

# Jonathan S. Mitchell

## Education

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- Postdoc The University of Michigan, July 2015 - Current  
Ph.D. Committee on Evolutionary Biology, The University of Chicago, June 2015  
B.S. Geology *magna cum laude* Appalachian State University, 2010

## Publications

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- In press Johnson, A.E, **Mitchell, J.S.**, and Brown, M.B. Convergent evolution in social swallows (Aves: Hirundinidae). *Ecology & Evolution*
- 2016 Bernardi, M, Angielczyk, K.D., **Mitchell, J.S.**, and Ruta, M. Phylogenetic stability, tree shape, and character compatibility: A case study using early Tetrapods. *Systematic Biology*, doi: 10.1093/sysbio/syw049
- 2016 **Mitchell, J.S.** and Rabosky, D.L. Bayesian model selection with BAMM: effects of the model prior on the inferred number of diversification shifts. *Methods in Ecology and Evolution* 65(5) 737-758 doi: 10.1111/2041-210X.12626.
- 2015 **Mitchell, J.S.** Extant only comparative methods fail to recover the disparity preserved in the bird fossil record. *Evolution* 69(9) 2414-2424.
- 2015 **Mitchell, J.S.** 2015. Preservation is predictable: Quantifying the impact of taphonomic biases on ecological disparity in birds. *Paleobiology* 41(2) 353-367 doi: <http://dx.doi.org/10.1017/pab.2014.23>
- 2014 **Mitchell, J.S.** and Makovicky, P.J. 2014. Low ecological disparity in Early Cretaceous birds. *Proceedings of the Royal Society B.* 281(1787), doi:10.1098/rspb.2014.0608
- 2012 **Mitchell, J.S.**, Roopnarine, P.D., Angielczyk K.D. 2012. Late Cretaceous restructuring of dinosaur-bearing communities facilitated the End-Cretaceous mass extinction. *Proceedings of the National Academy of Sciences* 109(46):18857-61. doi: 10.1073/pnas.1202196109
- 2012 Heckert, A.B., **Mitchell, J.S.**, Schneider, V., and Olsen, P.E. 2012. Diverse new microvertebrate assemblage from the Upper Triassic (Norian) Cummock Formation, Sanford Subbasin, North Carolina, USA. *Journal of Paleontology*, 86(2):368-390, doi: <http://dx.doi.org/10.1666/11-098.1>
- 2010 **Mitchell, J.S.**, Heckert A. B., and Sues, H-D. 2010. Grooves to tubes: Evolution of the venom delivery system in a Late Triassic "reptile". *Naturwissenschaften* 97:1117-1121.
- 2010 **Mitchell, J.S.** and A. B. Heckert. 2010. The setup, use and efficacy of sodium polytungstate separation methodology with respect to microvertebrate remains. *Journal of Paleontological Techniques*, 7: 1-12
- In review Zelditch M.L., Ye J., **Mitchell J.S.**, and Swiderski D. L. Rare ecomorphological convergence on a complex adaptive landscape: Body size and diet mediate evolution of jaw shape in squirrels (Sciuridae). In review at *Evolution*.
- Rabosky D.L., Mitchell J.S., and Chang, J. Is BAMM flawed? Theoretical and practical concerns in inference of multi-rate models. In review.

In prep.	<b>Mitchell, J.S.</b> , Etienne, R and Rabosky D.L.. fossilBAMM: A General Multiprocess Diversification Model for Paleontological and Molecular Phylogenetic Data. In preparation for submission to <i>Systematic Biology</i> .
	Smith, N.A., Boyd, C., Stidham, T. and <b>Mitchell, J.S.</b> . Body mass in prey size in owls, including a description of a new species of fossil owl. In preparation for submission to <i>Biology Letters</i> .
	<b>Mitchell, J.S.</b> , Tomiya, S. and Kroeller, K. A new Eocene spoonbill-like bird from the Washakie Basin, Wyoming. In preparation, intended for <i>Journal of Vertebrate Paleontology</i> .
	Kroeller, K. and <b>Mitchell, J.S.</b> . Paleoecology of the Cedar Mountain Formation (Early Cretaceous, Utah). In preparation, intended for <i>Journal of Vertebrate Paleontology</i> .
Book reviews	
2015	<b>Mitchell, J.S.</b> . Issues in Palaeobiology: a Global View. <i>Quarterly Review of Biology</i> . 90:424-429

## Teaching Experience

	Teaching assistantships	Institution
Winter 2015	Environmental Ecology (non-majors)	The University of Chicago
Summer 2014	Stones and Bones (high school)	The University of Chicago
Spring 2013	Scientific Ethics & Integrity (grad.)	The University of Chicago
Spring 2013	Biodiversity (undergrad.)	The University of Chicago
Fall 2012	Biological Evolution (non-majors)	The University of Chicago
Fall 2009 - Spring 2010	Introduction to Geology (undergrad.)	Appalachian State University

## Outreach

2014-2015	Advisor to undergraduate intern, Krista Kroeller, Field Museum
2013-2015	Presenter for Geology Badge, Boy Scouts of America, Field Museum
2012-2015	Dozin' with the Dinos, Field Museum Public Outreach Program
2010-2015	Ask-a-paleontologist outreach to Chicago Public Schools Kindergarten classes
2009-2015	Over 20 presentations to middle-high school classrooms in rural North Carolina and Chicago Public Schools
2014	"Wild Wednesday" Presenter, Garfield Park Conservatory, Chicago
2013	Educator Open House, Field Museum
2012	Presentation to undergraduate Geology Club, The University of Chicago
2011	Proof-reader for Chicago Public Schools science materials, Field Museum
2010	Public Lecture hosted by the New Mexico Friends of Paleontology

## Grants

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2012	Doctoral Dissertation Improvement Grant \$14,960 (DEB-1311389)	NSF
2012	Hinds Fund \$500	The University of Chicago
2011	Hinds Fund \$1,520	The University of Chicago
2011	Paleontological Society Student Grant \$850	The Paleontological Society
2010	East Asia and Pacific Summer Institute Grant \$5,700 (OISE-1107676)	NSF

## Presentations

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### Conference presentations

2016	Evolution (15 minute Talk)
2014	Society of Vertebrate Paleontology (15 minute Talk)
2014	Geological Society of America (15 minute Talk)
2014	Evolution (20 minute Talk) ( <a href="#">link to video</a> )
2013	Society of Vertebrate Paleontology Meeting (Poster)
2013	American Ornithologist's Union (20 minute Talk)
2013	Society of Integrative and Comparative Biology Meeting (20 minute Talk)
2012	Society of Vertebrate Paleontology Meeting (15 minute Talk)
2012	Society of Vertebrate Paleontology Meeting (Poster, co-author)
2012	Geological Society of America Meeting (Poster, co-author)
2011	Society of Vertebrate Paleontology Meeting (Poster)
2011	Geological Society of America Meeting: Phylogenetic Methods & the Fossil Record (15 minute Talk)
2010	Geological Society of America Meeting (15 minute Talk)
2010	Society of Vertebrate Paleontology Meeting (Poster in Colbert Prize Session)
2009	Society of Vertebrate Paleontology Meeting (Poster)
2009	Appalachian State University Student Research Symposium (15 minute Talk)
2008	Society of Vertebrate Paleontology Meeting (Poster)
2008	Society of Vertebrate Paleontology Meeting Preparator's Session (Poster)
2008	Southeastern Geological Society of America Meeting 2008 (Poster)
2008	Appalachian State University Student Research Symposium (Poster)

### Other presentations

2014	Field Museum Science & Education Interchange Seminar Series (30 minute Talk)
2008	Appalachian State University, Geology Department Seminar Series (45 minute Talk)
2008	Smithsonian Research Training Program Symposium (Poster)
2008	Appalachian State University Student Research Symposium (Poster)

## Professional training

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2014	Human Anatomy	Pritzker School of Medicine
2013	K-Pg Food Web Workshop	UC Berkeley
2011	Pedagogy in Evolutionary Biology	The University of Chicago
2010	Analytical Methods in Paleobiology Workshop, Paleobiology Database	Macquarie University

## Professional service

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Peer Review	Paleobiology, Proceedings of the Royal Society B, Palaeontology, Ecology Letters, Current Biology, Naturwissenschaften, Fieldiana and Journal of Geophysical Research - Biogeosciences
Workshops	Presenter at K-Pg food web workshop at UC Berkeley, supported by the Welles Fund; Organized and ran a graduate student programming workshop series at the University of Chicago
Session Moderator	Society of Vertebrate Paleontology (2012), Society of Integrative Biology (2013), Evolution (2014)
Grant reviewer	UChicago Dean's Council Travel Grant Review Panel (2012-2015)
Committees	Dean's Council, Biological Sciences, The University of Chicago (2011-2015)

## Professional societies

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Society for the Study of Evolution, Society of Integrative and Comparative Biology, Geological Society of America, Society of Vertebrate Paleontology

## Select media coverage

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University of Chicago, early birds ( <a href="#">link</a> )
University of Chicago, food webs ( <a href="#">link</a> )
Nature News, <i>Uatchitodon</i> ( <a href="#">link</a> )
National Geographic, <i>Uatchitodon</i> ( <a href="#">link</a> )
University of Chicago, <i>Uatchitodon</i> ( <a href="#">link</a> )

## Field work

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2012-2013, 2015	Utah, Cedar Mountain Fm., Early Cretaceous
2013-2014	Wyoming, Green River Fm., Eocene
2013-2014	Argentina, Huincul Fm., Early Cretaceous
2007, 2008, 2010	Arizona, New Mexico & Colorado, Chinle Fm., Late Triassic
2008	Wyoming, Cloverly Fm., Early Cretaceous
2008	North Carolina, Newark Group, Pekin Fm., Late Triassic