and R.A. Johnson. 2008. The native and exotic avifauna of Easter Island: Then and now. Boletín Chileno de Ornitología 14(1): 8–21.
3. **Rothfels, C.J.** 2004. Significant vascular plant records from the Hamilton area, Ontario. Canadian Field-Naturalist. 118(4): 612–615.
2. **Rothfels, C.J.**, L.L. Beaton, and S. Dudley. 2002. The effects of salt, manganese, and density on life history traits in *Hesperis matronalis* L. from oldfield and roadside populations. Can. Journal of Botany 80: 131–139.
1. Johnson, M.T. and **C.J. Rothfels**. 2001. The establishment and proliferation of the rare exotic plant, *Lythrum hyssopifolia*, (Hyssop-leaved Loosetrife), at a pond in Guelph, Ontario. Can. Field-Naturalist 115(2): 229–233.

GRANT SUPPORT

- 2022–2027 **NSF Division of Environmental Biology**. Role: PI. *CAREER: Polyploid phylogenetics and ploidy-aware taxonomy of Cystopteridaceae: Research and education from the field to museum collections*. \$1,200,000.
- 2020–2022 **California Conservation Genomics Project**. Role: PI. *California Conservation Genomics of the Azolla Symbiosis*. \$42,761.
- 2018–2022 **NSF Division of Environmental Biology**. Role: PI. *Collaborative Proposal: The Foundation of Terrestrial Life: Inferring a Total-evidence Timeline of Vascular Plant Evolution*. \$350,000.
- 2018–2022 **NSF Advancing Digitization of Biological Collections**. Role: Lead PI. *Digitization TCN: Collaborative Research: The Pteridological Collections Consortium: An integrative approach to pteridophyte diversity over the last 420 million years*. \$978,117 (total collaboration: \$3,700,000).

SELECT AWARDS

- 2022 **Carol D. Soc Distinguished Graduate Student Mentoring Award, Early-Career Faculty Winner**.
- 2012 **NSERC Postdoctoral Fellowship**. \$40,000/year for two years.
- 2011 **NSF Doctoral Dissertation Improvement Grant**. \$15000.
- 2009 **Lewis and Clark Fund for Exploration and Field Research**. *American Philosophical Soc.*, \$2500.
- 2009 **Dissertation Research Grant**. *Duke Center for Latin American and Caribbean Studies*. \$900.
- 2009 **Graduate Student Research Grant**. *American Society of Plant Taxonomists*. \$600.
- 2008 **NSERC PGS D Research Scholarship**. *NSERC, doctoral*. \$21000/year for up to three years.

- 2007 **Graduate Student Research Award.** *Society of Systematic Biologists.* \$1700.
- 2007 **Mini-PEET Award.** *Society of Systematic Biologists, to enhance the transfer of taxonomic expertise.* \$1400.
- 2006 **Julie Payette-NSERC Research Scholarship.** \$25000 for one year.
- 2006 **University Scholars Fellowship.** *Duke University's most prestigious award offered for graduate study.*
- 2006 **James B. Duke Fellowship.** *Duke University.* \$4000 per year for four years.

PROFESSIONAL ACTIVITIES

- | | | |
|------------------|---|--|
| 2018–
present | Frontiers in Plant Science
▪ Manage and review manuscripts. | <i>Associate Editor: Plant Systematics and Evolution</i> |
| 2017–
present | Annals of the Missouri Botanical Garden
▪ Manage and review manuscripts. | <i>Associate Editor</i> |
| 2010–
present | American Fern Journal
▪ Manage and review manuscripts. | <i>Associate Editor</i> |
| 2009–
present | Misc. Journals
▪ For <i>American Fern Journal, American Journal of Botany, Annales Botanici Fennici, Annals of Botany, Annals of the Missouri Botanical Garden, AoB PLANTS, Australian Systematic Botany, Biodiversity and Conservation, BMC Evolutionary Biology, BMC Genomics, Botanical Studies, Brittonia, Cladistics, Genome, Genome Biology and Evolution, Grana, International Journal of Plant Sciences, Journal of Biogeography, Journal of Plant Research, Molecular Biology and Evolution, Molecular Ecology Resources, Molecular Phylogenetics and Evolution, New Phytologist, Organisms Diversity & Evolution, PeerJ, Phytokeys, Phytotaxa, Plant Systematics and Evolution, PLoS ONE, Proceedings B, Scientific Reports, Systematic Botany, Systematic Biology, Taxon, and The Plant Journal.</i> | <i>Reviewer</i> |
| 2010–
present | Misc. Societies
▪ I am a member of the following professional societies: American Fern Society, American Society of Naturalists, American Society of Plant Taxonomists, International Association for Plant Taxonomy, Society for the Study of Evolution, and the Society of Systematic Biologists. | <i>Member</i> |

INVITED SEMINARS

- **Rothfels, C.J.** 2020. The prospects and promise of polyploid phylogenetics. Invited Seminar: University of Helsinki. Helsinki, Finland.
- **Rothfels, C.J.** 2020. Prospects and pitfalls of polyploid phylogenetics, or hybrid genomes and the ferns that love them. Invited Seminar: Idaho State University. Pocatello, Idaho.
- **Rothfels, C.J.** 2019. Inferring the evolutionary time scale of vascular plant evolution. Invited Seminar: University of Michigan. Ann Arbor, Michigan.
- **Rothfels, C.J.** 2019. March of the Genomes: Evolutionary and Conservation Consequences of Hybrid Polyploidization. Invited Seminar: Chicago Plant Science Symposium. Chicago, Illinois.
- **Rothfels, C.J.** 2018. Next generation polyploid phylogenetics. Invited seminar: San Francisco State University. San Francisco, California.
- **Rothfels, C.J.** 2018. Prospects and pitfalls of polyploid phylogenetics. Invited seminar: Florida Museum of Natural History. Gainesville, Florida.
- **Rothfels, C.J.** 2017. Ancient but still evolving: The ferns among us. Invited lecture: California Native Plants Society, North Coast Chapter. Arcata, California.
- **Rothfels, C.J.** 2017. Next generation polyploid phylogenetics. Invited seminar: Institut für Systematische Botanik. Zurich, Switzerland.
- **Rothfels, C.J.** 2017. Next generation polyploid phylogenetics. Invited seminar: Chinese Academy of Science. Chengdu, China.

- **Rothfels, C.J.** 2017. Next generation polyploid phylogenetics. Invited seminar: University of San Francisco. San Francisco, California.
- **Rothfels, C.J.** 2017. Next generation polyploid phylogenetics. Invited seminar: Ohio State University. Columbus, Ohio.
- **Rothfels, C.J.** 2017. Next generation polyploid phylogenetics. Invited seminar: University of Idaho. Moscow, Idaho.
- **Rothfels, C.J.** 2016. Next generation polyploid phylogenetics. Invited seminar: UC Davis.
- **Rothfels, C.J.** 2016. Deep thoughts: Musings on speciation and the fern hybrid *xCystocarpium roskamianum*. Plant Speciation 2016: Austin TX.
- **Rothfels, C.J.** 2016. Next generation polyploid phylogenetics (and some of the ferns that love them). Invited seminar: Rancho Santa Ana Botanic Garden. Claremont, California.
- **Rothfels, C.J.** 2005. *Odonata of Vernal Pools*. Oral Paper: Ontario Vernal Pool Association AGM, ON.
- **Rothfels, C.J.** 2004. *Research at Royal Botanical Gardens*. Seminar: McMaster University Evolution and Ecology Seminar, Hamilton ON.
- **Rothfels, C.J.**, and M.T. Johnson. 2003. *Botanists abroad*. Keynote Address: Field Botanists of Ontario AGM.

POPULAR AND OTHER PUBLICATIONS

- **Rothfels, Carl J.** 2017. *Selaginella kraussiana*, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=44093
- **Rothfels, Carl J.**, Paul Wilson, and Thomas J. Rosatti 2017. *Selaginella*, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=8877
- **Rothfels, Carl J.**, Ruth E.B. Kirkpatrick, Alan R. Smith & Thomas Lemieux 2017. *Pentagramma*, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=77464, accessed on January 14, 2017. [And nested species pages.]
- **Rothfels, Carl J.** and Alan R. Smith 2017. Athyriaceae, Revision 4, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=79419, accessed on January 14, 2017.
- **Rothfels, Carl J.** and Alan R. Smith 2017. Cystopteridaceae, Revision 4, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=101729, accessed on January 14, 2017.
- **Rothfels, Carl J.** and Alan R. Smith 2017. *Cystopteris*, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=10766, accessed on January 14, 2017.
- **Rothfels, Carl J.**, and Alan R. Smith. 2017. Woodsiaceae, Revision 4, in Jepson Flora Project (eds.) Jepson eFlora, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=93775, accessed on January 14, 2017.
- Pryer, Kathleen M., Alan R. Smith, and **Carl Rothfels**. 2009. Polypodiopsida Cronquist, Takht. & Zimmerm. 1966. Ferns. Version 14. <http://tolweb.org/Polypodiopsida/20615/2009.01> in The Tree of Life Web Project.
- **Rothfels, Carl**. 2008. Notholaenids. Cloakferns and allies. Version 23. <http://tolweb.org/notholaenids/133570/2008.12.23> [And approximately 30 nested pages] in The Tree of Life Web Project.
- **Rothfels, Carl**. 2008. Pteridaceae E.D.M. Kirchn. 1831. Brake Ferns, Maidenhair Ferns, and allies. Version 23. <http://tolweb.org/Pteridaceae/29352/2008.12.23> in The Tree of Life Web Project.
- Pryer, K. M., A. R. Smith, and **C. Rothfels**. 2008. Polypodiidae Cronquist, Takht. & Zimmerm. 1966. Leptosporangiate Ferns. Version 23. <http://tolweb.org/Polypodiidae/21666/2008.12.23> in The ToL Web Project.
- **Rothfels, C.** 2007. The Comet Darner (*Anax longipes*: Aeshnidae): Possibly breeding in Canada. Ontario Odonata 7:38-41.
- **Rothfels, Carl**. 2007. Three years of the Hamilton odonate count. Ontario Odonata 7: 36-37.
- **Rothfels, Carl**. 2007. Odonata of Halton Region. Ontario Odonata 7: 33-35.
- **Rothfels, C.** 2007. Dense darner swarm in Algonquin Provincial Park: Observations and questions. Ontario Odonata 7:43-48.
- **Rothfels, C.J.** 2007. Significant Hamilton Study Area plant records from the herbarium of Royal Botanical Gardens (HAM): 2005 (part 3). Wood Duck 60(5): 106-111.
- **Rothfels, C.J.** 2006. The dragonflies and damselflies (Odonata) of Halton Region, Ontario. Pages 135-158 in: Halton Natural Areas Inventory 2006: Volume 2 Species Checklists. Hamilton Naturalists' Club, Halton-North Peel Naturalists' Club, and South Peel Naturalists' Club. Hamilton, Ontario.
- **Rothfels, C.J.** 2006. Significant Hamilton Study Area plant records from the herbarium of Royal Botanical Gardens (HAM): 2005 (part 2). Wood Duck 60(4): 83-84.

- **Rothfels, C.J.** 2006. Significant Hamilton Study Area plant records from the herbarium of Royal Botanical Gardens (HAM): 2005 (part 1). Wood Duck 60(3): 60-62.
- **Rothfels, C.J.** 2006. Hamilton odonate count III: Zebras and spatterdocks. Wood Duck 60(1): 13-15.
- **Rothfels, C.J.** 2006. Significant Hamilton Study Area (HSA) odonate records from 2005. Wood Duck 59(9): 222-225.
- Van Ryswyk, B. and **C. Rothfels**. 2006. Significant 2005 odonate records from Halton Region. Wood Duck 59(8): 183-186.
- **Rothfels, C.J.** and W. Muma. 2006. Goldfinch killed by burdock. Wood Duck 59(7):151-152.
- **Rothfels, C.J.** 2006. One specimen, many stories. Now @ The Gardens. 3(1): 4-5.
- **Rothfels, C.J.** 2006. Heating up the sanctuaries: Gardens' prescribed burns 2006. Now @ The Gardens. 3(2): 7.
- **Rothfels, C.J.** 2005. Significant plant records from the herbarium of Royal Botanical Gardens (HAM): 2003. Field Botanists of Ontario Newsletter. 17(2): 7-12.
- **Rothfels, C.J.** 2005. Botanical diversions: The Latin name game. Field Bot. of Ontario Newsletter. 17(4): 12.
- **Rothfels, C.J.** 2005. A Brown Widow (*Lactrodectus geometricus*) arrives in Burlington. Wood Duck. 59(4): 98.
- **Rothfels, C.J.** 2005. The second annual Hamilton odonate count. Wood Duck. 59(3): 53-55.
- **Rothfels, C.** 2005. American Columbo (*Frasera carolinensis*) in the Cartwright Nature Sanctuary. Wood Duck. 59(1): 3-4.
- **Rothfels, C.J.** 2005. Significant 2004 Hamilton Study Area plant records from the Royal Botanical Gardens herbarium (HAM). Part II: Alphabetical families Lardizabalaceae to Vitaceae. Wood Duck. 58(9): 219-223.
- **Rothfels, C.J.** 2005. Significant 2004 Hamilton Study Area plant records from the Royal Botanical Gardens herbarium (HAM). Part I: Alphabetical families Aceraceae to Lamiaceae. Wood Duck. 58(8): 187-192.
- Welch, T. and **C.J. Rothfels**. 2005. Trumpeter swans (*Cygnus buccinator*) fledge young at The Gardens. Now @ The Gardens. 2(4).
- Scott, E. and **C. Rothfels**. 2005. Getting muddy for the marsh—marsh volunteer plantings 2005. Now @ The Gardens. 2(4).
- Rivet, R. and **C.J. Rothfels**. 2005. York Boulevard Prairie prescribed burn 2005. Now @ The Gardens. 2(3).
- **Rothfels, C.J.**, T.Theysmeyer, and B.McKean. 2005. Rare fish found at the Fishway. Now @ The Gardens.
- **Rothfels, C.J.** 2005. Princess Point Earth Day planting. Now @ The Gardens. 2(2).
- **Rothfels, C.J.** and P.M. Catling. 2005. Major dragonfly migration at Hamilton. Ontario Odonata. 6: 40.
- **Rothfels, C.J.** 2004. Unicorn Clubtail (*Arigomphus villosipes*: Gomphidae): New records and summary of status in Ontario. Ontario Odonata. 5: 5-11.
- **Rothfels, C.J.** 2004. Significant plant records from the herbarium of Royal Botanical Gardens (HAM): 2002. Field Botanists of Ontario Newsletter. 16(3): 7-12.
- **Rothfels, C.J.** 2004. The First Annual Hamilton Odonate Count. Wood Duck. 58(2): 27-29.
- **Rothfels, C.J.**, S. Spisani and J. Sylvester. 2004. Significant 2003 Hamilton Study Area plant records from the Royal Botanical Gardens herbarium (HAM). Wood Duck. 57(9): 213-219.
- **Rothfels, C.J.** 2004. Stoneflies' Great-great-great-great Grandparents. Wood Duck. 57(8): 179.
- **Rothfels, C.J.** 2004. Intrepid insects: Capniids in Cootes. Wood Duck. 57(7): 153-154.
- **Rothfels, C.J.** 2004. The beetle, the oak, the fire, and the future of our nature sanctuaries. Now @ The Gardens.
- **Rothfels, C.J.** 2003. Royal Botanical Gardens Odonate Count 2003. Ontario Insects. 9(1): 11-13
- **Rothfels, C.J.** 2003. Synopsis of Ontario herbaria. Field Botanists of Ontario Newsletter. 16(1): 7-19.
- **Rothfels, C.J.** 2003. Field trip report: Yarmouth Natural Heritage Area. FBO Newsletter. 15(4): 7-9.
- **Rothfels, C.J.** 2003. Royal Botanical Gardens odonate count 2003. Wood Duck. 57(1): 5-7.
- **Rothfels, C.J.** 2003. Significant 2002 Hamilton Study Area plant records from the Royal Botanical Gardens herbarium (HAM). Wood Duck. 56(7): 155-161.
- **Rothfels, C.J.** 2002. Botanical Diversions: Salad taxonomy. Field Botanists of Ontario Newsletter. 15(1): 8-10.
- **Rothfels, C.J.** 2002. Review: Lichen guides. Wood Duck. 56: 68.
- **Rothfels, C.J.** 2002. Learning lichens from Ernie Brodo. Wood Duck. 56: 51-54.
- **Rothfels, C.J.** 2002. Listening to whipbird duets in Australia. Wood Duck. 56: 21-22.
- **Rothfels, C.J.** 2002. Synthesis and Summary of the Historic Fire Regime of Ecodistricts 5E-9 and 5E-10. Ontario Ministry of Natural Resources, Ontario Parks. Unpublished report. 37pp.
- **Rothfels, C.J.** 2001. Doi Inthanon – A Hamilton Naturalist Abroad. Wood Duck. 55(3): 57-58.
- **Rothfels, C.J.** and M.T. Johnson. 2000. Botany Excursions: Massassauga Point and Point Petre Wildlife Area, Prince Edward County. Field Botanists of Ontario Newsletter. 13(3): 6-10.
- **Rothfels, C.J.** 1998. Birds of the Feather Band Together. Wood Duck. 51(7): 131-136.

PEER-REVIEWED TECHNICAL REPORTS

1. **Rothfels, C.J.** and T.W. Smith. In review. Update COSEWIC report on Green Dragon, *Arisaema dracontium*. Committee on the Status of Endangered Wildlife in Canada, Ottawa.
2. Smith, T.W. and **C.J. Rothfels**. In review. Update COSEWIC report on Broad Beech Fern, *Phegopteris hexagonoptera*. Committee on the Status of Endangered Wildlife in Canada, Ottawa.
3. Waldron, G., **C.J. Rothfels**, J. Bowles, and Environment Canada. 2011. Recovery strategy for the Skinner's Agalinis (*Agalinis skinneriana*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada. v + 16 pp.
4. Smith, T.W. and **C.J. Rothfels**. 2010. Recovery strategy for Few-flowered Club-rush (*Trichophorum planifolium*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. ii + 4 pp. + Appendix vi + 22 pp. + addenda.
5. **Rothfels, C.J.** and S.Y. Gibson. 2007. COSEWIC assessment and update status report on the round-leaved greenbrier (Great Lakes Plains and Atlantic population) *Smilax rotundifolia* in Canada. Committee on the Status of Endangered Wildlife in Canada, Ottawa.
6. Smith, T.W. and **C.J. Rothfels**. 2007. Recovery strategy for Few-flowered Club-rush/Bashful Bulrush (*Trichophorum planifolium* (Sprengel) Palla) in Canada. Prepared for the Ontario Ministry of Natural Resources by Royal Botanical Gardens. Hamilton. vi + 22 pp.
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