Kathryn P. Mercier

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EDUCATION

Ph.D.	City University of New York Advisor: Ana Carolina Carnaval	In progress
M.S.	University of Central Florida - Biology Advisor: Christopher L. Parkinson Thesis: Phylogeographic patterns of divergence within *Plestiodon egregius*	2018
B.S	University of Central Florida - Psychology Minor: Mathematics	2012
A.A.	Seminole State College of Florida	2009

RESEARCH AND PROFESSIONAL EXPERIENCE

2018 Graduate Research Assistant, University of Central Florida
Systematic assessment of Florida *Nerodia clarkii-fasciata* complex with implications for the conservation of *N. c. taeniata.*

2017 Technical Team Advisory Member, United States Fish and Wildlife Service
Cedar Keys Mole Skink species status assessment

2016 Technical Team Advisory Member, United States Fish and Wildlife Service
Florida Keys Mole Skink species status assessment

2015 Graduate Research Assistant, University of Central Florida
Population structure and genetic diversity of *Crassostrea virginica* in Apalachicola Bay, FL.

2014 Undergraduate Research Assistant, University of Central Florida
Evaluation of high-resolution aerial images for sea turtle nest monitoring.

2011 Undergraduate NSF CSUMS Researcher, University of Central Florida
An efficient algorithm to extract the sparse and low rank components of a matrix.

PUBLICATIONS

*undergraduate under my supervision ~co-first author

Lawrance M~, **Mercier KP**~, Solomon J, Walters LJ, Parkinson CL. 2017. Genetic diversity and population structure of oysters in Apalachicola Bay, FL. Florida Scientist. 80(4): 145-150.

Boas T, Dutta A, Li X, **Mercier KP**, Niederman E. 2017. Shrinkage function and its application in matrix theory. Electronic Journal of Linear Algebra. 37:163-171.

IN PROGRESS

Mercier KP, Baylac M*, Dillon S*, Medina S*, Parkinson CL. The utility of traits, genes, and genomes in delimiting conservation units: A case study in Mole Skinks (*Plestiodon egregius*). Submitted to Conservation Genetics.

Rautsaw RM , Acuña R , Arick LN, DiMeo M, Hickson 1J, Mason AJ, **Mercier KP** , Schrum M , Strickland JL, Territo GP, Parkinson CL. Systematic assessment of the Florida *Nerodia*

fasciata-clarkii complex to inform the future management of Atlantic Salt Marsh Snakes (*N. c. taeniata*). In prep.

GRANTS AND AWARDS

2019 Summer Institute in Statistical Genetics, University of Washington, *Seattle, WA* $1725
Department of Biostatistics Scholarship to attend three modules: Conservation Genetics, Population Genetics, and Statistical Genetics

2018 City College of New York, *New York City, NY* $2500
Biodiversity Under Environmental Change Seed Grant, Can trait-based hypotheses shed light on phylogeographic discordance?

2017 University of Central Florida College of Graduate Studies, *Orlando, FL* $500
Graduate Presentation Fellowship

2017 University of Central Florida Department of Biology, *Orlando, FL* $800
Student Travel Award

2016 Society for the Study of Reptiles and Amphibians $200
Victor Hutchinson Student Poster Award

2016 University of Central Florida Department of Biology $400
Student Travel Award

2016 American Society of Ichthyologists and Herpetologists $600
Graduate Student Travel Award

FELLOWSHIPS

2018 City College of New York, Division of Science, *New York City, NY* $32,000
Levine Fellowship

2015 University of Central Florida College of Graduate Studies, *Orlando, FL* $12,000
Graduate Dean's Fellowship

2011 University of Central Florida Department of Mathematics, *Orlando, FL* $10,000
GAUSS Fellow – A National Science Foundation CSUMS Program

PRESENTATIONS

*undergraduate under my supervision

INVITED

2019 **Mercier KP**, Vasconcellos MM, Michelangeli FA, Carnaval AC. Impact of climate stability on the population dynamics of two Brazilian palm species. New York Species Distribution Modelling Group, *New York, NY.*

CONTRIBUTED

2019 **Mercier KP**, Vasconcellos MM, Martins EGA, Pirani JR, Michelangeli FA, Carnaval AC. Historical stability impacts population dynamics of two Brazilian palm tree species. Evolution Meeting, *Providence, RI.*

2019 **Mercier KP**, Vasconcellos MM, Michelangeli FA, Carnaval AC. Climate variability impacts on Brazilian palm tree population dynamics. CUNY Biology EEB Research Symposium, *New York, NY.*

2018 **Mercier KP**, Parkinson CL. Digging up the phylogenetics and population structure of a fossorial skink, *Plestiodon egregius.* Society of Systematic Biology Meeting, *Columbus, OH*.

2017 Baylac M*, **Mercier KP**, Parkinson CL. Investigating the evolutionary relationships of Mole Skinks in Florida. Showcase of Undergraduate Research, University of Central Florida, *Orlando, FL*. Judges choice in life sciences

2017 **Mercier KP**, Baylac M*, Parkinson CL. Using hypothesis testing to unearth phylogeographic patterns within Mole Skinks. Evolution Meeting, *Portland, OR*.

2017 DiMeo MA, Arick LN, Hickson JB, Mason AJ, **Mercier KP**, Rautsaw RM, Strickland JL, Territo GP, Parkinson CL. Turbulent waters: Resolving the evolutionary history of the Atlantic Salt Marsh Snake *Nerodia clarkii taeniata*. Florida Chapter of the Wildlife Society Annual Meeting, *Orlando, FL*. Best student poster

2017 Jenkins DG**,** Smith N, Grace MK, Arnaldi K, Bunner C, Guilfoyle K, Klein CM, **Mercier KP**, Napier J, Perry D, Phillips K, Rautsaw R, Stahelin G, Volk D. Toward a macroecology of roadkill. Conference of the International Biogeography Society, *Tucson, TX*.

2016 **Mercier KP**, Baylac M*, Parkinson CL. Unearthing the evolutionary history of Mole Skinks. Joint Meeting of Ichthyologists and Herpetologists, *New Orleans, LA*. SSAR Victor Hutchinson Student Poster Award in Evolution, Genetics, and Systematics (see Awards, above)

2016 **Mercier KP**, Parkinson CL. Unearthing the evolutionary history of Mole Skinks. Southeastern Ecology and Evolution Conference, *Tallahassee, FL*.

2016 Baylac M*, **Mercier KP**, Parkinson CL. Investigating the evolutionary relationships of mole skinks. Summer Undergraduate Research Fellowship Symposium, University of Central Florida, *Orlando, FL*.

2014 Crawford L, **Mercier KP**, Burgess M, Castro J, Percival F, Schwoerer M, Tappen M, Von Holle B, Weishampel J. Evaluation of high-resolution aerial images for Sea Turtle nest monitoring. Showcase of Undergraduate Research Excellence, *Orlando, FL*.

2011 **Mercier KP,** Boas T, Niederman E, Li X. An efficient algorithm to extract the sparse and low rank components of a matrix. Conference for Computational Science Training for Undergraduates in the Mathematical Sciences, *St. Paul, MN*.

WORKSHOPS ATTENDED

2019 Summer Institute in Statistical Genetics, Department of Biostatistics, University of Washington, *Seattle, WA*

2019 New developments in phylogenetics and evolution, Society for Systematic Biology, Evolution Meeting, *Providence, RI*

2018 RADCamp, AFBiota Meeting (NSF Dimensions Grant: 1343578), *Sao Paulo, Brazil*

2018 Random Forests and Predictive Phylogeography, Society for Systematic Biology Annual Meeting, *Columbus, OH*

2016 Using R for Comparative Phylogenetics and Niche Modeling, Joint Meeting of Ichthyologists and Herpetologists, *New Orleans, LA*

2015 Preparing Tomorrow's Faculty, University of Central Florida, *Orlando, FL*

MENTORING

Carolina Perez (2019-) B.S. Student, CCNY

Working on building Ecological Niche Models as part of a project on Atlantic Forest landscape change.

Karla Jacome (2019-) B.S. Student, CCNY

Working on building Ecological Niche Models as part of a project on Atlantic Forest landscape change.

Milagros Baylac (2016-2017) B.S. Student, UCF

Helped with field collection, genetic data collection, and organization on a project examining Plestiodon egregius *conservation genetics. Currently applying for PhD programs.*

Samantha Dillion (2016-2017) B.S. Student, UCF

Helped with field collection, genetic data collection, and organization on a project examining Plestiodon egregius *conservation genetics. Currently a field technician for Virginia Department of Game and Inland Fisheries*

Steffany Medina (2016-2017) B.S. Student, UCF

Collected morphological from museum specimens on a project examining Plestiodon egregius *conservation genetics.*

TEACHING

2016 Evolutionary Biology (PCB4683), Laboratory Instructor of Record
University of Central Florida, Orlando, FL

2015-16 Biology II Lab (BSC2011), Graduate Teaching Assistant
University of Central Florida, Orlando, FL

OUTREACH AND LEADERSHIP

2018-19 Volunteer, Discovery Room
American Museum of Natural History, New York, NY

2017 Judge, Undergraduate research lightning talks
Eureka Research Society, University of Central Florida, Orlando, FL

2016-17 President, Biology Graduate Student Association
University of Central Florida, Orlando, FL

2016-17 BIOTEC camp instructor in evolution and genetics (Biology Integrated Orlando Training and Enrichment)
Week long camp to prepare high school students to excel in biology, Orlando, FL

2016 Herpetology/science education outreach
Orange County Youth Shelter, Orlando, FL

2015 Science fair judge
Rock Lake Middle School Science Fair, Longwood, FL

SKILLS

Laboratory
Dissection/tissue collection
DNA & RNA extraction
Gel electrophoresis
Polymerase chain reaction
Double digest RADseq

Field
Cover board collection for herps
Drift fence/pitfall collection for herps
Radio telemetry
Road cruising collection for herps
Transect surveys

Analytical
Microsatellite scoring & analysis
Phylogenetic reconstruction
Ecological niche modeling
General statistics
GIS
R

Administrative
IACUC preparation
Grant Management

REFERENCES

Dr. Ana Carolina Carnaval – PhD Advisor
Associate Professor, Department of Biology
City College of New York, CUNY, New York, NY 10031
acarnaval@ccny.cuny.edu, 212-650-5099

Dr. Fabian Michelangeli – PhD Committee Member
Curator, Institute of Systematic Botany
New York Botanical Gardens, Bronx, NY 10458
fabian@nybg.com, 718-817-8199

Dr. Christopher L. Parkinson – MS advisor
Professor, Department of Biological Sciences &
Wildlife and Fisheries Biology
Clemson University, Clemson, SC 32816
Viper@clemson.edu, 864-656-3058