

Daniel Hooper

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EDUCATION

Cornell Lab of Ornithology
Edward W. Rose Postdoctoral Fellow

Ithaca, NY
2017 – Present

The University of Chicago
PhD Candidate, Committee on Evolutionary Biology
Advisor: Trevor D. Price
Dissertation: Chromosome inversions and their role in avian adaptation and speciation

Chicago, IL
2011 - 2017

The University of Chicago
MS, Committee on Evolutionary Biology

Chicago, IL
2011 - 2014

The University of California, Davis
B.S. Evolution, Ecology, and Biodiversity; *Cum Laude*
Department of Evolution and Ecology **Outstanding Graduating Senior**

Davis, CA
2006 - 2009
2010

PEER-REVIEWED PUBLICATIONS

Daniel M. Hooper and Trevor D. Price. Chromosomal inversion differences correlate with range overlap in passerine birds. 2017. *Nature Ecology & Evolution*.

Simon C. Griffith and **Daniel M. Hooper**. Geographical variation in bill colour in the Long-tailed Finch: evidence for a narrow zone of admixture between sub-species. 2017. *Emu – Austral Ornithology* 117.

V.V. Robin, C.K. Vishnudas, Pooja Gupta, Frank Rheindt, **Daniel M. Hooper**, Uma Ramakrishnan, and Sushma Reddy. Two new genera of songbirds represent endemic radiations from the Shola Sky Islands of the Western Ghats, India. 2017. *BMC Evolutionary Biology* 17: 31.

Daniel M. Hooper, Urban Olsson, and Per Alström. The rusty-tailed flycatcher (*Muscicapa ruficauda*; Aves: Muscicapidae) is a member of the genus *Ficedula*. 2016. *Molecular Phylogenetic & Evolution* 102: 56-61.

Trevor D. Price and **Daniel M. Hooper**. The potential role of parapatric and allopatric divergence in Junco speciation. 2016. *Snowbird: Integrative Biology and Evolutionary Diversity in the Junco* (Ellen D. Ketterson and Jonathan W. Atwell, eds.), 199-221. University of Chicago Press.

David P.L. Toews, Leonardo Campagna, Scott A. Taylor, Christopher N. Balakrishnan, Daniel T. Baldassarre, Petra E. Deane-Core, Michael G. Harvey, **Daniel M. Hooper**, Darren E. Irwin, Caroline D. Judy, Nicholas A. Mason, John E. McCormack, Kevin G. McCracken, Carl H. Oliveros, Rebecca J. Saffran, Elizabeth S. Scordato, Katherine F. Stryjewski, Anna Tigano, Albert Uy, and Benjamin M. Winger. Genomic approaches to understanding population divergence and speciation in birds. 2016. *The Auk* 133: 13-30.

- Sonal Singhal, Ellen M. Leffler, Keerthi Sannareddy, Isaac Turner, Olivia Venn, **Daniel M. Hooper**, Alva I. Strand, Qiye Li, Brian Raney, Christopher N. Balakrishnan, Simon C. Griffith, Gil McVean, and Molly Przeworski. Stable recombination hotspots in birds. 2015. *Science* 350: 928-932.
- Daniel M. Hooper** and Trevor D. Price. Rates of karyotypic evolution in Estrildid finches differ between island and continental clades. 2015. *Evolution* 69: 890-903.
- Trevor D. Price, **Daniel M. Hooper**, Caitlyn D. Buchanan, Ulf S. Johansson, Per Alström, Urban Olsson, Mousumi Ghosh-Harihar, Jochen E. Martens, Bettina Harr, Pratap Singh and Dhananjai Mohan. Niche filling slows the accumulation of Himalayan songbirds. 2014. *Nature* 509: 22-225.
- Per Alström, **Daniel M. Hooper**, Yang Liu, Urban Olsson, Dhananjai Mohan, Magnus Gelang, Le Manh Hung, Jian Zhao, Fumin Lei, and Trevor D. Price. Discovery of a relict lineage of passerine bird in a monotypic family. 2014. *Biology Letters* 10: 20131067.
- Jonathan D. Kennedy, Jason T. Weir, **Daniel M. Hooper**, D. Thomas Tietze, Jochen Martens, and Trevor D. Price. Ecological limits on diversification of the Himalayan Core Corvoidea. 2012. *Evolution* 66: 2599-2613.
- Trevor D. Price, Dhananjai Mohan, D. Thomas Tietze, **Daniel M. Hooper**, C. David L. Orme, and Pamela C. Rasmussen. Determinants of northerly range limits along the Himalayan bird diversity gradient. 2011. *The American Naturalist* 178: 97-108.

Papers currently in review or preparation:

- Per Alström, **Daniel M. Hooper**, Urban Olsson, Fumin Lei, Trevor D. Price, and Isabel Sanmartin. Phylogenetic and spatial history of the avian ‘supertramp’ family Turdidae. *In Review – Journal of Biogeography*.

NATIONAL HONORS & AWARDS

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| Cornell Lab of Ornithology Edward W. Rose Postdoctoral Fellowship | 2017 |
| National Science Foundation Graduate Research Fellowship Program (GRFP) | 2011 |

RESEARCH FUNDING

- Trevor D. Price and **Daniel M. Hooper**. National Science Foundation Doctoral Dissertation Improvement Grant. “Chromosome inversions and reproductive isolation in an avian hybrid zone.” 2016, \$19,693.
- Daniel M. Hooper**. National Geographic Society Young Explorer’s Grant. “The Genomics of Reproductive Isolation in an Avian Hybrid Zone: Chromosomal rearrangements and the long-tailed finch (*Poephila acuticauda* sp.)” 2013; \$5000.
- Daniel M. Hooper**. University of Chicago Hinds Fund “Comparative genomic analyses of chromosomal rearrangements in avian evolution: rate variation across the Estrildid finches (*Estrildidae*).” 2013, \$1000.
- Daniel M. Hooper**. American Ornithologists’ Union Hesse Student Research Award “Chromosomal inversions and the incipient speciation of juncos (genus *Junco*).” 2012, \$2500.
- Daniel M. Hooper**. University of Chicago Hinds Fund “The role of chromosomal inversions in the incipient speciation of Juncos.” 2011, \$2000.

PRESENTATIONS

Range overlap drives chromosome inversion fixation in passerines. Talk delivered at Evolution, Austin, TX. June 2016.

Chromosome inversions and avian speciation: The Estrildid finches – and beyond. Talk delivered at Commonwealth Scientific and Industrial Research Organization (CSIRO): Finch Summit, Canberra, ACT, Australia. October 2015

Chromosome inversions in Estrildid finches. Talk delivered at American Ornithologists' Union and Cooper Ornithological Society, Estes Park, CO. September 2014.

Chromosomal inversions and avian speciation. Talk delivered at Evolution, Raleigh, NC. June 2014

RESEARCH EXPERIENCE

University of Chicago: PhD Candidate, Committee on Evolutionary Biology Chicago, IL
Advisor: Trevor D. Price

Chromosome inversions and their role in avian adaptation and speciation

- Chapters 1 and 2: What is the role of chromosome inversions in speciation and local adaptation? What factors drive the differential rates at which structural variants accumulate across taxa?
- Chapter 3: Comparative genomic assessment of the role of gene flow during speciation to chromosome inversion evolution within a clade of finch species where cytological evidence suggests a dynamic pace of structural evolution
- Chapter 4: I examined the strength and targets of selection in an avian hybrid zone between subspecies of the long-tailed finch where inversions appear likely to be involved in their incipient reproductive isolation.

University of Chicago: Research Assistant Chicago, IL
Advisor: Trevor D. Price Summer 2008, 2010

- Why do more species occur in some areas than others? The avian biodiversity gradient along the Himalayas provides a powerful natural system to examine this issue. I led laboratory based sequencing efforts and constructed a time-calibrated phylogeny for the majority of the ~600 species of birds in the Himalayan region in order to assess support for competing ecological and historical answers to this question.

University of California, Davis: Research Assistant Davis, CA
Advisor: Richard Grosberg 2007 - 2010

- How do differences in the population structure of competing species of African acacia-ants within the genus *Crematogaster* facilitate their coexistence at fine spatial scales? I learned landscape genetics in order to examine inter- and intraspecific variation in colony composition.

University of California, Davis: Research Assistant Davis, CA

Advisor: Terrance Ord

2007

- How do territorial species modulate their responses to territorial challenges from a) known versus unknown intruders and b) under variable environmental conditions? I assisted with data collection in the field and analyses in the lab towards the investigation of complex display behavior amongst Caribbean *Anolis* lizards.

TEACHING EXPERIENCE

University of California, Davis: Calculus 17a,b,c (Tutor)	2007-2008
University of California, Davis: Physic 7b (Tutor)	2008
University of California, Davis: New Tutor Instructor	Spring 2008
University of Chicago: Environmental Ecology (TA)	Winter 2014
University of Chicago: Natural History of North American Deserts (TA)	Spring 2015
University of Chicago: Natural History of North American Deserts – Field School (TA)	Summer 2015
University of Chicago: Natural History of North American Deserts (TA)	Spring 2016

Current as of 09/09/17