

# Karen E. Bobier

KarenBobier@gmail.com (707)347-9848 <http://www.genetics.uga.edu/directory/karen-eileen-bobier>

## **EDUCATION**

### **University of Georgia, Athens, Georgia**

Graduate Student Research Assistant, Expected 2020 GPA 3.90

### **University of California Santa Cruz, Santa Cruz, California**

B.S. in Marine Biology with Highest Honors, Summa Cum Laude, 2013 GPA 3.97

### **Santa Rosa Junior College, Santa Rosa, California**

General Education with Dean's Highest Honors, 2010 GPA 3.78

## **WORK AND RESEARCH EXPERIENCE**

2015-Present **Graduate Research Assistant**, University of Georgia, Athens, Georgia

- Used reduce representation genotyping (3RAD) and Approximate Bayesian Computation to assess simultaneous divergence of freshwater fishes due to a geologic stream capture event
- Performed a genome wide scan to assess selection along a strong environmental gradient in the barnacle *Notochthamalus scabrosus* along the coast of Chile.
- Examined the molecular evolution of the DNA Methyltransferase gene family across vertebrates.
- Collaborated with the Glenn Lab and analyzed two datasets of RADseq data for ~300 individuals each.

2019 **Research Intern**, Monterey Bay Aquarium Research Institute, Moss Landing, California

- Collected and processed 200 water samples at 8 sites downstream of a fish hatchery in Scott Creek
- Quantified salmonid eDNA using qPCR to quantify DNA degradation in a stream habitat and assess variation collection and processing methods

2016-2017 **GGSA Treasurer**, University of Georgia, Athens, Georgia

2015 **Field/Hatchery Technician**, United Anglers Inc, Petaluma, California

2013-2015 **Production Technician I**, VenTek International, Petaluma, California

2015 **Biological Science Technician**, US Fish and Wildlife Service, Lodi, California

- Assisted with a tagging telemetry study to assess salmonid escarpment.

2013-2014 **Intern**, NOAA's National Marine Fisheries Service, Santa Rosa, California

2012 **Undergraduate Researcher**, Marine Biology and Terrestrial Ecology Education Abroad Program, Queensland, Australia

2012 **Research Volunteer**, Sinervo Laboratory, UC Santa Cruz, California

2011-2012 **Tutor**, Learning Support Services, UC Santa Cruz, California

## **PUBLICATIONS**

### *Peer- Reviewed*

Correa, S., J. Arujo, J. Penha, **K. Bobier**, J. T. Anderson. Stability and generalization in seed dispersal networks: a case study of frugivorous fish in Neotropical wetlands. *Proceedings of the Royal Society B: Biological Sciences*. August 31, 2016.

**Bobier, K.** The Complete Mitochondrial genome of *Notropis lutipinnis*. *Mitochondrial DNA Part B: Resources*, 5:3, 3203-3205, DOI: 10.1080/23802359.2020.1809541, August 2020.

### *In Prep*

**Bobier, K.**, A. J. Bewick, J. P. Wares. Evolution of the DNA methyltransferase gene family across vertebrates.

### *Reports*

Freeman, B., **K. Bobier**, K. Petersen, J. Wares. Status of *Nothonotus* darters in the Lower Etowah River and Raccoon Creek. May 26, 2016.

Robbins, K., **K. Bobier**, D. Hubacker. Petaluma Watershed Steelhead Monitoring Report: 2014/2015 Spawning Surveys. 2015.

Morrison, A., **K. Bobier**, B. Keimel. Petaluma Watershed Steelhead Monitoring Report: 2013-2014 Spawning Surveys. 2014.

### *Blog Posts*

[Not so Flushable Wipes](#), *Athens Science Observer*, March 21<sup>st</sup>, 2019.

[The last sandcastle](#), *Athens Science Observer*, September 23<sup>rd</sup>, 2018.

[Major red tide hits Florida beaches](#), *Athens Science Observer*, September 18<sup>th</sup>, 2018.

[Science in your laundry detergent](#), *Athens Science Observer*, April 26<sup>th</sup>, 2018.

[Plastic Waters](#), *Athens Science Observer*, January 18<sup>th</sup>, 2018.

## **PRESENTATIONS**

### *Presentations*

**Bobier K.**, J. Wares, B. Freeman. “Harnessing Genetics to evaluate stream capture as a contributor to freshwater biodiversity” American Fisheries Society & The Wildlife Society Annual Conference, Reno, Nevada, September 30<sup>th</sup>, 2019.

**Bobier K.**, K. Yamahara, J. Birch. “Establishing a baseline for monitoring fisheries stocks using environmental DNA” Monterey Bay Aquarium Intern Symposium, Moss Landing, California August 14<sup>th</sup> 2019.

**Bobier K.**, “Molecular Evolution of the DNA Methyltransferase Gene Family in Vertebrates” Enthusiasts of Diversity, Genetics, and Evolution Seminar, Athens, Georgia, January 19<sup>th</sup> 2018.

**Bobier, K.** “Investigating Nuclear and Mitochondrial Discordance in Yellowfin Shiners”, Evolution, Austin, TX, June 19th, 2016.

**Bobier, K.** Southeastern Fish Diversity. Genetics Student Seminar, Athens, Georgia, April 11<sup>th</sup> 2016.

**Bobier, K.** Biogeography of stream fishes in the southeast. Three Minute Thesis Preliminary, Athens, Georgia, March 21<sup>st</sup> 2016.

### *Posters*

**Bobier, K.**, A. Bewick, J. Wares. “Molecular Evolution of the DNA Methyltransferase Gene Family in Vertebrates” Evolution, Montpellier, France, August 19th 2018.

**Bobier, K.** “DNA Methylation Inheritance in Fishes: A Proposal” Southeastern Population Ecology and Evolutionary Genetics Conference, October 2016, Madison Florida.

**Bobier, K.** Yellowfin shiner: Is there discordance between mitochondrial and nuclear markers?  
Southeastern Population Ecology and Evolutionary Genetics Conference, Eatonton, Georgia.  
October 2015.

### **TEACHING**

2017-2020 Graduate Teaching Assistant, Genetics (GENE 3200), 6 Semesters  
2018 Graduate Teaching Assistant, Evolution (GENE 3000), 1 Semester

### **OUTREACH AND SERVICE**

2019 Assistant Associate Editor, Athens Science Observer.  
2017-2019 Blog writer and reviewer, Athens Science Observer.  
2017- 2018 WiSci Mentor. I mentored Brittany Magdovitz, a masters student in Food Sciences Department.  
2017 Georgia Science and Engineering Fair, Judge for Special Award in Genetics.  
2015-2016 Mentored undergraduate students while teaching them about fishes and stream ecology on field trips to local streams.  
2015-Present Mentor undergraduate and graduate students working in the Wares/Freeman lab. This primarily consists of teaching laboratory techniques and analysis methodology, discussion of the primary literature for background information, and other any guidance they needed while working on independent projects in the lab.  
2015 Mentored an intern to conduct and organize population surveys of steelhead.  
2014 Insect Fest at the World of Wonders Science Museum, Lodi, Ca.  
2013-2015 Mentored high school students while teaching them to conduct scientific field surveys.  
2011-2012 Tutored university students for Genetics and Evolution classes.

### **ADDITIONAL TRAINING**

2019 Python Basics I and II, Georgia Advanced Computing Resource Center  
2016 Sapelo Cluster Training, Georgia Advanced Computing Resource Center  
2016 Linux Basics I and II, Georgia Advanced Computing Resource Center

### **LABORATORY SKILLS**

DNA Isolation	RNA Isolation	Quantitative PCR	Library Prep
Primer Design	gRNA Design	Tissue Dissection	Fish Husbandry

### **COMPUTER SKILLS**

Linux/UNIX	Statistics	Atom	Transcriptome Assembly
Geneious	PAUP*	ArcGIS	R Studio
SAMtools	BWA	GATK	STACKS
STRUCTURE	Shell Scripting	GenAEx	Microsoft Office

### **OTHER SKILLS**

Soldering	Gardening	Mechanical Assembly
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## **HONORS AND AWARDS**

2020	TAGC Travel Award (\$425)
2020	Genetic Graduate Student Travel Award (\$1000)
2019	Graduate Education Advancement Board Fellowship (\$2500)
2019	Graduate School Travel Grant (\$800)
2019	Summer Research Travel Award (\$2000)
2019	Genetics Graduate Student Travel Award (\$1000)
2019	MBARI Summer Internship (\$6000)
2018	Genetics Graduate Student Travel Award (\$1000)
2018	Foreign Travel Assistance (\$1700)
2017	Genetics Graduate Student Travel Award (\$579.50)
2017	Graduate School Travel Award (\$250)
2016	Graduate School Travel Award (\$250)
2016	Travel Stipend Society for the Study of Evolution (\$500)
2015	Scholar of Excellence Assistantship – University of Georgia
2012	College Nine Distinction – University of California Santa Cruz
2012	University of California Education Abroad Scholarship
2011	Campus Merit Scholarship – University of California Santa Cruz
2010-2012	Cal Grant A – University of California Santa Cruz
2010	Federal Supplemental Education Opportunity Grant – University of California Santa Cruz
2010-2012	Federal Pell Grant – University of California Santa Cruz
2010-2012	UC Santa Cruz Grant – University of California Santa Cruz
2010-2012	Dean's Honors – University of California Santa Cruz
2010	National SMART Grant – University of California Santa Cruz
2010	Foundation Transferring Student Scholarship – Santa Rosa Junior College
2010	Dean's Highest Honors – Santa Rosa Junior College

## **RESEARCH SUPPORT**

### *Awarded*

2017	Robin Hightower Genetics Graduate Support Fund (\$1000)
2016	NIH T32 Genetics Training Grant
2016	Robin Hightower Genetics Graduate Support Fund (\$1000)

### *Applied for but not awarded*

2019	DeLill Nasser Award
2019	Beverly Hirsh Frank Graduate Fellowship for Women
2019	USFWS Directorate Fellowship Program
2019	DOD SMART Scholarship – Finalist
2019	GSA Peer Review Training Program
2019	AAUW Dissertation Fellowship
2019	Ford Foundation Dissertation Fellowship
2018	DeLill Nasser Award
2017, 2018	Joshua Laerm Academic Support Award (\$1000)
2017	American Society of Naturalists Travel Award (\$500)

2017	NIH T32 Genetics Training Grant
2017	NSF Graduate Research Fellowship (\$138,000)
2017	Society for the Study of Evolution, Rosemary Grant Award (\$2500)
2016	NSF Graduate Research Fellowship – Honorable Mention (\$138,000)
2016	Innovative and Interdisciplinary Research Grants for Doctoral Students (\$1000)
2016	American Society of Naturalists Graduate Student Travel Grant (\$500)
2016	National Geographic Young Explorers Grant, Pre-Application Approved (\$5000)

#### **SCIENTIFIC SOCIETY MEMERSHIPS**

American Association for the Advancement of Science – Member since 2017  
Genetics Society of America – Member since 2017  
Society for the Study of Evolution – Member since 2016  
American Society of Ichthyologists and Herpetologists – Member 2016-2017  
American Fisheries Society – Member since 2015  
American Society of Naturalists – Member since 2015  
Southeastern Fisheries Council – Member since 2015