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Cheadle Center for Biodiversity & Ecological Restoration

A Quarterly Album of Updates and Events from the Vernon and Mary Cheadle Center for Biodiversity and Ecological Restoration Collections & Biodiversity Program

From the Collections...

Our Cheadle Center bee collection is on display through September 2, 2024 at the <u>California Nature Art Museum</u> in Solvang for an exhibition titled *The Birds and the Bees and More: Pollinators*. The Museum is open Weekdays 11 am-4 pm (except Tuesday and Wednesday) and Weekends 10 am-5 pm.



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The Cheadle Center is excited to share a unique exhibit featuring a dozen pinned native bee specimens, alongside striking 16" x 20" close-up images of each bee. Visitors of all ages can use the provided magnifying glasses to closely examine the intricate details of these small but mighty creatures. In addition to the bee exhibit, the Cheadle Center for Biodiversity and Ecological Restoration at UCSB will offer a variety of resources at a dedicated table for visitors to explore further.

The images featured in this exhibit are part of the national <u>Big Bee project</u>, led by Katja Seltmann at the Cheadle Center in collaboration with 13 institutions across the country. This project aims to answer fundamental questions about bees and their responses to climate change. Our research seeks to understand why certain bee species are more at risk of decline than others. The findings from this study will help inform future conservation strategies, identify species at risk, and enhance our understanding of the factors contributing to the decline of these crucial pollinators.

includes artwork from <u>Ava Roth</u>, <u>Elizabeth Weber</u>, <u>Susan McDonnell</u>, and <u>Cynthia James</u> as well as high resolution photographs of Santa Barbara native bees. Photograph of the opening celebration courtesy of the California Nature Art Museum, photographer Bob Canepa. Bee photo is a long-horned bee (*Melissodes tepidus timberlakei*) which are solitary bees that nest at the UCSB Lagoon. Photograph by Sheccid Rivas Trasvina.



Chris Evelyn's work with US Department of Agriculture to develop biodiversity monitoring continues. Utilizing

Center volunteers and student researchers has been essential to this project. We are optimistic that camera traps will enhance our ability to monitor biodiversity in remote regions. Excitingly, we've already captured our first snake activity on camera, along with feeding and reproductive behaviors in lizards.





herbarium collections in France and Madagascar as part of his taxonomic study of the Violet Family from Madagascar. Over the next two years, Wahlert will be describing **18 new species of tree-violets from Madagascar**, all of which were found in the collections at the National Museum of Natural History in Paris, and the herbaria of the Forestry Service and Botanical Gardens in Antananarivo, Madagascar. Photographed here is Greg working in the Paris herbarium.

New species of anthurium named for Cheadle Center botanist

Dr. Thomas Croat, botanist and prolific plant explorer at the Missouri Botanical Garden, has named a new species in honor of Cheadle Center botanist Greg Wahlert: *Anthurium wahlertii* Croat. The new species belongs to the aroid plant family and was described from one of Wahlert's collections from the Cordillera del Condor of southern Ecuador. Professor Croat, an aroid expert, has described over 1,350 species of aroids and is one of the few botanists to have collected more than 100,000 specimens. Over the years, Wahlert has worked with Croat collecting aroids in Ecuador and Colombia, and he was grateful to be recognized by this new species name. **Congratulations Greg!**

Phylogeny and Conservation of the Nipomo lupine



At the Botany 2023 annual conference in Boise, Idaho, Cheadle Center collections manager and research botanist, Greg Wahlert, presented new results that clarify the taxonomic position of the endangered Nipomo lupine (*Lupinus nipomensis*). For years, there had been doubts about whether or not Nipomo lupine was a distinct species from Bajada lupine (*Lupinus concinnus*). Wahlert presented morphological and phylogenetic evidence at the conference that strongly support Nipomo lupine as a separately evolving species distinct from

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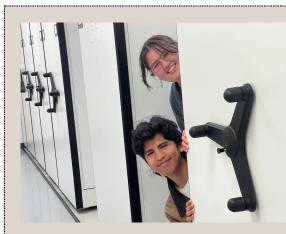
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Morphological Evolution in Slender Salamanders



Chris Evelyn presented a paper on morphological evolution in slender salamanders (genus *Batrachoseps*) at the 8th annual meeting of plethodontid salamander biologists. This was an update of the talk given at SICB in January. Chris is fourth from the right and UCSB PhD alum and co-host of the meeting <u>Clifford Fontenot</u> is at the far right. Cliff is now at Southeastern Louisiana Univ. <u>Here's a video</u> by Chris Evelyn that shows how our local species abandons use of its limbs to swim through leaf litter.

Visit, Volunteer and Find Out More



Visit the Cheadle Center for our Spring Open House! This casual event is open to everyone.

Come peek in our collections.

Date: April 5th from 4 - 6 pm

Location: The Cheadle Center for Biodiversity and

Ecological Restoration

Harder South Building 578, Santa Barbara, CA 93106

Center's restoration newsletter. Keep up to date with the exciting developments of the North Campus Open Space Project and the other UCSB-managed sites by signing up for the Restoration Register. Includes great photos of wildlife, updates on our conservation efforts, and includes plenty of ways to enjoy the sites.



Aerial photo of NCOS taken on 12/22/23 showing the high water level following the storms in late December. Photo by Bill Dewey.

Did you find out about our newsletter from social media or a friend? Sign up for our mailing list!

Leaf Litter...

Just more photos of Cheadle Center education and research activities

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While Cheadle Center researcher Chris Evelyn primarily concentrates on camera traps and amphibians, fieldwork also provides chances to witness natural phenomena. During a site visit last September, Chris had the opportunity to observe a ladybug aggregation along a small creek. Watch his videos of this fascinating event.



Congratulations to Dr. Colleen Smith on her new position at the U.S. Fish and Wildlife Service! We look back fondly on her recent research trip to Santa Cruz Island, where she led undergraduate students in exploring the intricate relationship between bees and plants.



In our latest research spotlight, UCSB students have been uncovering *Melissodes* bee brood cells near the UCSB lagoon. Led by Cheadle Center postdoctoral researcher Madeleine Ostwald, this study aims to uncover how these bees adapt to varying soil moisture levels. Surprisingly, it was discovered that these bees can live completely submerged underwater for portions of the year!



Each year, the Cheadle Center Collections & Biodiversity Program plays a pivotal role in fostering student excellence. In a recent highlight, Chris Evelyn celebrates with Yinghui Wang as she receives Distinction in Major for her research on the morphological variation of the Tehachapi slender salamander (*Batrachoseps stebbinsi*).

Yinghui's study leveraged specimens from the Cheadle Center Natural History Collection, as well as those from the Museum of Vertebrate Zoology at UC Berkeley and the Natural History Museum of Los Angeles County. Utilizing specialized software, Yinghui and fellow student Tara Zahn developed code to measure various features, such as length, head size, and limb length. To learn more about the impactful work of our students, visit the University of California eScholarship. Additionally, the posters showcasing their research are displayed in the Cheadle Center hallway, so we invite you to stop by and take a look

Support the Cheadle Center's Collection & Biodiversity Program