



ARCHBOLD SEPTEMBER 2016 NEWS for curious minds



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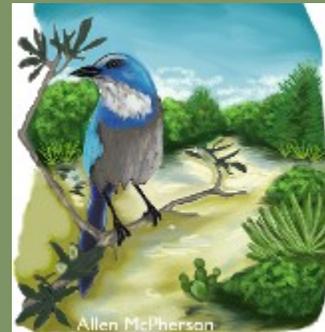
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Indigo Snake Social



Two Eastern Indigo males engage in combat in south Georgia. Photo courtesy of [The Orianne Society](#).

The Eastern Indigo Snake *Drymarchon couperi* is the longest native snake in North America at 6-8 feet. Paradoxically, it is rarely seen. Researchers from [The Orianne Society](#) are learning more about this elusive apex predator in peninsular Florida using radio telemetry. Along with co-author Betsie Rothermel, Archbold Herpetology Program Director, they just published a paper entitled '[The Influence of Sex and Season on Conspecific Spatial Overlap in a Large,](#)



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[Actively-Foraging Colubrid Snake](#)'. [Conspecific = Individuals of the same species]. **The home ranges of Eastern Indigo males and females overlapped significantly more than individuals of the same sex. During the breeding season, male home ranges averaged 410 ha, nearly six times larger than the average area used by females (72 ha).** Male home ranges often completely contained female home ranges. Males avoid other male's home range year-round. But, females had more overlap with other females during the non-breeding season. The authors say this spatial pattern is 'consistent with those seen in many mammalian carnivores, in which low male-male overlap and high intersexual overlap provides males with greater access to females.' This study provides a fascinating glimpse into the movement behaviors of this Federally Threatened blue beauty found only in the southeastern US.

Life at the Top



Geum radiatum in bloom on a cool, wet mountaintop in North Carolina.

Way up in the cool, wet Appalachian Mountains of Tennessee and North Carolina, a species of perennial rose grows on the slippery north-facing cliffs. Meet *Geum radiatum* and the microcosm it depends upon for survival. Temperature averages 42-48 degrees F with high humidity and frequent fog in a microclimatic refugia buffered from the regional climate, at least for now. **What happens to endangered plants like these with increasing human-caused climate change effects?** At the top, there is nowhere left to go. Ecologists Chris Ulrey (National Park Service) and Eric Menges (Archbold Plant Ecology Director), in

"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



Archbold Education Coordinator, Dustin Angell, helmed six sessions of Summer Ecology Camp for 7-12 year olds during 2016! A summertime favorite, over half the 86 campers were returnees. Donations allowed 24% of campers to attend through sponsorships. See photos [here](#).

collaboration with Gary Kauffman (US Forest Service), Pedro Quintana-Ascencio (Univ. of Central Florida), and Adam Smith (US Fish and Wildlife Service), have sampled *G. radiatum* every year since 2003 to find out. Menges' expertise with the demography and conservation of endangered scrub plants helped launch this collaboration with Ulrey. Their findings just published in the journal [Biological Conservation](#) say, 'While the current refugia support nearly stable populations with high annual adult survival (ca. 97%), **our analysis using ecological niche models and climate projections predict climatic conditions will become less suitable in the coming decades (i.e., by 2050).** This result is relevant to many other rare species in the Southern Appalachian biodiversity hotspot.'

Time-Since-Karen: 30 Years



Karen Lips and David Smith remove a funnel trap from a Gopher Tortoise burrow with a Spotted Skunk during her 1987 internship at Archbold.

Back in 1987, Karen Lips was an Archbold intern under Dr. Jim Layne, Archbold's first Director of Research hired by Richard Archbold in 1967. Lips' independent intern research project was a study of vertebrates living in Gopher Tortoise burrows on Red Hill (i.e., commensals). She reflected, 'Jim Layne's meticulous documentation of the natural world, systematic sampling plans, and encouragement to think for the long-term strongly influenced my career.' Thirty years later, she is Professor of Biology at the University of Maryland leading a research program in amphibian ecology. **Lips returned to Archbold this August to**

Southeastern Five-lined Skink



Watch [here!](#) A young Southeastern Five-lined skink (*Plestiodon inexpectatus*) is up to something near a Gopher Tortoise outside the tortoise's sandhill burrow at Archbold. Young skinks sport the bluest tails. The bright blue color diverts potential predators away from the skink's main body. Skinks can afford to lose their tail. It will regenerate.

explore an opportunity to study, once again, the vertebrate commensals living in Gopher Tortoise burrows on Red Hill. She was amazed by the difference on Red Hill where fire has been reintroduced to restore the open sandhill habitat. She added, 'Going back is always a mixture of bittersweet memories. It was great to see all the positive changes at Archbold over the past 30 years, but also a reminder of how important institutions are in curating and maintaining data for posterity.'

High Speed Voices



Carlton Ward, Hilary Swain, Mac Stone, and Michael Stavres (L to R) were the speakers at an iLab session for the Florida Recreation and Park Association meeting in August.

Many conferences now include short duration, high-energy presentations like iLabs that 'resemble more of a story and conversation than a lecture'. Hilary Swain gave two such talks in August. The first was an IGNITE presentation at the Ecological Society of America meeting in Fort Lauderdale focused on alternative careers in ecology. She said 'It was tough to boil the career path of a field station director down to 20 slides that auto-advance every 15 seconds. Everyone did an amazing job'. The second talk was at the Florida Recreation and Park Association meeting in Orlando. **Hilary joined [Carlton Ward Jr.](#) and [Mac Stone](#) to present an iLab focused on Environmental Sustainability and the Role of Parks and Recreation.** iLabs are fashioned after TED Talks. Hilary talked about the importance of connecting with people who live around our parks to ensure

Upcoming Events

Oct 7-9:

Florida Ornithological Society Meeting

Presentations focusing on birds from the Lake Wales Ridge and South Florida. Field trips and a morning Florida Scrub-Jay walk with Dr. Reed Bowman. Learn more [here](#).



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biological survival of protected areas. She noted, 'These rapid fire presentations take much more preparation and practice. It's daunting when your talk is promoted as one that will keep the audience engaged, enlightened, and above all else, entertained. I was certainly energized and relieved to finish on time.'

ESA Supports Archbold Restoration



This photo of a female Gopher Tortoise basking outside her burrow on a sandhill at Archbold is where these conservation dollars will be spent.

The [Ecological Society of America](#) has donated **\$12,000 to Archbold Biological Station to offset the environmental impacts of bringing ecologists to the 101th Annual Meeting in Fort Lauderdale, FL during August.** Archbold is grateful for this generous award to support the conservation and restoration of imperiled Lake Wales Ridge sandhill habitat on Red Hill. Archbold Executive Director, Hilary Swain, said, '**Our current Red Hill Restoration Project epitomizes Archbold's enduring commitment to science and conservation.** It is particularly urgent because Red Hill constitutes core habitat for the longest-studied population of Gopher Tortoises anywhere in the range of the species. Our 10-year plan will combine mechanical mowing of vegetation with prescribed burning to undertake an ambitious restoration of 90-ha of fire-suppressed sandhill habitat.' Thank you ESA. If you wish to join ESA members and give a tax-deductible donation to Archbold, click [here](#).

[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.



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