

PERSONAL DETAILS

Address: U.S. Forest Service
Aquatic Conservation and Ecology
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EDUCATION

Ph.D., Biological Science Jan 2014 - May 2020
University of Mississippi

Evolutionary history of subterranean termites in the geographic and ecological context of the Appalachian Mountains in the United States (advisor: Ryan Garrick)

Ph.D. (voluntary withdrawal), Natural Resources Aug 2012 - Dec 2013
Cornell University

Spatio-temporal gene-environment associations in the eastern oyster

B.A., Environmental Studies Sep 2002 - May 2007
Yale University

Galapagos giant tortoise conservation on the island of Santa Cruz: morphological and genetic distinctiveness of a newly discovered taxon (advisor: Adalgisa Caccone)

EMPLOYMENT

Oak Ridge Institute for Science and Education Postdoctoral Fellow Aug 2021 - Present
U.S. Forest Service

Aquatic Conservation and Ecology

Spatial and temporal modeling of stream temperatures, response to climate change, and effects on diversity of crayfish communities.

Postdoctoral Researcher Aug 2020 - Aug 2021
Uppsala University, Department of Ecology and Genetics

Community genetics in urban environments: connectivity among invertebrate populations/communities in urban ponds and the relationship between (epi-)genetic diversity and species diversity.

Graduate Teaching Assistant Jan 2014 - May 2020
University of Mississippi, Department of Biology

Taught lab courses (6), including Genetics for nine semesters; gave guest lectures (4) in Genetics, Evolution, and Integrated Science lecture courses

Graduate Research Assistant

Aug 2012 - Aug 2013

Cornell University, Department of Natural Resources

Eastern oyster conservation research: spatio-temporal genetic variation and gene-environment association along a salinity gradient

Research Assistant

Jun 2007 - Aug 2012

Yale University, Department of Ecology and Evolutionary Biology

Galapagos giant tortoise conservation research: phylogeography, speciation, hybridization;
Disease vector (tsetse) research: spatio-temporal dynamics of genetic variation and host-parasite interactions

Laboratory Technician

Jun 2007 - Aug 2012

Yale University, DNA Analysis Facility on Science Hill

Trained staff/students in molecular techniques and data analysis; operated and maintained sequencing equipment and software

Interpreter/Translator

Jul 1999 - Aug 2002

United Nations Mission in Kosovo: Division of Public Information

Translated press releases and other written communication; interpreted at press conferences and political meetings/events. Languages: primarily Albanian and English, also German and Serbian

PUBLICATIONS

= equal contribution

35. Mathieu Pelissie, Frank Johansson, **Chaz Hyseni**: *Pushed northward by climate change: ecological niche models predict odonate range shifts in northern Europe*. **Environmental Entomology**, In Review.
34. Renan Bosque, **Chaz Hyseni**, Maria Luiza Santos, Eduardo Rangel, Camila Dias, Jacob Hearin, Nelson Silva Jr, Fabricius Domingos, Guarino Colli, Brice Noonan: *Mullerian mimicry and the colouration patterns of sympatric coral snakes*. **Biological Journal of the Linnean Society**, 2022.
33. **Chaz Hyseni**, Jani Heino, Luis Mauricio Bini, Ulf Bjelke, Frank Johansson: *The importance of blue and green landscape connectivity for biodiversity in urban ponds*. **Basic and Applied Ecology**, 2021.
32. Ryan Garrick, **Chaz Hyseni**, Isis Arantes, Louis Zachos, Peter Zee, Jeffrey Oliver: *Is phylogeographic congruence predicted by historical habitat stability, or ecological co-associations?*. **Insect Systematics and Diversity**, 2021.
31. Susan B Adams, Scott G Hereford, **Chaz Hyseni**: *Prescribed fire and mechanical vegetation treatments in relation to burrow densities of primary burrowing crayfishes*. **Water**, 2021.
30. Anusha Bishop, Giuseppe Amatulli, **Chaz Hyseni**, Evelyn Pless, Rosemary Bateta, Winnie A. Okeyo, Paul O. Mireji, Sylvance Okoth, Imna Malele, Grace Murilla, Serap Aksoy, Adalgisa Caccone, Norah P. Saarman: *A machine learning approach to integrating*

- genetic and ecological data in tsetse flies (Glossina pallidipes) for spatially explicit vector control planning. Evolutionary Applications, 2021.*
29. Ryan C Garrick, **Chaz Hyseni**, Isis Arantes: *Efficient summary statistics for detecting lineage fusion from phylogeographic datasets. Journal of Biogeography, 2020.*
 28. **Chaz Hyseni**, Ryan C Garrick: *The role of glacial-interglacial climate change in shaping the genetic structure of eastern subterranean termites in the southern Appalachian Mountains, USA. Ecology and Evolution, 2019.*
 27. **Chaz Hyseni**, Ryan C Garrick: *Ecological drivers of species distributions and niche overlap for three subterranean termite species in the southern Appalachian Mountains, USA. Insects, 2019.*
 26. Ryan C Garrick, Dana K Reppel, Jeremy T Morgan, Stephanie Burgess, **Chaz Hyseni**, Reese J Worthington, Michael D Ulyshen: *Trophic interactions among dead-wood-dependent forest arthropods in the southern Appalachian Mountains, USA. Food Webs, 2019.*
 25. Ryan C Garrick, John D Banusiewicz, Stephanie Burgess, **Chaz Hyseni**, Rebecca E Symula: *Extending phylogeography to account for lineage fusion. Journal of Biogeography, 2019.*
 24. Daniela I Schneider, Norah Saarman, Maria G Onyango, **Chaz Hyseni**, Robert Opiro, Richard Echodu, Michelle O'Neill, Danielle Bloch, Aurelien Vigneron, TJ Johnson, Kirstin Dion, Brian L Weiss, Elizabeth Opiyo, Adalgisa Caccone, Serap Aksoy: *Spatio-temporal distribution of Spiroplasma infections in the tsetse fly (Glossina fuscipes fuscipes) in northern Uganda. PLoS Neglected Tropical Diseases, 2019.*
 23. Norah P Saarman, Robert Opiro, **Chaz Hyseni**, Richard Echodu, Elizabeth A Opiyo, Kirstin Dion, Thomas Johnson, Serap Aksoy, Adalgisa Caccone: *The population genomics of multiple tsetse fly (Glossina fuscipes fuscipes) admixture zones in Uganda. Molecular Ecology, 2019.*
 22. Norah Saarman, Mary Burak, Robert Opiro, **Chaz Hyseni**, Richard Echodu, Kirstin Dion, Elizabeth A Opiyo, Augustine W Dunn, Giuseppe Amatulli, Serap Aksoy, Adalgisa Caccone: *A spatial genetics approach to inform vector control of tsetse flies (Glossina fuscipes fuscipes) in Northern Uganda. Ecology and Evolution, 2018.*
 21. Agapitus B Kato, **Chaz Hyseni**, Loyce M Okedi, Johnson O Ouma, Serap Aksoy, Adalgisa Caccone, Charles Masembe: *Mitochondrial DNA sequence divergence and diversity of Glossina fuscipes fuscipes in the Lake Victoria basin of Uganda: implications for control. Parasites and Vectors, 2015.*
 20. Ryan C Garrick, Isabel A S Bonatelli, **Chaz Hyseni**, Ariadna Morales, Tara A Pelletier, Manolo F Perez, Edwin Rice, Jordan D Satler, Rebecca E Symula, Maria Tereza C Thome, Bryan C Carstens: *The evolution of phylogeographic data sets. Molecular Ecology, 2015.*
 19. Ryan C Garrick, Benjamin D Collins, Rachel N Yi, Rodney J Dyer, **Chaz Hyseni**: *Identification of eastern United States Reticulitermes termite species via PCR-RFLP, assessed using training and test data. Insects, 2015.*

18. Ryan C Garrick, Brittney Kajdacsi, Michael A Russello, Edgar Benavides, **Chaz Hyseni**, James P Gibbs, Washington Tapia, Adalgisa Caccone: *Naturally rare versus newly rare: demographic inferences on two timescales inform conservation of Galapagos giant tortoises*. **Ecology and Evolution**, 2015.
17. Ryan C Garrick, Edgar Benavides, Michael A Russello, **Chaz Hyseni**, Danielle L Edwards, James P Gibbs, Washington Tapia, Claudio Ciofi, Adalgisa Caccone: *Lineage fusion in Galapagos giant tortoises*. **Molecular Ecology**, 2014.
16. Danielle L Edwards, Edgar Benavides, Ryan C Garrick, James P Gibbs, Michael A Russello, Kirstin B Dion, **Chaz Hyseni**, Joseph P Flanagan, Washington Tapia, Adalgisa Caccone: *The genetic legacy of Lonesome George survives: giant tortoises with Pinta Island ancestry identified in Galapagos*. **Biological Conservation**, 2013.
15. Sarah Federman, **Chaz Hyseni**, Wendy Clement, Michael P Oatham, Adalgisa Caccone: *Habitat fragmentation and the genetic structure of the Amazonian palm *Mauritia flexuosa* L.f. (Arecaceae) on the island of Trinidad*. **Conservation Genetics**, 2013.
14. Brittney Kajdacsi, Federico Costa, **Chaz Hyseni**, Fleur Porter, Julia Brown, Gorete Rodrigues, Helena Farias, Mitermayer G Reis, James E Childs, Albert I Ko, Adalgisa Caccone: *Urban population genetics of slum-dwelling rats (*Rattus norvegicus*) in Salvador, Brazil*. **Molecular Ecology**, 2013.
13. Mark Sistrom, Richard Echodu, **Chaz Hyseni**, John Enyaru, Serap Aksoy, Adalgisa Caccone: *Taking advantage of genomic data to develop reliable microsatellite loci in *Trypanosoma brucei**. **Molecular Ecology Resources**, 2013.
12. Richard Echodu, Mark Sistrom, **Chaz Hyseni**, John Enyaru, Loyce Okedi, Serap Aksoy, Adalgisa Caccone: *Genetically distinct *Glossina fuscipes fuscipes* populations in the lake Kyoga region of Uganda and its relevance for human African trypanosomiasis*. **BioMed Research International**, 2013.
11. **Chaz Hyseni**, Agapitus B Kato, Loyce M Okedi, Charles Masembe, Johnson O Ouma, Serap Aksoy, Adalgisa Caccone: *The population structure of *Glossina fuscipes fuscipes* in the Lake Victoria basin in Uganda: implications for vector control*. **Parasites and Vectors**, 2012.
10. Uzma Alam, **Chaz Hyseni**, Rebecca E Symula, Corey Brelsfoard, Yineng Wu, Oleg Kruglov, Jingwen Wang, Richard Echodu, Victor Alioni, Loyce M Okedi, Adalgisa Caccone, Serap Aksoy: *Implications of microfauna-host interactions for trypanosome transmission dynamics in *Glossina fuscipes fuscipes* in Uganda*. **Applied and Environmental Microbiology**, 2012.
9. Sarah Federman, **Chaz Hyseni**, Wendy Clement, Adalgisa Caccone: *Isolation of 13 novel highly polymorphic microsatellite loci for the Amazonian Palm *Mauritia flexuosa* L.f. (Arecaceae)*. **Conservation Genetics Resources**, 2012.
8. Ryan C Garrick, Edgar Benavides, Michael A Russello, James P Gibbs, Nikos Poulakakis, Kirstin B Dion, **Chaz Hyseni**, Brittney Kajdacsi, Lady Marquez, Sarah Bahan, Claudio Ciofi, Washington Tapia, Adalgisa Caccone: *Genetic rediscovery of an 'extinct' Galapagos giant tortoise species*. **Current Biology**, 2012.

7. **Chaz Hyseni**, Jon S Beadell, Zaneli Gomez Ocampo, Johnson O Ouma, Loyce M Okedi, Michael W Gaunt, Adalgisa Caccone: *The G.m. morsitans (Diptera: Glossinidae) genome as a source of microsatellite markers for other tsetse fly (Glossina) species*. **Molecular Ecology Resources**, 2011.
6. Richard Echodu, Jon S Beadell, Loyce M Okedi, **Chaz Hyseni**, Serap Aksoy, Adalgisa Caccone: *Temporal stability of Glossina fuscipes fuscipes populations in Uganda*. **Parasites and Vectors**, 2011.
5. Johnson O Ouma, Jon S Beadell, **Chaz Hyseni**, Loyce M Okedi, Elliot S Krafur, Serap Aksoy, Adalgisa Caccone: *Genetic diversity and population structure of Glossina pallidipes in Uganda and western Kenya*. **Parasites and Vectors**, 2011.
4. Jon S Beadell, **Chaz Hyseni**, Patrick P Abila, Rogers Azabo, John C K Enyaru, Johnson O Ouma, Yassir O Mohammed, Loyce M Okedi, Serap Aksoy, Adalgisa Caccone: *Phylogeography and population structure of Glossina fuscipes fuscipes in Uganda: implications for control of tsetse*. **PLoS Neglected Tropical Diseases**, 2010.
3. Ylenia Chiari=, **Chaz Hyseni**=, Tom H Fritts, Scott Glaberman, Cruz Marquez, James P Gibbs, Julien Claude, Adalgisa Caccone: *Morphometrics parallel genetics in a newly discovered and endangered taxon of Galapagos tortoise*. **PLoS ONE**, 2009.
2. Patricia L R Brennan, **Chaz Hyseni**: *Development of microsatellite markers for parentage analysis in the great tinamou (Tinamus major)*. **Molecular Ecology Resources**, 2008.
1. Michael A Russello, **Chaz Hyseni**, James P Gibbs, S Cruz, Cruz Marquez, Washington Tapia, P Velensky, Jeffrey R Powell, Adalgisa Caccone: *Lineage identification of Galapagos tortoises in captivity worldwide*. **Animal Conservation**, 2007.

PRESENTATIONS

Talks:

Evolution (21-25 Jun 2021, Virtual)

Uppsala University, Department of Ecology and Genetics, Animal Ecology Program:

Annual Research Symposium: "Revolution" (18-19 Feb 2021, Uppsala, Sweden)

Yale University Center for Genetic Analysis of Biodiversity (27 May 2020, New Haven CT)

North American Regional Assoc. of the Intl. Assoc. for Landscape Ecology:

Landscape Genetics Symposium (7-11 Apr 2019, Fort Collins CO)

University of Mississippi Graduate Student Council:

9th Annual Research Symposium (26 Mar 2019, University MS)

Ecological Society of America: Statistical Ecol. Section (5-10 Aug 2018, New Orleans LA)

University of Mississippi Graduate Student Council:

8th Annual Research Symposium (20 Mar 2018, University MS)

Entomological Society of America (4-8 Nov 2017, Denver CO)

University of Mississippi Research Showcase (31 Mar 2017, University MS)

LSU Museum of Natural Science Seminar Series (17 Mar 2017, Baton Rouge LA)

University of Mississippi Graduate Student Council:

7th Annual Research Symposium (2 Mar 2017, University MS)

American Society of Tropical Medicine and Hygiene (3-7 Nov 2010, Atlanta GA)

Posters: *number, if more than one

Entomological Society of America (4-8 Nov 2017, Denver CO)

Evolution (17-21 Jun 2016, Austin TX); Evolution (20-24 Jun 2014, Raleigh NC)

American Society of Tropical Medicine and Hygiene (4-8 Dec 2011, Philadelphia PA) *3

American Society of Tropical Medicine and Hygiene (3-7 Nov 2010, Atlanta GA)

American Society of Tropical Medicine and Hygiene (7-11 Dec 2008, New Orleans LA)

PROFESSIONAL SERVICE

Peer Review

Sep 2014 - present

Bulletin of Entomological Research (3); *Communications Biology* (2); *Ecology and Evolution* (2); *Molecular Ecology* (2); *Animal Microbiome* (1); *Basic and Applied Ecology* (1); *Conservation Genetics* (1); *Infection, Genetics and Evolution* (1); *Insect Systematics and Diversity* (1); *Insects* (1); *PLoS Neglected Tropical Diseases* (1)

Teaching

Jan 2014 - May 2020

University of Mississippi

Lab courses: Genetics Lab (Fall 2015 - Spring 2019, Summer 2019, Spring 2020); Cell and Molecular Biology Lab (Spring 2019); Population Genetics Computer Lab (Spring 2018); Inquiry into Life Lab I: Human Biology (Spring 2014, Spring 2015); Biological Sciences I Lab (Fall 2014); Inquiry into Life Lab II: Diversity and the Environment (Spring 2014)

Guest lectures: Evolution: "Genetic Drift and the Founder Effect" (30 Oct 2019); Genetics: "Population Genetics" (5 Mar 2019; 8 Mar 2018); Integrated Science: "Classical and Modern Genetics" (13 Apr 2018)

Organizing Committees

Feb 2021

Uppsala University

Scheduled program, invited speakers, and chaired sessions of the "Revolution" Annual Research Symposium (18-19 Feb 2021, Uppsala, Sweden)"

Workshops

Summer 2013

Cornell University

Provided technical assistance to participants of the American Genetics Association workshop: "Next-generation population genomics for non-model taxa"

Mentoring

Jun 2007 - Present

Yale University

Trained and assisted more than 20 undergraduate and graduate students in molecular lab techniques and data analysis

University of Mississippi

Provided assistance to several graduate students in data analysis and writing

Uppsala University

Mentored a master's student and a predoctoral fellow in data analysis and writing

HONORS AND AWARDS (\$31,600)

Foundation for Zoological Research Scholarship (\$4,800) Fall 2020
Uppsala University

Dissertation Fellowship (\$6,500) Fall 2019
University of Mississippi

Graduate Student Council Research Grant (\$1,000) Apr 2019
University of Mississippi

Professional Enhancement Award (\$700) Apr 2019
National Aeronautics and Space Administration, and Michigan State University

Summer Research Fellowship (\$12,000) Summer 2015-2018
University of Mississippi

Student Presentation Award (2nd Place, \$300) Mar 2018
University of Mississippi Graduate Student Council Research Symposium

Student Presentation Award (2nd Place) Nov 2017
Entomological Society of America Annual Meeting
Systematics, Evolution, and Biodiversity of Hymenoptera and Isoptera Section

Student Presentation Award (1st Place, \$300) Mar 2017
University of Mississippi Graduate Student Council Research Symposium

Graduate Student Council Research Grant (\$1,000) Apr 2016
University of Mississippi

Sigma Xi: The Scientific Research Honor Society Mar 2016

Program for Excellence in Science Jun 2013
American Association for the Advancement of Science

Summer Environmental Fellowship (\$5,000) Summer 2006
Yale University

SKILLS

<i>Disciplines:</i>	Ecological/Evolutionary/Landscape/Population Genetics, Bioinformatics, Phylogeography, Spatial/Multivariate Statistics
<i>Languages:</i>	Albanian, French, English, German, Serbian
<i>Programming:</i>	R, PYTHON, LINUX, \LaTeX , JULIA, MATLAB
<i>GIS:</i>	R GIS packages, QGIS, GRASS GIS, SAGA GIS, ARCGIS