



ARCHBOLD JUNE  
2024 NEWS  
for curious minds



**In This Issue:**

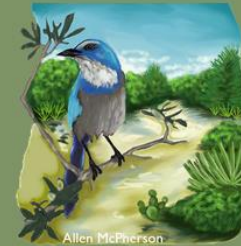
1. Rosemary Neighbors & Leaf Pores
2. Ridge Meeting at Archbold
3. Nature Data Cruncher
4. Resilience Report
5. A Decade of Newsletters

### Rosemary Neighbors & Leaf Pores



Sarah Senese (left) and Genevieve Triplett (right) at Archbold before their research seminar presentation. Photo by Hannah Bowen.

Sarah Senese and Genevieve Triplett, Archbold Plant Ecology Research Interns, studied two little-understood aspects of scrub ecology for their independent research projects. The gaps in Florida Rosemary scrub intrigued Senese, the 2024 Maxwell-Hanrahan Plant Ecology Research Intern at Archbold. She wanted to know who gets to grow in the newly open sand beneath burned Florida Rosemary plants. Florida Rosemary is well-known for releasing chemicals into the soil that inhibit nearby plants, a phenomenon known as allelopathy. **She discovered through lab experiments that endemic Florida Rosemary scrub specialists, including Scrub Blazing Star (*Liatris ohlingerae*) and Wedge-leaf Button Snakeroot (*Eyringium cuneifolium*), tolerate higher doses and higher exposure of hydrocinnamic acid (the by-product of rosemary's ceratiolin chemical) than generalists like Yellow Buttons (*Balduina angustifolia*).** In recently burned Florida Rosemary scrub, she found more specialist plants germinating closer to the dead Florida Rosemary plant than the generalists. Senese believes that dead Florida Rosemary functions as a 'ghost nurse plant' since seeds of specialist plants persist and germinate in the allelopathic soil after fire kills the rosemary. **Triplett was curious whether Florida scrub plants contain stomata on both the upper and lower leaf surfaces (i.e., amphistomy) as an adaptation to survive fire.** Stomata are microscopic pores for gas exchange including carbon dioxide, oxygen, and water vapor. Amphistomy is a fairly uncommon, yet understudied trait across the plant kingdom. More stomata could mean greater productivity but could also come at the cost of water loss and pathogen/heat exposure. She discovered amphistomy in a whopping 63% of 117 scrub plant species. Of plants that reseed their populations following fire, 82% of species exhibited amphistomy compared to 36.9% of the species that resprout after fire. Triplett's results reshape how we think about physiological adaptation to the harsh conditions of the Florida scrub. Watch Sarah and Genevieve's excellent seminar presentations [here](#).



"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

[Donate Now](#)

Your donation to Archbold today supports our mission to build and share the scientific knowledge necessary to protect the life, lands, and waters of Florida and beyond.

[Archbold Biological Station Website](#)

[Archbold Press](#)

[Subscribe to our Monthly News](#)

## Ridge Meeting at Archbold



Dr. Mark Deyrup presenting his talk 'Insects in Dead Wood' at the Lake Wales Ridge Ecosystem Working Group meeting. Photo by Dustin Angell.

The Lake Wales Ridge Ecosystem Working Group gathered at Archbold for their Spring meeting on May 8. **Everyone who cares about the nature, science, management, and conservation of the unique Lake Wales Ridge flora and fauna showed up to listen, learn, and explore.** The meeting began with a warm welcome by Dr. Hilary Swain, Archbold Executive Director. Swain shared a primer on the working group's origin. Dr. Josh Daskin, Archbold Director of Conservation, presented an overview of Archbold's prescribed fire program. Cheryl Peterson, Bok Tower Gardens Conservation Manager, gave an update on their successful introduction of endangered, endemic Claspwing Warea (*Warea amplexifolia*) seedlings into protected sandhills. Dr. Chase Kimmel, Florida Museum of Natural History Postdoctoral Associate, shared his research on one of North America's most imperiled and range-restricted bees, the Blue Calaminta Bee (*Osmia calaminthae*). **"Dr. Mark Deyrup's talk 'Insects in Dead Wood' was the highlight for me!", says Dustin Angell, Archbold Education Director.** "People are still talking about his illustrations and discussion on the natural history of insects living in dead wood." Deyrup, Emeritus Research Biologist, says, "Few observers are fully aware of how much biological diversity depends on dead wood. Decades of work at Archbold show, for the first time, the complexity of local dead wood insect fauna, including 191 species of ants, bees, and wasps (Hymenoptera) and an amazing 453 species of beetles (Coleoptera)." In the afternoon, participants enjoyed a Corridor Observatory walk with Joe Guthrie, Archbold Predator-Prey Program Director, and a field trip to the Gopher Tortoise study area on Red Hill, led by Dr. Betsie Rothermel, Archbold Director of Herpetology, and Rachel Fedders, Herpetology Research Assistant. Rothermel says, "In between catching and admiring a couple of our study animals, I shared what we're doing to protect and restore the rare sandhill community on Red Hill." Thank you to everyone who attended the meeting.

## Nature Data Cruncher



Gabriel Kamener working at Archbold in 2018 (left) and in 2011 (right). Left photo by Peyton Breault Buckley.

Tracking Gopher Tortoises as an Archbold volunteer in 2011 was Gabriel Kamener's introduction to scientific research. Three years later, he returned to Archbold as a Herpetology Research Intern while a student at the University of Florida. He designed his own research project using 3D-printed Gopher Tortoise juveniles and motion-sensor cameras positioned throughout the scrub to evaluate predation risk for the vulnerable young. His innovative project won first place in the student poster presentation at the 2014 Gopher Tortoise Council meeting. He says, **"Most impactfully, working with research data during the internship kindled my interest in pursuing a career in ecological data management."** Today, Kamener manages ecological data at Florida International University for the [Florida Coastal Everglades Long Term Ecological Research Program](#) and the [Gaiser Aquatic Ecology Lab](#). Dr. Evelyn Gaiser is also an Archbold Research Associate. "My job still connects me to Archbold through research the Gaiser Lab does at Archbold's Lake Annie. I also keep in touch with the data management team at the Station." On top of work visits, Kamener continues to volunteer at Archbold. He returned in May to help Dr. Betsie Rothermel, Archbold Director of Herpetology, with tortoise burrow surveys, part of the long-term study on Red Hill that began in 1967. **"Archbold is a special place to me, and I enjoy the unique landscape, people, and research.** Volunteering at the Station allows me to stay connected while giving back. I look forward to staying connected to the people and research at Archbold as I continue to grow in my career." Follow along on his adventures [@lets\\_go\\_sciencing](#)

## Job Announcements

Avian Ecology Research  
Assistant III

Ecological Research Data  
Manager

## Public Events

June 13: 3:30 PM-4:00 PM

'The Sitka Sound Science  
Center: An Overview'

Sarah Tobey, Sitka Sound  
Science Center

Join in-person or via Zoom

Passcode: 086358

June 20: 3:30 PM-4:00 PM

'Effects of Salinity on Predator  
Sensory Cue Perception in the  
Eastern Mosquitofish'

Tim Legare, Archbold Intern

Join in-person or via Zoom

Passcode: 119158

Watch past public events [here](#).

## Resilience Report



Mosaic of private and public lands in Florida. Photo by Allison Schumacher and Jen Guyton.

**Archbold's new report, [The Florida Wildlife Corridor and Climate Change: Managing Florida's Natural and Human Landscapes for Prosperity and Resilience](#), is now available online.** Funded by the [Live Wildly Foundation](#), Archbold commissioned this report from a pool of experts across the state led by Dr. Colin Polsky and Dr. Jay Baldwin from Florida Atlantic University. Dr. Colin Polsky says, "State leadership has demonstrated its understanding of the deep link between clean water, healthy lands, and a strong economy by supporting the creation of the Florida Wildlife Corridor and ongoing efforts. Yet to date, the interactions between the Corridor and climate change had not been examined. Findings from our report show substantial climate resilience benefits from the Florida Wildlife Corridor, yielding a much higher return on investment than originally thought." The report says, "We aim to paint a holistic picture of the key potential human and environmental effects of and responses to unfolding climate and population changes in Florida, and how the Florida Wildlife Corridor (if it were fully enacted) may modify those outcomes." The detailed report reveals how Corridor lands currently provide billions of dollars worth of flood hazard protection. Two-thirds of Florida's floodplains (~10 million acres) are within the Corridor. However, three million acres are not yet conserved and protected from development. [Dr. Josh Daskin](#), Archbold Director of Conservation, says, "Florida is ground zero for advancing climate change with increasing heat, floods, storms, hurricanes, and wildfires." Florida's population grows by more than 1,000 new residents daily, with projections of losing 3.5 million acres to development by 2070. The report also lays out frameworks for smart planning of new developments and redevelopment compatible with the Corridor, which will require public support and political will. **The report is a blueprint for how Florida can buffer against climate change and population pressures by conserving the remaining 8 million acres of opportunity areas within the 18-million-acre Florida Wildlife Corridor.**

## A Decade of Newsletters



Jennifer Brown after a morning filming Florida Burrowing Owls at Buck Island Ranch. Stay tuned for the film release this summer.

**Jennifer Brown crafted her first Archbold newsletter in 2013, using her unique background in field biology, storytelling, and environmental philosophy to bring Archbold news to your inbox every month.** Brown says, "As a biologist turned filmmaker, I moved to Highlands County after working in Everglades National Park for five years. I met Archbold's inimitable Executive Director, Dr. Hilary Swain, at an Archbold public event in 2013. Hilary agreed to an educational film about the interconnections between the Florida Scrub-Jay, Florida scrub, and people at Archbold called [At Home in the Florida Scrub](#)." Thus began Archbold's long-term collaboration with Jennifer and [Into Nature Films](#). Since 2013, Jennifer has created dozens of short films for Archbold, including [Surviving Fire](#), [The Science of a Florida Ranch](#), and [Queen of Red Hill](#). As the owner of Into Nature Films, an independent production company based in Venus, Florida, Brown's documentaries specialize in films about people, places, and species often overlooked. This June 2024 issue is her final newsletter. **"I'm grateful for the opportunity to represent Archbold's fascinating nature and people for over a decade.** So many people are transformed by their experience with Archbold, whether that is a short-term job or life-long collaboration. I enjoyed highlighting their Archbold journey in each 'Changing Lives' story. Each 'Cool Science' story is a porthole into the wonderland of Florida scrub and surrounding ecosystems." Dr. Hilary Swain, Archbold Executive Director, said in appreciation, "We are so grateful to Jen for more than a decade of outstanding newsletters. She has told our stories so well, and we look forward to continuing our partnership with her and more films to come!" Archbold's new Communication Coordinator, Christine Buckley, will produce the monthly Archbold newsletter moving forward.



Connect with us on Instagram!



Connect with us on Twitter!



Check out our YouTube Videos!



Connect with us on Facebook!

## The Scrub Blog

Nature and Science from Florida's Heartland

Explore The Scrub Blog by Archbold creative staff.



### Directions to Archbold Biological Station

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