

Noah Brady

PhD Candidate

Department of Ecology & Evolutionary Biology, Cornell University

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Education

PhD Candidate, Dept. of Ecology & Evolutionary Biology

Advisor: Dr. Robert Reed

"The evolutionary and developmental mechanisms that shape phenotypic plasticity"

Cornell University

August 2018 – present

Bachelor of Arts in Biology

Advisor: Dr. Emily Heffernan

Honors thesis: *"Conservation Genetics of the Endangered Dakota Skipper"*

New College of Florida

August 2013 – May 2017

Publications

1. Grace E. Hirzel, **Noah K. Brady**, Robert D. Reed, Erica L. Westerman (2024). *Synchronous seasonal plasticity in colouration, behaviour, and visual gene expression in a wild butterfly population*. bioRxiv 2024.06.15.598356 (accepted at Functional Ecology), <https://doi.org/10.1101/2024.06.15.598356>
2. Heffernan, E. V., Barkdull, M., **Brady, Noah K.** (2024). *Microsatellites for butterfly conservation: historical challenges, current relevance, and a guide to implementation*. Frontiers in Ecology and Evolution 10.3389/fevo.2024.1344065, <https://doi.org/10.3389/fevo.2024.1344065>
3. Chatterjee Martik, Yu Xin Y., **Brady, Noah K.**, Hatto Gabriel C., Reed Robert D. (2024). *mirror determines the far posterior domain in butterfly wings*. eLife 13:RP96904, <https://doi.org/10.7554/eLife.96904.1>
4. Richard A. Fandino, **Noah K. Brady**, Martik Chatterjee, Jeanne M. C. McDonald, Luca Livraghi, Karin R. L. van der Burg, Anyi Mazo-Vargas, Eirene Markenscoff-Papadimitriou, Robert D. Reed (2024) *The ivory lncRNA regulates seasonal color patterns in buckeye butterflies*. Proc. Natl. Acad. Sci. U.S.A. 121 (41) e2403426121, <https://doi.org/10.1073/pnas.2403426121>

Manuscripts In Prep (drafts available upon request)

5. **Brady, Noah K.**, van der Burg, Karin, Reed, Robert D., *Cryptic transcriptional and epigenetic plasticity underlie environmentally insensitive traits*.
6. **Brady, Noah K.**, Reed, Robert D., *Chromatin accessibility modulates tissue responsiveness to environmentally cued endocrine signals*.
7. ***Brady, Noah K.**, *van der Burg, Karin, **Bellido, Zachary, **Dusi, Yoel, Reed, Robert D., *Genetic architecture of regional variation in developmental plasticity*.

*share first authorship; **undergraduate mentees

Talks

- "How Do Butterflies Predict the Future?". Evolution (2024), Montreal, QC.
- "How Do Butterflies Predict the Future?". Lepidopterists Society Meeting (2024), Ithaca, NY.
- "How did molting pave the way for adaptive seasonal color pattern plasticity?". Evolution (2023), Albuquerque, NM.
- "How Does Evolution Tune Seasonal Color Patterns in Butterflies". Cornell Evo Day Symposium (2023), Ithaca, NY.
- "The Genomics of Color Pattern Plasticity in Junonia coenia Butterflies". Evolution (2022), Cleveland, OH.
- "The Genetic Basis of Eyespot Plasticity". Cornell EEB Winter Symposium (2019), Ithaca, NY.
- "Conservation Genetics of a Threatened Butterfly (*Hesperia dacotae*)". (2017) BioFlorida Florida Biotech Expo, Sarasota, FL.

Undergraduate Mentorship

Yoel Dusi

Dept. Ecology & Evolutionary Biology

- Quantified eyespot plasticity using ImageJ
- Mutated candidate genes associated with eyespot plasticity using CRISPR/Cas9

Cornell University
January 2020 – December 2021

Zachary Bellido

Dept. Ecology & Evolutionary Biology

- Investigated the function of the Jak/Stat pathway in eyespot development
- Studied hedgehog signaling in plastic eyespot development using CRISPR/Cas9

Cornell University
July 2021 – July 2022

Zahra Kelsey

Dept. Ecology & Evolutionary Biology

- Investigated the function of the ecdysone receptor (*ecr*) in plastic development
- Mutated candidate genes associated with eyespot plasticity using CRISPR/Cas9

Cornell University
May 2022 – May 2023

Service & Outreach

Co-leader, Cornell Diversity Preview Weekend (now *Consider Cornell*)

Dept. Ecology & Evolutionary Biology

- Organized recruitment events for 80+ undergraduates from underrepresented populations across the U.S.
- Organized workshops on applying for grad school
- Led weekly leadership meetings and helped secure perennial funding

Cornell University
September 2019 – September 2021

Diversity, Equity, & Inclusion Hiring Committee

Dept. Ecology & Evolutionary Biology

- Developed hiring guidelines for undergraduates, post-docs, and faculty

Cornell University
August 2020 – May 2022

Graduate Student Recruitment Committee

Dept. Ecology & Evolutionary Biology

- Assisted in planning and hosting virtual and in person recruitment events

Cornell University
August 2021 – March 2023

Grants/Awards

- Graduate student research fund, Cornell University (\$4000)
- Graduate student travel grant, Cornell University (\$2000)

Teaching

Writing in the Majors TA: Intro to Biodiversity & Evolution

- Designed and taught a class about scientific writing and key concepts in evolutionary developmental biology

Cornell University
January 2025 – May 2025

First Year Graduate Professional Development

Cornell University
August 2024 – December 2024

Cellular & Developmental Biology

Cornell University
August 2021 – December 2021

Intro to Biodiversity & Evolution: TA

Cornell University
August 2018 – May 2019