

Leila Siciliano-Martina, Ph.D.

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CURRENT APPOINTMENT

2023 – Present **Assistant Professor.** Department of Biology, Texas State University, San Marcos, TX

EDUCATION

2020 **Ph.D.** Ecology & Evolutionary Biology Program. Texas A&M University.
Variation in the skull morphology of captive mammals: A geometric morphometric and meta-analytic approach
Advisors: A. Michelle Lawing and Jessica E. Light.

2011 **Master of Science.** Department of Zoology. Michigan State University.
*Causes and consequences of maternal deprivation in captive giraffes (*Giraffa camelopardalis*)*

2007 **Bachelor of Science.** Geography of Natural Systems, Biology. Northern Illinois University

PREVIOUS PROFESSIONAL EXPERIENCE

2022 – 2023 **Postdoctoral Researcher.** Georgia Institute of Technology, Atlanta, GA;
Texas A&M Agrilife, College Station, TX

2020 - 2022 **Postdoctoral Researcher.** Texas State University, San Marcos, TX

2016 - 2019 **Graduate Research and Teaching Assistant.** Texas A&M University, College Station, TX

2014 - 2017 **Biology Instructor,** Our Lady of the Lake University, San Antonio, TX.

2014 - 2017 **Museum Assistant,** Central Michigan University Herbarium, Mount Pleasant, MI
and University of Michigan Herbarium, Ann Arbor, MI

2013 - 2014 **Animal Diversity Web Content Editor,** University of Michigan Museum of Zoology, Ann Arbor, MI

2012 - 2013 **Museum Assistant,** Michigan State University Museum, East Lansing, MI.

2010 - 2011 **Graduate Teaching Assistant,** Michigan State University, East Lansing, MI

2010 **Curatorial Intern,** Binder Park Zoo, Battle Creek, MI

2009 - 2009 **Volunteer Coordinator,** John Ball Zoo, Grand Rapids, MI

2007 – 2009 **Program Coordinator,** Capital Area Humane Society, Lansing, MI

2007 **Zookeeping Intern,** Brookfield Zoo, Brookfield, IL

PUBLICATIONS (*Mentored undergraduate)

Published manuscripts

- Siciliano-Martina, L.**, McGuire, J.L., Hurtado-Materon, M.A., Short, R.A., Lauer, D.A., Schap, J.A., Müller, J., Manthi, F.K., Head, J.J., Lawing, A. M. (2024). Ecometrics demonstrates that the functional dental traits of carnivoran communities are filtered by climate. *Ecology and Evolution*, 14(10), e70214. DOI:10.1002/ece3.70214
- Siciliano-Martina, L.**, Guerra, D.A., Veech, J.A. (2023) “Burrow substrate and forelimb specialization in kangaroo rats (Genus *Dipodomys*)”. *Journal of Mammalogy*. 104(6): 1377-1389. DOI: 10.1093/jmammal/gyad092
- Siciliano-Martina, L.**, Martina, J.P., Dohnalik, E.* , Vielleux, G.* (2023) “Factors influencing the frequency and timing of litters in captive fennec foxes (*Vulpes zerda*)”. *Animal Reproduction Science*. 248: 107182. DOI: 10.1016/j.anireprosci.2022.107182
- Siciliano-Martina, L.**, Michaud, M., Scicluna, E., Tanis, B., Lawing, A.M. (2022) “Endocranial volume increases across captive generations in the endangered Mexican wolf”. *Scientific Reports*. 12: 8147. DOI: 10.1038/s41598-022-12371-6
- Siciliano-Martina, L.**, Light, J.E., Riley, D., Lawing, A.M. (2022) “One of the wolves in not like the other: Morphological effects and conservation implications of captivity in Mexican Wolves (*Canis lupus baileyi*)”. *Animal Conservation*. 25(1): 77-90. DOI: 10.1111/acv/12724
- Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. (2021) “Morphological consequences of captivity: a meta-analysis”. *Frontiers in Zoology*. 18(4): 1-13. DOI: 10/1186/s12983-021-00386-0
- Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. (2021) “Changes in canid cranial morphology induced by captivity and conservation implications”. *Biological Conservation*. 257: 109143. DOI: 10.1016/j.biocon.2021.109143
- Light, J.E., **Siciliano-Martina, L.**, Dohnalik, E.* , Vielleux, G.* , Hafner, D.J., Lawing, A.M., Greenbaum, I.F. (2021) “Morphological differentiation of *Peromyscus leucopus* and *P. maniculatus* in east Texas”. *Therya*. 12(2): 369-387. DOI: 10.12933/therya-21-1116
- Siciliano-Martina, L.** & J. Martina. (2020) “Shifting barriers to the acceptance of evolution in an underrepresented student group”. *International Journal of Science Education*. 42(13): 2205-2223. DOI: 10.1080/09500693.2020.1815247
- Siciliano-Martina, L.** (2020) “Multi-institutional survey of causes of maternal-rejection in giraffes *Giraffa camelopardalis* in North American zoos”. *International Zoo Yearbook*. 54: 191-201. DOI: 10.1111/izy.12252
- Siciliano-Martina, L.** & J. Martina. (2018) “Stress and social behaviors of maternally-deprived captive giraffes (*Giraffa camelopardalis*)”. *Zoo Biology*. 37(20): 1-10. DOI: 10.1002/zoo.21405

Upcoming Manuscripts

Scicluna, E., Parrott, M.L., **Siciliano-Martina, L.**, Michaud, M., Robert, K.A., Green, P.T. “Long term impacts of captivity on skull morphology and endocranial volume in a marsupial carnivore”. *Royal Society Open Science*. In Review.

Siciliano-Martina, L., Brown, I.*, Reuter, D.A., Lawing, A.M., McGuire, J.L., Law, C.J., Vick, D.*, Clarke, T.*, Salel, M.*, Borstein, S. “Trait Evolution and Dietary Specialization: The Role of Carnassial Morphology in Shaping Carnivoran Diversity”. *PeerJ*. In Prep

Siciliano-Martina, L., Herod, M., Hazell, J.*, Boyden, G.*, Martina, J.P. “Fluctuating asymmetry as a stress signal in a genetically limited and invasive wetland plant (*Arundo donax*)”. *Functional Ecology*. In Prep.

GRANTS AND FELLOWSHIPS

Research Grants

- 2024 Ranges Mini-Award, University of North Carolina Greensboro, “Trait morphology and habitat specializations in kangaroo rat species (Genus *Dipodomys*)” \$4,000
- 2023 **NSF-REU (Research Experiences for Undergraduates) Supplement**, NSF-DEB-NERC, Funding for two undergraduate student workers
- 2021 **Armchair Challenge: Meta-Analysis Publication**, Ecology & Evolutionary Biology Program, Texas A&M University, \$1,500
- 2019 **Student Collections Study Award**, Natural History Museum of Los Angeles County, \$750
- 2019 **Graduate Student Research and Presentation Travel Award**, Office of Graduate and Professional Studies, Texas A&M University, \$500
- 2019 **Travel Award**, American Society of Mammalogists, \$500
- 2018 **Grants-In-Aid of Research**, American Society of Mammalogists, \$1,500
- 2018 **EEB Research Award**, Ecology & Evolutionary Biology Program, Texas A&M University, \$1,500

Fellowships

- 2022 **Postdoctoral Research Assistant**, NSF DEB-NERC, “Vertebrate functional traits as indicators of ecosystem function”
- 2019 **Graduate Fellowship**, Office of Graduate and Professional Studies (OGAPS), Texas A&M University

GRANTS SUBMITTED

- 2024 **Texas State University REP (Research Enhancement Program)**, “The role of dietary strategy in captivity-induced trait change”. \$8,000 requested. Submitted October 9, 2024
- 2024 **NSF BRC-BIO (Building Research Capacity)**, “Captive carnivore traits: The commonality and trajectory of morphological changes occurring in captivity and their functional effects”. Proposal # 2437477. \$474,479 requested for TXST. Submitted July 1, 2024

- 2024 NSF BoCP-BIO (Biodiversity on a Changing Planet), “Collaborative Research: BoCP-Implementation: Degradation of trait-environment relationships of mammalian communities across spatiotemporal scales”. Proposal # 2449324. \$2,479,320 requested total (\$701,656 request for TXST). Submitted September 5, 2024.

SPEAKING ENGAGEMENTS

Invited Seminars

- 2023 Texas State University, Department of Biology. *Trait-environment relationships in disrupted ecosystems.*
- 2023 University of Akron, Department of Biology. *Trait-environment relationships in disrupted ecosystems.*
- 2022 Arizona State University, School of Mathematical and Natural Sciences. *Functional morphology across environmental gradients.*
- 2022 Texas A&M University, Department of Ecology and Conservation Biology. *Covariation of functional morphology and the environment.*
- 2022 Angelo State University, Department of Biology. *Functional morphology and conservation science.*

Contributed talks (Presenting Speaker, **Award Received)

- 2024 **Siciliano-Martina, L.**, Herod, M., Martina, J.P. (2024). Stressing the grass: Changes in the leaf symmetry of an invasive plant in response to light levels. Ecological Society of America, Long Beach, CA. Oral Talk
- 2024 **Siciliano-Martina, L.**, McGuire, J.L., Shipley, B.R., Short, R.A., Hurtado-Materon, M.A., Müller, J., Head J.J., Lawing, A.M. (2024). Community-wide trends in carnivoran carnassial morphology as an indicator of ecosystem disruption over time. American Society of Mammalogists, Boulder, CO. Oral Talk
- 2024 **McGuire, J.L.**, Lauer, D.A., Schap, J.A., Short, R.A., Head, J.J., Muller, J., Manthi, F.K., **Siciliano-Martina, L.**, Lawing, A.M. (2024) Pleistocene Disruption of Trait-Environment Relationships Informs the Future Conservation of African Megafauna. North American Paleontological Conference, Ann Arbor, MI. Oral Talk.
- 2023 **Siciliano-Martina, L.**, McGuire, J., Lawing, A.M. *Carnivoran dietary traits as an ecometric to evaluate ecosystem disruption.* American Society of Mammalogists, Anchorage, AK.
- 2023 **Light, J.E.**, Craft, B., Ellis, H., Greenbaum, I., Hamilton, N., **Siciliano-Martina, L.**, Jansa, S. *Leveraging natural history collections to understand rodent diversity and distributions in a changing world.* American Society of Mammalogists, Anchorage, AK.
- 2023 Lawing, A.M., **Hurtado Materon, M.A.**, Lauer, D., Mutinda, C., Roberts, L., Schap, J., **Siciliano-Martina, L.**, Pineda Munoz, S., Mueller, J., Short, R., Manthi, F., Head, J., McGuire, J. *A new view: Multidimensional and time transgressive approaches to ecometrics.* International Union for Quaternary Research, Rome, Italy.
- 2022 **Siciliano-Martina, L.**, Veech, J.A. *Forelimb specialization as an adaptation for burrowing in kangaroo rats (Genus Dipodomys).* American Society of Mammalogists (virtual).

- 2021 **Siciliano-Martina, L.**, Light, J.E., Riley, D.G., Lawing, A.M. *Morphological effects and conservation implications of captivity in Mexican wolves*. Evolution (virtual).
- 2021 **Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. *Changes in canid cranial morphology induced by captivity and conservation implications*. American Society of Mammalogists (virtual).
- 2019 **Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. *Morphological impacts of captivity: A meta-analysis*. American Society of Mammalogists. Washington, D.C.
- 2019 **Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. *Unintended morphological impacts of captivity in Mexican wolves (*Canis lupus baileyi*)*. Ecological Integration Symposium, Texas A&M University.
- 2019 ****Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. *Unintended morphological impacts of captivity in Mexican wolves (*Canis lupus baileyi*)*. Student Research Week, Texas A&M University.
- 2018 **Siciliano-Martina, L.**, Light, J.E., Lawing, A.M. *Cranial morphology of captive Mexican wolves (*Canis lupus baileyi*)*. American Society of Mammalogists, Kansas State University, Manhattan, KS.
- 2017 **Siciliano-Martina, L.**, Meik, J.M., Lawing, A.M. *Craniodental integration and facial length in domestic dogs*. American Society of Mammalogists, University of Idaho, Moscow, ID.
- 2017 ****Siciliano-Martina, L.** *Behavioral consequences of maternal deprivation in captive giraffes (*Giraffa camelopardalis*)*. Ecological Integration Symposium, Texas A&M University.
- 2015 **Siciliano-Martina, L.**, Rabeler, R., Gilbert, E. *Efficient use of an online museum collections database network (Symbiota)*. iDigBio Small Collections Network
- Contributed posters (Presenting Speaker, * Mentored undergraduate, **Award Received)*
- 2024 **Lamb, S.L.**, **Siciliano-Martina, L.** *Morphological variation of gray fox (*Urocyon cinereoargenteus*) skulls across time*. American Society of Mammalogists, Boulder, CO. Poster
- 2024 **C.P. Bruce**, **Siciliano-Martina, L.**, A.M. Lawing, McGuire, J.L., Schap, J.A., Hurtado Materon, M.A., Short, R.A. *Ecometric model for body mass and temperature within global carnivoran communities*. American Society of Mammalogists, Boulder, CO. Poster
- 2024 **C.P. Bruce**, **Siciliano-Martina, L.**, A.M. Lawing, McGuire, J.L., Schap, J.A., Hurtado Materon, M.A., Short, R.A. *Ecometric model for body mass and temperature within global carnivoran communities*. North American Paleontological Conference, Ann Arbor, MI. Poster
- 2024 A.M. Lawing, **Hurtado Materon, M.A.**, **Siciliano-Martina, L.**, Short, R.A., Lauer, D.A., Schap, J.A., Bruce, C., Pineda-Munoz, S., Muller, J., Manthi, F.K., Head, J.J., McGuire, J.L. *Broadening participation in ecometrics research: An initiative to expand the collection of functional trait data*. International Biogeography Society, Prague, Czech Republic. Poster
- 2024 ****Vick, D.**, ***Brown, I.**, ***Clarke, T.**, Lawing, A.M., **Siciliano-Martina, L.** *Carnassial relative blade length (RBL) as an indicator of carnivoran dietary ecology*. Texas Society of Mammalogists, Junction, TX. Poster

- 2024 Lamb, S.L., Siciliano-Martina, L. Morphological variation of gray fox (*Urocyon cinereoargenteus*) skulls across time. Texas Society of Mammalogists, Junction, TX. Poster
- 2023 *Brown, I., *Clarke, T., *Vick, D., Lawing, A.M., Siciliano-Martina, L. Carnassial relative blade length (RBL) as an indicator of carnivoran dietary ecology. Society of Vertebrate Paleontology, Cincinnati, OH.
- 2023 ** *Brown, I., *Clarke, T., *Vick, D., Lawing, A.M., Siciliano-Martina, L. Carnassial relative blade length (RBL) as an indicator of carnivoran dietary ecology. Geology and Geophysics Graduate Student Council Symposium, Texas A&M University.
- 2023 *Brown, I., *Clarke, T., *Vick, D., Lawing, A.M., Siciliano-Martina, L. Carnassial relative blade length (RBL) as an indicator of carnivoran dietary ecology. Ecological Integration Symposium, Texas A&M University.
- 2019 *Dohnalik, E.G., *Vielleux, G., Siciliano-Martina, L., Greenbaum, I.F., Light, J.E. *Morphological differentiation and identification of Peromyscus leucopus and P. maniculatus in East Texas.* American Society of Mammalogists, Washington, D.C.
- 2018 Siciliano-Martina, L., Greenbaum, I.F., Casillas, M., Lawing, A.M., Light, J.E. *Exploring the distribution of Peromyscus maniculatus in south Texas.* American Society of Mammalogists, Kansas State University, Manhattan, KS.
- 2018 ** Siciliano-Martina, L., Greenbaum, I.F., Casillas, M., Lawing, A.M., Light, J.E. *Exploring the distribution of Peromyscus maniculatus in south Texas.* Ecological Integration Symposium, Texas A&M University.
- 2018 Siciliano-Martina, L., Greenbaum, I.F., Casillas, M., Lawing, A.M., Light, J.E. *Exploring the distribution of Peromyscus maniculatus in south Texas.* Student Research Week, Texas A&M University.
- 2018 ** Siciliano-Martina, L., Greenbaum, I.F., Casillas, M., Lawing, A.M., Light, J.E. *Exploring the distribution of Peromyscus maniculatus in south Texas.* Texas Society of Mammalogists, Junction, TX.
- 2012 Abraczinskas, L.M., Siciliano, L., Lundrigan, B.L. *Detecting arsenic in vertebrate specimens at the Michigan State University Museum with a handheld x-ray fluorescence (XRF) analyzer.* Society for the Preservation of Natural History Collections, New Haven, CT.
- 2011 Siciliano, L. *Survey results: Causes and consequences of maternal deprivation in captive giraffes.* Association of Zoos and Aquariums, Atlanta, GA.
- 2010 Siciliano, L. *Consequences of maternal rejection in captive giraffes.* Association of Zoos and Aquariums, Houston, TX.

Guest lectures

- 2019 General Mammalogy, Department of Wildlife and Fisheries Sciences, Texas A&M University. *Fur, hair, and integument.*
- 2012 Museum Studies, Department of Zoology, Michigan State University. *Current research in natural history museums.*
- 2011 Preview of Zoology, Department of Zoology, Michigan State University. (2011). *Research activities in the modern zoological garden.*

HONORS AND AWARDS

2019	1 st Place Graduate Student Oral Presentation, Student Research Week, Texas A&M University, College Station, TX
2018	1 st Place Graduate Poster Presentation, Ecological Integration Symposium, Texas A&M University, College Station, TX
2018	1 st Place Poster, Texas Society of Mammalogists, Junction, TX
2017	1 st Place Graduate Student Talk, Ecological Integration Symposium, Texas A&M University, College Station, TX

MENTORED STUDENT HONORS AND AWARDS

2024	Duncan Vick: Clyde Jones Undergraduate Award, 1 st Place Undergraduate Poster, Texas Society of Mammalogists, Junction, TX
2023	Isaac Brown: 1 st Place Undergraduate Student Poster and Highest Ranked Presentation Overall, Geology and Geophysics Graduate Student Council Symposium, Texas A&M University, College Station, TX

GRADUATE STUDENTS ADVISED

2024-Present	Matthew Bushell, Texas State University, Aquatic Resources and Integrative Biology (PhD)
2024-Present	Alyssa Arguijo, Texas State University, Wildlife Ecology (MS)
2023-Present	Samantha Lamb, Texas State University, Wildlife Ecology (MS)

GRADUATE STUDENT COMMITTEES IN PROGRESS

Texas State University, Department of Biology, Wildlife Ecology (MS)

2024-Present	Alyssa Arguijo (Committee Chair)
2024-Present	Carly Naundorff (Committee Member)
2023-Present	Samantha Lamb (Committee Chair)
2023-Present	Brier Klossing (Committee Member)
2023-Present	Shelby Bork (Committee Member)
2023-Present	Sarah Khayyatzadeh (Committee Member)
2023-Present	Cassidy Reagan (Committee Member)

Texas State University, Department of Biology, Aquatic Resources and Integrative Biology (PhD)

2024-Present	Matthew Bushell (Committee Chair)
2024-Present	Indra Acharja (Committee Member)
2024-Present	Jill Zipperer (Committee Member)
2023-Present	Abigail Meeks (Committee Member)

TEACHING EXPERIENCE

Assistant Professor

Texas State University, San Marcos, TX	
2023-Present	Natural History of Vertebrates
2024-Present	Principles of Zoo Management

Adjunct Instructor

Our Lady of the Lake University, San Antonio, TX	
2016 - 2017	Introduction to Evolution, lecture (online)

2014 - 2016 Introduction to Life Sciences, lecture and lab
2014 – 2015 General Biology II, lecture and lab

Graduate Teaching Assistant

Texas A&M University, College Station, TX

2019 Natural History of Vertebrates, lab
2017 - 2018 Fundamentals of Ecology, lecture
2017 Advanced GIS for Resources Management, online lecture and lab
2017 Introduction to GIS, online lecture and lab
2016 Natural History of Invertebrates, lab

Michigan State University, East Lansing, MI

2011 Biology of Mammals, lab
2010 – 2011 Cell & Molecular Biology, lab

JOURNAL ARTICLE REVIEWS

2024 Royal Society Open Science
2024 Journal of Mammalogy
2024 Archaeological and Anthropological Sciences
2023 Scientific Reports (2x)
2022 Journal of Mammalogy
2022 Anatomia, Histologia, Embryologia
2021 American Midland Naturalist
2021 Primates
2021 Integrative Organismal Biology

PROFESSIONAL ORGANIZATIONS

2021 – Present Ecological Society of America
2017 – Present Society for the Study of Evolution
2017 – Present American Society of Mammalogists
2017 – Present Texas Society of Mammalogists
2011 – Present Society for the Preservation of Natural History Collections
2009 – Present Association of Zoos and Aquariums

SERVICE ACTIVITIES

Special Committees

2024 – Present Human Diversity Committee; Texas Society of Mammalogists
2023 – Present Environmental Services Committee; Texas State University
2022 - Present Inclusion Diversity Equity Access (IDEA) Committee, American Society of Mammalogists

Individual Activities

2023 Grant panel: Black and Indigenous Scholars, American Society of Mammalogists
2023 Volunteer: Darwin Day, Texas A&M University
2023 Grant panel: Rising Undergraduates in Mammalogy, American Society of Mammalogists

2023 - 2024 Conference Judge: Graduate student posters and oral presentations, American Society of Mammalogists

2022 - 2023 Conference Judge: Undergraduate and graduate posters and oral presentations, Texas Society of Mammalogists

2022 Planning committee: LGBTQIA+ event, IMC-13 international conference

2018 – 2020 Planning committee: Darwin Day, Texas A&M University

2017 – 2020 Volunteer: Biodiversity Research & Teaching Collections, Texas A&M University

2012 – 2014 Volunteer: University of Michigan Museum

2011 Volunteer: Michigan State University. Mist netting and measuring birds

2011 – 2012 Volunteer: Michigan State University Museum

2011 – 2013 Volunteer: Darwin Discovery Day, Michigan State University Museum

2010 Volunteer: Wildlife Response Center, Marshall, MI. Wildlife rehabilitation from Kalamazoo River oil spill

SPECIAL TRAINING AND CERTIFICATIONS

2023 *Aggies Research Program Leadership Certification*, Texas A&M University. Mentored and trained a team of undergraduate researchers and participated in the leadership training program

2022 *Aggie Ally Leadership Training*, Texas A&M University. Trained as an LGBTQIA+ ally

2010 *Business Management Certification*, Michigan State University

2008 *Bad Rap Training*, Oakland, CA. Rehabilitation training for abused pit bulls

MEDIA

2010 ZooView Magazine, “*A Green Halloween*”

2008 – 2009 WLNS, “Pet of the Day” on Channel Six Noon News Lansing twice a week

2008 – 2009 LCC Radio Coffee Break, Monthly interview regarding Humane Society events

2008 – 2009 Lansing State Journal, Photos and content for the monthly “Pet Page”

2008 – 2009 Lansing City Pulse, Photos and content for the monthly “Pet Page”