Justin Yeager

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EDUCATION

Ph.D. (2009-2015)

Biological Sciences. Department of Ecology and Evolutionary Biology, Tulane University (TU), New Orleans, LA
Advisor: Dr. Corinne Richards-Zawacki
Thesis title: "Causes and Consequences of Warning Color Variation in a Polytypic Poison Frog*"*

Master of Science (2006-2009)

Biological Sciences. Department of Biology, East Carolina University (ECU), Greenville, NC
Advisor: Dr. Kyle Summers.
Thesis title: "The Evolution and Maintenance of Müllerian Mimicry in a Peruvian Poison Frog"

Bachelor of Science (2001-2005)

Wildlife Conservation, Department of Entomology and Applied Ecology, University of Delaware (UD), Newark DE

AWARDS

- Environmental Systems, Ecology and Evolution Post Doctoral Fellowship: University of California, Merced (2017)
- Margo F. Souza San Joaquin Valley Mentor of the Year: University of California, Merced (2017)
- Tulane Graduate Student Teaching Award (2014): $100
- Center for the study of Biodiversity in Amazonia (CEBA, 2014) PI: Brian Counterman, €20,000
- Petridish.org Crowd funding Project (2012): $5,000
- Graduate Student Travel Award (Tulane, 2013): $200
- Graduate Student Travel Award (Tulane, 2012): $250
- European Science Foundation: Frontiers of Speciation Research (2012): €1,500
- Smithsonian Tropical Research Institute (STRI) Short Term Fellowship (2011): $1,000
- Tulane Provost's Office Travel Grant (2010): $500
- Stone Center Field Research Grants (2010): $1,340
- Gerhard W. Kalmus graduate student academic accomplishment and service award (2008): $500

PUBLICATIONS

Peer Reviewed

Crothers L, Saporito R, **Yeager J**, Lynch K, Friesen C and Richards-Zawacki C. 2016. Warning signal brightness co-varies with toxicity but not testosterone or aggregate carotenoids in an exceptionally conspicuous poison frog. *Evolutionary Ecology*. 30: 601-621.

Yeager J. Dendrobatidae and *Bufo coniferus*. 2013. Defense. Herpetological Review. 44(3) pg. 494.

Dugas M, **Yeager J**, and Richards-Zawacki CL. 2013. Carotenoid supplementation enhances reproductive success in captive strawberry poison frogs (*Oophaga pumilio*). *Zoo Biology* 32: 655-658

Richards-Zawacki CL, **Yeager J**, Bart H*. 2013. No evidence for differential survival or predation between sympatric color morphs of an aposematic poison frog. *Evolutionary Ecology*. 27:783-795

Twomey E, **Yeager J**, Brown J, Morales V, Cummings M, and Summers K. 2013. Phenotypic and genetic divergence among poison frog populations in a mimetic radiation. *PLOS ONE* 8(2) e55443

Yeager J, Brown J, Morales V, Cummings M, and Summers K. 2012. Testing for Selection on Color and Pattern in a Mimetic Radiation. *Current Zoology* 58: 668-676

Marek, PE, Papaj, D, **Yeager J**, Moore, W, and S. Molina*. 2011. Experimental evidence for bioluminescence as an aposematic signal in millipedes. *Current Biology* 21(18), 680-681.

Schulte LM, **Yeager J**, Schulte R, Werner P, Beck LA and Lötters S. 2011. Choice of phytotelmata by means of chemical cues in a Peruvian poison frog (Dendrobatineae: *Ranitomeya variabilis*) *Animal Behaviour* 81, 1147-1154.

Yeager J, Wooten C, Summers K. 2011. A new technique for the production of clay models for field studies. *Herpetological Review* 42: 357-359

In Review / Preparation

Yeager J, Dugas M, Bart HPS*, Richards-Zawacki C. Low risk of predation associated with phenotypic diversity in an aposematic species. *In revision, Evolutionary Ecology*.

Van Belleghem SM, Shaak SG, **Yeager J**, Benson C, Rosser N, Ray DA, Noonan B, Papa R, Mallet J, Brooks CP, McMillan WO and Counterman BA. Admixture in hybrid zones drives origin and establishment of novel warning coloration in Heliconius butterflies. *Targeted Journal: Current Biology*

Yeager J, Brock K and Edwards DL. Visual signal evolution throughout the speciation continuum. *Targeted Joural: Ecology Letters*

Yeager J, Derryberry G, Blum M and Richards-Zawacki. Selection and admixture in a polytypic poison frog. *Targeted Journal: Molecular ecology.*

Yeager J, Donato E*, Dugas M and Richards-Zawacki C. Insights into the existence of polymorphism in aposematic prey from predator learning experiments. *Targeted Journal: Behavioral Ecology and Sociobiology*

Yeager J, McGraw K, Saporito R, Owens B, Giltz S and Richards-Zawacki C. Impacts of fine scale microhabitat variation to phenotypic traits under selection in incipient speciation. *In prep*.

* *Indicates undergraduate co-authors*

Book Contributions

Twomey, EM, Brown JL, **Yeager, J**. *2015*. *Excidobates captivus*. Species account in the book: Andean Poison Frogs. Conservation International.

Yeager, J and Kahn, T. *2015*. *Amereega silverstonei*. Species account in the book: Andean Poison Frogs. Conservation International.

Other

Yeager, J. The *Oophaga pumilio* of Escudo de Veraguas. 2009. *Leaf Litter Magazine*. Tree Walkers International. Vol. 3.1 pp. 54-58.

Yeager, J. Field Notes on Silverstone's Poison Frog. 2007. Leaf Litter Magazine. Tree Walkers International. Vol. 1.1 pp 1-4.

Yeager, J. *Epipedobates silverstonei*: Rode Rana Peruana van de Cordillera Azul. September, 2006. Dendrobatidae Nederland. Vol 18. Pp 6-10. (Reprint of above article in Dutch, including magazine cover photo)

Publications Featuring Work

"From the Brink of Extinction, Some Frogs Defy the Odds" Discover Blog: http://blogs.discovermagazine.com/crux/2014/11/04/from-brink-extinction-some-frogs-defy-odds. November 2014.

Millipede nocturnal aposematism, "Green Glow Helps Repel Nocturnal Predators" Tulane New Wave. October 2011.

Rediscovery of *Excidobates captivus*, "Peru's Tiny Gems" *National Geographic*, April 2007.

Rediscovery of *Atelopus varius* (Costa Rica), "Young UD scientist finds frog thought to be extinct" *UD Daily* (University of Delaware newsletter), July 2005.

TEACHING EXPERIENCE

Teaching Assistant (2009-2015): Tulane University

Diversity of life (Introductory biology lab, 4 semesters), Tropical Biology (1 semester) and Vertebrate Biology (1 semester).

Prepared lab introductions, led dissections, and prepared weekly quizzes, graded.

Teaching Assistant (2006-2009): East Carolina University

Introduction to Biology lab for majors (3 semesters), Field Zoology lab (1 semester), and Ecology lab (4 semesters).
Prepared Introduction to Biology and Ecology labs lectures (30-45 minutes) weekly, wrote quizzes/exams, and graded. Field zoology included oversight of student research projects. Also led multiple field trips for both Ecology and Field Zoology.

Substitute Teacher (2005): Hempfield Area School District, PA

Middle and High School: including Biology and Spanish.

Educational Outreach:

Film Assistant (2004, 2008): British Broadcasting Corporation (BBC)

Filming assistance on: *Life in Cold Blood* (2008), *The Journey of Life* (2004) and *The Amber Time Machine* (2004)

Film Assistant and Interviewed Scientist (2009): Animal Planet

Scientific Consultation for the CITES Amphibian Guide (2006): Environment Canada

INVITED SEMINARS

"The Evolution and Maintenance of Warning Coloration, Müllerian Mimicry and Color Pattern Polymorphism in Poison Frogs" Trier University, *Trier, Germany*. May 12, 2010.

"The Tale of a Poison Frog with Many Colors." Smithsonian Tropical Research Institute, *Isla Colon, Panama*. June 26, 2010 (presented in English and Spanish).

"Aposematism and Müllerian Mimicry: complex color pattern polymorphisms with a purpose." University of Arizona: *Tucson, Arizona*. November 5, 2010.

"Natural Selection pressures on the polymorphic poison frog, *Dendrobates pumilio*. Latin American Studies Department, Tulane University, *New Orleans, Louisiana*. November 13, 2010.

"Hope for Frogs in an Era of Mass Extinction." Multispecies Salon, *New Orleans, Louisiana*. November 15, 2010.

"Amphibian Conservation: Preventing the Last Croak" University of New Orleans, *New Orleans, Louisiana*. March 31, 2011.

"Colorful frogs with a powerful message." Smithsonian Tropical Research Institute, *Isla Colon, Panama*. July 2, 2012 (presented in Spanish).

"Habitat conservation and the role of habitat in amphibian communication." Penn State University CHANCES (Connecting Humans and Nature through Conservation Experiences) program, *Isla Colon, Panama*. July 12, 2012.

"Multiple anti-predatory strategies in a polymorphic population of poison frog." International Behavioral Ecology Congress (ISBE), *Lund, Sweden*. August 19, 2012.

"Investigating anti-predatory strategies of polymorphic poison frogs." University of Jyvaskyla: *Jyvaskyla, Finland*. August 21, 2012.

"From crypsis to aposematism: anti-predatory strategies of polymorphic poison frogs." Frogtober Fest keynote speaker: *Turner Falls, Massachusetts*. October 20, 2012.

"When Colors Bleed: Measuring the Influence of Selection Pressures on Population Boundaries." University of Mississippi: *Oxford, Mississippi*. March 1, 2013.

"The Influence of Natural Selection in Reinforcing Boundaries Between Adjacent Poison Frog Populations." Mississippi State University: *Starkville, Mississippi*. November 1, 2013.

SERVICE

• Reviewer: Journal of Animal Ecology, Biological Journal of the Linnean Society, Scientific Repors, Naturwissenschaften, Evolutionary Ecology and Zoo Biology.

• INIBICO (World Bank funded) sustainable project in Tarapoto, Peru (2006).

•Tree Walkers International amphibian conservation group: Executive Committee member (2004-2007)

•Created and directed educational conservation documentary "Operation Ecuadorian Atelopus" (2005)

•Taught Panamanian elementary school students on biodiversity, poison frogs, and conservation (2010-2012)
•Science fair judge: North Carolina Regional Science Olympiad (2008), North Carolina Student Academy of Science (2009), Louisiana Regional Science Fair judge (2012),

SOCIETIES

• Society for the Study of Evolution (SSE)
• ECU Biology Graduate Student Association
• Tulane Ecology and Evolutionary Biology Graduate Student Association

- Tree Walkers International