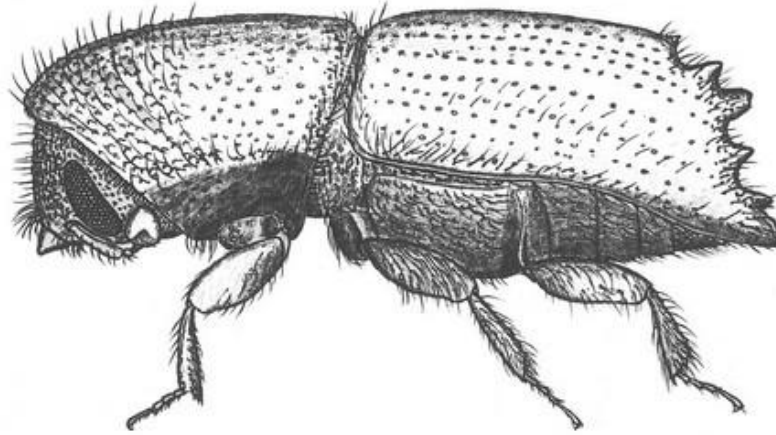


Dead Wood is Alive



Ips grandicollis is a polygamous bark beetle that lives in dead and dying pine trees at the Station. Illustration by Dr. Mark Deyrup.

Dead wood in a forest or woodland is home to a dynamic community of specialized creatures. Maybe you've seen beetle-engraved branches with woodpeckers drilling for food. Small bees and wasps pop in and out of beetle holes in dead trees. Winged termites and ants emerge from fallen logs. **Few people realize how much biological diversity depends on dead wood.** Most of these creatures are small, often only a few millimeters long, and spend most of their lives hidden in dead wood. Dr. Mark Deyrup, Archbold Emeritus Research Biologist, says, "Once these critters are captured, perhaps by rearing them from dead branches, they are often difficult to identify, either because they belong to large groups of similar species, or because they belong to groups of insects that have not been thoroughly studied by entomologists. Considering the many obstacles, there appears to be no published comprehensive studies of the dead wood insect community of any site in North America." **Decades of work at Archbold by Dr. Deyrup and fellow entomologists reveal for the first time the complexity of local dead wood insect fauna, including 191 species of ants, bees and wasps (Hymenoptera) and an amazing 453 species of beetles (Coleoptera).** Deyrup says, "Dead wood encompasses an intricate system of decomposition and recycling that we should refrain from messing up. The next time you go for a walk in the woods, remember, the dead branches and logs are not actually dead, but amazing generators of biological diversity."

Who Goes There



Fin Ouweleen testing a camera trap.

Camera traps across Archbold's Florida scrub, Buck Island Ranch, and the DeLuca Preserve reveal the comings and goings of mammals, birds, and reptiles. Known collectively as the Corridor Observatory, this camera array was expanded recently thanks to Fin Ouweleen, Archbold Predator-Prey Intern. Ouweleen was curious about what animals crisscrossed the suburbs of Highlands County. In the 1970s, roads, ditches, and houses remade the Florida scrub into a mosaic of mostly long-unburned patches of scrubby flatwoods, homes, and an extensive road network surrounded by protected lands targeted for conservation. Ouweleen and Archbold's Predator-Prey program, led by Joe Guthrie, deployed nine cameras in a grid. Who goes there? **The suburban cameras captured animals similar to those found in Archbold's Florida scrub, but in different proportions with fewer birds and lower species diversity.** Based on preliminary data, the most common mammals at a Highlands County suburb are White-tailed Deer, Eastern Cottontail Rabbit, and Nine-banded Armadillo. A handful of Florida Black Bears from the vulnerable Highlands-Glades subpopulation appeared, including a mom with two cubs. Ouweleen recorded an increase in night-time wildlife activity in the suburbs, probably due to the higher levels of human activity during the day. **This new camera trap deployment, supported by [Live Wildly](#), is invaluable to better understand the Florida Wildlife Corridor in suburban areas and will continue to collect data.** Thank you to the Boca Grande Community, which supported Ouweleen's internship. Ouweleen was recently appointed an Archbold Research Assistant to continue the Corridor Observatory work.

Into the Wolf Spider Burrow



Dr. Jim Carrel and his wife, Jan Weaver, looking at Burrowing Wolf Spiders in the Florida scrub. Photo by Jennifer Brown.

Dr. Jim Carrel first came to Archbold in 1967 as an entomology graduate student at Cornell University with his advisor, the legendary Dr. Tom Eisner. Carrel says, "The only other people were Mr. Archbold and about eight employees." The spiders at Archbold did not disappoint Carrel, who became fascinated with the curious creatures at age 24. "I saw few spiders during the day in the Florida scrub. But at night, my headlamp revealed the sparkling eyes of wolf spiders hunting in the open sandy roads." Inspired by Archbold's long-term study on Florida Scrub-Jays initiated in 1969, Carrel initiated a long-term study of spiders endemic to the scrub in 1987. After struggling to locate the secretive burrows of wolf spiders (*Hogna* sp), Dr. Jim Layne encouraged Carrel to study two Burrowing Wolf Spiders (*Geolycosa xera archboldi* and *G. hubbelli*), who make a distinct turret (i.e., small tower) around their burrow opening. Carrel could detect and map every burrow for both *Geolycosa* species in his study area. Hidden inside each burrow was the stealthy ambush predator. He says, **"After years of fieldwork in the Florida scrub, both day and night, I realized that much of the biological action is going on underground, hidden from view, and I fell in love with it."** The Station is a more bustling place today than when Carrel first arrived. The spirit of community among scientists and staff is what he cherishes the most. "We are all working toward a common goal of gaining a better scientific understanding of the Florida scrub for its conservation statewide." Learn more about his incredible Burrowing Wolf Spider study from 1987-2020 in our short video [The Return of the Burrowing Spiders](#).

Ranch Stewardship Field Day



Dr. Betsey Boughton shares research insights from Buck Island Ranch on the swamp buggy tour. Photo by Haoyu Li.

Archbold's Buck Island Ranch and our partner, Alltech, hosted over 30 people for Environmental Stewardship Field Day on November 16. We wanted to share our Agroecology research, promote ranch stewardship practices, and receive feedback from the community. The day began at the Archbold Learning Center with information booths and presentations from Archbold and University of Florida researchers. Presenters shared research on managing non-native grasses through grazing, mapping soil legacy phosphorous for remediation, and understanding the carbon footprint of a ranch. Karen Rice-David, Archbold Agroecology Research Assistant, says, "The event connected me with other researchers and agencies who are also studying the use of cover crops. I enjoyed talking to our local producers about their questions and concerns, which will help guide our future research at Buck Island Ranch." Participants then drove to the Ranch for a steak lunch, courtesy of Buckhead Meat, and a swamp buggy tour through semi-native and improved pastures. The group explored a pasture planted with cover crops, including rye, clover, turnips, and daikon radish. Participant Cecelia Dumois shared, "As a lifelong Floridian, it's very encouraging to see so many scientists working to help find solutions to Florida's ongoing ecological crises. In spite of the rain, the highlight of the day was the tour of Buck Island Ranch. I will continue to support the work of Archbold." Dr. Betsey Boughton, Archbold Agroecology Director, says, "**It was a privilege to share our science and be surrounded by people committed to sustaining working grasslands for our future generations.**"

Ten Stories of Hope



Florida Grasshopper Sparrow male singing. Photo by Elizabeth Abraham.

Archbold's Conservation of Military Landscapes Program is featured in a new report, [Ten Stories of Hope: The Endangered Species Act at 50](#), highlighting ten case studies of conservationists using different strategies to protect and recover imperiled fish, bird, plants and mammals in the U.S. **The report includes the Florida Grasshopper Sparrow, which is being saved through captive breeding and re-introduction.** Archbold biologists, working closely with the U.S. Fish and Wildlife Service, U.S. Department of Defense, and many collaborators in the Florida Grasshopper Sparrow Working Group, have released more than 300 sparrows to the prairies on Avon Park Air Force Range since 2021. The Florida Grasshopper Sparrow was listed as Endangered in 1977, and by 2016 had declined to about 300 birds. Archbold biologists and many partners from the Florida Grasshopper Sparrow Working Group continue to release sparrows from the captive breeding program to other protected, managed areas. While the Florida Grasshopper Sparrow is still imperiled, biologists have increasing hope for the species. How can you help? Your [donation](#) to Archbold today helps us continue important work like this.