



## ARCHBOLD FEBRUARY 2016 NEWSLETTER

for curious minds

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### Tadpoles After the Burn



A superbly camouflaged Oak Toad adult spotted in recently burned Florida scrub.

In the Florida scrub, plant and animal life histories are often hitched to fire. But, what about amphibians who depend on both terrestrial and aquatic habitats? A recent [study published](#) by previous Archbold Herpetology intern Clay Noss (now a Ph.D. student at



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Station Website](#)

University of California-Berkeley) and his Archbold mentor, Dr. Betsie Rothermel, investigated how time-since-fire of seasonal ponds embedded within Florida scrub habitat affected Oak Toad *Anaxyrus quercicus* tadpoles. After a fire, the remaining ash alters water chemistry and ponds are likely enriched with nutrients released by burning of organic matter. This might partly explain why Noss and Rothermel found **Oak Toad tadpoles survived better and tended to develop faster in ponds that were recently burned**. Because survival of tadpoles to metamorphosis is important for maintaining amphibian populations, their results support the idea that frequent fire is needed to sustain natural assemblages of amphibians in fire-adapted communities in the southeastern United States.

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## 75 Years By the Numbers



"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



Check out our Youtube Videos!



In February 1941, [Richard Archbold](#) arrived at John D. Roebling's Red Hill Estate where later that year he established Archbold Biological Station. In the ensuing 75 years, we have realized many extraordinary achievements in scientific research, conservation and education. Check out some of the statistics on our 'By The Numbers' leaflet. As we **celebrate our 75th Anniversary in 2016**, look out for more history and milestones in newsletter and Facebook posts throughout the year!

## Scrub Bug Tour



Mark Deyrup, Archbold [Entomology Program](#) Director, conveys his infectious enthusiasm for the many [bugs that inhabit the Florida scrub](#).

Dr. Mark Deyrup bedazzled about 40 people of all ages on January 24th with his [Scrub Bug Tour](#). **Deyrup has spent more than thirty years sharing his skills as a scientific naturalist and storyteller in the Florida scrub.** Tom Eisner, the famous Cornell entomologist, once **described Mark as the "Hubble Telescope of the Scrub"**. Deyrup's inquisitive telescope allows us to focus on the whole system, from larger plants to the smallest animals, for a deep, penetrating perspective of the Florida scrub. Deyrup said, **'Florida scrub habitat teems with tiny wildlife, thousands of species of insects and spiders.** The adaptations of these critters to their difficult habitat could lead to amazing and potentially useful discoveries by generations of future

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## Upcoming Public Events

**Feb 6:** 9:00am-11:00am

'Fire in the Florida  
Ecosystem'

Lecture & Demonstration

Kevin Main, Archbold

**Feb 28:** 1:30pm-3:00pm

'Amphibians and  
Seasonal Ponds Nature  
Walk'

Walking Tour

Dr. Betsie Rothermel,  
Archbold

**Mar 19:** 8:00am-  
10:00am

'Natural History of the  
Florida Scrub-Jay'

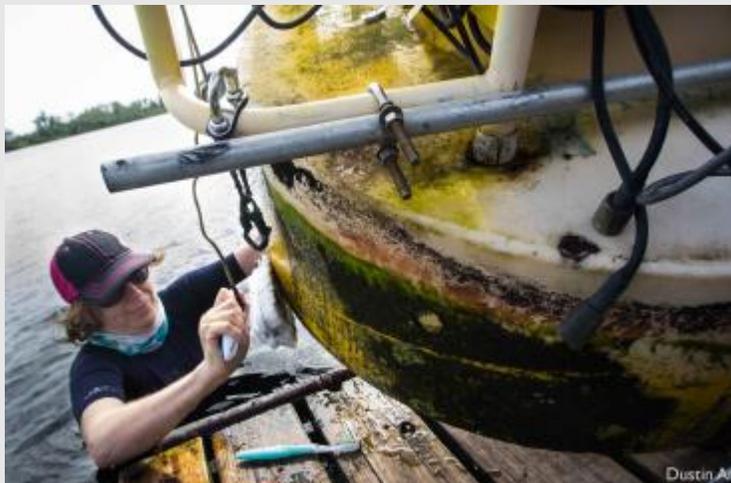
scientists. Many of these discoveries might occur at the Archbold Biological Station, where Florida scrub habitat is not only studied, but also loved and respected.'

Walking Tour

Dr. Reed  
Bowman, Archbold

[Archbold Facebook  
Event Calendar](#)

## Buoy Annual Exam



Evelyn Gaiser working hard on annual buoy maintenance. Since 2008, more than 36 research projects synthesizing lake data from around the world have requested data from Lake Annie for their science.

The [Lake Annie](#) buoy, first launched in February 2008, was towed in from the middle of the lake to the dock from Jan 5th-7th for maintenance. Hilary Swain, Evelyn Gaiser (Florida International University) and our new Lake Annie colleague Emily Nodine (Rollins College) were on hand for maintenance while Earl Keel did the technical hard work of the sensor overhaul. Bert Crawford expertly navigated the buoy. We have never seen three researchers looking so happy to be cleaning! Swain said, '**There is so much instrumentation to maintain when your buoy is deployed year-round in the heat, UV, winds, and waves of the subtropics.**' The buoy is just bristling with sensors including a 19-node temperature string, a sonde



Did you listen to '[Gopher Frog Calling with Record Rainfall](#)' on our [Facebook page](#)? It features a Gopher Frog audio recording by Scott Rothermel with photograph by Dr. Betsie Rothermel. January 2016 was the wettest January since record-keeping began in 1932. Average rainfall for January is 2 inches. We reached 9.63 inches! And, the amphibians at Archbold responded.

measuring DO, temp, pH and conductivity, sensors for PAR light above and below water, as well as wind, air temperature, and humidity. Our 24/7 data collection more than makes up for the maintenance challenges.'

## Visionary Plant Partners



Dr. Eric Menges and Dr. Pedro F. Quintana-Ascencio set against the background of their study ecosystem, the Florida scrub.

The [Archbold Plant Ecology Program](#), led by Dr. Eric Menges, continues to team up with Dr. Pedro F. Quintana-Ascencio, Archbold Research Associate and University of Central Florida Professor, for work on a **collaborative National Science Foundation grant**. This **exciting research takes advantage of their [long-term data on Florida scrub plants](#) while initiating new field experiments (e.g., manipulating microhabitats) and computer modeling to better understand (and predict) plant responses to fire and climate**. Connecting the dots to better understand threatened, endangered, imperiled Florida scrub endemics is critical for conservation. Already, the team has improved computer models by using relative elevational differences between high rosemary scrub patches and the nearest wetlands. The grant will also support summer high school research assistants, post-baccalaureate interns, and outreach to land managers. Menges and Quintana-Ascencio have enjoyed collaborating on a variety of projects since they met in Guadalajara over enchiladas mole 23 years ago!

## 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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123 Main Drive, Venus, FL 33960