

COREY E. TARWATER

University of British Columbia, Vancouver • Department of Forest and Conservation Sciences
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EDUCATION

- 2010 Ph.D. University of Illinois, Urbana-Champaign
Ecology, Evolution, and Conservation Biology, advisor: Jeff Brawn
- 2006 M.S. University of Illinois, Urbana-Champaign
Natural Resources and Environmental Sciences, advisor: Jeff Brawn
- 1999 B.S. University of California, Davis
Wildlife, Fish, and Conservation Biology, emphasis Wildlife Biology

POSITIONS HELD

- 2013-present Postdoctoral Scholar, University of British Columbia, Vancouver
Forest and Conservation Sciences, sponsor: Peter Arcese
- 2013-present Research Associate, Migratory Bird Center, Smithsonian Conservation Biology Institute
- 2012-present Senior Research Fellow, Center for Tropical Research, University of California,
Los Angeles
- 2010-2012 Postdoctoral Scholar, University of California, Berkeley
Environmental Science, Policy & Management, sponsor: Steve Beissinger

PEER-REVIEWED PUBLICATIONS

- 2013 **Tarwater, C.E.**, J.D. Brawn, and J.D. Maddox. Low extra-pair paternity in a tropical bird despite ample opportunities for extra-pair mating. *Auk* 130: 733-741.
- 2013 **Tarwater, C.E.** and S.R. Beissinger. Opposing selection and environmental conditions modify the optimal time to breed. *Proceedings of the National Academy of Sciences* 110: 15365-15370.
Article recommended on **Faculty of 1000** (Post E: F1000Prime
Recommendation 2013, doi: <http://f1000.com/prime/718098640#eval793484141>)
- 2012 **Tarwater, C.E.** The influence of phenotypic and social traits on dispersal in a family living, tropical bird. *Behavioral Ecology* 23: 1242-1249.
- 2012 **Tarwater, C.E.** and S.R. Beissinger. Dispersal polymorphisms from natal phenotype-environmental interactions have carry-over effects on lifetime reproductive success of a tropical parrot. *Ecology Letters* 15:1218-1229.
- 2011 **Tarwater, C. E.**, R.E. Ricklefs, J.D. Maddox, and J.D. Brawn. Pre-reproductive survival in a tropical bird and its implications for avian life histories. *Ecology* 92:1271-1281.
- 2011 Brawn J.D., G. Angehr, N. Davros, W.D. Robinson, J. Styrsky, and **C.E. Tarwater**. Sources of variation in the nesting success of understory tropical birds. *Journal of Avian Biology* 42: 61-68.

- 2010 **Tarwater C.E.**, and J.D. Brawn. The post-fledging period in a tropical bird: patterns of parental care and survival. *Journal of Avian Biology* 41:479-487.
- 2010 **Tarwater C.E.**, and J.D. Brawn. Family living in a Neotropical bird: variation in timing of dispersal and higher survival for delayed dispersers. *Animal Behaviour* 80:535-542.
- 2010 W.D. Robinson, M. Hau, K.C. Klasing, M. Wikelski, J.D. Brawn, S.H. Austin, **C.E. Tarwater**, and R. E. Ricklefs. Diversification of life histories in New World birds. *Auk* 127:253-262.
- 2009 **Tarwater C.E.**, J.P. Kelley, and J.D. Brawn. Parental response to elevated begging in a high predation, tropical environment. *Animal Behaviour* 78:1239-1245.
- 2008 **Tarwater C.E.**, and J.D. Brawn. Patterns of brood division and an absence of behavioral plasticity in a neotropical passerine. *Behavioral Ecology and Sociobiology* 62:1441-1452.
- 2008 **Tarwater C.E.** Predators at nests of the Western Slaty Antshrike. *Wilson Journal of Ornithology* 120:620-624.

OTHER SCIENTIFIC CONTRIBUTIONS

- 2010 **Tarwater, C.E.**, and J.P. Kelley. Western Slaty-Antshrike (*Thamnophilus atrinucha*), Neotropical Birds Online (T.S. Schulenberg, Editor). Ithaca: Cornell Lab of Ornithology; retrieved from Neotropical Birds Online: http://neotropical.birds.cornell.edu/portal/species/overview?p_p_spp=369186

RESEARCH GRANTS - FUNDED

- 2014-2018 Strategic Environmental Research and Development Program, Department of Defense (\$2.4 million over 4 years)
 Co-PI on grant with Drs. Jeff Foster (Northern Arizona Univ.), Brett Dickson (Conserv. Science Partners), Don Drake (Univ. Hawaii), Patrick Kelley (Univ. British Columbia), Dick Gebhard (US Army ERDC-CERL), and Jinelle Sperry (US Army ERDC-CERL).
 "Seed dispersal networks and novel ecosystem functioning in Hawaii"
- 2008 Clark Summer Research Grant, UIUC (\$3000)
- 2007 Ernst Mayr Fellowship, Smithsonian Tropical Research Institute (\$3880)
- 2007 Animal Behavior Society Student Research Grant (\$1000)
- 2007 Joseph Grinnell Student Research Award, Cooper Ornithological Society (\$1000)
- 2007 Louis Agassiz Fuertes Award, Wilson Journal of Ornithology (\$2500)
- 2007, 2006 PEEC Summer Research Grant (2 awarded), UIUC (\$2000)

RESEARCH GRANTS - IN REVIEW (pre-proposals accepted, full proposals in review)

- National Geographic (\$20,000 for 1 year)
 PI on grant with Dr. Patrick Kelley (Univ. British Columbia).

“How environmental and anthropogenic gradients influence demography and selection and predictions for future climate change and fragmentation”

AWARDS AND FELLOWSHIPS

2013 Ned K. Johnson Young Investigator Award, American Ornithologists' Union

2011-13, 08 Conference travel grants (4 awarded), American Ornithologists' Union (\$1700)

2009-2010 Scott Dissertation Completion Fellowship, UIUC (\$20,000)

2009, 2006 Incomplete List of Teachers Ranked as Excellent by their Students (2 awarded), UIUC

2009, 06, 05 Graduate College Conference Travel Grants (3 awarded), UIUC (\$1050)

2006 Best Student Presentation, North American Ornithologists' Conference (\$300)

2006 PEEC Conference Travel Grants (2 awarded), UIUC (\$300)

2002-2004 Jonathan Baldwin Turner Fellowship (for M.S.), UIUC (\$15,000/year)

1999 Graduated Highest Honors, University of California, Davis

TEACHING EXPERIENCE

Co-teacher and Co-developer, University of California, Berkeley
2012, 2011 Linear and nonlinear mixed modeling workshop

Graduate Teaching Assistant, University of Illinois, Urbana-Champaign (UIUC)

2009 Organismal and Evolutionary Biology

2006 Ecology

2003 Environmental Science

Undergraduate Teaching Assistant, University of California, Davis

1999 Biology and Conservation of Wild Birds

1996 Introduction to Biology (Organismal)

OUTREACH, MENTORING, AND CONTRIBUTING TO DIVERSITY

2013-present Mentor for 2 undergraduate students at Univ. British Columbia

2010-present Mentor for undergraduate student, May Gamboa, at UC Berkeley

2009-present Ph.D. co-advisor for previous field assistant from Panama, Chelina Batista, at University of Barcelona, Spain

2010 Contributed to the Association for the Study of Animal Behavior Education Newsletter

2009 Co-developed Panama field course for Michigan State University undergraduates

2009 Co-developed field course for high school class in Panama City, Panama

2008 Lecture to classes in South Lake Tahoe Unified School District, CA

- 2005-2007 Master's advisor for previous field assistant from Panama, Chelina Batista, at University of Panama
- 2003-2008 ~ 25 research assistants, including ~ 16 females, 5 long-term female Panamanian assistants, and assistants from 6 different countries

INVITED PRESENTATIONS

- 2013 Pacific Wildlife Research Centre, Canadian Wildlife Services, Delta, BC, Canada
- 2013 Invited to present at Tropical Understory Insectivore Symposium. Joint meeting of Cooper Ornithological Society and American Ornithologists' Union, Chicago, IL.
- 2012 Center for Tropical Research Seminar Series. University of California, Los Angeles, Los Angeles, CA.
- 2012 Tupper Seminar. Smithsonian Tropical Research Institute, Panama City, Panama.
- 2011 Colloquium in Ecology, Evolution, and Conservation. San Francisco State University, San Francisco, CA.
- 2009 Center for Tropical Research Seminar Series. University of California, Los Angeles, Los Angeles, CA.
- 2008 Invited to present at Avian Dispersal Symposium. Joint meeting of Cooper Ornithological Society, American Ornithologists' Union, and Society of Canadian Ornithologists, Portland, OR.
- 2007 Symposium for research fellows. Smithsonian Tropical Research Institute, Panama City, Panama.
- 2006 Research symposium. Smithsonian Tropical Research Institute, Panama City, Panama.
- 2006 Invited to present at Constraints on the Evolutionary Diversification of the Life Histories of Temperate and Tropical Birds Symposium. North American Ornithologists' Conference, Veracruz, Mexico.

ORAL PRESENTATIONS AT PROFESSIONAL MEETINGS

- 2013 **Tarwater, C.E.**, and P. Arcese. Not all types of individuals experience trade-offs or the same type of cost: the role of individual heterogeneity in costs of reproduction. Joint meeting of Cooper Ornithological Society and American Ornithologists' Union, Chicago, IL.
- 2012 **Tarwater, C.E.**, and S.R. Beissinger. Selection on onset of breeding using a 22 year study of a tropical parrot. North American Ornithologists' Union Conference, Vancouver, Canada.
- 2011 **Tarwater, C.E.** The influence of phenotypic traits and sibling resemblance in variation in dispersal distance in a neotropical bird. American Ornithologists' Union Conference, Jacksonville, FL.
- 2011 Kelley, J.P., and **C.E. Tarwater**. Western Slaty Antshrike shows the first evidence of continuous, age-related song morphology. American Ornithologists' Union Conference, Jacksonville, FL.

- 2010 **Tarwater C.E.**, and J.D. Brawn. Pre-reproductive survival and the factors influencing survival in a tropical passerine bird. Joint meeting of Cooper Ornithological Society, American Ornithologists' Union, and Society of Canadian Ornithologists, San Diego, CA.
- 2009 **Tarwater C.E.**, and J.D. Brawn. High juvenile survival and delayed age at maturity in a tropical bird. American Ornithologists' Union Conference, Philadelphia, PA.
- 2009 Kelley, J.P., **C.E. Tarwater**, and J.D. Brawn. A performance for the ages: implications of age-related changes in a song structure in a suboscine bird, the Western Slaty Antshrike. American Ornithologists' Union Conference, Philadelphia, PA.

HOME INSTITUTION PRESENTATIONS

- 2012 Museum of Vertebrate Zoology Seminar Series. University of California, Berkeley, CA.
- 2011 Wildlife and Conservation Seminar Series. University of California, Berkeley, CA.
- 2010 Program in Ecology, Evolution, and Conservation Biology Department Seminar, University of Illinois, Urbana, IL.
- 2006 University of Illinois Graduate Student Symposium, University of Illinois, Urbana, IL.
- 2005 Program in Ecology, Evolution, and Conservation Biology Seminar Series, University of Illinois, Urbana, IL.
- 2004 Department of Natural Resources and Environmental Sciences Graduate Student Symposium, University of Illinois, Urbana, IL.

RESEARCH EXPERIENCE

- 2013-present **Postdoctoral Research**, University of British Columbia, Vancouver, Canada
Influence of individual heterogeneity and environmental conditions on life history trade-offs, life history tactics and maximization of fitness and population growth using a 37-year study of a pedigreed population of song sparrows.
- 2010-2012 **Postdoctoral Research**, University of California, Berkeley, CA
Natal dispersal strategies, selection on reproductive traits, and the influence of rainfall on ecological-evolutionary dynamics using a 22-year study of tropical parrotlets.
- 2006-2010 **Doctoral Dissertation Research**, University of Illinois, Urbana-Champaign, IL
The pre-reproductive period in a tropical bird: parental care, dispersal, survival, and avian life histories.
- 2002-2006 **Master's Thesis Research**, University of Illinois, Urbana-Champaign, IL
Brood division and inflexible behavior in a neotropical passerine: the western slaty antshrike (*Thamnophilus atrinucha*).
- 2001-2002 **Wildlife Research Technician**, U.S. Geological Survey, Vallejo, CA
The impact of heavy metals on waterfowl and migratory behaviors in shorebirds.
- 2001 **Project Leader**, Sloat Biological Consulting, Fall River, CA
Location and breeding of the declining northern goshawk in the Sierra Nevadas in consultation with U.S. Forest Service.

- 2001 **Faculty Research Assistant**, Oregon Cooperative Fish and Wildlife Research Unit, OR
Effects of dams on cortisol levels and migratory behavior of Chinook salmon and steelhead on the Columbia River.
- 1997-1999 **Research Assistant**, University of California, Davis, CA
Various conservation-oriented projects on waterfowl, mountain lions, and small mammals in California in collaboration with faculty, including John Eadie and Doug Kelt.

PROFESSIONAL SERVICE

Invited Reviewer for: American Naturalist, Animal Behaviour, Auk, Behavioral Ecology, Behavioral Ecology and Sociobiology, Biodiversity and Conservation, Ecology, Ethology, Emu, Journal of Avian Biology, Ibis, Oecologia, Wilson Journal of Ornithology

Service: Co-coordinator for seminar series at UC Berkeley 2012, Session chair for symposiums at North American Ornithologists' Union (2012) and American Ornithologists' Union (2011) conferences, Judge for student presentations at American Ornithologists' Union conferences in 2011 and 2012, Student representative on entrance committee for PEEC, Judge for graduate student symposium in 2009

Membership in professional societies: American Ornithologists' Union, Animal Behavior Society, Ecological Society of America, American Association of University Women, Society for Advancement of Chicanos and Native Americans in Science

REFERENCES

Dr. Peter Arcese, Professor, Department of Forest and Conservation Sciences, University of British Columbia, Vancouver 3607-2424 Main Mall, Vancouver, BC V6T 1Z4, Canada, Phone: (604) 822-1886, e-mail: peter.arcese@ubc.ca

Dr. Steven R. Beissinger, Professor, Department of Environmental Science, Policy & Management, University of California, Berkeley, 130 Mulford Hall, Berkeley, CA 94720, Phone: (510) 643-3038, e-mail: beis@berkeley.edu

Dr. Jeffrey D. Brawn, Professor and Head, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana-Champaign, W-503 Turner Hall, 1102 Goodwin Ave. Urbana IL 61801, Phone: (217) 244-5937 or (217) 333-2770, e-mail: jbrawn@illinois.edu

Dr. Robert E. Ricklefs, Curators' Professor of Biology, Department of Biology, University of Missouri, St. Louis, 8001 Natural Bridge Rd, St. Louis, MO 63121-4499, Phone: (314) 516-5101, e-mail: ricklefs@umsl.edu