

**101ST ANNUAL MEETING
OF THE
AMERICAN SOCIETY OF MAMMALOGISTS
17 – 21 JUNE 2022**

WESTIN LA PALOMA RESORT & SPA
-TUCSON, ARIZONA-



CONFERENCE PROGRAM

The logo for the 101st Annual Meeting of the American Society of Mammalogists was designed by Danielle Forte. It features a coyote (*Canis latrans*) in the Sonoran Desert.

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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 whom 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 six 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 (www.mammalogy.org) 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/>

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WELCOME

Dear friends, colleagues, and fellow mammalogists:

I am pleased to extend you a warm welcome to the 101st Annual Meeting of the American Society of Mammalogists. To encourage participation under challenging circumstances, these are hybrid meetings, with options for both in person and virtual attendance. I am very happy to report that registrations are above 540 attendees, including more than 380 in person and 160 virtual, from a total of 25 different countries across the globe.

I sincerely hope you take full advantage of the opportunities provided by the meetings to profit from an impressive array of talks, contributed posters, plenary presentations, and informal exchanges during our social events and beyond. The meetings also provide opportunities to highlight some of the most exciting work in mammalogy. We will hear from both student and senior award recipients during the corresponding plenary sessions. Also, our closing awards ceremony will allow us to learn about the recipients of this year's awards, from Grants-in-Aid and five named research awards for students to the Shadle and ASM Fellowships, as well as the Leopold, Jackson, Grinnell, and Merriam Awards for established colleagues. To this already stellar roster of awards, the Society will proudly announce the inaugural recipients of the Black and Indigenous Scholars in Mammalogy Award and the J. Mary Taylor Award.

Keep in mind that, as ASM members, you will have an opportunity to nominate and vote new members to the Board of Directors, the governing body of our Society during our member's meetings. The importance of a rich and diverse representation of society members cannot be overemphasized. One of the society's strengths is offering numerous opportunities to join a committee to contribute to their important service to our society and science. Don't hesitate to approach committee chairs and representatives, as well as society Officers, if you are considering joining a committee. Finally, our dedicated Ombudspersons and Meeting Allies are ready to assist you if you have any questions or concerns regarding the expected adherence to our Code of Conduct during the meetings (both virtual and in person).

Sincerely,

A handwritten signature in black ink, appearing to read 'Enrique Lessa', with a long, sweeping underline.

Enrique Lessa
President, American Society of Mammalogists

PROFESSIONAL CODE OF CONDUCT

Statement of Inclusion

The American Society of Mammalogists (the Society) prohibits discrimination, harassment, and bullying against any member because of ancestry, color, national origin, marital status, veteran status, gender identity or expression, sexual orientation, race, ethnicity, religion, age, disability, political affiliation or any other characteristic protected by law. The Society expects its employees, volunteers, members and other constituents, when and wherever they are conducting Society business or participating in Society events or activities, to maintain an environment free of discrimination, harassment, bullying, or retaliation.

Discrimination is defined as treating individuals differently – either preferentially or with adverse impact – because they have similar characteristics or because they are from specific groups, unless differential treatment is reasonable, essential, and directly related to conducting Society business or when serving as an official representative of the Society.

Code of Conduct

Professional conduct is expected of all participants in ASM sponsored activities, including the annual meetings, and of any individual representing the ASM. ASM is dedicated to ensuring the opportunity for active, equal participation in all ASM functions by all members, regardless of gender, race, national origin, ethnicity, age, physical appearance, disability, or sexual orientation. Discrimination and harassment are prohibited by the ASM; no individual should feel harassed, threatened, or unsafe at any ASM sponsored activity. The full text of ASM's Statement on Inclusion is above and available [here](#). Concerns or allegations of misconduct or harassment should be directed the [Office of the Ombudsperson](#) or reported online [here](#). Course of action for alleged misconduct may be found [here](#). We note that ASM policies for professional conduct will evolve over time. The most recent version of these policies will be posted on the [ASM Ombudspersons webpages](#) and notifications of updates to the policy will be emailed to all ASM members. All ASM members and participants in ASM sponsored activities are expected to follow the most recent version of ASM Professional Conduct policies.

General Guidelines

1. Unprofessional conduct by any ASM member or meeting attendant will not be tolerated and is subject to [disciplinary action](#). Unacceptable behavior includes, but is not limited to, unwanted verbal attention, unwanted touching, intimidation, stalking, shaming or bullying in person or through social media outlets (see additional definitions above). If you experience such behavior, depending on the context and if you feel comfortable, you should let the offender know and tell him/her to stop and/or seek help from bystanders. Participants asked to stop any harassing behavior are expected to comply immediately. Concerns can also be presented to the Ombudspersons in person (contact information above) or reported online here. Note that persistent offensive or unwelcome behavior may constitute harassment and that harassment presented in a joking manner is still harassment and both would be subject to [disciplinary action](#).
2. Scientific presentations are expected to adhere to ASM standards of professional conduct and should not include inappropriate and/or graphic images or language that include (but are not limited to) pornography, demeaning or degrading images or language, or depictions of violence.
3. Established professionals and all ASM leaders should recognize that they hold positions of power, formal or informal, over students and aspiring professionals. These individuals are expected to lead by example regarding our high standards of professional and personal conduct.
4. All ASM members are potential bystanders to unprofessional or unwelcome behavior. Bystander intervention can prevent, divert, or mitigate harassment. Do not look the other way. See the [Resources page](#) for additional information about bystander intervention and training.

Reporting Misconduct

Concerns or allegations of misconduct or harassment should be directed the Office of the Ombudsperson (Erika Barthelmess [barthelmess@stlawu.edu]; Jessica Light [jlight2@tamu.edu], Marjorie Matocq [mmatocq@cabnr.unr.edu], and Morty Ortega [morty.ortega@uconn.edu]) or reported anonymously online (<http://www.mammalogy.org/alleged-misconduct-report-form>).

ACKNOWLEDGEMENTS

Program Committee

Lois Alexander	Christy McCain (2024 Host)
Maddie Arszulowicz	Michael McGowen
Kayce C. Bell	R. Neal Platt
Brad R. Blood	Janet L. Rachlow
Camilo Calderon	Andrew Ricketts
Patrice K. Connors (Subcommittee Chair)	James M. Ryan (Subcommittee Chair)
Drew Eline	Steven R. Sheffield (Subcommittee Chair)
Elmer J. Finck	Erin Siracusa
John D. Hanson (Associate Chair)	Kelly A. Speer (Subcommittee Chair)
Andrew G. Hope (Subcommittee Chair)	Katie Stanchack
Douglas A. Kelt (2023 Co-Host)	Ginny Turner
Brooks Kohli	Cody W. Thompson (Director & Chair)
Eileen A. Lacey (2023 Co-Host)	Lisa Walsh
Verity L. Mathis	Neal Woodman

Next Great Event

Kerrell Dunsmore	Jen Sharpe
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ASM Business Office

Christy Classi

X-CD Technologies

Daria Cohen	Grant Goldhar
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2022 Logo Design

Danielle Forte

SPONSOR LIST

Diamond Sponsor



Bronze Sponsors



Vendors



GENERAL MEETING INFORMATION

Registration Desk

The ASM Registration Desk, located in the Lobby Foyer, will be open for registration from 7:00 am to 5:00 pm throughout the entirety of the meeting. The registration desk will be open from 7:00 am to 7:00 pm on Friday, June 17th. Virtual participants can also contact conference staff at this time for assistance.

Parking Information

Overnight valet parking is available at \$29 per night. Complimentary self-parking is also available.

Meeting Room Information

Auction for Future Mammalogists Fund – Grand Ballroom
Board of Directors Meeting I – Sonoran I, II
Board of Directors Meeting II (OPTIONAL) – Palo Verde
Breaks – Arizona Foyer & Grand Ballroom
Capstone Session – Canyon I, III
Closing Social & Awards Ceremony – Arizona Deck & Foyer
Committee Meetings – Aster I, Aster II, Goldwater, Lantana, Primrose, Udall, Verbena
Members Meetings – Canyon I, III
NSF Office Hours – Goldwater
Officers & Plenary I Speakers Lunch – Acacia
Opening Social – Arizona Deck & Foyer
Plenary Session I – Canyon I, III
Plenary Session II – Canyon I, III
Poster Session I & Social – Grand Ballroom
Poster Session II & Social – Grand Ballroom
Registration – Lobby Foyer
Run-for-Research – La Paloma Country Club (gather at the Golf Patio 30 minutes before)
Student Social – Terrace Level Patio & Foyer
Symposia – Canyon I, III
Technical Sessions – Finger Rock, Indigo, Murphey
Workshop I – Finger Rock
Workshop II – Finger Rock
Workshop III – Murphey
Workshop IV – Finger Rock
Workshop V – Murphey
Vendor Show – Grand Ballroom

Internet Access

The hotel guest rooms and conference space at the hotel have complimentary WiFi.

Messages & Job Announcements

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

Food & Beverage

Morning and afternoon refreshment breaks will be served in the Grand Ballroom. Breakfast, lunch, and dinner are on your own each day. There are several restaurants, from casual to fine dining, on-site at the Westin La Paloma. Although most socials will offer light hors d'ouerves, they will not be sufficient for a meal.

Host and/or cash bars will be available during:

Opening Social – 7:00 to 10:00 pm, Friday, June 17th
Poster Session I & Social – 7:30 to 10:00 pm, Saturday, June 18th
Auction for the Future Mammalogists Fund – 7:30 to 10:00 pm, Sunday, June 19th
Student Social – 9:00 to 10:30 pm, Sunday, June 19th
Poster Session II & Social – 8:00 to 10:00 pm, Monday, June 20th
Closing Social & Awards Ceremony – 7:30 to 10:00 pm, Tuesday, July 2nd

Name Badge Color Scheme

Associate Editor – Turquoise
Award Recipient – White
Board of Director – Emerald Green
Committee Chair – Royal Blue
Editor – Turquoise
Honorary Member – Yellow
Meeting Ally – Purple
Ombudsperson – Emerald Green
Past President – Black
President – Emerald Green
President-Elect – Emerald Green
Program Committee – Red
Program Director – Emerald Green
Publications Director – Emerald Green
Recording Secretary – Emerald Green
Secretary Treasurer – Emerald Green
Sponsors – Yellow
Trustee – Emerald Green
Vice President – Emerald Green

Vendor Show

Exhibitors are located in the Grand Ballroom during the following hours:

Saturday, June 18th	8:00 am to 5:00 pm
Sunday, June 19th	8:00 am to 5:00 pm
Monday, June 20th	8:00 am to 5:00 pm
Tuesday, June 21st	8:00 am to 12:00 pm

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

Technosmart Europe is specialized in the development and production of miniature GPS devices, accelerometers, magnetometers, TDRs, and more.

Telenax produce GPS and VHF radio tracking equipment for wildlife research and conservation.

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

Titley Scientific specializes in the design and manufacture of wildlife tracking and bat acoustic monitoring equipment to researchers across the world.

Wildlife Acoustics is the leading provider of bioacoustics monitoring technology for scientists, researchers, and government agencies all over the world.

HYBRID MEETING FORMAT

The ASM 2022 scientific program will include a variety of session types, providing opportunities for in-person, virtual, and hybrid interactions. **Plenary and capstone sessions** are scheduled as live in-person presentations with audience Q&A. Virtual meeting attendees will be able to participate remotely during these sessions. **Symposia** will also be live in-person sessions. Like plenary and capstone sessions, virtual meeting participants will be able to participate in the live symposia.

Technical and poster sessions will feature contributed in-person oral and traditional poster presentations, respectively. Technical sessions will include 15-minute presentations (12 minutes presentation + 3 minutes questions), and they will be organized by subdiscipline. In-person technical and poster sessions will **not** be live for virtual meeting attendees. Scheduling requests will **NOT** be granted for any presenter.

Virtual sessions will **ALL** be pre-recorded, and will be available asynchronously as on-demand sessions throughout the meeting. All ASM 2022 virtual presentations will be recorded in the online meeting platform and available to meeting participants for six months following the conference. Virtual presentations will also have closed captioning enabled. **Virtual presenters will be contacted in May with detailed instructions about recording their presentation.**

IN-PERSON VS. VIRTUAL REGISTRATION ACCESS

The table below provides an overview of what conference content you will have access to if you register to attend the ASM 2022 Tucson Meeting *in-person* versus *virtually*.

Program Session Type	ASM 2022 Registration Category – Do you have access?	
	In-Person Registration	Virtual Registration
Plenary/Capstone Sessions	Yes (live; also available as virtual content post-meeting)	Yes (live; also available as virtual content post-meeting)
Symposia	Yes (live; also available as virtual content post-meeting)	Yes (live; also available as virtual content post-meeting)
Oral Presentations (In-Person)	Yes (live)	Only if prerecorded presentation is uploaded by presenting author
Oral Presentations (Virtual)	Yes (prerecorded; also available as virtual content post-meeting)	Yes (prerecorded; also available as virtual content post-meeting)
Poster Presentations (In-Person)	Yes (live)	Only if prerecorded presentation is uploaded by presenting author
Poster Presentations (Virtual)	Yes (prerecorded; also available as virtual content post-meeting)	Yes (prerecorded; also available as virtual content post-meeting)
Workshops	Yes (live)	Only Workshop II (live)
Social Events	Yes (live)	No
Business Meetings	Yes (live; also available as virtual content post-meeting)	Only Members Meetings (live; also available as virtual content post-meeting)

IN-PERSON PRESENTATION GUIDELINES

Oral Presenters

Equipment—The computers provided in the session rooms will be Windows based PCs with Microsoft Office. 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. Most meeting rooms will have widescreen (16:9) screens. However, both standard (4:3) and widescreen (16:9) formatted presentations will work in all rooms. Laser pointers will be available.

Length & Format—Contributed oral presentations will be allotted 12 minutes for the talk and 3 minutes for questions. Invited presentations will have session-specific time allotments.

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.

Poster Presenters

At least one author must be present during the entire poster session time period. Check out our [Tips for a Successful Poster](#).

Poster Size—Maximum poster size is 36 inches high x 48 inches wide in landscape format (86.36 x 121.92 cm). It is important to adhere to these size limitations given multiple posters will be hung simultaneously on a single board. 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—All posters should be displayed beginning at 12:00 pm on Saturday, June 18th and removed by 12:00 pm on Tuesday, June 21st. **Posters are expected to be displayed during this entire time to allow sufficient time for review.**

Optional Virtual Presentations

Although **NOT** required, in-person attendees presenting contributed oral and poster presentations are encouraged to share their conference presentations with virtual participants by creating and uploading a pre-recording presentation to the virtual platform. In-person oral presentations would follow the 15-minute time limit, and in-person poster presenters would be limited to 5 minutes. All other formatting guidelines and applicable deadlines for virtual presentations would apply. [Please see the Virtual Presentation Guidelines for additional details.](#)

If you would like to participate in the virtual portion of the meeting, please upload your pre-recorded presentation by the 11 June 2022 deadline. **In-person conference attendees are still expected to present in Tucson.**

BOARD OF DIRECTORS, MEMBERS, AND COMMITTEE MEETINGS

-Please note all times are listed in Arizona Time-

Friday, June 17th

8:00 am – 5:00 pm Board of Directors Meeting I

Saturday, June 18th

11:30 am – 1:30 pm Resolutions Committee
12:00 – 1:00 pm Honoraria & Travel Awards Committee
12:00 – 1:00 pm Mammal Images Library
1:30 – 3:00 pm Publications Advisory Board
3:30 – 5:30 pm Members Meeting I

Sunday, June 19th

9:00 – 10:00 am African Research Fellowship Committee
9:00 – 10:00 am Informatics Committee
9:00 – 11:00 am Ad Hoc Vision Committee
11:30 am – 1:00 pm Biodiversity Committee
11:30 am – 1:00 pm International Relations Committee
12:00 – 1:30 pm Conservation Committee
12:00 – 1:30 pm Membership Committee

Monday, June 20th

11:00 am– 1:00 pm Grants-In-Aid Committee
12:30 –2:30 pm Board of Directors Meeting II (OPTIONAL)
12:30 – 1:30 pm Education & Graduate Students Committee
12:30 – 1:30 pm Nomenclature Committee
12:30 – 2:00 pm Resolutions Committee
1:00 – 2:00 pm Public Education Committee
4:30 – 6:00 pm Members Meeting II

Tuesday, June 21st

4:30 – 5:30 pm Program Committee

Committees Not Scheduled to Meet

Animal Care & Use Committee	Student Science Policy Award Committee
Archives Committee	Systematic Collections Committee
Cameron Award Committee	
Conservation Awards Committee	
Coordination Committee	
Development Committee	
Grants-In-Aid Committee	
Grinnell Award Committee	
Honorary Membership Committee	
Human Diversity Committee	
Jackson Award Committee	
Kaufman Award Committee	
Latin American Fellowship Committee	
Legislation & Regulations Committee	
Marine Mammals Committee	
Merriam Award Committee	
Office of Ombudspersons	
Patton Award Committee	
Planning & Finance Committee	
Public Education Committee	

WORKSHOPS

-Please note all times are listed in Arizona Time-

Workshop I – Bringing Undergraduate Research Experiences Into Your Class

Instructors: Patrice Connors, Laurie Dizney, Jennifer Duggan, Liz Flaherty, Hayley Lanier, Johanna Varner, and Christopher Yahnke

Date & Time: Friday, June 17th, 3:00 to 5:00 pm

Location: Finger Rock

Course-based undergraduate research experiences (CUREs) are fast becoming a preferred method for instructors to provide authentic research experiences to their students in an equitable way, particularly in the biological sciences. CUREs can positively impact student impressions of themselves as scientists and their opinions of science in general. However, the time needed to create and implement a CURE often prevents instructors from integrating this pedagogical technique in their curriculum. In this workshop, we will present and practice a ready-made, field-based, modular CURE in mammalogy (Squirrel-Net) as an example, and then work with instructors to create a CURE specific to their class or course needs. Specifically, this workshop will complement the success and momentum from our virtual ASM 2021 workshop by:

1. Describing the key components and benefits of CUREs.
2. Practicing an example CURE by Squirrel-Net, whereby participants will walk through data collection, online data entry, and discuss analytical techniques to be used by students.
3. Leading participants through a structured brainstorming exercise to develop a new CURE specific to their course, curriculum, or area of research interest.
4. Creating time and space for conversation and community-building about education in mammalogy.

Organizers: Patrice Connors and Johanna Varner.

Workshop II – Networking for Success: 1-on-1 Mentoring Session

Instructors: Kayce Bell and Karen Munroe

Date & Time: Sunday, June 19th, 8:00 to 9:30 am

Location: Finger Rock

This workshop provides a 1-on-1 individualized mentoring experience that brings undergraduate students, post-baccalaureates, and graduate students into direct contact with established mammalogists in their shared fields of study and similar career paths. Up to 100 students (depending on the number of mentors) will be matched by career interest with an ASM Mentor. At the conference, the student and their mentor will meet for 30 minutes and have the option to complete an Individual Development Plan (IDP) based on their discussion. Session goals are to: 1) deliver a hands-on, interactive progress assessment of students' intended career goals and readiness, 2) a skills assessment to identify gaps in training, 3) strategic planning of short-term and long-term goals, and 4) have a broader understanding of the science career pathways, depending on the specific goals and needs of the student. Organizers: Kayce Bell and Karen Munroe.

Workshop III – Describing a New Genus or Species of Mammal and Constructing a Synonymy

Instructors: Connor Burgin, Meredith Hamilton, Jonathan Nations, Ryan W. Norris, Luis A. Ruedas, and Robert M. Timm

Date & Time: Sunday, June 19th, 8:00 – 9:30 am

Location: Murphey

In spite of centuries of research, new mammal species continue to be discovered and described. Most issues of the Journal of Mammalogy contain multiple taxonomic papers that involve the description of new taxa or the elevation of junior synonyms to species status. The process is governed by The International Code of Zoological Nomenclature, a 300-page tome plus digital supplements that can be intimidating to even a seasoned taxonomist. In this workshop we plan to cover the following five topics: 1) Essential terminology, 2) The required and recommended components of a species-level description, 3) The required

and recommended components of genus-level and family-level descriptions, 4) Creation of synonymies, and 5) An overview of how The Code defines publication (especially electronic publication) and explanation of how Journal of Mammalogy fulfills those requirements. Participants will be walked through the process using examples and will be encouraged to bring an example species synonymy (e.g. from a potential Mammalian Species account) on which to work. Organizers: Ryan W. Norris and Luis A. Ruedas.

Workshop IV – Developing Effective Curriculum Vitae

Instructor: Brad Blood, Elizabeth Flaherty, Hayley Lanier, Susan Loeb, Melissa Merrick, and Karen Munroe

Date & Time: Sunday, June 19th, 10:00 am to 12:00 pm

Location: Finger Rock

A Curriculum Vitae (CV) is a common document required by applications to graduate school, grants, post-docs, and faculty, federal, state, non-government organizations, and other academic and research positions. The purpose of a CV is to summarize your relevant professional experiences and accomplishments in such a way to stand out from the competition and garner an interview. While the CV is part of a larger application package, it is often one of the first documents that committees will review. Your CV establishes your identity as an academic and includes all pertinent academic experience and qualifications. A strong CV will be detailed, concise, accurate, specific to your discipline, and the position you are applying for and will present your best professional self. In this interactive workshop students will review job ads and CVs in a real-life context, and work to improve their own CVs based upon that experience. Prior to the workshop students will be polled about the types of positions they are interested in acquiring. A sample job ad and CVs will be emailed to participants before the workshop for them to review. At the workshop, participants will be placed in small groups for discussion about which applicant(s) to interview based on their CV and why. Discussions will also include a professional with hiring experience in that current area, and will conclude with an exercise where each student examines their own CV as well as their group's peers with the aim at improving each student's own CV. Organizers: Hailey Lanier and Karen Munroe.

Workshop V – Increasing the Odds of Successful Publication in the *Journal of Mammalogy*

Instructors: Burton K. Lim, Brett R. Riddle, and Luis A. Ruedas

Date & Time: Sunday, June 19th, 10:00 am– 12:00 pm

Location: Murphey

During the recent COVID-19 pandemic, the Journal of Mammalogy (and indeed, just about every other journal) received a record number of manuscripts: scientists were shut out of their laboratories, and could do nothing related to work but write. While some journals opted to close their submission system, the JM continued accepting manuscripts. The choice to continue publication as normal under exceptional conditions uncovered a series of structural imperfections in the editorial structure. However, some of the issues that arose also were the result of authors' failure to abide by the Journal guidelines. The combination of the two streams resulted in delays to the timely publication of manuscripts. While the editorial structure has been changed to better serve authors of the journal, the second aspect causing publication delays, that is, the contributions of potential authors, remains to be addressed. Here, we propose to present in a brief workshop format easy steps that authors can take that will lead to higher rates of acceptance of the author/s' work, and increase speed of workflow through the editorial system, leading to shorter times from submission to publication. We hasten to add that our "tip sheet" is independent of conditions during the pandemic and should result in positive outcomes regardless of the circumstances. Organizers: Brett R. Riddle and Luis A. Ruedas.

SYMPOSIA

-Please note all times are listed in Arizona Time-

Symposium I – Transforming the Digital Frontiers of Mammalogy

Speakers: Robert Anderson, John Bates, Jocelyn Colella, Noé de la Sancha, Emma Elliott Smith, Stephen Greiman, Jessica Light, and Kelly Speer

Date & Time: Saturday, June 18th, 1:00 to 3:00 pm

Location: Canyon I, III

The goals of this symposium are to identify and catalyze the next transformative changes in collections-based biodiversity informatics for mammals. Coordinated efforts to achieve greater online availability of high-quality collections-based data are critical for research relevant to major societal issues including zoonotic diseases, invasive and threatened species, and environmental change. The symposium will present provocative ideas, spark conversation, and stimulate new initiatives aimed at realizing the promise of the “Extended Specimen,” a paradigm that emphasizes linkages across many data domains all connected to vouchered material in natural history museum collections. ASM and its members have long played a key role in biodiversity informatics. This includes the development of MaNIS, one of the first online databases to allow a single-query search of multiple natural history museum collections (including georeferenced localities and their uncertainty). Because of this foundation and many ongoing initiatives, mammalian collections again have the potential to play a central role in future advances. Organizers: Robert Anderson, Jessica Light, Joseph Cook, and Eileen Lacey.

Symposium II – Mammal Life History in an Era of Global Change: Insights from New Tools and Emerging Datasets

Speakers: Roxanne Beltran, Robert Guralnick, Jeffrey Lane, Bryan McLean, Katarzyna Nowak, and Mafalda Sousa Ferreira

Date & Time: Sunday, June 19th, 1:30 to 3:30 pm

Location: Canyon I, III

The “Mammal Life History in an Era of Global Change” symposium will highlight new research towards understanding the complex links between core mammalian life history traits and specific dimensions of abiotic environments, including climate, climate variability, and land use change. This interdisciplinary symposium will focus on new research on mammalian life histories; in particular, use of new field and laboratory methods as well as informatics approaches to map the linkages of specific life history traits to the environment. The symposium will highlight recent research projects pioneered by the invited speakers which advance knowledge of how mammal life histories evolve, and which provide critical tests of life history sensitivity in the face of global change. The symposium will engage a variety of meeting attendees who are interested in life history, and will seek to spur meaningful conversations within the ASM community on how to most effectively monitor these phenomena at spatial and taxonomic scales relevant for conservation of mammals. Organizer: Bryan McLean.

Symposium III – Biodiversity and Conservation of Madrean Pine-Oak Sky Island Mammals in the US and Mexico

Speakers: Robbie Burger, Jennifer Frey, Melissa Merrick, Gonzalo Pinilla Buitrago, Dakota Rowsey, and Ella Vázquez-Domínguez

Date & Time: Tuesday, June 21st, 10:00 am to 12:00 pm

Location: Canyon I, III

This symposium aims to bring together scientists in Mexico and the US to discuss new biogeographic approaches to conservation challenges in Madrean pine-oak sky island biodiversity throughout the region. The Madrean sky islands are an excellent system for testing fundamental hypotheses and practical implications of island biogeography theory. Similarities and differences among the mainland Cordilleras and Madrean archipelago in species composition, habitat, connectivity, climate, latitude, geology, and recent land use history allow for valuable comparative studies that we here aim to spotlight. Studies of the contemporary and historical biogeography of this sky island system are further needed for assessing conservation priorities of the small mammals on these islands. This symposium will: 1) introduce new

concepts and tools from biodiversity scaling and species distribution modeling for studying sky island biodiversity, 2) demonstrate the utility of a new Constraint-based model of Dynamic Island Biogeography (CDIB) that applies traits and environmental history to predicting past, present and future distributions of sky island biodiversity, 3) explore biogeographic and population genetic studies of specific subregions and species, and 4) provide a venue for binational discussions and collaborative networking for scientists and conservation practitioners in the US and Mexico. It is our goal that by hosting this symposium in Tucson, Arizona, the nearby shadow of the Madrean sky islands will capture the imagination of ASM 2022 participants, spurring action to understand and conserve these bellwether habitats. Organizers: Robbie Burger, Dakota Rowsey, and Nate Upham.

Symposium IV – Mammal Diversity in Dynamic Landscapes

Speakers: Catherine Badgley, Brooks Kohli, Renan Maestri, Rebecca Rowe, Tara Smiley, and Miriam Zelditch

Date & Time: Tuesday, June 21st, 2:00 to 4:00 pm

Location: Canyon I, III

One of the most striking gradients in mammal diversity today is the concentration of species in topographically complex regions, such as long mountain ranges and large rift valleys. These areas contain most of the hotspots for mammal diversity worldwide (as well as for other well-documented groups, including birds and vascular plants), and contain many small-range endemic mammal species of high conservation concern. Since climate change is occurring faster at high elevations and high latitudes than elsewhere across the world, species in montane regions are experiencing rapid changes to their ecosystems. Thus, understanding the processes that drive the generation and maintenance of diversity in topographically complex landscapes is highly relevant and interdisciplinary, requiring integration of information from mammalogy, biogeography, the fossil record, and earth sciences. This symposium presents diverse perspectives on the ecological and evolutionary processes that underlie the topographic richness gradient. The combination of topics and speakers will feature fundamental biogeographic processes that have shaped mammal diversity on the continents, as well as provide important insights for conservation of mammals in montane regions. Thus, we anticipate it will hold broad relevance and appeal to the ASM membership. The symposium also emphasizes the importance of collaborative research across biological and geological disciplines. Organizers: Catherine Badgley and Rebecca Terry.

PLENARY IA – STUDENT AWARD SPEAKERS

-Please note all times are listed in Arizona Time-

Olivia Chapman, Annie M. Alexander Award

Presentation Title: Gut check: exploring gastrointestinal morphology as a continuous functional trait in Appalachian small mammal communities

Date & Time: Saturday, June 18th, 8:15 to 8:35 am

Location: Canyon I, III

This year the Annie M. Alexander Award is awarded to Olivia Chapman from the University of North Carolina Greensboro for her application entitled "Evaluating gastrointestinal morphology as a continuous functional trait in small mammal community assembly." Olivia Chapman first fell in love with mammalogy and field research when she took a Field Mammalogy class at the University of Michigan Biological Station in 2016, taught by Dr. Phil Myers. She decided to pursue a career in mammalogy and she is currently finishing her Master's in Biology at the University of North Carolina at Greensboro in Dr. Bryan McLean's lab. Her thesis focuses on how gastrointestinal tracts of small mammals change in response to varying food quality and availability, as well as how gastrointestinal traits can be used as continuous functional traits indicative of dietary guild. She hopes to expand on this work as she begins her PhD program this fall, continuing on in Dr. McLean's lab. In addition, she is very committed to making sure any data she collects is accessible and available, and plans to link all of the gastrointestinal data she collected back to the museum specimens they came from. She also helped to digitize the UNCG mammal collection last year, which is now openly available on Arctos. She has done some work at museums in the past and hopes to continue utilizing museum collections in her future research endeavors.

Flavio Augusto da Silva Coelho, Anna M. Jackson Award

Presentation Title: Ancient bears provide insights into Pleistocene ice age refugia in southeast Alaska

Date & Time: Saturday, June 18th, 8:35 to 8:55 am

Location: Canyon I, III

This year the Anna M. Jackson Award is awarded to Flavio Augusto da Silva Coelho from the University at Buffalo for his application entitled "Ancient bears provide insights into Pleistocene ice age refugia in Southeast Alaska." Flavio Coelho hails from Brazil where he did undergraduate and master's research on Brazilian primates and rodents. He is currently a 3rd year Ph.D. candidate at the University at Buffalo, working in Dr. Charlotte Lindqvist's Lab. Flavio is interested in mammalian evolution, paleogenetics, paleoecology, genomics, biogeography, and taxonomy. His research aims to investigate the evolutionary history of mammals that inhabit Alexander Archipelago, Southeast Alaska using ancient DNA from subfossils of different mammalian species spanning the last 50,000 years, such as Sitka black-tailed deer, brown bears, black bears, seals, and foxes. Mammalian ancient DNA can be used as a proxy to provide insights to many different questions, such as whether Southeast Alaska provided ice age refugia during the Last Glacial Maximum. It would also be possible to assess the biotic impact of climate change in southeastern Alaska during the Late Pleistocene, help constrain the timing and extent of deglaciation along the westernmost edge of the Cordilleran Ice sheet, and timing and viability of a North Pacific route that could have been used by different mammals (including humans) when migrating towards the south of the ice-sheets. After his Ph.D., Flavio plans to continue his research on mammal evolution and how it has been affected by past and current climate change.

Allison Brehm, A. Brazier Howell Award

Presentation Title: Density-dependent effects of personality on survival in fluctuating small mammal populations

Date & Time: Saturday, June 18th, 8:55 to 9:15 am

Location: Canyon I, III

This year the A. Brazier Howell Award is awarded to Allison Brehm from the University of Maine for her application entitled "Consequences of small mammal personalities for habitat selection, demographic rates, and the seed dispersal mutualism." Allison Brehm is currently finishing her Ph.D. in Ecology and Environmental Sciences at the University of Maine under the guidance of Dr. Alessio Mortelliti. Her dissertation explores the interface between intraspecific behavioral variation and forest ecology using small mammals (such as deer mice and southern red-backed voles) as model species. She focuses specifically on animal personalities, or consistent behavioral differences between conspecifics, as these can have broad-ranging ecological implications. Her work examines the influence of animal personality on habitat selection and demographic rates across modified forest landscapes and also investigates the propensity for small mammal personality traits to generate context-dependence in the seed dispersal mutualism. She is passionate about understanding how individual behavior can scale up to patterns that occur in populations and ecosystems, and she particularly enjoys working with small mammals and plant-granivore interactions. She will next pursue her research interests working as a postdoctoral fellow in the lab of Dr. John Orrock at the University of Wisconsin-Madison.

Douglas Njeri, Elmer C. Birney Award

Presentation Title: Disruption of an ant-plant mutualism alters predator-prey dynamics in an African savanna

Date & Time: Saturday, June 18th, 9:15 to 9:35 am

Location: Canyon I, III

This year the Elmer C. Birney Award is awarded to Douglas Njeri from the University of Wyoming for his application entitled "Disruption of an ant-plant mutualism alters predator-prey dynamics in an African savanna." Douglas Njeri's research interests span a range of topics in the ecology and conservation of African savannas, with emphasis on human-wildlife interactions and the integration of wildlife conservation into livestock production systems. For his Master's work at the University of Nairobi, he combined GPS telemetry and field experiments to understand how the invasive big-headed ant reshapes dynamics between lions and their primary prey, plains zebra. Currently, he is a Ph.D. student in the Program in

Ecology at the University of Wyoming, advised by Dr. Jacob Goheen. His dissertation project is centered on quantifying the effects of long-term pastoralism on landscape connectivity and resource use by wild mammals in Tsavo National Park and adjacent community conservancies. His work has been generously supported by the ASM's African Research Fellowship, the Rufford Foundation, the University of Wyoming's Biodiversity Institute, and the U.S. National Science Foundation. His future plans entail conserving savanna mammals and their habitats within Kenya, building collaborations with peers and mentors, and enhancing educational outreach.

PLENARY IB – STUDENT AWARD SPEAKERS

-Please note all times are listed in Arizona Time-

Savannah Bartel, Albert R. & Alma Shadle Fellowship Award

Presentation Title: Cascading effects of eavesdropping: predator sociality mediates foraging behavior and multiple plant-consumer interactions

Date & Time: Saturday, June 18th, 10:00 to 10:30 am

Location: Canyon I, III

The 2021 recipient of the Albert R. and Alma Shadle award is Savannah Bartel of the University of Wisconsin-Madison. For her graduate work in the Orrock Lab, Savannah has been working in the southeastern US to understand how human activities in both the past and present generate spatial variation in species interactions and their outcomes, with a focus on mammalian foraging behavior. She is specifically interested in the longleaf-pine woodland ecosystem, which is a critically endangered ecosystem and provides essential habitat to some endangered wildlife species. Longleaf-pine woodlands have the potential to be biodiversity hotspots because of their historically diverse understory plant communities. Since these woodlands host a suite of mammal species that play potentially important roles for the dispersal and persistence of plants, she studies a broad range of mammalian predators and prey to understand how their behavior shapes plant communities. She is particularly interested in how the overlay of past agricultural land use and contemporary disturbances in longleaf pine woodlands affects seed-granivore, plant-herbivore, and predator-prey interactions and determines the strength of trophic cascades. She is also interested in how human activities that change patch geometry, like the implementation of conservation corridors, affect mammalian species interactions and foraging decisions. She also studies the unique role of mesopredators as seed dispersal agents and how differences in coyote diets and social rank may affect this role. She aims to conduct research that satisfies her inherent curiosity about the natural world, is broadly informative to our understanding of how ecosystems operate, and can be applied to solve contemporary conservation problems.

Dana Green, ASM Fellowship Award

Presentation Title: Community ecology of North American migratory bats

Date & Time: Saturday, June 18th, 10:30 to 11:00 am

Location: Canyon I, III

The recipient of the 2021 American Society of Mammalogists Fellowship is Dana Green of the University of Regina. Dana Green has been a member of the ASM since 2015, and has attended every in-person meeting since joining the society. She was elected as a student representative for the ASM in 2017, and elected as a regular BOD member in 2020. Additionally she serves on the Informatics and Conservation Committee, and in 2021 was asked to join the ASM Vision Committee. Along with the ASM Fellowship, Dana has been the recipient of the ASM Student in Science Policy Award, the E.O. Wilson Conservation Award from the Animal Behaviour Society, and funded a three year project through Environment and Climate Change Canada. Dana has published in journals such as the Journal of Mammalogy and Comparative Physiology among others, and a book chapter in 50 Years of Bat Research. Dana's thesis work focuses on understanding the community ecology and movements of migratory bats in North America. The hoary (*Lasiurus cinereus*) and silver-haired bat (*Lasionycteris noctivagans*) can both migrate long distances, however they are not closely related and exhibit differences in wing morphologies indicative of foraging behaviour, suggesting that they occupy different niches in their ecosystems. Dana's research will

answer two questions: 1) How do two migratory bats partition resources to meet their requirements? 2) Are bats using landscape-level features to navigate for migration?

PLENARY II – SENIOR AWARD SPEAKERS

-Please note all times are listed in Arizona Time-

Deedra McClearn, Joseph Grinnell Award

Presentation Title: Field work, field stations, and the accessible field experience

Date & Time: Monday, June 20th, 8:15 to 9:00 am

Location: Canyon I, III

The 2021 recipient of the Joseph Grinnell Award, Dr. Deedra McClearn, is recognized for her impact on graduate and undergraduate students throughout the world. Deedra coordinated and led tropical biology field courses in Costa Rica for the Organization of Tropical Studies (OTS) for over 15 years, developed a semester-long undergraduate program in South Africa, and helped to establish Duke University's international education program in China. Several letters of support noted Deedra's dedication to always promoting local communities, one stating she was a fierce "champion of efforts to support and include local students, educators, and researchers into the study abroad programs." In addition, Deedra has been a leader in developing assessment tools for academic programs. She has developed workshops helping educators to implement dynamic, active, and inquiry-based learning into courses that continue to influence generations of students. In "retirement", Deedra continues to play an active role in scientific and educational programs. One of her current projects is to assemble, evaluate, and archive many of the long-term data sets that are associated with the OTS sites. Deedra is also working with an international team to develop innovative modules for tropical biology courses that will be freely available online for any educators to use. The many letters of support from Deedra's former students document her personal dedication to fostering student success. One nominator's letter stated, "She has touched our lives in very powerful ways, setting us up for success as graduate students, continuing as a supportive and instructive mentor when we were post-docs, and maintaining an active role in our lives and now, in the lives of our own students." Congratulations to Dr. Deedra McClearn, who is truly one of the world's leaders in education!

Thomas E. Lacher, Jr., Aldo Leopold Award

Presentation Title: Threats and shortfalls in mammalian conservation on a changing planet

Date & Time: Monday, June 20th, 9:00 to 9:45 am

Location: Canyon I, III

The 2021 recipient of the Aldo Leopold Award is Dr. Thomas E. Lacher Jr. of Texas A&M University. Dr. Lacher has been a prolific researcher for almost 40 years, conducting research in over 100 countries, including 60 tropical countries during their tenure as Senior Vice-President and Executive Director of the Center for Applied Biodiversity Science (the research division of Conservation International). He is a member of the Climate Change Specialist Group of the International Union for the Conservation of Nature and Natural Resources (IUCN) and co-chair of the IUCN Species Survival Commission/ Small Mammal Specialist Group. He has (co) authored or edited 13 books and monographs and over 215 research articles, including works such as volumes 6 & 7 of Handbook of Mammals of the World, supervised dozens of graduate students, and taught hundreds of undergraduate students. Dr. Lacher was nominated for his "(1) strong scholarly contributions to mammalian conservation, ecology, and ecotoxicology; (2) his commitment to and success in educating and training the next generation of conservation biologists; and (3) his enduring engagement with and leadership of various international conservation organizations that use science to inform policy and management."

Michael R. Willig, C. Hart Merriam Award

Presentation Title: Understanding variation in tropical bat communities: gradient, landscape, and metacommunity perspectives

Date & Time: Monday, June 20th, 9:45 to 10:30 am

Location: Canyon I, III

The 2021 recipient of the C. Hart Merriam Award is Dr. Michael R. Willig. Dr. Willig earned his Ph.D. from The University of Pittsburgh. He became an Assistant Professor of Biology at Loyola University, and then moved to Texas Tech University, where he was promoted through the ranks to Professor of Biological Sciences; he also served as Chair of the Department, and Director of the Institute of Environmental Sciences. Dr. Willig then became a Program Director and later Division Director of Environmental Biology at the National Science Foundation. Following that appointment, he moved to the University of Connecticut as a Professor of Ecology and Evolutionary Biology and Founding Director of the Center for Environmental Sciences and Engineering. Dr. Willig is currently a Board of Trustees Distinguished Professor of Ecology and Evolutionary Biology and Founding Executive Director of the Institute of Environment at the University of Connecticut. Dr. Willig's research is multidisciplinary, quantitative, and addresses important questions in ecology, biogeography, and conservation biology. His research has an evolutionary perspective, and involves manipulative and observational studies, as well as modeling. He is an excellent field biologist. Although he has published on a wide variety of organisms, a major thrust of his research continues to involve terrestrial mammals, and aspects of community ecology, biodiversity, and biogeography, especially in the tropics. Dr. Willig has an impressive record of > 260 publications in high-quality journals, including 45 per-reviewed articles in the past 5 years alone. His papers have received > 25,000 citations, with 4 articles receiving > 1,000 citations. Based in part on that record, he recently was listed among the top 2% of ecologists in the world. Dr. Willig has been deeply involved as a mentor to numerous students. He oversaw 26 M.S., and 13 Ph.D.'s to the successful completion of their degrees, and fostered the careers of 14 post-doctoral fellows. Dr. Willig also has an incredible record of obtaining extramural funding. He received > 60 major research grants totaling > \$37 million US dollars, allowing him to enhance the disciplines of ecology and mammalogy. Dr. Willig has been an Associate Editor for a Special Edition of *Biotropica* as well as for *Mastozoología Neotropical*, *Journal of Mammalogy Special Features*, *Journal of Mammalogy*, *Frontiers in Ecology and the Environment*, and *Ecosphere*, Special Feature on High Energy Storms. He also was the Centennial Special Feature Editor for the *Journal of Mammalogy*. He continues to make major contributions to the field of Mammalogy.

CAPSTONE SPEAKER

-Please note all times are listed in Arizona Time-

John Koprowski

Presentation Title: Sky islands and desert seas: the importance of conservation of biodiversity in the borderlands

Date & Time: Tuesday, June 21st, 4:40 to 5:30 pm

Location: Canyon I, III

Dr. Koprowski is currently the Dean and Wyoming Excellence Chair at the Haub School of Environment & Natural Resources, at University of Wyoming. Before moving to Wyoming, Dr. Koprowski was a Professor of Wildlife Conservation and Management and the Director of the School of Natural Resources & the Environment at the University of Arizona. At UA, he directed the Desert Southwest Cooperative Ecosystems Studies Unit and the Mt. Graham Biology Programs. Dr. Koprowski's research program has focused on the ecology, conservation and management of biodiversity through community-based approaches in the United States, Mexico, Peru, Colombia, Nepal, China, Mongolia, South Africa, and other international locations. With more than 200 peer-reviewed publications and 5 books, including *Squirrels of the World*, Dr. Koprowski and his >50 graduate students have worked to provide data-informed solutions to conservation challenges. His efforts in wildlife conservation have led to his election as a Fellow of the American Association for the Advancement of Science, The Wildlife Society, and the Linnean Society of London.

UNDERGRADUATE HONORARIA AWARD RECIPIENTS

-Please note all times are listed in Arizona Time-

Alexis Proudman, Undergraduate Honoraria Award

Presentation Title: Correlation between 17-year periodical cicada numbers and mammal activity

Date & Time: Saturday, June 18th, 7:30 to 9:00 pm

Location: Poster Session I & Social, Grand Ballroom

The first Undergraduate Student Honoraria awardee is **Alexis Proudman** for her application entitled "Correlation between 17-year periodical cicada numbers and mammal activity". Alexis Proudman is an undergraduate student at Purdue University majoring in Wildlife with minors in NRES and insect biology. In the summer of 2021, she was a fellow on a USDA-funded Research and Extension Experience for Undergraduates (REEU) where she conducted research on the emergence of the 17-year cicadas. The objectives of her research were to better understand mammalian activity during periodical cicada emergence and evaluate the call characteristics of the Brood X cicadas. During the academic year, she has been working on an NSF-funded REU examining isotopic values in chimpanzee hair and feces to determine if female chimpanzees teach their offspring how to hunt. Throughout the rest of her undergraduate years at Purdue, she wants to continue conducting research on mammals. She is most interested in mammalian behavior and mammalian relationships with insects. After completing her undergraduate degree, she wishes to pursue a PhD to continue her passion working in research.

Holly Nelson, Undergraduate Honoraria Award

Presentation Title: Patterns of stress and survival in an isolated population of American pikas (*Ochotona princeps*)

Date & Time: Saturday, June 18th, 7:30 to 9:00 pm

Location: Poster Session I & Social, Grand Ballroom

The second Undergraduate Student Honoraria awardee is **Holly Nelson** for her application focusing on evaluating the effects of territory-level habitat quality on the survival and stress of pika. Holly Nelson recently finished her Bachelor's degree in Biology at Colorado Mesa University in Grand Junction, Colorado. She graduated with honors in May 2022. She is passionate about wildlife and conservation. For the last year, she has been contributing to a long-term study of stress and survival in American pikas, under the guidance of Dr. Johanna Varner. This summer, she received a grant to continue this work in the field and extend it to investigate interactions between pikas and sympatric mountain goats through behavioral and camera trap analyses. Next year, she plans to apply for graduate school, and ultimately hopes to earn a Ph.D. in wildlife biology or conservation. Ultimately, Holly's research goals are to gain a better understanding of how animals are affected by humans and other introduced species in landscapes, as well as developing conservation and management to help animals better co-exist with humans.

SOCIAL EVENTS

-Please note all times are listed in Arizona Time-

Opening Social

Date & Time: Friday, June 17th, 7:00 to 10:00 pm

Location: Arizona Deck & Foyer

It has been three years since we all last met in-person! Come kick off the conference with an opening night reception at the Westing La Paloma. Enjoy the opportunity to socialize with friends, colleagues, and other conference attendees, as well as welcome new members and meeting attendees to the Society. Hors d'ourves will be provided. Hosted beer and wine will also be provided for the first 90 minutes with a cash bar following. **The Opening Social is co-hosted by the Membership Committee.**

Poster Session I & Social

Date & Time: Saturday, June 18th, 7:30 to 10:00 pm
Location: Grand Ballroom

We are changing things up a bit with two evening poster sessions! The first 1.5 hours is reserved for the science, but feel free to stay longer to socialize with colleagues. What a great opportunity to discuss research with poster presenters and catch up with your friends. Hors d'ourves and a cash bar will be provided.

23rd Annual Gordan L. Kirkland Memorial Run-For-Research (see page 23 for details)

Date & Time: Sunday, June 19th, 5:30 to 6:30 am; gathering on Golf Patio at 5:00 am
Location: La Paloma Country Club

The Run-for-Research is a 5K run or walk. The run was named after Dr. Gordon L. Kirkland, a prominent mammalogist who made many contributions to this field and to the Society. All proceeds from the run go to the Future Mammalogists Fund, which gives Grants-in-Aid for student research. Refreshments will be available for participants following the run. **The Run-For-Research is co-hosted by the Development Committee.**

Auction for the Future Mammalogists Fund

Date & Time: Sunday, June 19th, 7:30 to 10:00 pm
Location: Grand Ballroom

Support the ASM's Future Mammalogists Fund through donating to and purchasing from the auction! The Auction will begin at 7:30 pm sharp. Hors d'ourves and a cash bar will be provided. **The Auction for the Future Mammalogists Fund is co-hosted by the Development Committee.**

Student Social

Date & Time: Sunday, June 19th, 9:00 to 10:30 pm
Location: Terrace Level Patio & Foyer

After the Auction for the Future Mammalogists Fund ends, all student attendees are welcome to come and socialize with friends and colleagues, as well as meet new student members. Deserts and a cash bar will be provided. **The Student Social is co-hosted by the ASM Graduate Students & Education Committee.**

Poster Session II & Social

Date & Time: Monday, June 20th, 8:00 to 10:00 pm
Location: Grand Ballroom

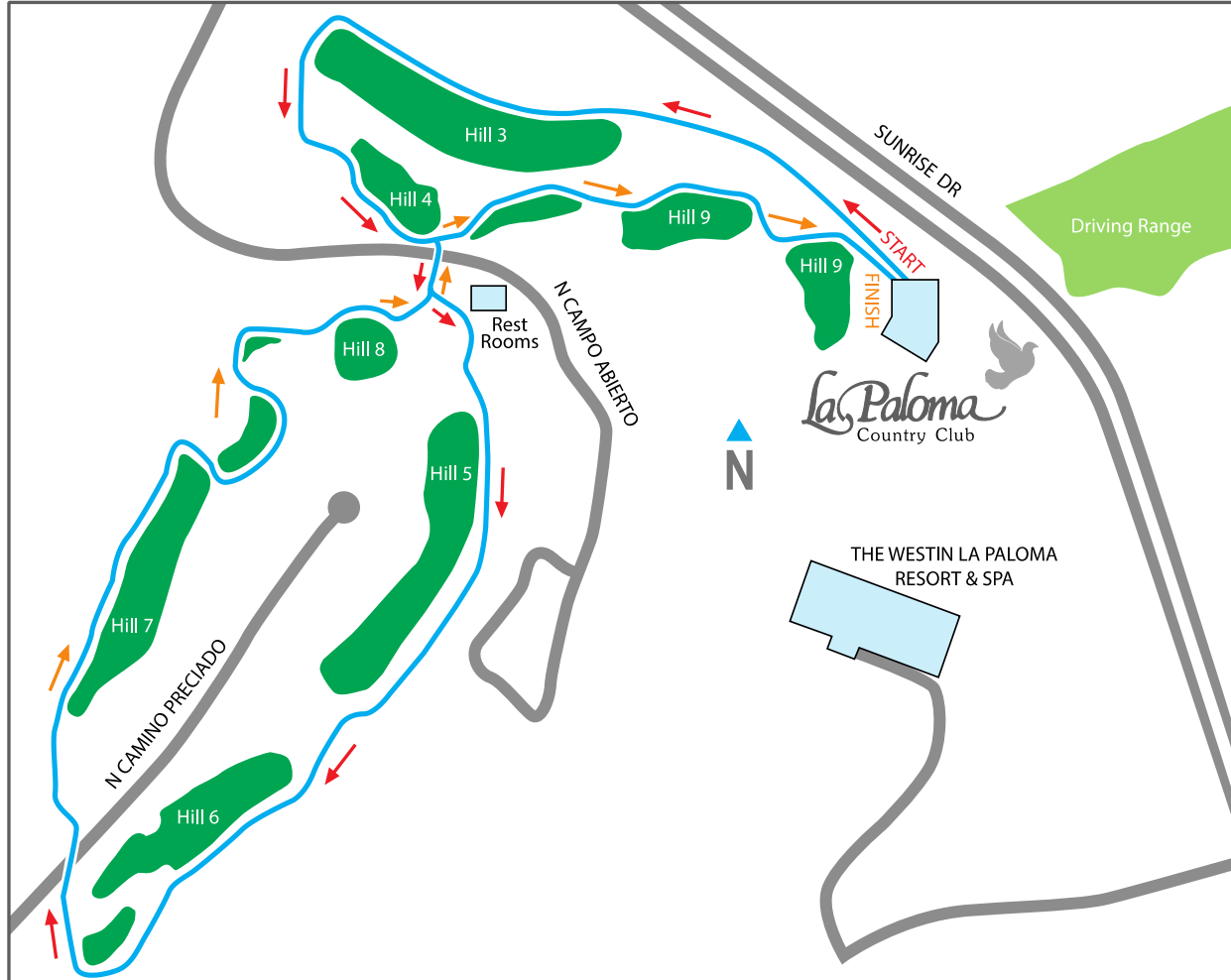
We are changing things up a bit with two evening poster sessions! The first 1.5 hours is reserved for the science, but feel free to stay longer to socialize with colleagues. What a great opportunity to discuss research with poster presenters and catch up with your friends. Hors d'ourves and a cash bar will be provided.

Closing Social & Awards Ceremony

Date & Time: Tuesday, June 21st, 7:30 to 10:00 pm
Location: Arizona Deck & Foyer

Join us at the Closing Social and Awards Ceremony to celebrate another year of mammalogy and to congratulate colleagues! If the desert cooperates, the views will be spectacular. Hors d'ourves and a cash bar will be provided. Must purchase tickets in advance!

23RD ANNUAL GORDON L. KIRKLAND MEMORIAL RUN FOR RESEARCH



Date and Race Start Time.---Sunday, June 19th, 5:30 am (gather at the Golf Patio 30 minutes before)

Start Location.---The route begins at the Golf Patio.

Race Course.---The course will follow the golf cart trail around the La Paloma Country Club. Signage and volunteers will mark the course. See map above for details.

Sign-up.---Register on-line or at the Registration Desk located in the Lobby Foyer.

Entry Fee.---\$25/registration; \$25/t-shirt. All proceeds go to the ASM Future Mammalogists Fund!!!

PROGRAM AT-A-GLANCE

-Please note all times are listed in Arizona Time-

-Hybrid sessions are in **bold and underlined**-

FRIDAY, JUNE 17TH, 2022		
TIME	EVENT	LOCATION
7:00 am	Registration	Lobby Foyer
8:00 am	Board of Directors Meeting I	Sonoran I, II
3:00 pm	Workshop I – Bringing Undergraduate Research Experiences into Your Class	Finger Rock
5:00 pm	Dinner	On Your Own
7:00 pm	Opening Social	Arizona Deck & Foyer
SATURDAY, JUNE 18TH, 2022		
TIME	EVENT	LOCATION
7:00 am	Registration	Lobby Foyer
8:00 am	Vendor Show	Grand Ballroom
8:00 am	Virtual Technical Session	On-Demand (X-CD Platform)
8:00 am	Virtual Poster Session	On-Demand (X-CD Platform)
<u>8:00 am</u>	<u>Plenary Session IA – Student Award Speakers</u>	<u>Canyon I, III</u>
9:35 am	Break	Grand Ballroom
<u>10:00 am</u>	<u>Plenary Session IB – Student Award Speakers</u>	<u>Canyon I, III</u>
11:00 am	Lunch	On Your Own
11:00 am	Officers & Student Plenary Speakers Lunch	Acacia
11:00 am	NSF Office Hours w/Matt Carling	Goldwater
11:30 am	Committee Meeting – International Relations	Lantana
11:30 am	Committee Meeting – Resolutions	Primrose
12:00 pm	Committee Meeting – Honoraria & Travel Awards	Aster I
12:00 pm	Committee Meeting – Mammal Images	Aster II
<u>1:00 pm</u>	<u>Symposium I – Transforming the Digital Frontiers of Mammalogy</u>	<u>Canyon I, III</u>
1:00 pm	Technical Sessions	Finger Rock, Indigo, Murphey
1:30 pm	Committee Meeting – Publications Advisory Board	Verbena
3:00 pm	Break	Grand Ballroom
<u>3:30 pm</u>	<u>Members Meeting I</u>	<u>Canyon I, III</u>
5:30 pm	Dinner	On Your Own
7:30 pm	Poster Session I & Social	Grand Ballroom
SUNDAY, JUNE 19TH, 2022		
TIME	EVENT	LOCATION
5:00 am	Gathering for Gordon L. Kirkland Memorial Run-for-Research	Golf Patio
5:30 am	Gordon L. Kirkland Memorial Run-for-Research	La Paloma Country Club
7:00 am	Registration	Arizona Foyer
8:00 am	Vendor Show	Grand Ballroom
8:00 am	Virtual Technical Session	On-Demand (X-CD Platform)
8:00 am	Virtual Poster Session	On-Demand (X-CD Platform)
8:00 am	Workshop II – Networking for Success: 1-on-1 Mentoring Session	Finger Rock
8:00 am	Workshop III – Describing a New Genus or Species of Mammal and Constructing a Synonymy	Murphey
9:00 am	Committee Meeting – Ad Hoc Vision	Udall
9:00 am	Committee Meeting – African Research Fellowship	Lantana
9:00 am	Committee Meeting – Informatics	Aster I

9:30 am	Break	Grand Ballroom
10:00 am	Workshop IV – Developing Effective Curriculum Vitae	Finger Rock
10:00 am	Workshop V – Increasing the Odds of Successful Publication in the Journal of Mammalogy	Murphey
10:00 am	NSF Office Hours w/Matt Carling	Goldwater
11:30 am	Committee Meeting – Biodiversity	Lantana
12:00 pm	Lunch	On Your Own
12:00 pm	Committee Meeting – Conservation	Verbena
12:00 pm	Committee Meeting – Membership	Primrose
1:30 pm	Symposium II – Mammal Life History in an Era of Global Change: Insights from New Tools and Emerging Datasets	Canyon I, III
1:30 pm	Technical Sessions	Finger Rock, Indigo, Murphey
3:30 pm	Break	Grand Ballroom
4:00 pm	Technical Sessions	Finger Rock, Indigo, Murphey
5:30 pm	Dinner	On Your Own
7:30 pm	Auction for Future Mammalogists Fund	Grand Ballroom
9:00 pm	Student Social	Terrace Level Patio & Foyer
MONDAY, JUNE 20TH, 2022		
TIME	EVENT	LOCATION
7:00 am	Registration	Lobby Foyer
8:00 am	Vendor Show	Grand Ballroom
8:00 am	Virtual Technical Session	On-Demand (X-CD Platform)
8:00 am	Virtual Poster Session	On-Demand (X-CD Platform)
8:00 am	Plenary Session II – Senior Award Speakers	Canyon I, III
10:30 am	Break	Grand Ballroom
11:00 am	Technical Sessions	Finger Rock, Indigo, Murphey
11:00 am	Committee Meeting – Grants-In-Aid	Verbena
12:30 pm	Lunch	On Your Own
12:30 pm	Board of Directors Meeting II (OPTIONAL)	Palo Verde
12:30 pm	Committee Meeting – Education & Graduate Students	Udall
12:30 pm	Committee Meeting – Nomenclature	Lantana
12:30 pm	Committee Meeting – Resolutions	Aster I
1:00 pm	Committee Meeting – Public Education	Primrose
2:30 pm	Technical Sessions	Finger Rock, Indigo, Murphey
4:00 pm	Break	Grand Ballroom
4:30 pm	Members Meeting II	Canyon I, III
6:00 pm	Dinner	On Your Own
8:00 pm	Poster Session II & Social	Grand Ballroom
TUESDAY, JUNE 21ST, 2022		
TIME	EVENT	LOCATION
7:00 am	Registration	Lobby Foyer
8:00 am	Vendor Show	Grand Ballroom
8:00 am	Virtual Technical Session	On-Demand (X-CD Platform)
8:00 am	Virtual Poster Session	On-Demand (X-CD Platform)
8:00 am	Technical Sessions	Finger Rock, Indigo, Murphey
9:30 am	Break	Lobby Foyer
10:00 am	Symposium III – Biodiversity and Conservation of Madrean Pine-Oak Sky Island Mammals in the US and Mexico	Canyon I, III
10:00 am	Technical Sessions	Finger Rock, Indigo, Murphey
12:00 pm	Lunch	On Your Own
12:00 pm	Committee Meeting – Program	Verbena

2:00 pm	Symposium IV – Mammal Diversity in Dynamic Landscapes	Canyon I, III
2:00 pm	Technical Sessions	Finger Rock, Indigo, Murphey
4:00 pm	Break	Arizona Foyer
4:30 pm	Capstone Session – John Koprowski	Canyon I, III
5:30 pm	Dinner	On Your Own
7:30 pm	Closing Social & Awards Ceremony	Arizona Deck & Foyer

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FRIDAY, JUNE 17TH, OPENING DAY
-WESTIN LA PALOMA, TUCSON, ARIZONA-
 -Please note all times are listed in Arizona Time-

7:00 AM	Registration – Lobby Foyer
8:00 AM	Board of Directors Meeting I – Sonoran I, II
3:00 PM	Workshop I – Bringing Undergraduate Research Experiences into Your Class – Finger Rock Instructors: Patrice Connors, Laurie Dizney, Jennifer Duggan, Liz Flaherty, Hayley Lanier, Johanna Varner, and Christopher Yahnke
5:00 PM	Dinner – On Your Own
7:00 PM	Open Social – Arizona Deck & Foyer

^{HTA}Honoraria or Travel Award

**Grants-In-Aid, Research Award, or Fellowship

*Presenter



TechnoSmArt
 GPS TRACKING SYSTEMS FOR ANIMALS

SATURDAY, JUNE 18TH, PLENARY SESSION IA & IB
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

7:00 AM	Registration – Lobby Foyer
8:00 AM	Vendor Show – Grand Ballroom
8:00 AM	Virtual Technical Session – On-Demand (X-CD Platform); see page 29 for details
8:00 AM	Virtual Poster Session – On-Demand (X-CD Platform); see page 32 for details
8:00 AM	Plenary Session IA – Student Award Speakers
8:00 AM	Welcome & Announcements ASM President, Enrique Lessa
8:15 AM	1^{HTA}: Gut check: exploring gastrointestinal morphology as a continuous functional trait in Appalachian small mammal communities Olivia Chapman*, Bryan McLean
8:35 AM	2^{HTA}: Ancient bears provide insights into Pleistocene ice age refuge in southeast Alaska Flavio Augusto da Silva Coelho*, Stephanie Gill, Timothy Heaton, Sandra Talbot, Charlotte Lindqvist
8:55 AM	3^{HTA**}: Density-dependent effects of personality on survival in fluctuating small mammal populations Allison Brehm*, Alessio Mortelliti
9:15 AM	4^{HTA**}: Disruption of an ant-plant mutualism alters predator-prey dynamics in an african savanna Douglas Kamaru*, Alfred Kibungei, Michael Ong'ayo
9:35 AM	Break – Grand Ballroom
10:00 AM	Plenary Session IB – Student Award Speakers
10:00 AM	5^{**}: Cascading effects of eavesdropping: predator sociality mediates foraging behavior and multiple plant-consumer interactions Savannah Bartel*, John Kilgo, John Orrock
10:30 AM	6^{**}: Community ecology of North American migratory bats Dana Green*, Erin Baerwald, Mark Brigham
11:00 AM	Officers & Student Plenary Speakers Lunch – Acacia
11:00 AM	Lunch – On Your Own
11:00 AM	NSF Office Hours w/Matt Carling – Goldwater
11:30 AM	Committee Meeting – International Relations – Lantana
11:30 AM	Committee Meeting – Resolutions – Primrose
12:00 PM	Committee Meeting – Honoraria & Travel Awards – Aster I
12:00 PM	Committee Meeting – Mammal Images – Aster II
1:00 PM	Symposium I: Transforming the Digital Frontiers of Mammalogy – Canyon I, III
1:00 PM	Technical Sessions 1, 2 – Finger Rock, Murphey

^{HTA}Honoraria or Travel Award

^{**}Grants-In-Aid, Research Award, or Fellowship

^{*}Presenter

Plenary Session IB is partially sponsored by:



**SATURDAY, JUNE 18TH, VIRTUAL TECHNICAL SESSION
-ON-DEMAND (X-CD PLATFORM)-**

-Please note all times are listed in Arizona Time-

8:00 AM	Virtual Technical Session – On-Demand (X-CD Platform)
V-1: Female choice for exploratory male personalities through signal location by meadow voles Karl Rohrer*, Rebecca Davis, Michael Ferkin	
V-2: Identifying potential reservoirs of <i>Borrelia burgdorferi</i> sensu lato among central Florida rodent species Sean Beckmann*	
V-3: Ecology and conservation of Asia’s smallest antelope in the land of the lions Dhawal Mehta*	
V-4: What is missing in the phylogenetic tree of Vampyressine bats (Phyllostomidae: Stenodermatinae)? Sara Lucero-Verdugo*, Sandra Ospina Garcés, Giovani Hernández-Canchola, Livia León Paniagua	
V-5: Cranial morphology supports two well-differentiated groups within Central American brocket deer <i>Mazama temama</i> Luis Escobedo-Morales*, Livia León Paniagua, Enrique Martínez-Meyer, Salvador Mandujano	
V-6: Stem density of invasive shrubs facilitate increased winter seed removal by small mammals Mark Fuka*, John Orrock	
V-7: Effects of anthropogenic noise and light pollution on nest-site selection of Formosan giant flying squirrels Hsiang Ling Chen*, Jia Shian Wu	
V-8: Towards filling the gap: Lagomorpha evolutionary puzzle Anwasha Saha*, Mateusz Baca, Danijela Popović, Zeinolabedin Mohammadi, Biswa Bhusana Mahapatra, Urban Olsson, Lucja Fostowicz-Frelik ⁷	
V-9: Wet and warm season: when the pacas come out to play Rhayssa Faria*, Eleonore Setz	
V-10: Storage effect to the evolutionary rescue: Persistence in temporally varying environments Eve Rowland*, Davorka Gulisija	
V-11**: Female reproductive state changes vocal characteristics in North American red squirrels Alexander Hare*, Amy Newman, Ben Dantzer, Jeffrey Lane, Stan Boutin, Andrew McAdam ⁶	
V-12: Do scavenging rates of small-mammal carrion differ in primary and secondary forests? Andrea Romero*, Anthony Soto Cedeño, Jessica Montaño, Gonçal Oliveros Layola	
V-13**: Size- and state-dependent effects of invasive plants on antipredator behavior of white-footed mice (<i>Peromyscus leucopus</i>) Carson Keller*, John Orrock	
V-14**: The influence of drought on fecal corticosterone and dispersal-related behaviors in wild <i>Peromyscus boylii</i> Madeline Strom*, Karen Mabry, Rebecca Berg	
V-15: Functional Impacts of High-Effect Mutations Associated with dog Hyper-Sociability Dhriti Tandon*, Enik Kubinyi, Sára Sándor, Adam Miklósi, Bridgett vonHoldt	
V-16: Prevalence and persistence of <i>Anaplasma phagocytophilum</i> in a northern Illinois prairie ecosystem Kristina Mickens*	
V-17^{HTA}: Taxonomic boundaries in Lesser Treeshrews (Scandentia, Tupaiidae: <i>Tupaia minor</i> Günther, 1876) Maya Juman*, Neal Woodman, Ananth Miller-Murthy, Link Olson, Eric Sargis	

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*Presenter

<p>V-18: Ancient mitogenomes reveal population dynamics of Holocene bison in the northern Great Plains Igor Ovchinnikov*</p>
<p>V-19: Co-occurrence of free-ranging dogs and northern tiger cats in the Brazilian semi-arid Caatinga shrub-woodlands. Lester Fox-Rosales*, Tadeu de Oliveira</p>
<p>V-20: Systematics of the New World <i>Eptesicus</i> and <i>Histiotus</i> bats indicate a South American origin Xueling Yi*, Emily Latch</p>
<p>V-21: Genetic diversity and abundance in two Neotropical cervids of Quintana Roo Mexico Maria Camargo Aguilera*, MARIA FERNANDA CRUZ TORRES, Nalleli E. Lara-Diaz, Carlos Lopez</p>
<p>V-22: Biodiversity Literacy in Undergraduate Education (BLUE): an example from natural history collections and pathogen data Anna Monfils*, Jocelyn Colella, Joseph Cook, Cody Thompson, Debra Linton</p>
<p>V-23: Temporal niche of the Andean tiger cat in cloud forests of the Western Andes, Colombia. Juan Camilo Cepeda-Duque*, Andrés Link, Diego Lizcano, Luis Mazariegos, Uriel Rendón-Jaramillo, Tadeu de Oliveira</p>
<p>V-24: Morphological evolution of scapula and pelvis of hystricomorph rodents Luiza Gasparetto*, Bruno Simionovschi, Renan Maestri, Bruce Patterson, Thales Renato Ochotorena Freitas</p>
<p>V-25: Mexican wolf (<i>Canis lupus baileyi</i>) restoration in Mexico: summary of a 10-year effort Carlos Lopez*, Nalleli E. Lara-Diaz, Jorge L. Reyes-Diaz, Maria Camargo Aguilera, Carmen Garcia-Chavez, Rugieri Juarez-Lopez, R. Ivan Alvaro-Montejo, Juan A. Alvaro-Montejo, Mabelyn Cordova-Montejo</p>
<p>V-26: Small mammal community variation corroborates a recent and idiosyncratic biogeographical history of <i>Restingas</i> in Brazil Guilherme Silva*, Pablo Gonçalves, Caryne Braga</p>
<p>V-27: Anatomy and postnatal ontogeny of the masticatory muscles of <i>Didelphis albiventris</i> (Didelphimorphia, Didelphidae) Juann Abreu*, Diego Astúa</p>
<p>V-28: Forelimb specialization as an adaptation for burrowing in kangaroo rats (Genus <i>Dipodomys</i>) Leila Siciliano-Martina*, Joseph Veech</p>
<p>V-29: Population assessment of the three small cat specialists of the vanishing Brazilian drylands Tadeu de Oliveira*, Lester Fox-Rosales, Paulo Marinho, Douglas Dias, Alex Pereira, Lyse Meira, FLAVIO HENRIQUE RODRIGUES</p>
<p>V-30: Dental ecomorphology, stable isotopes, and body size reveal ecological shifts in the grasshopper mouse <i>Onychomys</i> Jonathan Keller*, Seth Newsome, Kate Lyons, Felisa Smith</p>
<p>V-31: Impact of dietary protein on postnatal growth, body composition, and performance in <i>Peromyscus californicus</i> Elissa Derrickson*</p>
<p>V-32: Activity patterns of bat species at interstate highway sites with and without wildlife underpasses Jenna Chapman*, Kristina Ernest</p>

^{HTA}Honoraria or Travel Award

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<p>V-33: Understanding ranging behaviour of elephants in the forest-crop field interface of Rajaji landscape, northwestern India Jayjit Das*, Parag Nigam, Samrat Mondol, Bilal Habib, Natarajan Lakshminarayanan, Suvankar Biswas, Bivash Pandav</p>
<p>V-34: Not alone: burrow sharing by the endangered Elias Atlantic spiny rat (<i>Trinomys eliasi</i>, Echimyidae) Amanda Braga*, Pablo Gonçalves, Caryne Braga</p>
<p>V-35: A mammal collection of the Galápagos islands Miguel Pinto*, Paulina Sepa-Egas</p>
<p>V-36: Gray foxes in the United States midwest: Extirpation in our own backyards Suzanne Prange*, Holly Barlage, Jessica Camp, Christine Anderson</p>
<p>V-37: Redness signals body size in tree squirrels Alec Sheets*, Andreas Chavez</p>
<p>V-38: Foraging behavior response of small mammals to different burn severities Marina Morandini*, John Koprowski</p>
<p>V-39: Fishers in a landscape altered by tree mortality: implications for habitat suitability and connectivity Rebecca Green*, Eric McGregor, Melanie Boudreau, Garrett Street, Kathryn Purcell</p>
<p>V-40: Linking macroecological distribution patterns to individual specialization in small mammal communities Kristina Harkins*, Doug Keinath, Jacob Goheen, Merav Ben-David</p>
<p>V-41: Habitat use of the Andean tiger cat in a biodiversity hotspot of Colombia. Juan Camilo Cepeda-Duque*, Andrés Montes-Rojas, Gabriel Andrade-Ponce, Diego Lizcano, Uriel Rendón-Jaramillo, Valentina López-Velasco, Eduven Arango-Correa, Luis Mazariegos, Andrés Link, Tadeu de Oliveira</p>
<p>V-42: The Neotropical cat genus <i>Leopardus</i>: a genomic history of rapid speciation and hybridization Jonas Lescroart*, Paola Pulido-Santacruz, Constanza Napolitano, William Murphy, Hannes Svoldal, Eduardo Eizirik</p>
<p>V-43: Species from feces: using eDNA metabarcoding to assess plant diet diversity in feral pigs Emmarie Alexander*, Aron Katz, Lynsey Harper, Jinelle Sperry</p>
<p>V-44: Shrub encroachment alters trophic interactions in a canid-lagomorph community in the Chihuahuan Desert Casey Wagnon*, Robert Schooley</p>
<p>V-45: Coexistence of three mephitids in tropical dry forest in Tehuacán-Cuicatlán biosphere reserve, México Verónica Farías-González*, Karen Haydee Hernández-Mendoza</p>
<p>V-46: Foraging Ecology of the Hawaiian Hoary Bat on Maui David Johnston*, Kristin Jonasson, Brad Yuen</p>
<p>V-47: Widespread convergent evolution of venom resistance in African carnivores Danielle Drabek*, Jennifer Holt, Rafael Viana Furer, Suzanne McGaugh</p>

^{HTA}Honoraria or Travel Award

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**SATURDAY, JUNE 18TH, VIRTUAL POSTER SESSION
-ON-DEMAND (X-CD PLATFORM)-**

-Please note all times are listed in Arizona Time-

8:00 AM	Virtual Poster Session – On-Demand (X-CD Platform)
V-48 ^{HTA} : The evolutionary history of the urea transporter gene family (SLC14A) in mammals Nicolás Boullosa*, Enrique Lessa	
V-49: Sexual dimorphism in the endocast of eastern lowland gorillas in the light of social behavior Caitlin Man*, Emmanuel Gilissen, Margot Michaud	
V-50: Diet of maternal big brown bats vs. bachelor big brown bats in Kansas Chloe Champney*, Zachary Nelson, Dr. Nicholas Stewart, Lorelei Patrick	
V-51: Rodent species as potential reservoirs of pathogenic <i>Ehrlichia</i> in a prairie ecosystem. Christian Berberich*, Sean Beckmann	
V-52: Bobcat (<i>Lynx rufus</i>) abundance and density in privately owned ranches of northwestern Chihuahua, Mexico Jorge L. Reyes-Diaz*, Maria Camargo Aguilera, Nalleli E. Lara-Diaz, Carlos Lopez	
V-53: Quantifying bobcat prey abundances between distinct ecoregions of Oklahoma Nathan Proudman*, Vicki Jackson, Michelle Haynie, Jerrod Davis, Sue Fairbanks	
V-54: Community structure in a countryside - testing predictions from island biogeography vs. habitat amount hypotheses Craig McCain*, David Hoeinghaus, Ivan Castro-Arellano, Jaime Jiménez	
V-55: Are direct observation and playback effective in surveying Japanese pika populations in dense vegetation? Tomoki Sakiyama*, Jorge Garcia Molinos	
V-56: Effect of past and present weather conditions on small mammals in a temperate mountain range Ana Maria Benedek*, Ioan Sirbu, Marius-Victor Bîrsan, Alexandru Dumitrescu	
V-57: A battle between crab-eating and hoary foxes in the northern Brazilian savannas? Abundance, spatio-temporal patterns. João Mendonça*, Tadeu de Oliveira, Lester Fox-Rosales, BRENO LIMA, Laís Everton	
V-58: Alteration to daily activity patterns of terrestrial herbivores at a wind energy facility Lena Nguyen*, Brian Tanis	
V-59: Cranial bone calcification process of masked palm civet Kazuhiro Koyasu*, Yayoi Ikeda	
V-60: How does the crab-eating raccoon makes use of habitats in the dry Brazilian Caatinga? Sara Porto de Camargo*, Tadeu de Oliveira, Lester Fox	
V-61: Rodent diversity and distribution in a highly human modified tropical landscape Gloria Tapia-Ramirez*, Consuelo Lorenzo, Darío Navarrete	
V-62: Unraveling the role of the Andes in the diversification of the nectar bat <i>Glossophaga soricina</i> Natalia Cortes-Delgado*, Roberta Mason-Gamer, Bruce Patterson	
V-63: Audio detectors, camera traps, and live trapping: a look into flying squirrel survey methods Raymond McAndrew*, Amanda Cheeseman, Corrine Diggins, Jacqueline Frair, Matthew Schlesinger	
V-64: Diversified diet: How do uakaris select fruits infected by insects. Celene Carvalho*, Lester Fox-Rosales, Adrian Barnett	
V-65: From sound to silence: a census of the Santa Genebra's howler monkeys (<i>Alouatta g. clamitans</i>) Isabela Conti*, Eleonore Setz	

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SATURDAY, JUNE 18TH, SYMPOSIUM I
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

1:00 PM	Symposium I – Transforming the Digital Frontiers of Mammalogy – Canyon I, III
1:00 PM	7: Biodiversity informatics of mammals: identifying the next big breakthroughs Robert Anderson*, Eileen Lacey
1:10 PM	8: Pitfalls and prospects for parasites and pathogens in the digital museum era Kelly Speer*, Kayce Bell
1:20 PM	9: Harnessing the power of museum specimens: generation and public-sourcing of molecular data Jocelyn Colella*, Diego Alvarado-Serrano
1:30 PM	10: Evaluating the past and present ecology of mammals: stable isotope analysis of biological collections Emma Elliott Smith*, Phil Manlick
1:40 PM	11: Microbiomes from biorepositories: intestinal bacterial community characterization from museum archived samples of shrews Stephen Greiman*, Schuyler Liphardt, Joseph Cook
1:50 PM	12: Transforming the Digital Frontiers of Mammalogy: Morphology Noé de la Sancha*, Stephanie Smith, Meghan Balk, Cody Thompson
2:00 PM	Panel Discussion I -- Questions and ideas regarding Science Frontiers Diego Alvarado-Serrano, Meghan Balk, Kayce Bell, Jocelyn Colella, Joseph Cook, Noé de la Sancha, Emma Elliott Smith, Stephen Greiman, Schuyler Liphardt, Phil Manlick, Stephanie Smith, Kelly Speer, Cody Thompson
2:20 PM	13: Realizing the specimen nexus: links across data types Jessica Light*, Joseph Cook
2:30 PM	14: Museums, biodiversity, and the digital data revolution: An ornithological perspective John Bates*, Carla Cicero, A. Townsend Peterson
2:40 PM	Panel Discussion II -- What are the most needed breakthroughs? Diego Alvarado-Serrano, Robert Anderson, Meghan Balk, John Bates, Kayce Bell, Carla Cicero, Jocelyn Colella, Joseph Cook, Noé de la Sancha, Emma Elliott Smith, Stephen Greiman, Eileen Lacey, Jessica Light ¹ , Schuyler Liphardt, Phil Manlick, A. Townsend Peterson, Kelly Speer, Stephanie Smith, Cody Thompson
1:30 PM	Committee Meeting – Publications Advisory Board – Verbena
3:00 PM	Break – Grand Ballroom
3:30 PM	Members Meeting I – Canyon I, III
5:30 PM	Dinner – On Your Own
7:30 PM	Poster Session I & Social – Grand Ballroom

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**SATURDAY, JUNE 18TH, AFTERNOON SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-**

-Please note all times are listed in Arizona Time-
-Numbers 15-30 were inadvertently **not** used-

Session	Technical Session I: Population Ecology	Technical Session 2: Conservation
Room	Finger Rock	Murphey
Moderator	Jesse Alston	James Cain
1:00 PM	31: Local scale habitat structure mediates interactions between coyotes and lagomorphs Gabriela Palomo*, Ty Werdel, Colleen Piper, Mason Fidino, Adam Ahlers	39^{HTA}: Climatic refugia and anthropogenic threats: Impacts on mammals of conservation concern within the Appalachian ecoregion Lauren Lyon*
1:15 PM	32: Modeling eighteen years of community science data reveals extensive recolonization of bobcat in Illinois, USA Javan Bauder*, Kirk Stodola, Thomas Beson, Craig Miller, Maximilian Allen	40: Umbrella effect of monitoring protocols for mammals in the Northeast US Alessio Mortelliti*, Allison Brehm, Bryn Evans
1:30 PM	33: Counting bats with computer vision to see if Kasanka is the world's largest colony. Roland Kays*, Ben Koger, Edward Hurme, Blair Costelloe, M. Teague O'Mara, Martin Wikelski, Dina KN Dechmann ³	41: Mountain lion predation in a multi-prey system on private lands in Texas Amanda Veals*, Catherine Dennison, Patricia Moody Harveson, Bert Geary, Louis Harveson
1:45 PM	34: Improving occupancy estimation for inconspicuous species using multiple sign types: a case study of American pika Mia Goldman*	42^{HTA}: Do African wild dog populations benefit from reduced lion density if prey is depleted? Ben Goodheart*
2:00 PM	35: Variation in resource selection by a large herbivore: effects of reproductive status and interspecific competition Nathan Jackson*, Kevin Shoemaker, Darren Clark, Michael Wisdom, Kelley Stewart	43: Fantastic pygmy rabbits and where to find them: investigating long distance movements with GPS collars Miranda Crowell*, Kevin Shoemaker, Marjorie Matocq
2:15 PM	36: Mammalian foraging and fate of seeds in an oak forest Magda Gusztyń, John Yunker*	44: Tough to track: developing cost-effective monitoring protocols for track-surveys using a 16-year <i>Lynx canadensis</i> dataset Gabriela Franzoi Dri*, Erik Blomber, Malcolm Hunter, Jennifer Vashon, Alessio Mortelliti ¹
2:30 PM	37: Selection of resources by pronghorn near large-scale disturbance Megan Osterhout*	45: The value of dry riverbeds as corridors and habitat in Tucson, AZ Alexandra Burnett*, Michael Bogan, John Koprowski ²

^{HTA}Honoraria or Travel Award

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2:45 PM	38: Flipping the scales of allometrics with early-life conditions Joseph Hediger*, Matthew Moore, Cole Anderson, Bryan Spencer, Charles DeYoung, Stuart Stedman, David Hewitt, Randy DeYoung, Michael Cherry	46: Genomic variability is consistent with the history(s) of fragmentation of a southwestern riparian mammal Manuela Londoño-Gaviria, Andreas Chavez, John Demboski, Jennifer Frey, Joseph Cook, Jason Malaney*
1:30 PM	Committee Meeting – Publications Advisory Board – Verbena	
3:00 PM	Break – Grand Ballroom	
3:30 PM	Members Meeting I – Canyon I, III	
5:30 PM	Dinner – On Your Own	
7:30 PM	Poster Session I & Social – Grand Ballroom	

^{HTA}Honoraria or Travel Award

**Grants-In-Aid, Research Award, or Fellowship

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**SATURDAY, JUNE 18TH, POSTER SESSION I & SOCIAL
-WESTIN LA PALOMA, GRAND BALLROOM-**

-Please note all times are listed in Arizona Time-

7:30 PM	Poster Session I & Social – Grand Ballroom
47: Impacts of periodical cicada outbreaks on <i>Peromyscus leucopus</i> Stephen Mech*, Ryan Brett, Emily Lenkevich	
48: Monitoring little brown bat (<i>Myotis lucifugus</i>) movements using passive integrated transponders (PIT tags) Joshua Christiansen*, Hannah Wilson, Dana Green, Jack Nason, Kurt Samways, Mark Brigham	
49: Development of a custom mobile app for community monitoring of American pikas (<i>O. princeps</i>) Johanna Varner*, Megan Mueller, Stefan Ekernas, Chris Sprague	
50: Patterns of stress and survival in an isolated population of American pikas (<i>Ochotona princeps</i>) Holly Nelson*, Troy Muzzio, Mallory Lambert, Johanna Varner	
51**: Keep on Survivin': The search for plague survival alleles in Gunnison's Prairie Dog (<i>Cynomys gunnisoni</i>) Anna Jackson*, Gabrielle Atkinson, Loren Cassin-Sackett	
52^{HTA}: Security at multiple scales: concealment and visibility both influence selection of habitat by a leporid Rachel Stein*, Bastien Lecigne, Jan Eitel, Janet Rachlow	
53^{HTA}: Using CT scanning to identify a potential new <i>Sorex</i> species in Colorado Cameron Pittman*, Christy McCain, Jingchun Li	
54: Rangewide phylogeography of <i>Sorex monticola</i> Antonia Androski*, Schuyler Liphardt, John Demboski, Joseph Cook	
55: A taxonomic catalog of mammals described exclusively from Texas David Schmidly, Robert Bradley, Lisa Bradley, Franklin Yancey*	
56^{HTA}: Utilizing museum collections and community collaborations to study the establishment of fox squirrels in Utah Katrina Derieg*, Eric Rickart, Lynne Zummo, Ellen Eiriksson	
57: Then and now: Documenting the squirrels of Southern California with collections and community science Kayce Bell*, Miguel Ordeñana, Lisa Gonzalez	
58^{HTA}: Mesopredator occupancy and songbird richness along an urbanization gradient in central coastal California Matthew McGee*, Jenny Duggan	
59^{HTA}: Hyena morphology after occupying an urban environment Daniel Macina*, Lily Johnson-Ulrich, Kay Holekamp	
60: Swamp rabbit (<i>Sylvilagus aquaticus</i>) occupancy across a flood prone landscape in Missouri Shelby Timm*, Leah Berkman, Ivan Vining, Kevin Brunke, John Scheibe	
61: Using museum specimens to study geographic expansion of Lyme disease in the southeastern United States Meghan Leber, Nancy Moncrief, Lisa Gatens*, Jory Brinkerhoff	
62: Diversification of Philippine murid rodents: Mating system disparity suggests the involvement of sexual selection Eric Rickart*, Dakota Rowsey, Teresa H. Horton, Vincent Fitzpatrick, Danilo Balete, Lawrence Heaney	
63: Parasites of spotted skunks (<i>Spilogale</i> sp.) in the eastern and central United States Madeline Arszulowicz*, Robert C. Dowler, Nicholas Negovetich	

^{HTA}Honoraria or Travel Award

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<p>64: Spatial factors influencing wildlife use of crossing structures on the Central Arizona Project canal Kaela Hamilton*, Thomas Bommarito, Jesse Lewis</p>
<p>65^{HTA**}: Discovery of novel viruses within urban coyotes of the Phoenix metropolitan area Savage Hess*, Katherine C.B. Weiss, Joy Custer, Simona Kraberger, A. Varsani</p>
<p>66: Surveying LA's backyard bats: A community effort Miguel Ordeñana*, Amy Jaecker-Jones, Ted Weller, Rachel Blakey, Jill Carpenter</p>
<p>67: Examination of prion disease signature in Suborder Caniformia and Order Chiroptera reveals susceptibility and resistance Vivienne Lacy*, Emily Wright, Emma Roberts, Matthew Buchholz, Daniel Hardy, Warren Conway, Robert Bradley</p>
<p>68^{HTA}: Variation of prion protein genotypes among Kansas deer with implications for chronic wasting disease susceptibility Tyrel Hafliker*, Fraser Combe, Andrew Hope</p>
<p>69: Updating IUCN Red List status through a novel neighborhood approach to post-processing species distribution models Bethany Johnson*, Gonzalo Pinilla-Buitago, Robert Anderson</p>
<p>70: Invasive oryx and encroaching shrubs: implications for landscape change in the Chihuahuan Desert Kieran Andreoni*, Robert Schooley, Brandon Bestelmeyer, Casey Wagnon</p>
<p>71: Biodiversity benefits of ecosystem engineers are negated by invasive predators and anthropogenic disturbance Claire Waters*, Michael V. Cove</p>
<p>72^{HTA}: How much data is needed? Testing an island biogeography model in a sky island system. Kimberly Cook*, Trinity Johnson, Robbie Burger</p>
<p>73: Correlation between 17-year periodical cicada numbers and mammal activity Alexis Proudman*, Morgan Watkins, Landon Jones, Liz Flaherty</p>
<p>74^{HTA}: 50 years of warming at an American pika study site Emily Monk*, Chris Ray</p>
<p>75^{HTA**}: Population genetic analysis of the Humboldt's flying squirrel using high-throughput sequencing Stella Yuan*, Eric Malekos, Catalina Cuellar-Gempeler, Melissa Hawkins</p>
<p>76: Recovering threatened and endangered mammals in California: Recovery plans and the California Endangered Species Act Ange Darnell Baker*</p>
<p>77: Characterizing coyote urine as a social olfactory signal distinct from non-social odors Caroline Long*, Alexandra Turano, Eric Gese, Sara Freeman</p>
<p>78: Differentiation of species distribution patterns between sympatric <i>Eulemur</i> spp. in Ankarafantsikan National Park, NW Madagascar Fernando Mercado Malabet*, Travis Steffens, Jean Claude RAZAFIMAHAIMODISON, Finaritra RANDIMBIARISON, Mamy RAZAFITSALAMA, Shawn Lehman</p>
<p>79^{HTA**}: Comparing methods for recording fine-scale temporal fluctuations in social behavior in free-living mammals Mena Davidson*, Nancy G. Solomon, Brian Keane, Ben Dantzer</p>
<p>80: Behavioral mechanisms underlying sound transmission of semi-arboreal pinyon mouse (<i>Peromyscus truei</i>) vocalizations Bret Pasch, Ryan Brzozowski*, Anastasiya Kobrina</p>
<p>81: Mitonuclear discordance in the five-toed jerboas (Genus <i>Orientalactaga</i>) of the Gobi Desert Lexi Baca*, Batsaikhan Nyamsuren, Joseph Cook, Jason Malaney</p>

^{HTA}Honoraria or Travel Award

^{**}Grants-In-Aid, Research Award, or Fellowship

^{*}Presenter

82: Social sleepers: Sleeping positions as contestable resources

Eve Smeltzer*, Samantha Stead, Ming Fei Li, Tamara T Kumpan, David Samson, Julie Teichroeb

83^{HTA}: Influence of face masks on flight responses of North American wildlife during the COVID-19 pandemic

Rebecca Roberts*, Joshua Beasley, Jenny Duggan, Christopher Yahnke, Johanna Varner

^{HTA}Honoraria or Travel Award

**Grants-In-Aid, Research Award, or Fellowship

*Presenter

**SUNDAY, JUNE 19TH, MORNING SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-**

-Please note all times are listed in Arizona Time-

5:00 AM	Gathering for Gordon L. Kirkland Memorial Run-for-Research – Golf Patio
5:30 AM	Gordon L. Kirkland Memorial Run-for-Research – La Paloma Country Club
7:00 AM	Registration – Lobby Foyer
8:00 AM	Vendor Show – Grand Ballroom
8:00 AM	Virtual Technical Session – On-Demand (X-CD Platform); see page 29 for details
8:00 AM	Virtual Poster Session – On-Demand (X-CD Platform); see page 32 for details
8:00 AM	Workshop II – Networking for Success: 1-on-1 Mentoring Session – Finger Rock Instructors: Kayce Bell and Karen Munroe
8:00 AM	Workshop III – Describing a new genus or species of mammal and constructing a synonym – Murphey Instructors: Connor Burgin, Meredith Hamilton, Jonathan Nations, Ryan W. Norris, Luis A. Ruedas, and Robert M. Timm
9:00 AM	Committee Meeting – Ad Hoc Vision – Udall
9:00 AM	Committee Meeting – African Research Fellowship – Lantana
9:00 AM	Committee Meeting – Informatics – Aster I
9:30 AM	Break – Grand Ballroom
10:00 AM	Workshop IV – Developing Effective Curriculum Vitae – Finger Rock Instructors: Brad Blood, Elizabeth Flaherty, Hayley Lanier, Susan Loeb, Melissa Merrick, and Karen Munroe
10:00 AM	Workshop V – Increasing the odds of successful publication in the Journal of Mammalogy – Murphey Instructors: Burton K. Lim, Brett R. Riddle, and Luis A. Ruedas
10:00 AM	NSF Office Hours w/Matt Carling – Goldwater
11:30 AM	Committee Meeting – Biodiversity – Lantana
12:00 PM	Lunch
12:00 PM	Committee Meeting – Conservation – Verbena
12:00 PM	Committee Meeting – Membership – Primrose
1:30 PM	Symposium II – Mammal Life History in an Era of Global Change: Insights from New Tools and Emerging Datasets – Canyon I, III
1:30 PM	Technical Sessions 3, 4, 5 – Finger Rock, Indigo, Murphey

^{HTA}Honoraria or Travel Award

**Grants-In-Aid, Research Award, or Fellowship

*Presenter

SUNDAY, JUNE 19TH, SYMPOSIUM II
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

1:30 PM	Symposium II – Mammal Life History in an Era of Global Change: Insights from New Tools and Emerging Datasets – Canyon I, III
1:30 PM	Introduction Bryan McLean
1:33 PM	84^{**}: Life history trade-offs in Columbian ground squirrels: insights gained from new technology and targeted manipulations. Jeffrey Lane*
1:50 PM	85: The evolution of seasonal camouflage in white-tailed jackrabbits in response to past and future climates Mafalda Sousa Ferreira*, Timothy J. Thurman, Matthew R. Jones, Liliana Farelo, Alexander V. Kumar, Sebastian M.E. Mortimer, John Demboski, L. Scott Mills, Paulo C. Alves, José Melo-Ferreira, Jeffrey M. Good
2:07 PM	86: Foraging strategies influence lifetime fitness in a long-lived mammal Roxanne Beltran*, Keith Hernandez, Marm Kilpatrick, Dan Costa
2:24 PM	87: Possibilities and limitations of using community-sourced photographs to investigate ecological patterns and processes Katarzyna Nowak*, Shane Richards
2:41 PM	88^{HTA}: Assembling individual-level trait-bases for small mammal phenology research Bryan McLean*, Robert Guralnick
2:58 PM	89: Back to the FuTRES: New informatics platforms, tools and research applications for individual-level trait measurements. Robert Guralnick*
3:15 PM	Panel Discussion Bryan McLean, Roxanne Beltran, Robert Guralnick, Jeffrey Lane, Katarzyna Nowak, Mafalda Sousa Ferreira
3:30 PM	Break – Grand Ballroom
4:00 PM	Technical Sessions 6, 7, 8 – Finger Rock, Indigo, Murphey

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*Presenter

**SUNDAY, JUNE 19TH, EARLY AFTERNOON SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-**

-Please note all times are listed in Arizona Time-

Session	Technical Session 3: Genetics	Technical Session 4: Community Ecology	Technical Session 5: Evolutionary Biology
Room	Finger Rock	Indigo	Murphey
Moderator	Loren Ammerman	Noé de la Sancha	Tom Tomasi
1:30 PM	90: Population genetic structure of bobcats in South Dakota: using harvested samples to inform management Stuart Fetherston, Lisette Waits, Jennifer Adams, Chadwick Lehman, Robert Lonsinger*	98: Do muskrats influence water chemistry in Great Lakes coastal wetlands? Megan Bos*, Thomas Gehring	106: When the tap runs dry: The physiological effects of acute experimental dehydration in <i>Peromyscus eremicus</i> Dani Blumstein*, Matthew MacManes
1:45 PM	91: Genetic structure and diversity in bobcat (<i>Lynx rufus</i>) populations in Oklahoma Timothy McSweeney*, Michelle Haynie	99 ^{HTA} : Spatial structure of North American mammal paleocommunities is unique during early Cenozoic mammal radiation Alexandria Shupinski*, Felisa Smith, Kate Lyons ²	107 ^{HTA} : Physiological resistance of moose calves to flies: cortisol and environmental stressors Bridgett Benedict*, Dan Thompson, John Crouse, Phillip Shults, Gabriel Hamer, Perry Barboza
2:00 PM	92: Context and diversity of the endangered <i>Abrocoma boliviensis</i> (Rodentia: Abrocomidae) Daniela Arenas*, Teresa Tarifa, Marisol Hidalgo, Omar Osco, Horacio Zeballos, Jorge Salazar-Bravo ⁶	100: Northern long-eared bat summer roosts and population structure along the Eastern Seaboard Katherine Gorman*, Samantha Hoff, Jason A. Holliday, Alexander Sandercock, Eric M. Hallerman, Katy L. Parise, Jeffrey Foster, Nicholas J. Kalen, Jesse De La Cruz, Samuel R. Freeze, Sabrina M. Deeley, Luanne Johnson, Elizabeth Olson, Danielle O'Dell, Carl Herzog, Dottie Brown, Piper Roby, W. Mark Ford	108 ^{**} : How to determine reproductive stage in free-ranging bats: a refined method using vaginal cytology Lauren MacDonald*, Diego Ruiz, Daniel Ibanez, Teri Orr

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2:15 PM	<p>93^{HTA}: Host genetics and social environment shape Yellowstone wolf microbiomes Alexandra DeCandia*, Kira Cassidy, Daniel Stahler, Erin Stahler, Bridgett vonHoldt</p>	<p>101: Abundance-occupancy relationships in small mammals: why are widespread species common and restricted species rare? Leo Khasoha*, George Opiyo, Courtney Reed, Tyler Kartzinel, Jacob Goheen</p>	<p>109: A comparison of accelerometer and global positioning system estimates of energetic expenditures in brown bears Shannon Finnegan*, Anthony Pagano, Nathan Svoboda, Sarah Schooler, Jerry Belant</p>
2:30 PM	<p>94: The effect of 60 years of translocations on populations of Texas desert bighorn sheep Emily Wright*, Rachael Wiedmeier, Emma Roberts, Joseph Bayouth, Froylan Hernández, Warren Conway, Robert Bradley</p>	<p>102^{HTA}: Forest structural diversity as a potential predictor of mammal species occupancy Jessica Elliott*, Liz Flaherty, Robert Swihart, Jinha Jung, Songlin Fei</p>	<p>110: Temporal contrast sensitivity of white-tailed deer Blaise Newman*, James D. Lauderdale, Kate E. Myrna, Billy R. Hammond, David A. Osborn, Gino J. D'Angelo</p>
2:45 PM	<p>95^{HTA}: Epigenetic signatures of male infertility across testes, sperm, and blood in captive-reared black-footed ferrets Stavi Tenenbaum*, Robyn Bortner, Colleen Lynch, Paul Marinari, Jenny Santestevan, Samantha Wisely, Jesús Maldonado, Klaus-Peter Koepfli, Bridgett vonHoldt, Alexandra DeCandia</p>	<p>103: Mammalian host segregation alters ectoparasite infestation in a desert ecosystem Jessica Martin*, Richard Grewelle, Ellen Bledsoe, Erica Christensen, Rodolfo Dirzo, S.K. Morgan Ernest</p>	<p>111^{HTA}**: Using indirect metrics to evaluate how environmental stressors shape physiological condition in New England Cottontails Eagan Chaudhry*, Amanda Cheeseman, Jonathan Cohen, Christopher Whipps, Cynthia Downs</p>
3:00 PM	<p>96: DNA and RNA extraction optimization from mammalian museum specimens Melissa Hawkins*, Mary Faith Flores, Michael McGowen, Jesús Maldonado, Robert Fleischer, Arlo Hinckley, Kelly Speer, Carly Muletz-Woiz</p>	<p>104: Mammal diversity and habitat use in the US-Mexico western borderlands Ganesh Marin*, Melissa Merrick, Catherine Benson, Matthew Valente, Michael Bogan, John Koprowski</p>	<p>112**: The role of pre-hibernation body condition in hibernation expression in Canadian black-tailed prairie dogs Deborah Hawkshaw*, Jeffrey Lane</p>
3:15 PM	<p>97: Genetic structure and persisting genetic-environmental associations for a fossorial rodent (<i>Geomys bursarius</i>) Nathan Alexander*, Bradley Cosenitino, Robert Schooley</p>		
3:30 PM	<p>Break – Grand Ballroom</p>		
4:00 PM	<p>Technical Sessions 6, 7, 8 – Finger Rock, Indigo, Murphey</p>		

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*Presenter

SUNDAY, JUNE 19TH, LATE AFTERNOON SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-

-Please note all times are listed in Arizona Time-

Session	Technical Session 6: Biogeography	Technical Session 7: Conservation	Technical Session 8: Evolutionary Biology
Room	Finger Rock	Indigo	Murphey
Moderator	Burton Lim	Elizabeth Flaherty	Camilo Calderón
4:00 PM	113: Allometry, ecology, and distribution in western North American chipmunks Bradley Bergstrom*, Blake Lamb, Christopher Le, Trevor Haskins	119: Interstate 40 as the northern limit of Mexican wolf recovery Jim Heffelfinger*, James deVos, Enrique Martínez-Meyer, Alejandro González-Bernal, Zaira González-Saucedo, Jorge Servín, Francisco Abarca	125: Convergent evolution of <i>Peromyscus</i> mice in response to hypoxia Peter Nimlos*, Nathan Senner, Zachary Cheviron, Jonathan Velotta
4:15 PM	114: Distribution and disease surveys of nine-banded armadillo in Tennessee using roadkill and community science data Carissa Turner*	120: A multivariate approach to assessing landscape structure effects on wildlife crossing use Thomas Yamashita*, Humberto Perotto-Baldivieso, Zachary Wardle, Richard Kline, Michael Tewes, John Young Jr., Jason Lombardi	126: The mystery of mouse graveyards on the summits of >6000 m Andean volcanoes Jay Storz*, Marcial Quiroga-Carmona, Jeffrey M. Good, Guillermo D'Elia
4:30 PM	115: Can niche overlap help select chipmunk hosts as predictors of pinworm and lice distribution models? Erica Johnson*, Sean Maher, Kayce Bell	121: Ecology and conservation genetics of the Galapagos bats Elyce Gosselin*, Rodrigo Cisneros Vidal, Jean-Pierre Cadena, Johannes Ramirez, Danny Rueda, Cristian Sevilla, Lisette Waits	127: Revisiting the invasion conundrum with genomic simulations: hippopotami invasion to Colombia as a case study Prothama Manna*, Diego Alvarado-Serrano
4:45 PM	116: Discovering diversity: a new center of mammalian endemism on Mindanao Island, Philippines Lawrence Heaney*, Danilo Balete, Jayson Ibanez, Roselyn Quidlat, Eric Rickart, Dakota Rowsey	122: Wildlife Insights as a platform to manage threatened species in Palawan, Philippines. Jan Schipper*, Jeanne Tabangay, Enrique Nunes, Jorge Ahumada, Nicole Flores, Randy Vinluan	128: Experimental diet manipulation reveals differential gene expression in two species of woodrat Danny Nielsen*, Matthew Holding, Bradley S. Ferguson, Lora Richards, M. Denise Dearing, Jennifer Forbey, Marjorie Matocq

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5:00 PM	117^{HTA}: Patterns of genetic and phenotypic divergence across the Isthmus of Kra Arto Hinckley*, Melissa Hawkins, Manuel Ruedi, Jesús Maldonado, Jennifer Leonard	123: The shot heard round the forest: revolutionizing jaguar protection via gunshot detection in Costa Rica Kinley Ragan*, Jan Schipper, Ruth Allard, Garth Paine	129: Body size within fossil and extant Ailuriinae (red pandas): Herbivory does not equal small size Steven Wallace*, Mauricio Anton
5:15 PM	118: History of small mammal community assembly and diversification across the Great Plains suture zone Tommy Herrera*, Andrew Hope, Fraser Combe	124: Islands as Breeding Colonies for Conserving a Threatened Small Mammal T.J. McGreevy*, Sozos Michaelides, Diana Beltran, Wales Carter	130: Metagenomic surveillance of zoonoses and their wildlife hosts in the south-central United States Emma Roberts*, Emily Wright, John Zak, Robert Bradley
5:30 PM	Dinner – On Your Own		
7:30 PM	Auction for Future Mammalogists Fund – Grand Ballroom		
9:00 PM	Student Social – Terrace Level Patio & Foyer		

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**Grants-In-Aid, Research Award, or Fellowship

*Presenter

MONDAY, JUNE 20TH, PLENARY SESSION II
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

7:00 AM	Registration – Lobby Foyer
8:00 AM	Vendor Show – Grand Ballroom
8:00 AM	Virtual Technical Session – On-Demand (X-CD Platform); see page 29 for details
8:00 AM	Virtual Poster Session – On-Demand (X-CD Platform); see page 32 for details
8:00 AM	Plenary Session II – Senior Award Speakers
8:00 AM	Welcome & Announcements ASM President-Elect, Felisa Smith
8:15 AM	131: Field work, field stations, and the accessible field experience Deedra McClearn*
9:00 AM	132: Threats and shortfalls in mammalian conservation on a changing planet Thomas Lacher*
9:45 AM	133: Understanding variation in topical bat communities: gradient, landscape, and metacommunity perspectives Michael Willig*
10:30 AM	Break – Grand Ballroom
11:00 AM	Technical Sessions 9, 10, 11 – Finger Rock, Indigo, Murphey
11:00 AM	Committee Meeting – Grants-In-Aid – Verbena

^{HTA}Honoraria or Travel Award **Grants-In-Aid, Research Award, or Fellowship *Presenter

**MONDAY, JUNE 20TH, LATE MORNING SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-**

-Please note all times are listed in Arizona Time-

Session	Technical Session 9: Biogeography	Technical Session 10: Behavior	Technical Session 11: Disease Ecology
Room	Finger Rock	Indigo	Murphey
Moderator	Jennifer Frey	Eileen Lacey	Kelly Speer
11:00 AM	134: Unusually large upward shifts in cold-adapted, montane mammals as temperature warms Christy McCain*, Sarah King, Tim Szewczyk	140: Tricolored bat microsite use changes in response to white-nose syndrome Susan Loeb*, Eric Winters, Rebecca Brown ³	146 ^{HTA} : The impact of oral rabies vaccination targeting raccoons across an urban gradient in Burlington, Vermont Emily Beasley*, Kathleen Nelson, Amy Gilbert, Richard Chipman, Amy Davis
11:15 AM	135: Reflections of Grinnellian and Eltonian niches on distribution of phyllostomid bats in Atlantic Forest Richard Stevens*	141: Two shakes of a mouse's tail: swimming kinematics of salt marsh harvest mice (<i>Reithrodontomys raviventris</i>) Diego Sustaita*	147 ^{HTA} : Effectiveness of artificial ecological trap for mitigating chronic wasting disease in white-tailed deer (<i>Odocoileus virginianus</i>) Jonathan Brooks*, Aniruddha Belsare, Joseph Caudell, Patrick Zollner
11:30 AM	136: Elevational patterns of the seven forms of rarity in small mammals Grant Vagle*, Christy McCain	142: Comparative hearing of vocal rodents Anastasiya Kobrina*, Bret Pasch	148 ^{HTA} : Modeling rodent-virus interactions in North America from different biodiversity dimensions using machine learning Ángel Luis Robles Fernández*, Nathan Upham
11:45 AM	137: Diversity, biogeography, and evolution of Sulawesi's remarkable shrew fauna Jake Esselstyn*, Heru Handika, Anang Achmadi, Thomas Giarla, Swanson Mark, Kevin Rowe	143: Characterization and discrimination of the ultrasonic calls of northern and southern flying squirrels Heidi McMullin*, John Scheibe	149: Suburban striped skunk behavior, contact networks and implications for rabies transmission Tad Theimer*

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12:00 PM	138: Unpacking patterns in mammal functional and phylogenetic diversity in the Anthropocene Carson Hedberg*, Kate Lyons, Felisa Smith	144: Sociospatial organization of nilgai antelope in south Texas Kathryn Sliwa*, Randy DeYoung, Jeremy Baumgardt, Alfonso Ortega-S, David Hewitt, John Goolsby, Kimberly Lohmeyer	150: Moving from hantavirus to tick-borne disease testing of NEON rodent blood samples Katie Matthiesen*, Sara Paull
12:15 PM	139: High elevation-specialist mammal species weigh more than their relatives down the mountain in Eastern Africa Evan Craig*, William Stanley, Yonas Meheretu	145: Dispersal and exploratory movements infer early life-history processes in mule deer Calvin Ellis*, Michael Cherry, Shawn Gray, David Hewitt, Levi Heffelfinger	151: How to prevent disease transmission in wildlife? Experiments in social conditioning of nilgai antelope Jeremy Baumgardt*, Kathryn Sliwa, Randy DeYoung, Alfonso Ortega-S, David Hewitt, John Goolsby, Kimberly Lohmeyer
12:30 PM	Lunch – On Your Own		
12:30 PM	Board of Directors Meeting II (OPTIONAL) – Palo Verde		
12:30 PM	Committee Meeting – Education & Graduate Students – Udall		
12:30 PM	Committee Meeting – Nomenclature – Lantana		
12:30 PM	Committee Meeting – Resolutions – Aster I		
1:00 PM	Committee Meeting – Public Education – Primrose		
2:30 PM	Technical Session 12, 13, 14 -- Finger Rock, Indigo, Murphey		

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*Presenter

MONDAY, JUNE 20TH, AFTERNOON SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-

-Please note all times are listed in Arizona Time-

Session	Technical Session 12: Morphology	Technical Session 13: Evolutionary Biology	Technical Session 14: Natural History
Room	Finger Rock	Indigo	Murphey
Moderator	Mairin Balisi	Marjorie Matocq	Kayce Bell
2:30 PM	152: Predicting ecology using multivariate data yields novel insights into diets of cryptic and extinct taxa Jonathan Nations*, Anna Wisniewski, Graham Slater	158: Coevolutionary interactions between Tasmanian devils (<i>Sarcophilus harrisii</i>) and a species-specific transmissible cancer Mark Margres*, Dylan Gallinson, Ryan McMind, Christopher Kozakiewicz, Rodrigo Hamede, Menna Jones, Hamish McCallum, Andrew Storfer	164 HTA: Litter size variation among North American small mammals Amanda Weller*, Olivia Chapman, Sarah Gora, Bryan McLean
2:45 PM	153: Allen's rule in <i>Peromyscus sonoriensis</i> (Rodentia) Bruce Butler*, Rebecca Michelle Bingham, Darren George	159: The genomic basis of venom resistance in hispid cotton rats Preston McDonald*, Mark Margres	165: Mammals of the Tapichalaca Reserve, Zamora-Chinchipe Province, Ecuador Thomas Lee*, Nicolas Tinoco, Jonathan Jasper, M. Alejandra Camacho
3:00 PM	154: Elbow and knee joint measurements yield the most accurate predictions of body mass in Ruminantia Alexa Wimberly*	160 HTA: Mito-nuclear discordance explains the ambiguous phylogenetic relationship of the Red Fox and Rüppell's Fox Ali Basuony*, Mostafa Saleh, Moustafa Sarhan, Mahmoud Younes, Carlos Ferrandes, Faraj Aboshaala, Farid Bounaceur, Elizabeth Chadwick, Frank Hailer	166 HTA: Patterns of urban tree squirrel occupancy show strong city-level effects across their geographic range Rachel Larson*, Heather Sander
3:15 PM	155: Do ankle extensor muscles match locomotor behavior in rodents? Clint Collins*, Nimmy Thomas, Alexander Claxton, Paul Gignac, Haley O'Brien, Craig McGowan	161 HTA: A target capture kit for efficient, hierarchical genomic sequencing across the weasel family (Mustelidae) Ben Wiens*, Jocelyn Colella	167: Integrated evidence-based extent of occurrence for North American bison since 1500 CE and before Jeff Martin*, Rachel Short, Glenn Plumb, Lauren Markewicz, Dirk Van Vuren, Brady Wehus-Tow, Erik Otárola-Castillo, Matthew Hill

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3:30 PM	156: Locomotion, body mass, and phylogeny are reflected in trabecular bone of Philippine “earthworm mice” (Chrotomyini) Stephanie Smith*, Jonathan Nations, Lawrence Heaney	162 HTA: Shrew hybridization across an Arctic ecotone signals progressive loss of a tundra specialist Fraser Combe*, Andrew Hope	168 HTA: Den site selection of bobcats (<i>Lynx rufus</i>) in the Black Hills, South Dakota Erin Morrison*, Brady Neiles, Chadwick Lehman, Christopher Rota
3:45 PM	157: Challenges and opportunities in the study of sexual dimorphism in fossil carnivorans John Orcutt*, Jeffrey Lubisich	163: A time-calibrated supertree for geomorph rodents that includes fossil taxa informs their diversification Jonathan Calède*, Francesca Socki	Open
4:00 PM	Break – Grand Ballroom		
4:30 PM	Members Meeting II – Canyon I, III		
6:00 PM	Dinner – On Your Own		
8:00 PM	Poster Session II & Social – Grand Ballroom		

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**Grants-In-Aid, Research Award, or Fellowship

*Presenter

**MONDAY, JUNE 20TH, POSTER SESSION II & SOCIAL
-WESTIN LA PALOMA, GRAND BALLROOM-**

-Please note all times are listed in Arizona Time-

8:00 PM	Poster Session II & Social – Grand Ballroom
169: A review of three neglected species of tuco-tuco: <i>Ctenomys johannis</i>, <i>C. famosus</i> and <i>C. coludo</i>	R. Tatiana Sanchez, Ivanna Tomasco*, M Mónica Diaz, Ruben Barquez
170: Prairie small mammal surveys and behavioral observations using bait stations with trail cams	Tessa Irvine, Sandra Guzman-Duran, Erica Barwick, Chloe Champney, Lorelei Patrick*
171: Microsite characteristics selected by bats roosting in bridges in the Texas Trans-Pecos	Holly Wilson*, Stirling Robertson, Richard Stevens
172: Integrating Organismal Biology into NEON	Karen Mabry*, Ben Dantzer, Lynn Martin, Gail Patricelli, Charles Buck
173: What's going on upstairs? - testing Dehnel's phenomenon in small mammals of the Appalachians	Leo Ivey*, Bryan McLean
174: Examining methodologies and dietary diversity across the ringtail (<i>Bassariscus astutus</i>) distribution	Sydney Speir*, Anna Willoughby, Sonia Altizer
175: Relationships between sex ratios and habitat fragmentation in urban white-footed mice (<i>Peromyscus leucopus</i>)	Zoe Leone*, Rachel Larson, Heather Sander
176: Sepia short-tailed opossum of the western Andes: first record of <i>Monodelphis</i> in the Chocó-Andino, Ecuador	Nicté Ordóñez-Garza*, Saskya Pozo, María Mercedes Gaviláñez, Selene Báez, Jorge Brito, Juan Pablo Carrera-E
177^{HTA}: Use of whole-genome sequencing to investigate the evolutionary history of island spotted skunks	Julia Owen*, Cate Brown Quinn, Ellie Bolas, Dirk Van Vuren, Benjamin Sacks
178: Impacts of late Quaternary biodiversity loss on mammal species cooccurrence at a regional scale	Catalina Tome*, Anikó Tóth, Amelia Villaseñor, Carson Hedberg, Felisa Smith, Seth Newsome, Kate Lyons
179: Using museum collections to assess cause-specific mortality of Florida panthers (<i>Puma concolor coryi</i>)	Jenna Bennett, Verity Mathis*
180: Variability of home ranges of adult female American black bears (<i>Ursus americanus</i>) in northcentral Pennsylvania	Brandon Snavely*, M. Colter Chitwood, Matthew Lovallo, Robert Lonsinger
181: Skunkoscapes: Range-wide dietary patterns of spotted skunks reveal regional changes in resources use	Amanda Cheeseman, Brian Tanis*, Elmer J. Finck
182: Evolutionary history and phylogeographic relationships of Eurasian shrews in the <i>Sorex caecutiens</i> complex	Danielle Land*, Stephen Greiman, Batsaikhan Nyamsuren, Schuyler Liphardt, Niccolett Ochoa, Jason Malaney, Joseph Cook
183: Are bats commensal with bovids?	Wyatt Stinebaugh*, Bridgett Benedict, Perry Barboza

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184: A comparison of genetic structure between the tundra vole, <i>Alexandromys oeconomus</i>, and their cestode <i>Paranoplocephala jarrelli</i> Mackenzie Grover*, Kurt Galbreath, Voitto Haukialmi
185: Like father, like son? Estimating breeding values for antler size in male white-tailed deer Cole Anderson*, Randy DeYoung, Michael Cherry, David Hewitt, Charles DeYoung, Matthew Moore, Stuart Stedman
186**: Can livestock leave room for wildlife? Competition and facilitation in a multi-use landscape Saeideh Esmaeili*, Mahmoud-Reza Hemami, Petra Kaczensky, Kathryn A. Schoenecker, Sarah King, Shahriari Bahareh, Walzer Chris, Jacob Goheen ⁷
187: Bat species composition of bridges spanning the Rio Grande Daniel Ibanez*, Teri Orr
188: Salt marsh harvest mouse appendage propulsion and swimming efficiency Arianna Ramirez*, Diego Sustaita
189: Movement and resource selection of wild pigs in relation to growth stages of corn Bethany Friesenhahn*, Randy DeYoung, Michael Cherry, Humberto Perotto-Baldivieso, Kurt VerCauteren, Nathan Snow
190: Tourist-provided resources modify rock squirrel (<i>Otospermophilus variegatus</i>) behavior, diet, and parasite communities Anna Willoughby*, Sonia Altizer, John Drake
191^{HTA}: How far is too far? Genetic diversity and connectivity of collared pika (<i>Ochotona collaris</i>) populations Kimberley Jones, Marcos da Cruz*, Katherine Christie, Hayley Lanier ¹
192: Ultraviolet fluorescence in living specimens of rodents and marsupials from eastern Brazilian Amazon Silvia Pavan*, da Silva, Leonardo Lanna, Lucas Fiat, João Herculano, Marina Angeli, Daniel Venturini, Pedro Peloso
193: Decadal change in the distribution and genomic composition of a woodrat hybrid zone Casey Adkins*, Nathan Byer, Elizabeth Hunter, Kevin Shoemaker, Marjorie Matocq
194: A diverse flea (<i>Siphonaptera</i>) assemblage from the small mammals of central New Mexico Dianne Peterson*, Jonathan Dunnum, Schuyler Liphardt, Karen Boegler, Ralph Eckerlin, Eric Hoberg, Martha Perez-Arriaga, Katrina Derieg, David Garnand, Mariel Campbell, Joseph Cook
195: Investigating occupancy drivers across the two American pika subspecies in ROMO Hilary Rinsland*, Chris Ray
196: Characterization of the prion protein gene in eight breeds of Ethiopian camels Madison Reddock*, Emily Wright, Emma Roberts, Robert Bradley
197: Wildlife mammal species inventory with the use of trail cameras in Sonoran sky islands CYNTHIA SORIA*, Shandira Romero
198: Mt. Graham: the state of the squirrel Vicki Greer*, Bret Pasch, Melissa Merrick, Marina Morandini, John Koprowski
199: Effects of rabbit hemorrhagic disease virus 2 emergence on population estimates of New Mexican lagomorphs Anna Kirby*, Charles Britt, James Cain, Gary Roemer, Matthew Gompper
200: Assessing long-nosed bat food availability by using remote sensing imagery to build an <i>Agave</i> classifier Mallory Davies*, Theresa Laverty, Kathryn Stoner
201: Describing mammalian predator impacts on interior least tern nests Carice Kimbrell*, Thomas Nupp
202: How do microclimate and microhabitat influence seasonal territory occupancy of collared pikas? Lily Harrison*

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^{**}Grants-In-Aid, Research Award, or Fellowship

^{*}Presenter

203: Mammal collections in Brazil: overview and database

Elisandra Chiquito, Aldo Caccavo, Carolina Santos, Thiago Semedo, Anna Ludmilla da Costa-Pinto, Diego Astúa, Alexandra Bezerra, Claudia Silva, Edú Guerra*, Pablo Gonçalves, Sérgio Luiz Althoff, Tatiane Trigo¹, Alexandre Reis

204: A graduate research methods class assists students in defining their main and interrelated research areas

Virginia Naples*, Reva Freedman

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**Grants-In-Aid, Research Award, or Fellowship

*Presenter

TUESDAY, JUNE 21ST, EARLY MORNING SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-

-Please note all times are listed in Arizona Time-

7:00 AM		Registration – Lobby Foyer	
8:00 AM		Vendor Show – Grand Ballroom	
8:00 AM		Virtual Technical Session – On-Demand (X-CD Platform); see page 29 for details	
8:00 AM		Virtual Poster Session – On-Demand (X-CD Platform); see page 32 for details	
8:00 AM		Technical Sessions 15, 16, 17 – Finger Rock, Indigo, Murphey	
Session	Technical Session 15: Conservation	Technical Session 16: Phylogeography	Technical Session 17: Systematics
Room	Finger Rock	Indigo	Murphey
Moderator	Eric Green	Melissa Hawkins	Thomas Lee
8:00 AM	205: A once in a lifetime opportunity: COVID-19 lockdown highlights the effect of humans on wildlife Asit Behera*, P. Ramesh Kumar, M. Malathi Priya, Tharmalingam Ramesh, Riddhika Kalte, Patrick Zollner	211: Ancient gene introgression but no recent gene flow among <i>Myotis crypticus</i> and <i>M. nattereri</i> (Chiroptera) Manuel Ruedi*, John Altringham, Roger Butlin, Anita Glover	214: Systematics of the Eastern cottontail rabbit (<i>Sylvilagus floridanus</i>) from Southwestern North America to South America Luis Ruedas*, Molly McDonough, Johnnie French, Sofia Silva, Jose
8:15 AM	206: Behaviorally Mediated Coexistence of Ocelots, Bobcats, and Coyotes Maksim Sergejev*, Joseph Holbrook, Jason Lombardi, Michael Tewes, Tyler Campbell	212 HTA. Complex diversification with gene flow challenges species delimitation in tree squirrels (<i>Guerringtonus</i>) Edson Abreu*, Joyce Prado, Jesús Maldonado, Don Wilson, Alexandre Reis Percequillo, Silvia Pavan	215: Analysis of biodiversity data suggests that mammal species are hidden in predictable places Danielle Parsons*, Tara Pelletier, Jamin Wieringa, Drew Duckett, Bryan Carstens
8:30 AM	207: Unraveling carnivore conflict in an ecological framework: caracals on Namibian farmlands Aletris Nelis*, Chris Bugbee	213: Phylogenomics and morphometrics of <i>Sorex trowbridgii</i> supports latitudinal differentiation through western North America Andrew Hope*, Fraser Combe, Sean Maher, John Demboski, Chris Conroy	216** : Mammal Species of the World Next: platform for curating taxonomic intelligence to extend biodiversity data Nathan Upham*, DeeAnn Reeder, Nancy Simmons, Joseph Cook, Connor Burgin, P. Gupta, Caleb Powell, Ángel Luis Robles Ferrández, Laura Rocha Prado, Beckett Sterner, Nico Franz

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8:45 AM	208: Mechanisms and scope for adaptive rescue in polymorphic populations facing impacts of climate change Hannah Walker*, L. Scott Mills	Open	217: Mosaic variation of genetics, morphology, and vocalizations among African yellow house bats, Genus <i>Scotophilus</i> Bruce Patterson*, Paul Webala, Bernard Agwanda, Terrence Demos ¹
9:00 AM	209: Elucidating pathways of rodenticide exposure of an urban carnivore Paul Stapp*	Open	218: Ultraconserved elements resolve phylogenetic relationships and biogeographic history among African bent-winged bats (Miniopteridae) Terrence Demos*, Paul Webala, Natalia Cortes-Delgado, Steven Goodman, Bruce Patterson
9:15 AM	210^{HTA}: Patch size and connectivity predict patch occupancy of an endangered habitat specialist rodent Cody Aylward*, Lauren Barthman-Thompson, William Bean, Douglas Kelt, Benjamin Sacks, Mark Statham ¹	Open	219: Species limits and population genomics within the <i>Phyllotis xanthopygus</i> species complex in Chile Schuyler Liphardt*, Zachary Cheviron, Guillermo D'Elia, Jay Storz, Marcial Quiroga-Carmona, Timothy J. Thurman, Jeffrey M. Good ⁵
9:30 AM	Break – Grand Ballroom		
10:00 AM	Symposium III – Biodiversity and Conservation of Madrean Pine-Oak Sky Island Mammals in the US and Mexico – Canyon I, III		
10:00 AM	Technical Sessions 18, 19, 20 – Finger Rock, Indigo, Murphey		

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TUESDAY, JUNE 21ST, SYMPOSIUM III
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

10:00 AM	Symposium III – Biodiversity and Conservation of Madrean Pine-Oak Sky Island Mammals in the US and Mexico – Canyon I, III
10:00 AM	Introduction & Key Questions Nathan Upham
10:05 AM	220: A constraint-based model of dynamic island biogeography in the face of global change Robbie Burger*
10:20 AM	221: Historical and contemporary genetic connectivity patterns on tropical sky islands. Ella Vazquez-Domínguez*, Gabriela Borja-Martínez, Sergio Pérez-Consuegra
10:35 AM	222: Biodiversity in the borderlands: post-fire surveys and non-invasive eDNA metabarcoding to assay trans-boundary mammalian biodiversity Melissa Merrick*, Ganesh Marin, Catherine Benson, Matthew Valente
10:50 AM	223: Recent changes in precipitation, not temperature, drive trends in suitability in a Neotropical montane shrew Gonzalo Pinilla-Buitago*
11:05 AM	224: Small mammal and viral biogeography of the Santa Catalina Mountains: a pilot study Dakota Rowsey*, Joy Custer, Simona Kraberger, A. Varsani, Nathan Upham
11:20 AM	225: Habitat selection informs biogeography and conservation of mammals in the Southwest Sky Islands Jennifer Frey*, Meredith Dalton, Hailey Jacobson, Fiona McKibben, Clare O'Connell, Ian Perkins-Taylor, Brittany Schweiger
11:35 AM	Panel Discussion Robbie Burger, Jennifer Frey, Melissa Merrick, Gonzalo Pinilla-Buitago, Dakota Rowsey, Nathan Upham, Ella Vazquez-Domínguez
12:00 PM	Lunch – On Your Own
12:00 PM	Committee Meeting – Program – Verbena
2:00 PM	Symposium IV – Mammal Diversity in Dynamic Landscapes – Canyon I, III
2:00 PM	Technical Sessions 21, 22 – Finger Rock, Murphey

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TUESDAY, JUNE 21ST, LATE MORNING SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-

-Please note all times are listed in Arizona Time-

Session	Technical Session 18: Community Ecology	Technical Session 19: Behavior	Technical Session 20: Wildlife Management
Room	Finger Rock	Indigo	Murphey
Moderator	Lorelei Patrick	Brett Pasch	Aleris Neils
10:00 AM	226: Inter-Class competition: A new direction in foraging ecology in the Shenandoah Valley, VA Shannon Gillen*, Katrina Gobetz	234: Habitat selection and water dependency of feral burros in the Mojave Desert James Cain*, Talesha Karish, Gary Roemer, David Delaney	242: A preliminary investigation of the landscape ecology of restored tallgrass prairie small mammals Erin Rowland-Schaefer*, Holly Jones
10:15 AM	227: The SNAPSHOT USA model for large-scale mammal distribution surveys Michael V. Cove*, Roland Kays, William McShea	235: Influence of predation risk from the recovering Mexican wolf population on elk behavior Zachary Farley*, James Cain, Nicole Tatman, Stewart Liley, James deVos, Josh Avey	243: Mustelids on my Mind: Camera trapping reveals species-specific responses to forest disturbance in Maine, USA Bryn Evans*, Alessio Mortelliti
10:30 AM	228*: The effects of reintroducing an apex carnivore on an insular community of carnivores Mauriel Rodriguez Curras*, Jonathan Pauli	236: Litter size in mule deer (<i>Odocoileus hemionus</i>): Do deer experience reproductive senescence? Morgan Hinton*, Brock McMillan, Kent Hersey, Randy Larsen ¹	244: Scaling issues in the study of livestock depredation by carnivores Sandy Slovicosky*, Jacqueline Frair, Lisanne Petracca, Luke Hunter
10:45 AM	229*: Testing relationships among isotopic niche breadth, habitat structural complexity and functional divergence in sympatric rodents Jesse Laney*, Chris Young, Stephanie Renfro, Rebecca Terry	237: Inbreeding avoidance or social learning? Examining the dispersal behavior of a migratory ungulate Tabitha Hughes*, Brock McMillan, Randy Larsen, Kent Hersey	245: Yearly variation in gray bat activity in the Clinch River Watershed, Virginia Hila Taylor*, Karen Powers, Wil Orndorff, Rick Reynolds, Meg Short, W. Mark Ford
11:00 AM	230: Home range of sympatric striped skunks (<i>Mephitis</i>) and plains spotted skunks (<i>Spilogale</i>) in southeastern Texas Matthew Hamilton*, J. Clint Perkins, Kamren Jefferson, Robert C. Dowler	238: New analytical tools for studying habitat selection in terrestrial mammals Jesse Alston*, Christen Fleming, Justin Calabrese	246: Taxonomic revision of the genus <i>Megistopoda</i> parasites of New World leaf-nosed bats (Chiroptera: Phyllostomidae) Ali Lira Olguin*, Carl Dick, Roxana Acosta-Gutierrez

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11:15 AM	231: Niche tracking of dry conditions in the Spotted Bat (<i>Eudermamaculatum</i>) Camilo A. Calderón Acevedo*, Xititlaly Franquez, Angelo Soto-Centeno	239: Climbing kinematics of co-occurring rodent species in the Suisun Marsh, California Dulce Robles Martinez*, Diego Sustaita	247: The scale of effect for bobcat habitat selection in a brush managed landscape Aidan Branney*, Michael Cherry, Amanda Veals, Zachary Wardle, Michael Tewes
11:30 AM	232: Dietary analyses: insights from old vs. new approaches in a Chilean small mammal assemblage Andrea Previtali*, Seth Newsome, Peter Meserve, Douglas Kelt	240: Seasonal foraging trends in two sympatric ungulates Grace Parikh*, James Cain, Jose Etchart, Ryan O'Shaughnessy, Louis Harveson	248: Mule deer response to a pinyon-juniper removal treatment: effects on winter range resource selection Jason Gundlach*
11:45 AM	233: Ecological impacts of a tornado blowdown on shrews in eastern deciduous forest in western Pennsylvania Steve Sheffield*, Carlos Ludica	241: Sound pressure levels of southwestern red squirrel rattles Bret Pasch*	249: Resource selection of introduced California bighorn sheep Emily Hagler*
12:00 PM	Lunch – On Your Own		
12:00 PM	Committee Meeting – Program – Verbená		
2:00 PM	Symposium IV – Mammal Diversity in Dynamic Landscapes – Canyon I, III		
2:00 PM	Technical Sessions 21, 22 – Finger Rock, Murphey		

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TUESDAY, JUNE 21ST, SYMPOSIUM IV
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

2:00 PM	Symposium IV – Mammal Diversity in Dynamic Landscapes – Canyon I, III
2:00 PM	250: Landscape history and mammal diversity Catherine Badgley*
2:20 PM	251: Mountains as biodiversity hotspots through time: integrating fossils with tectonics and climate Tara Smiley*, Catherine Badgley, Alireza Bahadori, Ran Feng, William Holt, E. Troy Rasbury
2:40 PM	252: Surface process contributions to elevational diversity gradients Rebecca Rowe*, Brian Yanites, Rebecca Terry
3:00 PM	253**: Patterns of rodent richness and morphological disparity in South America Renan Maestri*
3:20 PM	254: Disentangling explanations for diversity in topographically complex regions Miriam Zelditch*, Donald Swiderski, Pascal Title ³
3:40 PM	255: Aridity effects on rodent elevational diversity patterns: Implications for global change Brooks Kohli*
4:00 PM	Break – Grand Ballroom
4:30 PM	Capstone Session – Canyon I, III

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TUESDAY, JUNE 21ST, LATE AFTERNOON SESSIONS
-WESTIN LA PALOMA, TUCSON, ARIZONA-

-Please note all times are listed in Arizona Time-

Session	Technical Session 21: Population Ecology	Technical Session 22: Community Ecology
Room	Finger Rock	Murphey
Moderator	Amanda Veals	Richard Stevens
2:00 PM	256^{HTA**}: An isotopic approach to ecological patterns among wolf-like canids of the Southern Great Plains Celine Cortes*, Kent Smith, Nicholas Czaplewski, Leland Bement	264: Risk from a top predator and habitat complexity influence scavenging by smaller carnivores Alex Jensen*, Elizabeth Saldo, Zoey Chapman, Joseph Bufliloski, David Jachowski
2:15 PM	257^{HTA}: Population viability analysis of Ohio's recovering bobcats Marissa Dyck*, Catherine Dennison, Kevin Shoemaker, Viorel Popescu	265: Predators of Africa's largest mammal migration Matt Snider*, Roland Kays
2:30 PM	258: Mixed-severity wildfire shapes habitat use of ungulates and large carnivores Jesse Lewis*, Loren LeSueur, John Oakleaf, Esther Rubin	266: Human impacts disrupt the functional relationship between traits and environment in large mammal communities Rachel Short*, Jenny McGuire, P. David Polly, A. Michelle Lawing
2:45 PM	259: Spatial capture-recapture and LiDAR-derived metrics reveal high ocelot densities on private ranchlands in Texas Jason Lombardi*, Maksim Sergeyev, Landon Schofield, John Young Jr., Michael Tewes	267: Influence of Mexican wolves on elk habitat selection Cara Thompson*, James Cain, Nicole Tatman, Stewart Liley, James deVos, Josh Avey
3:00 PM	260: An adaptation of dual-frame sampling for estimating bat population trends in multi-hibernacula systems Ted Weller*, James Baldwin, Shawn Thomas	268: Is niche overlap greater among closely related species in a Mojave Desert rodent community? Danielle Perryman*, Todd Dawson, Scott Tremor, Steven Beissinger
3:15 PM	261: Gliding towards extinction: drivers of decline in an urban population of the Australian squirrel glider Anita Marks*, Ross Goldingay	269^{**}: Drivers of beta diversity among cricetid and heteromyid rodents in rangeland habitats John Stuhler*, Richard Stevens
3:30 PM	262: Morphometrics of white-tailed deer are correlated with fine-scale patterns of soil composition Aaron Foley*, Kory Gann, David Hewitt, Randy DeYoung, Seth Rankins, Tim Fulbright, Alfonso Ortega-S, Landon Schofield, Tyler Campbell	270: Exploring the National Ecological Observatory Network (NEON) small mammal collections, samples and data Laura Steger*, Azhar Husain, Rosie Liao, Kelsey Yule, Nico Franz

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3:45 PM	263: Effect of anthropogenic development on the Sonoran pronghorn population in the Pinacate Reserve, Sonora, Mexico. Miguel Grageda*	271^{HTA**}: Ecomorphological shifts across a rodent community since the Ice Age extinctions Mairin Balisi*
4:00 PM	Break – Grand Ballroom	
4:30 PM	Capstone Session – Canyon I, III	

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TUESDAY, JUNE 21ST, CAPSTONE SESSION
-WESTIN LA PALOMA, CANYON I, III-
 -Please note all times are listed in Arizona Time-

4:30 PM	Capstone Session – Canyon I, III
4:30 PM	Welcome & Announcements Janet Rachlow
4:40 PM	272: Sky islands and desert seas: the importance of the conservation of biodiversity in the borderlands John Koprowski*
5:30 PM	Dinner – On Your Own
7:30 PM	Closing Social & Awards Ceremony – Arizona Deck & Foyer

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**13TH INTERNATIONAL
MAMMALOGICAL CONGRESS**



Please join us 14 to 20 July 2023 for the 13th International Mammalogical Congress (IMC-13). The IMC-13 meeting will be hosted by the American Society of Mammalogists - who will be celebrating their 102nd annual meeting - and will be held at the Dena'ina Civic and Convention Center in Anchorage, Alaska.

From the serene waters of Cook Inlet to the exceptional natural wonders of the Chugach, Anchorage encompasses incredible adventures and metropolitan appeals that are larger than life. With 1,500 moose, incredible national parks nearby, and 60 glaciers only a short drive away, Anchorage is a dream destination. Come celebrate modern mammalogy, make new friends from throughout our international community, and enjoy the towering mountains, sparkling glaciers, and amazing wildlife that makes Alaska the Last Frontier.

The scientific program for IMC-13 will include symposia, workshops, and plenary speakers, as well as contributed oral and poster presentations. A full social agenda is being planned that will include field trips and events at local points of interest. Hotel blocks and dormitory housing will be available for meeting attendees. Please be sure to share and follow the meeting on social media using #IMC13!!!

Detailed conference and registration information will be forthcoming on the conference website (imc13.com). For more information about IMC-13, contact the ASM program director, Cody Thompson (mammal.meetings@gmail.com); ASM meeting planner, Kerrell Dunsmore (kerrell@thenextgreatevent.com); or IFM president, Eileen Lacey (elacey@berkeley.edu).



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