

## Azwad Iqbal

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### EDUCATION

**Cornell University**, Ithaca, NY June 2026  
Ph.D. Natural Resources and the Environment  
Advisor: Nina Overgaard Therkildsen

**Princeton University**, Princeton, NJ June 2019  
A.B. Ecology and Evolutionary Biology [EEB]; *Summa Cum Laude* with 3.86 Overall GPA  
Minor in Environmental Studies  
*Senior Thesis*:  
- “Resource partitioning and plant-herbivore interactions among large mammalian herbivores on the Nyika Plateau, Malawi” (Spring 2019)

### EXPERIENCE

**McBride Lab**, Princeton University, Princeton, NJ May 2019 – July 2021  
*Research Specialist*  
Research specialist in the McBride Lab, studying the neural and genomic basis for mosquito host preference. Tasked with aiding ongoing research projects using neural imaging to characterize mosquito response to key odorants, including behavioral assays, transgenic line maintenance and development, and refining tagmentation mapping protocols to locate insertion sites in transgenic strains.

**Advanced Studies Program (ASP)**, St. Paul’s School, Concord, NH June – July 2019  
*Teaching Intern*  
Teaching intern in the Ecology course, tasked with planning/executing lesson plans, activities, and field trips for high-achieving rising high-school seniors from across New Hampshire. Additional responsibilities included dormitory and sport supervision, alongside community engagement by facilitating meetings of the Diversity Alliance student group to discuss topics relating to social justice, equity, and mental health.

**Pringle Lab**, Princeton University, Princeton, NJ June 2018 – April 2019  
*Senior Thesis Research*  
Conducted extensive lab work on campus prior to a second expedition to Nyika National Park, Malawi for plant specimen collection to construct a local DNA barcode database. Work to extract DNA from these plant samples for barcoding analysis is ongoing and is part of a larger project attempting to reconstruct the local herbivore trophic network alongside determining the degree of resource partitioning among the six most common large mammalian herbivore species.

**Ayroles Lab**, Lewis-Sigler Institute for Integrative Genomics, Princeton, NJ January – December 2018  
*Lab Technician*  
Lead technician responsible for an ongoing project examining the genetic and adaptive basis for a putative speciation event between *D. sechelia* and *D. simulans*, including the rearing, crossing, and phenotyping of fly populations, alongside stock maintenance and oversight.

**Nyika National Park**, Malawi June – August 2017  
*Princeton Environmental Institute Intern*  
Student intern and field technician working with the Pringle Lab at Princeton University. Engaged in daily fieldwork in Nyika National Park with Dr. Johan Pansu collecting animal fecal samples for a project studying large mammalian herbivore diets and resource partitioning on a continental gradient. Work included collecting and preparing field samples along with 8 weeks of on-campus laboratory work.

**Mpala Research Centre**, Laikipia, Kenya July – September 2016  
*Princeton Environmental Institute Intern*  
Student intern and field technician working with the Pringle Lab at Princeton University. Engaged in daily fieldwork in and outside the UHURU exclusion plots at Mpala Research Centre with Dr. Tyler Coverdale, collecting data and conducting field experiments on the induced plant defenses of *Barleria* species.

## PUBLICATIONS

1. **Azward Iqbal**, Daniel J. Hasselman, Thomas P. Quinn, Nina O. Therkildsen. **Founder effects, local adaptation, and chromosomal inversions shape the rapid evolution of invasive American shad (*A. sapidissima*)**. (In prep)
2. **Azward Iqbal**, Matthew Mumma, Barend Wursten, Michael Siska, Jones Sibale, Robert M. Pringle. **A plant barcode database and community phylogeny for an Afromontane savanna**. (In prep)
3. Jonathan P. Velotta & **Azward Iqbal**, Ryan P. Franckowiak, Nina O. Therkildsen. **A complete assembly and annotation of the American shad genome yields insights into the origins of diadromy**. (In review at *Genome Biology & Evolution*)
4. Johan Pansu, Matthew C. Hutchinson, T. Michael Anderson, Mariska te Beest, Colleen M. Begg, Keith S. Begg, Aurelie Boning, Lackson Chamai, Simon Chamaille-Jammes, Eric Coissac, Joris P. G. M. Cromsigt, Margaret Y. Demmel, Jason E. Donaldson, Jennifer A. Guyton, Christina B. Hansen, Christopher I. Imakando, **Azward Iqbal**, Davis F. Kalima, Graham I. H. Kerley, Samson Kurukura, Marietjie Landman, Ryan A. Long, Isaac Norbert Munuo, Ciara M. Nutter, Catherine L. Parr, Arjun B. Potter, Stanford Siachoono, Pierre Taberlet, Eusebio Waiti, Tyler R. Kartzinel, and Robert M. Pringle. **The generality of cryptic dietary niche differences in diverse large-herbivore assemblages**. *Proceedings of the National Academy of Sciences* (2022). <https://doi.org/10.1073/pnas.2204400119>
5. Zhilei Zhao, Jessica L. Zung, Annika Hinze, Alexis L. Kriete, **Azward Iqbal**, Meg A. Younger, Benjamin J. Matthews, Dorit Merhof, Stephan Thiberge, Rickard Ignell, Martin Strauch, Carolyn S. McBride. **Mosquito brains encode unique features of human odour to drive host seeking**. *Nature* (2022). <https://doi.org/10.1038/s41586-022-04675-4>

## PRESENTATIONS

- A. Iqbal**. *The Population Genomics of Invasion: Founder effects, local adaptation, and chromosomal inversions shape the rapid evolution of invasive American shad (*A. sapidissima*)*, Evolution 2024, Montreal, QB, Canada.
- A. Iqbal**. *The Population Genomics of Invasion: Insights into the Pacific Coast Invasion of American shad (*Alosa sapidissima*)*, Great Lakes Annual Meeting of Evolutionary Genomics 2023, Ithaca, NY.
- A. Iqbal**. *Investigating the genomic basis of rapid adaptation in the American Shad*. American Fisheries Society Annual Meeting 2022, Spokane, WA.
- A. Iqbal**. *Investigating the genomic basis of rapid adaptation in an invasive migratory fish*. Evolution 2022, Cleveland, OH.
- A. Iqbal**. *Investigating the genomic basis of rapid adaptation in an invasive migratory fish*. 2022 Cornell Department of Natural Resources and the Environment Graduate Research Symposium, Cornell University, Ithaca, NY.
- A. Iqbal**. *Investigating the genomic basis of rapid adaptation in an invasive migratory fish*. 2021 Cornell Department of Ecology and Evolutionary Biology December Symposium, Cornell University, Ithaca, NY.
- A. Iqbal**. *Plant-Herbivore Interactions and Resource Partitioning in the Nyika Plateau, Malawi*. 2019 Princeton Environmental Institute Discovery Day, Princeton University, Princeton, NJ.
- A. Iqbal** and C. Nutter. *Plant-Herbivore Interactions at the Scale of the African Continent*. 2017 Princeton Environmental Institute Summer of Learning Symposium, Princeton University, Princeton, NJ
- A. Iqbal**. *Plant defenses in an African Savanna Ecosystem*. 2016 Princeton Environmental Institute Summer of Learning Symposium, Princeton University, Princeton, NJ.

## HONORS

- Best Proposal-stage Presentation - 2022 Cornell Department of Natural Resources Symposium** – January 2022
- NSF Graduate Research Fellowship Program (GRFP) Honorable Mention** – March 2021
- Sigma Xi Book Award for Outstanding Research** – June 2019
- Senior Thesis Prize in Ecology** – June 2019
- Gates Cambridge Finalist** – *Biological Sciences*, Spring 2019

## FUNDING

- American Philosophical Society Lewis and Clark Fund** - \$3000
- Society for the Study of Evolution (SSE) R.C. Lewontin Early Award** - \$2,500
- National Science Foundation Graduate Research Fellowship (GRFP)** - \$159,000
- Cornell Atkinson Center Sustainable Biodiversity Fund** - \$6,930
- Cornell University Fellowship** - \$33,032

## LEADERSHIP & ACTIVITIES

- Cornell EvoGroup** – Co-facilitator – Spring 2022—Spring 2024
- Cornell Department of Natural Resources DEI Advisory Council** – General Council Member – Spring 2022 – Spring 2023, *By election*
- Cornell Graduate Student School Outreach Program (GRASSHOPR)** – Co-Teacher – Spring 2022

## SKILLS

- Proficiency in R, python, and bash for bioinformatics, video editing, Adobe Photoshop/Lightroom, FL Studio.
- Proficiency in laboratory work, including gel electrophoresis, PCR, gDNA extraction, next-generation sequencing library preparation