



Linda Gette

## ARCHBOLD MARCH 2020 NEWS for curious minds



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### The Unsung Life of a Dung Beetle



Jen Brown

Rainbow Scarab Dung Beetle (*Phaneus vindex*) tunneling his coyote dung.

For the 70 species of dung beetle in Florida, dung is not only food but a baby crib for the next generation. Whether they tunnel, roll, or dwell within their namesake, dung beetles play an essential role recycling nutrient rich dung benefiting underground plant roots and aboveground grazers. These ecosystem services to farmers are valued at \$380 million in the US. **With a notable decline in Florida tumblebug sightings, Dr. Roisin Stanbrook is leading a four-year USDA funded research project at the University of Central Florida.** Stanbrook shared, "We aim to assess the ecosystem functioning of dung beetles in pasture management across central Florida by looking at their role in reducing horn fly abundance and reducing the time dung sits on grass rendering forage unavailable for cows. Our surveys across three central Florida ranches



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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

including Archbold's Buck Island Ranch will assess the size and species assemblages of dung beetle communities. We want to know how these hard-working insects deal with catastrophic weather events such as the flooding which occurred after Hurricane Irma and recent droughts. Our surveys have detected just 21 species so far. We hope more sampling this year will provide insight into why dung beetles are declining throughout central Florida."

## Archbold Eco-Film Festival



Dustin Angell welcomes everybody to Archbold's inaugural Eco-Film Festival.

On February 15, Archbold hosted our inaugural Eco-Film Festival in the Journal Plaza of Lake Placid. **Under the stars, community members gathered to watch six films featuring nature, people, and places from the Lake Wales Ridge and surrounding Florida ecosystems.** Dustin Angell, Archbold Education Director, was the evening's engaging host providing a brief introduction to Archbold and answering questions. Three of the films were produced by Archbold including '[Cowboys & Scientists](#)' by Grizzly Creek Films featuring our Buck Island Ranch. '[Jumping Into Science](#)' featured a joyful child perspective learning about science and nature at a special Archbold Ecology Summer Camp. Lake Placid's beautiful local history murals framed the movie screen. This was poignant for '[Queen of Red Hill](#)' which features the murals of Richard Archbold, Dr. Jim Layne, and prescribed fire. This moving story of a female Gopher Tortoise over 60 years old is inseparable from the human history and scientific discovery on Red Hill. Dr. Betsie Rothermel, Archbold Herpetology Director, and Jennifer Brown, Into Nature Films, answered questions following this film. Thank you to everyone who participated in this special evening including Paul Ruben (Archbold Research Assistant) and Megan Selva (Archbold's Jill Abrahamson Memorial Environmental Education Intern) who organized the event.

### Public Events

**Mar 13:** 2:30–4 PM

'Ecology of Semi-Aquatic Snake Communities'

Seminar

Andrew Durso, Florida Gulf Coast University

**Mar 14:** 8–10 AM

'Restoration of Sandhill and scrub at Archbold'

Walking Tour

Eric Menges & Kevin Main, Archbold

**Mar 18:** 4–5 PM

'Hicoria: Brief History of a Florida Ghost Town'

Joe Gentili, Archbold

## Working for Nature on the Ridge



Bill Parken on the Archbold water tower with Archbold buildings and Lake Wales Ridge behind him.

10 years ago, Bill Parken left his desk job in business to work for nature on the Lake Wales Ridge. Parken's new role was coordinating the Florida Fish & Wildlife Conservation Commission (FWC) [Ridge Rangers program](#) which organizes volunteers to restore habitats on the Ridge. Parken got busy learning new skills like removing thousands of Sand Pines with a chainsaw, growing oak seedlings for restoration, prescribed burning, and GPS mapping. Parken shared, "Right away at FWC, I was collaborating with Archbold staff. Over the years, Ridge Rangers did many workdays at Archbold. I always appreciated Dr. Hilary Swain's unfailing mentorship for my work with Ridge Rangers advising how I could improve citizen engagement." When Parken retired from the FWC, he could not retire from the Ridge. He reflected, "**Working in conservation has completely reversed my thinking. Before when I saw a natural area, I wondered what it could offer me. Now when I see that area, I think about how I --- and we - can help it.**" In 2019, Parken, an accomplished photographer, signed up as an Archbold Volunteer. His work at Archbold, he shared, is mainly "using a web-based tool called StoryMaps that combines conservation photography with maps to help people understand complex conservation needs of our region."

**April 4:** 8–10 AM

'Natural History of the Florida Scrub-Jay'

Walking Tour

Reed Bowman, Archbold

**April 8:** 3:30–5 PM

'Landscapes and Seascapes of Behavioral Ecology'

Seminar

Erika Milam, Princeton University

**April 11:** 9–11 AM

Family Nature Day

Family Activities & Walking Tour

Archbold Education

**April 23:** 3:30–5 PM

'Four Decades of Research on the Florida Panther: From the Edge of Extinction to Population Expansion'

Seminar

Darrell Land, Dave Onorato, Brian Kelly, FWC Panther Researchers

## Eavesdroppers & Mosquito Ecology



Oberlin College researchers at Archbold from left to right: Keith Tarvin, Eli Haines-Eitzen, Madeleine Gefke, Mary Garvin, Natasha Radic, Abby Parker, Katherine Karson.

Oberlin College Biology Professors Dr. Mary Garvin and Dr. Keith Tarvin brought their students to Archbold in January to conduct novel experiments in disease ecology and bird behavior. Garvin discovered back in the 1990s during her graduate work at Archbold that Florida Scrub-Jays and Blue Jays serve as vectors for the mosquito-born virus Eastern Equine Encephalitis (EEE). Garvin suspects the reason Blue Jays are more often infected than Florida Scrub-Jays with EEE relates to their different preen gland secretions. **After collecting thousands of *Culex nigripalpus* mosquitoes, they tested their hypothesis that female mosquitoes cue in on different chemicals in the preen gland secretions of these two closely-related jay species.** Meanwhile, **Dr. Tarvin and his students explored Northern Mockingbirds eavesdropping cues produced by Florida Scrub-Jays.** The scrub-jay family group includes a sentinel who perches high above to watch for predators and alert the group to trouble. Tarvin manipulated the presence/absence of an artificial scrub-jay model sentinel in addition to audio playback of jay alarm calls to see how the mockingbirds responded. Many studies show animals eavesdrop on alarm calls from other species. However, the Oberlin study may reveal that cues of safety are just as important as the cues of danger.

April 25: 5-7 PM

Scrub Tales

Archbold Staff



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## Lily Joins Plant Ecology Program



Lily Fulton in the Florida scrub with Dr. Eric Menges.

**Thanks to the generous support of the Vaughn-Jordan Foundation, the [Plant Ecology Program](#) welcomes Lily Fulton to the Archbold Internship program.** The [Vaughn-Jordan Foundation](#) has supported nine post-baccalaureate internships in the Plant Ecology Program since 2013 as part of their mission to further plant sciences. Lily will work side-by-side with Dr. Eric Menges, Archbold Plant Ecology Program Director, and his research team collecting data on the many rare and endangered plants of the Florida scrub. In addition, she will design her own independent research project and present her results at this year's annual Florida Native Plant Society meeting in Jacksonville, Florida. Lily recently received a Bachelor of Arts in Environmental Science from the University of Minnesota where she worked with plants and pollinators of the northern prairies. We are excited to see how Lily grows over the next few months through this internship thanks to the generosity of the Vaughn-Jordan Foundation.

[Archbold Facebook Event Calendar](#)

### 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.



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