



# Megan Barkdull

Dept. of Ecology and Evolutionary Biology, Cornell University  
215 Tower Rd, Ithaca, NY 14853 • (407) 492-6225 • mb2337@cornell.edu  
meganbarkdull.squarespace.com • <https://github.com/mbarkdull/>

## EDUCATION

### Cornell University

Ph.D. Student

Advisor: Dr. Corrie Moreau

expected 2025

### New College of Florida

Bachelor of Arts in Biology

Honors Thesis Topic: *Population Genetics of the Threatened Florida Duskywing Skipper*

2018

## RESEARCH EXPERIENCE

### Post-baccalaureate Intern

Cornell University, Zamudio Lab

Sept. 2018 – Aug. 2019

- Conducted conservation genetics research on a number of reptile and amphibian species.
- Responsible for assisting all lab members with wet lab work (DNA extractions, microsatellite sequencing, Sanger sequencing, MiSeq).
- Collaborated on a project to describe the genetic mating system of the Brazilian frog *Cycloramphus boraceiensis* (data in prep for publication).

### Hawkmoth Sensory Behavior Volunteer

Cornell University, Raguso Lab

Sept. 2018 – Dec. 2018

- Participated in weekly hawkmoth colony care tasks (feeding, plant care, pupae counts etc.).
- Ran experiments testing the role of floral humidity in hawkmoth feeding choice.

### Birdsong Evolution, Research Assistant

Cornell University Lab of Ornithology, Drs. Araya-Salas and Odom

May 2018 – May 2019

- Assisted in coding birdsong spectrograms for downstream data analysis.
- Created analysis protocol and generate graphics for future researchers on the project.

### Florida Duskywing Genetics Project, Research Assistant

New College of Florida, Saarinen Lab

Aug. 2017 - May 2018

- Carried out a population genetics analysis of the threatened Florida Duskywing skipper butterfly to inform conservation policy.
- Performed next-generation sequencing in order to develop novel microsatellite markers

### NSF Research Experiences for Undergraduates Intern

American Museum of Natural History, Siddall Lab

May 2017 - Aug. 2017

- Used genetic techniques (Sanger sequencing etc.) to identify the hosts of terrestrial bloodfeeding leeches.
- Presented results at 2017 AMNH REU Symposium; manuscript published in PLoS One.
- Conducted fieldwork to collect invertebrate (leeches, crayfish) for related lab projects.

**Dakota Skipper Wolbachia Status, Research Assistant**

**Jan. 2017 - May 2017**

New College of Florida, Saarinen Lab

- Conducted DNA extractions and PCR amplifications of Wolbachia pathogen genes from the endangered Dakota Skipper butterfly to identify pathogen strains.
- Performed significant PCR troubleshooting of genes which repeatedly failed to amplify.
- Prepared a poster on the findings of the project; presented at a meeting of at the Imperiled Butterfly Working Group.

## **TEACHING EXPERIENCE**

**Introduction to Evolution and Diversity Teaching Assistant**

**Jan. 2020 - May 2020**

Cornell University

- Taught three weekly discussion/lab sections.
- Assisted with course transition to an online format due to COVID-19.

**Comparative Physiology Teaching Assistant**

**Aug. 2019 - Dec. 2019**

Cornell University

- Taught three weekly discussion/lab sections, leading hands-on investigations of physiological concepts covered in lectures.
- Created extensive, novel course review materials; available on my GitHub.

**Foundations of Biology Teaching Assistant**

**Aug. 2017 - Dec. 2017**

New College of Florida

- Led review sessions prior to tests and quizzes.
- Graded tests and quizzes.
- Met individually with students to address performance questions.

**Cellular Biology Teaching Assistant**

**Aug. 2016 - Dec. 2016**

New College of Florida

- Led content-delivery and problem-solving review sessions once per week.
- Assisted in exam grading and clerical tasks.

## **PUBLICATIONS**

Siddall, M. E., **Barkdull, M.**, Tessler, M., Brugler, M. R., Borda, E., & Hekkala, E. (2019). Ideating iDNA: Lessons and limitations from leeches in legacy collections. *PloS one*, 14(2), e0212226.

**In review:**

Williams, K., Fahmy, M., **Barkdull, M.**, Kvist, S., Hekkala, E., Siddall, M.E. (2020). Caught red handed: iDNA reveals wild source of CITES contraband medicinal leeches". In review at the European Journal of Wildlife Research.

## **PRESENTATIONS**

**Lightning talks:**

**Barkdull, M.** and Moreau, C. (2020). Formicidae caste determination: single cell and functional genomic techniques. Social Insects in the Northeast Region meeting, Brooklyn, NY.

\*postponed to Spring 2020 due to COVID-19.

**Posters:**

Markee, A.N., Saarinen, E. V., **Barkdull, M.** (2019). Conservation genetics of the Florida duskywing skipper (*Ephyriades brunnea*): a multi-population assessment of a rare South Florida butterfly. Entomological Society of America meeting, St. Louis, MO.

Ash, M., **Barkdull, M.**, Elmir, G. (2017). Are endangered Dakota Skipper populations infected with *Wolbachia*? Imperiled Butterflies Working Group meeting, Miami, FL.

**AWARDS**

Book Award for Best First-Year Symposium Presentation

**Dec. 2019**

**SERVICE**

**EvoDay Planning Committee**

**Spring 2020**

- Identify and invite speakers for a day-long symposium on the theme of "Evolution in Deep Time".

\*postponed to Spring 2020 due to COVID-19.

**Cornell Ecology & Evolutionary Biology Seminar Series Committee**

**Aug. 2019- present**

- This committee plans and coordinates the department's weekly seminar series.
- Responsible for soliciting speaker nominations, constructing schedule of speakers, and assisting host labs with managing their speaker visits.

