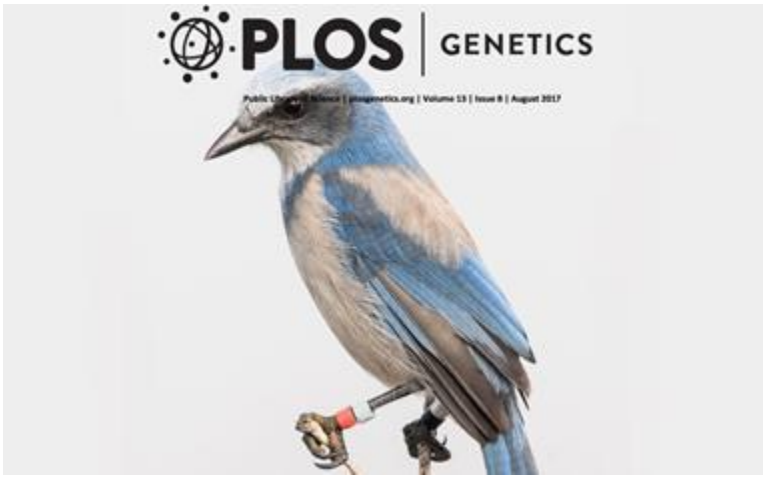
ARCHBOLD NOVEMBER 2017 NEWS

for curious minds

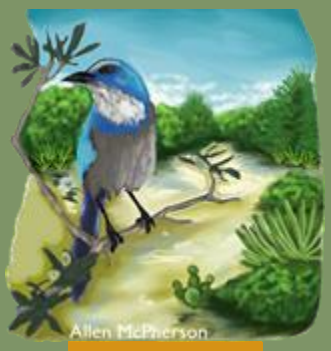
In This Issue:

Jay Genes



Cover page of the August 2017 issue of PLOS Genetics featuring Florida Scrub-Jay photo by Dr. Reed Bowman.

Maintaining genetic diversity is important when it comes to endangered species. But, how does movement around the landscape (i.e., dispersal) affect the genetic patterns for a population? This question can only be



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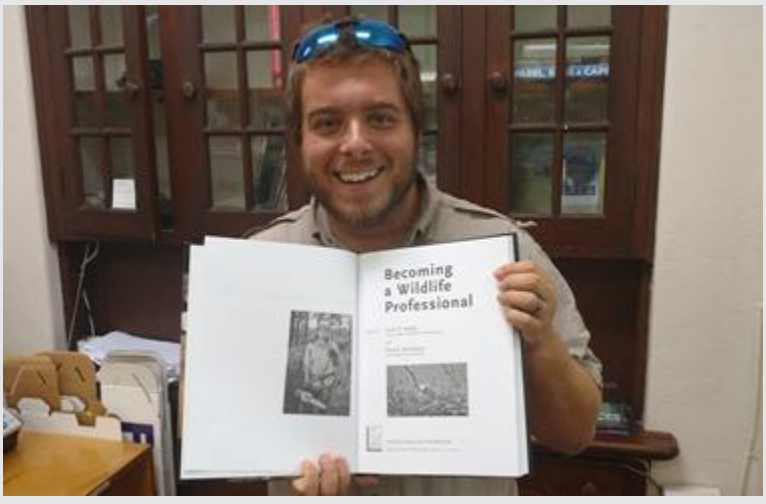
Archbold Biological Station Website

addressed with long-term data. Archbold's long-term study of jays that began in 1969 contains data from 12,738 unique individuals over 14 generations. Using dispersal, family history, and genetic data from this study, Stefanie Aguillon and Dr. Nancy Chen (Cornell University) and co-authors including Dr. John Fitzpatrick and Dr. Reed Bowman, published a paper in PLOS Genetics 'Deconstructing Isolation-by-Distance: The Genomic Consequences of Limited Dispersal'. **The greater the geographic distance among jay populations, the greater the genetic differences.** Bowman, Archbold Avian Ecology Program Director, said, 'Populations of jays connected by "corridors", natural habitats and lands with sufficient shrubs and natural cover, will exchange birds (and thus genes) through dispersal and thus tend to be more genetically similar. However, **our results show that variation in dispersal distances within a single population can result in isolation by distance even at small spatial scales over just a few generations.** How jay dispersal shapes the genetic structure of populations helps us understand the role of adaptation as a driver of genetic divergence and in designing effective networks of protected reserves across large landscapes.'

Becoming a Wildlife Professional



Dustin Angell holds the new book 'Becoming a Wildlife Professional' featuring his portrait of Archbold's Red-cockaded Woodpecker biologist, Emily Angell, on the title page.

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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

Public Events

Nov 9: 1pm-5pm
2nd Annual Archbold Research Symposium

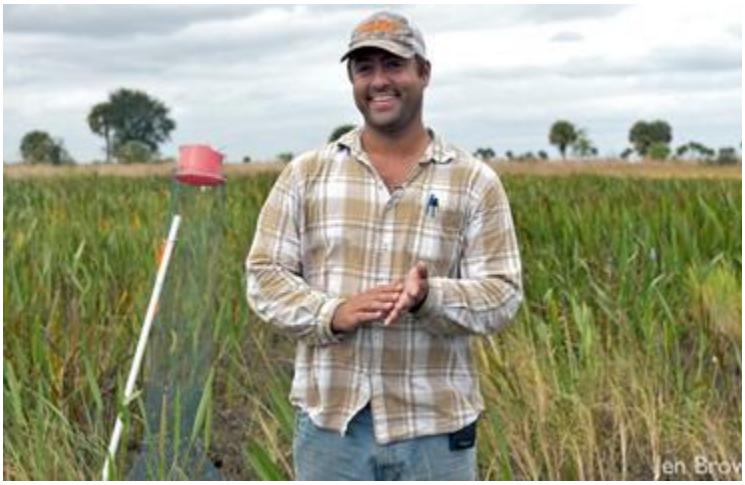
Dec 7: 3:30pm-4:30pm
Special Speakers Seminar
Raelene Crandall, University of Florida

Dec 9: 9am-11am
Family Science Hike
Dustin Angell, Archbold

All events meet in/at the Frances Archbold Hufty Learning Center.

'If I had to do it over…' somebody wrote on our Facebook post about the new book 'Becoming a Wildlife Professional' published by Johns Hopkins University Press, and featuring two photographs by Dustin Angell, Archbold's Education Coordinator. One reviewer wrote, 'Such a goldmine of shared career knowledge by dedicated professionals'. One of those dedicated professionals is Dr. Hilary Swain, Archbold Executive Director. **Hilary was lead author on a section describing Archbold's internship program which has now provided training for 545 of these early career professionals.** Dr. Fred Bryant introduces this well-rounded book, edited by Scott Henki and Paul Krausman, saying 'Being at peace with the field you choose, one that is focused on a resource that cannot speak for itself, is gratifying and fulfilling way beyond material things.' Archbold staff and interns could not agree more.

Life on the Ranch



Wes Anderson in one of his 36 study wetlands (see trap at photo left) in semi-native pasture at Buck Island Ranch.

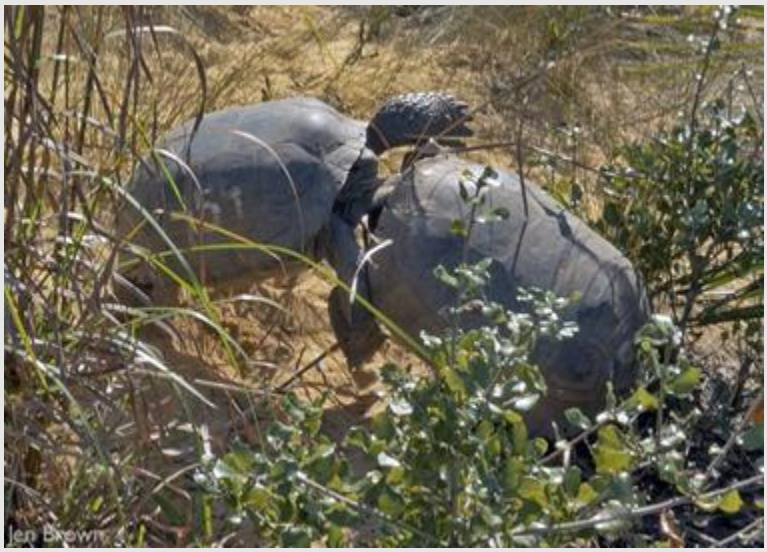
Wes Anderson did not know much about hogs, ranches, or Florida when he began his University of Florida PhD research at Archbold's Buck Island Ranch in August 2014. That has all changed now. Anderson shared, 'The landscape immediately evoked memories of the Uruguayan savanna, and I quickly fell in love with it. I finally got the chance to be fully immersed in one particular environment for the first time in my

Acorn Gardeners

Florida Scrub-Jays bury thousands of acorns each fall to ensure a dependable food supply during winter. Watch a 20 second Facebook video clip here.

life.' Working with his advisor Dr. Raoul Boughton from the University of Florida, **Anderson is studying whether/how feral hog rooting in seasonal wetlands impacts water quality, vegetation, tadpoles, and salamanders** (i.e., sirens and amphiuma). By surveying for amphibians in 36 study wetlands and then resampling those wetlands every year, he hopes to discover whether amphibians are falling prey to or having their habitat destroyed by hogs. He added, 'Living here has furthered my resolve to continue conservation work in agricultural areas. Where our food comes from and how it's produced is of great importance. **I want to work on solutions that help both wildlife and our agricultural producers**.'

Winning Tortoise Research



Two male Gopher Tortoises fighting near a female tortoise at Archbold's Red Hill.

At the October Gopher Tortoise Council (GTC) meeting in South Carolina, **Nicole White earned first place in the 'Student Oral Presentation Competition' for her excellent talk and research on the influence of Gopher Tortoise male body size on siring success.** White collected data at Archbold over two nesting seasons (2015-16) for her University of Georgia master's research sharing, 'We found that larger male tortoises are more likely to produce any

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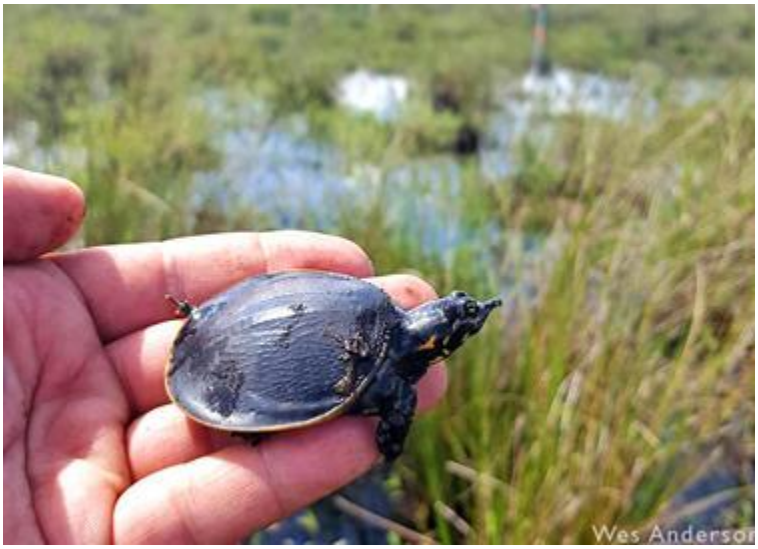
offspring and produce more offspring than smaller males. Previous studies have suggested that male body size may also influence the likelihood of multiple paternity (having several fathers in one clutch of eggs). However, we found no evidence to suggest that larger males are more likely to monopolize matings with individual females. This study provides more information that will allow us to better understand and ultimately conserve the Gopher Tortoise.'

'Tis the Season



A young Florida Softshell Turtle from one of the 600+ wetlands at Buck Island Ranch.

'Real generosity towards the future lies in giving all to the present' (Albert Camus). Fall brings cooler weather, the end of hurricane season and lastly, the giving season. Most not-for-profit organizations receive the bulk of all donor support during the final few weeks of the year. Archbold is no different. **At the end of November, you will be asked to consider a gift to help Archbold continue to discover nature's answers for some of our planet's most critical environmental challenges.** Challenges such as saving endangered species, conserving land, implementing sustainable ranching, restoring the flow of clean water, and adapting to a changing climate. Now, more than ever, your gift to support scientific research and the environment is critical. We need your

Archbold Facebook Event Calendar

Directions to Archbold Biological Station

Eight miles south of Lake Placid. Entrance is 1.8 miles south of SR 70 on Old SR 8.

help. As always, 100% of all donations directly support programs, allowing your gift to make a difference and have impact. Thank you.

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

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