

Jacqueline L. Barry

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EDUCATION

M.Sc., Biology with Graduate Certificate, Computational Biology

Auburn University, Auburn, AL 2023

Department of Biological Sciences

Committee: Geoffrey Hill, Brian Counterman, Tonia Schwartz, Jamie Oaks

M.A., Ecology, Evolution and Conservation Biology

Columbia University, New York, NY, 2020

Department of Ecology, Evolution and Environmental Science, New York, NY

Committee: Joel Cracraft, Dustin Rubenstein, Brian Smith

Thesis: Identifying melanistic pathways in a polymorphic raptor, *Buteo jamaicensis harlani*:
Not so black and white.

B.A., Environmental Studies, Natural Sciences Concentration

Davidson College, Davidson, NC, 2015

Advisor: Kevin Smith

Thesis: Assessing predictors of avian mortality at North American windfarms and recommendations for conservation

EcoLife: Biologists in the Wild, Study Abroad Program

University of Pretoria, Pretoria, South Africa 2014

Completed ecology and conservation biology courses through hands on teaching in private game reserves throughout South Africa

LEAPYEAR Gap Year Program

Antioch University Seattle, Carmel, CA, 2011

Studied abroad in England and India while completing sustainability and conservation internships for environmental NGO's, including Shikshantar, Animal Aid Udaipur, and the Hawking Centre

PUBLICATIONS

Clark, A.D., Myers, T.C., Steury, T.D., Krzton, A., Yanes, J.A., Barber, A., **Barry, J.L.**, Barua, S., Eaton, K.M., Gosavi, D., Nance, R.L., Pervaiz, Z.H., Ugochukwu, C.G., Hartman, P., Stevison, L.S., 2022. Does it pay to pay? A comparison of the benefits of open-access publishing across various sub-fields in Biology. *Scientific Communication and Education*.

Manuscripts in Prep:

Barry, J.L. and Hill, G.. Evaluating the mechanisms and functions of polymorphism in birds of prey.

Barry, J.L. and Cracraft, J. Identifying melanistic pathways in a polymorphic raptor, *Buteo jamaicensis harlani*: Not so black and white.

RESEARCH EXPERIENCE

Auburn University, Department of Biological Sciences, August 2019 – May 2023

- Conducted blood and feather sampling of wild and captive Red-tailed hawks
- Developed pipelines for data analysis, including RNA-Seq and whole-genome sequencing for GWAS, in R, bash, and python
- Collaborated on a series of scripts with functionality for quality assessment of reads, alignment of reads to reference genomes, marking duplicates, variant calling, summary statistics and data analyses
- Completed thorough review of color polymorphism in raptors

Columbia University, Department of Ecology, Evolution and Environmental Biology, August 2017 – February 2020

- Investigated the underlying genetic mechanisms regulating the melanistic pathways in Harlan's hawks compared with other Red-tailed hawk subspecies, via candidate gene analysis
- Extracted DNA, designed primers, performed PCR's, sequenced DNA and performed statistical analyses for sampled individuals of *Buteo jamaicensis harlani*, *B.j. calurus*, and *B.j. borealis*
- Experience using VERTNET database to acquire tissue samples

Davidson College, Department of Environmental Studies, May 2014 - May 2015

- Conducted literature review and performed original research with Dr. Kevin Smith, compiling avian behavior and mortality data at wind farms across North America for
- Analyzed datasets and conducted statistical analyses using R and JMP
- Provided recommendations for conservation applications to mitigate avian mortality, particularly for threatened species, which were found to be disproportionately affected

Davidson College, Department of Environmental Studies, August 2014 - December 2014

- Collected data from behavioral experiment involving captive Burmese pythons with Dr. Michael Dorcas from the Herpetology Lab
- Conducted literature review and assisted with scientific writing

Davidson College, Department of Environmental Studies, August 2014 - December 2014

- Collected amphibian and reptile specimens from pitfall traps located in the Davidson College Ecological Preserve for biodiversity research for the Herpetology Lab
- Analyzed pit tagged specimens in the lab, including species identification, taking morphological measurements, and entering movement data

PRESENTATIONS

December 2022	Trends in Biodiversity and Evolution Conference - <i>Poster</i>
March 2022	Auburn University Wildlife Society - <i>Talk</i>
January 2020	Alabama Ornithological Society Meeting - <i>Poster</i>
June 2019	American Ornithological Society Conference - <i>Talk</i>
April 2019	Columbia University E3B Seminar Presentation – <i>Talk</i>
November 2018	Raptor Research Foundation Conference - <i>Poster</i>

April 2018	Columbia University E3B Seminar Presentation - <i>Talk</i>
May 2015	Davidson College Environmental Studies Senior Presentation - <i>Talk</i>
May 2015	Davidson College Capstone Defense - <i>Talk</i>
April 2015	Davidson College Department of Environmental Studies Poster Fair - <i>Poster</i>

GRANTS AND AWARDS

May 2023	\$5,000 Michael Wooten Award, Auburn University Department of Biological Sciences
December 2021	\$1,000 Grant, North American Falconers Association
January 2020	\$150 First Prize, Alabama Ornithological Society Graduate Research
June 2019	\$1,200 Travel Grant, American Ornithological Society Conference
January 2018	\$1,500 Grant, Columbia University Department of Ecology, Evolution and Environmental Biology
January 2018	\$250 Grant, Columbia University Graduate School of Arts and Sciences

EMPLOYMENT AND INTERNSHIPS

Program Manager, Conservation Science Global, Inc, Cape May, NJ

October 2024 – Present

40 hrs/wk

Supervisor: Dr. Tricia Miller; phone 724.216.3770

- Worked with the program’s lead research biologist and state wildlife management agencies in developing messaging and program materials to target audiences in the field of raptor conservation
- Assisted in the management of a large-scale citizen-science project (“Hunters for Eagle Conservation”) to reduce raptor mortality from lead-based ammunition in hunting activities
- Compiled and supported analysis of survey and program data
- Developed and refined online presence, including website development and maintenance
- Established and distributed target audience surveys
- Assisted lead biologist with crafting and tracking project budgets and reported to funders on budget and program outcomes

Co-Founder, Clutch Genetics, LLC, Asheboro, NC

2020 – Present

- Operated a small business specializing in the breeding, phenotyping, and sale of polymorphic royal pythons to hobbyists, professional breeding facilities, and zoo collections
- Experienced with marketing, customer service, and managing sales
- Advanced skills with animal husbandry and management of a large (>50) collection of exotic reptiles
- Delivered educational presentations to desensitize snakes to the general public; offered recommendations to reduce human-wildlife conflict with wild specimens

Curatorial Assistant, Auburn University Museum of Natural History, Auburn, AL

May 2023 – August 2023

20 hrs/wk

Supervisor: Dr. Geoffrey Hill; phone 334.844.9269

- Experienced with cataloging and archiving ornithological specimen collection using SPECIFY database for whole animal skins, spread wings, and bird parts and eggs
- Skinned and prepared new specimens for the collection
- Led a weekly summer workshop in 2023 for undergraduate students in proper avian specimen preparation

Counselor, Curious Curators, Auburn University Museum of Natural History, Auburn, AL
June 2023

40 hrs/wk

Supervisor: Michelle Simpson; phone 334.844.4132

- Served as a museum liaison and environmental educator to 20 middle school students
- Engaged students in activities ranging from collections and preparations of local plants, invertebrates, fishes, reptiles and amphibians, to live animal presentations and private tours of research labs in the museum

Vice President, Alabama Hawking Association, Auburn, AL

February 2020 – February 2023

20 hrs/wk

Supervisor: Michael Moore; phone 334.456.1417

- Helped manage a 501(c)(3) organization and coordinated a diverse, nationwide conference for 100+ participants
- Served as liaison to state Department of Conservation and Natural Resources on both coordinating falconry activities and assessing the status of threatened and endangered raptor species while meeting with lawmakers
- Organized annual citizen science event to assist in threatened American kestrel breeding efforts by building nest boxes, as well as making a poster and brochures (“Valued Ally”) to be distributed to help mitigate raptor deaths from shooting and rodenticides.
- Coordinated raptor education events for the public in k-12 schools, churches, wildlife expos, and sportsmen’s societies
- Responsible for writing and publishing annual report on activities, submitting proposals to the Executive Committee of the national charter (NAFA), and writing recommendations to the state for helping manage threatened and endangered species
- Helped found the Alabama Raptor Council, an organization of birders, raptor enthusiasts, and falconers partnering with state officials to protect birds of prey and further advocacy programs
- Designed and managed new website: <http://www.alabamafalconry.com>
- Responsible for popular and scientific writing, preparing quarterly newsletters to be distributed to the national organization, scheduling meetings for officers, and managing social media engagement

Research Technician, NC State College of Veterinary Medicine, Raleigh, NC

September 2016 – June 2017

40 hrs/wk

- Duties included lab maintenance, animal husbandry, and maintaining accurate recordkeeping
- Maintained IACUC protocol compliance

Veterinary Assistant, Cape Fear Raptor Center, Rocky Point, NC

June 2015 – July 2016

40 hrs/wk

- Assisted staff veterinarian with care of injured and orphaned raptors during surgical procedures and physical therapy
- Assisted in examinations, administered medications, and performed husbandry duties including feeding and cleaning enclosures

Intern, EcoLife, Pretoria, South Africa

May – July 2015

40 hrs/wk

- Traveled throughout South Africa and gained experience with wildlife in private game reserves
- Trained in game capture, restraint, and vaccination in both ruminants and carnivores
- Completed courses on sustainable resource utilization, wildlife disease, and animal rehabilitation

Raptor Specialist, The Hawking Centre, Kent, England

January – March 2011

40 hrs/wk

- Assisted in the care of resident birds of prey, including their nutritional, medical and exercise requirements
- Performed professional raptor displays for the public, trained captive raptors, and gave presentations to visitors

Intern, LEAPYEAR, Udaipur, India

October – December 2010

40 hrs/wk

- Interned for several NGOs in India, most notably Animal Aid Udaipur and Shikshantar, an environmental NGO working to help local impoverished communities become more sustainable

Intern, The Smithsonian's National Zoo, National Aviary

June – August 2010

20 hrs/wk

- Participated in an ethological study of the zoo's rheas and entered data
- Assisted in the management of the aviary

OUTREACH AND MEMBERSHIPS

April 2023	President, Graduate Women in Science, Auburn University Chapter
April 2023	Category Judge, Senior Division, Alabama State Science and Engineering Fair
May 2022	Raptor Educator, Oglethorpe Elementary School
April 2022	Raptor Educator, Alabama Outdoors
April 2022	Head Judge and Special Award Judge, Junior Division, Alabama State Science and Engineering Fair

March 2022	Head Judge, Science Olympiad, Ornithology, Junior and Senior Divisions
March 2022	Presenter, Spring into Science Event (1 st -5 th grades)
November 2021	Raptor Educator, Lakeview Baptist Elementary School
November 2021	Raptor Educator, Alabama Wildlife Expo
October 2021	Presenter, Jr. Mad Scientist Event (1 st -5 th grades)
May 2021	Organizer and Raptor Educator, Alabama Hawking Association Apprentice Workshop
May 2021	Proctor, Regeneron International Science and Engineering Fair
April 2021	Presenter, Spring into Science Event (1 st - 5 th grades)
April 2021	Category Judge, Junior and Senior Divisions, Alabama State Science and Engineering Fair
March 2021	Category Judge, Junior Division, Greater East Alabama Regional Science and Engineering Fair
2020 – Present	Member, Leadership Council, The Peregrine Fund
2020 – 2023	Member, Auburn University Graduate Women in Science
2020 – 2023	Vice President, Alabama Hawking Association
2018 – 2019	Volunteer, NYC Parks Raptor Nest Monitoring, Cornell University
2017 – Present	Member, The Peregrine Fund
2017 – Present	Member, Raptor Research Foundation
2017 – Present	Member, American Ornithological Society
2017 – Present	Member, Wilson Ornithological Society
2017 – Present	Member, HawkWatch International
2015 – 2017	Secretary/Treasurer, South Carolina Falconry Association
2015	Raptor Educator, Cabela’s Wildlife Expo
2015	Organizer and Raptor Educator, North Carolina Falconers Guild
2014 – 2015	Secretary, Davidson College Pre-Veterinary Society
2014 – 2015	Vice-President, Davidson College Sportsmen’s Society
2014	Raptor Educator, Davidson College
2011 – 2015	Member, Davidson College Environmental Action Coalition
2014 – 2015	Volunteer, Davidson College Animal Care Facility
2010	Volunteer, the Smithsonian National Zoo
2010 – Present	Member, North American Falconers’ Association

TEACHING EXPERIENCE

Spring 2023	Ornithology Laboratory, Auburn University
2020 –2022	Organismal Biology Laboratory, Auburn University
2019 – 2020	Introduction to Biology Laboratory, Auburn University

WORKSHOPS

2024	Home Range Estimation in R, Raptor Research Foundation Conference
2024	Harnessing Raptors with Transmitters, Raptor Research Foundation Conference
2024	Advanced Molt and Aging in Raptors
2021	QMER – Quantitative Methods in Educational Research, Auburn University
2021	Implicit Bias Training, Office of Equity, Inclusion and Diversity, Auburn University

2020 Field and In-hand Raptor Identification, Raptor Research Foundation Conference
2020 Techniques for Handling, Measuring, and Auxiliary Marking Raptors after Capture, Raptor Research Foundation Conference
2020 Writing and Peer-Review, Raptor Research Foundation Conference

PERMITTING

2021 Federal Migratory Bird Scientific Collecting Permit
2021 State of California Scientific Collecting Permit
2021 State of Nevada Scientific Collecting Permit
2021 State of Colorado Scientific Collecting Permit
2021 State of Utah Scientific Collecting Permit
2020 Master Falconry Permit
2015 General Falconry Permit
2012 Apprentice Falconry Permit
2011 Hunter Education Permit

SKILLS

- Non-profit management and event coordination
- Animal husbandry
- Animal training (avian)
- Education and outreach
- Writing and preparing scientific manuscripts
- Public speaking at conferences
- Grant-writing and budget management
- Scripting in R, bash, and python
- Data analysis and visualization
- Website design, newsletters, and social media engagement
- Wildlife capture: Amphibians, reptiles, birds, mammals