

ARCHBOLD MARCH 2022 NEWS for curious minds



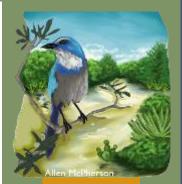
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### **New Gall Wasps**



Gall on oak from gall wasp *Amphibolips nubilipennis*. Photo by Warren Abrahamson.

Tiny wasps in the tribe Cynipini lay their eggs inside the tissues of plants like oaks. Egg-laying triggers the host plant to create a gall structure around the developing wasp larvae, providing nourishment and protection. There are over 1,000 known species of cynipid oak gall



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wasps globally. A new publication in Zootaxa by Dr. George Melika (Plant Health Diagnostic National Reference Laboratory, Budapest, Hungary) and coauthors including Dr. Warren Abrahamson (Bucknell University, Archbold Research Associate) adds 29 new species of cynipid oak gall wasps, with many from Archbold and Florida. Collected by Dr. Melika, Dr. Abrahamson, and Chris Abrahamson almost three decades ago, these newly-described species include the following: 1) Andricus archboldi and Dryocosmus archboldi are named in honor of Richard Archbold; 2) Andricus fitzpatricki is named in honor of Dr. John Fitzpatrick (Cornell University, Archbold board member, and former Archbold Executive Director), and; 3) Zapatella abrahamsoni is named in honor of Dr. Warren Abrahamson's significant contribution to studies of oak gall wasps. The researchers combined DNA data with morphology to confirm the 29 oak gall wasps were new species. Archbold houses over 80 species of gall wasp specimens in our Collection. The next time you explore the Florida scrub in Highlands County, look for the rounded, pale yellow-green galls of *A. archboldi* on the midrib of a dark green Scrub Oak (Quercus inopina). Galls for Z. abrahamsoni also occur on Scrub Oaks as small, rounded woody extensions of lateral branch buds and colored like iridescent rainbows.

## **Conservation Through Art & Science**



Screenshot from the Live from the Field event. Watch here.

The Organization of Biological Field Stations <u>The Virtual</u> <u>Field</u> initiative, led by Dr. Claudia Luke, Dr. Sarah Oktay,

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#### Archbold Press

"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

#### **Nature Wonder Alive**

Join Dustin Angell, Archbold Director of Education, for livestreamed outdoor nature tours on the second Tuesday of every month from 9:30 AM- 10:15 AM (Eastern Time) from November through April.

Register here

Dr. Kari O'Connell, and Archbold's Dr. Hilary Swain, organized a Live from the Field event Conservation Through Art & Science on February 14. The virtual event showcases three collaborations between artists and field stations supporting conservation including Archbold, the Center for Coastal Studies in Cape Cod, and Santa Rosa Island Research Station in the Channel Islands of California. The event began with moderator Dustin Angell, Archbold Education Director, who said, "Through the eyes of visiting artists, both the researchers and the public can see science and conservation in new ways." Each team presented a short video beginning at Cape Cod with Dr. Laura Ludwig, Marine Debris & Plastics Program Director, and Sarah Thorington, Marine Debris Artist. Ludwig collects marine debris as data onshore and at sea (e.g., fishing gear) to inform policy changes. Thorington's art exhibits made out of marine debris like 'A Year of Plastic' increase public dialogue about plastic debris on Massachusetts beaches. Dr. Russ Bradley, Director of Santa Rosa Island Research Station, and Matt Furmanski, Art Professor at California State University-Channel Islands, are studying the impact of marine debris on the islands. Art students repurpose found items into sculptures, collages, and even stage designs for an elementary school production of Sponge Bob. Closer to home, Archbold began collaborating with Deborah Mitchell in 2015, who creates visual art of the Everglades through outdoor exhibits like Wild Observations. Dr. Hilary Swain, Archbold Executive Director, shared, "Visiting scientists and artists are similar in their needs for information, location (i.e., where to go), context, and societal relevance. The one big difference is that artists know how to market and communicate to big audiences while scientists are very good at communicating to other scientists." When people experience art, whether a beautiful puffin made from a recycled tire or a mixed media of the Florida Wildlife Corridor, they are part of the conversation in becoming better stewards for our planet. Watch the full event here.

## Half a Century & Counting



Dr. Warren Abrahamson and Chris Abrahamson in the Florida scrub. Photo by Dustin Angell.

In February 1972, Warren 'Abe' Abrahamson and his wife Chris came to Archbold for his Ph.D. research at Harvard University on the biology of Southern Dewberry (Rubus trivialis), which grows nearby. He said, "Mr. Archbold (1907-1976) and the Station were welcoming to scientists including graduate students, like myself, who had limited budgets. We fell in love with the Florida scrub and subsequently returned every year including three year-long sabbaticals." Conversations with Dr. Jim Layne, Archbold's first Research Director, changed the trajectory of Abe's future research. Layne impressed upon Abe how the Florida scrub vegetation ecology was little known. Abe said, "Jim and I planned and oversaw the first prescribed burns at Archbold in 1977 and 1980 which reversed the fire suppression policy in effect since the 1920s." Appointed an Archbold Research Associate in 1976, Abe continues to study fire effects in the scrub today and publish extensively. See his long-term vegetation monitoring study published in 2020 here. He is well known for his pioneering work on

#### **Online Events**

March 31: 3:30 PM-4:30 PM

'Effects of soil moisture & sunlight on plantplant interactions in semi-native, subtropical rangelands'

Flynn Hibbs, Archbold Agro-Ecology Intern

'Assessing the longterm recovery of plant communities and soil after ecosystem modification'

Maya Zambrano-Lee, Archbold Agro-Ecology Intern

Register here

Watch all past virtual events <u>here</u>.

the biology of palmettos and the revelation of the remarkable longevity of clonal Saw Palmettos with ages of 5,000 to 8,000 years. In 1990, he began exploring the biodiversity of cynipid wasps associated with oaks. From the 1970s to 1990s, Abe brought his Bucknell University students to Archbold every January providing an immersive subtropical field experience while supporting data collection for his long-term research projects. He said, "Archbold Biological Station facilitated my growth as a scientist, educator, naturalist, and person. The Station is like a second home for me and Chris. My field sites are like a well-known backyard to me. These sites nurture my well-being as they allow me to learn about their workings. Our late daughter, Jill, grew up here in many ways. We honor her memory with Archbold's Jill Abrahamson Memorial Environmental Education Internship. Our Archbold family has been very important to us throughout these 50 years. Chris and I are deeply thankful for the opportunity to work here for all this time."



Map of the Florida Wildlife Corridor by Angela Meeks, Archbold Cartographer.

The Florida Wildlife Corridor is a patchwork of high-priority private and public lands for conserving habitat connectivity in the face of rapid ongoing development. The nearly 18 million-acre Corridor includes about 10 million acres already protected with 8 million acres of yet-to-be-

protected opportunity areas. As the lead science organization in the statewide campaign to protect the Corridor, Archbold is hosting three online **Corridor Science Exchanges.** With partners from the Center for Landscape Conservation Planning at the University of Florida, Florida Natural Areas Inventory, and the Florida Wildlife Corridor Foundation, each Exchange focuses on one of three topics: 1) Prioritizing which lands are most urgent to protect; 2) Quantifying water resource benefits of Corridor conservation, and; 3) How can land conservation affect the resilience of Floridians to climate change and economic shifts. The first Exchange, on prioritization, took place on January 13th with over 50 participants from government, non-profit, private, and academic organizations, including world leaders and frontline Corridor conservation practitioners. Dr. Josh Daskin, Archbold Director of Conservation, is leading the development of the Exchanges and steering science input to the Corridor campaign. Daskin says, "These three Exchanges are convening top experts from Florida and beyond to jointly address answers to big questions for how to accelerate Corridor conservation. We identify information needed to develop new, effective, and efficient land conservation strategies. One key role for science in the Corridor campaign is to provide information allowing those implementing land conservation to confidently spend resources in the places that matter, given an organization's values. The Exchange on prioritization discussed how to use data to enable a balance of attention on expensive but urgent parcels with high biodiversity value versus lower cost parcels less immediately at risk."

## Jill Abrahamson Memorial Internship



Chris Abrahamson, Dustin Angell, Kate Caldwell, and Dr. Warren Abrahamson at the Frances Archbold Hufty Learning Center. Photo by Ella Segal.

Thank you to Warren 'Abe' and Chris Abrahamson for your continued support of Archbold's **Education Program.** Their generosity made possible the Jill Abrahamson Memorial Environmental Education Internship for a fourth year. The internship is named in honor of their daughter, Jill Raye Abrahamson (1973-2017), who first visited Archbold Biological Station and the Florida scrub in 1974 at six **months of age.** The nine-month internship provides the opportunity for early-career environmental educators to gain experience promoting science and conservation through designing and leading elementary school field trips, working outreach booths at community events, and participating in environmental education conferences. Katie Caldwell is currently the fourth Jill Abrahamson Memorial Environmental Education Intern at Archbold. She had the opportunity to meet with Abe and Chris last month while they were continuing Abe's long-term study on palmettos. Caldwell said, "I am so grateful for Abe and Chris's generosity and support. I've learned how to make complex science digestible for various audiences. From making educational videos to leading school field trips, my internship offered many opportunities to share my passion for Florida's unique ecosystems." In addition to

# The Scrub Blog

Nature and Science from Florida's

Heartland

Explore <u>The Scrub</u> <u>Blog</u> by Archbold creative staff.

> <u>Archbold Facebook</u> <u>Event Calendar</u>



#### Directions to Archbold Biological Station

Eight miles south of Lake Placid. Entrance is 1.8 miles south of SR 70 on Old SR 8. supporting the internship program, Abe and Chris also supported the printing of the fourth edition of Archbold's <u>Florida Scrub Coloring Book</u>. We are deeply grateful to Abe and Chris for investing in Archbold and the environmental educators of the future.

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

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