

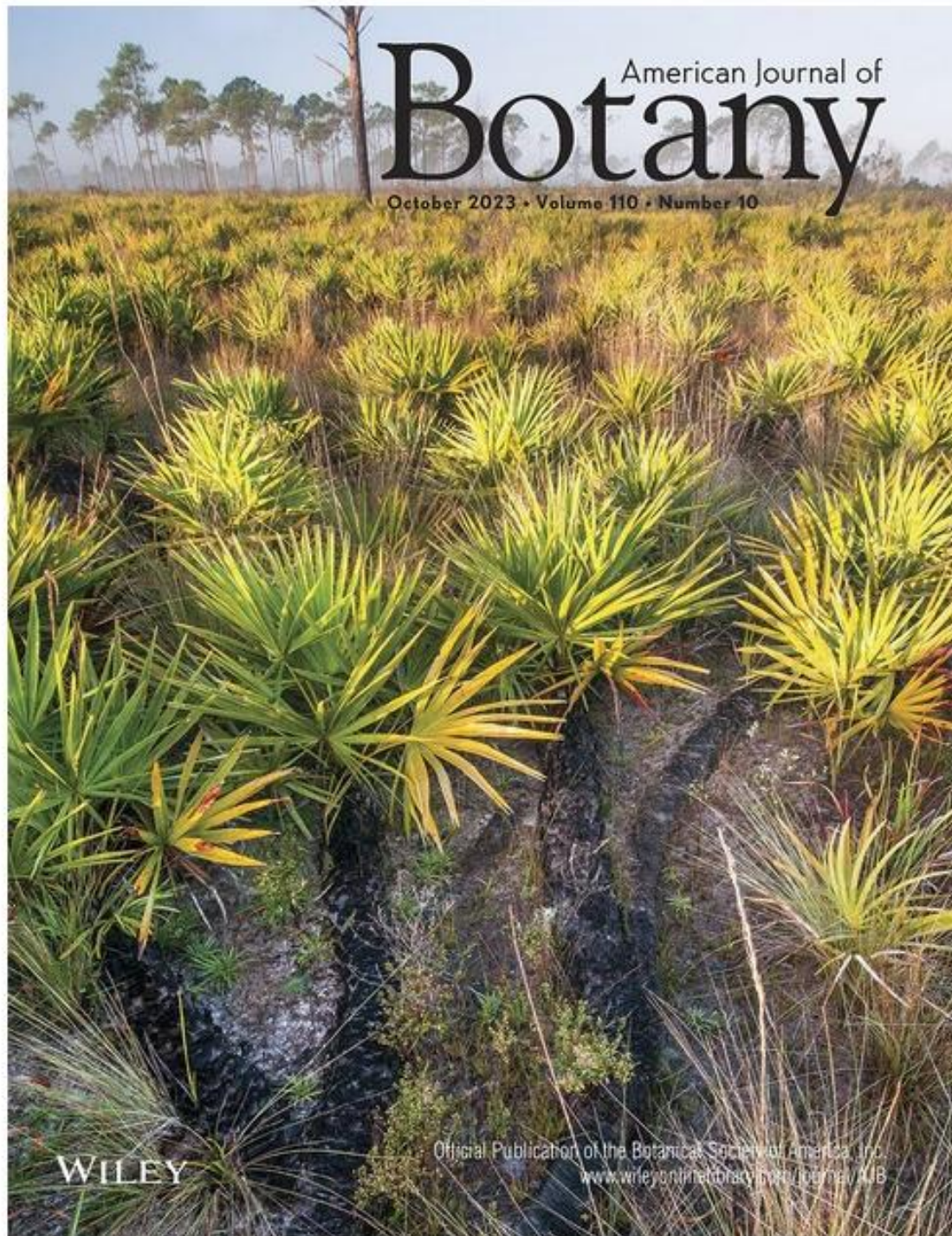
ARCHBOLD OCTOBER 2023 NEWS

for curious minds



Archbold
BIOLOGICAL STATION

Virtually Immortal Palmettos



Incredible photo of clonal Saw Palmettos at Archbold by Dr. Reed Bowman is the cover image for the October 2023 *American Journal of Botany*. Authors Abrahamson et al. dedicated their article to [Dr. Bowman](#).

A walk through the Florida scrub from the low-elevation pine flatwoods up the high-elevation sandhill brings you through prime palmetto country. Saw Palmettos (*Serenoa repens*) and Scrub Palmetto (*Sabal etonia*) live long lives in nutrient-deficient sandy soil while enduring a range of environmental conditions. The clonal Saw Palmetto may live more than 5,000 years. **A new study by Dr. Warren Abrahamson and coauthors Christy Abrahamson, Dr. Aaron David, Dr. Eric Menges, Stephanie Koontz, and Elan Tran evaluated their 42-year data set monitoring palmettos at Archbold to ask what kills these virtually immortal palmettos.** They discovered just 36 out of 840 palmettos (5.7% Saw Palmetto, 3.5% Scrub Palmetto) perished at 10 sites throughout the scrub. The most significant mortality came from an escaped prescribed fire in May 2013 that burned with extreme intensity and severity through a long-unburned Sand Pine scrub. Ironically, the lack of regular fire created a dense fuel buildup for bonfire conditions. Many aluminum posts used to mark the plants melted. Still, most adult palmettos survived the inferno. The younger, smaller Saw Palmettos were most vulnerable due to their surface alligator-back stems. In contrast, Scrub Palmetto stems are more protected deeper in the soil. The authors write, **"The mortality of palmettos in long-unburned sites suggests the importance of prescription burning via fire-management planning."** They found no evidence of disease pathogens, groundwater flooding, or severe drought impacting palmetto survival. "Once palmetto seedlings transition to adults, their remarkable survival makes them virtually immortal shrubs— that is, if their environment remains suitable." Warren 'Abe' Abrahamson and his wife, Christy, began their extraordinary palmetto monitoring project in 1981. Last year, they transferred their project to Archbold's Plant Ecology program to continue palmetto sampling every five years.

Prestigious Award



Dr. Sahas Barve holding a Rough Green Snake at Archbold. Photo by Sarah Beres.

Dr. Sahas Barve, John W. Fitzpatrick Program Director of Avian Ecology, is one of five biologists worldwide to win the [2023 Maxwell/Hanrahan Award in Field Biology](#). **The \$100,000 award recognizes early career researchers who bring diverse perspectives to science and show exceptional talent and curiosity in field-based research.** Sahas began working at Archbold in January 2023 following 16 years of varied field experiences. He tracked King Cobras through south India, high elevation birds in the Himalayas, and Acorn Woodpeckers in California's oak savanna. Sahas now leads our 54-year-long field study of the Federally Threatened Florida Scrub-Jay. He says, "**This award will be transformative for our research at Archbold.** Scrub-Jays live in a rapidly changing world. Their scrubby habitat is disappearing as a result of land use change and development. The secret to conserving them is observing and studying them in the field." The award will help our Avian Ecology Program employ cutting-edge science to radiotrack Scrub-Jays as they navigate their physical habitat and social landscapes. This thorough data-driven approach is critical to unlocking the secrets of their behavior and protecting them with sound conservation. The award will also help Sahas continue a commitment to increasing the diversity of people doing field biology. As an immigrant and person of color, Sahas sees several hurdles for minorities interested in field biology. Through this award, he hopes to continue offering enriching field experiences to a diversity of young scientists at Archbold. He says, "**Field biology and the great outdoors are for everyone.**"

At Home in Ponds & Sandhills



Dr. Betsie Rothermel scoping a Gopher Tortoise burrow. Photo by Bill Parken.

Dr. Betsie Rothermel arrived at Archbold in 2008 to lead a new program in Restoration Ecology and Herpetology. She jumped at the opportunity to work at a field station in a globally significant biodiversity hotspot. With past experiences at field stations and a decade under her belt studying amphibian ecology, she got to work on our USDA-funded wetland restoration projects on the Archbold Reserve. Rothermel also initiated Gopher Tortoise monitoring at Avon Park Air Force Range and restarted the mark-recapture study of Gopher Tortoises on Red Hill. She says, "Managing the Red Hill tortoise study is especially meaningful because it is valuable long-term research on a threatened species that will continue well beyond my career." Given the challenges of studying wildlife within the dynamic Florida scrub, she reflects, "Leading multi-faceted field research requires going up a lot of learning curves and having an 'improvise, adapt, and overcome' mindset." **What keeps Rothermel inspired are her exciting experiences in nature and rewarding interactions with collaborators and Archbold staff, including mentoring over 25 interns.** Thanks to her passion and oversight, Archbold's wetlands on the Reserve are much improved. And, we understand much more about the seasonal ponds of the Florida scrub, Gopher Tortoise ecology, and non-native species, like African Jewelfish. Fifteen years ago, Dr. Betsie Rothermel sought a professional home to conduct conservation biology-oriented research. She found that home here on the southern Lake Wales Ridge. We are grateful she chose Archbold.

Yale's Illuminating Visit



Yale University students examining their field samples. Photo by Ray Simpson.

Dr. Marta Wells brought her Yale University 'Biology of Terrestrial Arthropods' class to Archbold in October with fellow Yale Entomologist Ray Simpson. Simpson says, **"Our goal was field sampling for an insect collection in an area with more diversity than Connecticut in October!"** Wells and Simpson first brought their class to Archbold in 2013. And they discover new surprises every year. Simpson says, "The night lights illuminated several new moth species for us, including *Nystalea eutalanta*, *Megalopyge lacyi*, *Citheronia sepulchralis*, and *Feltia floridensis*. The latter exists only in central Florida and has never been photographed alive." The students learned about the diversity, classification, and identification of arthropods. Arthropods represent the biggest phylum in the animal kingdom, including crabs, spiders, insects, and millipedes. "Archbold offers a variety of habitats and the opportunity to collect both day and night", says Simpson. "As a Lepidopterist who studies moths, Archbold is a fascinating site at the confluence of three ecoregions: Southeastern Coastal Plain; Tropics; and Lake Wales Ridge Endemics. There is also the convenience of staying on-site." **Check out Simpson's [iNaturalist project](#) from all eight class trips since 2013** featuring species from Archbold to the Fakahatchee Strand Preserve State Park, Kissimmee Prairie Preserve State Park, Bull Creek Wildlife Management Area, Myakka River State Park, and Highlands Hammock State Park.

Doubling Down on Wild Florida



Cabbage Palm island at Buck Island Ranch. Photo by Carlton Ward.

You can help twice as much today in protecting Florida's most vulnerable species and ecosystems. Located in the Headwaters of the Everglades, Archbold is a place where Gopher Tortoises, Florida Black Bears, and Florida Scrub-Jays thrive amid endangered plants and seasonal wetlands. However, with an average of 1,142 new residents arriving in Florida daily, key features of Florida's landscape like iconic Cabbage Palms and ancient pine trees are uprooted every day to make way for subdivisions and shopping centers. As these developments encroach further into Florida's natural lands, Archbold needs your help to continue fighting for these one-of-a-kind ecosystems. That's why **a generous donor agreed to match every donation received between now and December 31, up to \$250,000.** That means your gift will be DOUBLED, dollar-for-dollar. Your support will go twice as far to help Archbold scientists achieve real conservation impacts for Florida's most imperiled species and ecosystems.