

# Carlee Steppe

Gainesville, FL 32608 · (864) 404-9012 · [csteppe@ufl.edu](mailto:csteppe@ufl.edu)

**Objective: Earn a position in native plant conservation based on my passion, education, and research interests in conservation biology, plant propagation and the preservation of native ecological communities**

## Education

### University of Florida

Master of Science (thesis based)  
Environmental Horticulture

Aug. 2017-present  
Gainesville, FL  
(GPA: 3.7/4.0)

### Clemson University

Bachelor of Science  
Environmental and Natural Resources: Conservation Biology

Aug. 2013- Dec. 2016  
Clemson, SC  
(GPA: 3.6/4.0)

## Research Experience

### Thesis Research on Native Plant Propagation:

#### University of Florida

Aug. 2017-current  
Gainesville, FL

- Examining propagation of *Paronychia erecta* and *Balduina angustifolia* for potential ornamental use
- Working with seeds, cuttings and *in vitro* techniques
- Conducting seed germination, fertilizer studies and field establishment trials
- Evaluating performance in landscapes and any ecotype differences there may be between plant sources

### Investigation of Invasive Status of *Lantana montevidensis*.

#### University of Florida

Aug. 2017-current  
Gainesville, FL

- *Lantana montevidensis* is currently listed in Florida (IFAS Assessment of Non-native Plants) as an invasive
- Field Trials are being conducted on 8+ varieties of *L. montevidensis* to examine accuracy of this ruling
- Leading efforts to import plants from both Australia and Texas to compare to FL varieties
- Propagating this species from cuttings and seeds to be planted in field trials

### Propagation methods for endangered *Paronychia chartacea* ssp *chartacea*:

#### University of Florida

Aug. 2017-current  
Gainesville, FL

- Collaborating with Bok Tower Botanic Gardens (Lake Wales Ridge, FL) on evaluation of successful propagation of this endemic plant species
- Assessing cutting and seed propagation for purposes of réintroduction

### Creative Inquiry/Research on Southeastern Invasive Tree Species:

#### Clemson University

Jan. 2015-July 2017  
Clemson, SC

- Researched the traits of non-native/invasive species for fire tolerance
- Collaborated with two other undergraduate students to develop research objectives and data collection
- Developed organizational standards for research samples and data
- Presented 3 posters at separate conferences on this topic

### Creative Inquiry/Research on Rooting Difficult Plants

#### Clemson University

Jan.-Dec. 2016  
Clemson, SC

- Worked independently to discover the ideal asexual propagation method of at risk/endangered plant species; *Shortia gaiaifolia* and *Torreya taxifolia*

- Manipulated many variables to root plants including root presence, hormone treatment and media type
- Used automated fog/mist system developed at Clemson University to increase rooting capability

## **Research Presentations**

**Steppe, C.**, S.B. Wilson, M. Thetford, and H. Pérez. 2018. Propagation and evaluation of *Balduina angustifolia*, a native wildflower with ornamental and ecosystem value. American Society for Horticultural Science. Washington, D.C. (poster presentation and oral presentation)

**Steppe, C.**, S.B. Wilson, M. Thetford, G. Campbell- Martinez, and H. Pérez. 2018. Propagation and evaluation of *Balduina angustifolia*, a native wildflower with ornamental and ecosystem value. Urban Landscape Summit. Gainesville, FL (poster presentation and oral presentation) -1<sup>st</sup> place recipient

B. Blood, L. S. Pile, H. Spencer, **C. Steppe**, C. Adams, T. S. Shearman, and G. G.Wang. 2017. Are Non-Native Invasive Woody Plants Adapted to Frequent Surface Fires in the Southeastern US? Society of American Foresters. Albuquerque, New Mexico (poster presentation)

H. Spencer, C. Adams, **C. Steppe**, L.Pile,G.G.Wang.2016. Exploring thepotential impactof climate change on existing ecological communities. Clemson University11th AnnualFocus on Creative Inquiry Forum.Clemson, SC (poster presentation).

**Steppe, C.**, C. Adams, H. Spencer, L.S. Pile, G.G. Wang. 2015. Are woody non-native invasive plants of Asian origin adapted to frequent fire regimes that were historically characteristic of the southeastern US? Southeast Exotic Pest Plant Council (SE-EPPC) and North Carolina - Invasive Plant Council (NC - IPC) Joint Annual Meeting. Chapel Hill, NC (poster presentation). -3<sup>rd</sup> place poster recipient

Adams, C., M. Lund, H. Spencer, T. Brady, T. Garland, H. Hutto, C. Myers, M. Raeckelboom, **C. Steppe**, D. Thomas, L.S. Pile and G.G. Wang. (2015). Increasing our scientific knowledge of invasive plant species of the Southeastern US and promoting public awareness. Clemson University 10th Annual Focus on Creative Inquiry Forum. Clemson, SC (poster presentation).

## **Teaching Experience**

### **Teaching Assistant for Florida Native Landscaping (ORH3815/ORH5817)**

**Jan.- May 2018**

#### ***University of Florida***

*Gainesville,FL*

- Assisted in teaching a group of undergraduate and graduate students how to propagate native plants
- Administered and graded bi-weekly plant identification quizzes
- Propagated over 75 native FL species

### **Teaching Assistant for Plant Propagation (PLS3223/PLS5222)**

**Aug.-Dec. 2018**

#### ***University of Florida***

*Gainesville,FL*

- Assisted in teaching a group of undergraduate and graduate students the basics of plant propagation
- Aided in developing and administering online activities to engage with off-campus students

## **Employment and Professional Experience**

### **Conservation and Land Management Intern:**

**Feb.-July 2017**

#### ***Chicago Botanic Garden and Bureau of Land Management***

*Ridgecrest, CA*

- Collected seeds and tissue samples for BLM Seeds of Success program
- Responsible for scouting for seeds in over 1.6 million acres

- Hiked an average of 4 miles a day to scout for native plant populations
- Surveyed for rare and endangered plant species on BLM land
- Focused on the seed collection of 40+ species in the Western Mojave Desert
- Aided in US Geological Survey common gardens initiative by maintaining garden in Ridgecrest area

**Horticulture Research Technician, in Dr. Jim Faust Lab:**

**Aug. 2016-Feb. 2017**

**Clemson University**

*Clemson, SC*

- Collaborated on several research projects and was personally responsible for 4 projects
- Studied the decreased fertilizer practices of the last few years and their effects on the post-harvest survivorship of Petunias
- Experimented with how CaCl<sub>2</sub> effects the plant height of several species and its potential as an organic plant growth regulator
- Researched how recently collected cuttings utilize water and techniques to improve survival in greenhouse
- Analyzed stomatal openings at different times of day and night to investigate water loss
- Was responsible for daily watering and general plant care for over a thousand plants. As well as accurately applying treatments such as hormones, fertilizer and growth regulators. Was responsible for collecting tissue and soil samples then analyzing these samples for pH, electroconductivity and moisture.

**Horticulture Research Technician, in Dr. Jeffery Adelberg Lab:**

**Aug.-Dec. 2016**

**Clemson University**

*Clemson, SC*

- Aided in developing better microgreens techniques on Daikon radish, to be implemented in vertical farming
- Researched several different tissue culture and micro-propagation methods for *Sarracenia jonesii*, an endangered plant species
- Manipulated different levels of MS (Murashige and Skoog) in liquid media and worked with different types of ventilation containers
- Developed an acclimatization protocol for *Sarracenia jonesii* to increase survivorship
- Worked with 20+ species in tissue culture including *Petunia*, *Agave* and *Echinacea*

**SC Botanical Gardens Employee:**

**Jan. 2014-May 2016**

**Clemson University**

*Clemson, SC*

- Contributed to the Natural Heritage Garden and the SC Botanic Gardens Greenhouse focusing on the conservation and preservation of native species
- Planted, potted, mixed soil for, pruned and weeded plants daily
- Propagated over 50 native species of the southeastern US from seed, cuttings and divisions

**Technical Skills**

- R Studio and JMP Pro 13 from classwork and analysis for research projects
- Solution preparation including fertilizer, tissue culture media, CaCl<sub>2</sub> and Plant Growth Regulators
- Used an ATV and four-wheel drive vehicles
- Comfortable with hand and power tools from use at the SC Botanic Gardens and several other research projects
- Conditioned to field work including 10 hours work days and extreme weather such as rain and heat
- Sterile technique for micro-propagation and tissue culture
- Proficient in using an autoclave, heating elements, pH meter, pressure chamber for water potential determination, microscopes, laminar flow hood and drying ovens
- ArcPad and ArcGIS experience including fieldwork with Trimble Juno units
- Familiar with Eastern, Western and Midwestern plant species of U.S

## **Awards, Conferences, Trainings and Honors**

Native Plant Horticulture Foundation Travel Grant Recipient	June 2018
First Place Presentation Award Recipient at Urban Landscape Summit	March 2018
Wildflower Symposium Travel Grant Recipient	Jan. 2018
Vivian Munday Scholarship to attend IPPS meeting	Sept. 2017
Simpson Family Scholarship	Aug. 2017
Conservation Land Management training	June 2017
Attended Botany 2017	June 2017
Attended Center for Plant Conservation conference	May 2017
Attended Floriculture Research Alliance conference	Oct. 2016

*References provided upon request*