ARCHBOLD JULY 2023 NEWS

for curious minds

Archbold
BIOLOGICAL STATION

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The Cricket Course

Recording the night sounds of katydids at Archbold. Photo by Dr. Hojun Song.

Archbold was proud to host the Cricket Course July 3-7, the first workshop devoted to hands-on training in Ensiferan ID, ecology, behavior, and bioacoustics in North America. Ensiferans are Orthopterans with over 15,000 described species of singing insects, like crickets and katydids, and non-singing insects, like cave crickets and wetas. Course creator Dr. Hojun Song, Texas A & M University, says, "Ensifera represents the most species-rich lineage using acoustic signals as a main mode of communication. Archbold is home to numerous crickets and katydids, which makes the Station a perfect place for our workshop". Song arrived with 16 students and four fellow instructors, including Brandon Woo. Woo began his Ph.D. work on Pygmy Mole Crickets at Archbold and throughout Florida in 2021. Students started with a crash course on insect identification and classification. By nightfall, they captured katydids and crickets singing loudly on Red Hill. Day two began with a lecture by Dr. Fernando Montealegre-Zapata, the world expert on the biomechanics of cricket and katydid sound production, followed by a lecture on their incredible hearing by Dr. Charlie Woodrow. 3D printed models of katydid ears came in handy. That evening, the group recorded crickets and katydids with ultrasonic microphones to analyze later with Audacity. After learning about Ensiferan ecology with instructor Dr. Nathan Bailey, the students brainstormed ideas for bio-inspired products, including a katydid-inspired night vision and a mole cricket-inspired underground robot. At night, the students studied the effect of light disturbance on the calling behavior of the Florida True Katydid (*Lea floridensis*), which was shown to be minimal. "Overall, the inaugural Cricket Course was a resounding success and a transformative experience for many participants," said Dr. Song. "We plan to offer the Cricket Course again, so please stay tuned!"

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"Archbold Biological Station is one of America's iconic centers of continuous research and education in field biology. It is a prototype of what we need all across America."

— Edward O. Wilson

The Bright Future of NEON

NEON Workshop participants and facilitators at Archbold. Photo by Dr. Ben Dantzer.

The National Ecological Observatory Network **(NEON) is a huge integrated network connecting the ecological dots between organisms and ecological processes at 81 field research sites nationwide.** This National Science Foundation-funded endeavor is just getting started on a 30-year quest for answers. A group of 25 professors and early career scientists came to Archbold in mid-June to participate in a NEON Workshop. The main goal was to introduce the up-and-coming researchers to the untapped potential of NEON data, specifically the standardized data that are collected on seven groups (e.g., small mammals, beetles, mosquitoes, fish) throughout the network. These data are stored in a repository that allows researchers to ask big questions with long-term projects. Dr. Marty Martin, University of South Florida, said, "**There is so much we can learn about organisms through NEON.** For example, we can address whether mosquitos change in abundance, distribution, and body form as our climate changes. Mosquitos are vectors for disease. Changes in body forms may increase or decrease the mosquito's ability to breed. We can ask these important questions only because of NEON's multi-billion dollar investment and countrywide scale." There was a lot of networking between the NEON Workshop participants and Archbold research staff with potential for future collaborations at Archbold. Dr. Hilary Swain, Archbold Executive Director, said, "This was a great opportunity for Archbold to showcase our research that is relevant to the questions these groups are asking. The meeting also offered an opportunity for our staff, especially our early career scientists, to network with other scientists from around the world."

Job Announcements

FL Wildlife Corridor Applied Science Fellowship

Predator-Prey Program Research Internship

Fish Eco-evolutionary Research Internship

Agroecology Postdoctoral Research Associate

Avian Ecology Research Assistant III

All Smiles

Campers learn to take soil cores at the Archbold Reserve. Photo by Dustin Angell.

Archbold completed four week-long Ecology Summer Camp sessions for 52 campers (ages 7-12) and 13 teen volunteers this summer. Watch the slideshow here! We also offered a new two-day camp for 14 additional children in the Boys and Girls Club of Highlands County. The two-day camp was made possible by a generous gift from the late Paul Ebersbauch and the community-building efforts of Michaela Herron, Archbold's Jill Abrahamson Memorial Environmental Education Intern. Janice Rearick, Boys and Girls Club Interim Executive Director/CEO, wrote, **"One of the site directors told me she has never seen so many smiles coming off the bus.** She was amazed how each child arrived early to the club on Day 2 to ensure they didn't miss camp." Archbold's Education Director Dustin Angell said, "The involvement of wildlife photographer George McKenzie Jr and the enthusiastic staff at the Boys and Girls Club made this partnership a success. This year's theme was conservation, which highlighted Archbold's four pillars – saving the rarest of the rare, sustaining grasslands, connecting large landscapes and wildlife corridors, and addressing climate change. Katie Caldwell, Archbold Education Assistant, assumed most camp facilitation responsibilities. Campers explored our 20,000-acres of outdoor classrooms, from the Florida scrub and wetlands near the Station buildings to the grasslands at the Archbold Reserve. They met with our researchers, librarian, and wildlife photographer George McKenzie Jr. Our activities included field research, scavenger hunts, and hands-on games. **Campers learn about Archbold's research through activities structured to develop science knowledge, environmental identity, connection to nature, and a sense of place."**

Public Events

Watch Carrie Jessop's recent intern seminar 'The effect of genetic rescue on pH tolerance in Eastern Mosquitofish' here.

Watch all past virtual events here.

Protect Our Paradise

Screenshot from the official trailer video for Protect Our Paradise.

A new six-part documentary series Protect Our Paradise **is airing now on local TV stations in Florida and will be available this Fall on the Discover Florida Channel.** Created by Crawford Entertainment and Conservation Florida, each episode features people and places on the front lines of conservation in Florida, including two members of Archbold's staff. Joe Guthrie, Archbold Predator-Prey Program Director, appears in the show's first episode exploring the Florida Wildlife Corridor. Vivienne Sclater, Archbold Director of Data & Technology, said, "Crawford Entertainment interviewed me while sitting on the Station breezeway. We discussed my role at Archbold, data that we collect, why collecting data is important for scientists and Floridians, how we map and monitor the Florida Wildlife Corridor, and what role data play in preserving the Corridor. It was great to think about the big picture of why the work that we do, and the data that we collect at Archbold, is important for protecting the Florida Wildlife Corridor." Show producer and host Chad Crawford said, "Protect Our Paradise is a thought-provoking series that inspires action. We're going to travel all over the state talking to people who are on the front lines fighting for Florida, tell their story, and invite people to join us." Learn more here.

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Florida's Vanishing Sparrows

Elizabeth Abraham spotting Florida Grasshopper Sparrows on Avon Park Air Force Range. Photo by Zach Forsburg.

In July, The New Yorker **featured Archbold's Dr. Angela Tringali for her team's work to recover the endangered Florida Grasshopper Sparrow.** Archbold scientists are part of a collaborative effort with other public and private conservation groups to save the Florida Grasshopper Sparrow. Archbold has worked closely with the U.S. Fish and Wildlife Service and the U.S. Department of Defense to reintroduce the birds at the Avon Park Air Force Range. Archbold scientists have seen great success, gaining recognition from The New Yorker's Dexter Filkins. The Florida Grasshopper Sparrow was listed as Endangered in 1977, and by 2016 had declined to about 300 birds. In 2015, the U.S. Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission initiated a captive breeding program to prevent extinction of the species. **In 2021, Archbold scientists worked with these agencies to reintroduce 99 sparrows to the prairies on Avon Park Air Force Range.** According to Elizabeth Abraham, who leads the Florida Grasshopper Sparrow work at the Range for Archbold, "The sparrow population on the Range was six times bigger in 2022 than it was in 2021. We found more than 7 times as many nests, and 93% of the chicks produced in 2022 had at least one parent that was from the captive breeding program." Archbold biologists and many partners from the Florida Grasshopper Sparrow Working Group continue to release sparrows from the captive breeding program to other protected, managed areas. While the Florida Grasshopper Sparrow is still imperiled, biologists have increasing hope for the species. How can you help? Your donation to Archbold today helps us continue important work like this.

The Scrub Blog

Nature and Science from Florida's Heartland

Explore The Scrub Blog by Archbold creative staff.

Archbold Facebook Event Calendar

Directions to Archbold Biological Station

Eight miles south of Lake Placid. Entrance is 1.8 miles south of SR 70 on Old SR 8.

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