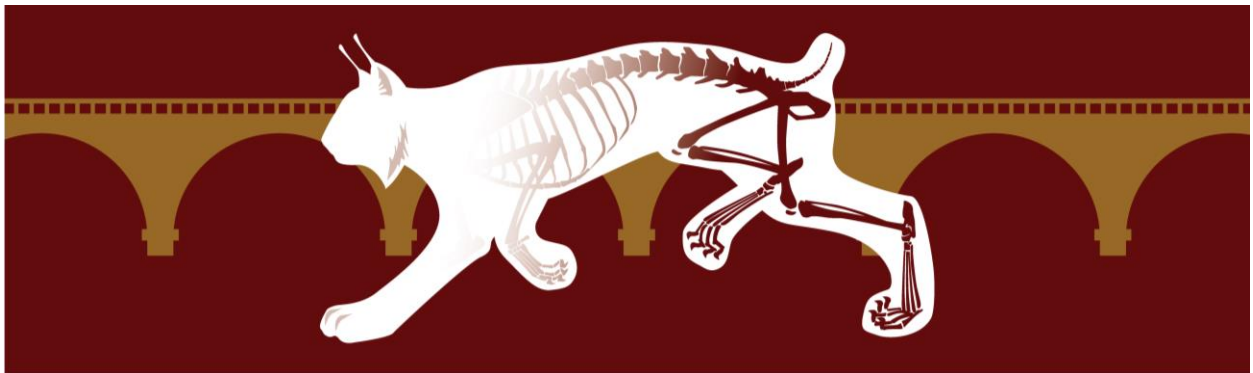


96TH ANNUAL MEETING  
OF THE  
AMERICAN SOCIETY OF  
MAMMALOGISTS

24-28 JUNE 2016

UNIVERSITY OF MINNESOTA  
-MINNEAPOLIS, MINNESOTA-



ASM • 2016 • MPLS

PROGRAM

The 2016 American Society of Mammalogists Annual Meeting logo features a Canada lynx, a Minnesota native mammal. The transition in the depiction of the lynx represents different but related fields of study in mammalogy, from morphology to behavior. The Stone Arch Bridge, a Minneapolis landmark, and the maroon and gold coloring nod to the conference location at the University of Minnesota-Twin Cities. The logo was designed by Carmen Martin, a Minnesota-based artist who practices scientific illustration, observational drawing, sculpture, and graphic design.

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## **AMERICAN SOCIETY OF MAMMALOGISTS (ASM)**

The American Society of Mammalogists (ASM) was established in 1919 for the purpose of promoting interest in the study of mammals.

### ***AN OVERVIEW***

In addition to being among the most charismatic of animals, mammals are important in many disciplines from paleontology to ecology and evolution. We, of course, are mammals and thus are in the interesting position of studying ourselves in quest of a greater understanding of the role of mammals in the natural world.

The ASM is currently composed of thousands of members, many of who are professional scientists. Members of the Society have always had a strong interest in the public good, and this is reflected in their involvement in providing information for public policy, resources management, conservation, and education.

The Society hosts annual meetings and maintains several publications. The flagship publication is the *Journal of Mammalogy*, a journal produced 6 times per year that accepts submissions on all aspects of mammalogy. The ASM also publishes *Mammalian Species* (accounts of individual species) and *Special Publications* (books that pertain to specific taxa or topics), and we maintain a mammal images library that contains many exceptional photographs of mammals.

We encourage you to peruse the ASM web site for information about mammals and the American Society of Mammalogists. Check out our interesting history by clicking on the Our History tab on the Archives Committee page. We hope it will stimulate your interest in mammals and further your appreciation of their importance.

### ***ASM LEADERSHIP***

The ASM is led by a group of scientists who are elected by the membership.

### ***ASM COMMITTEES***

Much of the work that the ASM does is accomplished through a large number of volunteer committees. These committees work to further the aims of the Society and the science of mammalogy as a whole.

### ***ASM ENDORSES HUMAN DIVERSITY***

The ASM is dedicated to ensuring the opportunity for active, equal participation in all ASM functions by all members, regardless of gender, race, ethnic background, age, physical disabilities, or sexual orientation.

<http://www.mammalsociety.org/>

## TABLE OF CONTENTS

Welcome .....	4
Acknowledgements .....	5
Sponsor List .....	6
General Meeting Information.....	9
Presentation Information .....	11
Conference Venue .....	12
Vendor Show.....	13
Local Restaurants & Breweries.....	14
Teacher Workshops .....	15
Meeting Workshops .....	15
Fieldtrips.....	16
Capstone Speaker .....	16
Plenary I Speakers.....	17
Plenary II Speakers.....	18
Symposia.....	20
Board of Directors, Members, and Committee Meetings.....	21
Social Events .....	22
Program At-A-Glance.....	23
Friday, June 24th .....	25
Saturday, June 25th .....	26
Sunday, June 26th .....	29
Monday, June 27th.....	34
Tuesday, June 28th.....	43
Author Index.....	51
2017 Meeting Announcement .....	Inside Back Cover

## WELCOME

Welcome to the 96th annual meeting of the American Society of Mammalogists!

This is one of our best-attended meetings in 25 years, so the next few days promise to be exciting, busy, and fun. For new members, this will be a wonderful opportunity to meet fellow mammal enthusiasts and to share in the latest findings regarding mammalian biology. For long-term attendees, it's a chance to catch up with old friends as well as welcome newcomers to the pack.

In addition to a full slate of contributed papers and talks covering the latest research in mammalogy, we have scheduled symposia on two important themes: the use of digital "big data" to further understanding of mammals and the application of morphometric techniques to studies of mammalian ecology and evolution. The first should be of interest to anyone who uses online databases in their work and will highlight not only existing resources but also indicate how you can participate in the growing digital world of mammalogy. The second will demonstrate how emerging technologies such as CT-scanning are creating new opportunities to study morphology, including application of morphometric data to diverse aspects of research on mammals. These symposia will take place on Monday, 27 June but at different times so that you can attend both.

As part of our Society's commitment to research training and professional development, we are again hosting several pre-meeting workshops, which will take place on Friday, 24 June, the day before the regular meeting program begins. These events include a workshop on geometric morphometrics that is co-sponsored by iDigBio and a workshop aimed at helping members to navigate the often-challenging balance of professional and personal responsibilities. To read more about these workshops, please see the information posted on the meeting website.

With regard to oral presentations, we have a great roster of plenary session speakers. During the first plenary session, we will hear from some of our outstanding student members, including the 2015 recipients of the Hornaday Award (José González-Maya), the Shadle Fellowship (Silvia Pavan), and the ASM Fellowship (Kayce Bell). At the second plenary, we will hear from a stellar group of more established mammalogists, including the 2015 recipients of the Merriam Award (Bruce Patterson), Leopold Award (Andrew T. Smith), and Grinnell Award (Robert Dowler). The meeting will conclude with a capstone presentation by Dr. Ali Swanson, who combines research on the community ecology of African taxa with innovative citizen science projects to promote the conservation of all mammals – non-human and human – in the areas in which she works.

No ASM meeting would be complete without some socializing! We will kick off this important component of the meeting on Friday night, with an opening reception in the Bell Museum. Come check out the museum, greet old friends, and welcome new members to the meeting. On Saturday night, we will hold a student mixer, which is an important opportunity for this group of attendees to get together and share ideas and experiences. Sunday is the picnic, which will take place at the Nicollet Island Pavilion, located along the shore of the Mighty Mississippi. Monday night will begin with a poster session and segue to a social and our annual auction, proceeds of which go to support the Future Mammalogists Fund. Come, have some beer, and bid on some of the fantastic memorabilia that will be available. We will end the meeting with our second Closing Social and Awards Ceremony, to be held at the McNamara Alumni Center. This will be an informal event intended to give everyone one last chance to visit with each other and to participate in recognizing the outstanding achievements of some of our members.

In closing, I would like to thank our sponsors, exhibitors, and advertisers. Their support is critical to the success of many of our annual functions. Please take some time during the breaks and socials to stop by their tables and displays and be sure to let them know how much you appreciate their participation.

Enjoy the meetings,

Eileen Lacey  
President, American Society of Mammalogists

## **ACKNOWLEDGEMENTS**

### ***PROGRAM COMMITTEE***

Cody W. Thompson (Chair)

Kayce C. Bell

Brad R. Blood

Eric Green

John D. Hanson

Lauren E. Helgen

Sharon A. Jansa (2016 Host)

Jessica E. Light

Susan C. Loeb

Ryan A. Long (2017 Co-Host)

Verity L. Mathis

R. Neal Platt

Janet L. Rachlow (2017 Co-Host)

Zachary P. Roehrs

Luis A. Ruedas

Steven R. Sheffield

Winston P. Smith

Kelly A. Speer

***KANSAS STATE UNIVERSITY CONFERENCE PLANNING SERVICES***

Tony Ballard & Dana Flynn

***2016 LOGO DESIGN***

Carmen Martin

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*SILVER SPONSOR*



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ASSOCIATION BOOK EXHIBIT



**BRONZE SPONSORS (CONT.)**



**International Wolf Center**  
Teaching the World about Wolves



**The Johns Hopkins University Press**



**CONTRIBUTORS**

Anonymous

**simbio**

**LITERATURE ONLY**



## **GENERAL MEETING INFORMATION**

### ***REGISTRATION DESK***

The ASM Registration Desk, located in the Willey Atrium, will be open for registration from 7:00 am – 5:00 pm throughout the entirety of the meeting.

### ***MEETING ROOM INFORMATION***

Please turn off beepers and cell phones or set them to manner mode during presentations.

Auction & Poster Social — Humphrey Atrium & Forum  
Board of Directors Meeting I — Humphrey 180  
Board of Directors Meeting II — Blegen 125  
Capstone — Willey 125  
Closing Social & Awards Ceremony — McNamara Alumni Center  
Committee Meetings — Blegen Hall 110, 115, 120, 125, 140, and 145  
Exhibit Area — Willey Atrium  
Field Trip I – Meet 30 Minutes Before at Registration Desk in Willey Atrium  
Field Trip II – Meet 30 Minutes Before at Registration Desk in Willey Atrium  
Members Meetings — Willey 175  
Officers & Plenary I Speakers Lunch — Republic  
Opening Social — Bell Museum of Natural History (10 Church Street SE on the U of M campus)  
Picnic — Nicollet Island Pavilion (Transportation provided – pickup outside of Humphrey Hall)  
Plenary I — Willey 175  
Plenary II — Willey 175  
Poster Sessions — Humphrey Atrium  
Refreshment Breaks — Willey Atrium  
Registration — Willey Atrium  
Run for Research — Start outside of Willey Hall  
Student Mixer — Willey Atrium  
Symposium I — Willey 125  
Symposium II — Willey 125  
Technical Sessions — Anderson 230, 250, and 270  
Thematic Session I — Anderson 230  
Thematic Session II — Willey 125  
Thematic Session III — Willey 125  
Thematic Session IV — Willey 125  
Workshop I — Blegen 110  
Workshop II — Blegen 140  
Workshop III — Willey 175

### ***INTERNET ACCESS***

Internet access is free to all ASM participants at the University of Minnesota. To access the complimentary WiFi, select “UofM Guest” on your device. If your institution participates in Eduroam, that is also an option on the U of M campus. Instructions for connecting using that method must be obtained from your home institution.

### ***BUSINESS CENTER***

For meeting attendees staying in Middlebrook Hall, there is a computer lab available for use there. It is available 24 hours a day. All other guests should consult with their hotel front desk. Alternatively, a FedEx Office Print and Ship Center is located on the East Bank at 612 Washington Avenue SE.

## **MESSAGES & JOB ANNOUNCEMENTS**

Message boards are located near the Registration Desk. Participants may post messages or job announcements for friends and colleagues.

## **FOOD & BEVERAGE**

Morning and afternoon refreshment breaks will be served in the Willey Atrium. Breakfast and lunch is on your own each day. There are a number of restaurants, from casual to fine dining, on-site or nearby. In addition, breakfast and lunch will be served at the Middlebrook Hall dining center for meeting attendees utilizing the dormitories. The Middlebrook Hall dining center also accepts cash payment for those not staying in the dormitories. A list of local restaurants is listed on page 14.

Host and/or cash bars will be available during:

Opening Social, 7:00 – 10:00 pm, Friday, June 24th

Picnic, 6:00 – 9:00 pm, Sunday, June 26th

Poster Session I, 7:00 – 8:30 pm, Monday, June 27th

Auction & Social, 8:30 – 10:00 pm, Monday, June 27th

Closing Social & Awards Ceremony, 6:00 – 9:00 pm, Tuesday, June 28th

## **NAME BADGE COLOR SCHEME**

Award Recipient – White

Board of Directors – Emerald Green

Committee Chair – Royal Blue

Editor – Royal Blue

Honorary Member – Emerald Green

Past President – Black

President – Emerald Green

President Elect – Emerald Green

Program Committee – Red

Recording Secretary – Emerald Green

Secretary Treasurer – Emerald Green

Sponsors – Turquoise

Trustee – Emerald Green

Vice President – Emerald Green

## **18TH ANNUAL GORDON L. KIRKLAND MEMORIAL RUN/WALK FOR RESEARCH**

*All proceeds go to the ASM Future Mammalogists Fund!!!*

*Date and Race Start Time*—Sunday, June 26th, 6:00 am

*Start Location*—In front of Willey Hall

*Race Course*—See map on the meeting website. Route goes across the Washington Avenue Bridge, north along Pleasant Avenue, east between Walter Library and Johnson Hall, south across Northrop Plaza to Coffman Union, back across the bridge, south around Rarig Center and Wilson Library, and back to Willey Hall. Once around that loop is 2.5K, twice is 5K.

*Sign-up*—Register on-line or during Registration hours at the Registration Desk

*Entry Fee*—\$20 (no t-shirt); \$35 (includes t-shirt)

## PRESENTATION INFORMATION

### **ORAL PRESENTERS**

*Equipment*—The computers provided in the session rooms will be Windows-based PCs (Windows 7) with Microsoft Office 2010. Alternatively, all presentation rooms are “smart” rooms and capable of receiving any laptop. Laser pointers will be available.

*Length & Format*—Oral presentations will be allotted 12 minutes for the talk and 3 minutes for questions. If you use the provided computers, your presentation must be created in, or converted to, Microsoft's PowerPoint (.ppt or .pptx) format or Adobe PDF (.pdf) format. PowerPoint files created on Macintosh computers should be previewed on a PC to ensure cross-platform compatibility. Please bring your presentation either on a USB Flash “thumb” drive or on your computer to the assigned session at least 15 minutes prior to the start time.

*Moderators*—Session moderators will be designated to facilitate each session. The names of the moderators are noted in the session schedule. The session moderator will provide technical assistance with displaying your presentation. **Consult the session moderator if you choose to use your own computer.**

### **POSTER PRESENTERS**

Poster session dates and times are as follows:

Poster Session I: Monday, June 27th, 7:00-8:30 pm

Poster Session II: Tuesday, June 28th, 10:30 am-12:00 pm

At least one author must be present during the entire poster session time period.

*Poster Size*—Maximum poster size is 36 inches high x 48 inches wide in landscape format (86.36 x 121.92 cm). Pushpins and display boards will be provided.

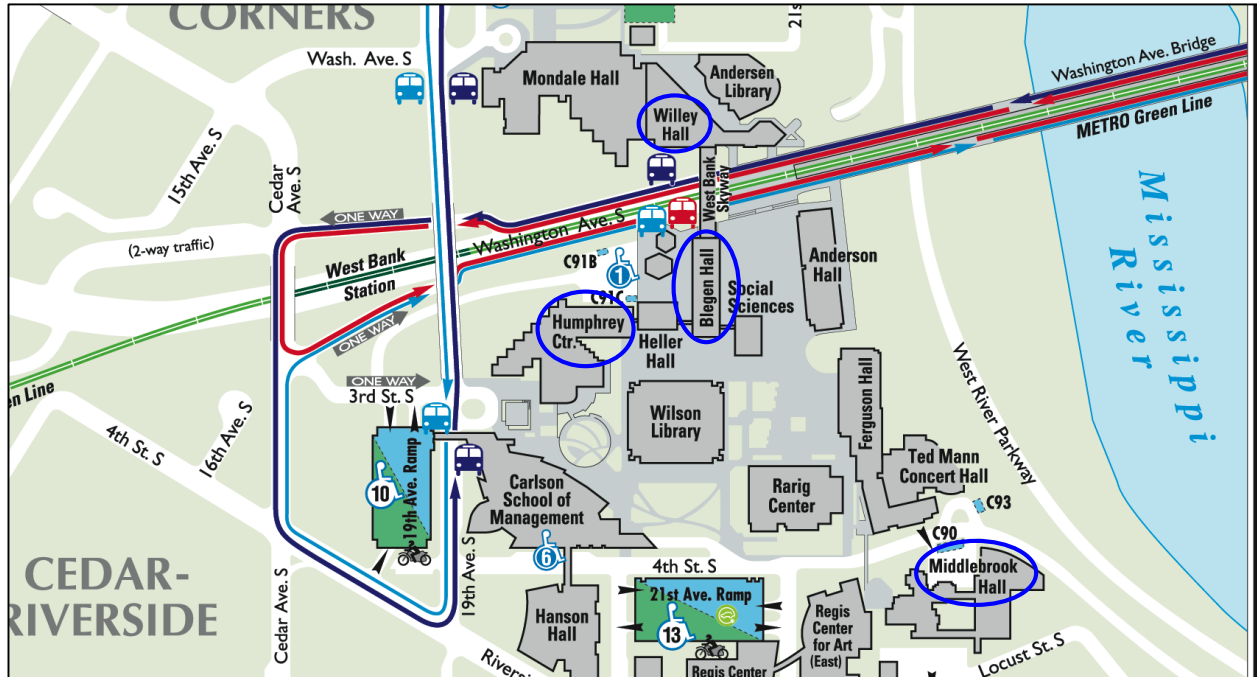
*Poster Board Assignments*—All poster boards will be numbered. Because some posters are being evaluated, please make sure that you place your poster in the correct location.

*Poster Board Set-up and Take-down*—You can place your poster on your assigned board the day of your session beginning at noon on Monday, June 27th, and 8:00 am on Tuesday, June 28th; all posters must be in place before the session begins. Your poster must be removed by the end of the session. If your poster is not removed or claimed by the end of the poster session, it will be discarded.

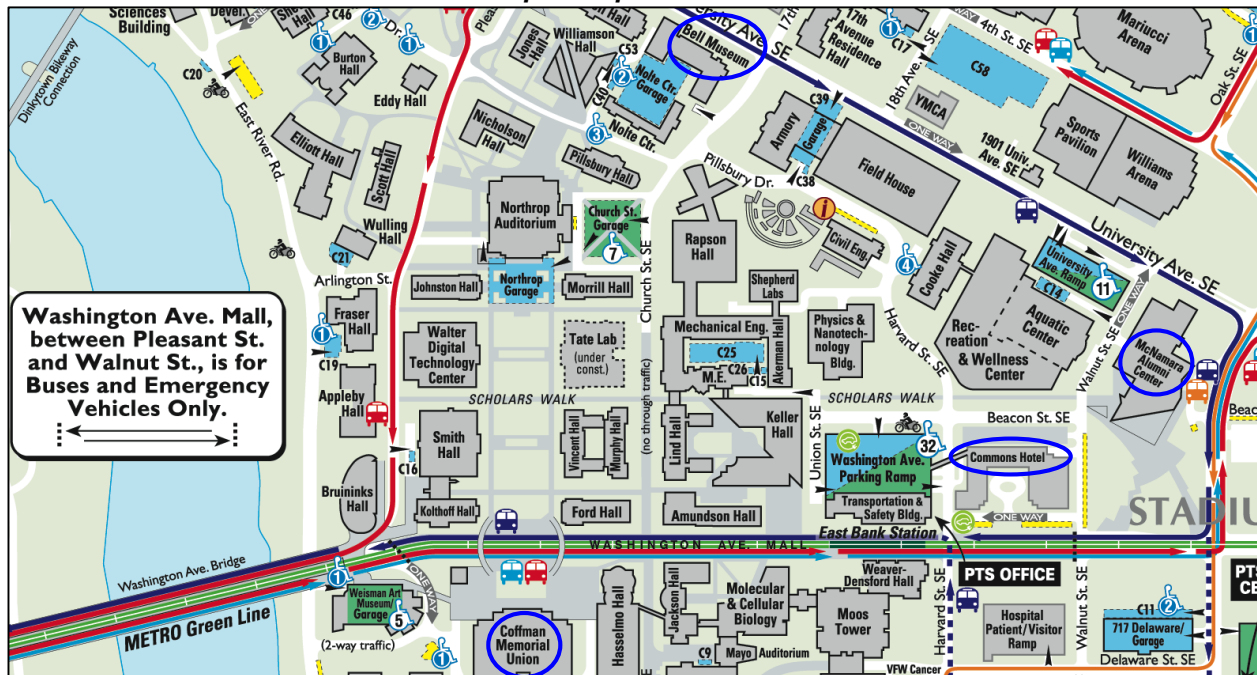
## CONFERENCE VENUE

We invite you to attend the 96th annual meeting of the American Society of Mammalogists in Minneapolis, Minnesota. The meeting will take place 24-28 June 2016 on the Twin Cities campus of the University of Minnesota. The campus is set on the banks of the Mississippi River and is surrounded by a vibrant metropolitan community. With award-winning theaters, great museums, world-class restaurants, exciting sports venues, and many craft breweries, you will have plenty to do while you are here.

**CAMPUS MAP – WEST BANK**



**Campus Map – East Bank**



## VENDOR SHOW

Exhibitors are located in the Willey Atrium during the following hours:

Saturday, June 25th	8:00 am – 5:00 pm
Sunday, June 26th	8:00 am – 4:00 pm
Monday, June 27th	8:00 am – 5:00 pm
Tuesday, June 28th	8:00 am – 3:00 pm

### ***EXHIBITORS***

**Advanced Telemetry Systems** provides researchers and managers in ecology and biology with animal tracking and monitoring products of the highest quality and reliability.

**Association Book Exhibit** represents leading publishers at major academic/professional meetings nationwide.

**iDigBio** is the National Resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by the National Science Foundation.

**International Wolf Center** advances the survival of wolf populations by teaching about wolves, their relationship to wildlands and the human role in their future.

**Lane Science Equipment Corp.** are specialists in specimen cabinets that preserve and conserve your valuable natural history collections.

**Oxford University Press** is the world's largest university press with the widest global presence.

**RAPiD GENOMICS** offers DNA genotyping and data analysis solutions that suits your unique applications.

**Reconyx** is known worldwide as the industry leader in digital infrared game cameras.

**RTLGenomics (A Division of Research and Testing Laboratory)** offers services in the evaluation of microbial diversity, sequencing, bioinformatics, and biostatistics.

**The Johns Hopkins University Press** publishes books, journals, and online collections for students, professionals, and general readers.

**Tomahawk Live Trap** offers hundreds of animal and pest control products used by professionals.

**University of Minnesota** is Minnesota's research university, changing lives through research, education, and outreach.

### ***LITERATURE ONLY***

**Delta Designs Ltd.** specializes in the design and professional manufacture of quality museum storage equipment.

**Forestry Suppliers** carries thousands of quality products for the forestry, environmental science, surveying/engineering, horticulture, grounds maintenance, educational professionals and more.

**Lynx Edicions** is a publishing house committed to providing high-quality ornithology and natural history books.

**University Products**, the leading supplier of archival materials, provides the quality you expect and the information you can trust.

## LOCAL RESTAURANTS & BREWERIES

There is a diverse array of restaurants and breweries that are on and around the University of Minnesota campus. Here are a few suggestions. For casual restaurants, West Bank and East Bank locations are designated with a “W” or “E”, respectively. Most of the East Bank Restaurants are either on Washington Avenue or in Dinkytown (the area between University Avenue and 5th Street from 15th Avenue to 13th Avenue).

### ***CASUAL RESTAURANTS***

Abduls Afandy (E)	Kimchi Tofu House (E)
Acadia (W)	Loring Pasta Bar (W)
Al’s Breakfast (E)	Mesa Pizza (E)
Bona Vietnamese (E)	Noodles and Co. (E)
Bordertown Coffee (E)	Punch Pizza (E)
Bun Mi Sandwiches (E)	Republic (W)
Chipotle (E)	The Wienery (W)
Hard Times Café (W)	Town Hall (W)
Hong Kong Noodle (E)	

### ***FINE DINING***

112 Eatery	Sea Change
Butcher and the Boar	Spoon and Stable
Haute Dish	Spoonriver
Restaurant Alma	The Bachelor Farmer

### ***BARS AND BREWERIES***

Dayblock Brewing	Stub and Herb’s
Nomad World Pub	Surly Brewing
Republic	Town Hall
Sally’s Saloon	Triple Rock Social Club



## **TEACHER WORKSHOPS**

### ***Tracking Mammals for Elementary Teachers***

*Thursday, June 23rd, 9:00 am – 4:00 pm — Bell Museum of Natural History*

Developed by Dr. Pamela Owen from the Texas Natural Science Center Senior Biodiversity Center, Dr. Laurie Schlittler from Emporia State University Emeritus faculty, and Dr. Barbara Shaw from Colorado State University Extension STEM Specialist for the Western Region. Dr. Schlittler will provide you with engaging activities for your students to become Mammal Detectives, and use available clues (such as footprints, and scat) to piece together who has been here. This program will also provide you with tools to use simple, age appropriate math, to analyze results for students to interpret their findings. These lessons meet the Next Generation of Science Standards, as well as Minnesota Mathematics standards.

### ***Population Dynamics for Middle School/High School Teachers***

*Thursday, June 23rd, 9:00 am – 4:00 pm — Bell Museum of Natural History*

This workshop is led by Dr. George Feldhamer, Professor Emeritus from Southern Illinois University, author of the college text, *Mammalogy: Adaptation, Diversity, Ecology*; *Deer: The Animal Answer Guide*; and *Wild Mammals of North America: Biology, Management, and Conservation*. Dr. Feldhamer will guide you through a series of activities to examine populations of a closed and open system using taxi cabs and green pick-up trucks as proxy for mammals in the wild. Additionally, he will work with you on analyzing data meeting statistical analysis standards. This class will add authenticity for your students by clearly demonstrating these concepts. This program has been developed to meet Minnesota Science and Mathematics Standards.

## **MEETING WORKSHOPS**

### ***ASM/iDigBio Geometric Morphometrics***

*Organizers: Kieran McNulty, Miriam Zelditch, and Don Swiderski*

*Friday, June 24th, 8:00 am – 5:00 pm — Blegen 110*

The geometric morphometric workshop is designed to introduce researchers to landmark-based analyses of shape and form. Introductory lectures will provide an overview of the theory, methods, and applications of geometric morphometrics, and practical sessions will introduce participants to Geomorph software and assist them in working through a series of morphometric analyses. Datasets will be provided to participants, although researchers are welcome to bring their own landmark data. Participants are encouraged (though not necessary) to acquire a very basic familiarity with R statistical software before the workshop. Presenters: Kieran McNulty, Miriam Zelditch, and Don Swiderski.

### ***Work-Life Balance in Mammalogy***

*Organizer: Jessica Light*

*Friday, June 24th, 4:00 – 5:30 pm — Blegen 140*

Are you trying to figure out, or worried about, how you will 'do it all'? Is 'doing it all' possible? Is it even necessary? Everyone struggles with these questions and finding the balance between life and work. Because individual priorities differ, the struggle is different for everyone and there is no universal solution to finding your balance. The important thing to realize is that everyone struggles with finding this balance, and different people will have insight, knowledge, and tricks that can help you as you find your own balance. This workshop will be an open discussion on various topics associated with work-life balance. Readings may be assigned prior to the workshop. This workshop is open to anyone at any career stage. Presenter: Jessica Light.

***How to be a Good Peer-Reviewer: What Editors and Authors Need from You***

*Organizers: ASM Education and Graduate Students Committee*

*Saturday, June 25th, 5:30 – 7:00 pm — Willey 175*

This workshop will provide students a framework for conducting an unbiased peer-review of manuscripts, giving them increased confidence in their ability to be of valuable service to both editors and authors. The anticipated outcome of this workshop is the development of more effective peer-reviewers, who are able to serve the scientific community at a greater capacity, including ASM and the Journal of Mammalogy. We bring together a panel of academic professionals from ASM that will walk students through the peer-review process, including how to systematically assess a manuscript and identify key items on which to focus their review, and we will provide supplementary materials such as references, checklists, forms, and flowcharts. We will also provide two manuscripts from literature for students to read and practice reviewing prior to the workshop and then discuss the reviews during the workshop, with advice and guidance from our professional panelists. Panelists include: Doug Kelt, Robert Rose, and Brad Swanson.

**FIELD TRIPS**

***The Science Museum of Minnesota***

*Group Meeting Location: Registration Desk at 12:30 pm*

*Friday, June 24th, 1:00 – 5:00 pm*

The Science Museum of Minnesota, located on the banks of the Mississippi River in Saint Paul, offers five permanent galleries, 10 acres of outdoor exhibits, a temporary exhibit, and an Imax Convertible Dome Omnitheater. The museum is also host to collections of specimens and artifacts from the anthropology, biology, and paleontology sciences that have been collected since 1870. This tour will include both the public spaces and the collections of the museum.

***The Raptor Center at the University of Minnesota***

*Group Meeting Location: Registration Desk at 1:00 pm*

*Friday, June 24th, 1:30 – 4:30 pm*

The Raptor Center at the University of Minnesota specializes in the medical care, rehabilitation, and conservation of eagles, hawks, owls, and falcons. A tour of their Dayton Education Wing is a perfect introduction to The Raptor Center! This 30-minute guided visit will introduce you to some of our education winged ambassadors. Interpretive volunteers and staff will discuss the natural biology of these raptors, as well as how we all relate and interact with our shared environment.

**CAPSTONE**

***Dr. Ali Swanson***

*Citizen science and ecology in the Zooniverse: turning data into discovery*

*Tuesday, June 28th, 4:00 – 5:00 pm — Willey 125*

The capstone speaker for the 2016 meeting will be Dr. Ali Swanson. Dr. Swanson is a community ecologist and up & coming champion of citizen science. She is currently a post-doc at Oxford University working on the *Zooniverse* project and holds a junior research fellowship at Oxford's Wolfson College. She completed her PhD under Craig Packer at the University of Minnesota, where she studied carnivore interactions and created the citizen science project *Snapshot Serengeti*. This work was supported by an ASM Grants-in-Aid of Research. Her senior thesis at the University of Virginia also dealt with community ecology in African mammals. She will present on what is new in citizen science, including the *Zooniverse* project, and the benefits to science and society. She has published and recently been an invited speaker on citizen-science research at the World Conference of Science Journalists (Korea), the IEEE conference on Applications of Computer Vision (Hawaii), and the British Ecological Society (London). She has also been interviewed by National Geographic and the BBC about her research in Africa.

## PLENARY I

### **Adriana M. Casillas, Annie M. Alexander Award**

*A multi-method approach to understanding and mitigating human-carnivore conflict in Meibae Community Conservancy, Kenya*

*Saturday, June 25th, 8:10 – 8:30 am — Willey 175*

The recipient of the 2016 Annie M. Alexander Award is Adriana M. Casillas from Antioch University New England. The Annie M. Alexander Award was established in 2012 to recognize the contributions of Masters-level students to research in mammalogy. Its namesake is Annie Alexander, an intrepid naturalist, field biologist and paleontologist who was responsible for the establishment and early success of the University of California's Museum of Vertebrate Zoology. Along with Louise Kellogg, her companion of 40 years, she made numerous collecting expeditions throughout California and western North America. She was a Charter Member of ASM and its first female Life Member, and actively promoted increasing opportunities for female graduate students in field biology and collections-based research.

### **Laurel R. Yohe, Anna M. Jackson Award**

*Is vomeronasal system evolution in bats is a one-way street?*

*Saturday, June 25th, 8:30 – 8:50 am — Willey 175*

The recipient of the 2016 Anna M. Jackson Award is Laurel R. Yohe from Stony Brook University. The Anna M. Jackson Award is named in honor of Anna M. Jackson, one of the 16 female Charter Members of ASM (out of 435 total) when it was founded in 1919. Like many of her female contemporaries, Anna's involvement with the world beyond her doorstep was through her husband, Hartley (pictured here with her), who is considered the person most responsible for the founding of ASM. Anna did most of the record-keeping and typing and handled correspondence and other papers of the Society during its formative period, when Hartley served as ASM secretary. Anna also accompanied Hartley on field expeditions, where she assisted with botanical collections, and was present at the organizational meeting of ASM. The Jackson Award was first given by the Society in 1970.

### **Kathryn M. Everson, A. Brazier Howell Award**

*Reassessing the phylogeny, biogeography, and diversification of Madagascar's tenrecs (Tenrecidae)*

*Saturday, June 25th, 8:50 – 9:10 am — Willey 175*

The recipient of the 2016 A. Brazier Howell Award is Kathryn M. Everson from the University of Alaska at Fairbanks. The A. Brazier Howell Award recognizes A. Brazier Howell, a charter member of the Society who also served as President, Vice President, Journal Editor and Corresponding Secretary. Like many early mammalogists, he was first trained as an ornithologist, but soon saw the error in his ways and contributed to many areas of mammalogy, notably in anatomy and systematics. He was also a talented artist, musician and wood worker. In 1959, he provided the endowment that is the source of this award, which was first given in 1961.

### **Jeremy Chase Crawford, Elmer C. Birney Award**

*Elucidating the evolutionary consequences of mammalian sociality*

*Saturday, June 25th, 9:10 – 9:30 am — Willey 175*

The recipient of the 2016 Elmer C. Birney Award is Jeremy Chase Crawford from the University of California at Berkeley. The Elmer C. Birney Award (formerly the ASM Award) is the Society's oldest student honorarium, established in 1951. In 2001, it was re-named in honor of Elmer Birney, a long-time member and past President of ASM. Dr. Birney was a professor at the University of Minnesota for 40 years and served as curator of mammals of the Bell Museum of Natural History, where he is perhaps best known for his work on the physiology and ecology of grassland rodents. He served the Society in many ways, including as Managing and Journal Editor for the *Journal of Mammalogy* and its Special Publications. One of the hallmarks of his service was his long-standing commitment to graduate education, as an advisor, mentor, and teacher, as well as increasing participation of young people in the Society.

**José F. González-Maya, William T. Hornaday Award**

*Distribution of mammal functional diversity at different scales: implications for conservation*  
Saturday, June 25th, 10:00 – 10:30 am — Willey 175

The recipient of the 2015 William T. Hornaday Award from the American Society of Mammalogists is José F. González-Maya, a doctoral candidate at Instituto de Ecología, Universidad Nacional Autónoma de México. José is widely recognized for his extensive contributions to mammal conservation in northern Latin America through his efforts in educating students, building collaborations between NGOs and governmental agencies, and through his international work with the IUCN. For those contributions to Neotropical mammal conservation, he was recently awarded the Future for Nature Award. Although still a doctoral student, he has been active as an advisor (>30 undergraduate and graduate theses), instructor (8 conservation courses), and organizer, helping to build and mentor an enthusiastic group of young mammalian conservation biologists in Costa Rica, Mexico, and Colombia. He has developed monitoring plans for protected areas (e.g., Tayrona National Park in the Caribbean region of northern Colombia) and using those experiences, he has helped design and implement plans elsewhere in Latin America through OAS and University for International Cooperation. José also is the current co-Chair of the IUCN Small Carnivore Working Group. He has developed the Colombian Caribbean Felid Conservation Plan, which aligned institutions, communities, and policy-makers for conservation of mammals. He also contributed to the National Conservation Strategy of Jaguar in Mexico. This student is also research active, publishing more than 40 papers to date on mammals and mammalian conservation in regional and international journals. He has helped found two new journals (*Latin American Journal of Conservation and Mammalogy Notes*), served on several other editorial boards, and organized numerous symposia on mammalian conservation. In all, José F. González-Maya accomplishments related to mammalian conservation to date are extremely impressive.

**Kayce Bell, ASM Fellowship Award**

*Disentangling lousey relationships: a phylogenomic perspective on host-parasite coevolution*  
Saturday, June 25th, 10:30 – 11:00 am — Willey 175

The recipient of the 2015 American Society of Mammalogists Award is Kayce Bell from the University of New Mexico. Ms. Bell's research addresses the co-evolution of host-parasite interactions, using chipmunks and their parasites (ectoparasite sucking lice and endoparasitic pinworms), and integrates traditional and next-generation DNA sequencing approaches to investigate hypotheses about co-evolutionary relationships. Ms. Bell is the author of 5 publications in journals such as *Bioscience*, *Heredity*, *Animal Conservation*, and *Journal of Biogeography*. She has presented at numerous scientific conferences, including 7 first-authored presentations at meetings of the American Society of Mammalogists. Ms. Bell has received over \$30,000 in research funding, including two Grants-in-Aid of Research from the ASM and a Doctoral Dissertation Improvement Grant from the National Science Foundation. Ms. Bell has been a member of the American Society of Mammalogists for over 10 years, and has served our society as a reviewer for the *Journal of Mammalogy* and by serving on the Program Committee and the Public Education Committee. She also served as a student member of the ASM Board of Directors from 2011-2013.

**PLENARY II**

**Dr. Robert C. Dowler, Joseph Grinnell Award**

*Mammalogy courses in the 21<sup>st</sup> century: a question of balance*  
Sunday, June 26th, 8:00 – 8:45 am — Willey 175

The 2015 recipient of the Joseph Grinnell Award is Dr. Robert C. Dowler, Professor of Biological Sciences at Angelo State University. Bob has been major advisor to 35 graduate students and with these students has published over 60 papers on the ecology, behavior, and distribution of a variety of mammalian species. Bob is heavily engaged in undergraduate education, teaching courses including mammalogy, evolution, and conservation biology as well as international courses in ecotourism and biodiversity, and the history and function of natural history museums. His commitment to education finds no boundary at the classroom door. He coordinates local "Science Days" and "bioblitzes" that bring elementary school children to the Angelo State Natural History collections where they come face to face with mammal specimens and learn the role of museum collections in science. Undergraduate and graduate students alike have benefitted from his mentorship and note his ability to motivate students to completely exhaust their potential in both classroom and research settings.

**Dr. Andrew T. Smith, Aldo Leopold Award**

*Science informing policy: case studies on plateau pikas (*Ochotona curzoniae*) and American pikas (*O. princeps*)*

*Sunday, June 26th, 8:45 – 9:30 am — Willey 175*

The 2015 Aldo Leopold Conservation Award from the American Society of Mammalogists is awarded to Dr. Andrew T. Smith who is perhaps best known for his promotion of the conservation of Lagomorphs and his detailed monographs and field guides focused on Asia's rich mammalian fauna. Our awardee's leadership and impact in the conservation arena can be found on several fronts. He served on the China Council on International Cooperation in Environment and Development (CCICED) for more than 10 years and has been a leader in establishing international ties to Chinese mammalogists and other Asian biologists. He co-authored the first comprehensive *Guide to the Mammals of China* (Princeton University Press, 2008; Chinese version 2009) and also the *Princeton Pocket Guide to the Mammals of China* (2013), which together provide the primary reference works needed to conserve a heavily exploited fauna in Central Asia. He also has made numerous contributions (and won recognition) for his work with the IUCN. He has been a member of the Lagomorph Specialist Group of IUCN's Species Survival Commission since 1978 and served as the Chair of this commission since 1991, for which he received Citations of Excellence in 2004 and 2012. Dr. Smith initiated the work in May 1994 on the database (Species Information Service) that has led to the capture of all current Red List data. His strong advocacy for conservation of lagomorphs worldwide, but especially on the Tibetan Plateau, provide a wonderful model of what is possible when scientists apply their research skills, determination, and knowledge to help shape conservation policy. Finally and notably, Dr. Smith's pioneering efforts at Arizona State University (where he holds the distinguished title of President's Professor) led to the development and implementation of one of the first formal Conservation Biology degrees nationwide, a feat that surely would have made Aldo very proud. In total, Dr. Smith's research, mentoring, program building, and outreach activities over the past three decades have significantly impacted the conservation of mammals (and other organisms) in one of the most impacted regions of our planet.

**Dr. Bruce Patterson, C. Hart Merriam Award**

*Critical episodes in the evolution of South America's mammal faunas*

*Sunday, June 26th, 9:30 – 10:15 am — Willey 175*

The 2015 recipient of the Merriam Award is Dr. Bruce Patterson from The Field Museum. Bruce is the MacArthur Curator of Mammals at the Field Museum of Natural History in Chicago. He is currently appointed to the faculties of the University of Chicago and University of Illinois at Chicago, and formerly was adjunct at Universidad Nacional Mayor de San Marcos (Lima), Northern Illinois University, and Northwestern University. He has served as president of both the Society for the Study of Mammalian Evolution (1996-1998) and the American Society of Mammalogists (2002-2004). Bruce's research focuses on patterns and processes of mammalian diversification, refining taxonomy and clarifying both systematic and biogeographic relationships. He has worked on various groups of small mammals throughout South America and East Africa, focusing especially on marsupials, rodents, and bats. Based on coordinated field programs, he has also studied host-parasite co-evolution involving bats and their ectoparasitic bat flies. For 10 years, he led a program on the genetics, morphology, and ecology of maneless lions in East Africa; his "Lions of Tsavo" program with Earthwatch eventually hosted 542 volunteers from 40 countries in East African field studies. Bruce has published more than 190 scientific articles, and is currently working on "The Bats of Kenya," with colleagues Paul Webala and Carl Dick, and various collaborators on the systematics of Neotropical mammals.

## **SYMPOSIA**

### ***Big Data Meets Mammalogy: How to Discover Existing Datasets and Save Your Data from Extinction***

*Organizers: Rachel Reid and Yiwei Wang  
Monday, June 27th, 10:30 – 12:30 pm — Willey 125*

Mammalogy is increasingly becoming a data-intensive science, relying on massive amounts of data collected by remote-sensing platforms (e.g., trail cameras) or GPS and other animal-attached sensor devices. Traditional samples collected from the field (e.g., blood, hair, feces) are also yielding novel information on diet, disease and genetics due to advances in laboratory technologies such as stable isotopes and DNA barcoding. The scope of possible research questions is expanding as new observatory networks, such as the US National Ecological Observatory Network (NEON), and biodiversity databases, such as VertNet, Global Biodiversity Information Facility (GBIF), and Knowledge Network of Biodiversity, make environmental and species occurrence data freely available on the Internet. Further, large-scale citizen science projects, such as Notes from Nature and BioBlitz, are bringing natural history museum collections to the web and members of the public into the field. With so many data sources now accessible, there is a growing opportunity to ask research synthesis questions at larger spatial and temporal scales or to hone into greater levels of detail at smaller scales. Along with these opportunities comes a responsibility to archive newly produced data in such a way that others can similarly benefit from our efforts. We propose to (1) showcase new internet based data sources and offer suggestions to mammalogists about how to facilitate data discovery, and (2) highlight the issue of data loss and preservation and how archiving data can lead to new scientific insights. Presenters include: David Bloom, Kimberly Gilbert, Robert Guralnick, and Kate Thibault.

### ***Morphometric Approaches to Studying Mammalian Evolution and Ecology***

*Organizers: David L. Fox and Kieran McNulty  
Monday, June 27th, 1:30 – 3:30 pm — Willey 125*

Morphometrics is the quantitative study of organismal size and shape. For most of the history of mammalogy and mammalian paleontology, the standard morphometric approach to skeletal form has been linear measurements of individual elements or angles between line segments connecting discrete points on elements. In the last 20 years or so, rapid advancements in scanning technologies such as surface laser scanners and high resolution X-ray computed tomography (CT) scanners has increased the affordability of and access to high spatial resolution digital images of mammalian skeletal elements. In parallel over roughly the same time, a diverse suite of analytical tools has been developed for quantitative analysis of both two-dimensional and three-dimensional representations of skeletal elements as constellations of discrete landmarks or surface patches of semi-landmarks. The goal of the symposium is to 1) introduce the theoretical bases and assumptions of various morphometric methods, 2) describe the current state of the art for gathering and analyzing landmark and surface data in both two- and three-dimensions, and 3) present applications of morphometrics to issues in the evolution and/or ecology of diverse mammal clades at various phylogenetic, spatial, and temporal scales. After the session, those who do not know much about morphometrics should see ways to use various tools in their own research, and all participants will learn more about technical advances and new results on the evolution of shape in mammals. Presenters include: Andrea Cardini, Anne-Claire Fabre, Jenny McGuire, Kieran McNulty, Carlo Meloro, and Don Swiderski.

## BOARD OF DIRECTORS, MEMBERS, AND COMMITTEE MEETINGS

### **FRIDAY, JUNE 24TH**

8:00 am – 5:00 pm Board of Directors Meeting I – Humphrey 180 (refreshments & lunch provided)

### **SATURDAY, JUNE 25TH**

11:00 am – 12:30 pm Members Meeting I – Willey 175  
12:30 – 1:30 pm Biodiversity & Taxonomy Committee – Blegen 110  
12:30 – 1:30 pm Latin American Fellowship Committee – Blegen 115  
12:30 – 2:00 pm Honoraria & Travel Awards Committee – Blegen 120  
12:30 – 2:00 pm Human Diversity Committee – Blegen 125  
12:30 – 2:00 pm Systematic Collections Committee – Blegen 140  
1:00 – 2:00 pm Mammal Images Library Committee – Blegen 145  
2:00 – 3:00 pm Informatics Committee – Blegen 110  
2:00 – 3:00 pm Publications Committee – Blegen 115  
3:00 – 4:00 pm ScholarOne – Blegen 120

### **SUNDAY, JUNE 26TH**

10:45 am – 12:00 pm Members Meeting II – Willey 175  
12:15 – 1:15 pm Education & Graduate Students Committee – Blegen 110  
12:15 – 1:30 pm African Graduate Student Research Fund – Blegen 115  
12:15 – 1:30 pm Animal Care & Use Committee – Blegen 120  
12:15 – 1:30 pm Conservation Committee – Blegen 125  
12:15 – 1:30 pm Public Education Committee – Blegen 140  
1:30 – 2:30 pm Development Committee – Blegen 110  
1:30 – 2:30 pm Grants-in-Aid Committee – Blegen 115  
2:00 – 3:30 pm International Relations Committee – Blegen 120

### **MONDAY, JUNE 27TH**

12:30 – 1:30 pm Program Committee – Blegen 110  
12:30 – 1:30 pm Nomenclature Committee – Blegen 115  
12:30 – 1:30 pm Resolutions Committee – Blegen 120  
1:00 – 2:00 pm Jackson Award Committee – Blegen 125  
1:30 – 2:30 pm Membership Committee – Blegen 110  
6:00 – 7:30 pm Board of Directors Meeting II – Blegen 125 (dinner not provided)

### **COMMITTEE MEETINGS NOT SCHEDULED**

Archives Committee  
Checklist Committee  
Conservation Awards Committee  
Coordination Committee  
Grinnell Award Committee  
Honorary Membership Committee  
Legislation & Regulations Committee  
Marine Mammals Committee  
Merriam Award Committee  
Office of Ombudsperson  
Student Science Policy Award Committee

## SOCIAL EVENTS

**Friday, June 24th, 7:00 – 10:00 pm**

**Opening Social – Bell Museum of Natural History**

Come kick off the conference with an opening night reception at the Bell Museum of Natural History. Enjoy the opportunity to socialize with friends, colleagues, and other conference attendees, as well as welcome new members and meeting attendees to the Society. The Bell's displays will be available for browsing, but don't forget to take a "selfie" in the photo booth (#ASMgopher) or make a mammal button before the night ends. **Hosted keg beer and cash bar, as well as heavy hors d'oeuvres, will be available.**

**Saturday, June 25th, 7:00 – 8:00 pm**

**Student Social/Pizza Party – Willey Atrium**

All student attendees are welcome to come and socialize with your friends and colleagues, as well as meet new student members. The Student Social/Pizza Party will immediately follow the Effective Peer-Review Workshop and is hosted by the Education and Graduate Students Committee. **Pizza and non-alcoholic drinks will be available.**

**Sunday, June 26th, 6:00 – 9:00 pm**

**Picnic – Nicollet Island Pavilion**

Join your friends and colleagues for food, drink, and live music at the Nicollet Island Pavilion. Located on the Mississippi River, Nicollet Island provides some of the best views of the Minneapolis skyline and intimate setting to relax in the city. **Must purchase ticket in advance!**

**Monday, June 27th, 7:00 – 10:00 pm**

**Poster Social & Auction – Humphrey Atrium & Forum**

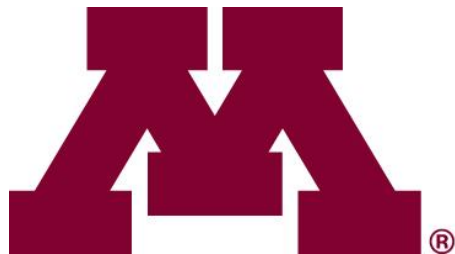
The Monday night poster session will include poster presentations, a social, and auction, as well as a bit of history at the Humphrey Forum. What a great opportunity to discuss research with poster presenters and socialize with your colleagues. Support the ASM's Future Mammalogists Fund through donating to and purchasing from the auction! The Auction will begin around 8:30 pm. **Hosted keg beer and cash bar, as well as light hors d'oeuvres, will be available.**

**Tuesday, June 28th, 6:00 – 9:00 pm**

**Closing Social & Awards Ceremony – McNamara Alumni Center**

Join us at the Closing Social and Awards Ceremony at the McNamara Alumni Center. Inspired by the Minnesota landscape, this uniquely designed building will offer the perfect setting for everyone to unwind, socialize, and say good-byes at this conclusion to a great week, as well as the congratulate the 2016 ASM award winners. **Must purchase ticket in advance!**

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## PROGRAM AT-A-GLANCE

<b>Friday, June 24th, 2016</b>		
<b>TIME</b>	<b>EVENT</b>	<b>LOCATION</b>
7:00 am	Registration	Willey Atrium
8:00 am	Board of Directors Meeting I	Humphrey 180
8:00 am	Workshop I: ASM/iDigBio Geometric Morphometrics	Blegen 110
12:30 pm	Gathering at Registration Desk for Fieldtrip I	Willey Atrium
1:00 pm	Fieldtrip I: The Science Museum of Minnesota	St. Paul, Minnesota
1:00 pm	Gathering at Registration Desk for Fieldtrip II	Willey Atrium
1:30 pm	Fieldtrip II: The Raptor Center	St. Paul, Minnesota
4:00 pm	Workshop II: Work-Life Balance in Mammalogy	Blegen 140
7:00 pm	Opening Social	Bell Museum of Natural History
<b>Saturday, June 25th, 2016</b>		
<b>TIME</b>	<b>EVENT</b>	<b>LOCATION</b>
7:00 am	Registration	Willey Atrium
8:00 am	Plenary Session I	Willey 175
9:30 am	Break	Willey Atrium
10:00 am	Plenary Session I	Willey 175
11:00 am	Members Meeting I	Willey 175
12:30 pm	Lunch	On Your Own
12:30 pm	Officers & Student Plenary Speakers Lunch	Republic
2:00 pm	Thematic Session I: Climate Change/High-Latitude	Anderson 230
2:00 pm	Technical Sessions 1 & 2	Anderson 250 & 270
4:00 pm	Break	Willey Atrium
4:30 pm	Town Hall Meeting: ASM – The Next 100 Years	Willey 175
5:30 pm	Workshop III: Effective Peer-Review	Willey 175
7:00 pm	Student Social/Pizza Party	Willey Atrium
<b>Sunday, June 26th, 2016</b>		
<b>TIME</b>	<b>EVENT</b>	<b>LOCATION</b>
6:00 am	Gordon L. Kirkland Memorial Run for Research	University of Minnesota
7:00 am	Registration	Willey Atrium
8:00 am	Plenary Session II	Willey 175
10:15 am	Break	Willey Atrium
10:45 am	Members Meeting II	Willey 175
12:00 pm	Group Photo	Willey 175
12:15 pm	Lunch	On Your Own
1:30 pm	Technical Sessions 3, 4, and 5	Anderson 230, 250, and 270
3:30 pm	Break	Willey Atrium
4:00 pm	Technical Sessions 6, 7, and 8	Anderson 230, 250, and 270
5:30 pm	Boarding for buses to Nicollet Island Pavilion begins	Outside of Humphrey Hall
6:00 pm	Picnic	Nicollet Island Pavilion
<b>Monday, June 27th, 2016</b>		
<b>TIME</b>	<b>EVENT</b>	<b>LOCATION</b>
7:00 am	Registration	Willey Atrium
8:00 am	Thematic Session II: Phylogenomics	Willey 125
8:00 am	Technical Sessions 9, 10, and 11	Anderson 230, 250, and 270
10:00 am	Break	Willey Atrium

10:30 am	Symposium I: Big Data Meets Mammalogy	Willey 125
12:30 pm	Lunch	On Your Own
1:30 pm	Symposium II: Morphometric Approaches	Willey 125
3:30 pm	Break	Willey Atrium
4:00 pm	Thematic Session III: African Mammals	Willey 125
4:00 pm	Technical Sessions 12, 13, and 14	Anderson 230, 250, and 270
5:30 pm	Bill Stanley Memorial	Willey 125
6:00 pm	Board of Directors Meeting II	Blegen 125
7:00 pm	Poster Session I Social & Auction	Humphrey Atrium & Forum

**Tuesday, June 28th, 2016**

TIME	EVENT	LOCATION
7:00 am	Registration	Willey Atrium
8:00 am	Technical Sessions 15, 16, and 17	Anderson 230, 250, and 270
10:00 am	Break	Grand Ballroom Foyer
10:30 am	Poster Session II	Humphrey Atrium
12:00 pm	Lunch	On Your Own
1:00 pm	Thematic Session IV: Anthropogenic Impacts on Wildlife	Willey 125
1:00 pm	Technical Sessions 18, 19, and 20	Anderson 230, 250, and 270
3:00 pm	Break	Willey Atrium
3:30 pm	Special Seminar: Improving Diversity & Training	Willey 125
4:00 pm	Capstone	Willey 125
6:00 pm	Closing Social & Awards Ceremony	McNamara Alumni Center



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## FRIDAY, JUNE 24TH, OPENING DAY

7:00 AM	Registration – Willey Atrium
8:00 AM	Board of Directors Meeting I – Humphrey 180
8:00 AM	<b>Workshop I: ASM/iDigBio Geometric Morphometrics – Blegen 110</b> Presenters: K. McNulty, M. Zelditch, and D. Swiderski
12:30 PM	Gathering at Registration Desk for Fieldtrip I – Willey Atrium
1:00 PM	Fieldtrip I – The Science Museum of Minnesota
1:00 PM	Gathering at Registration Desk for Fieldtrip II
1:30 PM	Fieldtrip II – The Raptor Center at the University of Minnesota
4:00 PM	<b>Workshop II: Work-Life Balance in Mammalogy – Blegen 140</b> Presenters: J. Light
5:30 PM	Open
7:00 PM	Opening Social – Bell Museum of Natural History

***OPENING SOCIAL PARTIALLY SPONSORED BY:***



**SATURDAY, JUNE 25TH, PLENARY SESSION I  
-WILLEY 175-**

<b>7:00 AM</b>	<b>Registration – Willey Atrium</b>
<b>8:00 AM</b>	<b>Welcome &amp; Announcements</b> President Eileen A. Lacey
<b>8:10 AM</b>	<b>Annie M. Alexander Award</b> <b>1<sup>E,TA</sup>: A multi-method approach to understanding and mitigating human-carnivore conflict in Meibae Community Conservancy, Kenya</b> A. M. Casillas*, B. A. Kaplin, and M. Wykstra
<b>8:30 AM</b>	<b>Anna M. Jackson Award</b> <b>2<sup>E,TA**</sup>: Is vomeronasal system evolution in bats a one-way street?</b> L. R. Yohe* and L.M Dávalos
<b>8:50 AM</b>	<b>A. Brazier Howell Award</b> <b>3<sup>TA**</sup>: Reassessing the phylogeny, biogeography, and diversification of Madagascar's tenrecs (Tenrecidae)</b> K. M. Everson*, V. Soarimalala, S. M. Goodman, and L. E. Olson
<b>9:10 AM</b>	<b>Elmer C. Birney Award</b> <b>4<sup>TA</sup>: Elucidating the evolutionary consequences of mammalian sociality</b> J. C. Crawford
<b>9:30 AM</b>	<b>Break – Willey Atrium</b>
<b>10:00 AM</b>	<b>William T. Hornaday Award</b> <b>5<sup>**</sup>: Distribution of mammal functional diversity at different scales: implications for conservation</b> J. F. González-Maya
<b>10:30 AM</b>	<b>ASM Fellowship</b> <b>6<sup>E,TA**</sup>: Disentangling lousey relationships: a phylogenomic perspective on host-parasite coevolution</b> K. C. Bell
<b>11:00 AM</b>	<b>Members Meeting I – Willey 175</b>
<b>12:30 PM</b>	<b>Lunch – On Your Own</b>
<b>12:30 PM</b>	<b>Officers &amp; Student Plenary Speakers Lunch – Republic</b>
<b>2:00 PM</b>	<b>Thematic Session I: Climate Change and High-Latitude Mammals – Anderson 230</b>
<b>2:00 PM</b>	<b>Technical Sessions 1 &amp; 2 – Anderson 250 &amp; 270</b>

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter

## SATURDAY, JUNE 25TH, AFTERNOON SESSIONS

Session	Thematic Session I: Climate Change and High-Latitude Mammals	Technical Session 1: Genetics	Technical Session 2: Morphology
Room	Anderson 230	Anderson 250	Anderson 270
Moderator	Christy M. McCain	Nathan S. Upham	Peter J. Adam
2:00 PM	<b>7<sup>E</sup>: Source-sink dynamics and sex-specific dispersal patterns in wolverines of the Yukon Territory</b> D. M. Krejsa*, S. L. Talbot, G. K. Sage, T. S. Jung, and J. A. Cook	<b>15<sup>TA</sup>: Genetic consequences of recolonization by black bear (<i>Ursus americanus</i>) into the western Great Basin</b> J. L. Malaney*, C. W. Lackey, J. P. Beckmann, and M. D. Matocq	<b>23<sup>TA</sup>: Skeletal injuries in small mammals: a multi-species assessment of injury type and prevalence</b> C. B. Burke*, R. B. Stephens, and R. J. Rowe
2:15 PM	<b>8<sup>**</sup>: Marmots in the Great Basin: strong persistence over eight decades suggests resilience to climate change</b> C. H. Floyd*, A. Rankin, A. Shulte, M. Freeburg, B. Meyer, and R. Schwartz	<b>16<sup>TA</sup>: Insights from comparative genomic analyses in a non-model organism – <i>Elephas maximus</i></b> I. Sinha*, P. C. Reddy, A. Kelkar, F. Habib, S. J. Pradhan, S. Galande, and R. Sukumar	<b>24: 3D analysis of embryonic and fetal development in little brown bats (<i>Myotis lucifigus</i>)</b> J. M. Ryan
2:30 PM	<b>9: Environmental factors and population demography in big-eared woodrat, <i>Neotoma macrotis</i></b> V. Rolland, W. D. Tietje*, A. Srivathsa, A. Y. Polyakov, and M. K. Oli	<b>17<sup>E,TA</sup>: Long-term pair bonding and monogamy: are coyotes faithful even in high population densities and cities?</b> A. M. Wurth*, J. M. Dubach, and S. D. Gehrt	<b>25: See how they run: locomotory adaptations between and among myosoricine and soricine shrews (<i>Soricidae</i>)</b> N. Woodman*, K. He, F. A. Stabile, and S. A. Gaffney
2:45 PM	<b>10: Population demography and environmental drivers in brush mouse, <i>Peromyscus boylii</i></b> A. Srivathsa, A. Polyakov*, W. Tietje, V. Rolland, and M. K. Oli	<b>18<sup>E,TA</sup>: Genetic diversity and population structure of the riparian brush rabbit: potential impacts of habitat fragmentation</b> J. S. Gansberg*, P. Kelly, and M. Matocq	<b>26: Substrate and limb evolution: a global ecomorphological analysis of ruminant unguals</b> A. K. Bormet*, and P. D. Polly
3:00 PM	<b>11: Interactions between red foxes and Arctic foxes as lemming cycles dampen at the Arctic's edge</b> J. D. Roth	<b>19<sup>TA</sup>: Evolutionary analysis of <i>Taenia</i> spp. tapeworms from Mongolia using morphological and molecular techniques</b> D. M. Tufts* and S. L. Gardner	<b>27<sup>E</sup>: Difference in walking motion among soricomorphs of Japan and Taiwan</b> H. Saito*, S. Fujiwara, Y. Shou-Li, L. K. Lin, and M. Motokawa

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    <sup>\*</sup>Presenter

## SATURDAY, JUNE 25TH, AFTERNOON SESSIONS

3:15 PM	<p><b>12: Arctic fox dens provide a winter refuge for collared lemmings at edge of the Arctic</b> J. S. Verstege* and J.D. Roth</p>	<p><b>20<sup>E</sup>: Characterizing adaptive immunogenetic variation in the salt marsh harvest mouse, <i>Reithrodontomys raviventris</i></b> A. G. Ennis* and C. S. Cohen</p>	<p><b>28<sup>E</sup>: Predicting locomotion from vertebral morphology: a case study of terrestrial carnivorans</b> S. Phillips* and P. J. Adam</p>
3:30 PM	<p><b>13: Why do the boreal forest ecosystems of northwestern Europe differ from those of western North America?</b> R. Boonstra*, H. P. Andreassen, S. Boutin, J. Husek, R. A. Ims, C.J. Krebs, C. Skarpe, and P. Wabakken</p>	<p><b>21: Population genetics and a draft genome of the greater bamboo lemur (<i>Prolemur simus</i>)</b> Melissa T. R. Hawkins*, C. Frasier, R. Lei, R. Culligan, C. Bailey, and E. E. Louis Jr.</p>	<p><b>29: Ecomorphological variation in the limbs of small-bodied “generalists:” a test case with voles</b> J. A. Nations* and L. E. Olson</p>
3:45 PM	<p><b>14: Population variability complicates the accurate detection of climate change responses</b> C. M. McCain*, T. Szewczyk, and K. Bracy Knight</p>	<p><b>22<sup>E</sup>: Population genetics of <i>Canis latrans</i> in New York City</b> C. S. Henger*, G. A. Herrera, and J. Munshi-South</p>	<p><b>30<sup>E</sup>: North American rodent tooth morphology reflects fine-scale ecology</b> J. S. Keller*, S. T. Chrisfield, T. S. Cicak, K. P. McNulty, and D. L. Fox</p>
4:00 PM	<b>Break – Willey Atrium</b>		
4:30 PM	<b>Town Hall Meeting: ASM – The Next 100 Years – Willey 175</b>		
5:30 PM	<p><b>Workshop III: How to be a Good Peer-Reviewer: What Editors and Authors Need from You – Willey 175</b> Presenters: D. A. Kelt, R. K. Rose, and B. J. Swanson.</p>		
7:00 PM	<b>Student Social/Pizza Party – Willey Atrium</b>		

<sup>E</sup>Evaluated Presentation    <sup>T</sup>AHonoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    <sup>\*</sup>Presenter



**SUNDAY, JUNE 26TH, PLENARY SESSION II  
-WILLEY 175-**

<b>6:00 AM</b>	<b>18th Annual Gordon L. Kirkland Memorial Run/Walk for Research -Start outside of Willey Hall-</b>
<b>7:00 AM</b>	<b>Registration – Willey Atrium</b>
<b>8:00 AM</b>	<b>Welcome &amp; Announcements</b> President-Elect Robert Sikes
<b>8:00 AM</b>	<b>Joseph Grinnell Award</b> <b>31: Mammalogy courses in the 21st century: a question of balance</b> R. C. Dowler
<b>8:45 AM</b>	<b>Aldo Leopold Award</b> <b>32: Science informing policy: case studies on plateau pikas (<i>Ochotona curzoniae</i>) and American pikas (<i>O. princeps</i>)</b> A. T. Smith
<b>9:30 AM</b>	<b>C. Hart Merriam Award</b> <b>33: Critical episodes in the evolution of South America’s mammal faunas</b> B. D. Patterson
<b>10:15 AM</b>	<b>Break – Willey Atrium</b>
<b>10:45 AM</b>	<b>Members Meeting II – Willey 175</b>
<b>12:00 PM</b>	<b>Group Photo – Willey 175</b>
<b>12:15 PM</b>	<b>Lunch – On Your Own</b>
<b>1:30 PM</b>	<b>Technical Sessions 3, 4, and 5 – Anderson 230, 250, and 270</b>

<sup>E</sup>Evaluated Presentation    
 <sup>TA</sup>Honoraria or Travel Award    
 \*\*Grants-In-Aid or Fellowship    
 \*Presenter

## SUNDAY, JUNE 26TH, EARLY AFTERNOON SESSIONS

Session	Technical Session 3: Conservation	Technical Session 4: Community Ecology	Technical Session 5: Evolutionary Biology
Room	Anderson 230	Anderson 250	Anderson 270
Moderator	Winston P. Smith	Paul Stapp	Larry R. Heaney
1:30 PM	<b>34<sup>TA</sup></b> : Looking over the edge: population dynamics of an endangered peripheral squirrel population E. A. Goldstein* and J. L. Koprowski	<b>42<sup>E,TA**</sup></b> : Using dental microwear to detect intraspecific variation in two canid predators B. P. Tanis*, L. R. G. DeSantis, and R. C. Terry	<b>50<sup>E</sup></b> : Molecular evolutionary analysis of the American pika ( <i>Ochotona princeps</i> ) A. M. Rankin*, K. E. Galbreath, and K. C. Teeter
1:45 PM	<b>35<sup>E,TA**</sup></b> : Small mammal responses to bison reintroduction in one of the world's most threatened ecosystems A. M. Burke* and H. P. Jones	<b>43<sup>E,TA**</sup></b> : Spatial network approaches to characterize metacommunity structure of Neotropical bats in Colombia C. Ríos-Blanco* and R. D. Stevens	<b>51<sup>TA</sup></b> : Genomic signatures of evolutionary processes on cetacean evolution: footprints of the return to the sea M. Nery* and J. Opazo
2:00 PM	<b>36<sup>TA</sup></b> : Simultaneous characterization of diet, parasites and host genetics for Southeast Asian mammals using fecal metagenomics A. Srivathsan*, A. Ang, M. Chua, Q. Le Khac, H. H. Covert, A. P. Vogler, and R. Meier	<b>44</b> : Impacts of a tornadic blowdown on small mammals inhabiting eastern deciduous forest in western Pennsylvania S. R. Sheffield*, C. A. Iudica, and J. W. Wenzel	<b>52<sup>TA</sup></b> : Phylogeographic analyses of the meadow vole ( <i>Microtus pennsylvanicus</i> ), a widespread North American mammal D. J. Jackson* and J. A. Cook
2:15 PM	<b>37<sup>E,TA</sup></b> : Employing $\delta^{13}C$ analysis of ancient sea otters to quantify environmental change in a nearshore ecosystem E. A. Elliott Smith* and S. D. Newsome	<b>45</b> : Bottom-up pulses and desert rodent dynamics across shrubland-grassland ecotones R. L. Schooley* and B. T. Bestelmeyer	<b>53</b> : The evolution of covariance in the catarrhine cranium K. P. McNulty
2:30 PM	<b>38<sup>E</sup></b> : Surface texture discrimination by bats: implications for reducing mortality at wind turbines C. R. Bienz*, V. J. Bennett, and A. M. Hale	<b>46<sup>E</sup></b> : Invasive <i>Bromus tectorum</i> experiences biogeographic enemy release from generalists J. E. Lucero* and R. M. Callaway	<b>54<sup>E</sup></b> : Convergent evolution of venom targeted nicotinic acetylcholine receptors in mammals that survive venomous snake bites D. H. Drabek*, A. M. Dean, and S. A. Jansa

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    \*\*Grants-In-Aid or Fellowship    \*Presenter



**SUNDAY, JUNE 26TH, EARLY AFTERNOON SESSIONS**

2:45 PM	<b>39: Return of the American marten (<i>Martes americana</i>) to Vermont</b> C. Aylward, K. O'Shea, C. Bernier, J. D. Murdoch, and C. W. Kilpatrick*	<b>47**:</b> Trophic cascades mediated by gray wolves ( <i>Canis lupus</i> ) reduce seed predation by rodents J. L. Chandler* and J. L. Orrock	<b>55: Quantitative morphological convergence and divergence of carnivorous rodents from the Indo-Pacific</b> P.-H. Fabre*, K. C. Rowe, A. Achmadi, and J. Esselstyn
3:00 PM	<b>40: A status report on the Tasmanian devil</b> R. K. Rose* and N. J. Mooney	<b>48<sup>E</sup>:</b> Temporal patterns of species co-occurrence along a climate and habitat gradient B. A. Kohli*, E. A. Rickart, and R. J. Rowe	<b>56<sup>E</sup>:</b> Sperm competition and relative testes size in three species of ground-dwelling squirrels E. A. C. Anjos* and J. M. Waterman
3:15 PM	<b>41<sup>E</sup>:</b> Habitat selection of sympatric lagomorphs supports competition hypothesis, provides management suggestions for a declining lagomorph A. E. Cheeseman*, J. Cohen, S. J. Ryan, and C. M. Whipps	<b>49: Rodent community response to removal of small and large herbivores in a semi-arid grassland</b> P. Stapp*, D. J. Augustine, and J. D. Derner	<b>57: Southern sea otter (<i>Enhydra lutris nereis</i>) mitogenomes do not predict diet specialization or tool use</b> N. McInerney*, K. Ralls, J. Fujii, M. T. Tinker, and J. Maldonado
3:30 PM	<b>Break – Willey Atrium</b>		
4:00 PM	<b>Technical Sessions 6, 7, and 8 – Anderson 230, 250, and 270</b>		
5:30 PM	<b>Boarding for buses to Nicollet Island Pavilion begins -Circle Drive in front of Humphrey Hall-</b>		
6:00 PM	<b>Picnic – Nicollet Island Pavilion</b>		

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## SUNDAY, JUNE 26TH, LATE AFTERNOON SESSIONS

Session	Technical Session 6: Behavior	Technical Session 7: Natural History	Technical Session 8: Population Ecology
Room	Anderson 230	Anderson 250	Anderson 270
Moderator	Janet L. Rachlow	Nancy D. Moncrief	R. Terry Bowyer
4:00 PM	<b>58<sup>E,TA</sup>: Outmaneuvering climate change: behavior buffers a small, arid land mammal against thermal extremes</b> C. R. Milling*, J. L. Rachlow, T. R. Johnson, J. Forbey, and L. A. Shipley	<b>64<sup>E**</sup>: Quantifying variation in fungivory by eastern chipmunks (<i>Tamias striatus</i>)</b> R. B. Stephens* and R. J. Rowe	<b>70<sup>E,TA</sup>: Using stable isotopes to detect responses to environmental change in parapatric ctenomyid rodents</b> R. Takenaka*, M. J. Miller, M. N. Tammone, and E. A. Lacey
4:15 PM	<b>59<sup>E</sup>: Wolves hunting beavers</b> T. D. Gable*, S. K. Windels, J. G. Bruggink, and A. T. Homkes	<b>65: Managing and preserving the University of Alaska Museum's rapidly growing Genomic Resources Collection</b> K. B. P. Hildebrandt*, A. M. Gunderson, and L. E. Olson	<b>71<sup>E</sup>: Population augmentation provides nominal genetic and demographic rescue for an endangered carnivore</b> P. J. Manlick*, J. E. Woodford, J. H. Gilbert, D. Eklund, and J. N. Pauli
4:30 PM	<b>60: Habitat specific fitness consequences of sociality in <i>Octodon degus</i></b> M. K. Strom*, L. A. Ebensperger, and L. D. Hayes	<b>66: Lack of habitual movements by the Yucatan squirrel (<i>Sciurus yucantensis</i>) in Belize, Central America</b> K. W. Larsen	<b>72: River otter population decline in coastal Alaska is associated with shifts in oceanic conditions</b> A. Barocas*, M. Ben-David, and H. N. Golden
4:45 PM	<b>61<sup>E,TA</sup>: Risky rabbits: evaluating responses to food and fear by a specialist and generalist herbivore</b> M. J. Camp*, L. A. Shipley, J. Sorenson Forbey, J. L. Rachlow, and T. R. Johnson	<b>67: Home ranges and burrow activity of <i>Peromyscus polionotus</i> in southeastern Georgia</b> E. H. Evans* and M. Cawthorn	<b>73<sup>E</sup>: Social organization and sexual segregation in American bison (<i>Bison bison</i>)</b> J. C. Thalmann*, R. T. Bowyer, J. G. Kie, K. A. Aho, and J. C. Whiting
5:00 PM	<b>62<sup>E,TA**</sup>: Do stress and behavior shape responses to environmental change in two co-occurring chipmunk species?</b> T. T. Hammond*, E. A. Lacey, and R. Palme	<b>68<sup>E</sup>: Dispersal of American martens in Minnesota, USA</b> M.J. Joyce*, J.D. Erb, and R.A. Moen	<b>74: Breeding and growth in a new mammalian suicidal reproducer under threat from fire and ferals</b> E. D. Mason*, J. Firm, H. B. Hines, and A. M. Baker
5:15 PM	<b>63: Altitude- and sex-specific variation in roosting behavior and thermoregulation of <i>Myotis lucifugus</i></b> A. C. Slusher*, J. Johnson, M. Lacki, and J. Treanor	<b>69: Bridging mammalogy, molecular markers, and outreach in Ecuador</b> C. M. Pinto*, A. F. Vallejo, D. Nicolalde, M. I. A. Bustos, N. Tinoco, J. Brito, P. A. Moreno, and L. M. Torres	<b>75: Shaping small mammal trapping grids for multi-species occupancy modeling</b> J. A. Baumgardt*, M. L. Morrison, and L. A. Brennan

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## MONDAY, JUNE 27TH, MORNING SESSIONS

7:00 AM	Registration – Willey Atrium			
8:00 AM	Thematic Session II: Phylogenomics – Willey 125			
8:00 AM	Technical Sessions 9, 10, and 11 – Anderson 230, 250, and 270			
Session	Thematic Session II: Phylogenomics	Technical Session 9: Behavior	Technical Session 10: Biogeography	Technical Session 11: Conservation
Room	Willey 125	Anderson 230	Anderson 250	Anderson 270
Moderator	Jacob A. Esselstyn	Erin F. Baerwald	Robert P. Anderson	Roland Kays
8:00 AM	<b>76<sup>E,TA**</sup>: A weasely perspective on hybridization using phylogenomics</b> J. P. Colella*, T. Lan, A. Ratan, S. C. Schuster, S. Talbot, C. Lindqvist, and J. A. Cook	<b>84<sup>**</sup>: Hung out to dry? Arid adaptation in hibernating big brown bats</b> B. J. Klüg-Baerwald* and R. M. Brigham	<b>92<sup>E</sup>: Exploring the dietary variation of pikas (<i>Ochotona princeps</i>) across space and time</b> M. L. Westover* and F. A. Smith	<b>100: Linear mix modeling for understanding diversity along a distance to edge gradient</b> N. U. de la Sancha
8:15 AM	<b>77<sup>TA</sup>: A complete species-level phylogeny of Mammalia using a supermatrix of 31 genes</b> N. S. Upham*, J. A. Esselstyn, and W. Jetz	<b>85: Do behavioral adaptations correlate with individual responses to white-nose syndrome in hibernating little brown bats?</b> M. Gagnon*, G. G. Turner, D. M. Reeder, and B. J. Sewall	<b>93<sup>E,TA</sup>: Transberingian arvicoline colonization history and the biogeography of a Holarctic tapeworm species complex</b> G. M. Haas* and K. E. Galbreath	<b>101<sup>E</sup>. Testing the efficacy of an acoustic lure on bat mist netting success in North America</b> H. Quackenbush, L. E. D'Acunto*, E. Flaherty, and P. A. Zollner
8:30 AM	<b>78<sup>E**</sup>: The molecular basis of high-elevation adaptation in wild cavies</b> J. A. Weber*, J. L. Dunnum, J. S. Edwards, and J. A. Cook	<b>86: Activity and movements of habituated and supplemented wild black bears compared to of non-habituated bears</b> R. A. Powell*, L. L. Rogers, and S. A. Mansfield	<b>94<sup>E,TA</sup>: Using ancient DNA to uncover occupancy patterns of woodrats (<i>Neotoma</i>) and co-occurring species through time</b> A. D. Hornsby*, A. T. Duggan, M. Kuch, F. A. Smith, H. N. Poinar, and M. D. Matocq	<b>102<sup>E</sup>: How picky is the Great Basin pocket mouse</b> D.S. Taylor*, R. J. Rowe, and R.C. Terry
8:45 AM	<b>79: Ecology, genetics, and conservation units despite gene flow in highly-vagile terrestrial mammals (caribou and wolves)</b> M. Musiani	<b>87: Experience breeds competitors: parity positively affects litter sizes, boldness, and hormones in coyote pups</b> C. J. Schell*, J. K. Young, E. V. Lonsdorf, R. M. Santymire, and J. M. Mateo	<b>95<sup>E,TA</sup>: Comparative phylogeography of a Beringian host-parasite assemblage</b> S. R. Gallagher* and K. E. Galbreath	<b>103<sup>E</sup>: Dealing with spatial dependency in occupancy studies: a 20-year track-station survey of carnivores in Minnesota</b> F. Iannarilli*, J. Fieberg, J. Erb, and T. Arnold

<sup>E</sup>Evaluated Presentation

<sup>TA</sup>Honoraria or Travel Award

<sup>\*\*</sup>Grants-In-Aid or Fellowship

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## MONDAY, JUNE 27TH, MORNING SESSIONS

9:00 AM	<b>80: Thousands of loci and hundreds of species: phylogenomics of crocidurine and myosoricine shrews</b> T. C. Giarla*, R. Hutterer, J. Kerbis Peterhans, and J. A. Esselstyn	<b>88: Factors influencing moose behavior in Voyageurs National Park</b> M. A. Ditmer*, S. K. Windels, R. A. Moen, J. D. Forester, and T. R. Harris	<b>96: Testing for body size divergence in Neotropical frugivorous bats</b> L.D. Verde Arregoitia	<b>104: Resurvey of historical localities reveal decline in the broad-toothed rat (<i>Mastacomys fuscus</i>) across Victoria, Australia</b> S. Shipway* and K. C. Rowe
9:15 AM	<b>81<sup>E</sup>: Systematic and species delimitation in the genus <i>Calomys</i> (Rodentia: Sigmodontinae)</b> N. K. Kandel* and J. Salazar-Bravo	<b>89: Cardiac response of American black bears to roadways</b> M. A. Ditmer*, S. J. Rettler, J. R. Fieberg, P. A. Iaizzo, T. G. Laske, K. V. Noyce, and D. L. Garshelis	<b>97: Dynamics of cougar recolonization in the Midwest: investigating trends in confirmations over 25 years</b> M. A. LaRue* and C. K. Nielsen	<b>105<sup>E</sup>: Differential effects of prescribed fire vs. herbicide induced longleaf pine restoration on fox squirrel occurrence</b> W. W. Boone*, R. E. Reichert, and R. A. McCleery
9:30 AM	<b>82: Phylogenomics and Sigmodontinae: using big data approaches to examine a big taxonomic lineage</b> J. D. Hanson*, R. N. Platt, G. D'Elia, and A. Parada	<b>90: California coyotes develop a taste for seafood in the absence of competitors</b> R. E. B. Reid*, D. Gifford-Gonzalez, and P. L. Koch	<b>98: Habitat suitability and population viability of recolonizing cougars in the midwestern U.S.</b> M. A. LaRue* and C. K. Nielsen	<b>106<sup>E</sup>: Detection of American martens as a function of season and habitat in northern Wisconsin</b> H. E. Mutascio*, C. C. Day, P. A. Zollner, J. H. Gilbert, and N. P. McCann
9:45 AM	<b>83<sup>E</sup>: Ultraconserved elements reveal higher-level relationships among marsupials</b> M. T. Swanson* and J. A. Esselstyn	<b>91: Are migratory behaviours of bats socially transmitted?</b> E. F. Baerwald	<b>99: A trait-based model of dynamic insular biogeography: applying hysteresis to community biogeography</b> R. P. Anderson*, M. A. Balk, J. R. Burger, and T. S. Fristoe	<b>107: Effects of range contraction on genetic variation in the woodland deer mouse (<i>Peromyscus maniculatus gracilis</i>)</b> S. E. Curry, Z. S. Taylor and S. M. G. Hoffman*
10:00 AM	<b>Break – Willey Atrium</b>			
10:30 AM	<b>Symposium I: Big Data Meets Mammalogy: How to Discover Existing Datasets and Save Your Data from Extinction -Willey 125-</b>			

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    \*\*Grants-In-Aid or Fellowship    \*Presenter

**MONDAY, JUNE 27TH, SYMPOSIUM I**  
**BIG DATA MEETS MAMMALOLOGY: HOW TO DISCOVER EXISTING DATASETS AND**  
**SAVE YOUR DATA FROM EXTINCTION**  
**-WILLEY 125-**

<b>10:30 AM</b>	<b>Welcome &amp; Introduction</b> R. B. Reid & Y. Wang
<b>10:30 AM</b>	<b>108: Big data meets mammalogy: Mammal, vector, and pathogen sampling in the National Ecological Observatory Network</b> K. M. Thibault* and K. Tsao
<b>10:50 AM</b>	<b>109<sup>E</sup>: Scientific reproducibility and the role of data archiving</b> K. J. Gilbert*, A. Y. K. Albert, R. L. Andrew, F. Débarre, D. G. Bock, M. T. Franklin, N. C. Kane, J.-S. Moore, B. T. Moyers, S. Renaut, D. J. Rennison, T. Veen, S. Yeaman, and T. H. Vines
<b>11:10 AM</b>	<b>110: VertNet and beyond: advances in biodiversity discovery and data quality improvement</b> D. Bloom*, L. Russell, J. Wieczorek, and R. Guralnick
<b>11:30 AM</b>	<b>111: VertNet traits: biocollections as a critical source for mammal trait data</b> R. Guralnick*, P. Zermoglio, J. Wieczorek, and R. LaFrance
<b>11:50 AM</b>	<b>Panel Discussion</b> D. Bloom, K. J. Gilbert, R. Guralnick, and K. M. Thibault
<b>12:30 PM</b>	<b>Lunch – On Your Own</b>
<b>1:30 PM</b>	<b>Symposium II: Morphometric Approaches to Studying Mammalian Evolution and Ecology – Willey 125</b>

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    <sup>\*</sup>Presenter

**MONDAY, JUNE 27TH, SYMPOSIUM II**  
**SYMPOSIUM II: MORPHOMETRIC APPROACHES TO STUDYING MAMMALIAN**  
**EVOLUTION AND ECOLOGY**  
**-WILLEY 125-**

1:30 PM	<b>Welcome &amp; Introduction</b> D. L. Fox & K. P. McNulty
1:30 PM	<b>112: Geometric morphometric studies of rodent disparity: influences of climate, diet and topography</b> D. L. Swiderski* and M. L. Zelditch
2:00 PM	<b>113: Why the long face? Evidence for (or against?) a new 'rule' in mammalian evolution</b> A. Cardini
2:30 PM	<b>114: Macroevolution of the mammalian mandible: primates, ungulates and carnivorans compared</b> C. Meloro
2:45 PM	<b>115: Climate-linked morphotypes identify populations vulnerable to changing climate</b> J. L. McGuire
3:00 PM	<b>116: Does bite force matters on shaping the head of strepsirrhine primates</b> A.-C. Fabre*, M. Dumont, C. Wall, D. Brewer, E. Ehmke, K. Welser, and A. Herrel
3:15 PM	<b>Panel Discussion</b> A. Cardini, A.-C. Fabre, J.L. McGuire, C. Meloro, and D. L. Swiderski
3:30 PM	<b>Break – Willey Atrium</b>
4:00 PM	<b>Thematic Session III: African Mammals – Willey 125</b>
4:00 PM	<b>Technical Sessions 12, 13, and 14 – Anderson 230, 250, and 270</b>

<sup>E</sup>Evaluated Presentation    <sup>T</sup>AHonoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    <sup>\*</sup>Presenter

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**MONDAY, JUNE 27TH, AFTERNOON SESSIONS**

Session	Thematic Session III: African Mammals – A Tribute to Bill Stanley	Technical Session 12: Genetics	Technical Session 13: Population Ecology	Technical Session 14: Wildlife Management
Room	Willey 125	Anderson 230	Anderson 250	Anderson 270
Moderator	Link E. Olson	Melissa T. R. Hawkins	Sean M. Beckmann	Susan C. Loeb
4:00 PM	<b>117<sup>TA</sup>: Black and white rhino space use and resource selection in the lowveld of South Africa</b> M. J. Merrick*, J. L. Koprowski, C. Spencer, and M. Stokes	<b>123: Identification of genomic regions of divergence across a mammalian hybrid zone</b> C. W. Thompson* and R. N. Platt II	<b>129<sup>E</sup>: Linking climate and habitat to nutritional condition and recruitment in moose</b> B. R. Jesmer*, J. R. Goheen, K. L. Monteith, and M. J. Kauffman	<b>135: Habitat use of the San Bernardino flying Squirrel in a post fire landscape</b> M. Mazzella* and J. Koprowski
4:15 PM	<b>118<sup>E</sup>: Anthropogenic impacts on forest duiker occupancy within a mixed land use forest mosaic, South Africa</b> Y. C. Ehlers Smith*, D. A. Ehlers Smith, C. T. Downs and T. Ramesh	<b>124<sup>E</sup>: Movement patterns of <i>Peromyscus leucopus</i> across the Upper Peninsula of Michigan during a 30-year expansion</b> J. M. Baumgartner* and S. M. G. Hoffman	<b>130<sup>E</sup>: Understanding the past, present, and future of a rare species: modeling distribution shifts</b> J. Stuhler*, D. Ray, R. Bradley, N. Platt, C. Rios-Blanco, C. Garcia, and R. Stevens	<b>136<sup>E,TA</sup>: Effect of forest opening landscape characteristics, prey abundance, and vegetation structure on bat activity</b> J. D. Brooks*, S. C. Loeb, and P. D. Gerard
4:30 PM	<b>119: Solving inequalities: high reproductive skew in a social African ground squirrel with no dominance hierarchies</b> J. M. Waterman	<b>125<sup>E</sup>: Population genomics of the mountain treeshrew (<i>Tupaia montana</i>) in the sky islands of Borneo</b> L. D. Parker*, M. T. R. Hawkins, J. A. Leonard, M. Camacho-Sanchez, T. R. Wilbert, H. C. Lim, L. L. Rockwood, K. M. Helgen, and J. E. Maldonado	<b>131<sup>E</sup>: Bat cravings: dietary variation during reproductive periods of Seba's short-tailed fruit bat</b> E. E. Bohlender*, J. Pérez-Torres, N. A. Borray-Escalante and R. D. Stevens	<b>137<sup>TA</sup>: Assessing calf survival and cause-specific mortality in the declining moose population in northeastern Minnesota</b> W. J. Severud* and G. D. DelGiudice

<sup>E</sup>Evaluated Presentation

<sup>TA</sup>Honoraria or Travel Award

\*\*Grants-In-Aid or Fellowship

\*Presenter



**MONDAY, JUNE 27TH, AFTERNOON SESSIONS**

4:45 PM	<b>120: Small-mammal community responses to ungulate exclusion and prescribed fire on the East African savanna</b> B. J. Bergstrom*, R. L. Sensenig, D. J. Augustine, and T. P. Young	<b>126: Source-sink dynamics and barriers to gene flow in Alaska red foxes</b> K. J. Hundertmark*, E. Goldsmith, and K. Hueffer	<b>132: Understanding ecological, phenotypic, and genetic effects on the movement and spatial configuration of <i>Peromyscus leucopus</i></b> S. L. Hannebaum* and W. Booth	<b>138: Up and down and all around: <i>Peromyscus</i> population responses in a long-term forest management experiment</b> R. A. Gitzen*, R. B. Renken, D. K. Fantz, R. G. Jensen, A. J. Wolf, A. D. Bleisch, and J. J. Millspaugh
5:00 PM	<b>121<sup>E</sup>: Consistent individual differences and long-term cortisol levels in an African ground squirrel</b> J. L. Sojka*, J. M. Waterman, and W. G. Anderson	<b>127: Tracking translocations: interdisciplinary approaches to investigating the origins of the California Channel Island mammals</b> C. A. Hofman*, J. E. Maldonado, and T. C. Rick	<b>133: Survival of black-footed ferrets before and after a plague epizootic in South Dakota</b> T. M. Livieri*, D. E. Biggins, K. R. Crooks, and L. M. Angeloni	<b>139<sup>E</sup>: Spatial ecology of a mesocarnivore to inform about future disease management</b> A. M. Veals*, J. L. Koprowski, K. C. VerCauteren, and D. L. Bergman
5:15 PM	<b>122: Don't forget about the little ones: assessing continent-wide knowledge gaps for Africa's small carnivores</b> A. W. Ferguson* and E. Do Linh San	<b>128: Tiger conservation through a genetic lens</b> U. Ramakrishnan, P. Thatte*, and M. Natesh	<b>134<sup>E</sup>: Factors influencing mule deer neonate survival</b> D. R. Walsh*, K. M. Stewart, B. K. Johnson, and M. J. Wisdom	<b>140: Using drones and thermal imaging for night ungulate surveys in forests—opportunities and challenges</b> S. Pagacz*, J. Witczuk, and B. Popis
5:30 PM	<b>Bill Stanley Memorial – Willey 125</b>			
6:00 PM	<b>Board of Directors Meeting II – Blegen 125</b>			
6:00 PM	<b>Open</b>			
7:00 PM	<b>Poster Session I &amp; Social – Humphrey Atrium &amp; Forum</b>			

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    <sup>\*</sup>Presenter

**MONDAY, JUNE 27TH, POSTER SESSION I & SOCIAL  
-HUMPHREY ATRIUM & FORUM-**

<p><b>141: Fleas of kit foxes (<i>Vulpes macrotis</i>) at Dugway Proving Ground, Utah</b> H. K. Pigage*, B. M. Kluever, J. C. Pigage, and E. M. Gese</p>
<p><b>142: Temporal and spatial comparison of the impacts of logging on white-footed mice</b> S. G. Mech*, T. Frey, J. Sagner, and S. Dea</p>
<p><b>143<sup>E,TA**</sup>: Flesh off the bones: calculating late Quaternary canid body-sizes from fossil fragments for paleoecological study</b> M. I. Pardi</p>
<p><b>144: Morphometric divergence and functional similarity in <i>Sciurus vulgaris</i> and <i>S. carolinensis</i></b> J. S. Scheibe and N. D. Moncrief*</p>
<p><b>145<sup>E</sup>: Taxonomic revision of the <i>Dasyopus kappleri</i> and revalidation of <i>Dasyopus pastasae</i> and <i>D. beniensis</i> (Dasypodidae)</b> A. Feijo*, B. D. Patterson, and P. Cordeiro-Estrela</p>
<p><b>146: Are coyotes contributing to the spread of Rocky Mountain spotted fever in Arizona?</b> E. N. Green*, C. L. Chambers, and R. Benford</p>
<p><b>147<sup>TA</sup>: Phylogeography of the Florida mouse (<i>Podomys floridanus</i>)</b> A. J. Marx*, T. J. Doonan, and J. D. Austin</p>
<p><b>148<sup>TA</sup>: Geographic variation in morphological characters in meadow jumping mice (<i>Zapus hudsonius</i>) follow Bergmann's Rule</b> L. P. Smith* and J. L. Malaney</p>
<p><b>149<sup>E,TA</sup>: Ecology of native mice in midwestern row-crop agriculture and implications for ecosystem services</b> J. L. Berl*, S. A. Abercrombie, E. A. Flaherty, and R. K. Swihart</p>
<p><b>150<sup>E</sup>: Flea distribution across American pika (<i>Ochotona princeps</i>) populations in North America's Intermountain West</b> N. Wijewardena*, and K.E. Galbreath</p>
<p><b>151: How black-tailed jackrabbit abundance affects golden eagles: an ongoing study</b> D. M. Green* and R. Benford</p>
<p><b>152: Small mammal niche differentiation within the Alexander Archipelago of southeast Alaska</b> S. L. O'Brien*, S. D. Newsome, and J. A. Cook</p>
<p><b>153<sup>TA</sup>: Ecological causes of intraspecific variation in aposematism: a study of the striped skunk <i>Mephitis mephitis</i></b> H. P. Walker</p>
<p><b>154<sup>E,TA</sup>: Geometric-morphometric analysis of <i>Dipodomys ordii</i> dentition: shape change along environmental and climatic gradients</b> T. M. Smiley*, L. McQuarter, and C. Badgley</p>
<p><b>155<sup>E</sup>: New records and two possible local extinctions from a sky island in the Great Basin</b> B. C. Rapier*, J. L. Malaney, B. A. Kohli, M. A. Hobbs, L. P. Smith, and M. D. Matocq</p>
<p><b>156: Small mammal population dynamics in habitats associated with a northern Michigan old growth pine forest</b> T. E. Lee, Jr.*, C. R. Robinson, and E. Q. Boyd</p>
<p><b>157<sup>E</sup>: Cranial and mandibular morphological variation in African <i>Scotophilus</i>: examining species limits using a morphometric approach</b> B. R. Schweiger*, P. W. Webala, L. C. Westley, and B. D. Patterson</p>

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    \*\*Grants-In-Aid or Fellowship    \*Presenter

**MONDAY, JUNE 27TH, POSTER SESSION I & SOCIAL  
-HUMPHREY ATRIUM & FORUM-**

<p><b>158<sup>E</sup>: Geometric morphometric investigation of marten (<i>Martes</i> spp.) in northwestern North America</b> E. J. Johnson*, J. P. Colella, and J. A. Cook</p>
<p><b>159: Factors affecting detectability of small mammals in roadkill surveys</b> A. Romero</p>
<p><b>160<sup>E</sup>: Opposing seed dispersal and seed predation by mammals for an invasive cactus in East Africa</b> M. Dudenhoeffer*, A. M. C. Hodge, and J. R. Goheen</p>
<p><b>161<sup>E</sup>: Using acoustic detectors to document arrival of gray bats (<i>Myotis grisescens</i>) at maternity colonies</b> C. L. Gerdes*, S. P. Maher, and L. W. Robbins</p>
<p><b>162<sup>E</sup>: Habitat use and species composition of bats in a northeastern coastal plain ecosystem</b> J. J. Fletcher*, R. B. Curry, and S. L. Farrell</p>
<p><b>163: Evidence for a relationship between class experience handling wildlife and interest in wildlife careers</b> J. M. Duggan* and K. H. Grobman</p>
<p><b>164<sup>**</sup>: Congressional Visits Day: communicating the importance of biological research to policymakers in Washington, D.C.</b> E. P. Flesch* and S. A. Smiley-Walters</p>
<p><b>165: Amphibious and terrestrial adaptations in the nose of a carnivorous murid: evidence from the turbinates</b> Q. Martinez and P.-H. Fabre*</p>
<p><b>166: Paleobiology of ground sloths and other Pleistocene South American mammals: evidences from 3D humerus geometry</b> A. M. de Oliveira and C. Meloro*</p>
<p><b>167: Intraspecific variation in western subspecies of <i>Peromyscus maniculatus</i></b> B. Buttler* and D. George</p>
<p><b>168: Training citizen scientists in the analysis of bat acoustic data</b> C. J. Yahnke*, J. R. Skattum, and P. F. Rebholz</p>
<p><b>169<sup>E</sup>: Parasite mediated competition between the New England (<i>Sylvilagus transitionalis</i>) and eastern (<i>S. floridanus</i>) cottontail</b> S. L. Mello*, J. B. Cohen, and C. M. Whipps</p>
<p><b>170: Comparing identification using salivary amylase and morphology to identify <i>Peromyscus leucopus</i> and <i>P. maniculatus</i></b> S. Leipus, A. O'Connell*, H. Schradick, and J. Whittaker</p>
<p><b>171: Interactions between American red and eastern gray squirrels on a college campus</b> J. A. Watson, C. Hinton, E. Yu, P. Bergquist, E. Robinson, and J. C. Whittaker*</p>
<p><b>172<sup>E</sup>: Variation in dental morphology among heteromyid rodents in present-day and fossil communities</b> M. J. Moroz*, T. M. Smiley, and C. Badgley</p>
<p><b>173<sup>E</sup>: Are tree bats actively foraging at wind turbines in the southern Great Plains?</b> C. F. Foo*, V. J. Bennett, D. A. Williams, and A. M. Hale</p>
<p><b>174<sup>E</sup>: The influence of urbanization on boldness and aggression in Merriam's kangaroo rats (<i>Dipodomys merriami</i>)</b> G. Hurtado* and K. Mabry</p>

<sup>E</sup>Evaluated Presentation    <sup>T</sup>AHonoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter

**MONDAY, JUNE 27TH, POSTER SESSION I & SOCIAL  
-HUMPHREY ATRIUM & FORUM-**

<b>175: Do you hear what I hear? Integrating acoustic monitoring into a pika citizen science project</b> J. Varner*, J. Goff, and S. Shivappa
<b>176: Niche overlap between sympatric coyotes and bobcats in highland zones of Olympic Mountains, Washington</b> J. Witzuk*, S. Pagacz, and L. S. Mills
<b>177<sup>E</sup>: Habitat usage in proximity to wind farms by local bat species in northwest Missouri</b> K. Irwin* and L. R. McAliley
<b>178: The University of Alaska Museum's rapidly growing and increasingly utilized marine mammal collection</b> L. E. Olson*, A. M. Gunderson, K. E. Rubin, and K. B. P. Hildebrandt
<b>179<sup>E**</sup>: Understanding habitat selection by Himalayan musk deer and impacts of livestock grazing in Nepal Himalaya</b> K. K. Khadka* and D. A. James
<b>180<sup>E</sup>: Relationship of masseter volume to diet in different cebids</b> J. Levy*, C. Fakhri, P.J. Lewis, and A. Hartstone-Rose
<b>181: Evolution on a complex adaptive landscape: diet and jaw shape in Sciuridae</b> M. L. Zelditch*, J. Ye, and D. L. Swiderski
<b>182<sup>E</sup>: Species limits in the Neotropical nectar bat genus <i>Anoura</i></b> C. A. Calderon-Acevedo* and N. C. Muchhala
<b>183<sup>E</sup>: Perfect timing: the coevolution of the sensory brain and temporal niche in rodents</b> A. Morrow*, P. Meek, L. Smale, and B. L. Lundrigan
<b>184: Seasonal shifts in foraging strategies of eastern gray squirrels (<i>Sciurus carolinensis</i>): time-minimization to energy-maximization</b> G. Chang, H. Liang, S. A. Marino, and M. A. Steele*
<b>185: Oak dispersal by rodents across a rural-urban gradient</b> S. A. Moreno*, M. Roselli, M. J. Suchocki, D. Kriebel, B. Smith, J. Nevius, J. A. Stratford, M. A. Steele
<b>186<sup>E</sup>: Rates and patterns of morphological diversification in two clades of Philippine murine rodents</b> D. M. Rowsey*, S. A. Jansa, and L. R. Heaney
<b>187<sup>E</sup>: Associations between otter (<i>Mustelidae: Lutrinae</i>) diet and craniodental morphology</b> S. G. Barton* and P. J. Adam
<b>188<sup>E**</sup>: Not all claws are the same: form and function of unguis morphology in Family Felidae</b> C. L. McCann* and P. J. Adam
<b>189: Morphological variation of <i>Gerbillurus</i> in southern Africa</b> A. A. Castellanos* and D. A. Schlitter
<b>190: From fossils to mitochondrial genomes: analyzing size variation in caviid rodents</b> M. E. Pérez, J. F. Vilela*, J. A. de Oliveira, G. Lessa, and B. D. Patterson
<b>191<sup>E</sup>: The twisted tale of zygapophyses: intervertebral joint morphology and locomotor strategies in terrestrial carnivorans</b> S. Templeton*, S. Phillips, and P.J. Adam
<b>192: Comparative forelimb morphology and function in hippopotamids, peccaries and suoids: ecomorphy trumps phylogeny</b> V. L. Naples
<b>8:30 PM</b>   <b>Social &amp; Auction – Humphrey Atrium &amp; Forum</b>

<sup>E</sup>Evaluated Presentation    <sup>T</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter

## TUESDAY, JUNE 28TH, MORNING SESSIONS

7:00 AM	Registration – Willey Atrium		
8:00 AM	Technical Sessions 15, 16, and 17 – Anderson 230, 250, and 270		
Session	Technical Session 15: Evolutionary Biology	Technical Session 16: Systematics	Technical Session 17: Wildlife Management
Room	Anderson 230	Anderson 250	Anderson 270
Moderator	Mariana Nery	Thomas C. Giarla	Jeff Villepique
8:00 AM	<b>193: Reynolds Number (Re) and the evolution of endothermy</b> J. S. Mellett	<b>201<sup>E,TA**</sup>: Patterns and timing of diversification among major lineages of mountain voles, genus <i>Neodon</i></b> N. Pradhan*, A. N. Sharma, A.M. Sherchan, S. Chhetri, and C. W. Kilpatrick	<b>209: Factors influencing estimates of river otter abundance following reintroduction: pre- and post-harvest assessment</b> E. H. Ellington*, P. Flournoy, C. Dwyer, and S. Gehrt
8:15 AM	<b>194<sup>E**</sup>: Post-introduction shift in sexual selection causes evolutionary change in the small Indian mongoose (<i>Herpestes auropunctatus</i>)</b> M. A. Owen* and D. C. Lahti	<b>202<sup>E</sup>: Phylogenetic relationships within the leaf-eared mouse <i>Phyllotis xanthopygus</i> (Rodentia: Sigmodontinae)</b> B. Latorre-Reyes*, E. Palma, and U. Pardiñas	<b>210<sup>E</sup>: Impacts of insecticide plague treatment on populations of deer mice on prairie dog colonies</b> L. Dombro*, R. Gitzen, D. Licht, and D. Roddy
8:30 AM	<b>195: Concurrent evolutionary changes in lower jaws, molars, and chewing cycles in early crown mammals</b> D. M. Grossnickle	<b>203: Dynamics of genetic and morphological diversification in an incipient intra-island radiation of Philippine rodents</b> C. C. Kyriazis*, J.M. Bates, and L. R. Heaney	<b>211: Potentially suitable environments for westward expansion of black bears in Oklahoma</b> D. M. Techentin* and W. S. Fairbanks
8:45 AM	<b>196: Insights into the evolutionary history of Mesoamerican gray foxes revealed by mitogenomes from museum specimens</b> S. Castañeda Rico*, M. T. N. Tsuchiya, S. Shirazi, C. A. Hofman, D. Reding, T. C. Rick, and J. E. Maldonado	<b>204: Taxonomy, systematics, biogeography, and evolution of the South American cottontail rabbits (<i>Lagomorpha, Leporidae: Sylvilagus</i>)</b> L. A. Ruedas*, S. M. Silva, J. H. French, R. N. Platt II, J. Salazar-Bravo, J. M. Mora, and C. W. Thompson	<b>212: Transmitter performance and effects on fitness of American beavers (<i>Castor canadensis</i>)</b> S. K. Windels*, J. B. Smith, T. Wolf, R. W. Klaver, and J. L. Belant

<sup>E</sup>Evaluated Presentation      <sup>TA</sup>Honoraria or Travel Award      <sup>\*\*</sup>Grants-In-Aid or Fellowship      \*Presenter

**TUESDAY, JUNE 28TH, MORNING SESSIONS**

9:00 AM	<b>197<sup>E</sup>: Whole genome sequencing of procyonids: insights into adaptation and alternative de novo assembly methods</b> M. T. N. Tsuchiya*, K. P. Koepfli, R. B. Dikow, P. Frandsen, L. L. Rockwood, R. Kays, K. M. Helgen, and J. E. Maldonado	<b>205: Phylogeny and species limits in Olympic, Vancouver Island, and hoary marmots revisited: a 21-gene salute</b> L. E. Olson*, K. M. Everson, M. V. Sorlin, and J. A. Nations	<b>213: Determining population density estimates for Florida panthers using trail camera photos and spatial data</b> D. Onorato*, R. M. Dorazio, D. B. Shindle, M. Criffield, M. Lotz, D. Land, and M. W. Cunningham
9:15 AM	<b>198: Species sorting of endemic mice along replicated elevational gradients of Luzon Island, Philippines</b> J. A. Esselstyn*, J. A. Nations, S. J. Steppan, and L. R. Heaney	<b>206<sup>E</sup>: Phylogeography and the origin of free-ranging elk (<i>Cervus canadensis</i>) in Texas</b> C. D. Dunn*, M. R. Mauldin, M. E. Wagley, and R. D. Bradley	<b>214<sup>E</sup>: Effects of three land management regimes on small mammals at Grand Forks Air Force Base</b> L. R. LaFond* and E. H. Rave
9:30 AM	<b>199<sup>E**</sup>: The utility of zonadhesin in examining a potential reproductive isolation mechanism in rodents</b> E. K. Roberts*, D. M. Hardy, and R. D. Bradley	<b>207: Using ecological niche modeling to reevaluate the status of formerly recognized small-eared shrews (Soricidae: <i>Cryptotis</i>)</b> L. Guevara* and V. Sánchez-Cordero	<b>215: A novel management strategy for controlling eastern gray squirrel (<i>Sciurus carolinensis</i>) populations in urban areas</b> K. M. Dunn*, W. Y. Chao, C. Yoder, J. D. Lanham, and G. K. Yarrow
9:45 AM	<b>200<sup>**</sup>: Quaternary diversification of Mesoamerican montane Neotropical cricetid rodents</b> N. Ordóñez-Garza* and R. D. Bradley	<b>208: Choosing the shape of Bayesian priors when calibrating a molecular clock, an example in caviomorphs</b> R. W. Norris* and N.S. Upham	<b>216<sup>E</sup>: The ecology of coyotes (<i>Canis latrans</i>) in a shifting heterogeneous landscape</b> S. Fraser*, S. Fuhlendorf, D. Elmore, and S. Fairbanks
10:00 AM	<b>Break – Willey Atrium</b>		
10:30 AM	<b>Poster Session II – Humphrey Atrium</b>		

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter

**TUESDAY, JUNE 28TH, POSTER SESSION II  
-HUMPHREY ATRIUM-**

<b>217: Landscape genetics of raccoons (<i>Procyon lotor</i>) in a naturally fragmented coastal landscape</b> N. D. Moncrief*, J. H. Roberts, E. M. Hallerman, R. A. Van Den Bussche, and R. D. Dueser
<b>218<sup>E</sup>: Insight into hantavirus evolution using phylogenomics</b> S. W. Liphardt*, R. Yanagihara, and J. A. Cook
<b>219: Small mammals of the Simien Mountains of Ethiopia</b> W. T. Stanley, E. W. Craig*, and M. Yonas
<b>220: Risk-driven behaviour in the African leopard</b> K. Rafiq, P. Stephens, K. Golabek, and C. Meloro*
<b>221: Natural history collection biorepositories and integrated databases as critical infrastructure for pathogen discovery and pathobiology</b> J. L. Dunnun*, R. Yanagihara, K. M. Johnson, B. Armien, N. Batsaikhan, L. Morgan, and J. A. Cook
<b>222: Diversity of medium-sized and large mammals through camera-trap surveys at northern Antioquia, Colombia</b> S. Botero-C., D. Marín C., E. Salazar G., A. Arias-Alzate, and S. Solari*
<b>223<sup>E</sup>: Fire effects on acorn use and demography of small mammals</b> D. L. Nelson* and R. K. Swihart
<b>224<sup>E</sup>: Potential reservoirs of <i>Borrelia burgdorferi</i> in a northern Illinois prairie species ecosystem</b> R. J. Freund*, T. A. E. Venegas, and S. M. Beckmann
<b>225: The effect of a major drainage divide on the gene flow of the Eurasian otter</b> S. Pagacz
<b>226<sup>E</sup>: Human influence on antibiotic resistance in the fecal matter of Itasca rodents</b> M. K. Jackson*, J. C. Whittaker, S. K. Thompson, and S. H. Cotner
<b>227<sup>E</sup>: Occupancy modeling to examine meso-mammal diversity and abundance at an urban-rural interface of Cheyenne, Wyoming</b> D. J. Paiz*, F. G. Schaffer IV*, A. L. Wangeline, H. C. Lanier, and Z. P. Roehrs
<b>228: Mammal use of caves in Shoushan National Nature Park, Taiwan</b> Y. Y. Ho, S. H. Chen, J. M. Tsao, M. H. Hsu, and H. W. Chang*
<b>229: Comparing tree building approaches for a phylogenomic dataset with over 200 species</b> K. A. Small*, J. A. Esselstyn, R. Hutterer, J. C. Kerbis Peterhans, and T. C. Giarla
<b>230: Mammalian keratin as a useful source of high-quality DNA from museum specimens</b> M. M. McDonough*, L. D. Parker, N. Rotzel McInerney, R. J. Baker, K. M. Helgen, and J. E. Maldonado
<b>231: The efficacy of mammal urine as a lure in camera-trapping studies</b> M.T. Sanders* and J. M. Cawthorn
<b>232<sup>E</sup>: The human dimension of elephant conservation in southeast Bangladesh</b> S. U. A. Chowdhury* and K. W. Larsen
<b>233<sup>E</sup>: Dangerous misperceptions: eastern cottontail survival in an agroecosystem</b> J. A. Nawrocki*, R. L. Schooley, and M. P. Ward
<b>234<sup>E**</sup>: A temporal investigation of physiological stress for American pika (<i>Ochotona princeps</i>) in the Sierra Nevada</b> K. B. Klingler*, C. J. Downs, and M. M. Peacock
<b>235: Utility of whole mitochondrial genomes for species-level phylogenetics of <i>Maxomys</i> spiny rats</b> K. E. Moolick*, J. A. Esselstyn, and T. C. Giarla
<b>236<sup>E</sup>: Phylogeography of two northcentral Asian shrews (<i>Sorex tundrensis</i> and <i>Sorex caecutiens</i>)</b> N. V. Ochoa*, S. E. Greiman, and J. A. Cook

<sup>E</sup>Evaluated Presentation    <sup>T</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter

## TUESDAY, JUNE 28TH, POSTER SESSION II

<p><b>237: Population dynamics of an extinct cotton rat (<i>Sigmodon curtisi</i>) from the early Pleistocene of Florida</b> D. R. Ruez, Jr.</p>
<p><b>238<sup>E</sup>: Shifting to a new place: influence of developmental timing on life-history schedules in Order Carnivora</b> C. N. Cavalieri*, D. C. Druskins, K. E. Holekamp, and B. L. Lundrigan</p>
<p><b>239<sup>E</sup>: Simulating patterns of home range selection by the American marten in northern Wisconsin</b> C. C. Day*, P. A. Zollner, N. P. McCann, J. H. Gilbert, and D. W. MacFarland</p>
<p><b>240<sup>**</sup>: Determinants of multiple paternity in a fluctuating population of ground squirrels</b> C. P. Wells*, K. M. Tomalty, C. H. Floyd, M.B. McEachern, B. May, and D.H. Van Vuren</p>
<p><b>241<sup>E</sup>: Why did the wolf poop in the road? Road density doesn't impact wolf road usage</b> L. E. Price*, L. R. Wallenser, and B. J. Swanson</p>
<p><b>242<sup>E**</sup>: Examining habitat specific relationships of cortisol levels and ectoparasite load in degus (<i>Octodon degus</i>)</b> K. Nowak, L. A. Ebensperger, M. K. Strom*, K. Calhoun, M. Johnston, A. Hettena, M. Romero, C. Bauer, A. Legan, P. Abbot, and L.D. Hayes</p>
<p><b>243: Ancient DNA and NGS bring new insights on <i>Mustela</i> systematics</b> J. F. Vilela*, A. E. R. Soares, F. Grewe, and B. D. Patterson</p>
<p><b>244<sup>E</sup>: Canid collision: range expansion by coyotes (<i>Canis latrans</i>) and crab-eating foxes (<i>Cerdocyon thous</i>) in Panama</b> J. Hody*, R. Moreno, N.F.V. Meyer, K. Pacifici, and R. Kays</p>
<p><b>245<sup>E</sup>: Challenging perceptions of Afroinsectiphilia mammal radiations through comparative macroevolutionary analyses</b> V. E. Apkenas</p>
<p><b>246<sup>E</sup>: The impact of prairie restoration on rodent population and community dynamics in northern Illinois</b> P. Clough*, M. Davis*, and S. Beckmann</p>
<p><b>247: Bats and sport climbing: conflict or co-existence?</b> S. C. Loeb* and P. G. R. Jodice</p>
<p><b>248<sup>**</sup>: Behavioral and hormonal differences between juvenile and adult brush mice (<i>Peromyscus boylii</i>)</b> R. A. Kelley and K. E. Mabry*</p>
<p><b>249: Prevalence of raccoon roundworm in a semi-urban environment in northwest Missouri</b> B. French-Harison, C. D. Chevalier*, B. Bolander, C. Daldrup, E. Eber, N. Gray, J. Gunderson, C. Kelley, and J. Lynch</p>
<p><b>250: Starting an LCCMR prairie restoration grant: monitoring of small mammals</b> D. M. Bruns Stockrahm*, J. M. Lindstrom, A. M. Bordak, and E. C. Teige</p>
<p><b>251<sup>E</sup>: The long-term effects of post-fire succession on small mammal communities in the Greater Yellowstone Area</b> L. C. Carver*, M. E. Loetscher*, Z. P. Roehrs, M. A. Roehrs, R. S. Seville, and H. C. Lanier</p>
<p><b>252<sup>E</sup>: An overview of detection methods for plains spotted skunks (<i>Spilogale putorius interrupta</i>) in Texas</b> J.C. Perkins*, A. A. Shaffer, and R.C. Dowler</p>
<p><b>253: Discovering the Andean diversity: long-term mammal inventory in Parque Nacional Natural Las Orquídeas (Colombia)</b> C. A. Calderón-Acevedo*, J. M. Martínez-C., E. Patiño-Castillo, S. Carvalho-Madrugal, S. M. Peñuela-Gómez, C. Sánchez-Giraldo, and J. F. Díaz-Nieto</p>

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter



**TUESDAY, JUNE 28TH, POSTER SESSION II  
-HUMPHREY ATRIUM-**

<b>254: Behavior (not) under pressure: personality and behavioral syndromes in laboratory Siberian dwarf hamsters</b> L. L. Kanda*, E. Duncan, and L. Gervais	
<b>255<sup>E</sup>: A molecular diet analysis of the western bonneted bat (<i>Eumops perotis</i>) from southwest Texas.</b> A. A. Shaffer* and L. K. Ammerman	
<b>256: Population genetics of isolated Abert's squirrel populations</b> K. R. Bennett* and J. L. Koprowski	
<b>257: Rodents from the Upper Pleistocene of Quebrada Chalán and their paleoecological context</b> J. L. Román-Carrión, A. Mesías, and P.A. Moreno	
<b>258<sup>E</sup>: Taxonomy, fossils and phylogeny of Ecuadorian shrews</b> P. A. Moreno*, L. Albuja-V., J. L. Román-Carrión, S. R. Ron, and C. M. Pinto	
<b>259: Sex influence in the habitat use of the frugivorous bat <i>Sturnira hondurensis</i> in agricultural landscapes</b> N. Cortés-Delgado*, A. Guillén-Servent, and L. Jiménez-Ferbans	
<b>260: Long-term data reveals influence of removal trapping on wild small mammal populations</b> A. G. Hope	
<b>261<sup>E</sup>: Endoparasite richness, genetic diversity, and co-evolutionary dynamics of the endemic Pribilof Islands shrew (<i>Sorex pribilofensis</i>)</b> M. K. Regehr*, N. R. Morse, V. V. Tkach, and A. G. Hope	
<b>262: Multi-locus phylogenetic inference of the howler monkey radiation (<i>Alouatta</i>)</b> E. D. F. Suhling, E. E. Harris, I. Prates, and A. C. Carnaval	
<b>263: Investing in biodiversity collections for the future: a new century at the UMMZ</b> C. W. Thompson*, T. F. Duda, J. C. Hinshaw, T. Lee, M. F. O'Brien, D. L. Rabosky, G. E. Schneider, and P. K. Tucker	
<b>264<sup>E</sup>: Does translocation alter resource selection during parturition in desert bighorn sheep (<i>Ovis canadensis nelsoni</i>)?</b> M. E. Blum*, K. Stewart, and M. Cox	
<b>265<sup>E</sup>: A cryptic pika (Ochotonidae) species in the Sikkim Himalaya revealed by genetic, morphological and ecological evidence</b> N. Dahal*, A. A. Lissovsky, Z. Lin, K. Solari, E. A. Hadly, X. Zhan, and U. Ramakrishnan	
<b>266<sup>E</sup>: A non-invasive and comparative approach to assess reintroduction efforts of American martens in Wisconsin</b> J. Grauer* and J. Pauli	
<b>267: Modeling microhabitat parameters a predictors of trapping likelihood for four species of small mammals</b> D. Byman*, J. A. Stratford, and M. Suchocki	
<b>268: Midwest range expansion of the Virginia opossum impacted by agriculture and snow cover</b> L. L. Walsh and P. K. Tucker	
<b>12:00 PM</b>	<b>Lunch – On Your Own</b>
<b>1:00 PM</b>	<b>Thematic Session IV: Gauging Anthropogenic Impacts on Wildlife – Willey 125</b>
<b>1:00 PM</b>	<b>Technical Sessions 18, 19, and 20 – Anderson 230, 250, and 270</b>

<sup>E</sup>Evaluated Presentation    <sup>T</sup>AHonoraria or Travel Award    \*\*Grants-In-Aid or Fellowship    \*Presenter

**TUESDAY, JUNE 28TH, AFTERNOON SESSIONS**

Session	Thematic Session IV: Gauging Anthropogenic Impacts on Wildlife	Technical Session 18: Behavior	Technical Session 19: Biogeography	Technical Session 20: Community Ecology
Room	Willey 125	Anderson 230	Anderson 250	Anderson 270
Moderator	Steven R. Sheffield	Roger A. Powell	Michelle A. LaRue	Noé de la Sancha
1:00 PM	<b>269<sup>E,TA</sup>: Impacts of human disturbance on carnivores in protected areas of the Southwest</b> A. Darnell Baker* and P. L. Leberg	<b>277: Developmental and social constraints on early reproduction in an asocial mammal</b> C. P. Wells* and D. H. Van Vuren	<b>285: Ecological structure of modern mammalian faunas in relation to climate and landscape</b> C. Badgley* and J. Damuth	<b>292: Roosting ecology of Amazonian bats: resource partitioning and guild structure in hyperdiverse mammalian communities</b> R. S. Voss*, D. W. Fleck, P. M. Velazco, N. B. Simmons, and R. E. Strauss
1:15 PM	<b>270<sup>E</sup>: When the cat's away: how anthropogenic disturbance alters puma subsidies to scavengers</b> J. A. Smith*, M. L. Allen, and C. C. Wilmers	<b>278: Temporal scaling in analysis of American marten locomotor activity</b> N. P. McCann*, P. A. Zollner, and J. H. Gilbert	<b>286: A latitudinal gradient in dimensionality of biodiversity</b> R. D. Stevens* and J. S. Tello	<b>293: Stable isotope ecology of sympatric rodent species in a mixed forest ecosystem in northern Minnesota</b> D. L. Fox*, A. W. Haveles, and J. Munson
1:30 PM	<b>271<sup>E,TA</sup>: The spatial ecology of domestic dogs along Kenya's human, wildlife and livestock interface</b> D. Ngatia*, A. W. Ferguson, and P. Webala	<b>279: To forage or to guard: movement analysis of a solitary larder-hoarding rodent (<i>Callospermophilus lateralis</i>)</b> K. L. Hefty*, S. B. Vander Wall, and K. Stewart	<b>287: Rule reversals: patterns of body size variation in the common treeshrew (<i>Scandentia: Tupaiidae</i>)</b> E. J. Sargis*, V. Millien, N. Woodman, N. C. Morningstar, T. N. Bell, and L. E. Olson	<b>294: Habitat segregation in two competing species of rodent</b> A. W. Reed* and N. A. Slade
1:45 PM	<b>272: An examination of muskrat population dynamics in the U. S. based on harvest data</b> E. J. Heske*, A. A. Ahlers, and T. Lyons	<b>280<sup>E</sup>: Foraging behavior and social interactions of white-tailed deer (<i>Odocoileus virginianus</i>) at a concentrated food resource</b> D. B Stone*, B. S. Cohen, M. J. Cherry, J. A. Martin, and K. V. Miller	<b>288<sup>E</sup>: Biogeography and phylogeny of the two most diverse murid rodent genera on Sulawesi, Indonesia</b> H. Handika*, A. S. Achmadi, J. A. Esselstyn, and K. C. Rowe	<b>295: Integration of stable isotope and stomach content analysis to infer diets of arid grassland rodents</b> A. W. Haveles*, D. L. Fox, and K. Fox-Dobbs

<sup>E</sup>Evaluated Presentation

<sup>TA</sup>Honoraria or Travel Award

\*\*Grants-In-Aid or Fellowship

\*Presenter

## TUESDAY, JUNE 28TH, AFTERNOON SESSIONS

2:00 PM	<p><b>273: Does recreation or hunting affect wildlife communities in protected areas</b> R. Kays*, A. W. Parsons, M. C. Baker, E. L. Kalies, T. Forrester, R. Costello, C. T. Rota, J. J. Millspaugh, and W. J. McShea</p>	<p><b>281<sup>E</sup>: Temperature-induced changes to plant chemistry and forage selection by moose</b> J. L. Berini*, S. A. Brockman, A. D. Hegeman, D. L. Fox, P. B. Reich, R. Montgomery, and J. D. Forester</p>	<p><b>289: Preliminary phylogeographic analysis of <i>Sciurus variegatoides</i></b> A. A. Castellanos*, W. J. Murphy, and J. E. Light</p>	<p><b>296<sup>E</sup>: Examination of gut microbial compositions of genera in Rodentia</b> J. E. Wilkinson*, R. D. Bradley, M. L. Haynie, C. D. Phillips, and J. D. Hanson</p>
2:15 PM	<p><b>274<sup>E**</sup>: Anthropogenic effects on bat roosting behavior in Atlantic Forest of South America</b> G. D. Langlois* and R. D. Stevens</p>	<p><b>282<sup>E</sup>: Variation in personality, foraging behavior, and demography of a ground-dwelling sciurid across structurally distinct habitats</b> Z. K. Tinkle*, P.-O. Montiglio, C. W. Baun, and J. S. Forbey</p>	<p><b>290<sup>E</sup>: Museum and citizen science records change distributional estimates for the recently described olinguito (<i>Bassaricyon neblina</i>)</b> B. E. Gerstner*, K. M. Helgen, R. Kays, J. M. Kass, and R. P. Anderson</p>	<p><b>297: Small-mammal communities as indicators of change in ecosystem restoration</b> J. G. Hallett* and M. A. O'Connell</p>
2:30 PM	<p><b>275<sup>**</sup>: Anthropogenic development influences on puma behavior, movement, and energetics in a fragmented landscape</b> Y. Wang*, J. A. Smith, and C. C. Wilmers</p>	<p><b>283: Running on empty: nest burrow relocations by Franklin's ground squirrels (<i>Poliocitellus franklinii</i>)</b> J. F. Hare* and E. M. Pero</p>	<p><b>291: Biodiversity assessment of small rodents in northern Peruvian Amazonia near Iquitos</b> V. Pacheco*, K. Pino, P. Sánchez, A. Pari, J. Carrasco, E. Fong, C. Loayza, M. Molina, and D. Vivas</p>	<p><b>298<sup>E**</sup>: Structure of bat assemblages from tropical lowlands on both sides of the Ecuadorian Andes</b> J. P. Carrera-E.*, R. J. Baker, N. de la Sancha, N. Ordoñez-Garza, and C. J. Phillips</p>
2:45 PM	<p><b>276: An apex urban predator: the coyote establishes predator functions in the Chicago area</b> S. D. Gehrt*, C. Anchor, and S. McKenzie</p>	<p><b>284<sup>E</sup>: Individual variability in reproductive strategies among females shape the mating system of tree sloths</b> M. F. Garces-Restrepo*, M. Z. Peery, and J. N. Pauli</p>	<p>Open</p>	<p><b>299<sup>E</sup>: Examining species richness and phylogenetic diversity of bat communities across Mexico</b> J. R. Jensen* and C. L. Higgins</p>
3:00 PM	Break – Willey Atrium			
3:30 PM	Special Seminar: Improving Diversity and Training of Future Mammalogists – Willey 125			
4:00 PM	Capstone: Citizen science and ecology in the Zooniverse: turning data into discovery – Willey 125			

<sup>E</sup>Evaluated Presentation    <sup>TA</sup>Honoraria or Travel Award    <sup>\*\*</sup>Grants-In-Aid or Fellowship    \*Presenter

**TUESDAY, JUNE 28TH, SPECIAL SEMINAR & CAPSTONE  
-WILLEY 125-**

<b>3:30 PM</b>	<b>Welcome &amp; Announcements</b> Vice President Tom Tomasi
<b>3:30 PM</b>	<b>Special Seminar</b> <b>300: Improving diversity and training of future mammalogists</b> C. Welch
<b>4:00 PM</b>	<b>Capstone</b> <b>301: Citizen science and ecology in the Zooniverse: turning data into discovery</b> A. B. Swanson
<b>5:00 PM</b>	<b>Open</b>
<b>6:00 PM</b>	<b>Closing Social &amp; Awards Ceremony – McNamara Alumni Center</b>

<sup>E</sup>Evaluated Presentation   
 <sup>TA</sup>Honoraria or Travel Award   
 \*\*Grants-In-Aid or Fellowship   
 \*Presenter

## AUTHOR INDEX

Abbot, P.....	242	Berini, J. L. ....	281
Abercrombie, S. A. ....	149	Berl, J. L.....	149
Achmadi, A.....	55	Bernier, C.....	39
Achmadi, A. S. ....	288	Bestelmeyer, B. T. ....	45
Adam, P. J.....	28,187,188,191	Bienz, C. R.....	38
Ahlers, A. A. ....	272	Biggins, D. E. ....	133
Aho, K. A. ....	73	Bleisch, A. D. ....	138
Albert, A. Y. K.....	109	Bloom, D. ....	110
Albuja-V., L.....	258	Blum, M. E. ....	264
Allen, M. L. ....	270	Bock, D. G.....	109
Ammerman, L. K. ....	255	Bohlender, E. E.....	131
Anchor, C. ....	276	Bolander, B. ....	249
Anderson, R. P.....	99,290	Boone, W. W.....	105
Anderson, W. G.....	121	Boonstra, R.....	13
Andreassen, H. P. ....	13	Booth, W. ....	132
Andrew, R. L. ....	109	Bordak, A. M. ....	250
Ang, A.....	36	Bormet, A. K.....	16
Angeloni, L. M. ....	133	Borray-Escalante, N. A. ....	131
Anjos, E. A. C.....	56	Botero-C., S. ....	222
Apkenas, V. E. ....	245	Boutin, S. ....	13
Arias-Alzate, A. ....	222	Bowyer, R. T. ....	73
Armien, B.....	221	Boyd, E. Q.....	156
Arnold, T.....	103	Bracy Knight, K. ....	14
Augustine, D. J.....	49,120	Bradley, R. ....	130
Austin, J. D. ....	147	Bradley, R. D.....	199,200,206,296
Aylward, C.....	39	Brennan, L. A. ....	75
Badgley, C.....	154,172,285	Brewer, D.....	116
Baerwald, E. F.....	91	Brigham, R. M. ....	84
Bailey, C.....	21	Brito, J.....	69
Baker, A. M.....	74	Brockman, S. A.....	281
Baker, M. C. ....	273	Brooks, J. D. ....	136
Baker, R. J.....	230,298	Bruggink, J. G. ....	59
Balk, M. A. ....	99	Bruns Stockrahm, D. M.....	250
Barocas, A.....	72	Burger, J. R.....	99
Barton, S. G. ....	187	Burke, A. M. ....	35
Bates, J. M. ....	203	Burke, C. B.....	23
Batsaikhan, N.....	221	Bustos, M. I. A.....	69
Bauer, C. ....	242	Buttler, B. ....	167
Baumgardt, J. A. ....	75	Byman, D. ....	267
Baumgartner, J. M.....	124	Calderon-Acevedo, C. A. ....	182,253
Baun, C. W.....	282	Calhoun, K. ....	242
Beckmann, J. P. ....	15	Callaway, R. M.....	46
Beckmann, S. ....	246	Camacho-Sanchez, M. ....	125
Beckmann, S. M.....	224	Camp, M. J.....	61
Belant, J. L. ....	212	Cardini, A. ....	113
Bell, K. C. ....	6	Carnaval, A. C.....	262
Bell, T. N.....	287	Carrasco, J.....	291
Ben-David, M. ....	72	Carrera-E., J. P. ....	298
Benford, R. ....	146,151	Carvalho-Madrigal, S. ....	253
Bennett, K. R.....	256	Carver, L. C.....	251
Bennett, V. J.....	38,173	Casillas, A. M.....	1
Bergman, D. L. ....	139	Castañeda Rico, S.....	196
Bergquist, P.....	171	Castellanos, A. A. ....	1892,89
Bergstrom, B. J. ....	120	Cavalieri, C. N.....	238

Cawthorn, J. M. ....	231	Dikow, R. B. ....	197
Cawthorn, M. ....	67	Ditmer, M. A. ....	88,89
Chambers, C. L. ....	146	Do Linh San, E. ....	122
Chandler, J.L. ....	47	Dombro, L. ....	210
Chang, G. ....	184	Doonan, T. J. ....	147
Chang, H.-W. ....	228	Dorazio, R. M. ....	213
Chao, W. Y. ....	215	Dowler, R. C. ....	31,252
Cheeseman, A. E. ....	41	Downs, C. J. ....	234
Chen, S.-H. ....	228	Downs, C. T. ....	118
Cherry, M. J. ....	280	Druskins, D. C. ....	238
Chevalier, C. D. ....	249	Dubach, J. M. ....	17
Chhetri, S. ....	201	Duda, T. F. ....	263
Chowdhury, S. U. A. ....	232	Dudenhoeffer, M. ....	160
Chrisfield, S. T. ....	30	Dueser, R. D. ....	217
Chua, M. ....	36	Duggan, A. T. ....	94
Cicak, T. S. ....	30	Duggan, J. M. ....	163
Clough, P. ....	246	Dumont, M. ....	116
Cohen, B. S. ....	280	Duncan, E. ....	254
Cohen, C. S. ....	20	Dunn, C. D. ....	206
Cohen, J. ....	41	Dunn, K. M. ....	215
Cohen, J. B. ....	169	Dunnum, J. L. ....	78,221
Colella, J. P. ....	76,158	Dwyer, C. ....	209
Cook, J. A. ....	7,52,76,78,152,158,218,221,236	Ebensperger, L. A. ....	60,242
Cordeiro-Estrela, P. ....	145	Eber, E. ....	249
Cortés-Delgado, N. ....	259	Edwards, J. S. ....	78
Costello, R. ....	273	Ehlers Smith, D. A. ....	118
Cotner, S. H. ....	226	Ehlers Smith, Y. C. ....	118
Covert, H. H. ....	36	Ehmke, E. ....	116
Cox, M. ....	264	Eklund, D. ....	71
Craig, E. W. ....	219	Ellington, E. H. ....	209
Crawford, J. C. ....	4	Elliott Smith, E. A. ....	37
Criffield, M. ....	213	Elmore, D. ....	216
Crooks, K. R. ....	133	Ennis, A. G. ....	20
Culligan, R. ....	21	Erb, J. ....	103
Cunningham, M. W. ....	213	Erb, J. D. ....	68
Curry, R. B. ....	162	Esselstyn, J. A. ....	55,77,80,83,198,229,235,288
Curry, S. E. ....	107	Evans, E. H. ....	67
D'Acunto, L. E. ....	101	Everson, K. M. ....	3,205
D'Elia, G. ....	82	Fabre, A.-C. ....	116
Dahal, N. ....	265	Fabre, P.-H. ....	55,165
Daldrup, C. ....	249	Fairbanks, S. ....	216
Damuth, J. ....	285	Fairbanks, W. S. ....	211
Darnell Baker, A. ....	269	Fakhri, C. ....	180
Dávalos, L. M. ....	2	Fantz, D. K. ....	138
Davis, M. ....	246	Farrell, S. L. ....	162
Day, C. C. ....	106,239	Feijo, A. ....	145
de la Sancha, N. U. ....	100,298	Ferguson, A. W. ....	122,271
de Oliveira, A. M. ....	166	Fieberg, J. ....	103
de Oliveira, J. A. ....	190	Fieberg, J. R. ....	89
Dea, S. ....	142	Firn, J. ....	74
Dean, A. M. ....	54	Flaherty, E. A. ....	101,149
Débarre, F. ....	109	Fleck, D. W. ....	292
DeGiudice, G. D. ....	137	Flesch, E. P. ....	164
Derner, J. D. ....	49	Fletcher, J. J. ....	162
DeSantis, L. R. G. ....	42	Flournoy, P. ....	209
Díaz-Nieto, J. F. ....	253	Floyd, C. H. ....	8,240

Fong, E.....	291	Green, E. N.....	146
Foo, C. F.....	173	Greiman, S. E.....	236
Forbey, J.....	58	Grewe, F.....	243
Forbey, J. S.....	282	Grohman, K. H.....	163
Forester, J. D.....	88,281	Grossnickle, D. M.....	195
Forrester, T.....	273	Guevara, L.....	207
Fox, D. L.....	30,281,293,295	Guillén-Servent, A.....	259
Fox-Dobbs, K.....	295	Gunderson, A. M.....	65,178
Frandsen, P.....	197	Gunderson, J.....	249
Franklin, M. T.....	109	Guralnick, R.....	110,111
Fraser, S.....	216	Haas, G. M.....	93
Frasier, C.....	21	Habib, F.....	16
French, J. H.....	204	Hadly, E. A.....	265
French-Harbison, B.....	249	Hale, A. M.....	38,173
Freund, R. J.....	224	Hallerman, E. M.....	217
Frey, T.....	142	Hallett, J. G.....	297
Fristoe, T. S.....	99	Hammond, T. T.....	62
Freeburg, M.....	8	Handika, H.....	288
Fuhlendorf, S.....	216	Hannebaum, S. L.....	132
Fujii, J.....	57	Hanson, J. D.....	82,296
Fujiwara, S.....	17	Hardy, D. M.....	199
Gable, T. D.....	59	Hare, J. F.....	283
Gaffney, S. A.....	25	Harris, E. E.....	262
Gagnon, M.....	85	Harris, T. R.....	88
Galande, S.....	16	Harstone-Rose, A.....	180
Galbreath, K. E.....	50,93,95,160	Haveles, A. W.....	293,295
Gallagher, S. R.....	95	Hawkins, M. T. R.....	21,125
Gansberg, J. S.....	18	Hayes, L. D.....	60,242
Garces-Restrepo, M. F.....	284	Haynie, M. L.....	296
Garcia, C.....	130	He, K.....	15
Gardner, S. L.....	19	Heaney, L. R.....	186,198,203
Garshelis, D. L.....	89	Hefty, K. L.....	279
Gehrt, S.....	209	Hegeman, A. D.....	281
Gehrt, S. D.....	17,276	Helgen, K. M.....	125,197,230,290
George, D.....	167	Henger, C. S.....	22
Gerdes, C. L.....	161	Herrel, A.....	116
Gerstner, B. E.....	290	Herrera, G. A.....	22
Gervais, L.....	254	Heske, E. J.....	272
Gese, E. M.....	141	Hettena, A.....	242
Giarla, T. C.....	80,229,235	Higgins, C. L.....	299
Gifford-Gonzalez, D.....	90	Hildebrandt, K. B. P.....	75,178
Gilbert, J. H.....	71,106,239,278	Hines, H. B.....	74
Gilbert, K. J.....	109	Hinshaw, J. C.....	263
Gitzen, R.....	210	Hinton, C.....	171
Gitzen, R. A.....	138	Ho, Y.-Y.....	228
Goff, J.....	175	Hobbs, M. A.....	155
Goheen, J. R.....	129,160	Hodge, A.-M. C.....	160
Golabek, K.....	220	Hody, J.....	244
Golden, H. N.....	72	Hoffman, S. M. G.....	107,124
Goldsmith, E.....	126	Hofman, C. A.....	127,196
Goldstein, E. A.....	34	Holekamp, K. E.....	238
González-Maya, J. F.....	5	Homkes, A. T.....	59
Goodman, S. M.....	3	Hope, A. G.....	260,261
Grauer, J.....	266	Hornsby, A. D.....	94
Gray, N.....	249	Hsu, M.-H.....	228
Green, D. M.....	151	Hueffer, K.....	126

Hundertmark, K. J. ....	126	Kurch, M. ....	94
Hurtado, G. ....	174	Kyriazis, C. C. ....	203
Husek, J. ....	13	Lacey, E. A. ....	62
Hutterer, R. ....	80,229	Lackey, C. W. ....	15
laizzo, P. A. ....	89	Lacki, M. ....	63
Iannarilli, F. ....	103	LaFond, L. R. ....	214
Ims, R.A. ....	13	LaFrance, R. ....	111
Irwin, K. ....	177	Lahti, D. C. ....	194
Iudica, C.A. ....	44	Lan, T. ....	76
Jackson, D. J. ....	52	Land, D. ....	213
Jackson, M. K. ....	226	Langlois, G. D. ....	274
James, D. A. ....	179	Lanham, J. D. ....	215
Jansa, S. A. ....	54,186	Lanier, H. C. ....	227,251
Jensen, J. R. ....	299	Larsen, K. W. ....	66,232
Jensen, R. G. ....	138	LaRue, M. A. ....	97,98
Jesmer, B. R. ....	129	Laske, T. G. ....	89
Jetz, W. ....	77	Latorre-Reyes, B. ....	202
Jiménez-Ferbans, L. ....	259	Le Khac, Q. ....	36
Jodice, P. G. R. ....	247	Leberg, P. L. ....	269
Johnson, B. K. ....	134	Lee, T. ....	263
Johnson, E. J. ....	158	Lee, Jr., T. E. ....	156
Johnson, J. ....	63	Legan, A. ....	242
Johnson, K. M. ....	221	Lei, R. ....	21
Johnson, T. R. ....	58,61	Leipus, S. ....	170
Johnston, M. ....	242	Leonard, J. A. ....	125
Jones, H. P. ....	35	Lessa, G. ....	190
Joyce, M. J. ....	68	Levy, J. ....	180
Jung, T. S. ....	7	Lewis, P. J. ....	180
Kalies, E. L. ....	273	Liang, H. ....	184
Kanda, L. L. ....	254	Licht, D. ....	210
Kandel, N. K. ....	81	Light, J. E. ....	289
Kane, N. C. ....	109	Lim, H. C. ....	125
Kaplin, B. A. ....	1	Lin, L. K. ....	27
Kass, J. M. ....	290	Lin, Z. ....	265
Kauffman, M. J. ....	129	Lindqvist, C. ....	76
Kays, R. ....	197,244,273,290	Lindstrom, J. M. ....	250
Kelkar, A. ....	16	Liphardt, S. W. ....	218
Keller, J. S. ....	30	Lissofsky, A. A. ....	265
Kelley, C. ....	249	Livieri, T. M. ....	133
Kelley, R. A. ....	248	Loayza, C. ....	291
Kelly, P. ....	18	Loeb, S. C. ....	136,247
Kerbis Peterhans, J. ....	80,229	Loetscher, M. E. ....	251
Khadka, K. K. ....	179	Lonsdorf, E. V. ....	87
Kie, J. G. ....	73	Lotz, M. ....	213
Kilpatrick, C. W. ....	39,201	Louis Jr., E. E. ....	21
Klaver, R. W. ....	212	Lucero, J. E. ....	46
Klingler, K. B. ....	234	Lundrigan, B. L. ....	183,238
Klüg-Baerwald, B. J. ....	84	Lynch, J. ....	249
Cluever, B. M. ....	141	Lyons, T. ....	272
Koch, P.L. ....	90	Mabry, K. ....	174,248
Koepfli, K. P. ....	197	MacFarland, D. W. ....	239
Kohli, B. A. ....	48,155	Maher, S. P. ....	161
Koprowski, J. L. ....	34,117,135,139,256	Malaney, J. L. ....	15,148,155
Krebs, C. J. ....	13	Maldonado, J. ....	57
Krejsa, D. M. ....	7	Maldonado, J. E. ....	125,127,196,197,230
Kriebel, D. ....	185	Manlick, P. J. ....	71



Mansfield, S. A. ....	86	Morningstar, N. C. ....	287
Marín C., D. ....	222	Moroz, M. J. ....	172
Marino, S. A. ....	184	Morrison, M. L. ....	75
Martin, J. A. ....	280	Morrow, A. ....	183
Martinez, Q. ....	165	Morse, N. R. ....	261
Martínez-C. J. M. ....	253	Motokawa, M. ....	17
Marx, A. J. ....	147	Moyers, B. T. ....	109
Mason, E. D. ....	74	Muchhala, N. C. ....	182
Mateo, J. M. ....	87	Munshi-South, J. ....	22
Matocq, M. D. ....	15,18,94,155	Munson, J. ....	293
Mauldin, M. R. ....	206	Murdoch, J. D. ....	39
May, B. ....	240	Murphy, W. J. ....	289
Mazzella, M. ....	135	Musiani, M. ....	79
McAliley, L. R. ....	177	Mutascio, H. E. ....	106
McCain, C.M. ....	14	Naples, V. L. ....	192
McCann, C. M. ....	188	Natesh, M. ....	128
McCann, N. P. ....	106,239,278	Nations, J. A. ....	29,198,205
McCleery, R. A. ....	105	Nawrocki, J. A. ....	233
McDonough, M. M. ....	230	Nelson, D. L. ....	223
McEachern, M. B. ....	240	Nery, M. ....	51
McGuire, J. L. ....	115	Nevius, J. ....	185
McInerney, N. ....	57	Newsome, S. D. ....	37,152
McKenzie, S. ....	276	Ngatia, D. ....	271
McNulty, K. P. ....	30,53	Nicolalde, D. ....	69
McQuarter, L. ....	154	Nielsen, C. K. ....	97,98
McShea, W. J. ....	273	Norris, R. W. ....	208
Mech, S. G. ....	142	Nowak, K. ....	242
Meek, P. ....	183	Noyce, K. V. ....	89
Meier, R. ....	36	O'Brien, M. F. ....	263
Mellett, J. S. ....	193	O'Brien, S. L. ....	152
Mello, S. L. ....	169	O'Connell, A. ....	170
Meloro, C. ....	114,166,220	O'Connell, M. A. ....	297
Merrick, M. J. ....	117	O'Shea, K. ....	39
Mesías, A. ....	257	Ochoa, N. V. ....	236
Meyer, B. ....	8	Oli, M. K. ....	9,10
Meyer, N. F. V. ....	244	Olson, L.E. ....	3,29,65,178,205,287
Miller, K. V. ....	280	Onorato, D. ....	213
Miller, M. J. ....	70	Opazo, J. ....	51
Millien, V. ....	287	Ordóñez-Garza, N. ....	200,298
Milling, C. ....	58	Orrock, J. L. ....	47
Mills, L. S. ....	176	Owen, M. A. ....	194
Millspaugh, J. J. ....	138,273	Pacheco, V. ....	291
Moen, R. A. ....	68,88	Pacifici, K. ....	244
Molina, M. ....	291	Pagacz, S. ....	140,175,225
Moncrief, N. D. ....	144,217	Paiz, D. J. ....	227
Monteith, K. L. ....	129	Palma, E. ....	202
Montiglio, P.-O. ....	282	Palme, R. ....	62
Montgomery, R. ....	281	Parada, A. ....	82
Moolick, K. E. ....	235	Pardi, M. I. ....	143
Mooney, N. J. ....	40	Pardiñas, U. ....	202
Moore, J.-S. ....	109	Parker, L. D. ....	125,230
Mora, J. M. ....	204	Pari, A. ....	291
Moreno, P. A. ....	69,257,258	Parsons, A. W. ....	273
Moreno, R. ....	244	Patiño-Castillo, E. ....	253
Moreno, S. A. ....	185	Patterson, B. D. ....	33,145,157,190,243
Morgan, L. ....	221	Pauli, J. ....	266

Pauli, J. N.....	71,284	Roberts, E. K.....	199
Peacock, M. M.....	234	Roberts, J. J.....	217
Peery, M. Z.....	284	Robinson, C. R.....	156
Peñuela-Gómez, S. M.....	253	Robinson, E.....	171
Pérez, M. E.....	190	Rockwood, L. L.....	125
Pérez-Torres, J.....	131	Roddy, D.....	210
Perkins, J. C.....	252	Roehrs, M. A.....	251
Pero, E. M.....	283	Roehrs, Z. P.....	227,251
Phillips, C. D.....	296	Rogers, L. L.....	86
Phillips, S.....	28,191	Rolland, V.....	9,10
Pigage, H. K.....	141	Román-Carrión, J. L.....	257,258
Pigage, J. C.....	141	Romero, A.....	159
Pino, K.....	291	Romero, M.....	242
Pinto, C. M.....	69,258	Ron, S. R.....	258
Platt, N.....	130	Rose, R. K.....	40
Platt, R. N.....	82	Roselli, M.....	185
Platt II, R. N.....	123,204	Rota, C. T.....	273
Poinar, H. N.....	94	Roth, J.D.....	11,12
Polly, P.D.....	16	Rotzel McInerney, N.....	230
Polyakov, A. Y.....	9,10	Rowe, K. C.....	55,104,288
Popis, B.....	140	Rowe, R. J.....	48,64,102
Powell, R. A.....	86	Rowsey, D. M.....	186
Pradhan, N.....	201	Rubin, K. E.....	178
Pradhan, S. J.....	16	Ruedas, L. A.....	204
Prates, I.....	262	Ruez, Jr., D. R.....	237
Price, L.E.....	241	Russell, L.....	110
Quackenbush, H.....	101	Ryan, J. M.....	24
Rabosky, D. L.....	263	Ryan, S. J.....	41
Rachlow, J. L.....	58,61	Sage, G. K.....	7
Rafiq, K.....	220	Sagner, J.....	142
Ralls, K.....	57	Saito, H.....	27
Ramakrishnan, U.....	128,265	Salazar G., E.....	222
Ramesh, T.....	118	Salazar-Bravo, J.....	81,204
Rankin, A.....	8	Sánchez, P.....	291
Rankin, A. M.....	50	Sánchez-Cordero, V.....	207
Rapier, B. C.....	155	Sánchez-Giraldo, C.....	253
Ratan, A.....	76	Sanders, M. T.....	231
Rave, E. H.....	214	Santymire, R. M.....	87
Ray, D.....	130	Sargis, E. J.....	287
Rebholz, P. F.....	168	Schaffer IV, F. G.....	227
Reddy, P. C.....	16	Scheibe, J. S.....	144
Redding, D.....	196	Schell, C. J.....	87
Reed, A. W.....	294	Schlitter, D. A.....	189
Reeder, D. M.....	85	Schneider, G. E.....	263
Regehr, M. K.....	261	Schooley, R. L.....	45,233
Reich, P. B.....	281	Schradick, H.....	170
Reichert, R.E.....	105	Schulster, S. C.....	76
Reid, R. E. B.....	90	Schwartz, R.....	8
Renaut, S.....	109	Schweiger, B. R.....	157
Renken, R. B.....	138	Sensenig, R. L.....	120
Rennison, D. J.....	109	Severud, W. J.....	137
Rettler, S. J.....	89	Seville, R. S.....	251
Rick, T. C.....	127,196	Sewall, B. J.....	85
Rickart, E. A.....	48	Shaffer, A. A.....	252,255
Ríos-Blanco, C.....	43,130	Sharma, A. N.....	201
Robbins, L. W.....	161	Sheffield, S. R.....	44

Sherchan, A. M. ....	201	Swanson, A. B. ....	301
Shindle, D. B. ....	213	Swanson, B. J. ....	241
Shiple, L. A. ....	58,61	Swanson, M. T. ....	83
Shipway, S. ....	104	Swiderski, D. L. ....	112,181
Shirazi, S. ....	196	Swihart, R. K. ....	149,223
Shivappa, S. ....	175	Szewczyk, T. ....	14
Shou-Li, Y. ....	27	Takenaka, R. ....	70
Shulte, A. ....	8	Talbot, S. ....	76
Silva, S. M. ....	204	Tammone, M. N. ....	70
Simmons, N. B. ....	292	Tanis, B. P. ....	42
Sinha, I. ....	16	Taylor, D. S. ....	102
Skarpe, C. ....	13	Taylor, Z. S. ....	107
Skattum, J. R. ....	168	Techentin, D. M. ....	211
Slade, N. A. ....	294	Teeter, K. C. ....	50
Slusher, A. C. ....	63	Teige, E. C. ....	250
Smale, L. ....	183	Tello, J. S. ....	286
Small, K. A. ....	229	Templeton, S. ....	191
Smiley, T. M. ....	154,172	Terry, R. C. ....	42,102
Smiley-Walters, S. A. ....	164	Thalmann, J. C. ....	73
Smith, A. T. ....	32	Thatte, P. ....	128
Smith, B. ....	185	Thibault, K. M. ....	108
Smith, F. A. ....	92,94	Thompson, C. W. ....	123,204,263
Smith, J. A. ....	270,275	Thompson, S. K. ....	226
Smith, J. B. ....	212	Tietje, W. D. ....	9,10
Smith, L. P. ....	148,155	Tinker, M. T. ....	57
Soares, A. E. R. ....	243	Tinkle, Z. K. ....	282
Soarimalala, V. ....	3	Tinoco, N. ....	69
Sojka, J. L. ....	121	Tkach, V. V. ....	261
Solari, K. ....	265	Tomalty, K. M. ....	240
Solari, S. ....	222	Torres, L. M. ....	69
Sorenson Forbey, J. ....	61	Treanor, J. ....	63
Sorlin, M. V. ....	205	Tsao, J.-M. ....	228
Spencer, C. ....	117	Tsao, K. ....	108
Srivathsa, A. ....	9,10	Tsuchiya, M. T. N. ....	196,197
Srivathsan, A. ....	36	Tucker, P. K. ....	263,268
Stabile, F. A. ....	25	Tufts, D. M. ....	19
Stanley, W. T. ....	219	Turner, G. G. ....	85
Stapp, P. ....	49	Upham, N. S. ....	77,208
Steele, M. A. ....	184,185	Vallejo, A. F. ....	69
Stephens, R. B. ....	23,64	Van Den Bussche, R. A. ....	217
Stephens, P. ....	220	Van Vuren, D. H. ....	240,277
Steppan, S. J. ....	198	Vander Wall, S. B. ....	279
Stevens, R. ....	130	Varner, J. ....	175
Stevens, R. D. ....	43,131,274,285	Veals, A. M. ....	139
Stewart, K. M. ....	134	Veen, T. ....	109
Stokes, M. ....	117	Velazco, P. M. ....	292
Stone, D. B. ....	280	Venegas, T. A. E. ....	224
Stewart, K. ....	264,279	VerCauteren, K. C. ....	139
Stratford, J. A. ....	185,267	Verde Arregoitia, L. D. ....	96
Strauss, R. E. ....	292	Verstege, J.S. ....	12
Strom, M. K. ....	242	Vilela, J. F. ....	190,243
Stuhler, J. ....	130	Vines, T. H. ....	109
Suchocki, M. ....	267	Vivas, D. ....	291
Suchocki, M. J. ....	185	Vogler, A.P. ....	36
Suhling, E. D. F. ....	262	Voss, R. S. ....	292
Sukumar, R. ....	16	Wabakken, P. ....	13

Wagley, M. E.....	206
Walker, H. P.....	153
Wall, C.....	116
Walsh, D. R.....	134
Walsh, L. L.....	268
Wang, Y.....	275
Wangeline, A. L.....	227
Ward, M. P.....	233
Walleser, L. R.....	241
Waterman, J. M.....	56,119,121
Watson, J. A.....	171
Webala, P.....	271
Webala, P. W.....	157
Weber, J. A.....	78
Welch, C.....	300
Wells, C. P.....	240,277
Wenzel, J. W.....	44
Welser, K.....	116
Westley, L. C.....	157
Westover, M. L.....	92
Whipps, C. M.....	41,169
Whiting, J. C.....	73
Whittaker, J.....	170
Whittaker, J. C.....	171,226
Wieczorek, J.....	110,111
Wijewardena, N.....	150
Wilkinson, J.E.....	296
Wilbert, T. R.....	125
Williams, D. A.....	173
Wilmers, C. C.....	270,275
Windels, C. K.....	59
Windels, S. K.....	88,212
Wisdom, M. J.....	134
Witczuk, J.....	140,176
Wolf, A. J.....	138
Wolf, T.....	212
Woodman, N.....	25
Woodford, J. E.....	71
Woodman, N.....	287
Wurth, A. M.....	17
Wykstra, M.....	1
Yahnke, C. J.....	168
Yanagihara, R.....	218,221
Yarrow, G. K.....	215
Yeaman, S.....	109
Yoder, C.....	215
Yohe, L. R.....	2
Yonas, M.....	219
Young, J. K.....	87
Young, T. P.....	120
Yu, E.....	171
Zelditch, M. L.....	112,181
Zermoglio, P.....	111
Zhan, X.....	265
Zollner, P. A.....	101,106,239,278





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2017



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On-campus housing will be available in the Living and Learning Community, Idaho's newest residence halls. In addition, hotel blocks will be made available to meeting attendees. Detailed conference and registration information will be made available on the conference website (<https://conferences.k-state.edu/mammalogists/>).

The scientific program will include contributed oral and poster presentations as well as symposia, plenary speakers, and workshops. A full social agenda is being planned that includes multiple mixers (and a downtown "mammal crawl"), an awards social, a picnic, our annual Run-for-Research, and fieldtrips. Details for these events will be made available on the conference website.

For more information about the 2017 meeting, contact the chair of the Program Committee, Cody Thompson, University of Michigan Museum of Zoology (734-615-2810 or [mammal.meetings@gmail.com](mailto:mammal.meetings@gmail.com)), local co-hosts from the University of Idaho (Janet Rachlow 208-885-9328, [jrachlow@uidaho.edu](mailto:jrachlow@uidaho.edu) and Ryan Long 208-885-7225, [ralong@uidaho.edu](mailto:ralong@uidaho.edu)), or Tony Ballard, Kansas State University Conference Services (785-532-2402 or [tballard@k-state.edu](mailto:tballard@k-state.edu)).

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