A Floristic Survey of McCarty Woods

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Abstract

This study involves the University of Florida preservation area known as McCarty Woods. The subjects dealt with here are the geology, climatology, hydrology, history, and floristics of the site. McCarty Woods is a mesic hammock with a Millhopper soil type. The past year it has had little rainfall and temperatures above normal, which continues to impact the growing season length, and may have reduced the number of species available for collection. McCarty Woods had almost no human development prior to this century. The university has altered the species composition of the area, due to understory mowing in the early 1970s. This practice eliminated some native species, and encouraged their replacement by exotic invasive plants. The major portion of this project is the collection of vascular plant species. The most common trees of McCarty Woods today are Ulmus alata, Carya glabra, Liquidambar styraciflua, Quercus michauxii, Fraxinus americana, and Celtis laevigata. A complete set of voucher specimens has been deposited to the University of Florida Herbarium. The results of this study show that McCarty Woods is overrun with nonnative flora, and plant species that thrive in disturbed sites.

Chapter 1
INTRODUCTION TO MCCARTY WOODS

McCarty Woods is located on the University of Florida campus in Gainesville Florida. Its boundaries are McCarty Drive to the north, Newell Drive to the east, Museum Road to the south, and Newins-Zeigler Hall to the west. McCarty Woods is a hammock, which is to say it is a natural community that is dominated by hardwood vegetation on usually fertile soil. The area has tree species that are typically found in wet, mesic, and dry hammock. When the amount of rain and the depth of the water table (see Chapter 2) of McCarty Woods are taken into consideration, the area is best described as a mesic hammock. Over the last century, the older growth trees of the woods died. The understory has been mowed. The area has been dissected by footpaths used by university students and personnel. The overstory is populated by largely native trees, although there some invasives, such as Macfadyena unguis-cati and Cinnamomum camphora, are beginning to grow in the canopy. Especially when applied to the understory, a valid argument could be made that McCarty Woods has too few remaining native species to be designated as a natural community.

Chapter 2
GEOLOGY AND CLIMATOLOGY

According to Florida 2001 Climatological Data, the city of Gainesville, including McCarty Woods, is located at latitude 29° 41' 23" north, and longitude 82°16'19" west. The average barometric pressure for Gainesville in 2001 was 152 psi. The Alachua County Soil Survey (USDA, 1985) describes the area of McCarty Woods as being "Millhopper-Urban land complex." The land is entirely flat, with moderately well-drained, nearly level Millhopper soils. "The surface layer of Millhopper soils is dark grayish brown sand about [nine] inches thick. The subsurface layer is yellowish brown to pale brown sand about 49 inches [deep]. The sub soil extends to a depth of 80 inches or more. The upper [six] inches is yellowish brown, mottled loamy sand, and the lower 16 inches is gray, mottled sandy clay loam" (USDA, 1985). The survey also indicates that this type of soil is well-suited to adapted lawn grasses and ornamentals.

Rain is the sole water source for McCarty Woods, as there is no constant surface water available, and the water table is deep. The number of days with precipitation in Gainesville for 2001 with at least 0.01 inches recorded was 109. Only 11 days of 2001 received more than one inch of rain, although 4.03 inches was recorded for January 2002. The soil survey desribes the water table as follows: "The Millhopper soils have a water table that is 40 to 60 inches below the surface for [one] to [four] months and is at a depth of 60 to 72 inches for [two] to [four] months during most years. The available water capacity is low in the surface and subsurface layers and low to medium in the subsoil. Natural fertility is low. Organic matter content is low to moderately low."

The depth of the water table is dependent not just on rain, but also on temperature and humidity. The average humidity recorded for 2001 was 75%. The mean temperature for that year was 80.6°F, with mean temperatures for July and December of 89.7°F and 72.6°F,

respectively. The January 2002 temperatures, the only climate data on file for this year to date, ranged from 45 to 83 °F for the highs, and 23 to 65 °F for the lows. Thus McCarty Woods was warm and dry while this project was conducted.

Chapter 3
HISTORY

Before the University

Present-day Gainesville is located on land that was a Timuquan village 300 years ago. Hernando DeSoto described a rather lengthy encounter with them in 1539. In the following century, the Timuquan disintegrated as a people after the establishment of four Spanish missions in the northern portion of modern Alachua County. As more Europeans began to settle in the Americas, a population of Creeks under the leadership of Chief Secoffee migrated from southern Georgia and into north Florida. Some of these seceders, or "seminoles" in the Creek language, settled in Alachua county. It was with their tolerance that a merchant from Havana named Fernando de la Maza Arredondo established the first permanent, European settlement in the area in 1817.

After Florida's annexation to the U.S. in 1824, Alachua County was created with the town of Alachua as county seat. With the construction of the Florida Railroad in 1853, Alachua County residents voted to create a new town closer to the railroad, and to make it the new county seat. They also decided to name the town after Seminole War General Edmund P. Gaines. Gainesville was founded on September 6, 1853, and originally constructed on 60 acres of a former cotton plantation. During the Civil War, Gainesville was a Confederate storehouse. Two skirmishes were fought over Gainesville in 1864, both were Confederate victories. Between the 1880s and 1890s, Gainesville had two railways, fourteen cotton gins, and three successful industries, including lumbering. As an aerial photograph of the University of Florida from the 1920s shows, the areas lumbered could not have included what is now McCarty Woods. Another important Gainesville industry in the 1880s was citrus and vegetable farming. Weber, in his 1883 book Eden of the South, gave this description of the hammocks in the area, with tourist and

agricultural motives in mind:

"The hummock lands are the most productive. Both the high and the low hummocks are generally admixed with lime, and the streams running through them are impregnated with it more or less. High hummocks do not require ditching or draining. Low hummocks generally require ditching to relieve them of a superabundance of water, especially during the rainy season. They have a deeper soil and are generally regarded as more lasting than high hummocks. Low hummocks are especially fitted for the growth of sugar-cane."

At the turn of the century, the city limits were expanding. Public improvements, such as sewers, public water, gas, electricity, brick roads, and telephone lines, became available. Gainesville was the fourth largest city in Florida, with a population of almost 4000 people.

The University Arrives

Gainesville became the home of the University of Florida in 1905, on a land grant that included McCarty Woods. The southernmost building of the original 19 was the University Auditorium, a half-mile walk from the modern McCarty complex. By 1922, when the first aerial photographs of the university were taken, Museum Drive was a dirt road that partitioned the remaining woodlands to the south of the campus proper. McCarty parking lot was already there, although a few feet north of its successor.

The general shape of the future McCarty Woods was already outlined in 1932 (see Aerial Photograph 2). McCarty Halls A through D were completed in 1956, increasing foot traffic through its adjoining grounds. In an aerial photo from 1956, what is now Trail 2 (see Map 1) could clearly be seen above the trees. By 1962, two more trails were visible. Starting in 1969, the understory of McCarty Woods was mowed regularly. This maintainance stopped in 1975, when workers in the Natural History Museum across Museum Road complained (E. Smith, 26

February 2002). Also by this time, the heat-island effect of the city and the motor traffic had killed the older Southern Magnolias (Magnolia grandiflora) and White Ash (Fraxinus americana) trees, leaving fewer obstacles for students (E. Smith, 25 February 2002). The construction of Newins-Zeigler Hall in 1976 added even less incentive to walk around the wooded area. When Aerial Photograph 3 was taken in 1996, the trees were in clusters, with relatively few left as compared with the dense canopy of the 1920s.

The Future of McCarty Woods

According to the UF Physical Plant Department's (UFPPD) "McCarty Woods Preliminary Management Plan" there are seven goals that have been or will be pursued in the area. The primary objective is to maintain the "wooded, shady nature of this area," which could be done with little or no management by the UFPPD at all. The second goal is to encourage use as a teaching laboratory and source of research. That phase has already begun, with the establishment of this study, survey classes using the area, and several termite projects like the one on Trail 3 (see Photo 20). The third portion of the plan is to protect the native species composition. As will be discussed in Chapter 5, the fulfilment of this objective is highly unlikely. The fourth goal is to block the duplicate walking trails, which mostly run east to west connecting the four main trails, with 'tree trunk' barriers (see Map 2). This idea has already been carried out, except that the blockades are stacks of long branches that has yet to deter students or faculty from using the secondary trails during the author's observation. Pedestrian traffic along these trails has not signifigantly decreased for two reasons. First, most of the branch piles are not visible from one side of the trail to the other. Second, they look like part of the natural terrain rather than an attempt to route students to another path. The fifth and sixth objectives are to keep perimeter mowing to a minimum and discourage vehicular traffic along the perimeters by planting trees.

The planting began in May 2001, so most of these trees were not mature enough to produce flowers and fruits during this project. The tree species deliberately planted are as follows: Ostrya virginiana (May 2001), Diospyrus virginiana, Malus angustifolia, Quercus alba (November 2001), Fraxinus americana, Quercus michauxii (December 2001), and Fagus grandifolia (March 2002). The final objective of UFPPD is to use signs to direct and inform pedestrians. To date, the only signs in McCarty Woods are duplicates of the one in Photo 13.

There are also a few innovations that were not in the management plan, such as sod and cement steps added on the southern slope which prevent topsoil erosion, which have also been implemented in the woods. There are also some problems that were not discussed, such as littering, especially along Trail 3. The start and end of Trail 3 are also where the only trash bins are located. Neither bin is visible while walking the length of that path, which may be a contributing factor to the problem. Whether or not the UFPPD will be able to use its management plan to make McCarty Woods a more naturally productive preservation area remains to be seen.

Chapter 4
METHODS

Collection was made whenever possible with the plant in a flowering or fruiting reproductive state. The general size of the specimen taken was large enough to cover an 8.5x11" (21.3x27.7 cm) sheet of paper. Samples of trees, shrubs, and vines were taken with either a pair of garden clippers or a pruning pole, to avoid excessive damage to the organism. Ferns, epiphytes, and herbs were collected with intact root and shoot systems. Several herb samples are from plants with root systems that resisted pulling or digging, and so only shoot systems were taken for those species.

Identification of the specimens was determined primarily using R.P. Wunderlin's Guide to the Vascular Plants of Florida. Other books used were G. Nelson's Trees of Florida and Shrubs and Vines of Florida, Wildflowers of the Southeastern United States by Duncan and Foote, and Judd's Plant Systematics: a Phylogenetic Approach. After identification, labels were made using the P-label computer program available at the university's herbarium website (http://www.flmnh.ufl.edu/natsci/herbarium). Properly labelled samples were then mounted, and became voucher specimens at the University of Florida Herbarium (FLAS).

Chapter 5
RESULTS

Overall, species from a total of 43 families was collected from July 2001 to April 2002. Of those families, 77 species were collected. Twenty-eight of those species are trees, 32 species are herbs, 11 species are vines, and two species are epiphytic. One fern species was collected. Three shrub species were collected. For an explanation of these classifications, see Chapter 6.

By using descriptions found in Guide to the Vascular Plants of Florida, it has been revealed that a number of species have been "introduced" to Florida (i.e., escaped from cultivation or are nonnative species). Over 46% of the herbs found in McCarty Woods are described as introduced (15 herb species total). Almost 25% of the trees species (7 of the 28 total) that make up McCarty Woods are introduced to the area. Several introduced plants in McCarty Woods are also species that flourish in disturbed sites.

Many of the plants in McCarty Woods, 40% of those collected, indicate a "disturbed site." A disturbed site is an area whose human cultivation or management efforts have been discontinued, such as an abandoned farm. In the case of McCarty Woods, mowing has essentially destroyed the natural understory. Nineteen of the 32 herb species (59%) collected are common in disturbed sites, and so are five of the 28 tree species (18%). From the edge and the understory (see Photos 8 and 22 for examples), four of the eleven dominant vine species (36%) and two of the three shrub species (66%) are common to disturbed habitats.

There are seven species out of the introduced and disturbed flora in McCarty Woods that are considered "Category I Invasive Species." The Florida Exotic Pest Plant Council of 2001 described Category I as "Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives" (Florida EPPC Newsletter, Volume 11). In effect, these plants pose the most immediate

threat where they grow in this state. The species listed that are found in McCarty Woods are: Albizia julibrissin (Mimosa), Ardisia crenata (Coral Ardisia), Cinnamomum camphorum (Camphortree), Dioscorea bulbifera (Air-potato), Lantana camara (Shrub Verbena), Macfadyena unguis-cati (Cat's Claw Vine), and Melia azedarach (Chinaberry). Lantana dominates the understory's edges on the east, south, and west sides, but is not found in the shaded sections of the interior. Cat's Claw Vine is growing on many mature trees and saplings from Trial 3 eastward.

Even if these two invasives were removed, the understory is too far gone to return to a natural state. Human-caused disturbances have already ruined the understory, and have impacted the regeneration of overstory trees. For example, Prunus caroliniana (Laurel Cherry), a small tree commonly found in disturbed sites, now dominates the southern and eastern edges. The spiderweb of footpaths that section the area will continue to effectively keep both natural and nonnative plants from recolonizing the underbrush. In conclusion, an estimated two-thirds of the plant species of McCarty Woods should not be there, and threaten the remaining natural community. Attempting to restore the area to a more natural community would require intense effort.

CHAPTER 6
ANNOTATED LIST OF TAXA

There are three floristic lists given here for McCarty Woods. The first is the fern species (from the family Polypodiaceae), followed by the flowering plants, divided into their respective monocot and eudicot groupings. The only gymnosperm in McCarty Woods is one tree of Juniperus virginiana. Habitat descriptions come from Wunderlin's Guide to the Vascular Plants of Florida, but frequency, reproductive condition, date, and collection number are specific to McCarty Woods alone. Any species with at least five representatives in the area as designated by Map 1 is common. Woody plants under eight feet (2.4 m) in height. Woody plants over eight feet are considered trees. The term vine is applied to herbaceous or woody climbers.

PTERIDOPHYTA

POLYPODIACEAE

Pleopeltis polypoidioides (Liebm.) Andrews and Windham -Resurrection Fern. Fern.

Hammocks; epiphytic, rarely on rocks. Common. 12 March 2002. 48.

CONIFEROPHYTA

CUPRESSACEAE

Juniperus virginiana L. -Red Cedar. Tree. Hammocks, coastal beaches, and shellmounds.

Spring. Uncommon. 26 April 2002. 79.

ANTHOPHYTA

MONOCOTs

ARACEAE

Arisaema triphyllum (L.) Schott -Jack-in-the-Pulpit. Herb. Mesic to wet hammocks. Spring-summer. Common. 26 April 2002. 75.

ARECACEAE

Sabal palmetto (Walter) Lodd. ex Schult & Schult. f. -Cabbage Palm. Shrub to tree. Savannas, hammocks, and swamps. Spring- summer. Common. 11 April 2002. 60.

BROMELIACEAE

Tillandsia recurvata (L.) L. -Ball Moss. Epiphyte. Hammocks, pinelands, and scrub. Spring- fall. Common. 1 November 2001. 21.

Tillandsia usneoides (L.) L. -Spanish Moss. Epiphyte. Hammocks, pinelands, and scrub. Spring-fall. Common. 1 November 2001. 20.

COMMELINACEAE

Commelina erecta L. -Whitemouth Dayflower. Herb. Sandhills, scrub, and disturbed sites. Spring- fall. Common. 6 August 2001. 7.

CYPERACEAE

Carex frankii Kunth -Frank's Sedge. Herb. Floodplain forests and marshy clearings. Spring. Common. 28 March 2002. 51.

POACEAE

Dichanthelium commutatum (Schult.) Gould -Variable Witchgrass. Herb. Wet hammocks and swamps. Spring- fall. Common. 26 April 2002. 81.

Oplismenus hirtellus (L.) P. Beauv. -Woodsgrass; Basketgrass. Moist hammocks. All year. Common. 26 April 2002. 77.

Panicum miliaceum L. -Broomcorn Millet. Herb. Roadsides and other disturbed sites; introduced. Summer-fall. Common. 25 July 2001. 4.

Paspalum floridanum Michx. -Florida paspalum. Flatwoods, hammocks, marsh edges, and disturbed sites. Spring- fall. Common. 92.

SMILACACEAE

Smilax bona-nox L. -Saw Greenbrier. Vine. Wetflatwoods, floodplains, hammocks, and thickets. All year. Uncommon. 6 November 2001. 26.

Smilax tamnoides L. -Bristly Greenbrier, Hogbrier. Vine. Moist hammocks. Spring. Common. 2 October 2001. 14.

Smilax smallii Morong -Jackson Vine; Lanceleaf Greenbrier. Vine. Moist hammocks. Spring. Common. 26 April 2002. 70.

EUDICOTS

ACANTHACEAE

Ruellia caroliniensis (J.F. Gmel.) Steud. -Carolina Wild Petunia. Herb. Sandhills, flatwoods, and hammocks. Spring- summer. Uncommon. 19 March 2002. 44. 11 April 2002. 59.

AMARANTHACEAE

Gomphrena serrata L. -Cottonweed. Herb. Dry, open, disturbed sites; introduced. All year. Common. 2 October 2001. 12. 1 November 2001. 23.

ANACARDIACEAE

Toxicodendron radicans (L.) Kuntze -Eastern Poison Ivy. Herb. Hammocks, floodplain forests, and disturbed sites. Spring- summer. Common. 26 April 2002. 94.

APOCYNACEAE

Apocynum cannabinum L. -Indianhemp. Herb. Open hammocks. Summer. Common. 26 April 2002. 86.

AQUIFOLIACEAE

Ilex vomitoria Aiton -Yaupon. Tree. Hammocks, swamps, flatwoods, and dunes. Spring. Common. 26 April 2002. 68.

ASTERACEAE

Bidens alba (L.) DC. -Beggarticks, Romerillo. Herb. Disturbed sites. All year. Common. 1 October 2001. 10. 31 January 2002. 63.

Taraxacum officinale Weber ex F.H. Wigg -Common Dandelion. Herb. Open disturbed sites; introduced. Spring- fall. Uncommon. Fruits, 1 October 2001. 11.

Vernonia gigantea Michx. -Giant Ironweed. Herb. Hammocks and floodplains. Summer- fall. Common. 9 July 2001. 1. 3 August 2001. 5.

Youngia japonica (L.) DC. -Oriental False Hawksbeard. Herb. Disturbed sites; introduced. All year. Uncommon. 19 March 2002. 45.

BETULACEAE

Ostrya virginiana (Mill.) K. Koch -Eastern Hophornbeam. Tree. Moist to wet hammocks. Spring- summer. 26 April 2002. 69.

Carpinus caroliniana Walter -American Hornbeam; Bluebeech. Tree. Wet hammocks and floodplain forests. Spring- summer. 26 April 2002. 85.

BIGNONIACEAE

Bignonia capreolata L. -Crossvine. Vine. Floodplain forests and wet hammocks. Spring. Uncommon. 28 March 2002. 49.

Campsis radicans (L.) Seemann ex Bureau -Trumpet Creeper. Vine. Floodplain forests and disturbed sites. Spring- summer. Common. 26 April 2002. 80.

Macfadyena unguis-cati (L.) A.H. Gentry. -Catclawvine. Vine. Disturbed sites; introduced. Spring. Common. 14 March 2002. 43.

BRASSICACEAE

Lepidium virginicum L. -Virginia Pepperweed. Herb. Disturbed sites. Spring. Common. 8 April 2002. 58.

Raphanus raphanistrum L. -Wild Radish. Herb. Disturbed sites; introduced. Spring. Uncommon. 28 March 2002. 55.

CAPRIFOLIACEAE

Lonicera sempervirens L. -Coral Honeysuckle; Trumpet Honeysuckle. Vine. Floodplain forests and hammocks. Spring- summer. Uncommon. 26 April 2002. 82.

CONVOLVULACEAE

Ipomea pandurata Michx. - (L.) G. Meyer. -Man-of-the-earth. Vine. Sandhills and dry hammocks. Summer- fall. Uncommon. 24 August 2001. 9.

DIOSCOREACEAE

Dioscorea bulbifera L. -Air-potato. Vine. Disturbed hammocks and thickets. Spring. Common. 26 April 2002. 65.

EUPHORBIACEAE

Phyllanthus tenellus Roxb. -Mascarene Island Leafflower. Herb. Open hammocks and disturbed sites; introduced. All year. Uncommon. 26 April 2002. 71.

Poinsettia cyathophora (Murray) Bartl. -Paintedleaf; Fire-on-the-mountain. Herb. Dunes, hammocks, and disturbed sites. All year. Common. 2 October 2001. 16. 26 April 2002. 76.

FABACEAE

Albizia julibrissin Durazz. -Silktree; Mimosa. Tree. Disturbed sites; introduced. Spring. Uncommon. 15 April 2002. 62.

Cercis canadensis L. -Eastern Redbud. Tree. Mesic hammocks. Spring. Common. 1 November 2001. 33.

Erythrina herbacea L. -Coralbean; Cherokee Bean. Herb. Hammocks. Winter- spring. Uncommon. 26 April 2002. 72.

Indigofera spicata Forssk. -Trailing Indigo. Herb. Dry disturbed sites; introduced. Summer-fall. Uncommon. 26 April 2002. 91.

Medicago lupulina L. -Black Medick. Herb. Open disturbed sites; introduced. Spring- fall. Common. 24 January 2002. 40.

Trifolium repens L. -White Clover; Dutch Clover. Herb. Disturbed sites; introduced. All year. Common. 24 January 2002. 39.

FAGACEAE

Quercus laurifolia Michx. -Laurel Oak; Diamond Oak. Tree. Foodplain forests and wet to dry hammocks. Spring. Uncommon. 28 March 2002. 54.

Quercus michauxii Nutt. -Basket Oak; Swamp Chestnut Oak. Tree. Mesic, calcareous hammocks. Common. 6 November 2001. 24.

Quercus shumardii Buckley -Shumard's Oak. Tree. Wet, rocky hammocks and floodplain forests. Spring. Uncommon. 26 April 2002. 84.

Quercus sinuata Walter -Bluff Oak; Bastard White Oak. Tree. Open, dry to moist, calcareous hammocks. Spring. Uncommon. 26 April 2002. 88.

HAMAMELIDACEAE

Liquidambar styraciflua L. -Sweetgum. Tree. Moist to wet hammocks, bluff forests, and floodplain forests. Spring- summer. Uncommon. 6 August 2001. 8.

JUGLANDACEAE

Carya glabra (Mill.) Sweet -Pignut Hickory. Tree. Dry to mesic hammocks. Spring. Common. 12 October 2001. 19. 6 November 2001. 27.

LAURACEAE

Cinnamomum camphora (L.) J. Presl -Camphortree. Tree. Disturbed hammocks; introduced. Spring. Common. 6 November 2001. 29.

Persea borbonia (L.) Spreng -Red Bay. Tree. Wet to dry hammocks. Spring. Uncommon. 28 March 2002. 50.

MAGNOLIACEAE

Magnolia grandiflora L. -Southern Magnolia. Tree. Wet to mesic hammocks, rarely dunes. Spring- summer. Uncommon. 9 November 2001. 34.

MALVACEAE

Sida rhombifolia L. -Cuban Jute; Indian Hemp. Herb. Disturbed sites. Common. 9 July 2001. 2. 1 November 2001. 22.

MELIACEAE

Melia azedarach L. -Chinaberry Tree. Tree. Disturbed sites; introduced. Spring. Uncommon. 28 March 2002. 52.

MYSRSINACEAE

Ardisia crenata Sims -Scratchthroat. Herb. Moist hammocks; introduced. Spring. Uncommon. 22 March 2002. 47.

OLEACEAE

Chionanthus virginicus L. -White Fringetree; Old-man's Beard. Tree. Wet hammocks and floodplain forests. Spring- summer. Uncommon. 28 March 2002. 53.

Fraxinus americana L. -White Ash. Tree. Hammocks. Spring. Uncommon. 6 November 2001. 31.

Ligustrum lucidum W.T. Aiton. -Glossy Privet. Tree. Disturbed sites; introduced. Summer- fall. 26 April 2002. 67.

OXALIDACEAE

Oxalis violacea L. -Violet Woodsorrel. Herb. Open hammocks and clearings. Spring- fall. Common. 8 April 2002. 57.

PASSIFLORACEAE

Passiflora lutea L. -Yellow Passionflower. Herb. Mesic hammocks. Spring- summer. Uncommon. 26 April 2002. 64.

PHYTOLACCACEAE

Petiveria alliacea L. -Guinea Hen Weed. Herb. Hammocks and disturbed sites. All year. Common. 6 August 2001. 6. 26 April 2002 74.

Phytolacca americana L. -American Pokeweed. Herb. Hammock margins and disturbed sites. Spring- fall. Uncommon. 26 April 2002. 78.

PLANTAGINACEAE

Plantago virginica L. -Virginia Plantain; Southern Plantain. Herb. Disturbed sites. Spring-summer. Uncommon. 19 March 2002. 46.

POLYGONACEAE

Antigonon leptopus Hook. & Arn. -Coral Vine; Queen's Jewels. Vine. Edge of hammocks and disturbed sites; introduced. Uncommon. 5 October 2001. 17.

ROSACEAE

Prunus caroliniana (Mill.) Aiton. -Carolina Laurelcherry. Tree. Hammocks and disturbed sites. Common. 2 October 2001. 13. 6 November 2001. 28. 10 January 2002. 36.

Crataegus uniflora Münchh. -Dwarf Hawthorn. Tree. Sandhills and hammocks. Spring. Common. 26 April 2002. 66.

RUBIACEAE

Galium uniflorum Michx. -Oneflower Bedstraw. Herb. Hammocks. Summer. Uncommon. 26 April 2002. 90.

Hedyotis corymbosa (L.) Lam. -Flattop Mille Graines. Herb. Disturbed sites; introduced. Spring- summer. Uncommon. 26 April 2002. 93.

Richardia brasiliensis Gomes -Tropical Mexican Clover. Herb. Open, disturbed sites; introduced. Summer- fall. Uncommon. 26 April 2002. 89.

RUTACEAE

Citrus sinensis (L.) Osbeck -Sweet Orange. Tree. Hammocks and disturbed sites; introduced. 6 November 2001. 30.

Severinia monophylla (L.) Tenaka -Chinese Boxorange. Shrub. Disturbed hammocks and shellmounds; introduced. 26 April 2002. 73.

SAPINDACEAE

Sapindus saponaria L. -Soapberry. Tree. Hammocks and shell middens. Spring. Common. 6 November 2001. 32. 28 March 2002. 56.

SAPOTACEAE

Sideroxylon lanuginosum Michx. -Gum Bully. Tree. Sandhills and hammocks. Spring. 2 October 2001. 15.

TILIACEAE

Tilia americana. L. (Mill.) Castig. -Carolina Basswood. Tree. Moist hammocks. Spring. Common. 12 Ocotober 2002. 18.

ULMACEAE

Celtis laevigata Willd. -Sugarberry; Hackberry. Tree. Floodplain forests. Spring. Common. 6 November 2002. 25. 19 March 2002. 42. 26 April 2002. 87.

Ulmus alata Michx. -Winged Elm. Tree. Moist to wet hammocks. Spring. Uncommon. Fruits, 10 January 2002. 83.

VERBENACEAE

Lantana camara L. -Lantana; Shrubverbena. Shrub. Sandhills, flatwoods, open hammocks, and disturbed sites. All year. Common. 25 July 2001. 3. 31 January 2002. 41.

VISCACEAE

Phoradendron leucarpum (Raf.) Reveal & M.C. Johnst. -Oak Mistletoe. Herb. Parasitizes many eudicot tree species. Fall- winter. Common. 17 January 2002. 38.

VITACEAE

Parthenocissus quinquefolia (L.) Planch. -Virginia Creeper; Woodbine. Vine. Hammocks and floodplain forests. Spring. Common. 15 April 2002. 61.

Photo 1: Southern edge, across Museum RD from Dickinson Hall (taken 9 July 2001)
Photo 2: Eastern edge (9 July 2001)

Photo 3: Northern edge (9 July 2001)
Photo 4: On Trail 2, facing southeast (9 July 2001)

Photo 5: Western edge on Trail 1, facing east (9 July 2001)
Photo 6: Southern edge, facing north (12 April 2002)

Photo 7: Southern intersection of Trails 3 and 4 (12 April 2002)
Photo 8: Southeastern corner (12 April 2002)

Photo 9: Eastern edge, facing north (12 April 2002)
Photo 10: Eastern edge, facing west (12 April 2002)

Photo 11: Eastern edge, intersection of Trails 4 and 5 (12 April 2002)
Photo 12: Eastern edge, facing west (12 April 2002)

Photo 13: Northeastern corner, on Trail 4 (12 April 2002)

Photo 14: Trail 4 facing south (12 April 2002)

Photo 15: Trail 4 heading south (12 April 2002)
Photo 16: Northeastern corner, Trails 4 and 5 in view (12 April 2002)

Photo 17: Northeastern corner, on Trail 4, with Trail 5 in view (12 April 2002)
Photo 18: Trail 5, facing northwest (12 April 2002)

Photo 19: Beginning of Trail 3, facing south (12 April 2002)
Photo 20: Trail 3 termite project (12 April 2002)

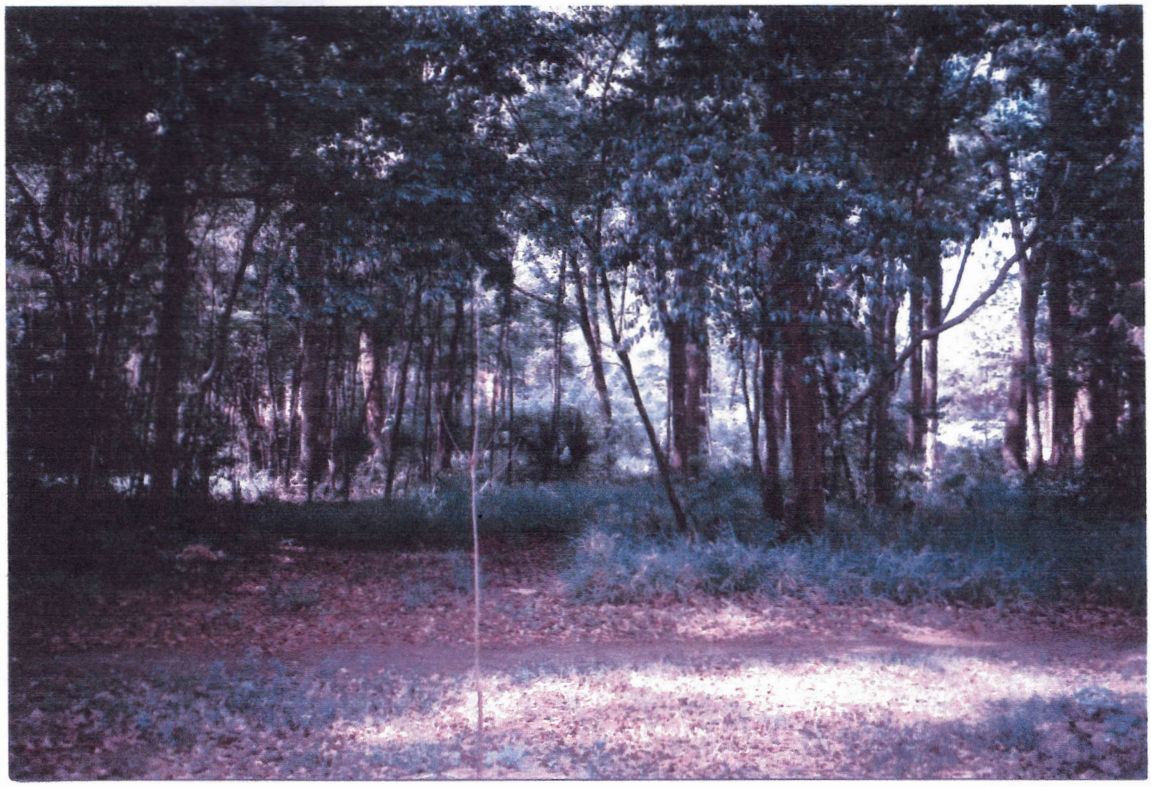

Photo 21: Beginning of Trail 2 on the northern side (12 April 2002)
Photo 22: Along Trail 3 (12 April 2002)

Photo 23: On Trail 3, going south (12 April 2002)
Photo 24: On Trail 2, going south (12 April 2002)

Photo 25: On Trail 1, western edge (12 April 2002)
Photo 26: On Trail 1 going south (12 April 2002)

Photo 27: The lone picnic table, facing east (12 April 2002)
Photo 28: From the lone table facing south (12 April 2002)

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