

**Lucas C. Majure, PhD.**  
Desert Botanical Garden  
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Phoenix, AZ 85008  
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**Research Interests**

Biogeography, floristics, morphological plasticity in plants, polyploidy, reticulate evolution, systematics.

**Education**

**Doctor of Philosophy**, Aug. 2012

University of Florida, Gainesville, FL

Major: Botany

Dissertation Title: **The Systematics and Evolution of the *Opuntia humifusa* complex (Opuntioideae: Cactaceae).**

**Master of Science**, Aug. 2007

Mississippi State University, Starkville, MS

Major: Biological Sciences

Concentration: Botany

Thesis Title: **The Ecology and Morphological Variation of *Opuntia* spp. in the mid-south, United States.**

**Bachelor of Science**, Dec. 2003

Mississippi State University, Starkville

Major: Biological Sciences

Minor: Spanish

**Experience and Professional Positions**

**Biologist of New World Succulents**, Oct. 2014-present. Desert Botanical Garden, Phoenix, AZ. Evolutionary and Systematic studies of Cactaceae.

**Post-Doctoral Researcher**, Aug 2012-Aug. 2014. University of Florida Herbarium (FLAS). Systematic and phylogenetic studies of Greater Antillean clades of *Miconia* (Melastomataceae) with Walter S. Judd

**Coordinator**, Sistemática de Plantas Tropicales (Organization for Tropical Studies: OTS/OET), co-taught with Mario Blanco – Costa Rica, 28 June-31 July 2013 – this is the Spanish version for Latin-American students offered odd years.

[http://ots.ac.cr/index.php?option=com\\_content&task=view&id=153&Itemid=393&lang=es](http://ots.ac.cr/index.php?option=com_content&task=view&id=153&Itemid=393&lang=es)

**Instructor**, Phylogeographic Inference (ZOO6927), co-taught with Angelo Soto-Centeno and Jorge Pino, Spring 2012, University of Florida.

**Instructor**, Local Flora (BOT 3151), co-taught with Paul Corogin, Fall 2010, University of Florida.

**Teaching Assistant**, Aug. 2007-May 2012. University of Florida  
Integrated Principles of Biology (BSC 2010L), Local Flora (BOT 3151), Plant Diversity (BOT 2011), Tropical Botany (BOT 6935/4935), Practical Plant Taxonomy (BOT 2710), Graduate Plant Taxonomy (BOT 5725), Plant Ecology (PCB3061).

**Teaching/Research Assistant**, Jan. 2005 – July 2007. Mississippi State University  
TA - Plant Biology (BIO 1203), Plant Ecology (BIO 4213/6213).  
RA - Ecological research in support of *Opuntia* habitat modeling and species delineations.

**Herbarium assistant**, Jan -Dec 2004  
Mississippi Museum of Natural Science  
Curation of herbarium specimens, collection databasing, MS floristics, field work locating and monitoring rare and endangered plant populations with the Mississippi Natural Heritage Program (<http://museum.mdwfp.com/science/nhp.html>)

#### **Peer Reviewed Publications**

28. Judd, W.S., E. Bécquer-Granados, J.D. Skee, Jr., and **L.C. Majure**. *In press*. Taxonomic studies in the Miconieae (Melastomataceae). XII. Revision of *Miconia* sect. *Miconiastrum*, with emphasis on the *Miconia bicolor* complex. *Journal of the Botanical Research Institute of Texas*.
27. **Majure, L.C.**, W.S. Judd, and F. Michelangeli. 2014. Taxonomic revision of the *Pseudolima* clade (Miconieae: Melastomataceae). *Brittonia* DOI 10.1007/s12228-014-9349-x.
26. **Majure, L.C.**, W.S. Judd, G.M. Ionta, J.D. Skee, Jr., K.M. Neubig, and E. Bécquer-Granados. 2014. *Miconia cineana*, a new species from the Massif de la Hotte, Haiti, based on morphological and molecular evidence. *Systematic Botany* 39: 906-914. DOI 10.1600/036364414X682247.
25. **Majure, L.C.**, and R. Puente. 2014. Phylogenetic relationships and morphological evolution in *Opuntia* s. str. and closely related members of tribe Opuntieae. *Succulent Plant Research* 8: 9-30.
24. Soltis, D.E., M.C. Segovia-Salcedo, I. Jordon-Thaden, **L.C. Majure**, N.M. Miles, E.V. Madrodiv, W. Mei, M.B. Cortez, P.S. Soltis, and M. Gitzendanner. 2014. Are polyploids really evolutionary dead ends (again)? A critical reappraisal of Mayrose et al. (2011). *New Phytologist* DOI: 10.1111/nph.12756.
23. **Majure, L.C.**, E. Bécquer-Granados, and W.S. Judd. 2014. *Miconia bullotricha* and *M. hirtistyla*, two new species of *Miconia* sect. *Lima* from eastern Cuba. *Phytokeys* 33: 61-75.
22. Judd, W.S., Bécquer, E.R. and **L.C. Majure**. 2014. Taxonomic studies in the Miconieae (Melastomataceae). XI. A revision of *Miconia* sect. *Calycopteris* on Hispaniola. *Brittonia* DOI 10.1007/s12228-014-9326-4.
21. **Majure, L.C.**, G.M. Ionta, J.D. Skee, Jr., and W.S. Judd. 2013. New records and notes on species from Parc National Pic Macaya, Massif de la Hotte, Haiti,

- including a new species of *Pilea* (Urticaceae). *Journal of the Botanical Research Institute of Texas* 7: 681-691.
20. **Majure, L.C.** and W.S. Judd. 2013. *Miconia paralimoides* (Melastomataceae), a new species from the Cordillera Central, Dominican Republic. *Phytotaxa* 131: 9-16.
  19. **Majure, L.C.** and W.S. Judd. 2013. *Miconia phrynosomaderma* (Melastomataceae: Miconieae), a new species from the Massif du Nord, Haiti, and sixteen new names and combinations. *Journal of the Botanical Research Institute of Texas* 7: 265-274.
  18. Judd, W.S. and **L.C. Majure**. 2013. *Miconia becqueri*, a new species of *Miconia* with strongly four-lobed ovaries from the Sierra Maestra, Cuba. *Brittonia* DOI 10.1007/s12228-013-9312-2.
  17. **Majure, L.C.**, Douglas E. Soltis, Pamela S. Soltis, and W.S. Judd. 2013. A case of mistaken identity, *Opuntia abjecta*, long-lost in synonymy under the Caribbean species, *O. triacantha*, and a reassessment of the enigmatic *O. cubensis*. *Brittonia* DOI 10.1007/s12228-013-9307-z.
  16. **Majure, L.C.**, R. Puente, M.P. Griffith, Douglas E. Soltis, and W.S. Judd. 2013. *Opuntia lilae*, another *Tacinga* hidden in *Opuntia* s.l. *Systematic Botany* 38: 444-450.
  15. **Majure, L.C.**, R. Puente, and D.J. Pinkava. 2012. Miscellaneous chromosome counts in Opuntieae DC. (Cactaceae) with a compilation of counts for the group. *Haseltonia* 18: 67-78.
  14. **Majure, L.C.**, R. Puente, M.P. Griffith, W.S. Judd, P.S. Soltis, and D.S. Soltis. 2012. Phylogeny of *Opuntia* s.s. (Cactaceae): clade delineation, geographic origins, and reticulate evolution. *American Journal of Botany* 99: 847-864.
  13. **Majure, L.C.**, W.S. Judd, P.S. Soltis, and D.E. Soltis. 2012. Cytogeography of the *Humifusa* clade of *Opuntia* s.s. Mill. 1754 (Cactaceae: Opuntioideae): Correlations with geographic distributions and morphological differentiation of a polyploid complex. *Comparative Cytogenetics* 6: 53-77. doi: 10.3897/compcytogen.v6i1.2523. <http://www.pensoft.net/journals/compcytogen/article/2523/abstract/cytogeography-of-the-humifusa-clade-of-opuntia-ss-mill-1754-cactaceae-opuntioideae-opuntieae-correlations-with-pleistocene>
  12. **Majure, L.C.** and E. Ribbens. 2012. Chromosome counts of *Opuntia* (Cactaceae), prickly pear cacti, in the Midwestern United States and environmental factors restricting the distribution of *Opuntia fragilis*. *Haseltonia* 17: 58-65.
  11. **Majure, L.C.**, C.H. Doffitt, J. Hill, and T.C. Majure. 2011. The Vascular Flora of Lauderdale County, Mississippi, U.S.A. *Rhodora* 113: 365-418.
  10. Hanlon, M., Mock, S., Nuthulapati, P., Mishler, B., Tremblay, S., Madsen, T., Solits, P.S., Soltis, D.E., **Majure, L.C.**, Payton, A., Wojciechowski, M., Olmstead, R., McCourt, R., and Merchant, N. 2011. My-plant.org: A Phylogenetically structured social network. *Gateway Computing Environments Workshop (GCE)*. 10.1109/GCE.2010.5676118.
  9. **Majure, L.C.** 2009. *Panicum repens* L. (Poaceae) in Mississippi. *Journal of the Mississippi Academy of Sciences* 54: 164-171.
  8. Tate, J. A., V. V. Symonds, A. N. Doust, R. J. A. Buggs, E. Mavrodiev, **L. C. Majure**, P. S. Soltis, and D. E. Soltis. 2009. Synthetic polyploids of *Tragopogon miscellus*

- and *T. mirus* (Asteraceae): 50+ years after Ownbey's discovery. *American Journal of Botany* 96: 979-988.
7. **Majure, L.C.** and G. N. Ervin. 2008. The *Opuntia* (Cactaceae) of Mississippi. *Haseltonia* 14: 111-126.
  6. **Majure, L.C.** and C.T. Bryson. 2008. *Carex breviculmis* R. Br. (Cyperaceae), new to the Flora of North America. *Journal of the Botanical Research Institute of Texas* 2: 1381-1387.
  5. **Majure, L.C.** 2008. New records of *Geranium molle* L. and *Erodium cicutarium* (L.) L 'Hér. ex Ait. (Geraniaceae), from Mississippi and other important collections from the state. *The Southeastern Naturalist* 7: 367-370.
  4. MacGown, J., J. Hill, **L.C. Majure**, and J. L. Seltzer. 2008. Rediscovery of *Pogonomyrmex badius* (Latreille)(Hymenoptera: Formicidae) in mainland Mississippi, U.S.A with an analysis of associated seeds and vegetation. *Midsouth Entomology* 1: 17-28.
  3. **Majure, L.C.** 2007. The Vascular Flora of the Chunky River (Mississippi). *Journal of the Botanical Research Institute of Texas* 1: 1179-1202.
  2. **Majure, L.C.** 2007. Noteworthy Collections: Mississippi. *Castanea* 72: 121-122.
  1. Ervin, G.N., **L.C. Majure**, and J. T. Bried. 2006. Effects of long-term GTR impoundment on stand structure, species composition, and hydrophytic indicators. *Journal of the Torrey Botanical Society* 113: 468-481.

#### Popular Articles

- Majure, L.C.** 2013. Yard Flora Challenge. *Mississippi Native Plant Society Newsletter* 31: 5-6.
- Majure, L.C.** 2012. The Plant Spotlight. *Mississippi Native Plant Society Newsletter* 30: 1-2.
- Majure, L.C.** 2010. Towards an evolutionary understanding of the *Opuntia humifusa* complex. *Cactus and Succulent Journal* 82: 156-163.

#### Invited Lectures

*Using phylogeny to test biogeographic history, morphological and reticulate evolution and species limits.* —Desert Botanical Garden, Phoenix, AZ, April 17, 2013 – **Lucas C. Majure.**

*Morphological evolution, biogeography, and polyploidy in prickly pear cacti, Opuntia (Cactaceae).* — New York Botanical Garden, Jan 28, 2013 – **Lucas C. Majure.**

*Plant collecting methods and work in the Massif de la Hotte, Haiti.* — American University of Les Cayes, Les Cayes, Haiti, Jan 18, 2013 – Skean, J.D., **L.C. Majure**, and G.M. Ionta.

*Evolution and systematics of the Humifusa clade of North America* — Desert Botanical Garden, Phoenix, AZ, April 27, 2012 – **Lucas C. Majure.**

*Evolutionary and systematic studies of the Opuntia of the eastern United States* — Sonoran IX Conference, Tucson, AZ, April 28-29, 2012 – **Lucas C. Majure.**

#### Contributed Papers (Oral Presentations)- presenter with \*

*Using museum data for large-scale questions: modeling Florida plant diversity* — Botanical Society of America, Boise, ID, July 26-30, 2014 - \*Germain-Aubrey,

- C.C., J. Allen, K.M. Neubig, R. Guralnick, D.E. Soltis, J-M. Ponciano, **L.C. Majure** and P.S. Soltis.
- Phylogenetic relationships and morphological evolution in Opuntia s.s and closely related members of tribe Opuntieae*—International Organization for Succulent Plant Study, Desert Botanical Garden, Phoenix, AZ, April 2014—\***L.C. Majure** and R. Puente-Martinez.
- Evaluating morphological evolution in tribe Miconieae (Melastomataceae): homoplasy is the rule not the exception*— Botanical Society of America, New Orleans, LA, July 2013 – **L.C. Majure**, \*W.S. Judd, G. Ionta, J.D. Skean, Jr., E.R. Bécquer, J. Burke, D.S. Penneys, G. Ocampo, M. Alvear, R. Goldenberg, F. Almeda and F. Michelangeli.
- Systematics of Miconia sect. Calycopteris (Melastomataceae: Miconieae) with an emphasis on the Hispaniolan species*— Botanical Society of America, New Orleans, LA, July 2013 – \*W.S. Judd and **L.C. Majure**
- Using herbaria to predict climate change response: modeling Florida plant diversity*— Botanical Society of America, New Orleans, LA, July 2013 -\*C. Germain-Aubrey, J. Allen, **L.C. Majure**, K. Neubig, J.M. Ponciano, D.E. Soltis, and P.S. Soltis.
- Searching for needles in a stack of needles: diploids in Opuntia s.s. (Cactaceae) and what they tell us about the evolutionary history of the Humifusa clade* — Botanical Society of America, St. Louis, MO, July 8-14, 2011 – \***L.C. Majure**, W.S. Judd, P.S. Soltis, and D.E. Soltis
- Cemeteries, gypsies, and blue sedge (*Carex breviculmis*). \*Bryson, C.T. and **L. Majure**. 2010. South. Weed Sci. Soc.
- Reconstrucción filogenética del género Opuntia (Cactaceae) y su significado evolutivo* — Congreso Botánico de México, Guadalajara, Jalisco, MX, Nov. 21-27, 2010 – **L.C. Majure**, \*R. Puente, M.P. Griffith, W.S. Judd, P.S. Soltis and D.E. Soltis
- Phylogeny reconstruction of the genus Opuntia (Cactaceae) and its evolutionary significance* — Botanical Society of America, Providence, RI, July 31-Aug 4, 2010 – \***L.C. Majure**, R. Puente, M.P. Griffith, W.S. Judd, P.S. Soltis and D.E. Soltis
- Is Opuntia humifusa monophyletic? Insights from the plastid genome* – Botanical Society of America, Snowbird, UT, July 24-29, 2009 - \***L.C. Majure**, P.S. Soltis, W.S. Judd, and D.E. Soltis

### **Contributed Papers (Posters)**

- Diversification and endemism of Greater Antillean Melastomataceae in the Massif de la Hotte, Haiti* — Botanical Society of America, Boise, ID, July 26-30, 2014 - **L.C. Majure**, W.S. Judd, G.M. Ionta, J.D. Skean, Jr., K.M. Neubig, and F. Michelangeli.
- Flora and DNA barcoding of the vascular plants of the Ordway-Swisher Biological Station* — Botanical Society of America, Boise, ID, July 26-30, 2014 - Guignardi, Z, K.M. Neubig, **L.C. Majure**, W.M. Whitten, and N. Williams.
- Using webpages as a tool for teaching plant taxonomy in a laboratory* — Botanical Society of America, Columbus, OH, July 7-11, 2012 - \* L. Endara, K. Neubig, **L.C. Majure**, G. Stull, and W.S. Judd.

- Phylogeny of Opuntia s.s. (Cactaceae): clade delineation, geographic origins, and reticulate evolution.* — 32nd Congress of the Organization for Succulent Plant Study, Havana, Cuba, July 2012 – **L.C. Majure**, \*R. Puente, M.P. Griffith, W.S. Judd, P.S. Soltis and D.E. Soltis.
- My-plant.org: A Phylogenetically structured social network.* — Botanical Society of America, Providence, RI, July 31-Aug 4, 2010 – M. Hanlon, S. Mock, P. Nuthulapati, B. Mishler, S. Tremblay, T. Madsen, P.S. Solits, D.E. Soltis, \* **L.C. Majure**, A. Payton, M. Wojciechowski, R. Olmstead, R. McCourt, and N. Merchant.
- Habitat modeling for Opuntia spp. in the Southeastern United States* – USDA, Animal and Plant Health Inspection Service, International *Cactoblastis cactorum* Conference, Phoenix, AZ, May 7-10, 2007 - \*G.N. Ervin and **L.C. Majure**
- Storm-driven maritime dispersal of prickly pear cacti (Opuntia species)* - USDA, Animal and Plant Health Inspection Service, International *Cactoblastis cactorum* Conference, Phoenix, AZ, May 7-10, 2007 - \***L.C. Majure**, P. Fitzpatrick, and G.N. Ervin.
- Microstructural morphology of Opuntia species (Cactaceae) based on scanning electron microscopy* – USDA, Animal and Plant Health Inspection Service, International *Cactoblastis cactorum* Conference, Phoenix, AZ, May 7-10, 2007 – \***L.C. Majure** and G.N. Ervin.
- Microstructural morphology of Opuntia species (Cactaceae) based on scanning electron microscopy*- Southeastern Microscopy Society (SEMS) Conference, Decatur, GA, April 2007 - \***L.C. Majure** and G.N. Ervin
- Microstructural morphology of Opuntia species (Cactaceae) based on scanning electron microscopy*- Southeastern Ecology Conference (SEEC), University of Central Florida, Orlando, FL, March 2007 - \***L.C. Majure** and G.N. Ervin
- The morphological plasticity of Opuntia pusilla (Haw.) Haw. induced by differentiations in environmental variables* – Ecological Society of America, Memphis, TN, August 2006 - \***L.C. Majure** and G.N. Ervin
- Dietary Shifts in the emerald shiner, Notropis atherinoides, after large-scale river fragmentation* – Research Opportunities for Undergraduates (REU) Symposium, Mississippi State University, Starkville, MS, August 2006 – \*H. Turner, M.E. Roberts, C.M. Taylor, and **L.C. Majure**
- Assessing habitat requirements for host plants (Opuntia spp.) of Cactoblastis cactorum in the Southeastern United States* – Southeastern Ecology Conference (SEEC), University of Alabama, Tuscaloosa, AL, March 2006 - \***L.C. Majure**, G.N. Ervin, J.D. Madsen, R. Westbrooks, A.Simpson, and E. Sellers
- Assessing habitat requirements for host plants (Opuntia spp.) of Cactoblastis cactorum in the Southeastern United States* – Ecological Society of America International Meeting, Mérida, Mexico, January 2006 – \***L.C. Majure**, G.N. Ervin, J.D. Madsen, R. Westbrooks, A.Simpson, and E. Sellers
- Predictive habitat modeling in support of integrated invasive species management in the mid-south* – First All-USGS Modeling Conference, Olympic Park Institute, WA, November 2005 – \*G.N. Ervin, J.D. Madsen, and **L.C. Majure**