Justin C. Bagley

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GitHub: https://github.com/justincbagley/

Languages: English (native) • Spanish (near fluent, 9 yrs.) • Portuguese (functional, 2.5 yrs.)
Programming Languages: bash/shell (4.5 yrs.) • R (8.5 yrs.) • Python (basic, 2.5 yrs.)

CV Summary

Research Interests	Phylogeography (molecular ecology), population genomics, adaptation, gene flow, phylogenomics, species delimitation, integrative taxonomy
Publications	19 peer-reviewed publications, including 2 book chapters plus 17 articles in *Biological Reviews*, *Molecular Ecology*, *BMC Evolutionary Biology*, *PLoS One*, *Molecular Phylogenetics and Evolution*, *Journal of Evolutionary Biology*, *Evolutionary Applications*, *Ecology and Evolution*, *PeerJ*, *Zootaxa*, *Journal of Fish Biology*, *Herpetologica*, and *Diversity*
Funding	$103,360 total, PhD–*present*: Brazilian postdoc award, U.S. NSF Doctoral Dissertation Improvement Grant (DDIG) as Co-PI, plus institutional and extramural research and fellowship awards
Teaching	Non-majors' Principles of Biology; Majors' General Ecology and Integrative Taxonomy CURE; Principles of Biology and Evolutionary Biology laboratories
Mentoring	1 Brazilian undergraduate mentee; 6 U.S. undergraduate mentees
Service	Reviewer for: *Molecular Ecology*, *Journal of Biogeography*, *Proceedings of the Royal Society of London B*, *Molecular Phylogenetics and Evolution*, *PeerJ*, *Scientific Reports*, and other journals; ichthyology outreach projects

Education

2008–2014	Ph.D., Integrative Biology, Brigham Young University, Provo, UT Advisor: Jerald (Jerry) B. Johnson Dissertation: *Understanding the diversification of Central American freshwater fishes using comparative phylogeography and species delimitation*
2006–2008	M.Sc., Biology, The University of Alabama, Tuscaloosa, AL Advisor: Phillip M. Harris Title: *Taxonomy and population genetics of Alabama spotted bass* Micropterus punctulatus henshalli
2002–2004	B.Sc., Biology, The University of Alabama, Tuscaloosa, AL Advisor: Stephen M. Secor
2000–2002	A.S., General Studies, Shelton State Community College, Tuscaloosa, AL

Other Professional Training

2018	University of California Laboratory Safety Fundamentals 2017 1011
2017	VCU Responsible Conduct of Research Course (OVPR 603)
2017	CITI Responsible Conduct of Research Course (RCR-Basic)
2016	Auburn University Bioinformatics Bootcamp (1 week, UNIX/Illumina)
2013	Life Sciences General Lab Safety Training
2013	Life Sciences Safety Training Refresher Course
2012	SPSAS-evo Evolution Course (1 week)
2012	AALAS Maintaining Animal Procedure Areas Course
2012	AALAS Working with Laboratory Zebrafish Course
2012	Biomatters Geneious Workshop (1 day)
2009	Gene Codes Sequencher Workshop (1 day)

Professional Appointments

2018–*present*	Postdoctoral Research Associate, Department of Biology, University of Missouri–St. Louis, Advisor: Nathan Muchhala
2018–*present*	Affiliate Researcher, Department of Biology, Virginia Commonwealth University
2015–2018	Senior Research Associate, Departamento de Zoologia, Universidade de Brasília
2017–2018	Postdoctoral Scholar, Department of Biology, Virginia Commonwealth University, Advisor: Andrew J. Eckert
2015–2017	Young Talent Fellow Postdoc, Science Without Borders program, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), Brazil, Director: Francisco Langeani; Coordinator: Guarino R. Colli
2014	Adjunct Instructor, Department of Biology, Utah Valley University

Selected Academic Awards & Honors

2018	Full Member, Sigma Xi, The Scientific Research Society
2012	Recipient, Graduate Research Fellowship, Graduate Studies, Brigham Young University ($15,000)
2012	Selected Participant, São Paulo School for Advanced Science-Evolution (SPSAS-*evo*) course, São Paulo, Brazil ($2,500)
2009	National Academy of Sciences Sackler Colloquium Student Travel Award ($425)
2008	Recipient, University of Louisiana, Lafayette Board of Regents Fellowship ($24,000; declined)
2007	Recipient, Collegiate License Tag Endowed Graduate Education Fund Fellowship, The University of Alabama ($19,000)
2002	Recipient, Phi Theta Kappa Presidential Scholarship to The University of Alabama, Association of Alabama Two-Year Colleges ($14,000)

Research Interests

I am interested in how historical and ecological processes act to shape the spatial and temporal distributions of biodiversity in freshwater and terrestrial environments. Much of my work has focused on **1)** using **molecular phylogeography and species delimitation** to better understand population structure and history, species limits, and the role of historical biogeographical processes in shaping species distributions and community assembly. However, high-throughput sequencing methods and bioinformatics tools have advanced rapidly, providing tools that I have actively used over the last few years to improve phylogeographic inferences and expand my research into **2)** disentangling the interplay between genetic drift, natural selection, and gene flow (hybridization) during **speciation and local adaptation**. This work includes genome-wide perspectives on the demographic context of ecological speciation and the ecological and genetic bases of adaptation to challenging environments and ecological gradients.

My *current* project focuses on using large-scale **3) phylogenomic and comparative approaches** to infer phylogenetic relationships and test hypotheses on the roles of pollinator-mediated, gametic, and postzygotic reproductive isolation in speciation during rapid radiation in *Burmeistera* bellflowers (Campanulaceae). This work has implications for understanding the high diversity of flowering plants in the tropical Andes biodiversity 'hotspot'. Other recent/on-going projects focus on **evolutionary and ecological genomics** of North American and Neotropical *freshwater fishes* (tetras, catfishes, cichlids, and especially livebearers in family Poeciliidae) and *forest trees* (white pines, Chilean pine, and quaking aspen).

Research Experience

2018–*present*	Postdoctoral Scholar under Nathan Muchhala, Department of Biology, University of Missouri–St. Louis
2017–2018	Postdoctoral Scholar under Andrew J. Eckert, Department of Biology, Virginia Commonwealth University
2016–2017	Visiting Scholar (Population Genomics Intern) under Jeffrey Lozier, Department of Biological Sciences, The University of Alabama
2015–2017	Postdoctoral Researcher under Francisco Langeani (Coordinator: Guarino Colli), Departamento de Zoologia e Botânica, Universidade Estadual Paulista, SJRP campus
2013	Graduate Research Assistant to Jerry Johnson, Department of Biology, Brigham Young University
2012	Graduate Research Fellow, Graduate Studies, Brigham Young University
Winter 2011	Graduate Research Assistant to Jerry Johnson, Department of Biology, Brigham Young University
Fall 2009	Graduate Research Assistant to Jerry Johnson, Department of Biology, Brigham Young University
2008–2009	Graduate Research Assistant to Jerry Johnson, Department of Biology, Brigham Young University
2008	Graduate Research Assistant, Evolutionary Ecology Laboratories, Department of Biology, Brigham Young University

2006	Biologist Intern to Pat O'Neil, Water Investigations Program, Geological Survey of Alabama
2003–2005	Howard Hughes Medical Institute Undergraduate Research Intern under Stephen Secor, Department of Biological Sciences, The University of Alabama

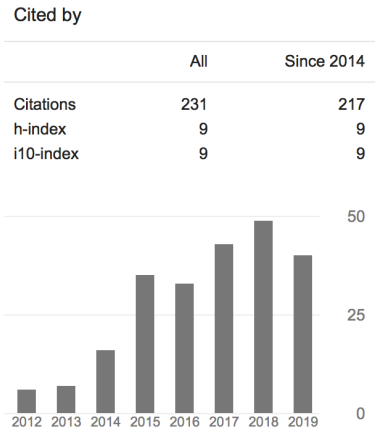
Field Experience

Freshwater and/or Marine Fish Collections:

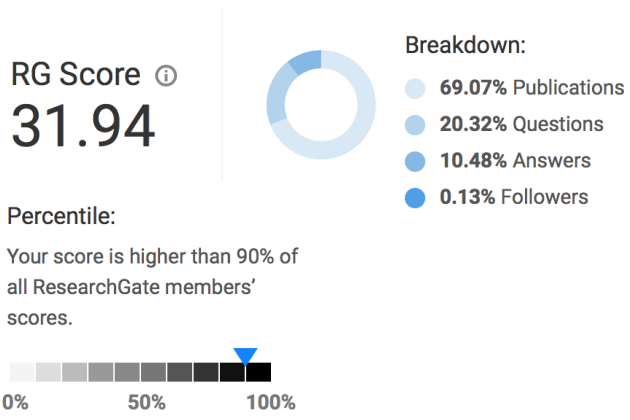
September 2015	11 sites, Brazilian Planalto Central (Cerrado), Distrito Federal, **Brazil**
August 2015	4 sites, Brazilian Planalto Central (Cerrado), Distrito Federal, **Brazil**
June 2015	4 sites, Brazilian Planalto Central (Cerrado), Distrito Federal, **Brazil**
March 2015	19 sites, Brazilian Planalto Central (Cerrado), Distrito Federal, **Brazil**
July 2012	33 sites across **Costa Rica** and **Nicaragua**, 2 weeks
March 2011	1 site, sampling with my Ecology (BIO 350) class, Provo River, **Utah**
October 2010	30 sites across **Nicaragua**, 2 weeks
March 2010	24 sites in **Costa Rica**, 2 weeks
March 2009	2 sites, electrofishing and seining, Spanish Fork River, **Utah**
Summer 2007	>50 sites across **Florida**, especially Indian River Lagoon
Summer 2006	>30 sites across **Alabama** and 1 site in **Tennessee**, w/Geol. Survey of Alabama
2006–2008	>90 sites throughout the southeastern **United States**, many short trips

Publications

Google Scholar citation metrics:



ResearchGate Score:



Abbreviations: [U]undergraduate student, [G]graduate student

A. Peer-reviewed Journal Papers and Book Chapters

22. **Bagley JC**, Heming NM, Gutiérrez EE, Devisetty UK, Mock KE, Eckert AJ, Strauss SH (*in revision*) Genotyping-by-sequencing and ecological niche modeling illuminate phylogeography,

admixture, and Pleistocene range dynamics in quaking aspen (*Populus tremuloides*). ***Ecology and Evolution***.

21. **Bagley JC**, Aquino PPU, Hrbek T, Hernandez S[G], Langeani F, Colli GR (*in revision*) Using ddRAD-seq phylogeography to test for genetic effects of headwater river capture in suckermouth armored catfish (Loricariidae: *Hypostomus*) from the central Brazilian Shield. ***Molecular Ecology***.

20. Menon M, **Bagley JC**, Page G, Whipple AV, Schoettle AW, Still C, Wehenkel C, Waring K, Flores-Renteria L, Cushman SA, Eckert AJ (*in review*) Adaptive evolution in a conifer hybrid zone is driven by a mosaic of introgressed and standing genetic variants. ***Nature Ecology & Evolution***.

19. **Bagley JC**, Uribe-Convers S, Carlsen M, Muchhala N (*accepted pending minor revisions*) Utility of targeted sequence capture for phylogenomics in rapid, recent angiosperm radiations: Neotropical *Burmeistera* bellflowers as a case study. ***Molecular Phylogenetics and Evolution***.

18. **Bagley JC**, Aquino PPU, Breitman MF, Langeani F, Colli GR (2019) DNA barcode and minibarcode identification of freshwater fishes from Cerrado headwater streams in central Brazil. ***Journal of Fish Biology***, 95, 1046–1060.

17. Menon M[G], Landguth E, Sáenz AL[G], **Bagley JC**, Schoettle A, Wehenkel CA, Cushman S, Waring K, Eckert AJ (2019) Tracing the footprints of a moving hybrid zone under a demographic history of speciation with gene flow. ***Evolutionary Applications***. Accepted Author Manuscript `doi:10.1111/eva.12795`.

16. **Bagley JC**, Hickerson MJ, Johnson JB (2018) Testing hypotheses of diversification in Panamanian frogs and freshwater fishes using hierarchical approximate Bayesian computation with model averaging. ***Diversity***, 10, 120.

15. Breitman MF, Domingos FMCB, **Bagley JC**, Wiederhecker HC, Ferrari TB[U], Cavalcante VHGL[G], et al.[UG] (2018) A new species of *Enyalius* (Squamata: Leiosauridae) endemic to the Brazilian Cerrado. ***Herpetologica***, 74(4), 355–369.

14. **Bagley JC**, Harris PM, Mayden, RL (2018) Phylogeny and divergence times of suckers (Cypriniformes: Catostomidae) inferred from Bayesian total-evidence analyses of molecules, morphology, and fossils. ***PeerJ***, 6, e5168.

13. Menon MG[G], **Bagley JC**, Friedline C, Whipple A, Schoettle A, Sáenz AL[G], Wehenkel CA, Flores-Rentería LH, Sniezko R, Cushman S, Waring K, Eckert AJ (2018) The role of hybridization during ecological divergence between southwestern white pine, *Pinus strobiformis*, and limber pine, *P. flexilis*. ***Molecular Ecology***, 27, 1245–1260.

12. Overcast I[G], **Bagley JC**, Hickerson, MJ (2017) Strategies for improving approximate Bayesian computation tests for synchronous diversification. ***BMC Evolutionary Biology***, 17, 203.

11. Ceríaco LM, Gutiérrez EE, Dubois A, et al.[UG] (Appendix 1 of **Supporting Signatories**) (2016) Photography-based taxonomy is inadequate, unnecessary, and potentially harmful for biological sciences. ***Zootaxa***, 4196, 435–445.

10. **Bagley JC**, Matamoros WA, McMahan CD, Tobler M, Chakrabarty P, Johnson JB (2016) Phylogeography and species delimitation in convict cichlids (Cichlidae: *Amatitlania*): implications for taxonomy and Plio—Pleistocene evolutionary history in Central America. ***Biological Journal of the Linnean Society***, 120(1), 155–170.

9. **Bagley JC**, Alda F, Breitman MF, van den Berghe E, Bermingham E, Johnson JB (2015) Assessing species boundaries using multilocus species delimitation in a morphologically conserved group of Neotropical freshwater fishes, the *Poecilia sphenops* species complex (Poeciliidae). ***PLoS One***, 10(4), e0121139.

8. Watson CM, Makowsky R, **Bagley JC**^{G} (2014) Reproductive mode evolution in lizards revisited: updated analyses examining geographic, climatic and phylogenetic effects support the cold-climate hypothesis. ***Journal of Evolutionary Biology***, 27(12), 2767–2780.

7. **Bagley JC**^{G}, Johnson JB (2014b) Testing for shared biogeographic history in the lower Central American freshwater fish assemblage using comparative phylogeography: concerted, independent, or multiple evolutionary responses? ***Ecology and Evolution***, 4, 1686–1705.

6. **Bagley JC**^{G}, Johnson JB (2014a) Phylogeography of the lower Central American Neotropics: diversification between two continents and between two seas. ***Biological Reviews***, 89(4), 767–790.

5. **Bagley JC**^{G}, Sandel M, Travis J, Lozano-Vilano M de L, Johnson JB (2013) Paleoclimatic modeling and phylogeography of least killifish, *Heterandria formosa*: insights into Pleistocene expansion-contraction dynamics and evolutionary history of North American Coastal Plain freshwater biota. ***BMC Evolutionary Biology***, 13, 223.

4. Unmack PJ, **Bagley JC**^{G}, Adams MD, Hammer MD, Johnson JB (2012) Molecular phylogeny and phylogeography of the Australian freshwater fish genus *Galaxiella* (Teleostei: Galaxiidae), with an emphasis on dwarf galaxias (*G. pusilla*). ***PLoS One***, 7(6), e38433.

3. **Bagley JC**^{G}, Mayden RL, Roe KJ, Holznagel W, Harris PM (2011). Congeneric phylogeography reveals polyphyly and novel biodiversity within black basses (Centrarchidae: *Micropterus*). ***Biological Journal of the Linnean Society***, 104, 346–363.

2. Johnson JB, **Bagley JC**^{G} (2011) Ecological drivers of life-history evolution. In: Ecology and Evolution of Poeciliid Fishes. (eds Evans JP, Pilastro A, Schlupp I), pp. 38–49. ***University of Chicago Press***, Chicago, IL. ISBN-10: 0226222748.

1. Thompson M^{G}, **Bagley JC**^{G}, Rasco J, Lackey K, Cox M^{G} (2007) The Respiratory System. In: Biology: The Study of Life (eds Rasco J, Lackey K). ***Kendall/Hunt Publishing***. ISBN-10: 0757556434.

B. Preprints

3. **Bagley JC**, Heming NM, Gutiérrez EE, Devisetty UK, Mock KE, Eckert AJ, Strauss SH (*in revision*) Genotyping-by-sequencing and ecological niche modeling illuminate phylogeography, admixture, and Pleistocene range dynamics in quaking aspen (*Populus tremuloides*). ***PeerJ Preprints***.

Available online at: `https://peerj.com/preprints/27162/`.

2. **Bagley JC**, Hickerson MJ, Johnson JB (2018) Testing hypotheses of diversification in Panamanian frogs and freshwater fishes using hierarchical approximate Bayesian computation with model averaging. ***PeerJ Preprints***. Available online at: `https://peerj.com/preprints/26623/`.

1. Menon MG[G], **Bagley JC**, Friedline C, Whipple A, Schoettle A, Sáenz AL[G], Wehenkel CA, Flores-Rentería LH, Sniezko R, Cushman S, Waring K, Eckert AJ (2017) The role of hybridization during ecological divergence between southwestern white pine, *Pinus strobiformis*, and limber pine, *P. flexilis*. ***bioRxiv***. Link: `https://www.biorxiv.org/content/early/2017/09/07/185728`.

C. Manuscripts In Preparation

3. Calderon–Acevedo CAG, **Bagley JC**, Muchhala N (*in prep.*) Genome-wide ultraconserved elements resolve phylogenetic relationships among leaf-nosed bats in the genus *Anoura* Gray 1838. ***Molecular Phylogenetics and Evolution***.

2. **Bagley JC**, Breitman MF, Bolte C[G], Johnson JB (*in prep.*) Idiosyncratic effects of tectonism, sea levels, and continental shelf width on Neotropical freshwater fish diversification in Central America. ***BMC Evolutionary Biology***.

1. Domingos FMCB, **Bagley JC**, Lemmon A, Colli GR, Beheregaray LB (*in prep.*) Inner conflict: a comparative phylogeographical test of effects of ecology and history on the evolution of a Neotropical biodiversity hotspot. ***Systematic Biology***.

D. Datasets, Open-Source Software & Code

6. **Bagley JC** (2019) PIrANHA. justincbagley/PIrANHA: PIrANHA version 0.3a2 [Data Set]. **Zenodo**. Available at: `https://zenodo.org/badge/latestdoi/64274217`.

5. **Bagley JC**, Hickerson MJ (2018) Data for: Testing hypotheses of diversification in Panamanian frogs and freshwater fishes using hierarchical approximate Bayesian computation with model averaging. [Data Set]. ***Mendeley Data***, v2. Available at: `http://dx.doi.org/10.17632/f94kxmwf2n.2`.

4. **Bagley JC** (2017) RAPFX. justincbagley/RAPFX: RAPFX version 0.1.0 [Data Set]. **Zenodo**. Available at: `http://doi.org/10.5281/zenodo.890870`.

3. **Bagley JC** (2017) MissingDataFX. justincbagley/MissingDataFX: MissingDataFX version 0.1.1 [Data Set]. **Zenodo**. Available at: `http://doi.org/10.5281/zenodo.399837`.

2. **Bagley JC** (2017) MAGNET. justincbagley/MAGNET: MAGNET version 0.1.4 [Data Set]. **Zenodo**. Available at: `http://doi.org/10.5281/zenodo.399054`.

1. **Bagley JC** (2016) GaussClust. justincbagley/GaussClust: GaussClust version 0.1.0 [Data Set]. **Zenodo**. Available at: `http://doi.org/10.5281/zenodo.231221`.

Presentations & Contributed Abstracts

Abbreviations: [U]undergraduate student, [G]graduate student

29. **Bagley JC**, Uribe–Convers S, Carlsen MM, Muchhala N (2019) Assessing the utility of Hyb-Seq for resolving phylogeny and introgression in rapid angiosperm radiations: a pilot study in *Burmeistera* bellflowers. **Biolunch**, University of Missouri-St. Louis, St. Louis, MO, October 16. (University Oral Presentation)

28. **Bagley JC**, Uribe–Convers S, Carlsen M, Muchhala N (2019) Assessing the utility of Hyb-Seq for resolving phylogeny and introgression in rapid angiosperm radiations: a pilot study in *Burmeistera* bellflowers. **Evolution Meeting 2019**, Providence, RI, June 21–25. (International Meeting; Poster Presentation)

27. Calderon–Acevedo C[G], **Bagley JC**, Muchhala N (2019) Genome-wide ultraconserved elements resolve phylogenetic relationships among leaf-nosed bats in the genus *Anoura* Gray 1838. **99th Annual Meeting of the American Society of Mammalogists**, Washington, DC, June 27–July 2. (National Meeting; Oral Presentation)

26. Menon M[G], Page G, **Bagley JC**, Cushman S, Waring K, Whipple A, Flores–Renteria L, Still C, Wehenkel C, Eckert AJ (2019) Introgression fuels adaptive evolution in range margin populations of *Pinus strobiformis*. **Evolution Meeting 2019**, Providence, RI, June 21–25. (International Meeting; Oral Presentation)

25. Menon M, Landguth E, Leal-Sáenz A, **Bagley JC**, Wehenkel C, Waring K, Schoettle A, Eckert AJ (2018) The role of hybridization during ecological divergence of *Pinus strobiformis* and *P. flexilis*. **Population, Evolutionary and Quantitative Genetics Conference** (GSA), Madison, WI, May 13–16. (International Meeting; Poster Presentation).

24. Menon M[G], Sáenz AL[G], Landguth E, **Bagley JC**, Schoettle A, Wehenkel CA, Cushman S, Waring K, Eckert AJ (2018) Tracing the footprints of a hybrid zone under a history of divergence with gene flow. **21st Annual Graduate Research Symposium and Exhibit**, Virginia Commonwealth University, Richmond, VA, April 24. (University Symposium; Poster Presentation)

23. **Bagley JC**, Menon M[G], Friedline C, Whipple A, Schoettle A, Sáenz AL[G], Wehenkel CA, Flores-Rentería LH, Sniezko R, Cushman S, Waring K, Eckert AJ (2018) Population genomics and paleoclimatic modeling support speciation with gene flow, not genomic islands of differentiation, in sky-island populations of southwestern white pine. **International Plant & Animal Genome Conference XXVI**, San Diego, CA, January 13–17. (International Meeting; Poster Presentation)

22. **Bagley JC**, Aquino PPU, Hrbek T, Hernandez S, Langeani F, Colli GR (2017) Using ddRAD-seq phylogeography to test for genetic effects of headwater river capture in suckermouth armored catfish (Loricariidae: *Hypostomus*) from the central Brazilian Shield. **Evolution Meeting 2017**, Portland, OR, June 23–27. (International Meeting; Oral Presentation)

21. **Bagley JC**, Menon M[G], Friedline C, Whipple A, Schoettle A, Sáenz AL[G], Wehenkel CA, McGarvey D, Flores-Rentería LH, Sniezko R, Cushman S, Waring K, Eckert AJ (2017) Population genomics and paleoclimatic modeling support speciation with gene flow, not genomic islands of differentiation, in sky-island populations of southwestern white pine. **Evolution Meeting 2017**, Portland, OR, June 23–27. (International Meeting; Poster Presentation)

20. Menon M[G], **Bagley JC**, Friedline C, Whipple A, Schoettle A, Sáenz AL[G], Wehenkel CA, McGarvey D, Flores-Renteria LH, Sniezko R, Cushman S, Waring K, Eckert AJ (2017) What's in a name? Ecological speciation in southwestern white pine. **Evolution Meeting 2017**, Portland, OR, June 23–27. (International Meeting; Oral Presentation)

19. Ferrari TB[U], Breitman MF, Domingos F, Wiederhecker HC, **Bagley JC**, de Mello R, de Lima T[G], Colli G (2017) Taxonomia integrative e delimitação de espécies no Cerrado: uma nova espécie de *Enyalius* (Squamata: Leiosauridae) endemic do bioma. VIII Congresso Brasileiro de Herpetologia, Mato Grosso, Brazil. (National Meeting; Abstract + Oral Presentation)

18. Wiederhecker HC, Breitman MF, Domingos F, **Bagley J**, Colli G (2017) Next-Generation Teaching: ensinando ao pesquisar taxonomia integrative beneficia estudantes e professores. VIII Congresso Brasileiro de Herpetologia. (National Meeting; Abstract + Oral Presentation)

17. Aquino PPU, **Bagley JC**, Couto TBA, Figueira-Soares YF[U] (2015) Sinal biogeográfico de captura de cabeceira: primeiro registro de *Phalloceros harpagos* Lucinda, 2008 (Cyprinodontiformes: Poeciliidae) em riachos da bacia do rio São Francisco. III Simpósio de Zoologia Sistemática, UFMG Campus Pampulha, Belo Horizonte, Minas Gerais, Brazil, December 16–20. (Regional Meeting; Abstract + Poster Presentation)

16. Unmack PJ, **Bagley JC**, Davis A, Hammer MP, Adams M, Johnson JB (2014) Phylogeny, biogeography and evolution of the temperate perches (Percichthyidae). **Australian Society for Fish Biology**, Darwin Convention Center, Darwin, Northern Territory, Australia, June 30–July 4. (National Meeting; Abstract + Poster Presentation)

15. **Bagley JC**[G], Alda FA, Breitman MF, van den Berghe EP, Bermingham E, Johnson JB (2014) Who's your "molly"? Species boundaries and cryptic diversity in a complex of Neotropical freshwater fishes. **BYU Grad Expo**, Brigham Young University, Provo, UT, U.S.A., March 25. (Invited Poster Presentation)

14. **Bagley JC**[G] (2014) Paleoclimatic modeling and phylogeography of least killifish, *Heterandria formosa*: insights into Pleistocene expansion-contraction dynamics along the North American Coastal Plain. **Center for Bioenvironmental Research**, Tulane University, New Orleans, Louisiana, U.S.A., January 13. (Invited Oral Presentation)

13. **Bagley JC**[G], Johnson JB (2013) Phylogeography of the lower Central American Neotropics: diversification between two continents, between two seas. **Joint International Meeting of Ichthyologists and Herpetologists**, Albuquerque, New Mexico, U.S.A., July 9–15. (International Meeting; Abstract + Oral Presentation)

12. **Bagley JC**[G], Sandel M, Travis J, Lozano-Vilano M de L, Johnson JB (2013) Testing biogeographic hypotheses of Plio—Pleistocene history and diversification along the North American Gulf-Atlantic Coastal Plain in least killifish (*Heterandria formosa*). **Evolution Conference**, Snowbird Resort, Salt Lake City, Utah, U.S.A., June 20–25. (International Meeting; Poster presentation)

11. **Bagley JC**[G] (2012) Integrative comparative phylogeographical approaches to understanding evolutionary diversification in Central American freshwater fishes. **São Paulo School for**

Advanced Science-Evolution (SPSAS-*evo*), Ilhabela, Brazil, August 19–31. (International Workshop; Poster Presentation)

10. **Bagley JC**^{G}, Johnson JB (2012) Comparative phylogeography of Central American freshwater fishes. **1st Joint Congress on Evolutionary Biology**, Ottawa, Ontario, Canada, July 6–10. (International Meeting; Poster Presentation)

9. Lozano-Vilano M de L, **Bagley JC**^{G} (2010) A new species of *Heterandria* from Coahuila state, México. **Annual Meeting of the Texas Academy of Sciences**, Austin, Texas, U.S.A. (Abstract)

8. **Bagley JC**^{G}, Johnson JB (2010) Do secondary freshwater fishes show congruent responses to saltwater barriers? **Evolution 2010**, Joint Annual Meeting of the Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists, Portland, Oregon, U.S.A., June 25–29. (International Meeting; Oral Presentation)

7. Nay L^{U}, **Bagley JC**^{G}, Johnson JB (2009) Life history variation in the knife-edged livebearer, *Alfaro cultratus*. **Joint International Meeting of Ichthyologists and Herpetologists**, Portland, Oregon, U.S.A., July 22–27. (International Meeting; Abstract + Poster Presentation)

6. **Bagley JC**^{G} (2009) Phylogenetic comparative analyses of body size and shape variation in a diverse yet morphologically conservative clade of lungless salamanders (Plethodontidae: Desmognathus). **Department of Biology Ecolunch Seminar**, Brigham Young University, Provo, Utah, U.S.A., January 30. (Oral Presentation)

5. **Bagley JC**^{G}, Brummer T^{U}, Nay L^{U}, Johnson JB (2008) Phylogeography, geometric morphometrics, and life history variation of Alfaro cultratus (Cyprinodontiformes: Poeciliidae) from Costa Rica. **Desert Fishes Council Meeting**, Cuatro Ciénegas, Mexico, November. (Annual Meeting; Abstract + Poster Presentation)

4. **Bagley JC**^{G} (2008) Polyphyly, hybridization and cryptic biodiversity among *Micropterus*. **Desert Fishes Council Meeting**, Cuatro Ciénegas, Mexico, November. (Annual Meeting; Abstract + Oral Presentation)

3. **Bagley JC**^{G} (2008) A new molecular phylogeny of the black basses, *Micropterus* (Teleostei: Centrarchidae), based on increased within-taxon sampling. **Department of Biology Ecolunch Seminar**, Brigham Young University, Provo, Utah, U.S.A., October 31. (Oral Presentation)

2. **Bagley JC**^{G}, Harris PM (2008) Taxonomy, population genetics and body shape variation in Alabama spotted bass. **Joint International Meeting of Ichthyologists and Herpetologists**, Montreal, Quebec, Canada. (International Meeting; Abstract + Oral Presentation)

1. **Bagley JC**^{U}, Secor SM (2004) Allometry of digestive performance in the marine toad and diamondback water snake. **Society for Integrative and Comparative Biology Meeting**, San Diego, California, U.S.A. (Annual Meeting; Abstract + Poster Presentation)

Research Grants & Awards

A. Funded.

2019	J. Frank Schmidt Family Charitable Foundation Grant ($6480)
2014	Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) Young Talent Fellow award, Science Without Borders program, Brazil ($77,040)
2012	U.S. National Science Foundation Doctoral Dissertation Improvement Grant (DDIG) ($14,040)
2010	IDEA WILD Research Equipment Award ($800)
2010	Brigham Young University Graduate Mentoring Research Award ($5,000)
2007	LINK Foundation/Smithsonian Research Fellowship, SMSFP ($5,548)
2007	The University of Alabama Graduate Student Association Research and Travel Support Fund Grant ($1000)
2007	The University of Alabama Graduate School Research and Travel Fund Award ($600)

B. Declined.

2012	Brigham Young University Graduate Student Society Research Presentation Award
2011	U.S. National Science Foundation Doctoral Dissertation Improvement Grant (DDIG)
2010	Graduate Research Fellowship, BYU Graduate Studies Dept.
2007	North American Native Fishes Association Student Grant
2006	Alabama Fisheries Association Student Grant

Professional Society Memberships

2007–*present*	The Society for the Study of Evolution (SSE)
2007–*present*	The American Society of Naturalists (ASN)
2007–*present*	American Society of Ichthyologists and Herpetologists (ASIH)
2014–*present*	American Association for the Advancement of Science (AAAS)
2010–2014	Society of Systematic Biologists (SSB)

Teaching Interests

I am broadly interested in scientific teaching approaches in undergraduate biology education, as well as offering courses in the following areas: General Biology (majors and non-majors), Bioinformatics, Biostatistics, Evolutionary Biology, Genetics / Genomics, Ichthyology, Population Genetics, Phylogenetic Systematics, Integrative Taxonomy, and General Ecology. I am also interested in introducing students to practical statistical approaches in these fields, for example through undergraduate- or graduate- level seminar courses teaching bioinformatics and modeling skills needed for successful careers in ecology and evolutionary biology today (*e.g.* UNIX command line, shell and R programming, Bayesian statistics, model selection, GWAS, etc.) using 'hands-on' approaches.

Teaching Experience

Summer 2017	Co-Instructor, Integrative Taxonomy (BIOL 391), Department of Biology, Virginia Commonwealth University
Spring 2016	Co-Instructor, Integrative Taxonomy with an Emphasis on Squamata (ZOO 397806), Departamento de Zoologia, Universidade de Brasília
Summer 2014	Student Instructor, Principles of Biology (BIO 100), Department of Biology, Brigham Young University
Summer 2014	Instructor, General Ecology (BIOL 3700), Department of Biology, Utah Valley University
Winter 2012	Co-Instructor, with Russell Rader, Ecology (BIO 350), Department of Biology, Brigham Young University
Fall 2011	Co-Instructor with Keith Crandall, Principles of Biology Honors section (BIO 100H), Department of Biology, Brigham Young University
Fall 2010	Graduate Teaching Assistant to Duke Rogers, Principles of Biology (BIO 100), Department of Biology, Brigham Young University
Winter 2010	Graduate Teaching Assistant to Michael Whiting, Evolutionary Biology Laboratory (BIO 421), Department of Biology, Brigham Young University
Winter 2009	Graduate Teaching Assistant to Richard Gill, Principles of Biology (BIO 100), Department of Biology, Brigham Young University
2007	Teaching Advancement Program (TAP) Course, Department of Biological Sciences, The University of Alabama
2006–2008	Graduate Teaching Assistant to Jane Rasco, Principles of Biology I Laboratory (BSC 115), Department of Biological Sciences, The University of Alabama

A. Undergraduate Lecture & Laboratory Courses Offered

Principles of Biology (non-majors)
General Ecology (majors)
Integrative Taxonomy with an Emphasis on Squamata (majors / graduate) (CURE)
Evolutionary Biology Laboratory (majors)
Principles of Biology I Laboratory (majors)

B. Desired Specialty Topics Courses (in development)

Bioinformatics (majors) (lecture or CURE)
Biostatistics (majors)
Statistical Phylogenetics and Phylogeography (majors, graduate / post-graduate) (seminar, CURE)
Ichthyology (majors)

C. Mentoring Undergraduate Students in Research

The following undergraduate students were mentored during my PhD and postdoctoral training at Brigham Young University (BYU), Universidade de Brasília (UnB), and Virginia Commonwealth University (VCU). Information is given as *[year(s) student, major, university, project]*.

2018	Zachary Grasso, Biology, VCU, *A review of phylogeographical patterns and processes influencing lower Central American tetrapod diversity*
2017–2018	Samantha Moon, Biology, VCU, *Emerging phylogeographical patterns in lower Central American freshwater fishes, invertebrates, and plants: A literature review*
2015–2017	Ingrid Pinheiro Paschoaletto, Zoologia, UnB, *Two new species of* Hypostomus *(Loricariidae: Hypostominae) from the Brazilian Planalto Central*; and *Does body size predict patterns of phylogenetic alpha and beta diversity in headwater fish communities?* [pilot project]
2010–2013	Dean Trubschenck, Biology, BYU, *Systematics and taxonomy of the* Hybopsis winchelli *barbeled minnow complex (Teleostei: Cyprinidae) from the southern U.S.: an integrative approach*
2010	Joseph Nelson, Biology, BYU, *Fieldwork, Costa Rica & Nicaragua; Comparative phylogeography of Central American freshwater fishes*
2010–2013	Zachary Panter, Biology, BYU, *Systematics of* Hybopsis *and other barbeled minnows (Cyprinidae) of North America*
2008–2009	Lacey Nay, Biology, BYU, *Life history evolution and morphological constraint among Costa Rican populations of knife-edged livebearer,* Alfaro cultratus *(Teleostei: Poeciliidae)*

Service & Outreach

Reviewer (2011–)	*Molecular Ecology* (3), *Journal of Biogeography* (1), *Proceedings of the Royal Society of London B* (1), *Molecular Phylogenetics and Evolution* (2), *Conservation Genetics* (2), *PeerJ* (1), *Environmental Biology of Fishes* (1), *Journal of Fish Biology* (1), *Neotropical Ichthyology* (1), *Scientific Reports* (1), *Heredity* (1), *Zoological Journal of the Linnean Society* (1), and *Transactions of the Royal Society of South Africa* (1)
December 2017	Expert signatory, Ripple *et al.* (2017) World scientists' warning to humanity: A second notice. ***BioScience***, 67(12), 1026–1028.
Winter 2014	Selected to represent the Department of Biology at BYU Grad Expo, a public exhibition of graduate student research
June 2009	Day Instructor, Summer Science Fish Camp, Canyon Brook School, Provo, Utah
October 2008	Volunteer, Desert Springs Action Committee, Biomonitoring and removal of exotic fishes, crayfish, and vegetation from Death Valley system pupfish spring habitats, Ash Meadows, Nevada
2007–2008	Volunteer, Roll Tide Fish Show, a University of Alabama Ichthyology Collection hands-on fish exhibit, before Homecoming football games

Personal Interests

Spanish, Brazilian Portuguese, music, guitar, travel, hiking, blogging and social media

Professional References

Dr. Nathan Muchhala (Postdoc Advisor and Collaborator)
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Dr. Jerald B. Johnson (Ph.D. Advisor and Collaborator)
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