

**Sydney K. Decker**  
The Ohio State University  
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## Education

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- The Ohio State University (OSU), Columbus, OH. **2025**  
PhD in Evolution, Ecology, and Organismal Biology (EEOB),  
Graduate minor in Statistics  
Advisor: Dr. Bryan C. Carstens  
Dissertation Title: Phylogeography, biogeography, and species limits of yellow bats (genus *Lasiurus*)
- Angelo State University (ASU), San Angelo, TX. **2019**  
BS in Biology *magna cum laude* and with Highest University Honors,  
Undergraduate Honors Thesis Advisor: Dr. Loren K. Ammerman  
Honors Thesis Title: Phylogeographic analysis of Northern yellow bats, *Dasypterus intermedius*, by molecular analysis.  
Undergraduate minor in Chemistry

## Research Experience

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### 2025–Present

- Post-Doctoral Scholar, The Ohio State University  
Investigate genomic drivers of local adaptation in color variation in tree roosting bats  
Lead collaborative lab project focused on correlations between genomic variation and historical demography  
Mentor graduate and undergraduate students in independent research

### 2019–2025

- Graduate Research Assistant, The Ohio State University  
Assisted in the development of a new publicly available genetic database and associated data analysis and educational modules  
Used multivariate statistics and machine learning models to predict drivers of genetic variance  
Used genomic, 3D imaging, and ecological data to assess yellow bat systematics  
Collaborated with the Imageomics Institute to develop artificial intelligence methods to answer biological questions from images

### 2015–2019

- Undergraduate Research Assistant, Angelo State University  
Used molecular methods to assess phylogeography in *Lasiurus intermedius*  
Performed microsatellite genotyping to test for multiple paternity in *Lasiurus borealis*  
Organized, databased, and accessioned new samples into the Angelo State Natural History Collections' Division of Genomic Resources

## Teaching Experience

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The Ohio State University Graduate Teaching Assistant EEOB 4220 – Evolution and Ecology of Mammals	2021, 2022, 2024
Angelo State University Undergraduate Teaching Assistant BIOL 3403 – Cell Biology BIOL 5450 – Molecular Biology	2016-2018

## Publications

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h-index: 5 i10-index: 3

### In Review † mentored student

**Decker, Sydney K.**, Loren K. Ammerman, and Bryan C. Carstens. Analysis of genomic data leads to an improved understanding of the phylogeny and biogeography of yellow bats. *In review at Journal of Mammalogy*

†Hill, Rexford J., Tamaki Yuri, Bryan C. Carstens, and **Sydney K. Decker**. Identification of historical slender glass lizard (*Ophisaurus attenuatus*) specimens from Ohio. *In review at Herpetological Review*

Paúl, Maria, Matthew O. Moreira, André V. Liz, **Sydney K. Decker**, Craig Moritz, Bryan C. Carstens, and Slivia Carvalho. Predictors of intraspecific genetic diversity in herptiles using machine learning: a multi-regional approach. *In review at Global Ecology and Biogeography*

### Published

**Decker, Sydney K.**, Kaiya L. Provost, and Bryan C. Carstens. 2025. Bats of a feather: Range characteristics and wing morphology predict phylogeographic breaks in volant vertebrates. *Frontiers of Biogeography* 18:e139911. DOI: 10.21425/fob.18.139911

Fonseca, Emanuel M., Tara A. Pelletier, **Sydney K. Decker**, Danielle J. Parsons, and Bryan C. Carstens. 2023. Pleistocene glaciations caused the latitudinal gradient of within-species genetic diversity. *Evolution Letters* qrad030. DOI: 10.1093/evlett/qrad030

Pelletier, Tara A., Danielle J. Parsons, **Sydney K. Decker**, Stephanie Crouch, Eric Franz, Jeffrey Ohrstrom, and Bryan C. Carstens. 2022. *phylogatR*: Phylogeographic data aggregation and repurposing. *Molecular Ecology Resources* 22:2830–2842. DOI: 10.1111/1755-0998.13673  
- From The Cover Feature

**Decker, Sydney K.**, and Loren K. Ammerman. 2020. Phylogeographic analysis reveals mitochondrial discordance in *Dasypterus intermedius*. *Journal of Mammalogy* 101:1400-1409. DOI: 10.1093/jmammal/gyaa106

Krejsa, Dianna M., **Sydney K. Decker**, and Loren K. Ammerman. 2020. Noteworthy Records of 14 Bat Species in Texas Including the First Record of *Leptonycteris yerbabuenae* and the Second Record of *Myotis occultus*. *Occasional Papers, Texas Tech University Natural Science Research Laboratory* 368:1-10.

**Decker, Sydney K.**, Dianna M. Krejsa, Laramie L. Lindsey, Richard P. Amoateng, and Loren K. Ammerman. 2020. Updated Distributions of Three Species of Yellow Bat (*Dasypterus*) in Texas Based on Specimen Records. *Western Wildlife* 7:2-8.

Ammerman, Loren K., Dana N. Lee, Brittney A. Jones, Morgan P. Holt, Samuel J. Harrison, and **Sydney K. Decker**. 2019. High frequency of multiple paternity in Eastern red bats, *Lasiurus borealis*, based on microsatellite analysis. *Journal of Heredity* 110:675-683. DOI: 10.1093/jhered/esz044

## Book Contributions

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Bryan C. Carstens, **Sydney K. Decker**, Anahi Espindola, Sarah Foltz, Abbi Green, Danielle J. Parsons, Tara A. Pelletier, and Jordan Satler. 2022. *phylogatr* electronic textbook <https://phylogatr.org/book/index.html>

## Invited Talks

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**Decker, Sydney K.** and Bryan C. Carstens. Skull morphology variation across environmental conditions in widely distributed Yellow bats. 2024. iDigBio TCN: The importance of 3D imaging in current trait-based mammal research: Winners of the Ranges Imaging Mini-Awards. *Virtual Webinar*

## Professional Meetings and Presentations

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†mentored student \*co-presenters

**Decker, Sydney K.** and Bryan C. Carstens. Analysis of high-resolution data leads to an improved understanding of yellow bat evolutionary history. **Poster**. 2025. Ohio Supercomputing Center Research Symposium. Columbus, OH.

**Decker, Sydney K.** and Bryan C. Carstens. Assessment of species limits in widely distributed yellow bats. **Poster**. 2024. 3rd Joint Congress on Evolutionary Biology. Montreal, QC, Canada.

†Hill, Rexford J., **Sydney K. Decker**, and Jordan D. Satler. Description and morphological analysis of the first specimens of the Slender Glass Lizard (*Ophisaurus attenuates*) from the State of Ohio. **Poster**. 2024. Ohio State University Undergraduate Research Festival. Columbus, OH.

**Decker, Sydney K.**, Kaiya L. Provost, and Bryan C. Carstens. Identifying factors influencing phylogeographic breaks in volant vertebrates. 2023. Central Ohio Phylogeography Conference. Columbus, OH.

\*Pelletier, Tara A., \*Danielle J. Parsons, \***Sydney K. Decker**, and Stephanie Crouch. Biodiversity informatics in the classroom: blending biology and computer science using real data via open-source repositories. **Poster**. 2022. American Association of Colleges and Universities Transforming STEM Higher Education. Arlington, VA.

- Decker, Sydney K.**, Kaiya L. Provost, and Bryan C. Carstens. Identifying factors influencing phylogeographic breaks in bats and other taxa. 2022. North American Society for Bat Research/International Bat Research Conference. Austin, TX.
- Decker, Sydney K.** and Bryan C. Carstens. Quality control and data processing for analysis of phylogeographic breaks. 2021. *phylogatR* beta-tester workshop. Mountain Lake Biological Station, Pembroke, VA.
- Decker, Sydney K.** and Loren K. Ammerman. Phylogeographic analysis reveals mito-nuclear discordance in Northern Yellow Bats. **Twitter Presentation**. 2020. World Bat Twitter Conference.
- Decker, Sydney K.** and Loren K. Ammerman. The utility of cross-species amplification of nuclear microsatellite markers in *Dasypterus intermedius* for population genetics analyses. **Poster**. 2019. Angelo State University Undergraduate Research Symposium. San Angelo, TX.
- Decker, Sydney K.** and Loren K. Ammerman. Phylogeographic analysis reveals mito-nuclear discordance in *Dasypterus intermedius*. 2019. North American Society for Bat Research. Kalamazoo, MI.
- Ammerman, Loren K., Dana N. Lee, Brittney A. Jones, Morgan P. Holt, Samuel J. Harrison, and **Sydney K. Decker**. Multiple paternity is common in litters of *Lasiurus borealis* based on microsatellite analysis. 2019. North American Symposium on Bat Research. Puerto Vallarta, Mexico.
- Decker, Sydney K.** and Loren K. Ammerman. Investigation of the phylogeographic structure of the subspecies of Northern yellow bats by molecular analysis. 2018. North American Society for Bat Research. Puerto Vallarta, Mexico.
- Decker, Sydney K.** and Loren K. Ammerman. Investigation of the phylogeographic structure of the subspecies of Northern yellow bats (*Dasypterus intermedius*) by molecular analysis. 2018. Angelo State University Department of Biology BioLunch Seminar Series. San Angelo, TX.
- Decker, Sydney K.** and Loren K. Ammerman. Investigation of the phylogeographic structure of the subspecies of Northern yellow bats (*Dasypterus intermedius*) by molecular analysis. **Poster**. 2018. Texas Society of Mammalogists. Junction, TX.
- Decker, Sydney K.** and Loren K. Ammerman. Investigation of the phylogeographic structure of the subspecies of Northern yellow bats (*Dasypterus intermedius*) by molecular analysis. **Poster**. 2017. National Collegiate Honors Council Conference. Atlanta, GA.
- Decker, Sydney K.** and Loren K. Ammerman. Phylogeography of the Northern yellow bat (*Lasiurus intermedius*) subspecies in Texas. **Poster**. 2016. National Collegiate Honors Council Conference. Seattle, WA.
- Decker, Sydney K.** and Loren K. Ammerman. Phylogeography of the Northern yellow bat (*Lasiurus intermedius*) subspecies in Texas. **Poster**. 2016. Angelo State University Undergraduate Research Symposium. San Angelo, TX.

## **Grants, Fellowships, and Scholarships** **total funds awarded: \$86,850**

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<b>2024</b>		
	Ranges Imaging Mini-Award	\$1,500
<b>2022</b>		
	Ohio State Alumni Grants for Graduate Research Award	\$3,000
<b>2021</b>		
	Society of Systematic Biologists Graduate Student Research Award	\$2,825
<b>2019</b>		
	Ohio State University Graduate Fellowship	\$26,316
<b>2018</b>		
	Texas Society of Mammalogists Clyde Jones Poster Award	\$500
	Head-of-the-River Ranch Research Travel Grant	\$500
	Head-of-the-River Ranch Research Presentation Grant	\$1,500
	ASU Faculty Mentored Undergraduate Research Grant	\$3,000
<b>2016</b>		
	ASU Faculty Mentored Undergraduate Research Grant	\$3,000
<b>2015</b>		
	ASU First Year Research Experience Grant	\$2,709
<b>2015-2018</b>		
	Carr Honors Scholarship (4 years)	\$12,000
	Carr Excellence Scholarship (4 years)	\$30,000

## **Service**

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Reviewer, <i>Systematic Biology</i>	<b>2021–2025</b>
Reviewer, <i>Molecular Ecology</i>	<b>2021–2024</b>
Graduate Student and Postdoc Industry Recruitment Event Planning Committee	<b>2023</b>
Seminar Committee Co-Chair, Graduate Evolution & Ecology Students, OSU	<b>2022–2023</b>
EEOB Faculty Search Committee, OSU	<b>2022–2023</b>
President, OSU Natural History Collections Club	<b>2021–2022</b>
Communications Committee, Graduate Evolution & Ecology Students, OSU	<b>2020–2022</b>
Treasurer, OSU Natural History Collections Club	<b>2019–2020</b>

## **Workshops and Trainings**

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Erdős Institute Data Science Certification, Columbus, OH	<b>2025</b>
Imageomics DataPalooza, Columbus, OH	<b>2023</b>
ACCESS Machine Learning and Big Data Workshop, Columbus, OH	<b>2023</b>
Center for Computational Evolutionary Morphometry Workshop, Copenhagen, Denmark	<b>2022</b>
Kirwan Institute Implicit Bias Training, Columbus, OH	<b>2020, 2022</b>

## Students Mentored

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Chloe Kenyon, The Ohio State University	2025–present
• Mentored in independent research of 3D $\mu$ CT data and geometric morphometrics	
Paige Blanchette, The Ohio State University	2024–2025
• Trained in 3D $\mu$ CT and 2D geometric morphometric analysis	
Rex Hill, The Ohio State University	2023–present
• Mentored in independent research utilizing morphometric analysis	
Abby Kozman, The Ohio State University	2023–2024
• Trained in museum specimen digitization and best data practices	
Benjamin Underwood, Upper Arlington High School	2020
• Trained in computational biology in R	

## Awards

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Best undergraduate poster in mammalian molecular biology, evolution and systematics Texas Society of Mammalogists Meeting, Junction, TX.	2018
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## Outreach

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Museum of Biological Diversity Exhibitor at The Ohio Bat Festival	2022–2024
Museum of Biological Diversity Exhibitor at the Audubon Society Women in Science	2024
Museum of Biological Diversity Exhibitor at The Ohio State University West Fest	2023
Credited producer PBS: NATURE S39 Ep10 Big Bend: The Wild Frontier of Texas	2021
Bat Diversity Presentation for The Ohio State University Virtual West Fest	2020
Tremont Elementary Animal Podcast Outreach	2019
Girl Scout S.T.E.M. ASU Workshop Assistant	2016, 2019
Angelo State Natural History Collections Open House Volunteer	2019
Santa Rita Elementary School S.T.E.A.M. Night Presenter	2019
Area 15 Robotics Competition Inventions Judge	2019
American Chemical Society Chemistry ASU ‘Magic’ Show Assistant	2015–2019
Concho Valley Healthy Families Organization Children’s Fair Volunteer	2018
Fort Concho Elementary School S.T.E.A.M. Night Presenter	2018