

Paul J. Dougherty

NATIONAL SCIENCE FOUNDATION POSTDOCTORAL RESEARCH FELLOW

University of Massachusetts Amherst, 611 North Pleasant Street, Amherst, MA 01003

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Education

University of Wyoming

Laramie, WY

PHD: ECOLOGY & EVOLUTIONARY BIOLOGY, MINOR: STATISTICS

August 2017 - December 2023

Advisor: Dr. Matthew Carling

Colby College

Waterville, ME

BACHELOR OF ARTS: BIOLOGY (ECOLOGY & EVOLUTION CONCENTRATION) AND CLASSICS

August 2012 - May 2016

GPA: 3.74 (Dean's List, Cum Laude)

Honors thesis advisor: Dr. Herbert Wilson

Publications

PEER REVIEWED

Dougherty, PJ, and MD Carling. 2024. Go west, young bunting: recent climate change drives rapid movement of a Great Plains hybrid zone. *Evolution*, qpa118.

Minor, NR*, **PJ Dougherty***, SA Taylor, and MD Carling. 2021. Estimating hybridization in the wild using community science data: a path forward. *Evolution*, 76(2): 362-372. **equal contribution*

Dougherty, PJ and WH Wilson Jr. 2018. Evidence for a relationship between the winter movements of the Common Redpoll (*Acanthis flammea*) and the American Goldfinch (*Spinus tristis*). *The Open Ornithology Journal*, 11: 1-26.

IN REVISION

Dougherty, PJ and MD Carling. How to incorporate the full annual cycle when studying reproductive isolation and speciation.

IN PREP

Dougherty, PJ, RS Terrill, and MD Carling. Exploring the role of a neglected aspect of natural history in conservation: does molt-migration put birds at risk?

Dougherty, PJ, SL Fossberg*, RS Terrill, and MD Carling. Adaptive divergence in molting behavior mediates reproductive isolation and speciation in birds. **mentored undergraduate*

NON-PEER REVIEWED

Dougherty, PJ. 2023. The implications of adaptive variation in molting behavior for diversification in and conservation of North American passerines. University of Wyoming Dissertations and Theses.

Dougherty, PJ. 2016. Spatial and temporal patterns in irruptive Fringillid movements. Colby College Honors Theses. <https://digitalcommons.colby.edu/honorsthesis/822>

...**PJ Dougherty**...RA Gastaldo (10 authors). 2014. Conserving Maine's fossil heritage: the Trout Valley formation along Wadleigh Mountain Road, Scientific Forest Management Area. Report to the Baxter State Park Authority.

Awards, Fellowships, & Grants

RESEARCH GRANTS

2023 Postdoctoral Research Fellowship in Biology, National Science Foundation

\$ 240,000

2021	Margaret and Sam Kelly Ornithology Research Fund , University of Wyoming	\$ 2,000
	L. Floyd Clark Graduate Scholar Award , University of Wyoming	\$ 2,000
	Dr. George Menkens Memorial Scholarship , University of Wyoming	\$ 10,000
2019	Gardner and Fiske Physiology Graduate Research Award , University of Wyoming	\$ 6,000
	RC Lewontin Early Award , Society for the Study of Evolution	\$ 2,000
	Werner and Hildegard Hesse Award , American Ornithological Society	\$ 2,000
2018	Graduate Student Research Award , Society of Systematic Biologists	\$ 1,000
	Robert Berry Research Grant , University of Wyoming	\$ 4,000
2017	Small Grant , Laramie Audubon Society	\$ 500
	Berry Graduate Student Fellowship in Zoology , University of Wyoming	\$ 28,000

OUTREACH GRANTS

2020	Novel Outreach and Education Grant , University of Wyoming Biodiversity Institute Wommack, EA, PJ Dougherty , R Ratigan, and MD Carling. The Art of Hybridization.	\$ 15,000
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OTHER AWARDS AND HONORS

2023	Lanyon Award Finalist , American Ornithological Society	
	AOS Council Presentation Award , American Ornithological Society	\$ 500
	Detweiler Fellowship , University of Wyoming School of Graduate Education (declined)	\$ 1,982
	Student Travel Award , American Ornithological Society (declined)	\$ 727
2022	Program in Ecology and Evolution Travel Grant , University of Wyoming (also in 2019, 2018, and 2023 (declined)	\$ 500
	Travel Grant , Wyoming NASA EPSCoR	\$ 500
	Student Travel Award , American Ornithological Society	\$ 680
	Best 15-Minute Talk , University of Wyoming Program in Ecology and Evolution Symposium	
2021	Runner-up , Wyoming NASA Space Grant Graduate Research Fellowship	
2018	1st President's Lifer List Winner , American Ornithological Society	
2017	Program in Ecology Augmentation Award , University of Wyoming	\$ 5,000
2016	Honors in Biology , Colby College	
	Distinction in Biology and Classics , Colby College	
	John B. Foster Prize in Classics , Colby College	\$ 100
	All-Academic Team , New England Small College Athletic Conference (also in 2015, 2014)	
	Steward's All-Academic Team , Eastern College Athletic Conference (also in 2015, 2014)	
2015	Griffin Metto '15 Prize in Classics , Colby College	\$ 100

Presentations

** mentored undergraduate*

INVITED

Dougherty, PJ. 2024. The implications of adaptive variation in molting strategy for diversification in and conservation of North American passerines. Oral Presentation: University of Massachusetts Amherst Department of Organismic and Evolutionary Biology Seminar Series, Amherst, MA.

CONFERENCE

Dougherty, PJ, SL Fossberg*, and MD Carling. 2023. The influence of adaptive divergence in molting behavior on reproductive isolation and speciation in birds. Oral Presentation: American Ornithological Society, London, ON.

- Dougherty, PJ**, SL Fossberg*, and MD Carling. 2023. Environmental context may mediate the influence of adaptive divergence on reproductive isolation. Oral Presentation: Society for the Study of Evolution, Albuquerque, NM.
- Dougherty, PJ** and MD Carling. 2023. Climate change and the North American Monsoon: implications for western passerines. Oral Presentation: the Wyoming Chapter of the Wildlife Society, Laramie, WY.
- Dougherty, PJ**, RS Terrill, and MD Carling. 2022. Climate change and the North American Monsoon: implications for western passerines. Oral Presentation: American Ornithological Society, San Juan, Puerto Rico.
- Dougherty, PJ** and MD Carling. 2021. The role of molt phenology divergence in maintaining reproductive isolation between taxa that hybridize in the Great Plains. Oral Presentation: American Ornithological Society, Virtual presentation.
- Dougherty, PJ** and MD Carling. 2020. The influence of the North American monsoon on breeding abundance of western molt migrants. Oral Presentation: North American Ornithological Conference, Virtual presentation.
- Dougherty, PJ**, SL Fossberg*, and MD Carling. 2019. Using museum specimens to investigate fitness variation across avian hybrid zones. Oral presentation: American Ornithological Society, Anchorage, AK.
- Dougherty, PJ** and WH Wilson. 2018. Evidence for a relationship between the movements of boreal-breeding and temperate-breeding Fringillids. Oral presentation: American Ornithological Society. Tucson, AZ.

OUTREACH

- Dougherty, PJ**. 2021. The Birds of Wyoming. Oral presentation: University of Wyoming Lab School Kindergarten Classes, Laramie, WY.
- Ratigan, R, EA Wommack, **PJ Dougherty**, and MD Carling. 2021. The Art of Hybridization. Oral presentation and Art Show: University of Wyoming Biodiversity Institute, Laramie, WY.
- Dougherty, PJ**. 2020. Why I spend all day thinking about birds. Oral presentation: University of Wyoming chapter of the Wildlife Society invited graduate student talk, Virtual presentation.
- Dougherty, PJ**. 2018. Reproductive isolation between hybridizing bird species; why are there still two buntings in the Great Plains? Oral presentation: Laramie Audubon Society, Laramie, WY.

IN-HOUSE AND DEFENSES

- Dougherty, PJ**. 2023. The implications of adaptive variation in molting behavior for diversification in and conservation of North American passerines. Oral Presentation: University of Wyoming dissertation defense, Laramie, WY.
- Dougherty, PJ** and MD Carling. 2022. Climate change and the North American Monsoon: implications for western passerines. Oral presentation: University of Wyoming Program in Ecology and Evolution (PiEE) Symposium, Laramie, WY.
- Dougherty, PJ**. 2020. Molt, migration, and monsoons: revisiting the avian hybrid zones of the Great Plains. Oral Presentation: University of Wyoming dissertation proposal defense talk, Virtual presentation.
- Dougherty, PJ** and MD Carling. 2020. The role of life history divergence in maintaining effective reproductive isolation between hybridizing species. Oral presentation: University of Wyoming Program in Ecology (PiE) Symposium, Laramie, WY.
- Dougherty, PJ** and RP Olson. 2019. Using measurements of museum specimens to investigate variation in fitness across an avian hybrid zone. University of Wyoming Program in Ecology (PiE) Symposium, Laramie, WY.
- Dougherty, PJ**. 2018. $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values characterize molting behavior of Lazuli Buntings. Poster: University of Wyoming Stable Isotope Ecology Poster Session, Laramie, WY.
- Dougherty, PJ**. 2017. Do differences in molt schedule or migratory orientation maintain divergence between hybridizing species? Oral presentation: University of Wyoming Department of Zoology & Physiology, FLaSH talks. Laramie, WY.
- Dougherty, PJ**. 2016. Spatial and temporal patterns in irruptive fringillid movements. Oral presentation: Colby College Liberal Arts Symposium, Biology Honors Theses. Waterville, ME.

Teaching Experience

INSTRUCTOR OF RECORD

Ornithology (ZOO 4350/5350), University of Wyoming (Spring 2023)

Evolution Graduate Seminar (ORG & EVBI 618), Co-instructor, University of Massachusetts Amherst (Fall 2024)

GRADUATE TEACHING ASSISTANT

Ornithology (ZOO 4350/5350), University of Wyoming (Spring 2019, 2020, 2022)

Animal Biology (LIFE 2022), University of Wyoming (Spring 2018)

General Biology (LIFE 1010), University of Wyoming (Fall 2017)

OTHER

Biodiversity Lab General Assistant, Colby College (Fall 2014 - Spring 2016)

Latin Tutor, Colby College (Fall 2014 - Spring 2016)

Collections-Based Experience

University of Wyoming Museum of Vertebrates

Laramie, WY

CURATORIAL ASSISTANT

2018 - 2023

- Prepared birds as round skins, spread wings, and skeletons (total preps: 192)
- Helped to accession and catalog specimens in the ARCTOS database
- Assisted with collection efforts in the field
- Helped to prepare for and co-led museum outreach events

Other Professional Experience

WYOBIRD

Laramie, WY

TREE SWALLOW NEST BOX MONITORING LEADER

Summer 2023

- Organized and facilitated opportunities for undergraduate students to monitor nest boxes at Hutton Lake National Wildlife Refuge near Laramie, WY
- Instructed students on how to record nesting productivity data in the field and how to enter data into the Cornell Lab of Ornithology NestWatch database

Birds of Maine Book Project

Richmond, ME

EDITING ASSISTANT

Summer 2017

- Composed and edited species accounts that now appear in a published comprehensive guide to the birds of Maine
- Arranged existing accounts to conform to a provided style guide, looked up missing references and occurrence records
- Wrote original accounts on the historic and current abundance of individual bird species in Maine by synthesizing existing literature and occurrence data reported by citizen scientists

IUP Research Institute, Cornell Lab of Ornithology

Indiana, PA; Ithaca, NY

AVIAN FIELD TECHNICIAN

Spring, Summer 2017

- Surveyed breeding bird populations and plant regeneration in public and privately owned lands managed to create early successional forest habitat
- Worked closely with private landowners and public land managers to arrange survey visits and communicate results

National Audubon Society, Project Puffin

Bremen, ME

SEABIRD RESEARCH ASSISTANT

Summer 2014

- Collected data on the demography and feeding behavior of seabird populations breeding in the Gulf of Maine
- Banded and took body measurements from tern and alcid chicks

Tenacre Summer Programs

Wellesley, MA

NATURE AND SCIENCE ACTIVITY HEAD

Summer 2016

- Designed and carried out lessons exploring a variety of topics in science for children ages 3-12

Massachusetts Audubon Society, Broadmoor Wildlife Sanctuary

Natick, MA

ENVIRONMENTAL EDUCATOR

Summer 2012 - 2015

- Designed and carried out activities related to natural history
- Oversaw the well-being of children ages 4-15

Undergraduate Mentees and Trainees

- 2024 **Erin Hess**, Avian Field Technician, University of Arizona
2022 **Dylan Scherer**, Data Entry Assistant, University of Wyoming
2021 - 2022 **Taylor Skiles**, Undergraduate Assistant, University of Wyoming
2021 **Theresa Higgins**, Avian Field Technician, University of Wyoming
2021 **R Franke**, Avian Field Technician, University of Wyoming
2020 **Qingqing Yang**, Undergraduate Researcher, Colby College
2020 **Nick Pineschi**, Undergraduate Assistant, University of Wyoming
2019 - 2020 **Domonique Jones**, Undergraduate Researcher, University of Wyoming
2019 **Ashley Townsend**, Avian Field Technician, University of Wyoming
2019 **Ashlynn Ballard**, Avian Field Technician, University of Wyoming
2019 - 2022 **Sydnie Fossberg**, Wyoming Research Scholar, University of Wyoming
2018 **Daree Altergott**, Undergraduate Teaching Assistant, University of Wyoming

Outreach & Service

University of Wyoming Department of Zoology & Physiology

Laramie, WY

GRADUATE STUDENT REPRESENTATIVE TO FACULTY MEETINGS

Fall 2022

eBird, Cornell Lab of Ornithology

Ithaca, NY

REVIEWER (WYOMING, ALBANY AND CARBON COUNTIES)

March 2022 - Present

University of Wyoming Program in Ecology & Evolution

Laramie, WY

STUDENT CO-PRESIDENT

August 2021 - August 2022

SYMPOSIUM COMMITTEE CO-CHAIR

August 2020 - July 2021

NEW GRADUATE STUDENT MENTOR

September 2019 - Present

INVITED SPEAKER COMMITTEE CO-CHAIR

March 2018 - July 2020

OUTREACH COMMITTEE CO-CHAIR

(August 2018 - July 2019)

Laramie Audubon Society

Laramie, WY

NEWSLETTER CHAIR, BOARD MEMBER

Fall 2017 - Fall 2023

Eastern Massachusetts National Wildlife Refuge Complex

Sudbury, MA

BIRDING GUIDE

Summer, Fall 2016

PEER REVIEW

Wader Study (1), Evolution (1), Avian Conservation & Ecology (3), Western Birds (1)

GRANT REVIEW

Wilson Ornithological Society, Jed Burt Undergraduate Mentoring Grant (2024)

PROFESSIONAL MEMBERSHIPS

American Ornithological Society, Society for the Study of Evolution, Society of Systematic Biologists, American Genetics Association