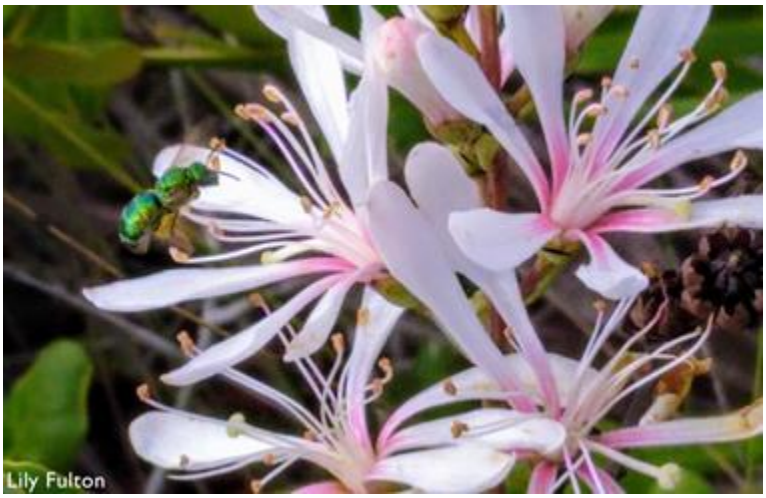
ARCHBOLD SEPTEMBER 2020 NEWS

for curious minds

ARCHBOLD BIOLOGICAL STATION

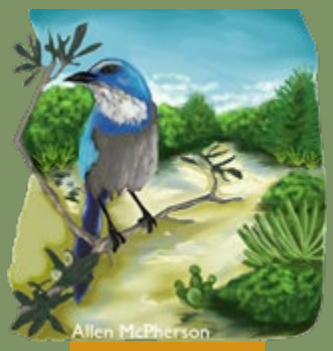
In This Issue:

The Science of Tarflower



A metallic green sweat bee (Halictidae family) visits Tarflower for nectar and pollen. These likely pollinators were the most common Tarflower visitor.

The showy white-pink flowers of Tarflower (*Bejaria racemosa*) decorate the Florida pinewoods, scrub, and dry prairie each summer. Nobody knows the purpose of the sticky tar-like substance coating the buds, outer petals, and young fruit which traps some unlucky insects. **Which flower visitors escape the sticky trap to pollinate the plant?** This question fascinated Lily Fulton upon arriving at Archbold for her Plant Ecology research internship. With a background studying pollinator interactions, Fulton designed a research project to see whether covering the sticky flower bases with sand affected flower visitors by allowing easier access. Fulton shared, "I discovered that



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crawling insects don't cross the sticky flower petals (with or without sand covering) to access nectar. Bees were the most common visitors and rarely got stuck, with the exception of honeybees. **This means bees are the most likely pollinators, especially sweat bees, resin bees, and bumblebees.** Many other insects visit Tarflower, such as butterflies, moths, flies, and wasps. Most spiders didn't get stuck. Many crab spiders just crawled over the sticky petals, which is incredible given that large June beetles and Walking Sticks got trapped. Some moths and wasps visit the young fruit right after the petals fall. According to Dr. Mark Deyrup, insects may take advantage of this brief period when Tarflower fruit is less sticky to get some low-risk leftover nectar." Fulton's research internship at Archbold was made possible by a grant from the Vaughn-Jordan Foundation. She plans to publish a research note on her observations. **Watch her 40-minute research presentation to the Florida Native Plant Society** here. Join Fulton on Archbold Facebook Live September 24th at 3:30 PM for her public intern research presentation or register to watch on Zoom.

Archbold Science in Biographic

Laurent Lollis and Gene Lollis move cattle on Archbold's Buck Island Ranch.

Archbold's research on Buck Island Ranch reaches a broader audience in the recent Biographic story 'Raising Nature on Florida Ranchlands' by Virginia Gewin. **The story explores how Florida is reckoning with the ecosystem services provided by ranchlands and the ongoing pressure on ranchers to sell.** We all understand Florida ranches offer a mosaic of homes for wildlife with cypress domes, pinelands, hammocks, and

"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

Online Events

Sept 10: 3:30 PM

'See No Evil, Hear No Evil: Impact of Habitat Structure on Predation Cue Recognition in the Florida Scrub-Jay'

Johanna Alpert, Archbold Intern

Register here

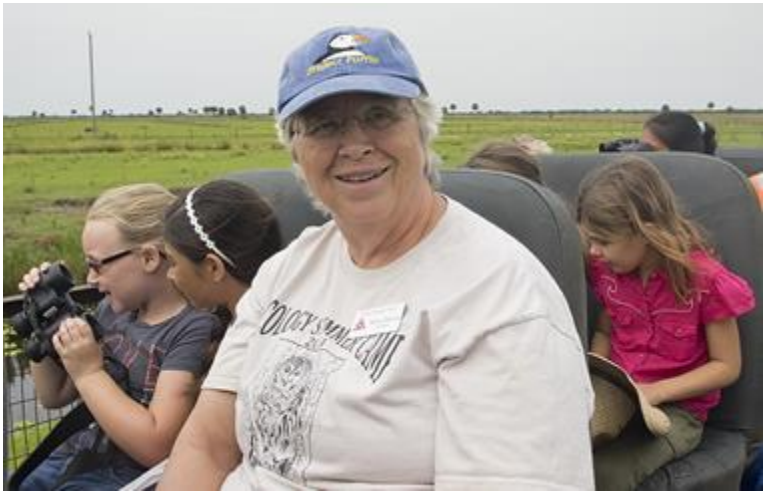
Sept 17: 3:30 PM

'Some Like it Hot: Weather, Climate and Hatching Success in the Florida Scrub-Jay'

Joelle Carbonell-Bierbaum, Archbold Intern

wetlands. Open grasslands maintained by cows and fire support high biodiversity like Florida Burrowing Owls and also store carbon. Conservation easements can provide a win-win solution. But, there is not enough funding to provide easements for the statewide corridor essential for our mutual survival. **The Biographic story proposes a new path forward to preserve ranchlands based on Archbold research that ranchlands protect not only wildlife habitat but water quality.** Archbold's Agroecology Director, Dr. Betsey Boughton, shares, "Ranches are going to be critical players in conservation in Florida, especially of water resources." Dr. Paul Gray from Audubon of Florida says, "We can build reservoirs which will cost billions, or we can pay ranchers to plug the ditches and store water." Archbold began working with the Northern Everglades Payment for Ecosystem Services program many years ago to study how water retention on ranches benefits water quality and wildlife. Gray summarizes the situation well with, "Half of Florida is either in a city or in conservation. The other half is up for grabs. But anything that replaces ranches—be it housing or more intensive agriculture—will be worse for traffic congestion, waterways, and wildlife." Read the full story here featuring beautiful photography by Carlton Ward.

Mission Accomplished



Nancy Deyrup with Archbold Ecology Summer Campers on a buggy tour at Buck Island Ranch. Archbold established a program to support visiting scholars funded in part by a generous gift from the Deyrups.

Nancy Deyrup arrived at Archbold back in 1982 when Dr. Jim Layne was the Station Director. Layne was "all about long-term studies," she remembers. He assured Nancy, who has a Zoology degree, there would be plenty of work for her. Over the years, Nancy has done

Register here

Sept 24: 3:30 PM

'Can You Hear Me Now? The Impacts of Vegetation on Florida Scrub-Jay Response to Alarm Calls'

Talia Kuras, Archbold Intern

'Insect Visitors to Tarflower'

Lily Fulton, Archbold Intern

Register here

Watch all past virtual events here.

Grant-In-Aid of Research

$2,000 award to be given to two visiting scholars for work involving field research at Archbold.

Learn more here.

it all from data collection for Archbold Plant Ecology, Entomology, and Limnology programs to weather collection, education, and photography. Nancy said, "At that time, there was no digital photography, so I spent plenty of time with developing solutions and Richard Archbold's photographic enlarger." Archbold's trove of weather data is thanks to people like Nancy who did the meticulous collection before automation. Then, in 1989, her work took an unexpected turn. The Archbold Board of Directors decided to offer the opportunity to local school children to learn about the remarkable animals, plants, and habitats found in Highlands County. **Nancy pioneered Archbold's Florida scrub education program by creating a slide show and field trip to the Station. She initiated the popular 'Scrub Camp' back in 1992 that continues today.** She shared, "It was so inspiring to introduce local children to the natural history of the Florida scrub they had been traversing their entire lives. Florida scrub hides its mysteries well from casual observers. The education program gave me an unexpected new area of personal fulfillment. And, our own three children had the benefit of Florida scrub immersion. All three went on to careers in biology." Now retired with her husband, Dr. Mark Deyrup, she reflects, "**I have been happy to be part of the Archbold mission of science, conservation, and education**." While many people contribute to part of Archbold's mission, Nancy Deyrup dedicated her life to all three.

Archbold's Nocturnal Visitors

A Florida Black Bear caught on camera in the Florida scrub at Archbold.

Wildlife is abundant at Archbold although many species are rarely seen during the daytime. The signatures left on the sand tell a different story documenting

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everything from Bobcat, Coyote, Gray Fox, White-tailed Deer, Otter, Florida Mice, insects, Florida Black Bear, and the occasional Florida Panther. In November 2019, **Archbold Research Assistant Paul Ruben deployed a motion-triggered trail camera on Archbold's Red Hill. The still images revealed a fascinating portrait of wildlife behaviors to Ruben.** He shared, "Most behaviors were obvious. Predators like Bobcats move covertly in a stalking or curious stature. Deer are secretive, always on the fringe of the trail, and ready to flee for cover. Turkeys travel in groups for protection. The most interesting observation was that some wildlife seemed to follow a routine. What looked like the same Gray Fox would visit the camera multiple days in a row. Bobcats and Gray Foxes shared the same trail, separated only by an hour or so. This was likely related to the behavioral patterns of their prey. Wildlife at Archbold became more active during the summer." On July 19, Ruben's camera revealed the first image capture of a Florida Black Bear. This is exciting considering the local sub-population of bears is small and under threat from roads and increasing urbanization. Ruben shared, "Every time I check the camera, it feels like I'm opening up a present. You never know what you might see. We have a lot more to learn about the elusive wildlife here."

Better Together

A young Florida Scrub-Jay at Archbold.

Like many of you, our lives have changed in recent months. We are so grateful to those taking risks to care for all of us in these turbulent times. Some of you have found yourselves drawn closer to Nature to calm your minds: an urban tree, a suburban garden, a rural backyard. In doing so, you join our mission to know

Check out our Youtube Videos!

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Archbold Facebook Event Calendar

The Scrub Blog
Nature and Science from Florida's Heartland

Explore The Scrub Blog by Archbold creative staff.

more about the natural world by observing what is happening in one unique place. In making natural history observations, you are sharing Archbold's daily creed. In-depth, detailed environmental data collected by keen observation and insightful experimentation is needed more than ever. This helps us understand the factors changing ecosystems and guides decision-making into the future. **Click here for Archbold's complete Mid-Year Report and to learn more about the relevance of our scientific discoveries that happen with the support of friends like you**. You can play a crucial role in understanding and protecting our natural world by making a special mid-year gift to Archbold today. Thank you to those who have already sent a gift—we remain, as always, grateful.

Directions to Archbold Biological Station

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

If you enjoy these stories from Archbold, please consider a gift to support our research and education programs. Donate now. Your gift really makes a difference.

Archbold
123 Main Drive, Venus, FL 33960