

Field Guide to the
FIU Preserve Butterfly Garden
South Florida Ecosystem Preserve

by

Michael P. O'Brien
August 2005



Florida International University
University Park, Miami, Florida

[Cover illustration: Heliconius charitonius by
Bridget Shea O'Brien

Heliconius charitonius or the Zebra Longwing is the state butterfly of Florida. It has long black wings with slashes of pale yellow. It is frequently observed in the hammock, forest edges, and adjacent open, disturbed areas.]

*** Possible Butterly Spotting** -- A common site in the Garden is that of the zebra longwing butterfly. Adults can often be seen gathering nectar from the firebrush and other garden plants. The state butterfly of Florida since 1996, the zebra longwing is aptly named: its wings are very narrow and it is black with lemon yellow to pale yellow stripes. It also has small red spots on the underside of its wings. The zebra longwing is a member of the Brushfoot family and the Longwing subfamily of butterflies, and both sexes are similar in appearance. Like all Brushfoots, the zebra longwing only walks on four legs, the other two being small and brush-like, hence the name. The females usually lay their yellow eggs in groups on the new growth and tendrils of various passion-flowers. Its larva is a white caterpillar with small black spots and long black spikes, and it feeds upon its birth passion-flower. The adults can be seen in hammocks and thickets all over southern Florida year-round, and it is known for its slow, graceful flight. The wingspan of an average adult is about three inches. The zebra longwing is rather long-lived for butterflies, and can last in its adult form for up to five months.

Introduction

The preserve is a managed site, in constant change concerning the growth and establishment of plants and the nature and movement of wildlife. The butterfly garden established on the edge near the east entrance to the Preserve is approximately twenty meters by twenty meters. A primitive stone wall barrier protects plants and wildlife from mowing and other potential hazards in the environment. Observations should be made behind the stone edging toward the sidewalk and street. All of the areas designated as learning stations can be seen from just outside the rock wall barrier. Please do not touch or harm in any way the plants or wildlife. Species to be found in the butterfly garden are fragile or sensitive to handling. A large butterfly with a number 1 - 9 indicates each of the learning points of information. This field guide presents an overview of some of the important plants found in the butterfly garden and their associated relationships with butterflies.

Learning Stations



1. Blue porterweed (*Stachytarpheta jamaicensis*) - A shrub that grows to three or four feet in height, the blue porterweed can be found naturally in open woodlands, clearings, and in disturbed, well-drained areas. It is a fairly long-lived perennial. It reseeds after being planted, but it does not usually become a pest. Its flowers are generally open in the morning and closed in the afternoon, but it blooms year-round. It is used as a larval host plant by the black mangrove buckeye and as a source of nectar by the cloudless sulfur (*Phoebis sennae*).

**** Possible Butterly Spotting --** A member of the Brushfoot family and the Longwing subfamily, the julia is a very attractive butterfly. It has the distinctive long, narrow wings of its family, and with the julia they tend to span three to four inches. The tops of the wings are orange with some black borders, and the bottoms are yellow-orange and mottled. The females are similar, though less vibrant and with a single black band across the forewing. Its eggs are yellow, elongated, and are laid singly on the new growth or tendrils of the host plant, usually a passion-flower. The larva is dark brown and has branched black spines in addition to cream spots broken by red markings running lengthwise. Julia frequents hammocks, though it has a more southerly range than its cousin, the zebra longwing. Its adults are fast-flying, which is appropriate since they live shorter lives than most Longwings: only a few weeks. In the garden see if you find any adults feeding on **the Blue Porterweed** or Firebush .



[Illustration: Dryas julia by
Bridget Shea O'Brien

Dryas julia or the Julia butterfly has long and narrow wings that are orange with black sub-apical markings and narrow, black margins.]



2. Coontie (Zamia floridana) - A shrub of two to three feet in height, the coontie can grow in full sunlight or shade. It occurs naturally in open pine woodlands and in coastal woodlands. It looks like a fern or a palm, but is actually a cycad, an ancient coniferous plant. It serves as the larval host plant of the rare atala butterfly (Eumaeus atala).



3. Camphorweed or Telegraphweed - Heterotheca subaxillaris is an odoriferous variable annual or biennial herb to three feet tall or more. The stems are branched, rough, and sticky. Flower heads of ray and disk florets yellow. Fruit an achene. Flowering time is January - December. Habitat includes vacated lots, roadsides, pastures, pine flatwoods, and coastal scrubs and dunes.



4. Lantana (Lantana camara) - The shrub verbena can grow to three feet, and it has clusters of pink and orange flowers and spiny stems. It grows best in sunlight. Its natural habitat is woods clearings, especially in pinelands. Its flowers attract many different butterflies.



5. Pentas (*Pentas lanceolata*) - Pentas average three feet in height and bloom all year. They attract many species of butterflies including Swallowtails and certain species of Skipper Butterflies as well as Sphinx Moths.



6. Live oak (*Quercus virginiana*) - This large tree can grow to 50 - 60 feet and grows best in sun to part shade. The live oak shows pendulous, yellowish catkins to 3 inches long when it blooms. It produces 3/4-inch edible acorns which is a major food source for wildlife. The leathery leaves, narrow and oval, can reach 4-5 inches long on various new shoots. They are dark green above and pale green underneath. The live oak is a dominant tree in the open woodlands. The flowers of the live oak are a good nectar source, while providing larval food for the Brown Duskywing (*Erynnis horatius*), Gray Hairstreak (*Strymon melinus*), Southern Oak Hairstreak (*Fixenia favonius*), and White M Hairstreak (*Parrhasius m-album*).



7. Firebush (*Hamelia patens*) - Considered a small tree, the firebush can grow to heights of ten feet or more. It grows best in full light or partial shade, though it the leaves bleach in full sunlight. Its natural habitat is the forest edge or in the under-story. It is easily recognizable by its clusters of bright-red, tubular flowers. Like all plants in the learning stations, it occurs naturally in South Florida and, of course, is a superb butterfly plant. It takes damp or dry soil, and, because it is prone to aphids and lubber grasshoppers, it is best used as a background plant.

Acknowledgments

I would like to first thank Dr. Jack Parker and Dr. David Lee for sponsoring my Eagle Scout Service Project in the preserve. Their knowledge and guidance have been invaluable to this project.

Also, I am appreciative to other faculty and students of SEA (Students for Environmental Action) who helped me during the project. In particular, I would like to thank Dr. Tom Pliske, Dr. Suzanne Koptur, Dr. Zhonghong Jiang, Dr. Michael McClain, and Ms. Devon Powell for their great advice and work during different elements of my project.

I would like to thank the members of the Broward Chapter of the Florida Native Plant Society, Poole and Kent Mechanical Contractors (FIU Construction Project), FIU Facilities Maintenance Department, and Mr. Farley Ferrante for support of my project.

I am grateful to the leaders, boys, and family members of Troop 636 for supporting and helping me during the project. In particular, I would like to thank Alex Carver, Michael Golditch, and Doug Wilson for their back breaking efforts in working with me at the Preserve.

Finally, but not least, I want to thank my parents and sister, Bridget, for their invaluable support and assistance in my successful planning, development, and carrying out of this project.

Selected Bibliography

- Alden, P., Cech, R., Keen, R., Nelson, G., & Zomlefer, W. (1998). National Audubon Society Field Guide to Florida. New York: Alfred A. Knopf.
- Bell, C. R., & Taylor, B. J. (1982). Florida Wildflowers and Roadside Plants. Chapel Hill, NC: Laurel Hill Press.
- Boy Scouts of America. (1984). Fieldbook, 3rd. Edition. Irving, TX: author.
- Bull, J., & Farrand, Jr., J. (1994). National Audubon Society Field Guide to Birds Eastern Region North America. New York: Alfred A. Knopf.
- Cerulean, S., Botha, C., & Legara, D. (1993). Planting a Refuge for Wildlife: How to Create a Backyard Habitat for Florida's Birds and Beasts. Tallahassee, FL: Florida Game and Fresh Water Fish Commission Nongame Wildlife Program and United States Department of Agriculture Soil Conservation Service.
- Cooperrider, A. Y., Boyd, R. J., & Stuart, H. R. (1986). Inventory and Monitoring of Wildlife Habitat. Washington, DC: US Department of Interior Bureau of Land Management.
- Daniels, J. C. (2003). Butterflies of Florida Fieldguide. Cambridge, MN: Adventure Publications, Inc.
- Daniels, J. C. (2005, August). Butterfly Garden Basics. Document viewed at the Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences. Gainesville, FL: University of Florida. EDIS Web Site [online]: <http://hort.ifas.ufl.edu/ggk/butterfly.htm>.
- Emmel, T. C. (2003). Florida's Fabulous Butterflies, 4th Edition. Tampa, FL: World Publications.
- Haehle, R. G., & Brookwell, J. (2004). Low-Maintenance Landscaping and Gardening: Native Florida Plants. Lanham, NY: Taylor Trade Publishing.
- Henry, J. A., Portier, K. M., & Coyne, J. (1994). The Climate and Weather of Florida. Sarasota, FL: Pineapple Press, Inc.
- Kelly-Begazo, C., & McNair, R. (2003, Fall). A Guide to Environmentally Friendly Landscaping: Florida Yards and Neighborhoods Handbook, 2nd Edition. Gainesville, FL: University of Florida IFAS Extension.

- Lodge, T. E. (1998). The Everglades Handbook: Understanding the Ecosystem. Boca Raton, FL: St. Lucie Press.
- Miller, L. H. (1986). The Nature Specialist. Martinsville, IN: American Camping Association.
- Miller, M. F. (2003, July, Revised). Field Guide to the South Florida Ecosystem Preserve: Hardwood Hammock Nature Trail. Miami, University Park: Florida International University, unpublished document.
- Mizejewski, D. (2004). National Wildlife Federation: Attracting Birds, Butterflies and Other Backyard Wildlife. Upper Saddle River, NJ: Creative Homeowner.
- Myers, R. L., & Evel, J. J. (Eds.). (1992). Ecosystems of Florida. Orlando, FL: University of Central Florida Press.
- Ortho's Books. (2003). Ortho's All About Creating Natural Landscapes. Des Moines, IA: Meredith Books.
- Pyle, R. M. (1981). National Audubon Society Field Guide to Butterflies. New York: Alfred A. Knopf.
- Robbins, C. S., Bruun, B., & Zim, H. S. (2001). A Guide to Field Identification: Birds of North America- A Golden Field Guide. New York: St. Martin's Press.
- Robinson, G. B., Robinson, S. C., & Lane, J. (1996). Discover a Watershed: The Everglades. Bozeman, MT: The Watercourse.
- Scurlock, J. P. (1996). Native Trees and Shrubs of the Florida Keys: A Field Guide. Lower Sugarloaf Key, FL: Laurel & Herbert, Inc.
- Schaefer, J., Huegel, C. N., & Mazzotti, F. J. (2002, September). Butterfly Gardening in Florida. WEC-22 document in a series of the Wildlife Ecology and Conservation Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences. Gainesville, FL: University of Florida. EDIS Web Site [online]: <http://edis.ifas.ufl.edu/UW057>.
- Slesnick, I., Williamson, B., Wygoda, L., Edwards, M., & Krauskopf, S. (1997). Global Environmental Change: Biodiversity. Arlington, VA: National Science Teachers Association.
- Stokes, D., Stokes, L., & Williams, E. (1991). Stokes Butterfly Book. Boston: Little, Brown and Company.

- Taylor, W. K. (1998). Florida Wildflowers in Their Natural Communities. Gainesville, FL: University Press of Florida.
- U.S. Fish and Wildlife Service. (1998, June). Chapter 1 "Introduction" in Multi-Species Recovery Plan for the Threatened and Endangered Species of South Florida Volume II, the Ecosystem Technical/Agency Draft. Atlanta, GA: author.
- U.S. Fish and Wildlife Service. (1998, June). Chapter 7 "Tropical Hardwood Hammock" in Multi-Species Recovery Plan for the Threatened and Endangered Species of South Florida Volume II, the Ecosystem Technical/Agency Draft. Atlanta, GA: author.
- U.S. Fish and Wildlife Service. (1998, June). Chapter 8 "Pine Rocklands" in Multi-Species Recovery Plan for the Threatened and Endangered Species of South Florida Volume II, the Ecosystem Technical/Agency Draft. Atlanta, GA: author.