

Education

Ph.D. Horticultural Sciences- Environmental Horticulture, University of Florida (2021) GPA: 4.0
Dissertation Title: Germination cues, dormancy, and ex situ conservation of *Harperocallis flava*, a federally endangered endemic plant of the Florida panhandle

Advisor: Dr. Héctor E. Pérez

M.S. Horticultural Sciences- Environmental Horticulture, University of Florida (2017) GPA: 4.0
Thesis Title: Using seed biology to conserve *Harperocallis flava*, a federally endangered endemic plant of the Florida panhandle

Advisor: Dr. Héctor E. Pérez

B.S. Wildlife Ecology & Conservation, University of Florida (2008) *Summa cum laude* GPA: 3.96
Thesis Title: Molecular phylogeny of the Mentheae (Lamiaceae) based on plastid and nuclear DNA sequences

Thesis Advisor: Dr. Pamela S. Soltis

Undergraduate Research Mentor: Dr. Christine E. Edwards

A.A. Seminole State College (2006) GPA: 3.88

Research

In Preparation

Gardner, A.G. and H.E. Pérez. *In Preparation*. Effects of capsule maturity, population, and environment on seed viability, germination, and soil seed banking potential of *Harperocallis flava*, a federally endangered endemic plant of the Florida panhandle.

Peer Reviewed Publications

Gardner, A.G., and K.A. Williges. 2015. *Praxelis clematidea* (Asteraceae): A New Plant Invader of Florida. *Southeastern Naturalist*. 14(1): N21-N27.

Freeman, J.E., K. Williges, **A.G. Gardner** and E.H. Leone. 2017. Plant functional group composition on restored longleaf pine – wiregrass (*Pinus palustris* – *Aristida stricta*) savannas with a history of intensive agriculture. *Natural Areas Journal*. 37(4):434-456.

Conferences

Gardner, A.G. 2018. *Ex situ* conservation of the endangered *Harperocallis flava*: safeguarding against multiple threats. Rare Plant Task Force Meeting April 12, 2018. Jacksonville, FL. (Contributed Oral Presentation)

Gardner, A.G. 2017. Germination Ecology of *Harperocallis flava* McDaniel (Tofieldiaceae), a federally endangered Florida endemic. Rare Plant Task Force Meeting April 5, 2017. Sarasota, FL. (Contributed Oral Presentation)

Gardner, A.G. 2016. Seed biology and germination ecology of *Harperocallis flava* McDaniel (Tofieldiaceae). Florida Wildflower Foundation: 2016 Wildflower Symposium. Ocala, FL. (Poster)

Research Collaborations

Collaborator 2019-2020

- Collaborating with biologists from Archbold Biological Station to determine the germination and dormancy breaking requirements of the federally endangered species *Polygala lewtonii*

Plant Identification Consultant 2015-2020

- Identifying Florida plant species for the Florida Fish and Wildlife Conservation Commission Upland Habitat program when the need arises

Supervising, Teaching, Mentoring, and Outreach

- Supervisor** Fall 2019, Spring 2020, Spring 2021
- Responsible for hiring, training, and overseeing the work of three undergraduate employees that assist with germination and micropropagation experiments as well as daily laboratory activities.
- Graduate Teaching Assistant:** Controlled Environment Plant Production Fall 2019
- Facilitated and graded weekly discussions, graded weekly quizzes, and assisted students with questions regarding coursework
- Graduate Teaching Assistant:** Seed Biology Course Development Spring 2017
- Collaborated with a team to develop a graduate level Seed Biology course from the ground up, including determining the class and grading format, selecting appropriate readings, and designing team-based learning modules with assessments, team activities, and final projects.
- Undergraduate Teaching Assistant:** Wildlife Ecology and Management Fall 2007
- Attended classes, evaluated homework and quizzes, and answered student questions
 - Lectured one class period
- Mentor** Summer and Fall 2016
- Mentored an undergraduate student who is studying the seed biology of a federally endangered plant with initiation of germination experiments and histological analysis of seeds
- Outreach** September 2021
- Invited speaker for the Scientist in Every Florida School program

Grants Received

- Jacksonville Zoo and Gardens Conservation Award, \$10,006.04 2019
- Conceived and written by A. Gardner with full support from graduate advisor and PI (H.E. Pérez)
- Florida Department of Agriculture and Consumer Services, Florida Statewide Endangered and Threatened Plant Conservation Program, \$ 19,552.00 2019
- Conceived and written by A. Gardner with full support from graduate advisor and PI (H.E. Pérez)

Awards, Achievements & Certificates

- Muriel Rumsey Foundation Scholarship 2019-2020
- Orlando Garden Club Scholarship 2018
- Graduate School Funding Award 2017-2021
- William C. and Bertha M. Cornett Fellowship 2017-2019, 2020-2021
- Excellence in Lab Work (Florida Fish and Wildlife Conservation Commission) 2011, 2014
- Excellence in Field Work (Florida Fish and Wildlife Conservation Commission) 2012-2013
- Certificate of Appreciation (University of Florida Center for Wetlands) 2012
- Extra Effort Award (Florida Fish and Wildlife Conservation Commission) 2009, 2010, and 2011
- Dean's List (University of Florida) Fall 2006 – Spring 2008
- Botanical Society of America - Young Botanist Award Recipient 2008
- Department of Wildlife Ecology and Conservation Awards (UF): 2008
- Recognition of Outstanding Undergraduate Research
 - Recognition of Outstanding Academic performance
- University Scholars Award Recipient (UF) Spring 2007 – Fall 2007
- Graduation with Highest Honors (Seminole State College) August 2006
- Science Merit Diploma (Seminole State College) August 2006
- Salzburg Global Seminar Alumnus Summer 2006

Leadership and Affiliations

The Florida Native Plant Society, Paynes Prairie chapter	2019-2021
Treasurer, UF Student Chapter of The Wildlife Society	2007 – 2008

Professional Experience

Florida Fish and Wildlife Conservation Commission	Upland Habitat Research & Monitoring
Research Associate	June 2021- Present
Upland Habitat Biologist	November 2008 – August 2015

Native Ground Cover Restoration (NGCR)

FWC Lands Statewide: Florida

2008 - 2015

The goal of this program is to restore native ground cover on FWC lands that were formerly pastures, agricultural lands, and pine plantations, by removing exotic plants and planting a native seed mix. My duties included performing annual and semiannual monitoring of NGCR sites by:

- Creating maps of the sampling area in ArcGIS and generating random sample points
- Identifying all plants within the survey quadrat to species and estimating percent cover/frequency
- Reconciling and analyzing data, writing annual reports, and making management recommendations

Objectives Based Vegetation Monitoring

FWC Lands Statewide: Florida

2009 – 2015

The goal of this program is to monitor vegetation attributes in response to land management actions such as prescribed fire and evaluate the effectiveness of those actions in order to improve management. My duties included:

- Collecting vegetation attribute data including species composition
- Auditing vegetation attribute data collected by independent contractors

Gopher tortoise (*Gopherus polyphemus*) and vegetation response to experimental scrub management

Guana River Wildlife Management Area: St. Johns County, FL

2010 – 2015

The purpose of this study is to improve habitat conditions for gopher tortoises and other wildlife, by increasing open space, herbaceous cover, and structural heterogeneity in dense coastal scrub environments. My duties included:

- Assisting with study design
- Collecting vegetation attribute data, and compiling and analyzing data

Cattle Grazing Impacts on FWC Lands

Half Moon, Triple N Ranch, Three Lakes, and Caravelle Ranch WMAs: Sumter, Osceola and Putnam Counties, FL

2009 – 2015

The purpose of this study was to monitor the effects and impacts of cattle grazing on FWC lands. Permanent paired transects, 30 m long, were established on four FWC properties with cattle leases. Barbed wire fence “exclosures” were built around one transect in each pair to prevent cattle grazing. Transects are sampled biannually. Line intercept data are collected along the length of the transect to capture the vertical vegetation structure and 0.25 m quadrats are used to sample the ground cover vegetation at 5m intervals along the transect. All plants are identified, heights are measured, and percent cover is estimated. My duties included:

- Repairing or rebuilding exclosure fencing as needed
- Identifying all plants, collecting vegetation attribute data, and compiling and analyzing data

Longleaf Pine Ecosystem Restoration: Assessing the Seed Bank and its Implications for Restoration

Big Bend Wildlife Management Area: Taylor County, FL

2013 – 2014

The purpose of this study was to assess the seed banks of a current sand pine plantation and a clearcut area to determine if there were enough native ground cover species present in the seed banks to forgo the costly and labor-intensive groundcover restoration process. Random points were generated across

these two parcels. At each point, the vegetation was sampled, and soil core samples were taken. These soil samples were then spread out on flats in the greenhouse for one year. This study used only the seedling emergence method. My duties included:

- Identifying all plants within the survey quadrat to species and estimating percent cover/frequency
- Assisting with seedling identification

Natalgrass (*Melinis repens*) Control on the Lake Wales Ridge Scrub (Pilot Study)

Lake Wales Ridge Wildlife and Environmental Area: Highlands County, FL

2009 – 2010

A collaborative project between FWC and Archbold Biological Station. The goal of this study was to test the efficacy of different natalgrass control methods in scrub areas containing rare and threatened plant species. Methods included herbicide, hand pulling natalgrass, shading, and applying a black plastic ground cloth to kill all growth stages from seed to adult plants. Florida rosemary's allelopathic effects on natalgrass were also examined. My duties included:

- Establishing permanent macroplots
- Constructing shade frames using PVC pipes and shade cloth and applying treatments to macroplots
- Species identification, estimating percent cover/frequency of each species, and counting all natalgrass culms within the quadrats

Impacts of Wet Prairie Habitat Restoration on Reptiles and Amphibians in the Florida Panhandle

Apalachicola National Forest, Apalachicola River Wildlife and Environmental Area and Box-R Wildlife Management Area: Franklin and Liberty counties, FL

2009-2010

The purpose of this study was to use herpetofauna as bioindicators of habitat quality to assess restoration efforts of wet prairies in Florida. Upland Habitat assisted the FWC's northwest regional biologist on this project by characterizing the vegetation at each drift fence site. My duties included:

- Identifying all plants within the survey quadrat to species and estimating percent cover/frequency

Rare Plant Survey for Guana River Wildlife Management Area

Guana River Wildlife Management Area: St. Johns County, FL

not funded

- Developed sampling protocol for a rare plant survey on Guana River Wildlife Management Area
- Compiled a target list of rare, imperiled, and exotic species known to occur in northeast Florida
- Created a tutorial and information packet to highlight distinguishing characteristics of each species
- Mapped and prioritized communities for sampling based on species habitat needs
- Obtained permits for the collection of protected species to be submitted as voucher specimens

Camp Blanding Joint Training Center Intern

Environmental Division
May 2008 – November 2008

Gopher Tortoise Survey

May – October 2008

Surveyed the Gopher Tortoise population on the property by locating and assessing the condition of burrows. Ground cover percentages were estimated, and canopy cover was estimated along transects. Translocations of tortoises have been possible based on the survey data collected.

Red-cockaded Woodpecker Monitoring

October – November 2008

Performed morning follows and evening roost checks in preparation for RCW translocations to and from Camp Blanding. Scoped known RCW cavities to check for birds, debris and squirrels. Climbed cavity trees using a Swedish ladder and climbing belt system and cleaned out unoccupied cavities.

Certifications

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| • 15 Passenger Van Training | Fall 2015 |
| • ATV Rider Course | Fall 2008 |
| • Introduction to the Incident Command System (ICS 100) | Summer 2008 |
| • Basic Wildland Firefighter Training (ICS 100, S-130, S-190, L-180) | Summer 2008 |

Skills

- Extensive knowledge of Florida flora and identification methods
- Proficient in R, Microsoft Office (Word, Excel, and PowerPoint), ArcGIS 10.2, and operating GPS equipment
- Familiar with laboratory protocols, the operation of a range of laboratory tools and sterile technique for micropropagation
- Experienced in off road driving, operation of ATVs and watercrafts, and maneuvering trailers