**Ava Biscoe**

                                               abiscoe@csuchico.edu

 California State University, Chico, Ca

 <https://avabiscoe.wixsite.com/botanyandbugs/blog>

 (Website under construction)

**Education**

**Master of Science in Biology**

California State University, Chico (In progress, expected Spring 2025)

**Bachelor of Science in Environmental Biology, minor in Botany, *summa cum laude***

Humboldt State University **(Fall 2021)**

3.85 overall GPA, 3.96 HSU GPA

**Associate in Science, concentration in Science and Math, *high honors***

City College of San Francisco **(Fall 2014)**

3.70 GPA

**Relevant Courses**

General Entomology, Introductory Biostatistics, General Botany, Plant Taxonomy, Introductory Zoology, Conservation Biology, Genetics, Principles of Ecology, Principles of Biology, Developmental Plant Anatomy, Organic Chemistry, Forest Pathology, Biology of the Microfungi, Ascomycetes and Basidiomycetes, Lichens and Bryophytes, Ornithology I.

**Technical Skills**

·      Proficiency in identifying plants and insects, using a dissecting microscope, dichotomous keys and field guides

·      Naturalist with experience in identifying California flora and fauna including plants, insects, fungi, and birds

·     Extensive research experience conducting lab work and field work for biodiversity studies

·     Strong writing, computer and math skills; experience with statistical analysis using R program and Microsoft Office software including Excel.

**Research Experience**

**CSU Chico Ivey Lab, Master’s Thesis on the Evolutionary Ecology of *Mimulus glaucescens***

(August 2023-Present)

First year master’s student in the lab of professor Dr. Ivey. I am currently designing a thesis project studying a regional endemic plant, *Mimulus glaucescens.* My research interests involve the plant-insect interactions, evolutionary ecology, and conservation biology of *Mimulus glaucescens,*and more broadly California endemic plant species. Current progress on my thesis project is designing an experiment, crafting a research proposal, and conducting literature review of relevant science publications.

**White Mountain Research Center (WMRC), UCLA Summer 2023 Research Mini-grant Award Recipient: A Taxonomic Guide to Select Willows of the Eastern Sierra** (June 2023-July 2023) Grant award of $1,000

Mini-grant award recipient to conduct graduate level research at WMRC in Inyo County, CA through the University of California, Los Angeles. I performed an independent study project titled, A Taxonomic Guide to Select Willows of the Eastern Sierra. I designed a pictorial key using original photos of key morphological features used in willow identification. I compiled these resources into an educational blog post on my Wix webpage. The goal of my blog site is to make plant taxonomy accessible to botanists of all skill levels, and to help people learn microscopy and how to use the Jepson Manual dichotomous key. I carefully keyed out willow species using the Jepson Manual for the Vascular Plants of California, and other online resources including calfora.org and iNaturalist. I used the historical willow herbarium collection on site at WMRC to compare my fresh willow specimens to previously collected and identified willow species. I also gained wilderness hiking and safety skills, including backcountry map reading, and operation of a handheld Garmin GPS device. Additional skills learned during my experience included data collection, use of herbarium specimens, evaluating primary literature and writing a research proposal, and applying for grant funding.

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**Intern for the R.E.U. in Interdisciplinary Evolutionary Sciences at the University of Iowa**(May 2021 – July 2021) Stipend of $6,000

Selected for paid internship through the National Science Foundation R.E.U (Research Experience for Undergraduates) program in Interdisciplinary Evolutionary Sciences at the University of Iowa. Conducted research in entomology, plant-insect interactions, ecology and evolution. The research investigated the bacterial symbiont communities found in host-plant associated insects, with a focus on the parasitic sunflower maggot fly genus, *Strauzia*. Duties involved insect identification, conducting field searches for insects in sunflower patches, collecting and analyzing data, and preparing a report in a scientific poster presentation. Gained hands-on experience in genetics lab work including DNA extraction, PCR, DNA sequencing, gel electrophoresis, DNA quantification using fluorometry. Obtained skills in the use of computer software including excel, the Barcode of Life Database, and QIIME 2 microbiome bioinformatics platform. Participated in professional training in entering research, applying to graduate school, and communicating science in reports and publications.

**Entomology Teaching Collection Curator at Humboldt State University** (Fall 2020-Spring 2021)

Worked as insect collection curator and organizer as part of my senior thesis project for the HSU entomology teaching collection. Checked student identification of locally collected insects prior to adding to the teaching collection and reorganized specimens according to changes in insect systematics. Practiced keying insects using the Borror and Delong’s Introduction to the Study of Insects dichotomous keys. Gained skills in insect identification, taxonomy, collection and curation.

**Bumble Bee Research Project in Marble Mountains Internship at Humboldt State University (**May 2019 - August 2019)

Participated in a study with a biology graduate student to conduct a bumble bee diversity survey in the Marble Mountain Wilderness in C.A. Conducted field searches for bumblebee populations and cataloged bumblebee species, and identified and recorded the plant species that the bees were observed on. Gained experience in backpacking in the wilderness, laying study transects, bee identification and counting, plant identification, making observations and recording data, and collecting ecological site information related to plant and insect populations.

**California Department of Fish and Wildlife Volunteer for Bat Roost Research Project Humboldt State University** (May 2017-November 2018)

Volunteer to assist HSU graduate student in bat roost research on habitat use of tree hollows by local bats. Duties involved hiking in forests conducting field searches for tree hollows, setting up guano collecting equipment in tree hollows, collecting bat guano samples. Made observations and recorded data of tree measurements, bat guano samples, and ecological site information. Gained lab experience in sorting and weighing bat guano.

**Dr. Brian Tissot Benthic Ecology Lab (Humboldt State University Marine Lab)**(March 2016-August 2017)

Participant in Sea Star Wasting Disease study and Biodiversity Survey in Humboldt coast tide pools. Conducted field searches for sea stars in tide pools, identified marine organisms, and recorded data for the biodiversity survey. Made field observations and recorded data of sea star species and condition related to sea star wasting disease. Received training and applied techniques in biodiversity sampling using transects and identification of marine organisms.

**Professional and Work Experience**

**Teaching Associate, California State University, Chico, Department of Biology**

(August 2023-Present)

Teaching associate position assigned for Biol 102, Intro to Living Systems, Fall 2023 semester. My role as lab instructor is to help non-major students learn basic principles of biology and to introduce them to use of the scientific method. My duties include attending weekly instructor meetings, setting up lab supplies, running a lab section by introducing and guiding the lab activity, coming up with quiz questions and administering quizzes, holding office hours, and grading assignments.

**Agricultural Program Assistant with Sonoma County Department of Agriculture** (March 2022 - October 2022)

Worked as a seasonal inspector in the General Pest Detection Program with the Sonoma County Department of Agriculture to monitor for invasive agricultural insect pests to prevent their introduction and establishment regionally. Conducted daily fieldwork placing and inspecting insect traps in urban neighborhoods with fruit tree hosts to monitor for four main economically important exotic fruit fly species, *Ceratitis capitata, Bactrocera cucurbitae, Anastrepha ludens,* and *Bactrocera dorsalis.* Duties included searching for suitable fruit tree hosts in the field, identifying insects and host plants, drawing and reading maps, recording data, and using a map-based pest detection data management application, CalTrap. Gained professional experience in the field of entomology as well as working for a government agency.

**Humboldt State University** **Learning Center General Science Tutor** (September 2016 - August 2018)

Tutor at Humboldt State Learning Center. Tutor of General Chemistry, Principles of Biology, General Botany and Zoology. Regular/Level 1 College Reading and Learning Association Certified Tutor. Interacted with the public, gained science communication skills.

**Arcata Farmers Market** (July 2015 – August 2018)

Gained hands on experience in sustainable, organic agriculture as a farm worker for an organic farmer at Arcata farmer’s market. Worked at the farm planting, weeding, and harvesting produce. Learned methods of planting, growing, treating and harvesting agricultural crops. Vendor and cashier at farm stand on Saturday Arcata farmers market.

**San Francisco Conservation Corps** (August 2014 - February 2015)

Worked as a Green Program Specialist to help improve sustainability of large events in San Francisco through waste reduction. Worked to help implement waste reduction and sorting at public events through recycling, composting, and contaminant removal. Earned employee of the month in January 2015.

**Committee and Club Membership**

**Environmental Protection and Information Center Board of Directors, secretary** (May 2017-Present)

Volunteer for Arcata, CA based environmental non-profit EPIC since 2017 for public events, fundraisers, and on board of directors. Involved in campaigns related to public lands monitoring, forest protection, environmental law, and the endangered species act. EPIC monitors and protects over 5 million acres of public lands, and advocates for clean water, endangered species and the unique flora and fauna in northern California. Presented Dian Griffith Volunteer of the Year Award in 2018. Currently serving on board of directors since 2019; roles include fundraising help, public outreach, and voting on organizational matters during board meetings. Current role of secretary to take notes/minutes during board meetings.

**Sonoma Ecology Center, Native Plant Nursery Volunteer** (January 2023-August 2023)

Volunteer for the Sonoma Ecology Center’s native plant nursery. Learning horticultural techniques and aiding in propagation of native Californian plants. The nursery provides native plants for community plant sales and for restoration projects led by the Sonoma Ecology Center.

**CA Native Plant Society - Milo Baker Chapter, Education and Outreach Committee** (November 2022-Present)

Currently serving on the Sonoma County CNPS Education and Outreach Committee. Helped plan a youth outreach event at the North Bay Science Discovery Day fair on March 11, 2023. Roles included designing an exhibit themed, "Plant a living community, plant a native oak tree”, to educate youth how oaks sequester carbon, improve the watershed, and support a diverse ecosystem. Duties include researching, writing, and designing educational materials for the exhibits, as well as collecting biological specimens and creating hands-on, interactive displays. Committee members are responsible for setting-up, tabling, and interacting with the public at events.

**CA Native Plant Society - North Coast Chapter, Native Plant Nursery Volunteer** (June 2020-March 2022)

Volunteer for Humboldt County CNPS North Coast Chapter native plant nursery. Assisted with cultivation of native Californian plants from wild collected seeds. Duties include planting and incubating seeds in a greenhouse, transferring seedlings and plants, weeding and pruning plants, and preparing plants for sale. Helped at native plant sale to provide native plants to the community for ecosystem restoration and gardening.

**Humboldt Bay Mycological Society Mushroom Fair Volunteer Coordinator** (May 2019-December 2019)

HBMS officer role of 41st annual Mushroom Fair Volunteer Coordinator. Responsible for recruiting volunteers and coordinating fair set-up and participation during fair.

**Academic Service**

**President of Climate Change Club Humboldt State University** **(Climate Crisis HSU)**

(August 2016- August 2018)

Leadership role in Associated Students club focused on climate science and environmental stewardship. Worked to raise awareness and action on climate change on campus through event planning and student outreach. Writer of 2 grants to bring educational speakers to campus, including United States Green Party presidential candidate, Dr. Jill Stein.

**HSU Associated Students Earth Week Committee** (Spring 2018)

Committee member of Humboldt State University Associated Student government group named Earth Week. Attended weekly committee meetings during spring semester to plan a week long Earth Week educational event to promote sustainability and environmentalism on campus.

**Scholarships and Awards**

*Ballard Scholarship*

$5,000 scholarship award for a Humboldt State biology student for 2020-2021 academic year.

*White Mountain Research Center, UCLA Mini-grant Award*

$1,000 grant award for graduate student research for the summer of 2023. Produced an independent study project titled, a Taxonomic Guide to Select Willows of the Eastern Sierra

*Environmental Protection and Information Center Dian Griffith Volunteer of the Year Award*

Presented volunteer of the year award in 2018 for Arcata, CA based environmental non-profit group.

*Humboldt State University Associated Students Grant for Climate Crisis HSU Club guest speaker Dr. Jill Stein*

Writer of a $1,600 grant to bring Green Party Presidential Nominee Dr. Jill Stein to speak for our club sponsored event, the Community and Grassroots Day of Action in 2017. The speech regarded environmental health, environmental justice, and the creation of green jobs.

**Presentations**

University of Iowa Pentacrest Museums Virtual Poster Presentation for the R.E.U in Interdisciplinary Evolutionary Sciences 2021. Biscoe A, Centuori D, Hippee A, Forbes A. “Evidence for Specialized Bacterial Symbionts in the Parasitic Sunflower Fly Genus *Strauzia”* (poster)*.*

<https://www.thinglink.com/card/1495487799845978114>

**References**

**Dr. Christopher Ivey, Biology Professor, California State University, Chico (Master’s thesis Advisor and Committee Chair)**

Email: ctivey@csuchico.edu

**Dr. Andrew Forbes, Assistant Biology Professor, University of Iowa. R.E.U entomology research mentor**

Email: andrew-forbes@uiowa.edu Phone: (319) 471-3715

**Pierpaolo Aymar, Supervisor for Sonoma County Department of Agriculture**

Email: Pierpaolo.Aymar@sonoma-county.org Phone: (707) 565-2371