



ARCHBOLD AUGUST 2019 NEWS for curious minds



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Orb-Weaving Tale



Dr. Jim Carrel looking at the orb-weaving Yellow Garden Spider with prey.

"Spiders are among the dominant predators on Earth. A primary adaptation of spiders is their widespread use of webs for prey capture..." So begins the elegant research publication by Dr. Mark Deyrup, Archbold Emeritus Entomologist, and Dr. Jim Carrel, Archbold Research Associate, in the July issue of the Florida Entomologist. The fascination of these two life-long researchers into the lives of spiders and bugs making a living in the Florida scrub runs deep. For this story, **Deyrup and Carrel turn their gaze to the sticky mystery of two predatory neighbors: the Yellow Garden Spider (*Argiope aurantia*) (larger and widespread in North America) and the Florida Garden Spider (*Argiope florida*) (smaller and restricted to scrub in southeastern USA) who spin their orb-webs at similar heights near each other in oak scrub at Archbold.** Contrary to their hypothesis—that the two spiders would have a high degree of diet overlap—they discovered something else. After measuring the orb-web architecture and painstakingly identifying every prey item (to species level!) snared in the webs of 180 pairs of both *A.*



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aurantia and *A. florida*, they revealed the diet of each diurnal hunter overlaps only in the upper hierarchy order of bugs (e.g., Orthoptera—grasshoppers/katydid, Coleoptera—beetles, Hymenoptera—bees, wasps, ants). **When you zoom down to the species level of each prey item, there is almost no overlap in the spider's diets.** This bug species-level diet study appears to be the first of its kind in America, possible only because of Archbold's vast reference collection of bug specimens. They write, "We concluded that not only were *A. aurantia* consuming substantially larger prey than *A. florida*, but also that they were feeding on different species of aerial insects moving through gaps in oak scrub. Thus, these two spiders living syntopically in Florida scrub are consuming prey, not only of different sizes, but of different species."

"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

Stepping Up to the Plate



Gene Lollis at Buck Island Ranch.

Gene Lollis is the quintessential cowboy. He has been involved in the Florida cattle industry since his early years in St. Cloud, just south of Orlando. Immediately after graduating with a degree in Animal Science from the University of Florida in 1993, Gene joined Archbold as Assistant Ranch Manager. He was promoted to Ranch Manager when Dan Childs retired in 1996. Lollis watched ranching evolve in Florida and has played a significant role as the bridge between ranching operations and research science at multiple levels including: The Ranch, academia, industry, government, and the agriculture industry throughout Florida and nationwide. He is a champion for science while leading initiatives on animal identification and producing 'Fresh from Florida' in-state Florida beef products. **It is no surprise that the Florida Cattlemen's Association (FCA) announced at their annual convention in late June that Gene Lollis will serve the next 12 months as President Elect before becoming President of FCA from June 2020 – June 2021.** Archbold is so proud of Gene's well-deserved recognition. We look forward to all he will be able to achieve in his years of service as President Elect, President, and Past President. Go Gene!

The Scrub Blog
Nature and Science from Florida's
Heartland

Explore [The Scrub Blog](#) by Archbold creative staff.

At Home in the Scrub



Dr. Jennifer Schafer in the Florida scrub at Archbold.

Jennifer Schafer was an intern in the Archbold Plant Ecology Program from 2002-2003 alongside fellow intern Betsey Boughton (now Agro-ecology Program Director at Buck Island Ranch). She recalled, "One day, I was working in the Florida rosemary scrub with my head down looking for the rare plant *Paronychia chartacea* ssp. *chartacea*. I heard a clap of thunder and turned around to see dark clouds bearing down on me. I began to run, or try to run, while bent over back to my truck through long unburned scrub full of dense shrubs, greenbrier, and cacti. The GPS antennae on my back seemed like a lightning rod!" Lightning did strike, though not literally.

Schafer had been on track to become a wildlife biologist before she came to Archbold (first as an Education Intern assisting researchers in 2001). She shared, "At Archbold, I became more interested in plant ecology than wildlife management; my next job was at a field station in Minnesota studying plant ecology, and that's been the focus of my research ever since." Schafer went on to conduct her University of Florida PhD dissertation research at Archbold while continuing her *Paronychia* research from 2004-2010. Now an Assistant Professor at Winthrop University in South Carolina, Dr. Schafer has returned to Archbold as a Visiting Researcher every summer since 2015. This July, she came back to Archbold for three weeks with an undergraduate student to continue her work on the fascinating plant ecology of the endemic Florida Alicia (*Chapmannia floridana*) and the curious hemiparasitic Hog Plum (*Ximenia americana*). She reflected, **"It's been incredibly rewarding to be part of the Archbold community for the past 18 years. Archbold feels like home."**

My Science Future



Tatum
7 years old

I pickt out Florida
Panther because I want
to save their home.



Tatum holds a panther track plaster. She wrote, "I pickt out Florida Panther because I want to save their home."

Archbold's 2019 Ecology Summer Camp students participated in an original art project called 'My Science Future'. Dustin Angell, Director of Education, says the project grew from his desire to use his portraits of scientists at work to teach kids about science careers, explaining, "At first we were just going to discuss the photos and draw self-portraits in different science careers, but I couldn't resist the idea of doing photo shoots with the kids." For their portraits, the students selected from a dressing-up box of clothing and tools borrowed from Archbold researchers. Later, they wrote messages to go with the portraits with recurring topics like: The importance of caring for nature; How relatives inspired them; Their favorite wildlife. Colton (age 7) wrote, "I like catching fish and snakes because it's fun." **Mason (age 10) seemed to appreciate the value of field stations writing, "Herpetology. Where a reptile person can be a reptile person."** Noah (age 10) found inspiration in nature. He wrote, "We humans are like birds. We fall and get back up again."



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Summer is Not Over



Archbold Executive Director Hilary Swain under a Live Oak tree at Buck Island Ranch.

Archbold delivered the 2019 Summer Report last month highlighting a few of the programs we are working on thanks in part to the generous, ongoing funding from loyal friends and first time supporters. All these gifts mean so much. **Thank you to the more than 70 people who, after reading our Summer Report, were inspired to send a gift to Archbold.** What a mark of support and true embrace of our work. We recognize that 40% of those supporters issued their very first gift to Archbold! We appreciate those who are able to give. We also appreciate the volunteers who tirelessly give their time and talents throughout the year. We thank each of you. **Your financial support, and that from other members of our 'Archbold family', helps fuel key biological and ecological research.** Your generosity enables us to share this research, helping 'connect the dots' about our planet's most pressing environmental challenges. **If you would still like to support our Summer Report, there is still time! Click**

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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