

# Elizabeth F. Ballare

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## EDUCATION

### **Doctor of Philosophy**, Expected 2019

Ecology and Evolution, Rutgers University, The State University of New Jersey

Title: Health effects of rehabilitation and release in Bornean orangutans (*Pongo pygmaeus wurmbii*)

*Honors*: Fulbright Student Research Scholar 2014 – 2015

### **Master of Science**, transferred to Ph.D. Program

Ecology and Evolution, Rutgers, The State University of New Jersey

Title: Determining the phylogenetic status of *Odonata:Macromiidae*

### **Bachelor of Science**, January 2007

Biology, Montclair State University

*Honors*: National Dean's List

## AWARDS, FELLOWSHIPS, GRANTS

2018 Professional Development Award, Rutgers University **\$971.25**

2018 Graduate Student Conference Travel Award, Rutgers University **\$200**

2017 Second Place Poster Session Award, STEM Community Outreach Symposium **\$150**

2017 Graduate Student Conference Travel Award, Rutgers University **\$200**

2017 Center for Human Evolutionary Studies Albert Fellows Dissertation Research Award **\$13,000**

2017 Professional Development Award, Rutgers University **\$925**

2016 Margot Marsh Biodiversity Foundation **\$10,000**

2016 Riverbanks Zoo and Garden Conservation Support Fund **\$5,000**

2016 Cleveland Zoological Society and Cleveland Metroparks Zoo **\$2,500**

2016 Crowdsourcing **\$2,710**

2014-2015 Fulbright Institute of International Education Student Research Scholarship **\$18,500**

2014 Fulbright Critical Language Enhancement Award **\$5,000**

2013 Center for Human Evolutionary Studies Small Grant **\$1,000**

2013 Graduate Student Conference Travel Award, Rutgers University **\$100**

2011 Graduate Student Conference Travel Award, Rutgers University **\$200**

## RELEVANT WORK HISTORY

### **Teaching Assistant**, Rutgers University, New Jersey 2009 – 2014, 2016-present

Tuanan Short Field Course, Earth Ecology Aim High Academy Field Course, Introduction to Human Evolution, General Biology, Foundations in Ecology and Evolution, Comparative Vertebrate Anatomy, Mammalian Physiology, Molecular Foundations.

### **Laboratory Manager**, Laboratory for Primate Dietary Ecology and Physiology, New Jersey 2012 – 2013

Validated assays. Ran training sessions with lab members. Organized data. Corresponded with vendors.

### **Surgical Veterinary Technician**, All Creatures Great and Small, New Jersey 2006 – 2009

Prepped and monitored patients. In charge of pre- and post-operative care. Assisted doctor in surgeries. Drew blood, developed radiographs, gave vaccinations, filled prescriptions. Assisted doctor in examination rooms.

### **Intern**, Center for Great Apes, Florida 2009

Worked with Chimpanzees (*Pan troglodytes*) and Orangutans (*Pongo pygmaeus*, *Pongo abelii*) rescued from entertainment industry or illegal pet trade. Participated in keeper responsibilities, emergency training, and clerical duties.

### **Research Assistant**, Six Flags Great Adventure, New Jersey 2008

Assisted an MSc candidate in Primate Conservation at Oxford Brookes University, England with thesis research in behavioral study to determine effects of positive reinforcement training without

## Graduate Program in Ecology and Evolution

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removing individuals from their social group.

## **TRAINING/MENTORSHIP**

2017- present, Laboratory for Primate Dietary Ecology and Physiology - Rutgers

Training one undergraduate student in data entry, statistical analyses, laboratory techniques and protocol, and colorimetric and enzyme-linked immunosorbant assays.

2016-2017 ARESTY Research Center, Division of Undergraduate Academic Affairs - Rutgers

Mentored one undergraduate student in laboratory techniques, colorimetric assays, and statistical analyses who correlated creatinine and urea concentrations in rehabilitated orangutans between different field preservation mediums (frozen urine vs. urine dried on filter paper).

2015 – 2017, Indonesian Student Counterparts and Assistants

Trained two undergraduate Indonesian student counterparts from Universitas Gadjah Mada in data and sample collection, wildlife biology/field methods, data entry, gastro-intestinal parasite identification, and laboratory techniques such as fecal flotation and sedimentation.

2013-2014, ARESTY Research Center, Division of Undergraduate Academic Affairs - Rutgers

Mentored one undergraduate student in laboratory techniques and colorimetric assays who investigated physiological effects orangutans employ under times of dietary stress.

2012-2013, ARESTY Research Center, Division of Undergraduate Academic Affairs - Rutgers

Mentored two undergraduates who compared the validity of urine storage field methods (frozen vs. filter papers) and investigated sample deterioration on filter paper over a six-month period.

## **OUTREACH**

2018, Polar ICE Sci-I Project (NSF funded)

Reviewed and provided feedback of research proposals written by 6<sup>th</sup>-9<sup>th</sup> grade students using real data collected by scientists in the public polar dataset. The goals of the program were to engage students in science, interact with local scientists, and create testable questions, analyze and represent provided data, and present findings. By providing feedback they could better formulate their research questions before presenting final products to Rutgers in June 2018.

2018, Science Café – Edison, New Jersey

Discussed climate change and international conservation opportunities with AP Biology students and faculty.

2017, John P. Stevens High School - Edison, New Jersey

Lectured Advance Placement general biology students in worldwide conservation efforts.

2017, STEM Community Outreach Symposium at Rutgers – New Jersey

Spoke with visiting high school students about non-medical science careers.

## **PROFESSIONAL MEMBERSHIPS**

Northeastern Evolutionary Primatologists

American Association of Physical Anthropologists

International Society of Wildlife Endocrinology

American Society of Primatologists

Sigma Delta Epsilon – Graduate Women in Science

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Center for Human and Evolutionary Studies

## PUBLICATIONS

**Ballare, Elizabeth F.** (2011): Aim High Academy: Summer Earth Ecology Program  
ARGIA: The News Journal of the Dragonfly Society of the Americas, 23:3, 25-29.

**Elizabeth F. Ballare** & Jessica L. Ware (2011): Dragons fly, biologists classify:  
an overview of molecular odonate studies, and our evolutionary understanding of dragonfly and  
damselfly (Insecta: Odonata) behavior, International Journal of Odonatology, 14:2, 137-147.

## INVITED GUEST LECTURES

Ballare, E.F. (2015). *Orangutan Reintroduction: Challenges and Opportunities*. Universitas Gadjah  
Mada. May 22, 2015. Yogyakarta, Indonesia.

Ballare, E.F. (2013). *Orangutan Conservation in Borneo: Nutritional Adaptations to Declining Forest  
Habitats*. Invited Guest Lecture. University of Florida, College of Medicine. January 14, 2013.  
Gainesville, FL.

## CONFERENCE PRESENTATIONS/POSTERS

Ballare, E. F., Jeffrey Brown, and Vogel, E.R. (2018). *Urea and C-peptide concentrations as a measure  
of protein balance and energetics in pre- and post-release Bornean orangutans (Pongo pygmaeus  
wurbii)*. Columbia Rutgers Princeton Penn Yale Graduate Student Symposium. April 18, 2018.  
New Brunswick, NJ.

Ballare, E.F., Jeffrey Brown, and Vogel, E.R. (2018). *Urea concentration as a measure of protein  
balance in pre- and post- release Bornean orangutans (Pongo pygmaeus wurbii)*. 87<sup>th</sup> Annual  
Meeting of the American Association of Physical Anthropologists Conference. April 11-14, 2018.  
Austin, TX.

Ballare, E.F. and Vogel E.R. (2017). *Stress in rehabilitated and released orangutan (Pongo pygmaeus  
wurbii) populations in Central Kalimantan, Indonesia*. 1<sup>st</sup> Annual STEM Community Outreach  
Symposium at Rutgers. November 10, 2017. New Brunswick, NJ.

Ballare, E.F. and Vogel, E.R. (2017). *Cortisol variation in rehabilitated and released orangutans (Pongo  
pygmaeus wurbii) in Central Kalimantan, Indonesia*. 3<sup>rd</sup> Annual Northeastern Evolutionary  
Primatologists Conference. November 27-28, 2017. Hartford, CT.

Ballare, E.F. and Vogel, E.R. (2017). *Urinary cytokine variation as indicator of immune function in  
rehabilitated Bornean orangutans (Pongo pygmaeus wurbii)*. Annual Rutgers Princeton Penn  
Columbia Graduate Student Symposium. May 7, 2017. New York, NY.

Ballare, E.F. and Vogel, E.R. (2017). *Comparison of Creatinine and Specific Gravity for Standardizing  
Urinary Urea in Rehabilitated Orangutans*. Mapping New Directions in International Research:  
Inaugural Graduate Student Symposium: The Centers for Global Advancement and International  
Affairs. April 18, 2017. New Brunswick, NJ.

Ballare E.F. (2016) *Physiological Health Effects of Rehabilitation and Release in Bornean Orangutans  
(Pongo pygmaeus wurbii)*. Nature Conservation Agency (BKSDA). August 1, 2016.  
Palangkaraya, Indonesia.

Ballare, E.F. (2015). *Health of Rehabilitated and Released Orangutans (Pongo pygmaeus wurbii)*.  
Fulbright Indonesia Research Seminar 2015: Society, Environment and Education. May 20 -21,  
2015. Yogyakarta, Indonesia.

Ballare, E.F. (2015) *Health of Rehabilitated and Released Orangutans (Pongo pygmaeus wurbii)*.  
Borneo Orangutan Survival Foundation. February 28, 2015. Palangkaraya, Indonesia.

Ballare, E.F., Knott, C., and Vogel, E.R. (2013). *Nitrogen Limitation in Bornean Orangutans in a Peat*

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*Swamp Habitat*. 82<sup>nd</sup> Annual Meeting of the American Association of Physical Anthropologists. April 9 -13, 2013. Knoxville, TN.

Ballare, E.F. (2013). *Protein Balance and Immuno-responsiveness in Rehabilitated and Released Orangutans (Pongo pygmaeus wurmbii)*. Ecology and Evolution Graduate Student Association Student Seminar Series. New Brunswick, NJ. September 20, 2013. New Brunswick, NJ.

Ballare, E.F. (2013). *Protein Balance, Immuno-responsiveness, and Gastrointestinal Parasites in Rehabilitated and Released Orangutans (Pongo pygmaeus wurmbii)*. Borneo Orangutan Survival Foundation. May 30, 2013. Palangkaraya, Indonesia.

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