**Clara Howell**

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**Education**

Duke University 2019 – present

Ph.D. student in Biology

Advisor: Stephen Nowicki

University of Tennessee 2017 – 2019

M.S. in Ecology & Evolutionary Biology

Advisor: Elizabeth Derryberry

Tulane University 2013 – 2017

B.S. in Neuroscience & B.A. in English

*Summa Cum Laude* with departmental honors

Paul Tulane Full Tuition Scholarship

**Scientific Publications**

Howell, C., Anderson, R., and Derryberry, E. 2019. “Problem-solving ability and mass affect different aspects of female choice in the zebra finch (*Taeniopygia guttata*)”. *Animal Cognition* (https://doi.org/10.1007/s10071-019-01299-6).

Howell, C., Anderson, R., and Derryberry, E. “Female zebra finches (*Taeniopygia guttata*) prefer the songs of males who are able to solve a novel-foraging task”. *Scientific Reports,* in review*.*

**Selected Presentations and Posters**

Jan 2019 *The Role of Problem-Solving Ability in Zebra Finch Mate Choice*

Presentation, Society for Integrative and Comparative Biology – Tampa, FL

Marlene Zuk Student Award Finalist

Nov 2017 *Smart is Sexy: Male Song is an Honest Signal of Cognitive Ability in the Zebra Finch*

Poster, University of Tennessee NeuroNET Annual Retreat

June 2016 *Song, Song Preference, and Cognitive Ability*

Presentation, Neuroscience Faculty of Tulane University

July 2015 *Song and Song Preference as Indicators of Cognitive Ability in Zebra Finches*

Presentation, Neuroscience Faculty of Tulane University

**Research Projects**

**Thermoregulatory behavior in Zebra Finches**   **Jan 2017 – present**

University of Tennessee, Department of Ecology & Evolutionary Biology

* Master’s thesis: Thermoregulatory behavior in zebra finches in a lab-controlled setting

**Evolution of female aggression in *Jacana jacana* and *Jacana spinosa* May 2018**

Smithsonian Tropical Research Institute

* Trained Dr. Sara Lipshutz (Indiana University) in brain extraction techniques in the field, conducted territorial intrusion experiments with wild birds

**Problem-solving ability in zebra finch mate choice June 2015 – May 2017**

Tulane University, Department of Neuroscience

* Undergraduate Honors Thesis: Designed and ran experiment testing zebra finch problem-solving ability and measuring female zebra finch sexual preference behavior

**Thermal ecology of Galapagos finches** **Feb 2015 – Dec 2015**

Tulane University, Department of Ecology & Evolutionary Biology

* Assisted Dr. Raymond Danner (UNC Wilmington) in analyzing images of Darwin finches using thermal imaging software, set up organizational system for data storage and analysis

**Awards, Scholarships, and Grants** (total *$332,150*)

2019 Duke University Scholars Fellowship: *$100,900*

2019 James B. Duke Fellowship: *$20,000*

2019 NSF Graduate Research Fellowship, Honorable Mention

2018 University of Tennessee Research Award: *$1,250*

2017 Arnold Gerall Prize for Behavioral Neuroscience, Tulane University

2016 Goldwater National Scholarship, Honorable Mention

2015, 2016 Tulane Summer Research Grant: *$6,000*

2013 – 2017 Tulane Dean’s List, eight consecutive semesters

2013 – 2017 Paul Tulane Full Tuition Scholarship, merit-based: *$196,000*

2013 – 2017 National Merit Scholarship: *$8,000*

**Outreach**

President of Darwin Day, UT Knoxville 2018 – 2019

* Responsibilities included outreach to UT departments, undergraduates, and the general public for an annual celebration of evolution

Member of Engaging Knoxville in Ecology & Evolution 2017 – 2019

* Taught birding and neuroscience programs for elementary school – high school students at the Boys & Girls Club and local high schools

Make Music NOLA 2016

* Taught violin lessons to elementary and middle school students from public schools in the Ninth Ward as part of a larger research project examining the effect of musical training on executive function development in elementary school children

Student Senator for Tulane School of Science and Engineering 2016

* Member of Academic Affairs board and Library Advisory board
* Worked on legislation to make undergraduate research opportunities more accessible; created a textbook donation program for introductory science courses

Girls in STEM 2015 – 2017

* Led backyard bird ID workshops and neuroscience lab tours that encouraged girls from New Orleans public schools to pursue careers in science and mathematics.

**Skills**

* **Neuroscience**: Brain extraction (under 3 minutes for zebra finches; under 4 minutes for jacanas), cryostat slicing and tissue mounting, Nissl staining
* **Avian ecology**: Bird song analysis and editing, thermal image analysis
* **Avian care**: Bird husbandry, handling, and IACUC protocols; basic surgeries in rats and sparrows, including hormone implantation and ovarectomies

**Specialty Software**

* R (used for data analysis and graphing), Syrinx song analysis, Sound Analysis Pro, Audacity, ImaginIR

**Teaching Experience**

“KidsUniversity” Animal Behavior Course Instructor

Summer 2019

* Designed and led a five-day camp for middle-schoolers on animal behavior
* Topics included designing animal behavior experiments, creating ethograms, and studying animal behavior in the wild

Animal Communication (PSYC, EEB 454) and Animal Behavior (PSYC, EEB 450)

Fall 2018, Spring 2019

* Currently leading a research component for both classes, which includes teaching students how to conduct a literature search, organize their findings, and write a scientific review paper
* Guest lecturer on bird song and honest signalling (EEB 454)

Scientific Literacy (BIO 150)

Fall 2017, Spring 2018

* Taught a course for science majors on how to read and interpret scientific papers