

DR. BRYAN MCLEAN

EMAIL: [bryansmclean\(at\)gmail.com](mailto:bryansmclean(at)gmail.com)
WEB: bryanmclean.weebly.com
UNIVERSITY OF NEW MEXICO

DEPARTMENT OF BIOLOGY
MSC03-2020
ALBUQUERQUE, NM, 87131 USA

EDUCATION

- 2017 Ph.D Biology with distinction, University of New Mexico (UNM)
Dissertation: *Pattern and Process in the Radiation of Ground-dwelling Squirrels*
Advisor: Joseph A. Cook
- 2011 M.S. Biology, University of North Carolina Wilmington (UNCW)
Thesis: *Late Quaternary Paleoeology of Two High-Elevation Mammal Species from the Southern Rocky Mountains, Colorado*
Advisor: Steven D. Emslie
- 2004 B.S. Biology, Appalachian State University (ASU)

APPOINTMENTS

- 2016 Research Assistant, UNM Department of Biology
- 2015 Peter Buck Predoctoral Fellow, Smithsonian Institution, National Museum of Natural History
Advisors: Kristofer Helgen, Gene Hunt
- 2014 Curatorial Assistant, Museum of Southwestern Biology, Division of Mammals
- 2011-2014 Curatorial Assistant, Museum of Southwestern Biology, Division of Genomic Resources
- 2010 Researcher, Rocky Mountain Biological Laboratory
- 2006-2009 Collection Technician, North Carolina Museum of Natural Sciences, Mammalogy Division

PUBLICATIONS

- 10) **McLean BS**, Bell KC, Allen JM, Helgen KM, Cook JA. Impacts of inference method and dataset filtering on phylogenomic resolution in a rapid mammalian radiation. *Systematic Biology* in revision.
- 9) **McLean BS**. *Urocitellus parryii* (Rodentia: Sciuridae). *Mammalian Species* in press.
- 8) Cook JA et al. (author 27 of 36). (2017). The Beringian Coevolution Project: Holistic collections of mammals and associated parasites reveal novel perspectives on evolutionary and environmental change in the north. *Arctic Science* in press. doi:10.1139/AS-2016-0042
- 7) **McLean BS**. (2017). Splendid (continental) radiations. *Evolution* 71:802-803. doi:10.1111/evo.13183
- 6) **McLean BS**, Jackson DJ, Cook JA. (2016). Rapid divergence and gene flow at high latitudes shape the history of Holarctic ground squirrels (*Urocitellus*). *Molecular Phylogenetics and Evolution* 102:174-188. doi:10.1016/j.ympev.2016.05.040
- 5) Cook JA, **McLean BS**, Jackson DJ, Colella JP, Greiman SE, Tkach WV, Jung TS, Dunnum JL. (2016). First record of the Eurasian Least Shrew (*Sorex minutissimus*) and associated helminths from Canada: new light on northern Pleistocene refugia. *Canadian Journal of Zoology* 94:367-372. doi:10.1139/cjz-2015-0212
- 4) Cook JA, Lacey EA, Ickert-Bond SM, Hoberg EP, Galbreath KE, Bell KC, Greiman SE, **McLean BS**, Edwards S. (2016). From museum cases to the classroom: emerging opportunities for specimen-based education. *Archives of the Zoological Museum of Moscow State University* 38.
- 3) **McLean BS**, Bell KC, Dunnum JL, Abrahamson B, Colella JP, Deardorff ER, Weber J, Jones AK, Salazar-Miralles F, Cook JA. (2016). Natural history collections-based research: progress, promise and best practices. *Journal of Mammalogy* 97:287-297. doi:10.1093/jmammal/gyv178
- 2) **McLean BS**, Ward JK, Polito MJ, Emslie SD. (2014). Responses of high-elevation herbaceous plant assemblages to low glacial CO₂ concentrations revealed by fossil marmot (*Marmota*) teeth. *Oecologia* 175:1117-1127. doi:10.1007/s00442-014-2982-y

- 1) **McLean BS**, Emslie SD. (2012). Stable isotopes reflect the ecological stability of two high-elevation mammals from the late Quaternary of Colorado. *Quaternary Research* 77:408-417. doi:10.1016/j.yqres.2012.02.001

PUBLICATIONS IN PREPARATION (Full Draft Only)

McLean BS, Helgen KM, Goodwin HT, Cook JA. Heterogeneity in evolutionary mode and macroevolutionary dynamics among morphological traits in ground-dwelling squirrels. in prep. for *Evolution*.

McLean BS, Bell KC, Allen JM, Cook JA. Ecological signals of diversification in Holarctic ground squirrels (*Urocitellus*). in prep. for *American Naturalist*.

GRANTS AND FUNDING

2017

Candidate Conservation Fund, United States Fish and Wildlife Service - \$10,000
title: Distribution and Population Connectivity of Merriam's Ground Squirrel (*Urocitellus canus vigilis*)

2016

ASM Fellowship, American Society of Mammalogists - \$7500
Research Grant, UNM Graduate Research Allocations Committee - \$400
Travel Grant, UNM Graduate Research Allocations Committee - \$150

2015

Theodore Roosevelt Memorial Grant, American Museum of Natural History - \$2275
Student Research Grant, UNM Graduate and Professional Student Assoc. - \$500
Professional Development Grant, UNM Graduate Student Professional Association - \$500
Travel Grant, UNM Graduate Research Allocations Committee - \$225

2014

Research Grant, UNM Graduate Research Allocations Committee - \$400
Grant-in-Aid of Research, American Society of Mammalogists - \$2000
Joseph Gaudin Scholarship, UNM Department of Biology - \$2750
Student Research Grant, UNM Graduate and Professional Student Assoc. - \$500
Research Grant, UNM Graduate Research Allocations Committee - \$400
Travel Grant, UNM Graduate Research Allocations Committee - \$150

2013

The Joseph Gaudin Scholarship, UNM Department of Biology - \$2250
Travel Grant, UNM Graduate Research Allocations Committee - \$150

2012

Research Grant, UNM Graduate Research Allocations Committee - \$400
Research Grant, National Speleological Society - \$750
Research Grant, Prairie Biotic Research, Inc. - \$900
Joseph Gaudin Scholarship, UNM Department of Biology - \$1000
Research Grant, T&E of New Mexico - \$2500
Professional Development Grant, UNM Graduate Student Professional Association - \$500

2011

Student Travel Award, UNCW Graduate School - \$400
Lee R. G. Snyder Graduate Research Fellowship, Rocky Mountain Biological Laboratory - \$600
SRAC Grant, UNM Graduate and Professional Student Assoc. - \$400

2010

Dr. James F. and Frances B. Parnell Fellowship, UNCW Dept. of Biology and Marine Biology - \$2300
Dr. Ralph W. Brauer Fellowship, UNCW Graduate School - \$800
Student Travel Fellowship, American Society of Mammalogists - \$200

PRESENTATIONS TO PROFESSIONAL MEETINGS

- McLean BS**, Bell KC, Allen JM, Helgen KM, Cook JA. Impacts of phylogenomic dataset filtering for resolving a rapid radiation of ground squirrels. Society of Systematic Biologists standalone meeting, oral pres. (Jan. 2017).
- McLean BS**, Cook JA. Pattern and process in the Pleistocene diversification of small-eared ground squirrels (*Uroditellus*). American Quaternary Association 24th Biennial Meeting, poster pres. (June 2016).
- McLean BS**, Cook JA. Parallel ecomorphological evolution in ground-dwelling squirrels: roles of phylogeny, allometry, and integration. Evolution 2016, poster pres. (June 2016).
- McLean BS**, Jackson DJ, Cook JA. Diversity, distribution and conservation of Holarctic ground squirrels (*Uroditellus*): new phylogenetic insights. American Society of Mammalogists 95th Annual Meeting, oral pres. (June 2015).
- McLean BS**, Cook JA. A history of high-latitude adaptation in Holarctic ground squirrels. Evolution 2014, oral pres. (June 2014). <https://www.youtube.com/watch?v=ilsG5SQJkdk>
- McLean BS**. An isotopic role for fossil small mammals in paleoecology and paleoclimatology. Wisc-SIMS High Resolution Proxies of Paleoclimate workshop, University of Wisconsin, oral pres. (June 2013).
- McLean BS**, Cook JA. New geometric morphometric methods for taxonomic identification of fossil ground squirrels (Rodentia: Marmotini). American Society of Mammalogists 93rd Annual Meeting, oral pres. (June 2013).
- Jackson DJ, **McLean BS**, Cook JA. Phylogeny of the Holarctic ground squirrel genus *Uroditellus*. American Society of Mammalogists 93rd Annual Meeting, poster pres. (June 2013).
- Jackson DJ, **McLean BS**, Cook JA. Phylogeny of the Holarctic ground squirrel genus *Uroditellus*. UNM Department of Biology Research Day, poster pres. (April 2013).
- McLean BS**. Inferring geographic modes of speciation in ground-dwelling sciurids. American Society of Mammalogists 92nd Annual Meeting, poster pres. (July 2012).
- McLean BS**, Emslie SD. A unique isotopic record of mammal ecology from the Southern Rockies during and after the last glacial period. American Society of Mammalogists 91st Annual Meeting, poster pres. (July 2011).
- McLean BS**, Emslie SD. Mammalian paleoecology across the Last Glacial Maximum in the Southern Rocky Mountains. American Quaternary Association 21st Biennial Meeting, poster pres. (August 2010) and American Society of Mammalogists 90th Annual Meeting, poster pres. (June 2010).

POPULAR WRITING

- The Molecular Ecologist (molecularecologist.com) - blogging since January 2016 (links to examples below)
- [Island-Hopping with an E.I.D.](#)
 - [The Evolution of Molecular Dating](#)
 - [The Carnivorous Rodents of Southeast Asia](#)
- UNM Department of Biology BioBlog (unm-bioblog)
- [The Time Conundrum](#) (Feb. 2015)

TEACHING EXPERIENCE

- 2016 - Guest Lecturer, Univ. of South Florida, Mammalogy (grad./undergrad.): "Mammalian Phylogenetics and Morphological Evolution"
- 2014 - Guest Lecturer, UNM, Mammalogy (grad./undergrad.): "Order Cetacea"
- 2013 - Guest Lecturer, UNM, Mammalogy (grad./undergrad.): "Defining Characteristics of Mammals"
- 2013 - Guest Lecturer, UNM, Mammalogy (grad./undergrad.): "Orders Dermoptera and Scandentia"
- 2013-2014 (2 semesters) - Teaching Assistant, UNM, Mammalogy (grad./undergrad.) **
- 2009-2011 (4 semesters) - Teaching Assistant, UNCW, Human Anatomy and Physiology (undergrad.) **
- 2006-2009 - Supervisor (multiple volunteers and summer interns), NC Museum of Natural Sciences
- Spring 2004 - Laboratory Assistant, Introductory Botany, ASU (undergrad.)
- Fall 2003 - Teaching Assistant, General Chemistry, ASU (undergrad.)
- (** - coordinated all aspects of lesson plans, lab setup, and student evaluation)

HONORS AND AWARDS

2016 - ASM Fellowship (American Society of Mammalogists)

2015 - Peter Buck Predoctoral Fellowship (1 year appointment, National Museum of Natural History)

2014 - Elizabeth Horner Award (American Society of Mammalogists award for top grant proposal)

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Society of Mammalogists

Society of Systematic Biologists

PROFESSIONAL SERVICE

Educational Materials: I contributed to two NSF-funded working groups devoted to developing undergraduate educational modules in biodiversity and evolution. These were now hosted online (www.aim-up.org).

Mentoring: I have mentored numerous undergraduate students over the past ten years in field methods (small mammal trapping and sampling), mammalian specimen preparation and curatorial methods, wet lab methods (DNA extraction, sequencing), and multilocus phylogenetic analysis.

Service: I have served on the Systematic Collections Committee of the American Society of Mammalogists for four years. The committee oversees accreditation of mammalian natural history collections and maintains a catalog of these collections for the Western Hemisphere.

Collections Development: I have led or participated in numerous national and international field expeditions over the past 10 years. These expeditions have collectively resulted in >5000 mammal specimens (most with associated tissue and/or parasite samples) and are deposited in four different U.S. natural history museums.

Peer Review:

Paleogeography, Paleoclimatology, Paleoecology

Journal of Zoological Systematics and Evolutionary Research

REFERENCES

Dr. Joseph A. Cook

Professor, Department of Biology

Curator, Museum of Southwestern Biology Div. of Mammals and Div. of Genomic Resources

University of New Mexico

Albuquerque, NM 87131 USA

cookjose@unm.edu

Dr. Steven D. Emslie

Professor, Department of Biology and Marine Biology

University of North Carolina Wilmington

Wilmington, NC 28403 USA

emslies@uncw.edu

Dr. Kristofer M. Helgen

Professor, School of Biological Sciences

University of Adelaide

Adelaide, SA 5005 AUS

kristofer.helgen@adelaide.edu.au