Carson S. Gehman

2540 Broadleaf Court, Hebron, KY 41048

605-891-0301, [csgehman7@gmail.com](mailto:csgehman7@gmail.com), US Citizen

**EDUCATION:**

**Austin Peay State University – Graduated May 2025**

* Master of Science in Biology
* **Honors**

Relevant Coursework:

* Graduate Mammalogy & Lab – BIOL 5070-71 – 4 credits
* Graduate Topics in Biology: Conservation Biology of Amphibians and Reptiles –

BIOL 5700 – 3 credits

* Graduate Animal Behavior & Lab – BIOL 5630-31 – 4 credits
* Graduate Topics in Biology – GIS in R – BIOL 5700 – 4 credits
* Graduate Thesis – BIOL 5990 – 4 credits

**Cedarville University – Graduated May 2022**

* Bachelor of Science in General Biology
* **Honors: Magna Cum Laude**

Relevant Coursework:

* Wildlife Ecology - BIOA 3450 – 4 credits
* Topics: Conservation Biology for Wildlife and Zoos – BIO 4880 – 3 credits
* Geographic Information Systems- ENVS 3100 – 4 credits
* Comparative Vertebrate Anatomy & Physiology – BIO 3420 – 4 credits
* Invertebrate Zoology – BIO 3410 – 3 credits
* Ecophysiology - BIO 3610 – 3 credits
* Fish Ecology & Management - BIOA 3420 – 4 credits
* Advanced Vertebrate Dissection - BIO 4900 – 2 credits
* Topics: Statistical Analysis/Design - BIO 4880 – 3 credits
* Biological Research – BIO 3800 – 2 credits
* Plant Taxonomy - BIO 3520 – 3 credits
* Ecology – BIO 2600 – 4 credits
* Zoology – BIO 1120 – 4 credits
* Genetics – BIO 3300 – 4 credits
* Botany – BIO 2500 – 4 credits
* Cell Biology – BIO 2250 – 4 credits
* Organic Chemistry I – CHEM 3510 – 4 credits
* Organic Chemistry II – CHEM 3520 – 4 credits
* College Physics I - PHYS 1010 – 4 credits
* College Physics II - PHYS 1020 – 4 credits
* Biochemistry – BIO 3710 – 4 credits

**WORK EXPERIENCE:**

**Graduate Research Assistant**

Austin Peay State University

Department of Biology

Center of Excellence in Field Biology

601 College Street, Clarksville, Tennessee 37044

Supervisor: Dr. Chris Gienger (931)-221-7076, [giengerc@apsu.edu](mailto:giengerc@apsu.edu) (may contact)

$14.40/hr., 20 hrs./wk., Aug 11, 2024 – Aug 9, 2025 (Ongoing)

Research Duties:

**Thesis Research on Species Distribution Modeling for Gila Monsters:**

* Developed a species distribution model for Gila Monsters across their range in the American Southwest and Northern Mexico. Model was overlayed with current protected natural areas (PNAs) across the study area as collected from the United States Geological Survey (USGS) Gap Analysis Project (GAP) and World Database on Protected Areas (WDPA) online datasets to quantify the amount of quality Gila Monster habitat currently under protection. Modeling process completed in RStudio utilizing the MaxEnt modeling format. The goal of the project is to recommend conservation efforts for this threatened species via methods such as direct species management plans, new surveying efforts, and new PNA acquisition.

Lab Duties:

**Animal Care of Multiple Herpetofauna Species:**

* Primary carer for nineteen individual reptiles utilized as educational specimens. The species cared for includes Gila Monster, African leopard tortoise, Indian star tortoise, southern painted turtle, northern map turtle, stripe-necked musk turtle, and eastern box turtle. Responsibilities include feeding and watering multi-weekly, cleaning both terrestrial and aquatic enclosures, and health maintenance such as shed removal and nail trimming.

**Science Outreach Educator:**

* Displayed living specimens at science outreach events organized by Austin Peay State University partnering with local elementary and middle schools. Served as educator and interpreter fielding inquiries regarding general herpetofauna and species-specific to displayed specimens.

**Academic Peer Tutor**

Austin Peay State University

Department of Biology

601 College Street, Clarksville, Tennessee 37044

Supervisor: Tyler Buis (931)-221-7037, [buist@apsu.edu](mailto:buist@apsu.edu) (may contact)

$13.50/hr., 6-12 hrs./wk., January 15, 2024 – April 23, 2025

Peer Tutor Responsibilities:

**Human Anatomy & Physiology I – BIOL 2010-11 – Peer Tutor:**

* Assist current students at scheduled times regarding course material. Provide successful study tips concerning both general courses in the sciences and BIOL 2010-11. Explain difficult biological and anatomical concepts to encourage student comprehension. Develop practice quiz material to test student comprehension of course material.

**Graduate Teaching Assistant**

Austin Peay State University

Department of Biology

601 College Street, Clarksville, Tennessee 37044

Supervisor: Dr. Cindy Taylor (931)-221-7784, [taylorc@apsu.edu](mailto:taylorc@apsu.edu) (may contact)

$7.20/hr., 20 hrs./wk., Aug 13, 2023 – May 4, 2024

Teaching Duties:

**Human Anatomy & Physiology I – BIOL 2011 - Lab Instructor Duties:**

* Served as laboratory instructor for two sections of BIOL 2011, each semester (Fall 2023 and Spring 2024). Instructor duties included but were not limited to lecturing course content every lab period (one section per week), creating and administering exams/quizzes, grading course materials, holding office hours every week, and fielding student emails regarding course questions and concerns. Other duties included cleaning the labs, organizing and cataloging lab materials weekly, mixing reagents, and requesting new materials as needed. All lab instructors attended weekly meetings with the supervisor to discuss upcoming course milestones and student concerns.

**Biology Lab Instructor**

Cedarville University

Department of Science and Mathematics

251 North Main Street, Cedarville, Ohio 45314

Supervisor: Dr. William Jones (937)-766-3251, [wijones@cedarville.edu](mailto:wijones@cedarville.edu) (may contact)

$17.50/hr., 40 hrs./wk., Aug 15, 2022 – May 10, 2023

Teaching Duties:

**Principles of Biology - GBIO-1000 - Biology Lab Instructor Responsibilities:**

* Served as the primary laboratory instructor for all sections of GBIO-1000 for the 2022-2023 academic year. Instructor duties included but were not limited to lecturing course content every lab period (six-eight sections per week), grading course materials, holding office hours every week, and fielding student emails concerning course questions. Other biology instructor duties included cleaning the laboratory, organizing and cataloging lab materials weekly, mixing reagents, requesting new materials as needed, attending class lectures, and proctoring lecture exams. Attended weekly meetings with the supervisor to discuss upcoming course milestones and student concerns. All academic duties were completed using the Canvas online learning management platform.

Research Duties:

**Assistant for Long-Term Midge Surveying Project in Ohio:**

* Assisted Dr. Michael Mendel of the Department of Science and Mathematics with his Biological Research (GBIO-3800) course in Spring 2023. The research goal was a long-term surveying effort aimed at quantifying species abundance and distribution across the state of Ohio. Stream sites were identified using Google Earth, chosen based on variables such as rural/urban, presence of agriculture, stream order, and county location. Variables such as canopy cover (%), substrate type, estimated flow speed, estimated turbidity, and GPS coordinates were recorded at each site. Sampling region and upstream/downstream site photos were also taken. Aquatic midge larvae were collected using kick netting or scrubbing stream materials such as rock, wood, or vegetation, with contents placed and sorted in hand trays. Midge larvae were collected opportunistically and placed in 70% ethanol in glass vials along with site description labels. Site reports were also written for every site in every visited county during the two field sampling excursions.

Miscellaneous Duties:

**Biology Staff Member Responsibilities:**

* Participated as additional assistance in various functions across the Department of Science and Mathematics where appropriate. Assisted in grading exams for GBIO-2010 and GBIO-2015 (Human Anatomy and Physiology I and II). Held an unofficial student workshop on proper skinning of a beaver specimen for future taxidermy use for the BIO-3420 Comparative Vertebrate Anatomy and Physiology course under Dr. Michael Mendel. Proctored various exams across courses as needed. Participated in weekly faculty and staff meetings for the Department of Science and Mathematics.

**Wildlife Damage Summer Intern**

South Dakota Game Fish & Parks

Division of Wildlife – Region 3

Wildlife Damage Division

Mitchell, South Dakota

Supervisor: Quinn Hanisch (605)-323-9001, [quinnhanisch@sd.gov](mailto:quinnhanisch@sd.gov) (may contact)

$15.00/hr., +40hrs./wk., May 9, 2022 – August 10, 2022

Wildlife Damage Duties:

**Goose Damage Prevention and Depredation Efforts:**

* Responded to private landowner service requests concerning soybean field damages due to grounded Canada geese (window of flight feather regrowth). Requests were lodged over the phone or through the Canada Goose (CAGO) Depradation Hub website. Landowners could request flare cannons or kill permits for personal use or installment of temporary electric fences or coyote decoys to deter crop damage. Installment requests were serviced by site visitation via 4WD trucks or UTVs, where geese presence (visual, scat, or track) and plant damage (cropped stalks, leaves stripped, etc.) was confirmed. Fences were built using four-foot nonconductive fiberglass poles and electric line placed along the damaged field edge (usually adjacent to water bodies) with a standard solar charger on one end. Interns authorized to use .22 rifles and shotguns for goose hazing and elimination if individuals were encountered in requested fields to discourage future damage. All serviced locations were logged via the CAGO GIS system using the ArcGIS Field Maps app.

**Coyote Depredation Efforts:**

* Assisted Wildlife Damage Specialists in responding to private landowner service requests concerning livestock injury/loss due to coyotes. Participated in the placement of snares and foothold traps on game trails or in fence holes after coyote tracks or scat were located. Several request deployments regarding livestock injury/loss due to coyotes included daytime hunting from UTVs with rifles while using trained hounds equipped with GPS collars. Spent one night staking out the site of a recent lamb kill from 6 PM to 2 AM using rifles equipped with night vision scopes.

**Rodent Depredation Efforts:**

* Assisted Wildlife Damage Specialists in responding to private landowner service requests concerning water damming issues caused by beavers. Participated in the placement of live traps and conibear traps both in/around streams and agricultural canals showing beaver activity. Utilized both .22 rifles and shotguns to eliminate beavers at service request locations. Spent ten to fifteen days thinning nuisance population of Richardson ground squirrels at the State Fair Grounds in Huron, SD. Ground squirrels were eliminated using a combination of small conibear and clutch traps at burrow entrances and patrolling in 4WD trucks or UTVs with high-powered air rifles.

Wildlife Management Duties:

**State Migratory Bird Survey:**

* Assisted in the yearly state migratory bird survey focused on Canada geese and mourning doves. During travel regarding other wildlife damage duties, large flocks of geese were located and reported back to state Wildlife Biologists as survey targets. Capture procedure included deploying portable corral panels complete with roofing on bare open shoreline, then deploying kayaks to drive flocks of swimming geese into the corrals. Individual geese were then aged, sexed, and banded before being released. Mourning doves were captured using funnel ground traps baited with seed on gravel roads and patches. Individual doves were aged and banded before being released.

**Student Teaching/Laboratory Assistant**

Cedarville University

Department of Science and Mathematics

251 North Main Street, Cedarville, Ohio 45314

Supervisor: Dr. Michael Mendel (740)-501-3261, [mmendel@cedarville.edu](mailto:mmendel@cedarville.edu) (may contact)

$8.50/hr., 10 hrs./wk., January 20, 2021 – May 4, 2022

Teaching Duties:

**Laboratory Course Setup:**

* Responsible for grading two to three lab sections for the Zoology (BIO 1120) course each spring taught by Dr. Michael Mendel. Prepared lab activities and specimens for the Comparative Vertebrate Anatomy & Physiology (BIO 3420) and Zoology (BIO 1120) courses. Performed secondary instructor tasks such as fielding questions regarding lab activities and proctoring lab practical exams.

Laboratory Duties:

**Amphibian Research Efforts:**

* Assisted in research efforts studying freeze tolerances in different frog species including wood frogs, spring peepers, green frogs, western chorus frogs, mountain chorus frogs, Blanchard’s cricket frogs, and northern leopard frogs. Collected specimens in vernal pools during Spring 2021, locating species by call and visual identification. Specimens were captured using hand nets and stored in breathable plastic containers for transportation back to the lab. Provided care for frog specimens pre-experimental trials by feeding using self-sufficient cricket colony supplemented with captured insects from local grasslands. Assisted in tissue sample collection on frozen deceased specimens, post-experimental trials. Tissue samples were gathered from the liver, heart, tongue, kidney, and skeletal muscle and placed each in individually labeled centrifuge tubes. Each tube was filled with a lysing enzyme fluid, then centrifuged to separate solid and liquid components. Liquid components were removed, and solid components refrozen for future molecular analysis.

**Lab Specimen Maintenance Efforts:**

* Maintained extensive vertebrate skull collection by glueing fallen teeth and broken bone fragments from student use. Prepared new skulls and other bones for the collection by flesh removal using bleach mixtures, soap, and scrubbing brushes. Cared for self-sustaining cricket colony through daily provision of gel feed and removal of deceased individuals. Maintained preserved insect collections via replacing insect repellent materials. Responsible for routine cleaning of laboratory equipment such as microscopes, dissection tools, waders, and nets.

**Seasonal Employee**

Trout Haven Ranch

13477 7-11 Rd., Buffalo Gap, South Dakota 57722

$16.00/hr., +40hrs./wk., May 15, 2016 – August 8, 2021 (during summer and winter breaks)

Hatchery Duties:

**Management and Care of Rainbow Trout:**

* Assisted in raising thousands of sterile rainbow trout for private stocking across the American Midwest and south-central Canada. Promoted spawning of fry in hatchery building by feeding and cleaning row tanks daily until individuals reached three inches and were transported to open air ponds. Participated in routine aquatic vegetation removal from discharge screens and active ponds. Collected trout using seines and dip nets and transported them from pond to pond using large water tanks on 4WD vehicles equipped with aquatic aerators. Stocking events included collecting large groups of trout using seines and transporting them from the ponds to large tanks using a trapdoor net basket attached to a backhoe arm. Tanks were equipped with aquatic aerators and were strapped down to long-neck trailers hauled by Peterbilt semitrucks for long range transport. Performed occasional night patrols during potential heavy rainfall events to prevent flooding via managing water inflow rates. Assisted customers at the pay-to-fish stock pond, including gutting and cleaning of any catch.

Ranch Duties:

**Management and Care of Cattle:**

* Assisted in managing a small herd of beef cattle numbering between 40-50 head. Participated in yearly late spring branding events primarily acting as a cattle driver and calf pusher, with some experience administering vaccines. Yearly duties consisted of checking on herd health with visual inspection and building/maintaining barbed wire fences around all pastures. Primary winter duties included feeding the herd with hay and supplements in the winter pastures.

Maintenance Duties:

**General Site and Equipment Maintenance:**

* Performed routine ground maintenance using riding lawn mowers, push mowers, STIHL weed trimmers and removed noxious weeds by hand and through use of chemical sprayers (both backpack and truck-based). Utilized backhoes and tractors (minimally) and skid steers for maintenance including gravel road repair, fence building, and hay bale moving/stacking. Patched tears in the Trout Haven Ranch seine and dip net collection. Maintained ranch trucks with interior cleaning, exterior washing and polishing, and battery replacement.

**OTHER RELATED VOLUNTEER/WORK EXPERIENCE**

**Volunteer**

Field Research for Austin Peay State University in St. George, Utah

Red Cliff National Conservation Area, 345 E Riverside Dr, St George, UT 84790

April 24-May 2, 2025

* Assisted with research being performed by Sienna Solis-Stokes of Dr. Chris Gienger’s lab regarding occupancy surveying and modeling for Gila Monsters (*Heloderma suspectum*) in St. George, UT. Participated in surveys via walking 1 km long transects while recording air, temperature, wind, shrub density, and prey presence measurements across six different sites near St. George.

**Volunteer**

Center of Excellence in Field Biology at Austin Peay State University, TN

601 College Street, Clarksville, Tennessee 37044

August 20-24, 2024

* Assisted with research being performed by Dr. Rebecca Blanton Johansen’s lab regarding conservation and population genetic health of endangered Citico Darters in east TN. Research funded by Austin Peay State University, the Tennessee Wildlife Resource Agency via U.S. Fish & Wildlife section 6 funds, and the Great Smoky Mountains Conservation Association. Supporting partners of the project included the National Park Service and Conservation Fisheries Incorporated. Participated in field surveying and collecting specimens via freshwater snorkeling in the Tellico River. Darters were located by inverting submerged boulders and searching under them. Individuals were captured using hand nets and positively identified, then placed in aerated containers for later data collection including fin clip sampling and body length measurements.

**Volunteer**

Caeser Creek State Park

8570 E State Route 73, Waynesville, OH 45068

November 2022

* Assisted for several Saturday nights in the field capture of Northern Saw-Whet Owls via mist netting and banding in accordance with the procedure set by Project OwlNet, a nationwide long-term research project focused on banding and tracking saw-whet owls using the Motus Wildlife Tracking System (MOTUS) trackers. Procedure consisted of setting up mist nets in several cleared runs amidst forest cover and setting up multiple speakers broadcasting audible calls to attract individuals. Captured specimens had standard measurements recorded, then were fitted with bands and/or MOTUS tracking units before being released.

**OTHER QUALIFICATIONS:**

**Publications:**

* Gehman, C. S., and C. M. Gienger. 2025. Predicting the potential distribution of the Gila Monster and evaluating the extent of protected natural areas for conservation. Journal of Nature Conservation 86(2025):126944.

**Trainings:**

* Cornell Lab Bird Academy Course: Be a Better Birder: Size and Shape (3/2025)
* Collaborative Institutional Training Initiative (CITI) Program course: Working with the IACUC, Stage 1-Basic Course, Record ID: 58992053 (10/2023)
* Collaborative Institutional Training Initiative (CITI) Program course: Wildlife Research, Stage 1-Lab Animal Research, Record ID: 58992054 (10/2023)
* ATV Safety Institute (ASI) ATV RiderCourse (05/2022)
* In-person South Dakota HuntSAFE course (08/2010)

**Honors/Awards:**

* Director’s Award for Outstanding Contribution (Center for Academic Support and Enrichment, Austin Peay State University, 2024)
* Floyd and Sara Ford Memorial Scholarship (Austin Peay State University, 2024)
* Cedarville University Dean’s List (2018-2022)
* Calvin DeWitt Leadership Fellowship (AuSable Institute, 2021)
* Chancellor’s Excellence Scholarship (Cedarville University, 2018-2022)
* One Campus Leadership Scholarship (Cedarville University, 2018-2022)
* President’s Ministry Impact Scholarship (Cedarville University, 2018-2022)

**Presentations:**

**C. S. Gehman**, K. I. Holloway, W. O. Miner, and J. O. Watts. 2024. “Determining Habitat Suitability for Tricolored Bats (Perimyotis subflavus) on Fort Campbell Army Base.” Poster session on 12/3/24 at Austin Peay State University.

**C. S. Gehman** and C. M. Gienger. 2024. “Using Spatial Distribution Modeling to Evaluate Priority Areas for Conservation and Management of Gila Monsters.” Poster session at Biology of Lizards Conference, 8/24/24 - 8/27/24, at the Chiricahua Desert Museum in Rodeo, NM.

**C. S. Gehman**, M. A. Gathany, and M. J. Mendel. 2023. “Analyzing Occupancy and Habitat Use of Wildlife in a Heavily Agricultural Area.” Poster session at the Cedarville University Research Symposium, 4/19/23, at Cedarville University.

**C. S. Gehman**, Catherine G. Harbach, Grace S. Leiford, [Sara C. McElroy](https://www.linkedin.com/in/sara-mcelroy-726907243/), Landon P. Smith, and M. J. Mendel. 2023. “Early Season Ohio Midge (Diptera: Chironomidae) Species.” Poster Session presented at the CU Research Symposium, 4/19/23, at Cedarville University.

K. N. Baird, B. J. Beers, **C. S. Gehman**, L. E. Pride, M. L. Thayer, A. M. Wise, and M. J. Mendel. 2021. “Assessing Chironomid Distribution in the Huron-Eerie Lake Plain Ecoregion in Ohio.” Poster session presented at the CU Research Symposium, 4/25/21, at Cedarville University.

**Leadership:**

Cedarville University:

* Lead Teaching Assistant (Spring Semester 2022)
  + Supervised the coordination of other lab assistants in the Cedarville University zoology lab under Dr. Michael Mendel.
  + Organized work schedules and tasks related to routine lab maintenance, specimen preparation, and equipment cleaning.
* Team Leader: Advanced Vertebrate Dissection - BIO 4900 (Spring Semester 2022)
  + Supervised vertebrate dissections used as teaching specimens for Comparative Vertebrate Anatomy & Physiology (BIO 3420) course.
  + Responsible for cross-checking proper anatomical structure identification and pinning for use in student lab practicals.
  + Dissected species included cats, pigeons, sharks, and mud puppies, as well as anatomical organs such as mammal hearts and brains.

Trout Haven Ranch:

* Lead Seasonal Employee (Summers 2020-2021)
  + Supervised the coordination of seasonal employees at Trout Haven Ranch.
  + Organized the delegation of routine tasks including fish feeding, tank cleaning, ground maintenance, and supply runs.

**Relevant Skills:**

* Knowledgeable in major concepts and methodologies regarding wildlife ecology, behavior, and physiology.
* Proficient using R for data organization, analysis, and interpretation.
* Experienced in GIS techniques in R, including the use of packages such as *terra*, *raster*, *sp*, and *sf*.
* Experienced organizing spatial data and creating maps using ArcGIS Pro.
* Experience collecting and organizing spatial data from Google Earth Engine, WorldClim, and ClimateNA datasets.
* Experienced inputting field data into ArcGIS FieldMaps.
* Proficient in using the Avenza Maps application
* Experienced in the use of handheld GPS devices.
* Experience navigating through use of plat maps.
* Experienced presenting and interpreting research findings to both peers and the public.
* Experienced communicating with private landowners, state, and academic organizations.
* Proficient in teaching course material in an academic setting.
* Proficient in the use of firearms such as rimfire rifles, hunting rifles, and shotguns, as well as high-powered air rifles.
* Knowledgeable concerning live or lethal trapping techniques and etiquette aimed at capturing mammals.
* Experience using taxonomic/dichotomous keys to identify both field and lab specimens (vertebrate and invertebrate).
* Proficient in the dissection and tissue collection of a wide range of vertebrate specimens.
* Experienced safely operating 4WD vehicles, skid steers, ATVs, and UTVs.
* Experience driving manual vehicles.
* Proficient in the use of KESTREL anemometers
* Experience transporting equipment long-distance using vehicle trailers.
* Proficient in Microsoft Word, Excel, and PowerPoint.
* Experienced in the use of Google platforms including Earth, Docs, Slides, and Sheets.
* I have years of experience working with/for major stakeholders including state governments, academic institutions, and private landowners.
* I take every opportunity to broaden my animal identification skills through recreational observations of taxa including snorkeling for fish, locating herpetofauna, and bird watching/documenting using eBird.

**REFERENCES:**

Dr. Chris Gienger, Professor of Biology (Austin Peay State University)

Email: [giengerc@apsu.edu](mailto:giengerc@apsu.edu)

Phone: (931)-221-7076

Quinn Hanisch, Wildlife Damage Specialist (South Dakota State Game Fish & Parks)

Email: [quinnhanisch@sd.gov](mailto:quinnhanisch@sd.gov)

Phone: (605)-323-9001

Dr. Michael Mendel, Academic Advisor, Professor of Zoology (Cedarville University)

Email: [mmendel@cedarville.edu](mailto:mmendel@cedarville.edu)

Phone: (740)-501-3261