

DAVID A. LUTHER
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EDUCATION

DOCTOR OF PHILOSOPHY, May 2008

Curriculum in Ecology

University of North Carolina at Chapel Hill

Emphases: Animal Behavior, Ecology and Evolution, and Conservation Biology

Graduate Certificate: Latin American and Caribbean Studies

Dissertation: The acoustic community and the evolution of communication.

An interdisciplinary study of animal communication, behavioral ecology, and community ecology that investigates partitioning of acoustic signals used for species recognition, mate choice, and territory defense.

BACHELOR OF SCIENCE, 1995

University of Oregon

Major: Biology

Study Abroad: One year of courses at Curtin University, Perth, Australia

RESEARCH EXPERIENCE

Postdoctoral Research Associate, University of Maryland, College Park, MD

Co-manage a collaborative project to develop recovery goals and objectives for federally listed threatened and endangered species. Research, organize, and analyze life history, threat, and distribution data for numerous endangered species. Work closely with US Fish and Wildlife Service to maximize applicability of project to the conservation needs of threatened and endangered species. Coordinate and advise undergraduate and graduate research assistants. Will teach an undergraduate course in Conservation Biology in Spring 2009. 2008 – Present.

Research Associate, Smithsonian Migratory Bird Center, Washington, D.C.

Lead research project examining the ecology, evolution, and conservation status of terrestrial vertebrate species endemic to mangroves. Synthesized existing research and designed a research protocol to assess the ecological and evolutionary adaptations of avian species restricted to mangroves. Secured funding to implement this protocol in Summer 2009 in Panama. Advise undergraduate and graduate student research projects. Prepare manuscripts for publication. 2007 – Present.

Postdoctoral Fellow in Ecoinformatics, University of Puerto Rico, San Juan, PR

Co-directed ecological component of interdisciplinary NSF-funded Automated Remote Biodiversity Monitoring Network project to automatically detect and identify bird and amphibian species based on sound. Determined key ecological questions to consider, designed research projects, and instructed undergraduate and graduate students in fieldwork protocols. Advised undergraduate and graduate student research projects. February – September 2008.

Crew Leader and Project Administrator, The Nature Conservancy, San Francisco, CA

Managed all aspects of research project, *Mountain Meadows of the Northern Sierra Nevada: Effects of Meadow Attributes on Bird Diversity*. Taught and supervised 4-person crew in research protocols, including avian and vegetation point count, habitat assessment, and mistnetting methods. Conducted data analysis and performed literature review. 2002.

Research Assistant, California Academy of Sciences, Department of Ornithology and Mammology, San Francisco, CA

Conducted scientific field studies of the various song dialects of White-crowned Sparrows in the Presidio region of San Francisco, under the guidance of Dr. Luis Baptista. Identified White-crowned Sparrows by vocalization, recorded dialects in the field, and analyzed data to document the distinction between dialects. 1998 – 2002.

**TEACHING
EXPERIENCE**

Graduate Seminar Instructor, University of North Carolina, Chapel Hill, NC

Co-designed courses, prepared syllabi, and co-taught courses. Prepared and presented lecture material, led review sessions, and assigned reading material.

Rare species conservation in complex landscapes: Interdisciplinary course focusing on management for, reintroduction of, and attitudes toward rare species, with a particular focus on integrating rare species management into ecosystem conservation planning.

Mammalian and avian biogeography and origins of diversity: Emphasis on global distributions of birds and mammals and the major causes of speciation in each taxa.

Landscapes of culture and communication: Case studies from the Americas: Focus on the origins of communication and factors that create diversification in languages and species.

Teaching Assistant, University of North Carolina, Chapel Hill, NC

Taught weekly laboratory courses investigating fundamental concepts in the fields of animal behavior, avian biology, and vertebrate field zoology. Instructed students to use standardized research techniques through classroom and field exercises. Led multi-day field trips, designed quizzes, and graded laboratory reports.

Animal Behavior: Focus on field exercises to convey the ecological and evolutionary underpinnings of animal behavior.

Avian Biology: Emphasis on the ecological, behavioral, and evolutionary adaptations of birds.

Vertebrate Field Zoology: Centered on field studies of evolution, ecology, animal behavior, and conservation with a focus on terrestrial vertebrates.

Guest Lecturer, University of North Carolina, Chapel Hill, NC

Courses: Conservation Biology, Vertebrate Field Zoology, and Species Diversity Seminar

Delivered lectures at the request of faculty in the Biology Department. Lesson topics ranged from animal behavior to rare species conservation to predictions of species richness. LECTURED classes of 15 – 60 students.

**PROFESSIONAL
EXPERIENCE**

Resource Conservationist and Watershed Coordinator, Southern Sonoma County Resource Conservation District, Petaluma, CA

Developed and conducted baseline studies of riparian communities and at-risk species.

Identified potential riparian restoration and erosion control projects, designed streambed and riparian enhancement applications, and maintained and monitored existing projects.

Wrote and managed over \$2,000,000 in grants, developed project budgets, and reported to funders. Designed and taught multi-week conservation planning courses for agricultural producers. 1998 – 2002.

Naturalist Guide, Sacha Lodge, Ecuador

Guided groups of 5-12 tourists each week through the upper Amazonian rainforest. Taught guests about the flora and fauna of the region. Led specialized tours for advanced bird watchers. Collaborated with indigenous guides to identify and explain native ethnobotanical uses of upper Amazonian flora. Translated for Spanish-speaking guides and English-speaking clients. 1996 – 1997.

- SELECTED PROFESSIONAL PRESENTATIONS** *Assessment of the mangrove avifauna and the ecological correlates of endemism in mangrove habitat.* Invited to speak at the Universidad Tecnológica de Panamá by the National Secretary of Science, Technology and Innovation, Government of Panama. Panama City, Panama. November 2008.
- A global perspective on the evolution and conservation of terrestrial vertebrate species in mangroves.* Paper presented at the Society for Conservation Biology Annual Meeting, Chattanooga, TN. 2008.
- Temporal acoustic partitioning in a tropical avian community.* Paper presented at the Animal Behavior Society Annual Meeting, Burlington, VT. 2007.
- The acoustic community and the evolution of communication.* Paper presented at the Brazilian National Institute of Amazonian Research, Manaus, Brazil. 2006. Presentation conducted in Portuguese.
- Do birds partition acoustic niches?* Paper presented at the Ecological Society of America Annual Meeting, Memphis, TN. 2006.
- New acoustic census technique to improve surveys of tropical forest birds.* Poster presented at the Society for Conservation Biology Annual Meeting, Brasilia, Brazil. 2005.
- Implementing best management practices in vineyards to control sediment erosion.* Paper presented at the California State Water Quality Control Board Annual Conference on Non-Point Source Pollution, Sacramento, CA. 2001.
- Restoration of agricultural areas.* Tour and presentation organized for the Society for Ecological Restoration Conference Annual Meeting, San Francisco, CA. 1999.
- PUBLICATIONS** Luther, D.A. et al. 2008. Assessing the impact of local habitat variables and landscape context on riparian birds in agricultural, urbanized, and native landscapes. *Biodiversity and Conservation*. 17:1923-1935.
- Luther, D.A. 2008. Signaler-receiver coordination and the timing of communication in Amazonian birds. *Biology Letters* 4:651-654.
- Luther, D.A. and R. Greenberg 2008. A global perspective on the evolution and conservation of terrestrial vertebrate species in mangroves. Under review *BioScience*.
- Luther, D.A. and R.H. Wiley 2008. The evolution of communication: a comparison of production and perception in songs of Neotropical birds. Under review *Biology Letters*.
- Luther, D.A. 2008. The acoustic community and its influence on signal evolution: bird song in the Neotropics. Under review *Behavioral Ecology*.
- Luther, D.A. et al. 2008. Reproductive character displacement in the advertisement call of *Eleutherodactylus coqui*, a tropical frog species. Under review *Animal Behaviour*.
- RESEARCH GRANTS AND FELLOWSHIPS** UNC Graduate School Dissertation Completion Fellowship, for tuition and stipend, 2007
 ILAS Mellon Conference Travel Award, for conference presentation, 2007
 Explorers Club Exploration Fund, for dissertation research, 2006
 ILAS Mellon Dissertation Fellowship, for dissertation research, 2006
 UNC Graduate School Smith Graduate Research Grant, for dissertation research, 2005
 Mellon Foundation Graduate Student Travel Award, for conference presentation, 2005
 UNC Graduate School Transportation Grant, for conference presentation, 2005
 Tinker Foundation Summer Field Research Travel Grant, for dissertation research, 2004
 US Department of Education Foreign Language and Area Studies Fellowship (Portuguese), for tuition and stipend, 2003 – 2004 and 2004 – 2005
- PROFESSIONAL ACTIVITIES AND SERVICE** Selected participant for NSF-funded workshop, *Cyberinfrastructure for international collaborative biodiversity and ecological informatics*, by the Pan-American Advanced Studies Institute. The two-week workshop emphasized the development and application of network-based cyberinfrastructure tools for environmental research collaboration. June 2008.
- Committee Member, Smithsonian Ornithological Council. Review and select graduate-level research projects for Smithsonian ornithological grants. Co-organize biannual Smithsonian Ornithology Research Exchange. Assist with fundraising.
- Science Advisor, Natural Partners. Provide scientific review and oversight for the non-profit organization's funded conservation projects in Brazil and Mexico.

Departmental Representative, Graduate and Professional Student Federation, University of North Carolina at Chapel Hill.
Committee Member, Ecology Curriculum Seminar Committee, University of North Carolina at Chapel Hill.

SKILLS

Languages: Highly proficient in Portuguese and Spanish.
Software: Skilled in the use of Splus, R, JMP, and Microsoft Office.

MEMBERSHIPS

Society for Conservation Biology
Society of Animal Behavior
Ecological Society of America
American Ornithological Union
Neotropical Ornithological Society