Museum of Vertebrate Zoology Newsletter

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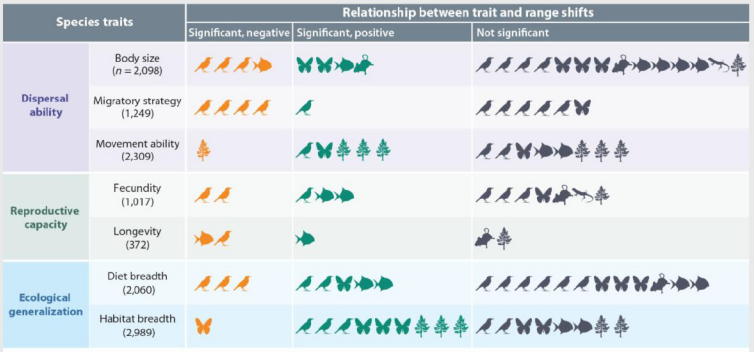
Fall 2021

Featured Publication

MVZ Affiliated Faculty Steve Beissinger and Former MVZ Postdoc Eric Riddell

Species' Traits Weak Predictors of Range Shifts

In the latest edition of the *Annual Review of Ecology, Evolution and Systematics* MVZ's Steve Beissinger and Eric Riddell examine the evidence linking species' traits to contemporary range shifts and find they are poor predictors of range shifts that have occurred over decades to a century.



Recent Publication by MVZ Researchers

MVZ Affiliated Researcher Vance T. Vredenburg and Former MVZ Fellow Ari Martínez

Overlapping predators drives taxonomically diverse eavesdropping networks within tropical rainforests

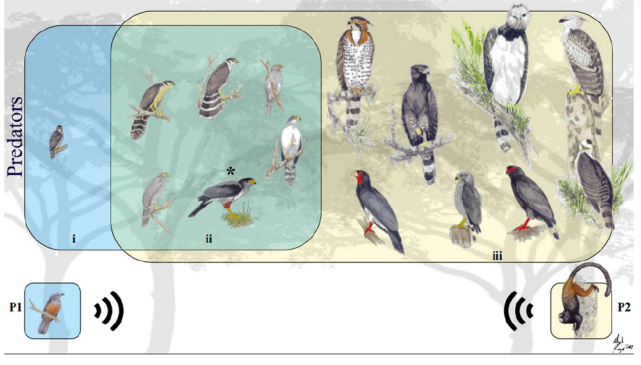


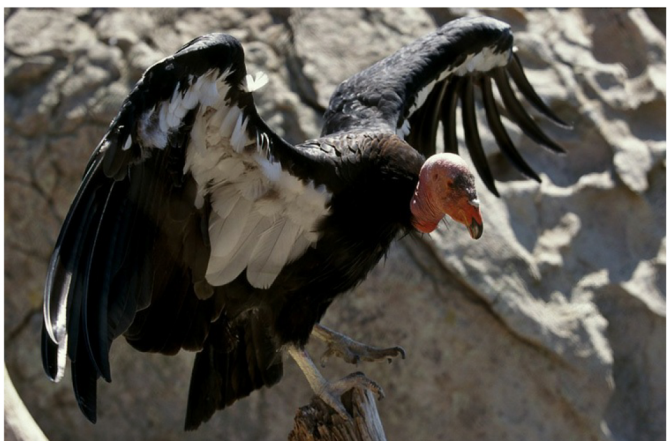
Illustration of potential predator guild overlap between antshrikes and saddle-back tamarins. Alarm-producing prey species are (P1) dusky-throated antshrikes and (P2) saddle-back tamarins. Antshrike predators are indicated by the blue field i), and shared predators are indicated by the green field ii), while tamarin predators are indicated by the gold field iii).

A basic tenet of animal behavior is that animal groupings are widely influenced by predators. In their recent paper MVZ's Vance Vredenburg and Ari Martínez evaluated whether two distantly-related species with similar predators share vocal information regarding predator threats. They conducted a field experiment in the Amazonian rainforest involving an avian prey-species, a primate prey-species and a shared predator. They elicited alarm calls from birds and primates by exposing them to a trained raptor. The results showed that both birds and tamarins were significantly more likely to flee when hearing vocal alarms compared to a control regardless of the species who produced the alarm.

Recent Publication by MVZ Faculty

MVZ Professor and Curator of Birds Rauri Bowie

High Genomic Diversity is Good News for California Condor



Despite having been driven nearly to extinction, the California Condor has finally made a come back through conservation legislation and captive breeding programs. MVZ's Curator of Birds Rauri Bowie, and MVZ affiliates David Mindell and Jeff Wall's new study **"Genome-wide diversity in the California condor tracks its prehistoric abundance and decline,"** shows that California Condors have a high degree of genetic diversity that bodes well for their long-term survival. The study is part of a collaboration between the MVZ and UC San Francisco scientists seeking to analyze the genomes of condors. (Photo: Critically endangered California condor, courtesy of San Diego Zoo Wildlife Alliance)

MVZ Community News

MVZ Postdoc Umi Arifin

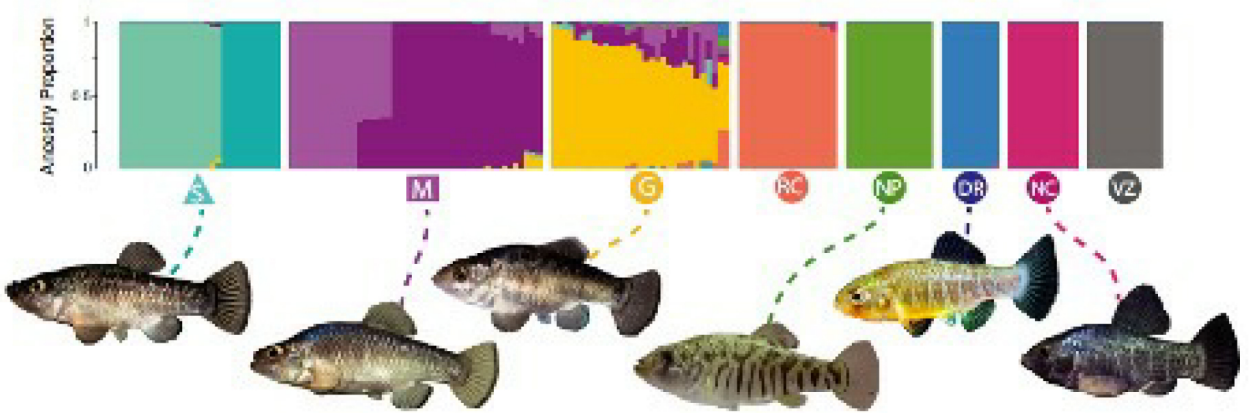
Global Women in Herpetology Project

After attending the 9th World Congress of Herpetology (WCH) in 2020, MVZ Postdoc Umi Arifin teamed up with Dr. Itzue Caviedes-Solis, Swarthmore College and Dr. Sinlan Poo, Memphis Zoo, with the idea of creating a book spotlighting the diversity of women in the field and to encourage the next generation of herpetologists. “Globally, women in many professions, including ours, are still relatively invisible. We believe that these stories are worth sharing. Our project gathers 50 authors from different cultures and backgrounds.” The project’s website launched in May 2021 and now includes a directory of women in herpetology and a YouTube channel. The group hopes to have a book about their efforts ready by the next WCH in 2024.

MVZ Graduate Student News

MVZ Graduate Students Emilie Richards and Michelle St. John and
MVZ Assistant Professor Chris Martin

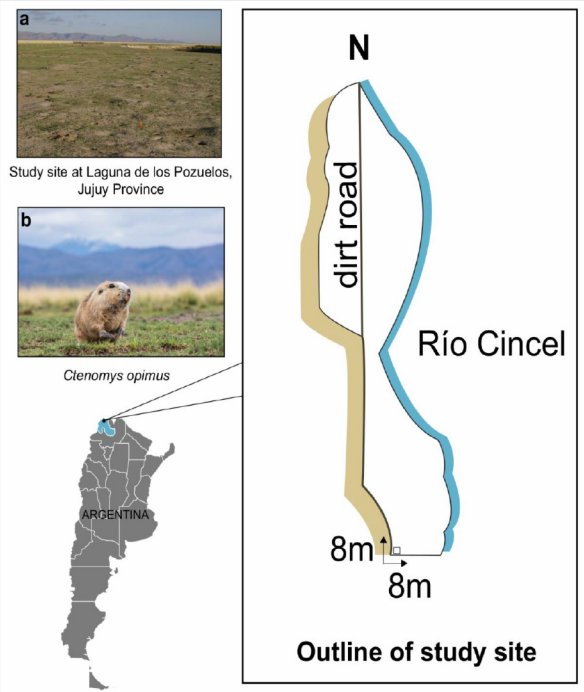
Understanding the Ancient Origins of Adaptive Radiation



MVZ Graduate Student Emilie Richard's latest paper in *PNAS* investigates the origins and stages of vertebrate adaptive radiation, by reconstructing the spatial and temporal histories of genetic variants underlying major phenotypic axes of diversification from the genomes of 202 Caribbean pupfishes. The results provide clear support for two longstanding hypotheses about adaptive radiation and demonstrate how ancient alleles maintained for millennia in distinct environmental refugia can be assembled into new adaptive combinations.

MVZ Graduate Student Shannon O'Brien and MVZ Professor Eileen Lacey

Social Structure of the Highland TucoTuco



Map of the study site located at Laguna de los Pozuelos, Jujuy Province, Argentina. Included are photos of (a) the study site with grid flags and (b) a highland tuco-tuco (*Ctenomys opimus*).

For the last five years MVZ Graduate Student Shannon O'Brien has studied the social structure of the tuco-tucos (*Ctenomys opimus*) at Laguna de los Pozuelos, Jujuy Province, Argentina. Using the data collected O'Brien sought to (1) confirm the regular occurrence of both lone and group-living individuals and (2) characterize the temporal consistency of individual social relationships. Her analyses revealed that although the study population typically contained lone as well as group-living animals, individual spatial and social relationships varied markedly over time and that variation in the tendency to live in groups is shaped primarily by local ecological and demographic conditions.

MVZ Graduate Student Kwasi Wrensford

A Tale of Two Chipmunks

Graphic designed by Natalie Goh.

The latest edition of *Berkeley Science Review* includes MVZ Graduate Student Kwasi Wrensford's first person account of his field work adventures as he tries to piece together the shared story of two species of chipmunk who call the Sierras home: the lodgepole (*Tamias speciosus*) and alpine (*Tamias alpinus*) chipmunk.

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To sustain our leadership in discovery and understanding of vertebrate diversity, and to protect the collection for future generations, we depend on donations. Any gifts, large or small, make a difference.

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Banner Image by Jackie Childers.
A pair of Little Bee-eaters (*Merops pusillus*) from Serengeti National Park, Tanzania