

# KARINNE TENNENBAUM

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## EDUCATION

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Expected May 2026 BS **Yale University, New Haven, Connecticut, USA**, Yale Engineering and Science Scholar  
Bachelor of Science in Ecology & Evolutionary Biology (Biodiversity and the Environment)  
GPA: 4.00/4.00  
*Relevant Coursework:* Ornithology, Ornithology Lab, Bird Behavior, Evolutionary Biology, General Ecology, Paleoecology, Comparative Physiology, Phylogenetic Biology, Environmental Data Visualization, Observing Measuring Behavior, Genetics and Development, BioInspired Sustainable Design, Intensive Intro Statistics, Intro to Bioinformatics, Intermediate Spanish

## FELLOWSHIPS AND GRANTS (>\$45,550)

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- 2025 Travel Award, Gulf Coast Undergraduate Research Symposium, Rice University, \$550
- 2025 National Science Foundation Research Experience for Undergraduates, South Texas Space Science Institute, University of Texas Rio Grande Valley, \$7,400
- 2025 Saybrook College Research Fellowship, Yale University, \$1,000 (declined)
- 2025 Latin American & Iberian Studies Summer Travel Grant, Yale University, \$750, (declined)
- 2025 Summer Environmental Fellowship, Yale University, \$4,000 (declined)
- 2025 Goldwater Scholar, Barry Goldwater Scholarship & Excellence in Education Foundation, \$7,500
- 2025 Environmental Humanities Grant Program: Cranes of Yale, Yale University, \$1,000
- 2025 Saybrook College Creative Performing Arts Award: Taking Flight in Print, Yale University, \$500
- 2024 Saybrook College Bruce M. Babcock '62 Travel Research Fellowship, Yale University, \$1,200
- 2024 Charlotte Mangum Support Award (Annual Meeting Housing), Society of Integrative and Comparative Biology
- 2024 Tropical Resources Institute Endowment Fellowship, Yale School of the Environment, \$8,000
- 2024 Saybrook College Research Fellowship, Yale University, \$1,000
- 2023 Louise H. and Davis S. Ingalls Field Ecology Program, Yale School of the Environment, \$4,000 (declined)
- 2023 First-Year Summer Research Fellowship in the Sciences and Engineering, Yale College, \$4,300
- 2022 National Merit Scholarship Winner, National Merit Scholar Corporation, \$2,500
- 2022 University of Michigan Credit Union Youth Scholarship, \$500 ([Press Release](#) and [Video](#))
- 2022 Sustaining Ann Arbor Together Grant: Bins 4 Birders, City of Ann Arbor, \$2,000

## AWARDS AND HONORS

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- 2025 Goldwater Scholar, Barry Goldwater Scholarship & Excellence in Education Foundation ([Press Release](#))
- 2025 Udall Honorable Mention, Udall Foundation
- 2025 Phi Beta Kappa Society (early induction), Yale University
- 2025 D. Dwight Davis Best Student Presentation Award, Society of Integrative and Comparative Biology
- 2025 2nd Place, Wildlife Photo Competition, 31st Yale International Society of Tropical Foresters Conference
- 2024 Young Climate Prize Cycle 02 Cohort Finalist ("25 under 25"), The World Around ([Press Release](#) and [Video](#))
- 2023 Darwin Leader, Darwin200

## PUBLICATIONS

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1. Tennenbaum, K., Cohen, K. E., Bissell, I. C., and E. C. Sibert. 2025. Microfossil spiraling teeth reveal mesopelagic *Cyclothona* (bristlemouths) fish evolved during the early Paleogene greenhouse. *In prep for submission to Proc. B.*
2. Teitz-Tennenbaum, S., Marinetti, K. N., Lahiri, S., Siddiqui, K., Flory, C., Tennenbaum, K., Hicks, H. G., Song, B., Ganguly, A., and J. J. Osterholzer. 2025. Sulfur dioxide exposure of mice induces peribronchiolar fibrosis—a defining feature of employment-related constrictive bronchiolitis. *PLOS ONE* 20(1): e0313992. <https://doi.org/10.1371/journal.pone.0313992>

## INVITED TALKS

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2025 University of New Haven, 2nd Annual Darwin Day Celebration: **Keynote Speaker**  
“Winging it: the power of embracing change” ([Video](#))

2024 Barro Colorado Island, Bambi Seminar Series  
“*Bite-sized: Using model prey to measure predation on insect herbivores during the secondary succession of tropical rainforests*” ([Video](#))

2024 World’s Most Exciting Classroom, Episode 063: Live From Sydney, Darwin Leader ([Video](#))

2024 World’s Most Exciting Classroom, Episode 029: Visiting Wayqecha Cloud Forest, Peru, Darwin Leader ([Video](#))

2024 Cape Horn International Center, Darwin Leader

2023 Yale University, Yale Outdoors Skill Session

2021 Petoskey Regional Audubon Society, Monthly Program  
“*Michigan Young Birders Network (MYBN)*” ([Video](#))

2021 Freeman Environmental Education Center Youth Council, Green Michigan (Virtual) Symposium  
“*Flying Forward: Bird Conservation, the Importance of Birds in the Environment, and How to Get Involved*” ([Video](#))

2021 51st Annual (Virtual) Ann Arbor Earth Day - Restore Our Earth: **Keynote Speaker**  
“*Freeman Environmental Education Youth Council on Environmental Education and Youth Advocacy*” ([Video](#))

2021 Plymouth-Canton Educational Park Eco Club, (Virtual) Weekly Meeting

## CONFERENCE PRESENTATIONS

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Tennenbaum, K., Weissflog, A., Gallegos Koyner, M. A., and L. Comita. Oct 2025. *Gulf Coast Undergraduate Research Symposium*, Rice University, Houston, Texas, USA. “*Bite-sized: studying predation pressure in Panama’s secondary forests via model prey.*” Oral Presentation.

Tennenbaum, K., Cohen, K. E., Bissell, I. C., and E. C. Sibert. Jan 2025. *Society of Integrative and Comparative Biology*, Atlanta, Georgia, USA. “*Microfossil spiraling teeth reveal Paleocene origin of Cyclothona (bristlemouths).*” Best Student Oral Presentation.

## RESEARCH EXPERIENCE

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Jun-Aug 2025 *National Science Foundation Research Experience for Undergraduates*

Project: A deep learning model for avian bioacoustics requires region-specific training

- Evaluated efficacy of Nighthawk, an algorithm to identify nocturnal flight calls
- Manually verified 85 hours of recordings from Brownsville and South Padre Island

Mentor: Dr. Andrea Contina

South Texas Space Science Institute, University of Texas Rio Grande Valley, Brownsville, Texas, USA

Jun-Jul 2024	<p><i>Tropical Resources Institute Fellow</i></p> <p><u>Project:</u> Bite-sized: studying predation pressure in Panama's secondary forests via model prey</p> <ul style="list-style-type: none"> <li>• Created and deployed 1,000 plasticine caterpillars in a secondary forest chronosequence</li> <li>• Assessed caterpillars for evidence of predation and photographed bite marks</li> </ul> <p><u>Mentor:</u> Dr. Liza Comita</p> <p>Smithsonian Tropical Research Institute and Yale School of the Environment Barro Colorado Island, Research Station, Panama</p>
Jan 2024	<p><i>Darwin Leader, Darwinzoo</i></p> <p><u>Project:</u> Investigating threats to shorebirds in the Cape Horn Biosphere Reserve</p> <ul style="list-style-type: none"> <li>• Led the first coordinated effort to identify, categorize, and rank 12 national threats</li> <li>• Proposed new conservation strategies tailored to the needs of shorebirds in the reserve</li> </ul> <p><u>Mentor:</u> Dr. Juan Rivero de Aguilar</p> <p>Cape Horn International Center, Puerto Williams, Navarino Island, Chile</p>
May-Jul 2023	<p><i>First-Year Research Fellow and Ingalls Field Ecology Intern</i></p> <p><u>Project:</u> Exploring drivers of <i>Ranavirus</i> outbreaks in a <i>Rana sylvatica</i> (Wood Frog) metapopulation</p> <ul style="list-style-type: none"> <li>• Conducted 120 vernal pond surveys and cataloged over 2,100 tadpoles</li> <li>• Conducted a five-week experiment investigating the role of hypoxia in die-off severity</li> </ul> <p><u>Mentor:</u> Dr. David K. Skelly</p> <p>Yale School of the Environment Yale-Myers Forest, Eastford, Connecticut, USA</p>
Feb-Dec 2023	<p><i>Undergraduate Researcher</i></p> <p><u>Project:</u> Scanning electron microscopy analysis of structural colors in the plumage of the <i>Lophornis pavoninus</i> (Peacock Coquette) hummingbird</p> <ul style="list-style-type: none"> <li>• Photograph seven distinct structural color regions in two specimens of <i>Lophornis pavoninus</i></li> <li>• Calculate variation in interbarbule and vanule length of feathers across the regions</li> </ul> <p><u>Mentor:</u> Dr. Richard O. Prum</p> <p>Yale University Department of Ecology and Evolutionary Biology, New Haven, Connecticut, USA</p>
Sep 2022-Jul 2025	<p><i>Undergraduate Researcher</i></p> <p><u>Project:</u> Microfossil spiraling teeth reveal early Paleogene origin of <i>Cyclothonia</i> (bristlemouths)</p> <ul style="list-style-type: none"> <li>• Imaged 49 Stomiiformes specimens and created a catalog of tooth morphology variation</li> <li>• Identified five distinct tooth surface textures and classified specimens accordingly</li> </ul> <p><u>Mentor:</u> Dr. Elizabeth C. Sibert and Dr. Pincelli M. Hull</p> <p>Yale Department of Earth and Planetary Sciences and Woods Hole Oceanographic Institute New Haven, Connecticut, USA</p>
Jul-Aug 2022	<p><i>Biological Science Aid</i></p> <p><u>Project:</u> Modeling deployment-related respiratory disease</p> <ul style="list-style-type: none"> <li>• Breeding maintenance and genotyping of transgenic mouse colony</li> <li>• Conducted immunofluorescence staining and quantified signal in mouse lung sections</li> </ul> <p><u>Mentor:</u> Dr. John J. Osterholzer</p> <p>University of Michigan and Ann Arbor Veterans Affairs Medical Center, Ann Arbor, Michigan, USA</p>
Jun-Jul 2021	<p><i>Field Intern</i></p> <p><u>Project:</u> Ann Arbor breeding bird surveys and nest box monitoring</p>

- Conducted surveys across 10 city parks and restricted areas
- Negotiated with local officials to adjust construction efforts to accommodate breeding birds

Mentor: Juliet Berger

Natural Area Preservation and Washtenaw Bird and Nature Alliance, Ann Arbor, Michigan, USA

Jun-Jul 2019

*Volunteer Research Assistant*

Project: You are what you eat: urban soil lead predicts *Turdus migratorius* (American Robin) blood lead in Flint, MI

- Measured morphological parameters of songbirds and collected blood samples
- Processed serum samples and measured lead levels

Mentor: Dr. Jamie M. Cornelius

Eastern Michigan University, Ypsilanti, Michigan, USA

## WORK EXPERIENCE

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Jul 2025-present	<i>First-Year Counselor (FroCo)</i>   Saybrook College, Yale College Dean's Office, Yale University
	<ul style="list-style-type: none"> <li>• Advise 13 first-year students as they acclimate to academic, social, and cultural life at Yale</li> </ul>
Oct 2024-present	<i>Student Leader</i>   Yale Bird-Friendly Building Initiative, Yale Law School and Yale Peabody Museum
	<ul style="list-style-type: none"> <li>• Transform the research-based effort into a student-driven volunteering task force</li> </ul>
May 2024-present	<i>Tour Guide</i>   Yale Peabody Museum
	<ul style="list-style-type: none"> <li>• Lead weekly tours to the public on the museum's recent renovation and diverse collections</li> </ul>
Feb 2023-present	<i>STEM (Science) Tour Guide</i>   Yale Office of Undergraduate Admissions, Yale University
	<ul style="list-style-type: none"> <li>• Lead weekly tours of Science Hill area of campus to prospective students and their families</li> </ul>
Feb 2023-present	<i>STEM Likely Representative</i>   Yale Office of Undergraduate Admissions, Yale University
	<ul style="list-style-type: none"> <li>• Advise recently admitted YES Scholars</li> </ul>
Aug 2022-Dec 2024	<i>Research Assistant</i>   Vertebrate Zoology (Ornithology), Yale Peabody Museum
	<ul style="list-style-type: none"> <li>• Prepared bird skins, skeletons, and eggs for research purposes</li> </ul>
Jun 2022	<i>Camp Counselor</i>   Michigan Young Birders Camp, Michigan Audubon
	<ul style="list-style-type: none"> <li>• Led field activities for middle school birders from across the state</li> </ul>

## SKILLS AND TRAINING

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- Software: R, Java, ImageJ, ArcGIS Field Maps, Google Earth Pro, Onshape, Autodesk Inventor and Fusion
- Hardware: Scanning electron microscopy, high-resolution digital microscopy, 3D printing
- Wet Lab: DNA extraction, polymerase chain reaction, gel electrophoresis, immunofluorescence
- Field: aural and visual bird identification, point counts, general surveys, mist netting, bird handling, morphological measurement, blood and feather sampling, habitat threat evaluation, dip-net surveys, water quality assessment, tadpole dissection, model prey use
- Media: Canva, WordPress, iMovie, Adobe Premiere Pro, Audacity, Raven
- Certificates: Wilderness First Aid (Emergency Care and Safety Institute), Mental Health First Aid (National Council for Mental Wellbeing)
- Languages: English (Native), Spanish (Advanced)
- Soft: leadership, initiative, teaching, coordination, collaboration, time management, organization, communication, problem solving, public speaking, community engagement, inclusivity

## PROFESSIONAL MEMBERSHIP

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American Ornithological Society (2025-present)

Society for Integrative and Comparative Biology (2024-present)

*Editorial Reviewer* (2025-present)

Association of Field Ornithologists (2024-present)

Wilson Ornithological Society (2024-present)

Society for the Study of Evolution (2024-present)

Ecological Society of America (2024-present)

Association for Tropical Biology and Conservation (2024-present)

## LEADERSHIP, SCIENTIFIC OUTREACH, AND COMMUNITY ENGAGEMENT

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**Taking Flight Project** (Ann Arbor, Michigan and New Haven, Connecticut) (2019-present)

*Founder and Executive Director*

Taking Flight is an educational initiative to inspire the next generation of climate leaders by fostering an environmental ethic among youth through the magic of birding

### New Haven:

- **Rockin' Robin Benefit Concert (Nov 2025)**
  - Coordinating an acapella charity performance centered on birdsong(s) with all proceeds donated to the Menunkatuck Audubon Society
- **The Bower (Nov 2025)**
  - Creating a storytelling exhibit featuring a human-sized bower and community-donated romantic symbols to reflect on the meaning of attraction in both the avian world and society today
- **Perch 'N Pour (Oct 2025)**
  - Designing bird-themed coasters for distribution in late-night campus spaces to engage students in avian conservation efforts
- **EveryBODY Birding (Oct 2025)**
  - Conducting the first Birdability surveys in the city to document accessibility of New Haven parks
- **DIY Birdfeeder Workshop (Oct 2025)**
  - Designing and leading a carpentry workshop in which students build wooden bird feeders
- **Young Birders United (YBU) (Aug 2025-present)**
  - Creating an online, open-access database of young birder chapters worldwide
  - Launching chapters in underrepresented areas
  - Connecting representatives from each chapter for an annual conference
- **Cranes of Yale (Apr 2025)**
  - Led a month-long interdisciplinary program bridging Japanese culture and crane conservation featuring workshops and a campus-wide scavenger hunt for 1,330 origami cranes
- **Taking Flight in Print (Mar 2025)**
  - Hosted a week-long photography exhibition featuring work by student birders
- **Birding 101 Workshops (Fall 2023, Fall 2024, Spring 2025)**
  - Lead biannual, hour-long workshops on birding basics to 70+ middle and high school students

Ann Arbor:

- **Bins 4 Birders (B4B) (2022)**
  - Received \$2,000 to purchase seven pairs of binoculars and a spotting scope to promote birding among the general public and lower socioeconomic barriers to birding
- **Michigan Young Birders Network (MYBN) (2020-2022)**
  - Co-founded and co-led a network of young birders across the state
- **Taking Flight Podcast (2020-2021)**
  - Created a novice birding podcast of 12 episodes with 800+ listens across 25 countries and 6 continents
- **Ornithological Society of Pioneer (OSP) (2020-present)**
  - Founded a student-run, districtwide club promoting youth birding and avian conservation

Funding: Environmental Humanities Grant Program, Saybrook College Creative and Performing Arts Award, Sustaining Ann Arbor Together Grant Program

Collaborators: International Crane Foundation, Cornell Lab of Ornithology, Wild Birds Unlimited, Young Climate Prize, Yale Birding Student Association, Japanese American Students Union, Yale Peabody Museum, Washtenaw Bird and Nature Alliance, Michigan Audubon, Yale Splash and Sprout, Birdability, Washtenaw Elementary Science Olympiad, Claire's Corner Copia, Yale Center for Engineering, Innovation and Design

**Yale Ecology and Evolutionary Biology Undergraduate Group (YEEBUG) (2022-present)**

*President (2024-present)*

**Yale Birding Student Association (YBSA) (2022-present)**

*Co-President (2024-present)*

**Birdability (2024-present)**

*Captain*

**Yale Chapter of the International Society of Tropical Foresters (ISTF) (2024-2025)**

*Logistics Co-Coordinator, 31st Annual Conference*

**Environmental Education Collaborative (EECO), Dwight Hall at Yale—Center for Public Service (2023-2024)**

*Volunteer Teacher*

**Yale Outdoors (YO) (2022-2023)**

*New Leader and Recruitment Coordinator (“Pnucklemaster”)*

**Washtenaw Elementary Science Olympiad (WESO) (2022)**

*Event Supervisor, Feathered Friends*

## MEDIA

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### Personal Profiles:

Read: [The Yale "For Humanity" Campaign](#) (2025), [Topanga New Times](#) (2023), [The Pioneer Optimist](#) (2021)

### Taking Flight Project:

#### Cranes of Yale:

Read: [Yale Daily News](#) (2025), [Global Crane Conservation Workshop \(ft. Katie Fernald\)](#) (2025)

#### Young Climate Prize:

Read: [Wallpaper\\*](#) (2025), [The World Around: Young Climate Prize Cycle 02 Cohort](#) (2024)

#### Bins 4 Birders:

Read: [Washtenaw Bird and Nature Alliance: Sustaining Ann Arbor Together Report](#) (2023)

#### Michigan Young Birders Network:

Read: [Community Spotlight: Mike Bishop](#) (2021), [Birding Adventures at Whitefish Point Bird Observatory](#) (2021), [Headed East](#) (2021), [Catching the Birding Bug at the Virtual Michigan Young Birders Camp](#) (2020)

### Yale Birding Student Association

Read: [Yale Daily News](#) (2024)

### Darwinzoo:

Read: [Weather Underground](#) (2024), [BBC](#) (2025)

Watch: [Shorebirds: Threats at the End of the World, Part I - A Plan](#) (2024); [Shorebirds: Threats at the End of the World, Part II - An Investigation](#) (2024); [Shorebirds: Threats at the End of the World, Part III - A Future](#) (2024)