A FLORISTIC INVENTORY OF VASCULAR PLANTS GROWING WILD IN THE NAPLES BOTANICAL GARDEN AND ON IMMEDIATELY ADJACENT LAND (COLLIER COUNTY) FLORIDA, U.S.A.

George J. Wilder

Naples Botanical Garden
4820 Bayshore Drive
Naples, Florida 34112-7336, U.S.A.
gwilder@naplesgarden.org

Jean M. McCollom

Natural Ecosystems
985 Sanctuary Road
Naples, Florida 34120-4800, U.S.A
swampjeanm@outlook.com

ABSTRACT

Documented presently as growing wild within, and immediately adjacent to, the Naples Botanical Garden (Collier Co., Florida) are individuals of 115 families, 351 genera, 576 species, and 587 infrageneric taxa of vascular plants. Of the 587 infrageneric taxa documented presently, 414 (70.6%) are clearly native and 13 (2.2%) are endemic to Florida. Herein, seven main kinds of habitats are recognized for the study area, and individual taxa inhabit one or more of those habitats. Seventeen presently reported infrageneric taxa are listed as Endangered (nine taxa) or Threatened (eight taxa) in Florida, and seven are listed as Critically Imperiled in South Florida. Based on the present study and on previous field work undertaken at the study site, 32 species plus two varieties are newly reported for Collier County.

RESUMEN

En el Jardín Botánico de Naples (Collier Co., Florida) hay documentados actualmente 115 familias, 351 géneros, 576 especies y 587 taxones infragenéricos de plantas vasculares silvestres. De estos últimos, 414 (70,6%) son claramente nativos y 13 (2,2%) son endémicos de Florida. Aquí se reconocen siete tipos principales de hábitats para el área de estudio, y los taxones individuales habitan uno o más de esos hábitats. Diecisiete taxones infragenéricos reportados actualmente están listados como En Peligro (nueve taxones) o Amenazados (ocho taxones) en Florida, y siete están listados como En Peligro Crítico en el sur de Florida. Basándose en el presente estudio y en anteriores trabajos de campo realizados en el lugar de estudio, se citan por primerva vez 32 especies y dos variedades para el condado de Collier.

INTRODUCTION

This is the fourteenth of a series of papers about the floras of south and central Florida (Wilder & McCombs 2006; Wilder & Roche 2009; Wilder & Sowinski 2010; Wilder & Barry 2012; Wilder et al. 2014, 2019, 2021; Wilder & Thomas 2016; Wilder & McCollom 2018; Levin et al. 2018; Wilder 2020, 2022; Wilder & Relish 2022). Herein, we describe the natural habitats and ruderal land within and immediately surrounding the Naples Botanical Garden and present the results of a floristic inventory of the infrageneric taxa of native and exotic vascular plants growing wild/apparently wild, therein. We also consider two ancillary studies of *Triplasis intermedia* and *Smilax auriculata* undertaken partly at the study site (Appendices 3 and 4, respectively).

The Garden is located just east of Naples, in unincorporated Collier County, Florida, at 26°06′15″N and –81°46′25″W. It measures 170 acres (68.8 ha; Naples Botanical Garden 2022), with peak elevations of 10 feet (3.0 m; USGS 2018). Over 90 acres (36.4 ha) are preserved habitat (Lytle undated). It contains 78.3 acres (31.7 ha) of natural habitat, not including open water (see below).

The Garden consists of two main areas: the Garden proper and the easternmost sector. Those areas are located west of, and east of Bayshore Drive, respectively (Fig. 1, inset). **The Garden proper** nearly abuts Bayshore Dr. to the east, Thomasson Dr. to the north, and Hamilton Ave. to the west, and it borders "The Isles" housing development to the south (Fig. 1). Aside from the habitats presently studied, it includes theme gardens and comparable planted areas, three named artificial lakes (Deep Lake, Harvey's Lake, and Lake Tupke), two unnamed lakes, and office and work areas. Its western perimeter lies less than one-half mile (0.9 km) from Naples Bay, an entity situated near, and indirectly contiguous with, the Gulf of Mexico. **The easternmost sector** consists of 10 acres (4.0 ha) of woodland. It once contained typical pine flatwoods and bald-cypress

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swamp—a conclusion based on the occurrence there of separate populations of *Pinus elliottii* and *Taxodium distichum* sensu lato; however, the site is now choked with exotics, particularly with *Ardisia elliptica, Schinus terebinthifolia*, *Taliparitі tiliaceum*, *Melaleuca quinquenervia*, and *Syzygium cumini* (including massive trees of the last two species). Soil types reinforce the interpretation that typical pine flatwoods and bald-cypress swamp once occurred within the easternmost sector, based on the presence there of Immokalee fine sand-urban land complex and Basinger fine sand (soils characteristic of pine flatwoods and hydric low lands, respectively).

We noted four exotic species within the easternmost sector which did not grow wild within the Garden proper: *Caryota mitis*, *Cenchrus purpureus*, *Psidium cattleianum*, and *Taliparitі tiliaceum*. We include those species in our present inventory (Appendix 1); however, because the easternmost sector is so infested with exotics, we confine the remainder of our account—aside from our historical sketch, our listing of soil types, and our listings and counts of taxa—to the Garden proper and to immediately adjacent land (see below).

Historical sketch

We base this sketch primarily on Naples Botanical Garden (2009, 2022) and Lytle (undated). Also, we distinguish between the Garden board and administration on one hand and the Garden campus on the other hand, as "**NBG**" and "**the Garden,**" respectively.

NBG was founded in 1993 and incorporated in 1994. The founding board included 21 members, including Chairman Robert Read (now deceased). Read, a retiree living in Naples, had previously served as a curator of botany at the Smithsonian National Museum of Natural History and had also worked as a botanist at Fairchild Tropical Garden (Coral Gables, Florida [Smithsonian Institution Archives 2022]). He was an authority on palms, bromeliads, cycads, and orchids.

In 1998, NBG acquired 38 acres (15.4 ha) of land bordering the eastern side of Bayshore Drive, but later deemed them unsuitable and sold the property. In 2000, NBG purchased for $5.7 million the land that is now its present campus. At that time one might have underestimated the land's potential. Lytle (undated) characterized portions, thereof, as "a makeshift neighborhood dump" and as "a dense jungle of exotics dotted with junk cars, … batteries, oil cans and everyday trash. …" Apparently, one sector had been a plant nursery. Another portion was a one-building shopping center (Bayshore Corners Shopping Center [Rand McNally Education Company 1999]). After the land was acquired, workers exterminated many of the exotics (including seemingly innumerable trees of *Melaleuca quinquenervia)* and NBG permanently repurposed the shopping-center building into its administration building.

In 2003, the Garden was opened to the public. Public access was initially limited to a ca. one-acre (0.4 ha) "Mosaic Garden" bordering the northeastern corner of the property. In 2006, NBG appointed a team of landscape designers to create a master plan for the Garden. In 2008, following completion of and concordant with, the new master plan, much of the Garden's vacant land was bulldozed and recontoured. In the process: **a.** fill was applied (which was acquired by digging Lake Tupke and Deep Lake), and **b.** woody plants were extracted, yielding mulch which was deposited in place. Workers installed roads, trails, and systems for irrigation, water and sewer, and electricity.

The theme gardens were planted on the remodeled land. They are listed below with abbreviated names, according to the years in which they were planted: in 2009, the Brazilian Garden, Caribbean Garden, Children's Garden (now defunct), and River of Grass; in 2010, the Asian Garden, Enabling Garden, Florida Garden, and Water Garden; and in 2014, Irma's Garden, Kathryn's Garden, and the Orchid Garden. Also, in 2010 Florida Gulf Coast University (FGCU) constructed on Garden property a Research and Education Center for joint use by FGCU and NBG staff members.

Since its founding ca. 30 years ago, five individuals—listed in order of their service—have served NBG as Executive Director or as President and CEO: Newt Davis, Edward Petras, Sondra Quinn, Brian Holley, and Donna McGinnis. Too, Harvey Kapnik Jr. (a prominent businessman and philanthropist, now deceased) and his family contributed vitally to the Garden's development. Kapnik donated $5 million for, and helped negotiate, the land purchase of 2000. Subsequently, his family bequeathed funds far exceeding that initial contribution.

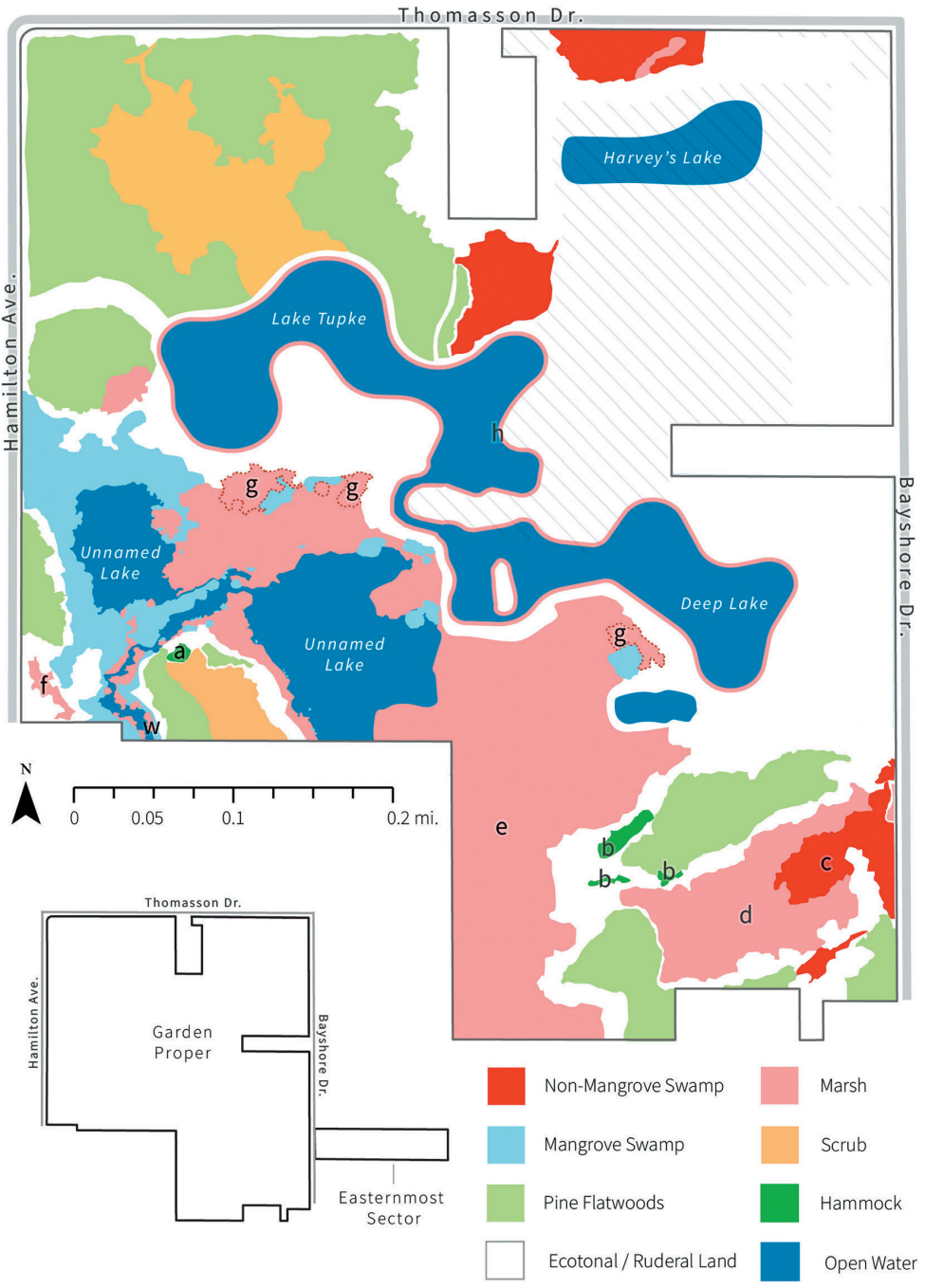

Fig. 1. A map of the Naples Botanical Garden proper and a smaller map (inset) depicting the Naples Botanical Garden proper and the Garden's easternmost sector. Indicated with different colors in the larger map, are the six main kinds of natural habitats plus the lakes and watercourse described herein. Not delineated, are ruderal land, ecotones, buildings, roads, and trails. **a.** dry hammock; **b.** mesic hammock; **c.** pond-apple swamp; **d.** sawgrass marsh; **e.** cordgrass marsh; **f.** grass-sedge marsh; **g.** leather fern marsh; **h.** fringing marsh (littoral zone); **w.** a watercourse once contiguous with Naples Bay. Light hatching signifies the theme gardens, comparable cultivated areas, and plant nurseries, collectively. Dotted lines indicate the perimeters of four leather fern marshes. Maps by Kathryn Talano.

Today the Garden is recognized internationally and specializes in plants found between the 26th latitudes north and south around the world. It is mainly privately funded and serves over 220,000 visitors yearly.

Climate

Collier County manifests a subtropical climate in which "… temperatures are greatly moderated by winds … from the Gulf of Mexico and the Atlantic Ocean" (Leighty et al. 1954). Yearly, there transpire a rainy season and a dry season.

In Naples, during Jun through Sep (the four months of the rainy season) average monthly rainfall varies from 5.9 to 6.1 in (15.0 to 15.5 cm), whereas, during Oct through May (the eight months of the dry season) average monthly rainfall ranges from 1.4 to 3.1 in (3.6 to 7.9 cm). The highest average monthly high temperatures (88–89°F; 31.1–31.7°C) and the highest average monthly low temperatures (74–76°F; 23.3–24.4°C) coincide with the four months of the rainy season. The lowest average monthly high temperatures (74–86°F; 23.3–30.0°C) and the lowest average monthly low temperatures (57–70°F; 13.9–21.1°C) characterize the dry season (Weather Spark 2022). Freezes are rare (only one freeze was recorded in the 21-year period beginning in 2002; NWS 2023). Prevailing winds are mainly from the east (Liudahl et al. 1998).

From 1851 to 2013, 30 hurricanes passed within 75 nautical miles (138.9 km) of Naples, averaging one hurricane per 5.4 years. Seventeen were Category 3 or Category 4, thus ranking as major hurricanes (Collier County Government 2022).

Two recent hurricanes severely impacted the Garden. Hurricane Irma made landfall on 10 Sep 2017 as a Category 3 hurricane (defined as having wind speeds of 111–130 mph [179–209 km/hr]) and Hurricane Ian did so during the present study on 28 Sep 2022 as a Category 4 hurricane (defined as having wind speeds of 131–155 mph [211–249 km/hr]). The eyewall of Hurricane Ian travelled within 30 mi (48.3 km) of the Garden. In Naples, Hurricane Irma inflicted the most wind damage, but lacked a significant tidal surge, whereas Hurricane Ian created a catastrophic saltwater surge exceeding seven feet (2.1 m; Dance 2022). In/by the Garden the surge inundated much natural and ruderal land, deposited natural and artificial debris (and possibly dissolved and immiscible contaminants), and killed the aerial parts of some/all individuals of various native species (e.g., *Andropogon glomeratus* var. *glaucopsis*, *Carphephorus corymbosus*, *Chrysopsis scabrella*, *Dalea* sp., *Drosera capillaris*, *Euthamia caroliniana*, *Nymphaea jamesoniana*, *Utricularia foliosa*, *Utricularia purpurea*, *Xyris elliottii*, and *Xyris floridana*).

Topography, soils, and geology

The Garden is situated within the Coastal Lowlands region of Florida (Schmidt 1997) in a position corresponding to the Urban land-Udorthents-Holopaw-Immokalee soil map unit of Liudahl et al. (1998). Nine soil types occur (indicated, sequentially between parentheses after the listing of each type are the acreage and number of hectares thereof within the Garden; USDA 2023): **a.** Immokalee fine sand, 0 to 2 percent slopes (12.4, 5.0); **b.** Pomello fine sand, 0 to 2 percent slopes (22.1, 8.9); **c**. Basinger fine sand, 0 to 2 percent slopes (21.0, 8.5); **d.** Urban land, 0 to 2 percent slopes (0.0, 0.0); **e.** Estero and Peckish mucks, tidal, 0 to 1 percent slopes (27.9, 11.3); **f.** Basinger fine sand-Urban land complex, 0 to 2 percent slopes (26.8, 10.8); **g.** Immokalee fine sand-Urban land complex, 0 to 2 percent slopes (51.1, 20.7); **h.** Immokalee-Oldsmar, limestone substratum-Urban land complex, 0 to 2 percent slopes (3.4, 1.4); and **i.** Pomello fine sand-Urban land complex, 0 to 2 percent slopes (0.6, 0.24). The Garden's uppermost bedrock, of Pliocene age, belongs to the Tamiami Formation—a poorly defined lithostratigraphic unit containing mixed carbonate siliciclastic lithologies (Missimer 1992; Scott et al. 2001).

Reasons for undertaking the present investigation

We undertook this study: **a.** to map and characterize the natural areas of the Garden, and **b.** to inventory the infrageneric taxa of vascular plants growing wild within, and adjacent to, the Garden. No complete inventory had previously been undertaken. **c.** We wished to prepare voucher specimens/photographs of the inventoried taxa.

METHODS AND TERMINOLOGY

We undertook field work from/including 23 Apr 2022 through 15 Jun 2023. We made 160 forays into the study site, including multiple visits for each month of the year. In addition to the Garden, we included in our study site two narrow strips of land situated, respectively **a.** between the Garden's northern perimeter and Thomasson Dr., and **b.** between the Garden's western perimeter and Hamilton Ave. (Fig. 1). Each strip manifested an overgrown wet ditch and additional ruderal land.

We inventoried three main categories of species. **a.** Species which grew solely wild at the study site (the great majority of species). **b.** Species which originally grew solely wild at the study site but which, apparently, were later planted there as well (*Acer rubrum*, *Bursera simaruba*, *Coccoloba uvifera*, *Eleocharis cellulosa*, and *Fraxinus caroliniana*). **c.** Species which likely were first planted at the study site, but which yielded escaped progeny therein (*Arachis glabrata, Delonix regia*, *Eleocharis interstincta*, *Ipomoea pes-caprae*, *Mimosa strigillosa*, *Psychotria tenuifolia*, *Schoenoplectus pungens*, and *Schoenoplectus tabernaemontani*).

We excluded from our inventory: **a.** species which we deemed to be represented solely by planted individuals (e.g , the following species native to South Florida: *Acanthocereus tetragonus*, *Ardisia escallonioides*, *Borrichia frutescens*, *Dendrophylax lindenii*, *Epidendrum nocturnum*, *Forestiera segregata*, *Lantana involucrata*, *Prosthechea cochleata*, *Muhlenbergia capillaris*, *Rhipsalis baccifera*, *Tripsacum dactyloides*, and *Viburnum obovatum*), **b.** *Paspalum quadrifarium*, a cultivated species rare in Florida, and **c.** weedy species found solely in the theme gardens or solely in flowerpots together with cultivated species.

We vouchered all taxa with specimens or photographs and we deposited all voucher materials in the Herbarium of Southwestern Florida (SWF; Appendix 1). Mostly, we prepared dried herbarium specimens; however, we fixed specimens of *Salvinia minima* and all observed species of Lemnaceae in an aqueous solution of ethanol (50%), formaldehyde (5%), and either acetic acid (5%) or propionic acid (5%). After washing out fixative with water, we stored the specimens in an aqueous glycerin (5%)—ethanol (50%) solution. We also documented certain species, solely, with numbered photographs rather than with actual specimens. Those species and the individuals who photographed them are listed: *Epidendrum rigidum*, *Roystonea regia*, *Tillandsia fasciculata, Tillandsia flexuosa*, *Tillandsia pruinosa*, and *Tillandsia utriculata* (Jean McCollom); *Lilium catesbaei* (Ian Talty).

Mostly, present nomenclature follows Wunderlin et al. (2023 [as listed 14 Feb 2023]); however, footnote 1 in each of Appendices 1 and 2 specifies nomenclatural differences between that source and the present paper. We define **infrageneric taxa** as species, subspecies, and varieties. In Appendix 1, certain species (e g., *Paspalum setaceum*) are listed more than once, as different varieties or subspecies. For each such species, following its initial listing in Appendix 1, each additional listing is said to represent an **additional infrageneric taxon.**

Mapping of natural habitat boundaries

Garden staff members Eric Foht, Ian Talty, and Kathryn Talano contributed significantly to this undertaking. We/they jointly mapped most boundaries by walking them with GPS equipment (Fig. 1). We utilized an iPhone OS GPS (with average accuracy of ca. 1.5 m) and an EOS Arrow Gold+ RTK GNSS Receiver (with average accuracy of 5 to 20 cm). The associated software was ESRI ArcGIS FieldMaps. In addition, Foht and Talano used a DJI Phantom Multispectral drone to map all lake boundaries and certain marsh boundaries. They determined and drew the boundaries digitally, using ESRI ArcGIS Pro (with image resolution of 1 m). The acreages of the natural habitats were determined by utilizing, sequentially, the "Calculate Geometry Attributes" and "Summary Statistics" ArcGIS geoprocessing tools of ESRI (Environmental Systems Research Institute, Inc., Redlands, CA).

Unavoidably, mapping was approximate where habitats blended with ecotones, rather than manifesting discrete boundaries. Pine flatwoods-scrub ecotone was especially problematical in this regard. Herein, we define pine flatwoods broadly, subsuming pine flatwoods-scrubland ecotone into that category.

RESULTS AND DISCUSSION

HABITATS

The study site manifests seven main kinds of habitats: hammock (0.4, 0.16), pine flatwoods (26.0, 10.5), scrubland (7.6, 3.1), non-mangrove swamp (5.2, 2.1), marsh (33.4, 13.5), mangrove swamp (5.7, 2.3), and ruderal land (indicated, sequentially after the name of each natural habitat are the acreage and number of hectares, thereof, within the Garden; Fig. 1).

Hammock.—Four small hammocks occur within the southern portion of the Garden: a dry hammock (Fig. 1, a) plus three mesic hammocks (Fig. 1, b). All hammocks manifest hardwoods but lack conifers. The **dry hammock** abuts scrub, marsh, mangrove swamp, and pine flatwoods. *Quercus virginiana* and *Serenoa repens* dominate the overstory and understory, respectively. Epiphytes abound, particularly *Tillandsia usneoides*. The three **mesic hammocks** border/occur near marsh and pine flatwoods. One hammock exhibits a negligible overstory of *Sabal palmetto* and *Myrsine cubana* and a dense understory of shrubs and ferns. Prominent, in the understory are *Ardisia elliptica*, *Myrsine cubana, Serenoa repens*, *Telmatoblechnum serrulatum*, and *Toxicodendron radicans*. The other mesic hammocks exhibit an overstory predominantly of *Quercus virginiana* and, collectively, understories largely of *T. serrulatum*, *Callicarpa americana*, *Chrysobalanus icaco*, *M. cubana*, *T. radicans*, and *Vitis rotundifolia*.

Pine flatwoods.—Pine flatwoods have a *Pinus elliottii* (Slash Pine) canopy and vary from natural (e.g., within a northwestern sector of the Garden, just east of Hamilton Dr.) to disturbed (e.g., in a southeastern sector where exotics have been removed). They also range from dry to wet (Fig. 1). **Dry flatwoods** often have either **a.** a dense shrub layer including *Lyonia fruticosa*, *Ilex glabra*, *Smilax auriculata*, and/or *Serenoa repens*, or **b.** primarily herbs (e.g., *Pteridium aquilinum* var. *caudatum*, *Pteridium aquilinum* var. *pseudocaudatum*, *Aristida spiciformis*, *Balduina angustifolia*, *Piloblephis rigida*, and *Syngonanthus flavidulus*). Also, a separate, diffuse colony of *Quercus minima* grows in dry flatwoods within each of the southeastern quadrant and northwestern quadrant of the Garden. Dry flatwoods generally lack bare sand (a circumstance attributable to lack of fire which inhibits regeneration of herbaceous species), unlike much scrubland within the Garden. **Wet flatwoods** manifest wetter substrate and may abut wetland. Locally prominent, are *Telmatoblechnum serrulatum*, *Lachnanthes caroliana*, *Myrsine cubana*, and *Sabal palmetto. Quercus laurifolia*, although uncommon within the Garden overall, is most frequent there in pine flatwoods, particularly, in wet flatwoods.

Scrub.—This occupies two discontinuous areas within the Garden (Fig. 1) and is among the most pristine of its natural habitats. Prominent, are *Cassytha filiformis*, *Ceratiola ericoides*, *Chrysopsis scabrella*, *Hypericum tenuifolium*, *Lyonia fruticosa*, *Pinus elliottii*, *Polygonum polygamum* var. *brachystachyum*, *Quercus geminata, Quercus myrtifolia*, *Serenoa repens*, *Smilax auriculata*, *Syngonanthus flavidulus*, *Tillandsia* spp., and *Ximenia americana*. The *Tillandsia* plants are mostly epiphytes, but some individuals of *Tillandsia fasciculata* compose dense aggregates on the ground. *Quercus chapmanii* and *Lupinus diffusus* are limited to the southern area of scrub. Scrub habitat exhibits bare sand or sand covered with fruticose lichens and/or plant debris (e.g , dead pine needles [another circumstance attributable to lack of fire]). Also, the Garden manifests ample scrub-pine flatwoods ecotone, which is classified here as pine flatwoods.

Non-mangrove swamp.—This occupies areas within the northern and southeastern portions of the Garden (Fig. 1). Prior to the present study, Garden personnel introduced individuals of certain species into swamps within the northern portion of the Garden. (e.g., *Fraxinus caroliniana*, *Taxodium distichum* sensu lato, *Tillandsia pruinosa*, and various Orchidaceae); however, below, we consider solely the naturally occurring individuals within the Garden's swampland (including those of *F. caroliniana* and *T. distichum* sensu lato). Prominent, in one or more areas of swamp are *Acrostichum danaeifolium, Annona glabra*, *Cladium jamaicense*, *F. caroliniana*, *Ilex cassine*, *Magnolia virginiana*, *Salix caroliniana*, *Salvinia minima*, *Telmatoblechnum serrulatum*, *Thelypteris interrupta*, and *Wolffiella oblonga*. *Taxodium distichum* sensu lato varies from being plentiful (e.g., in swamp near the southeastern corner of the Garden) to essentially absent (i.e , in swamp slightly farther from the southeastern corner). The latter area, identifiable as **Pond-apple swamp** (Fig. 1, c), **a.** manifests deep water and large, often basally branched individuals of *Annona glabra* (Pond-Apple), and **b.** exhibits nearly all

the Garden's *Symphyotrichum carolinianum* and much of its *Pleopeltis michauxiana*. We observed *Eugenia axillaris* solely within the southeastern sector of the Garden, in ecotone between non-mangrove swamp and marsh.

Marsh.—Marsh is insolated wetland with relatively few trees and shrubs. The Garden exhibits five main kinds of marshes. **a. Sawgrass marsh.—***Cladium jamaicense* (Sawgrass) is dominant. A large sawgrass marsh exists within the Garden's southeastern sector (Fig. 1, d). Scattered therein, are *Sabal palmetto* and tall, dead trunks of previously exterminated *Melaleuca quinquenervia*. **b. Cordgrass marsh.—***Spartina bakeri* (Cordgrass) is dominant. A considerable cordgrass marsh abuts the southernmost unnamed lake within the Garden (Fig. 1, e). **c. Grass-sedge marsh.—**This is situated near the southwestern corner of the Garden (Fig. 1, f). Most abundant, therein, are grasses and sedges other than, and shorter than, *C. jamaicense* and *S. bakeri* (e.g., *Eleocharis cellulosa*, *Panicum repens*, and *Paspalidium geminatum*); however, small amounts of *C. jamaicense* and *S. bakeri* do occur, as well. Present too, are scarce individuals of species which are absent (*Agalinis maritima*) or rare (*Lythrum lineare*) elsewhere in the Garden. **d. Leather fern marsh.—**The genus *Acrostichum* (Leather Fern) is dominant. We noted three main leather fern marshes ca. midway along the Garden's length, which define an irregular line extending ca. east-west (Fig. 1, g). The largest (westernmost) leather fern marsh abuts cordgrass marsh and mangrove swamp. That marsh and the central marsh labelled "g" in Fig. 1 consist entirely, or almost entirely, of *Acrostichum aureum* (Golden Leather Fern). By contrast, the easternmost marsh exhibits predominantly *Acrostichum danaeifolium* (Giant Leather Fern), with only minimal *A. aureum*. **e. Fringing marsh (littoral zone).—**This borders lakeshores within the Garden (Fig. 1, h).[1] Plentiful, in different areas, thereof, are *C. jamaicense*, *E. cellulosa*, *Eleocharis interstincta*, *P. repens*, and *Typha domingensis*. Too, we found *Sesuvium portulacastrum*, *Utricularia foliosa*, and *Utricularia purpurea* in marsh fringing the southernmost unnamed lake (and *S. portulacastrum* is limited, thereto).

Mangrove swamp.—A watercourse extends northeastward from the saline water of Naples Bay into the Garden (Fig. 1, w; Eric Foht, Director of Natural Resources at the Garden, pers com. to George Wilder, 18 Oct 2022). Most mangrove habitat within the Garden borders/nearly borders the watercourse and the unnamed lakes contiguous therewith (Fig. 1). That habitat is of high quality; however, we worry that current construction within "The Isles" housing development south of the Garden (including installation of a culvert just south of the Garden) might negatively alter the hydrologic regime within the habitat.

During the rainy season much of the Garden's mangrove habitat becomes flooded up to waist deep with water. All four of Florida's mangrove species occur: *Avicennia germinans* (Black Mangrove), *Conocarpus erectus* (Buttonwood), *Laguncularia racemosa* (White Mangrove), and *Rhizophora mangle* (Red Mangrove); however, *A. germinans* is the least common of those species and we observed solely tall trees and localized seedlings, thereof. Also, conspicuous in mangrove swamp are *Acrostichum aureum, Acrostichum danaeifolium*, *Annona glabra*, *Dalbergia ecastaphyllum*, *Funastrum clausum*, *Rhabdadenia biflora*, and *Telmatoblechnum serrulatum*.

Ruderal land.—This includes roads, disturbed roadsides, trails, an overgrown field, firebreaks, lawns, outdoor plant nurseries (excluding flowerpots), construction sites, woodland badly damaged by the growth/extermination of *Melaleuca quinquenervia* and other exotics, and the two water-filled ditches and associated land bordering Hamilton Ave. and Thomasson Dr. Evident on the firebreaks, collectively, are *Bulbostylis ciliatifolia*, *Cyperus flavescens*, *Cyperus ligularis*, *Cyperus odoratus*, *Cyperus ovatus* sensu lato, *Cyperus polystachyos*, *Eleocharis baldwinii*, *Fuirena pumila*, *Smilax auriculata*, and *Schizachyrium stoloniferum*. Prominent, in/along one or both water-filled ditches are *Amaranthus australis*, *Echinochloa walteri*, *Fuirena pumila*, *Hymenachne amplexicaulis*, *Ludwigia octovalvis*, *Ludwigia peruviana*, *Luziola fluitans*, *Nymphaea jamesoniana, Ptilimnium capillaceum,* and *Panicum repens*.

[1] **In Dec 2022, Garden personnel, in an attempt to remove *Panicum repens,* sprayed the fringing marsh around Lake Tupke and Deep Lake, killing virtually all aerial portions of all the plants.**

FLORISTIC INVENTORY

Taxonomic analysis of present data

The study site exhibited 115 families, 351 genera, 576 species, and 587 infrageneric taxa of vascular plants. Between parentheses, the numbers of families, genera, and infrageneric taxa are indicated, respectively, for each of the following major groups: pteridophytes (11, 17, 24), gymnosperms (3, 3, 3), angiosperms (101, 331, 560), monocotyledons (26, 94, 216), and dicotyledons sensu lato (75, 237, 344).

The seven largest families of monocotyledons, as gauged by the numbers of infrageneric taxa present (the number of infrageneric taxa is listed between parentheses) were Poaceae (94), Cyperaceae (58), Bromeliaceae (9), Commelinaceae (7), Orchidaceae (6), Xyridaceae (6), and Arecaceae (6). The families Poaceae and Cyperaceae, collectively, exhibited 25.9% of all 587 infrageneric taxa listed (i.e., 152 taxa).

The 12 largest families of dicotyledons sensu lato were Asteraceae (57), Fabaceae (42), Euphorbiaceae (19), Rubiaceae (15), Malvaceae (10), Amaranthaceae (10), Onagraceae (10), Convolvulaceae (8), Lamiaceae (7), Solanaceae (7), Apocynaceae (6), and Fagaceae (6). The families Asteraceae and Fabaceae, collectively, exhibited 16.9% of all 587 infrageneric taxa listed (i.e., 99 taxa).

Infrageneric taxa and habitats

Habitats are listed for all infrageneric taxa reported here (Appendix 1). At the study site, ruderal land exhibited the highest percentage of infrageneric taxa. An intermediate percentage grew in pine flatwoods. Lowest percentages occurred within marsh, non-mangrove swamp, scrub, mangrove swamp, and hardwood hammock.

Supporting data are presented. Each number, below, refers solely to the infrageneric taxa that we noted inside of a habitat, not to taxa whose sole association with the habitat was occurrence within ecotone(s) involving that habitat. For each habitat indicated, listed between parentheses are the number of infrageneric taxa observed therein and the percentage which that number represents of all 587 infrageneric taxa reported here: ruderal land (450, 76.7%), pine flatwoods (215, 36.6%), marsh (104, 17.7%), non-mangrove swamp (101, 17.2%), scrub (90, 15.3%), mangrove swamp (55, 9.4%), and hardwood hammock (39, 6.6%).

In the Cyperaceae and Poaceae (those families having the most species at the study site), particularly many infrageneric taxa grew partly or entirely on ruderal land (86.2% and 80.9% of the 58 and 94 taxa of the two families, respectively).

Native and endemic taxa

Excluding *Eleocharis* sp. (an unidentified species of undeterminable nativity and endemism in Florida), 414 (70.6%) of the remaining 586 infrageneric taxa recorded were native to Florida (Wunderlin et al. 2023; Appendix 1). Between parentheses, the number and percentage of native infrageneric taxa within each major group of vascular plants are listed, respectively: pteridophytes (18, 75%), gymnosperms (2, 66.7%), angiosperms (394, 70.5%), monocotyledons (149, 69.3%), and dicotyledons sensu lato (245, 71.2%).

Thirteen (2.2%) of the infrageneric taxa were endemic to Florida: *Aristida patula, Asclepias curtissii, Callisia ornata, Carex vexans, Carphephorus odoratissimus* var. *subtropicanus, Eupatorium mikanioides, Euphorbia polyphylla, Helianthus debilis* subsp. *debilis, Lechea cernua, Palafoxia feayi, Polygala rugelii, Polygonum polygamum* var. *brachystachyum*, and *Tephrosia rugelii*.

Exotic taxa

Excluding *Eleocharis* sp., 172 (29.4%) of infrageneric taxa within the study site were exotic within Florida (Appendix 1).

The Florida Invasive Species Council (formerly named the Florida Exotic Pest Plant Council) has recognized two categories of plant species exotic within Florida that pose especial threats to the ecology of the State, overall, i.e., Category I and Category II (those categories indicate decreasing degree of threat; FISC 2019). Noted presently were 34 Category I species (*Abrus precatorius, Acacia auriculiformis, Albizia lebbeck, Ardisia elliptica, Bischofia javanica, Calophyllum antillanum, Casuarina equisetifolia, Cupaniopsis anacardioides, Dioscorea bulbifera, Ficus microcarpa, Heptapleurum actinophyllum, Hydrilla verticillata, Hymenachne amplexicaulis, Lantana strigocamara*, *Ludwigia peruviana, Lygodium microphyllum, Melaleuca quinquenervia, Melinis*

repens, Nephrolepis brownii, Nephrolepis cordifolia, Panicum repens, Pennisetum purpureum, Psidium cattleianum, Rhodomyrtus tomentosa, Ruellia simplex, Salvinia minima, Schinus terebinthifolia, Senna pendula, Solanum viarum, Sporobolus jacquemontii, Syngonium podophyllum, Syzygium cumini, *Tradescantia spathacea*, and *Urena lobata*) and 19 Category II species (*Dactyloctenium aegyptium, Dracaena hyacinthoides, Epipremnum pinnatum, Eulophia graminea, Ficus altissima, Landoltia punctata, Leucaena leucocephala, Macroptilium lathyroides, Momordica charantia, Pennisetum polystachion, Pteris vittata, Richardia grandiflora, Ruellia blechum, Spermacoce verticillata, Sphagneticola trilobata, Stachytarpheta cayennensis, Taliparitі tiliaceum, Terminalia catappa*, *Tradescantia spathacea*, and *Urochloa maxima*).

We rank 11 species (six were listed by FISC 2019) as being among the most troublesome exotic species at the study site: *Ardisia elliptica, Cyperus esculentus, Lygodium microphyllum, Nephrolepis brownii, Panicum repens, Phoenix* sp., *Rottboellia cochinchinensis, Salvinia minima, Schinus terebinthifolia, Senna pendula*, and *Swietenia mahagoni*. (Although, *S. mahagoni* is native to southernmost Florida [Appendix 1], Naples occurs north of its original range; hence, for purposes of the above list we construe the species as exotic).

Native taxa deemed rare by the Florida Department of Agriculture and Consumer Services (2021) and by Gann et al. (2002)

The Florida Department of Agriculture and Consumer Services (FDACS 2021) and Gann et al. (2002) listed infrageneric taxa which they considered rare in Florida and in South Florida, respectively. During the present study we documented 23 of those taxa (Table 1). For Florida, FDACS (2021) ranked nine and eight of the taxa as Endangered and Threatened, respectively. For South Florida, Gann et al. (2002) ranked seven taxa as Critically Imperiled.

Below, we discuss four of the rare taxa individually.

Tillandsia pruinosa.—This species, State-listed as Endangered, is native to Florida, the West Indies, Mexico, and Central and South America (Chafin 2000). In Florida it inhabits Collier and Lee Counties (FDACS 2021; Wunderlin et al. 2023). The Garden manifests a separate population within each of scrubland and hammock-pine flatwoods ecotone. On May 16, 2022, we counted 30 individuals within the ecotonal population. Later examination of the scrubland population revealed ca. three individuals. During the last 20 years we have also observed *T. pruinosa* in Collier Co., at Collier Seminole State Park (Wilder & Thomas 2016), Corkscrew Swamp Sanctuary (Wilder & McCollom 2018), Fakahatchee Strand Preserve State Park, and Rookery Bay Aquatic Preserve (at a location north of CR 952 [Capri Blvd.]). Gann et al. (2002) also reported *T. pruinosa* from two above-mentioned locations plus the Big Cypress National Preserve.

Nymphaea jamesoniana.—This species, State-listed as Endangered, is native to Florida, Mexico, Central America, and South America (FDACS 2021). It inhabits eight counties in South and Central Florida: Charlotte, Citrus, Collier, DeSoto, Hillsborough, Lee, Levy, and Sarasota Counties (FDACS 2021; Wilder & McCollom 2018; Wunderlin et al. 2023). At the study site *N. jamesoniana* **a.** abounded and flowered prolifically within the water-filled ditch bordering Thomasson Dr , and **b.** grew less abundantly in wetland nearby, to the inside of the Garden's northern perimeter. Unfortunately, the saltwater surge of Hurricane Ian killed the aboveground parts of this population, and it is unknown whether the plants will recover. Wilder & McCollom (2018) had first reported *N. jamesoniana* for Collier County, at Corkscrew Swamp Sanctuary and land adjacent thereto.

Asclepias curtissii.—This species, endemic to Florida and State listed as Endangered, has a discontinuous range spanning 21 counties of southern, central, and northern peninsular Florida (Wunderlin et al. 2023). At the study site we observed a few individuals within the northern sector of scrubland. Wunderlin and Hansen (2011) characterized *A. curtissii* as an "occasional" scrubland species in Florida. Approximately 20 years ago we would have supported that assessment for scrubland of southwestern Florida; however, we now deem the species rare therein, because of habitat loss.

Acrostichum aureum.—This pantropical species, State-listed as Threatened (FDACS 2021), inhabits 11 contiguous coastal counties of South and Central Florida: Broward, Charlotte, Collier, Lee, Hillsborough, Manatee, Martin, Miami-Dade, Monroe, Palm Beach, and Sarasota Counties (FDACS 2021; Wunderlin et al. 2023). In the Garden we observed *A. aureum* in at least 16 locations, some widespread from one another. As

Table 1. List of species and varieties of rare plants presently reported as growing wild in the Naples Botanical Garden. Certain rankings of rarity are for Florida (Florida Department of Agriculture and Consumer Services [FDACS 2021]) and for south Florida (Gann et al. 2002). One ranking of rarity (superscript **s** after the name of a taxon) is solely for the Garden; superscript **s** is used here only for taxa that were listed by FDACS (2021) and by Gann et al. (2002). See Appendix 1 for an accounting of additional taxa that were scarce in the study area. **Crit. Imp.** = critically imperiled; **End.** = endangered; **Threat.** = threatened; **s** = a taxon documented during the present study and deemed to be scarce within the study area.

Taxon	FDACS (2021)	Gann et al. (2002)	Taxon	FDACS (2021)	Gann et al. (2002)
Acoelorraphe wrightii [S]	Threat.		Passiflora pallens [S]	End.	
Acrostichum aureum	Threat.		Rhynchospora fernaldii [S]		Crit. Imp.
Asclepias curtissii [S]	End.		Roystonea regia [S]	End.	
Ceratopteris pteridoides		Crit. Imp.	Solanum donianum	Threat.	
Croton michauxii [S]		Crit. Imp.	Swietenia mahagoni	Threat.	
Cyperus squarrosus		Crit. Imp.	Tillandsia balbisiana	Threat.	
Epidendrum rigidum [S]	End.		Tillandsia fasciculata	End.	
Jacquemontia pentanthos [S]	End.		Tillandsia flexuosa	Threat.	
Lechea cernua [S]	Threat.		Tillandsia pruinosa [S]	End.	Crit. Imp.
Lilium catesbaei [S]	Threat.		Tillandsia utriculata	End.	
Ludwigia arcuata [S]		Crit. Imp.	Triplasis americana [S]		Crit. Imp.
Nymphaea jamesoniana	End.				

indicated, two large, dense, insolated aggregates of this species comprised leather fern marsh. The largest one manifested an irregular perimeter, measured ca 246 ft (75 m) long, covered 0.32 acres (0.13 ha), and ranked among the most extensive of aggregates of *A. aureum* that we have observed in Florida. Ten clumps (one ca. 20 ft [6 m] in diameter) occurred in mangrove swamp and additional plants grew **a.** at a boundary between marsh and pine flatwoods, and **b.** in disturbed forest recovering from the removal of *Melaleuca quinquenervia*.

Native and exotic infrageneric taxa that are scarce within the study site

We judge 276 infrageneric taxa (47.0% of all 587 infrageneric taxa presently reported) to be scarce within the study site (Table 1; Appendix 1). We deem a taxon to be scarce at the site **a.** if no more than nine individuals, thereof (or nine clumps of individuals, in the case of certain herbaceous species), were observed, or **b.** if, regardless of the number of individuals observed, the taxon occupied an area approximately the size of or smaller than a housing lot (one-quarter acre [0.10 ha]).

Listed, below are examples of scarce taxa represented by solely one or two individual(s)/clump(s) at the study site: **native taxa**: *Acoelorraphe wrightii*, *Agalinis maritima*, *Alternanthera flavescens*, *Ammannia coccinea*, *Carex vexans*, *Croton michauxii*, *Cyperus sesquiflorus*, *Dichanthelium aciculare*, *Dyschoriste angusta*, *Eleocharis flavescens*, *Epidendrum rigidum*, *Helenium amarum*, *Juncus megacephalus*, *Lilium catesbaei*, *Lindernia grandiflora*, *Ludwigia arcuata*, *Melochia spicata*, *Osmundastrum cinnamomeum*, *Panicum dichotomiflorum* var. *bartowense*, *Pityopsis graminifolia*, *Polanisia tenuifolia*, *Rhynchosia minima*, *Saccharum giganteum*, *Sacciolepis striata*, *Triplasis intermedia*, *Verbesina virginica*, and *Yucca filamentosa*; **exotic taxa:** *Abelmoschus esculentus, Aeschynomene indica*, *Albizia lebbeck, Catharanthus roseus*, *Cyperus iria*, *Eragrostis ciliaris* var. *laxa*, *Eragrostis minor*, *Ficus elastica*, *Lantana strigocamara*, *Millettia pinnata*, *Richardia brasiliensis*, *Ruellia simplex*, *Solanum viarum*, *Stellaria parva,* and *Tradescantia spathacea*.

Turnover of taxa at the study site

Introduction of taxa.—Vehicular and foot traffic likely introduce into the Garden seeds/propagules of hitherto unrepresented taxa. Too, certain weedy species (e.g., *Laportea aestuans*) apparently arrive as "stow-aways" in newly acquired flowerpots containing cultivated plants. At the Garden *L. aestuans* thrives in, and grows as an apparent escape near, such flowerpots. As well, we first observed certain species in recently planted sod (*Axonopus compressus*, *Lindernia grandiflora*, *Linaria canadensis,* and *Ludwigia arcuata*) or on recently exposed, bare substrate (*Ammannia coccinea*, *Abelmoschus esculentus*, *Alternanthera flavescens*, *Chrysopogon pauciflorus,* and *Cuphea carthagenensis*).

Certain species growing wild in the Garden's ruderal areas were likely escapes from plants cultivated elsewhere in the Garden (e.g., *Clitoria ternatea*, *Passiflora pallens*, and *Solanum lycopersicum*).

Loss of taxa.—Strong evidence for the loss of taxa derives from wild individuals which George Wilder and coworkers documented at the study site prior to the present study (Appendix 2). Between/including 11 Aug 2001 and 31 Jan 2014, they vouchered 39 species growing wild at the site, which we did not find during the present study. Included, were 25 and 14 species native to, and exotic within Florida, respectively, and two taxa endemic to the State (*Agave decipiens* and *Mecardonia acuminata* subsp. *peninsularis*).

The saltwater surge from Hurricane Ian may have—aside from killing the aerial portions of many plants—extirpated from the study site an undeterminable number of inventoried and non-inventoried species. Too, land-clearing and construction have likely eliminated at least one species (*Dyschoriste angusta*). As well, Garden staff members have routinely sprayed and mechanically removed plants, e.g., individuals of the following exotic species (most of which remain present within the Garden): *Acacia auriculiformis*, *Dioscorea bulbifera, Lygodium microphyllum*, *Melaleuca quinquenervia*, *Panicum repens*, *Pennisetum polystachion*, *Schinus terebinthifolia*, and *Urochloa maxima*.

Consider the Garden's natural areas. Before NBG was founded ca. 30 years ago, following any loss of species from those areas, habitats nearby likely served as seed sources for the natural replacement of the lost species. Recently, however, much land (especially scrubland) neighboring the Garden has been developed. Thus, species which might today die out within the Garden's natural areas would less likely be replaced naturally. In that respect the Garden is reminiscent of fragmented, declining habitats worldwide.

Range extensions

Twenty-four species and two varieties documented during present research were new records for Collier County: *Acalypha setosa*, *Andropogon glomeratus* var. *glomeratus*, *Arachis glabrata*, *Aristida simpliciflora*, *Asparagus setaceus*, *Calophyllum antillanum*, *Caryota mitis*, *Citharexylum spinosum*[2], *Clitoria ternatea*, *Cyclospermum leptophyllum*, *Digitaria setigera*, *Digitaria violascens*, *Eleocharis acutangula*, *Eragrostis minor*, *Eragrostis pectinacea* var. *pectinacea*, *Euphorbia milii*, *Ficus benjamina*, *Monstera deliciosa*, *Salvia misella*, *Sieruela rutidosperma*, *Stellaria parva*, *Tradescantia spathacea*, *Triplasis intermedia*[3], *Yucca filamentosa*, *Zamia furfuracea*, and *Zea mays*. As well, eight species documented in the Garden before, but not during present research were new County records: *Celosia argentea*, *Galinsoga quadriradiata*, *Hibiscus acetosella*, *Medicago lupulina*, *Peperomia pellucida*, *Portulaca grandiflora*, *Triodanis perfoliata*, and *Veronica peregrina* (Appendix 2; Austin [undated]; Austin et al. 1990; Wilder & McCombs 2006; Wilder & Barry 2012; Wilder & Roche 2009; Wilder & Thomas 2016; and Wilder & McCollom 2018; The Florida State University Biology Department 2023; The Virtual Herbarium 2023; University of Florida Herbarium [FLAS] Virtual Herbarium 2023; Wunderlin et al. 2023). Although Austin (undated) and Austin et al. (1990) did list *Aristida simpliciflora* and *Medicago lupulina* for Collier County (i.e., for Fakahatchee Strand State Preserve), we exclude their reports because they specified no voucher specimens. Of all 34 infrageneric taxa above, nine (26.5%) and 25 (73.5%) are native to, and exotic within Florida, respectively.

Present findings indicate an important southward range extension for *Aristida simpliciflora*. Hall (2019), who deemed the species rare in Florida, listed Charlotte Co. as its southern limit within the State. For the Florida peninsula, Wunderlin et al. (2023) indicated its southern limit as Clay County. Before the present report, *Stellaria parva* was known in Florida solely from Bradford, Hillsborough, Polk, and Suwannee Counties, with Hillsborough and Polk Counties being the southernmost of those counties (Wunderlin et al. 2023). *Yucca filamentosa* is widespread in Florida and documented from most Florida counties. For western Florida present findings extend its known range one county southward from Lee County.

[2] This species is abundantly cultivated at the Garden; thus, the wild individual reported here is likely an escape from cultivation thereat.

[3] See Appendix 3 for a discussion of this taxon.

APPENDIX 1 [1, 2]

Table of infrageneric taxa (species, subspecies, and varieties) and of higher-level taxa documented during the present study as growing wild at the Naples Botanical Garden. All species, subspecies, and varieties are listed separately and counted as separate infrageneric taxa. Formas are indicated after the names of the species to which they belong. After the name of each family and supra-familial taxon, between parentheses are indicated the numbers reported of genera and infrageneric taxa within that family or supra-familial taxon. Ecotones are either: **a.** at a sharp boundary between habitats and/or **b.** within an extended area comprised of the habitats.

KEY TO SYMBOLS/ABBREVIATIONS IN APPENDIX 1	
TAXON (Taxa are listed in the left column.)	
Preceding Name of Taxon:	
¤	endemic to Florida
*	exotic in Florida
?	Undetermined whether native or exotic in Florida (*Eleocharis* sp.).
Following Name of Taxon:	
[ ]	relevant synonym(s) or name(s) previously used but now considered misapplied
( )	color formas and other notes
Scarce	scarce at the study site
FISC I or FISC II	exotic taxa recognized as Category I or Category II by the Florida Invasive Species Council (FISC 2019)
	the five-digit Wilder & McCombs collection number of a voucher specimen or of a voucher photograph of that taxon
HABITAT (All seven main habitats):	
X	present within the habitat indicated, away from the habitat boundary
Ecotones:	Each ecotone is between the habitat indicated in the associated column and the alternative habitats/habitat groups indicated by the superscript letter(s):
X^{M}	Marsh
X^{MN}	Mangrove
X^{P}	Pine flatwoods
X^{S}	Scrub
X^{SW}	Non-mangrove swamp
X^{SW-M}	Non-mangrove swamp/marsh ecotone
X^{R}	Ruderal land

[1] We follow the nomenclature of Wunderlin et al. (2023 [as listed on 14 Feb 2023]) with the following exceptions. (1) We recognize the family Lemnaceae, which Wunderlin and Hansen (2011) and Wunderlin et al. (2023) submerged into Araceae. (2) We recognize solely *Symphyotrichum subulatum* (Michx.) G.L. Nesom sensu lato rather than either of two segregate taxa, *Symphyotrichum bahamense* (Britton) G.L. Nesom and *Symphyotrichum expansum* (Poeppig ex Spreng.) G.L. Nesom. (3) We follow Wunderlin et al. (2018) in recognizing *Opuntia humifusa* (Raf.) Raf. sensu lato, rather than listing the segregate taxon/taxa *Opuntia austrina* Small and *Opuntia mesacantha* Raf. (4) We recognize varieties of *Eragrostis ciliaris* (L.) R. Br., *Paspalum setaceum* Michx., and *Schizachyrium sanguineum* (Retz.) Alston (as did Peterson [2003], Allen and Hall [2003], and Wipff [2003b], respectively). Wunderlin et al. (2023) did not recognize varieties of those species. (5) We recognize subspecies of *Dichanthelium portoricense* (Desv. ex Ham.) B.F. Hansen & Wunderlin (as did Freckmann and Lelong [2003]). Wunderlin et al. (2023) did not recognize those subspecies. (6) We recognize *Sonchus asper* (L.) Hill forma *inermis* (Bisch.) G. Beck (as did Fernald [1950]), contrary to Wunderlin et al. (2023). (7) We recognize the name *Lipocarpha aristulata* (Coville) G.C. Tucker (utilized by Wunderlin and Hansen [2011]) rather than replacing it with the name applied by Wunderlin et al. (2023): *Cyperus neochinensis* (Tang & F.T. Wang) Bauters. (8) We recognize the name *Lipocarpha micrantha* (Vahl) G.C. Tucker (utilized by Wunderlin and Hansen [2011]) rather than replacing it with the name applied by Wunderlin et al. (2023): *Cyperus subsquarrosus* (Muhl.) Bauters. (9) We recognize the names *Pennisetum polystachion* (L.) Schult. and *Pennisetum purpureum* Schumach. (as did Wipff [2003a] and Wunderlin and Hansen [2011]) rather than replacing them with the names applied by Wunderlin et al. (2023): *Cenchrus polystachios* (L.) Morrone and *Cenchrus purpureus* (Schumach.) Morrone, respectively.

[2] Ms. Martha McCombs contributed importantly to SWF; hence, on the label of each herbarium sheet from SWF George Wilder's name and Martha McCombs' name precede the collection number of each specimen, a circumstance not duplicated in this appendix.

[3] We follow Wunderlin et al. (2023) in recognizing *Cyperus ovatus* Baldwin sensu lato; however, our colleague Randy Mears (unpublished results) identified the following four segregate taxa, thereof, growing at the Garden (Wilder & McCombs collection numbers follow the names of the segregate taxa): *Cyperus ovatus* Baldwin *sensu* stricto (*44155*), *Cyperus retrorsus* Chapm. var. *nashii* (Britton ex Small) Fernald & Griscom (*44082*), *Cyperus retrorsus* Chapm. var. *retrorsus* (*44083*), and an unnamed taxon to be named *Cyperus retrorsus* Chapm. var. *diminuta* by Richard Carter (44081).

[4] This species differs from *Eleocharis baldwinii*, the only other viviparous species at the study site, in having the scales of the spikelet helically, rather than distichously, arranged.

[5, 6] *Triplasis americana* and *Triplasis intermedia* are discussed separately in Appendix 3.

[7] *Smilax auriculata* is discussed separately in Appendix 4.

[8] The saltwater surge which accompanied Hurricane Ian killed the aboveground portions of *Dalea* sp.; however, we prepared a voucher specimen of one badly damaged shoot shortly after the hurricane. Because the shoots were infertile, we could not identify them to species.

APPENDIX 1

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
PTERIDOPHYTES (17, 24)							
BLECHNACEAE (2, 2)							
Telmatoblechnum serrulatum (Rich.) Perrie et al. [Blechnum serrulatum Rich.]; 43943	X	X		X	X	X	X
Woodwardia virginica (L.) Sm.; 44436		X		X			X
DENNSTAEDTIACEAE (1, 2)							
Pteridium aquilinum (L.) Kuhn var. caudatum (L.) Sadèb.; 43824		X	X				
Pteridium aquilinum (L.) Kuhn var. pseudocaudatum (Clute) Clute ex A. Heller; 44356	X	X	X				X
NEPHROLEPIDACEAE (1, 3)							
*Nephrolepis brownii (Desv.) Hovenkamp & Miyam. [Nephrolepis multiflora (Roxb.) F.M. Jarrett ex C.V. Morton]; 43765, 44233; FISC I		X				X	X
*Nephrolepis cordifolia (L.) C. Presl; 43741; FISC I		X^R		X			X
Nephrolepis exaltata (L.) Schott; **Scarce;** 43742							X
OSMUNDACEAE (2, 2)							
Osmunda regalis L.; 43942				X			X
Osmundastrum cinnamomeum (L.) C. Presl [Osmunda cinnamomea L.]; **Scarce;** 43854		X^R					X
POLYPODIACEAE (2, 2)							
Phlebodium aureum (L.) J. Sm.; 43823	X,X^P	X		X		X	X
Pleopeltis michauxiana (Weath.) Hickey & Sprunt [Pleopeltis polypodioides (L.) E.G. Andrews & Windham]; 43883	X		X	X			
PSILOTACEAE (1, 1)							
Psilotum nudum (L.) P. Beauv.; 43764	X	X		X	X	X	X
PTERIDACEAE (4, 5)							
Acrostichum aureum L.; 43822, 44143					X	X	X
Acrostichum danaeifolium Langsd. & Fisch.; 44196	X^M			X	X,X^R	X	X
Ceratopteris pteridoides (Hook.) Hieron.; 44112, 44113					X,X^{MN}	X	X
*Pteris vittata L.; **Scarce;** 43793; FISC II		X					X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
PTERIDOPHYTES (17, 24) continued							
PTERIDACEAE (4, 5) continued							
Vittaria lineata (L.) Sm.; 43768	X	X		X,X^{M}	X	X	X
SALVINIACEAE (1, 1)							
*Salvinia minima Baker; **Scarce;** 43730; FISC I				X			
SCHIZAEACEAE (1, 1)							
*Lygodium microphyllum (Cav.) R. Br.; 44232; FISC I	X,X^{M}	X		X	X	X	X
SELAGINELLACEAE (1, 1)							
Selaginella arenicola Underw.; 44175			X				X
THELYPTERIDACEAE (1, 4)							
*Thelypteris dentata (Forssk.) E.P. St. John; 44419							X
Thelypteris interrupta (Willd.) K. Iwats.; 43743, 43766				X			X
Thelypteris kunthii (Desv.) C.V. Morton; 44197		X		X			X
Thelypteris palustris Schott; **Scarce;** 43767				X			
GYMNOSPERMS (3, 3)							
CUPRESSACEAE (1, 1)							
Taxodium distichum (L.) Rich. sensu lato (including Taxodium ascendens Brongn. and Taxodium distichum (L.) Rich. sensu stricto; 44198 and 44343, respectively)		X (rare)		X,X^{R}	X		
PINACEAE (1, 1)							
Pinus elliottii Engelm.; 43910	X	X	X	X	X		X
ZAMIACEAE (1, 1)							
*Zamia furfuracea L. f. ex Aiton; **Scarce;** 43911							X
MONOCOTYLEDONS (94, 216)							
AGAVACEAE (1, 1)							
Yucca filamentosa L.; **Scarce;** 44644		X					
ALISMATACEAE (1, 2)							
Sagittaria lancifolia L.; 44241				X	X,X^{R}		X
Sagittaria sp. (sterile; likely Sagittaria latifolia Willd.); **Scarce;** 43974							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
AMARYLLIDACEAE (1, 1)							
Crinum americanum L.; 44159				X	X		X
ARACEAE (4, 4)							
* Epipremnum aureum [Linden & André] Bunting (including Epipremnum pinnatum (L.) Engl.); **Scarce;** 44125; FISC II		X					
*Monstera deliciosa Liebm.; **Scarce;** 44494		X					
*Philodendron sp. (sterile); **Scarce;** 44495		X					
*Syngonium podophyllum Schott; 43744; FISC I							X
ARECACEAE (6, 6)							
Acoelorraphe wrightii (Griseb. & H. Wendl.) H. Wendl. ex Becc.; **Scarce;** 44698						X	
*Caryota mitis Lour.; **Scarce;** 44511							X
*Phoenix sp. (sterile); **Scarce;** 44446, 44496; FISC ?		X^M		X	X		
Roystonea regia (Kunth) O.F. Cook; **Scarce;** 44507 (photograph)		X		X,X^M			
Sabal palmetto (Walter) Lodd. ex Schult. & Schult. f.; 44124	X,X^M	X	X	X,X^M	X	X	X
Serenoa repens (W. Bartram) Small; 44432	X	X	X	X			X
ASPARAGACEAE (1, 1)							
*Asparagus setaceus (Kunth) Jessop; **Scarce;** 44433							X
BROMELIACEAE (1, 9)							
Tillandsia balbisiana Schult. & Schult. f.; 43850	X,X^M,X^P	X	X	X,X^M		X	
Tillandsia fasciculata Sw.; 44502 (photograph)	X	X	X	X	X	X	
Tillandsia flexuosa Sw.; 44503 (photograph)		X	X,X^R	X		X	
Tillandsia paucifolia Baker; 44014	X	X,X^M	X	X,X^M		X	
Tillandsia pruinosa Sw.; **Scarce;** 44504 (photograph)	X^P		X				
Tillandsia recurvata (L.) L.; 43851	X	X	X	X		X	X
Tillandsia setacea Sw.; 43797	X	X	X	X		X	
Tillandsia usneoides (L.) L.; 43830	X,X^P	X	X	X			X
Tillandsia utriculata L.; 44505 (photograph)	X	X	X	X,X^R		X	

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
COMMELINACEAE (4, 7)							
¤Callisia ornata (Small) G.C. Tucker [Cuthbertia ornata Small]; **Scarce;** 44160		X	X				X
*Commelina diffusa Burm. f.; 43773, 44276		X					X
Commelina erecta L. (two color formas occur: **a.** the typical forma having two large blue petals and one small white petal [not scarce], and **b.** a forma having two large white petals and one small white petal [**Scarce**]); 44326		X	X				X
*Commelina gambiae C.B. Clarke; **Scarce;** 44365							X
*Murdannia nudiflora (L.) Brenan; 44161							X
*Murdannia spirata (L.) G. Brückn.; 44221							X
*Tradescantia spathacea Sw. [Rhoeo discolor (L'Hér.) Hance ex Walp.]; **Scarce;** 44576; FISC I							X
CYPERACEAE (11, 58)							
Bulbostylis ciliatifolia (Elliott) Fernald; 44387			X				X
Carex longii Mack.; **Scarce;** 43746							X
¤Carex vexans F.J. Herm.; **Scarce;** 44009							X
Cladium jamaicense Crantz; 44029	X	X		X	X,X^R	X	
*Cyperus brevifolius (Rottb.) Endl. ex Hassk. [Kyllinga brevifolia Rottb.]; 44121							X
Cyperus compressus L.; 44425		X					X
Cyperus croceus Vahl							X
*Cyperus difformis L.; **Scarce;** 43950							X
*Cyperus esculentus L.; 44389							X
Cyperus flavescens L.; 44118							X
Cyperus haspan L.; 44084, 44154		X					X
*Cyperus hyalinus Vahl [Kyllinga hyalina (Vahl) T. Koyama]; 44441							X
*Cyperus iria L.; **Scarce;** 44100, 44349							X
Cyperus ligularis L.; 43857		X		X	X		X
*Cyperus metzii (Hochst. ex Steud.) Mattf. & Kük. [Kyllinga squamulata Vahl]; 44122							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
CYPERACEAE (11, 58) continued							
Cyperus odoratus L.; 43747				X	X	X	X
Cyperus ovatus Baldwin[3]; 44155, 44363, 44390		X	X,X[R]				X
Cyperus polystachyos Rottb.; 44119		X		X			X
*Cyperus pumilus L.; 44060, 44156							X
*Cyperus richardii Steud. [Kyllinga bulbosa P. Beauv., Kyllinga macrocephala A. Rich.]; 35841, 35842, 44393							X
*Cyperus rotundus L.; 44391							X
Cyperus sesquiflorus (Torr.) Mattf. & Kük. [Kyllinga odorata Vahl]; **Scarce;** 44011							X
*Cyperus sphacelatus Rottb.; 44426							X
Cyperus squarrosus L. [Cyperus aristatus Rottb.]; 43889, 44392							X
Cyperus surinamensis Rottb.; 44120		X					X
*Eleocharis acutangula (Roxb.) Schult. subsp. breviseta D.J. Rosen; **Scarce;** 44256						X	
Eleocharis baldwinii (Torr.) Chapm.; 44157		X,X[R]					X
Eleocharis cellulosa Torr.; 43828					X		
Eleocharis flavescens (Poir.) Urb.; **Scarce;** 44518, 44643							X
Eleocharis geniculata (L.) Roem. & Schult.; 44123					X		X
Eleocharis interstincta (Vahl) Roem. & Schult.; 43858					X		
?Eleocharis sp.[4], (sterile material with sprawling culms and viviparous growth habit); **Scarce;** 44764							X
Fimbristylis autumnalis (L.) Roem. & Schult.; 43890			X				X
Fimbristylis cymosa R. Br.; 44259		X[R]					X
Fimbristylis dichotoma (L.) Vahl; 44010							X
Fimbristylis puberula (Michx.) Vahl; **Scarce;** 44427, 44428			X				X
*Fimbristylis schoenoides (Retz.) Vahl; **Scarce;** 43951							X
Fimbristylis spadicea (L.) Vahl; 43915					X		X
Fuirena breviseta (Coville) Coville; **Scarce;** 43859							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
CYPERACEAE (11, 58) continued							
Fuirena pumila (Torr.) Spreng.; 44364, 44429					X		X
Fuirena scirpoidea Michx.; 43748		X					X
*Lipocarpha aristulata (Coville) G.C. Tucker [Cyperus neochinensis (Tang & F.T. Wang) Bauters]; 43972		X					X
Lipocarpha micrantha (Vahl) G.C. Tucker [Cyperus subsquarrosus (Muhl.) Bauters]; 43891							X
Rhynchospora colorata (L.) H. Pfeiff. [Dichromena colorata (L.) Hitchc.]; 44158		X			X		X
Rhynchospora divergens Chapm. ex M.A. Curtis; **Scarce;** 43953, 44012							X
Rhynchospora fascicularis (Michx.) Vahl; 43973		X	X,X^{R}				X
Rhynchospora fernaldii Gale; **Scarce;** 44061, 44062, 44220		X					X
Rhynchospora globularis (Chapm.) Small; **Scarce;** 43829, 44063		X					
Rhynchospora intermedia (Chapm.) Britton; **Scarce;** 43796, 43798, 44430			X,X^{R}				
Rhynchospora megalocarpa A. Gray			X				X
Rhynchospora nitens (Vahl) A. Gray [Psilocarya nitens (Vahl) A.W. Wood]; **Scarce;** 44180		X,X^{R}					X
Rhynchospora odorata C. Wright ex Griseb.; **Scarce;** 43772, 44032				X			X
Rhynchospora wrightiana Boeck.; **Scarce;** 44431							X
Schoenoplectus pungens (Vahl) Palla; **Scarce;** 44085, 44142					X		
Schoenoplectus tabernaemontani (C.C.Gmel.) Palla [Scirpus validus Vahl]; **Scarce;** 44394, 44678					X		
Scleria ciliata Michx.; **Scarce;** 43749		X	X				X
Scleria reticularis Michx.; **Scarce;** 43892, 43893		X					X
Scleria verticillata Muhl. ex Willd.; 44013							X
DIOSCOREACEAE (1, 1)							
*Dioscorea bulbifera L.; 44445; FISC I							X
ERIOCAULACEAE 2, 2)							
Lachnocaulon anceps (Walter) Morong; 44162, 44434		X	X				

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
ERIOCAULACEAE 2, 2) continued							
Syngonanthus flavidulus (Michx.) Ruhland; 43975		X	X				X
HAEMODORACEAE (1, 1)							
Lachnanthes caroliana (Lam.) Dandy; **Scarce;** 43831		X					X
HYDROCHARITACEAE (1, 1)							
*Hydrilla verticillata (L. f.) Royle; **Scarce;** 44064; FISC I							X
HYPOXIDACEAE (1, 1)							
Hypoxis juncea Sm.; 43799		X	X				
IRIDACEAE (1, 1)							
Sisyrinchium angustifolium Mill.; 43916				X^{R}			X
JUNCACEAE (1, 4)							
Juncus marginatus Rostk.; **Scarce;** 43954		X					X
Juncus megacephalus M.A. Curtis; **Scarce;** 43860							X
Juncus roemerianus Scheele; 43832					X		
Juncus scirpoides Lam.; 44444		X					X
LEMNACEAE (3, 3)							
*Landoltia punctata (G. Mey.) Les & D.J. Crawford; 44316; FISC II				X			
Lemna aequinoctialis Welw.; 43732				X			
Wolffiella oblonga (Phil.) Hegelm.; **Scarce;** 43731				X			
LILIACEAE (1, 1)							
Lilium catesbaei Walter; **Scarce;** 44508 (photograph)		X					
MARANTACEAE (1, 1)							
Thalia geniculata L.; **Scarce;** 43774				X	X		
ORCHIDACEAE (6, 6)							
Encyclia tampensis (Lindl.) Small; 43894, 44015	X,X^{P}	X	X	X	X	X	
Epidendrum rigidum Jacq.; **Scarce;** 44506 (photograph)			X				
*Eulophia graminea Lindl.; **Scarce;** 43775; FISC II							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
ORCHIDACEAE (6, 6) continued							
Habenaria quinqueseta (Michx.) Eaton; **Scarce;** 44065		X					
*Oeceoclades maculata (Lindl.) Lindl.; **Scarce;** 44435		X				X	
*Zeuxine strateumatica (L.) Schltr.; 44543, 44544							X
POACEAE (40, 94)							
Amphicarpum muehlenbergianum (Schult.) Hitchc.; 43884, 44144		X					X
Andropogon glomeratus (Walter) Britton et al. var. glomeratus; **Scarce;** 44249			X^R				
Andropogon glomeratus (Walter) Britton et al. var. pumilus (Vasey) Vasey ex L.H. Dewey							X
Andropogon glomeratus (Walter) Britton et al. var. glaucopsis (Elliott) C. Mohr; 44318		X					
Andropogon ternarius Michx.; **Scarce;** 44199, 44200		X					
Andropogon virginicus L. var. decipiens C.S. Campb.; **Scarce;** 44052		X	X				
Andropogon virginicus L. var. glaucus Hack.; 44319, 44491, 44492, 44493		X	X,X^R				X
Aristida gyrans Chapm.; 44201, 44254, 44255			X				X
¤Aristida patula Chapm. ex Nash; **Scarce;** 44053		X					X
Aristida purpurascens Poir. var. purpurascens; **Scarce;** 44421							X
Aristida purpurascens Poir. var. tenuispica (Hitchc.) Allred; **Scarce;** 44269							X
Aristida simpliciflora Chapm.; 44178, 44234–44237, 44270, 44271, 44344,44345		X	X				
Aristida spiciformis Elliott; 43885		X	X				X
Aristida stricta Michx.; **Scarce;** 44260		X					
Axonopus compressus (Sw.) P. Beauv.; **Scarce;** 44587							X
Axonopus fissifolius (Raddi) Kuhlm.; 44003, 44423		X,X^R					X
Axonopus furcatus (Flüggé) Hitchc.; **Scarce;** 43912							X
*Bothriochloa pertusa (L.) A. Camus; 44101, 44272							X
Cenchrus echinatus L.; 43886							X
Cenchrus spinifex Cav. [Cenchrus incertus M.A. Curtis]; 43968							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
POACEAE (40, 94) continued							
Chrysopogon pauciflorus (Chapm.) Benth. ex Vasey; **Scarce;** 44004							X
*Cynodon dactylon (L.) Pers.; 44145							X
*Dactyloctenium aegyptium (L.) Willd.; 43794; FISC II							X
Dichanthelium aciculare (Desv. ex Poir.) Gould & C.A. Clark; **Scarce;** 44030							X
Dichanthelium commutatum (Schult.) Gould; **Scarce;** 44485							X
Dichanthelium dichotomum (L.) Gould; 44005					X		X
Dichanthelium ensifolium (Baldwin ex Elliott) Gould var. ensifolium; 43945		X					X
Dichanthelium ensifolium (Baldwin ex Elliott) Gould var. unciphyllum (Trin.) B.F. Hansen & Wunderlin; 44006, 44358		X					X
Dichanthelium portoricense (Desv. ex Ham.) B.F. Hansen & Wunderlin subsp. patulum (Scribn. & Merr.) Freckmann & Lelong; 44094, 44146, 44359, 44512		X					X
Dichanthelium portoricense (Desv. ex Ham.) B.F. Hansen & Wunderlin subsp. portoricense; 43825	X[P]						X
Dichanthelium strigosum (Muhl. ex Elliott) Freckmann var. glabrescens (Griseb.) Freckmann; 43826, 44147		X					
*Digitaria bicornis (Lam.) Roem. & Schult.; 44102, 44103							X
Digitaria ciliaris (Retz.) Koeler; 44273							X
*Digitaria longiflora (Retz.) Pers.; **Scarce;** 44095, 44179							X
*Digitaria setigera Roth ex Roem. & Schult.; **Scarce;** 43946, 44054		X					
*Digitaria violascens Link; **Scarce;** 44096, 44104							X
Diplachne fusca (L.) P. Beauv. ex Roem. & Schult. subsp. fascicularis (Lam.) P.M. Peterson & N. Snow [Leptochloa fusca (L.) Kunth subsp. fascicularis (Lam.) N. Snow]; 44116				X	X		X
*Echinochloa colona (L.) Link; 44007, 44114							X
Echinochloa walteri (Pursh) A. Heller; 44238				X		X	X
*Eleusine indica (L.) Gaertn.; 44105							X
*Eragrostis amabilis (L.) Wight & Arn. ex Wight; 44106							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
POACEAE (40, 94) continued							
*Eragrostis atrovirens (Desf.) Trin. ex Steud.; **Scarce;** 43745							X
*Eragrostis ciliaris (L.) R. Br. var. ciliaris; 44097							X
*Eragrostis ciliaris (L.) R. Br. var. laxa Kuntze; **Scarce;** 44513, 44514							X
Eragrostis elliottii S. Watson; 44148		X	X				X
*Eragrostis gangetica (Roxb.) Steud.; **Scarce;** 44115, 44360		X,X^{R}					
*Eragrostis minor Host; **Scarce;** 44107							X
Eragrostis pectinacea (Michx.) Nees ex Jedwabn. var. pectinacea; 43855, 44274							X
Eragrostis refracta (Muhl.) Scribn. [Eragrostis virginica (Zuccagni) Steud.]; **Scarce;** 44202		X					
*Eragrostis scaligera Salzm. ex Steud.; **Scarce;** 44346		X					
Eragrostis spectabilis (Pursh) Steud.; **Scarce;** 44322			X^{R}				
*Eremochloa ophiuroides (Munro) Hack.; **Scarce;** 43887							X
Eustachys glauca Chapm.; **Scarce;** 43888					X		
Eustachys petraea (Sw.) Desv.; 44321		X					X
*Hymenachne amplexicaulis (Rudge) Nees; 44098, 44149; FISC I							X
Leersia hexandra Sw.; **Scarce;** 44099							X
Luziola fluitans (Michx.) Terrell & H. Rob.; **Scarce;** 44055							X
*Melinis repens (Willd.) Zizka [Rhynchelytrum repens (Willd.) C.E. Hubb.]; **Scarce;** 44117; FISC I		X	X^{R}				X
Oplismenus setarius (Lam.) Roem. & Schult.; 44150		X^{R}					
Panicum dichotomiflorum Michx. var. bartowense (Scribn. & Merr.) Fernald; **Scarce;** 43769				X			
Panicum dichotomiflorum Michx. var. dichotomiflorum; **Scarce;** 44056							X
Panicum hemitomon Schult.; **Scarce;** 44057							X
*Panicum repens L.; 43770; FISC I					X	X	X
Panicum virgatum L.; 44439	X^{P}						X
Paspalidium geminatum (Forssk.) Stapf; 44295					X		X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
POACEAE (40, 94) continued							
*Paspalum acuminatum Raddi; **Scarce;** 44239							X
Paspalum conjugatum P.J. Bergius; **Scarce;** 43969							X
*Paspalum notatum Flüggé; 44109							X
Paspalum setaceum Michx. var. longepedunculatum (Leconte) Alph. Wood; **Scarce;** 44058							X
Paspalum setaceum Michx. var. setaceum; 43913		X					X
Paspalum setaceum Michx. var. stramineum (Nash) D.J. Banks; **Scarce;** 43914		X					X
*Paspalum urvillei Steud.; 44059							X
Paspalum vaginatum Sw.; 44424					X		X
*Pennisetum polystachion (L.) Schult. [Cenchrus polystachios (L.) Morrone]; **Scarce;** 44361; FISC II							X
*Pennisetum purpureum Schumach. [Cenchrus purpureus (Schumach.) Morrone]; **Scarce;** 44515; FISC I							X
*Phragmites australis (Cav.) Trin. ex Steud. sensu lato; **Scarce;** 44253, 44362				X	X		
*Rottboellia cochinchinensis (Lour.) Clayton; 43827							X
Saccharum giganteum (Walter) Pers.; **Scarce;** 44323							X
*Sacciolepis indica (L.) Chase; 44324		X					X
Sacciolepis striata (L.) Nash; **Scarce;** 44151							X
Schizachyrium sanguineum (Retz.) Alston var. hirtiflorum (Nees) S.L. Hatch; 44347, 44348, 44490		X	X				
Schizachyrium stoloniferum Nash [Schizachyrium scoparium (Michx.) Nash var. stoloniferum (Nash) Wipff]; 44250–44252							X
Setaria parviflora (Poir.) Kerguélen; 44031		X			X		X
Sorghastrum secundum (Elliott) Nash; 44230		X	X				X
Spartina bakeri Merr.; 44509, 44516					X		
*Sporobolus indicus (L.) R. Br. [Sporobolus indicus (L.) R. Br. var. indicus]; **Scarce;** 44240							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
POACEAE (40, 94) continued							
*Sporobolus jacquemontii Kunth [Sporobolus indicus (L.) R. Br. var. pyramidalis (P. Beauv.) Veldkamp]; 43771; FISC I		X					X
Stenotaphrum secundatum (Walter) Kuntze; **Scarce;** 44008							X
Triplasis americana P. Beauv.[5]; **Scarce;** 43856							X
Triplasis intermedia Nash[6]; **Scarce;** 44325							X
*Urochloa distachya (L.) T.Q. Nguyen [Urochloa subquadripara (Trin.) R.D. Webster]; 44110, 44517		X					X
*Urochloa maxima (Jacq.) R.D. Webster [Panicum maximum Jacq.]; 44153, 44223; FISC II							X
*Zea mays L.; **Scarce;** 44596							X
*Zoysia matrella (L.) Merr. (or possibly a hybrid of Zoysia matrella (L.) Merr. and Zoysia japonica Steud.); **Scarce;** 43948, 43949							X
PONTEDERIACEAE (1, 1)							
Pontederia cordata L.; 44181					X		X
RUSCACEAE (1, 1)							
*Dracaena hyacinthoides (L.) Mabb. [Sansevieria hyacinthoides (L.) Druce]; 43800; FISC II		X					X
SMILACACEAE (1, 2)							
Smilax auriculata Walter[7]; 43957, 44341, 44366	X	X	X	X			X
Smilax laurifolia L.; **Scarce;** 44203		X		X			
TYPHACEAE (1, 1)							
Typha domingensis Pers.; 43833, 44679					X,X[R]		X
XYRIDACEAE (1, 6)							
Xyris ambigua Beyr. ex Kunth; 44263		X					X
Xyris brevifolia Michx.; 43895, 44222		X	X				X
Xyris caroliniana Walter; 43896		X	X				X
Xyris elliottii Chapm.; 44327		X	X				X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
MONOCOTYLEDONS (94, 216) continued							
XYRIDACEAE (1, 6) continued							
Xyris floridana (Kral) E.L. Bridges & Orzell; **Scarce;** 44163, 44164, 44182–44184		X					
Xyris jupicai Rich.; **Scarce;** 44367							X
DICOTYLEDONS SENSU LATO (237, 344)							
ACANTHACEAE (3, 4)							
Avicennia germinans (L.) L.; **Scarce;** 44111,44245						X	
Dyschoriste angusta (A. Gray) Small; **Scarce;** 44242							X
*Ruellia blechum L. [Blechum pyramidatum (Lam.) Urb.]; **Scarce;** 43917; FISC II							X
*Ruellia simplex C. Wright [Ruellia brittoniana Leonard, Ruellia tweediana Griseb.]; **Scarce;** 43940; FISC I							X
AIZOACEAE (1, 1)							
Sesuvium portulacastrum (L.) L.; **Scarce;** 43834					X		
AMARANTHACEAE (5, 10)							
Alternanthera flavescens Kunth; **Scarce;** 44277							X
*Alternanthera sessilis (L.) R. Br. ex DC.; **Scarce;** 44300, 44680							X
Amaranthus australis (A. Gray) J.D. Sauer; 44328						X	X
*Amaranthus blitum L.; 43777							X
*Amaranthus hybridus L.; **Scarce;** 44395							X
*Amaranthus spinosus L.; 43801							X
*Amaranthus viridis L.; **Scarce;** 44396							X
Blutaparon vermiculare (L.) Mears; **Scarce;** 44736					X		
*Gomphrena serrata L.; **Scarce;** 44086, 44278							X
Iresine diffusa Humb. & Bonpl. ex Willd.; **Scarce;** 44301							X
ANACARDIACEAE (4, 4)							
*Mangifera indica L.; **Scarce;** 43918							X
Rhus copallinum L.; 44447		X	X				X
*Schinus terebinthifolia Raddi; 43750; FISC I		X		X,X[M]	X	X	X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
ANACARDIACEAE (4, 4) continued							
Toxicodendron radicans (L.) Kuntze; 44033	X	X	X	X	X	X	X
ANNONACEAE (2, 2)							
Annona glabra L.; 44204				X	X,X^{R}	X	X
Asimina reticulata Shuttlew. ex Chapm.; 44187	X^{P}	X	X				X
APIACEAE (4, 4)							
Centella asiatica (L.) Urb.; 44369		X					X
*Cyclospermum leptophyllum (Pers.) Sprague ex Britton & P. Wilson; **Scarce;** 44279, 44280, 44302							X
Eryngium aromaticum Baldwin; 44188		X	X				X
Ptilimnium capillaceum (Michx.) Raf.; **Scarce;** 44243							X
APOCYNACEAE (5, 6)							
*Asclepias curassavica L.; **Scarce;** 43751							X
¤Asclepias curtissii A. Gray; **Scarce;** 43861			X				
*Catharanthus roseus (L.) G. Don; **Scarce;** 43919		X					
Funastrum clausum (Jacq.) Schltr. [Sarcostemma clausum (Jacq.) Schult.]; **Scarce;** 43835, 43862, 43863		X$^{SW\text{-}M}$	X^{M}		X	X,X^{R}	X
Orthosia scoparia (Nutt.) Liede & Meve [Cynanchum scoparium Nutt.]; **Scarce;** 43778				X			
Rhabdadenia biflora (Jacq.) Müll. Arg.; **Scarce;** 44189					X	X	
AQUIFOLIACEAE (1, 2)							
Ilex cassine L.; 44368	X	X,X^{R}		X,X^{M}	X		X
Ilex glabra (L.) A. Gray; 43958	X	X	X				X
ARALIACEAE (2, 3)							
*Heptapleurum actinophyllum (Endl.) Lowry & G.M. Plunkett [Schefflera actinophylla (Endl.) Harms]; **Scarce;** 43920; FISC I							X
Hydrocotyle umbellata L.; 43752							X
Hydrocotyle verticillata Thunb. var. triradiata (A. Rich.) Fernald; 44244							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
ASTERACEAE (42, 57)							
*Ageratum conyzoides L. (blue-flowered forma and white-flowered forma); **Scarce;** 44126, 44127							X
Ambrosia artemisiifolia L.; 44034		X					X
Baccharis angustifolia Michx.; 43921		X			X		X
Baccharis glomeruliflora Pers.; 44370		X		X,X^{R}			X
Baccharis halimifolia L.; 44224		X		X,X^{R}	X,X^{R}		
Balduina angustifolia (Pursh) B.L. Rob.; **Scarce;** 43836		X					
Bidens alba (L.) DC.; 44035		X					X
*Calyptocarpus vialis Less.; **Scarce;** 44016							X
Carphephorus corymbosus (Nutt.) Torr. & A. Gray; 43976, 44371		X	X				X
¤Carphephorus odoratissimus (J.F. Gmel.) H. Hebert var. subtropicanus (DeLaney et al.) Wunderlin & B.F. Hansen; 44449		X					X
Chromolaena odorata (L.) R.M. King & H. Rob.; 43779		X					X
Chrysopsis scabrella Torr. & A. Gray; 43864							X
Cirsium nuttallii DC.; **Scarce;** 44601, 44681							X
Conoclinium coelestinum (L.) DC.; **Scarce;** 44036					X		
Coreopsis leavenworthii Torr. & A. Gray; 44165							X
*Cyanthillium cinereum (L.) H. Rob. [Vernonia cinerea (L.) Less.]; **Scarce;** 44037, 44372							X
Eclipta prostrata (L.) L.; 44066				X			X
Elephantopus elatus Bertol.; 44408		X					X
*Emilia fosbergii Nicolson; 44206		X			X		X
*Emilia sonchifolia (L.) DC.; 43753, 44519							X
Erechtites hieraciifolius (L.) Raf. ex DC. (a forma in which the living phyllaries are green and a forma in which the living phyllaries are dark purple and in which the living foliage leaves have a purple cast); 43837, 43959		X			X		X
Erigeron canadensis L. [Conyza canadensis (L.) Cronq.]; 44329							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
ASTERACEAE (42, 57) continued							
Erigeron quercifolius Poir.; 44281, 44282							X
Eupatorium capillifolium (Lam.) Small ex Porter & Britton; 44409		X		X	X		X
¤Eupatorium mikanioides Chapm.; 43838		X			X		X
Eupatorium mohrii Greene; **Scarce;** 43754		X					X
Euthamia caroliniana (L.) Greene ex Porter & Britton [Euthamia minor (Michx.) Greene]; **Scarce;** 44207							X
Flaveria linearis Lag.; **Scarce;** 43922					X^R		
*Gaillardia pulchella Foug.; **Scarce;** 44397							X
Gamochaeta antillana (Urb.) Anderb.; 44582, 44682							X
*Gamochaeta pensylvanica (Willd.) Cabrera; 44283							X
Helenium amarum (Raf.) H. Rock; **Scarce;** 44752							X
¤Helianthus debilis Nutt. subsp. debilis; **Scarce;** 44038							X
Liatris chapmanii Torr. & A. Gray; **Scarce;** 44185		X					
Liatris tenuifolia Nutt. var. tenuifolia; 44186			X,X^R				
Lygodesmia aphylla (Nutt.) DC. (blue-flowered forma and white-flowered forma); **Scarce;** 44373		X,X^S	X				X
Melanthera nivea (L.) Small sensu lato; **Scarce;** 43923							X
Mikania scandens (L.) Willd.; 43780, 43865				X	X	X	X
¤Palafoxia feayi A. Gray; 43839, 44128, 44166, 44330		X	X				X
*Parthenium hysterophorus L.; 44039							X
Pectis prostrata Cav.; 44167							X
Pityopsis graminifolia (Michx.) Nutt.; **Scarce;** 44451		X					X
Pluchea baccharis (Mill.) Pruski [Pluchea rosea R.K. Godfrey]; 44040		X			X		
*Pluchea carolinensis (Jacq.) G. Don; 43802		X		X	X,X^R		X
Pluchea odorata (L.) Cass.; 43755		X		X	X	X	X
Pterocaulon pycnostachyum (Michx.) Elliott; 43977		X					X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
ASTERACEAE (42, 57) continued							
Solidago fistulosa Mill.; **Scarce;** 43978							X
Solidago odora Aiton; 44017		X					X
Solidago sempervirens L.; 43926					X,X[R]		
*Sonchus asper (L.) Hill (typical forma) and Sonchus asper (L.) Hill forma inermis (Bisch.) G. Beck; **both formas Scarce;** 44303, 44645							X
*Sphagneticola trilobata (L.) Pruski [Wedelia trilobata (L.) Hitchc.]; 44190; FISC II		X			X,X[R]	X	X
Symphyotrichum carolinianum (Walter) Wunderlin & B.F. Hansen; **Scarce;** 43897				X	X		
Symphyotrichum simmondsii (Small) G.L. Nesom; **Scarce;** 44520							X
Symphyotrichum subulatum (Michx.) G.L. Nesom sensu lato; **Scarce;** 44331, 44410					X		X
*Tridax procumbens L.; 44018							X
Verbesina virginica L.; **Scarce;** 44041							X
*Youngia japonica (L.) DC.; 44284							X
BORAGINACEAE (1, 1)							
Heliotropium angiospermum Murray; **Scarce;** 44129							X
BRASSICACEAE (3, 3)							
Cardamine pensylvanica Muhl. ex Willd.; 43803							X
Lepidium virginicum L.; 44067							X
[R]orippa teres (Michx.) Stuckey; 44246							X
BURSERACEAE (1, 1)							
Bursera simaruba (L.) Sarg.; **Scarce;** 44412		X		X[R]	X		X
CACTACEAE (1, 1)							
Opuntia humifusa (Raf.) Raf. sensu lato; **Scarce;** 43840		X	X,X[R]				X
CAMPANULACEAE (1, 1)							
Lobelia feayana A. Gray; **Scarce;** 43931							X
CARYOPHYLLACEAE (3, 3)							
*Drymaria cordata (L.) Willd. ex Schult.; **Scarce;** 44130							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
CARYOPHYLLACEAE (3, 3) continued							
*Stellaria parva Pedersen; **Scarce;** 44699, 44683, 44684							X
Stipulicida setacea Michx. var. lacerata C.W. James; **Scarce;** 44068		X	X				
CASUARINACEAE (1, 1)							
*Casuarina equisetifolia L.; **Scarce;** 43898; FISC I					X		
CHRYSOBALANACEAE (2, 2)							
Chrysobalanus icaco L.; **Scarce;** 44208	X	X,X^{M}		X	X		
Geobalanus oblongifolius (Michx.) Small [Licania michauxii Prance]; 43866			X,X^{R}				X
CISTACEAE (2, 4)							
Crocanthemum corymbosum (Michx.) Britton [Helianthemum corymbosum Michx.]; **Scarce;** 44069		X					
Crocanthemum nashii (Britton) Barnhart [Helianthemum nashii Britton]; 43804			X				X
¤Lechea cernua Small; **Scarce;** 44070, 44071			X				
Lechea torreyi (Chapm.) Legg. ex Britton; 43899, 44413		X	X^{R}				
CLEOMACEAE (2, 2)							
Polanisia tenuifolia Torr. & A. Gray; **Scarce;** 44411							X
*Sieruela rutidosperma (DC.) Roalson & J.C. Hall [Cleome rutidosperma DC.]; 43924, 43925		X					X
CLUSIACEAE (2, 5)							
*Calophyllum antillanum Britton; **Scarce;** 44500; FISC I		X					
Hypericum cistifolium Lam.; 44377		X			X		X
Hypericum hypericoides (L.) Crantz; **Scarce;** 43846		X					
Hypericum tenuifolium Pursh [Hypericum reductum (Svenson) W.P. Adams]; 43757		X	X				X
Hypericum tetrapetalum Lam.; 44338	X	X	X				X
COMBRETACEAE (3, 3)							
Conocarpus erectus L.; 43867					X,X^{R}	X	
Laguncularia racemosa (L.) C.F. Gaertn.; **Scarce;** 43868						X,X^{R}	

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
COMBRETACEAE (3, 3) contined							
*Terminalia catappa L.; **Scarce;** 43841; FISC II		X					X
CONVOLVULACEAE (3, 8)							
Dichondra carolinensis Michx.; 44600							X
Ipomoea alba L.; **Scarce;** 43842				X			X
Ipomoea indica (Burm.) Merr.; **Scarce;** 43936		X					X
Ipomoea pes-caprae (L.) R. Br.; 44398							X
*Ipomoea quamoclit L.; **Scarce;** 43756							X
Ipomoea sagittata Poir.; 43937				X	X,X[R]		
*Ipomoea triloba L. (pink-flowered forma and white-flowered forma); 44209, 44332							X
Jacquemontia pentanthos (Jacq.) G. Don; **Scarce;** 44399							X
CUCURBITACEAE (2, 2)							
Melothria pendula L.; **Scarce;** 43781				X		X	X
*Momordica charantia L.; 44131; FISC II		X					X
DROSERACEAE (1, 2)							
Drosera brevifolia Pursh; **Scarce;** 44521		X,X[S]					
Drosera capillaris Poir.; **Scarce;** 44192		X					
ERICACEAE (3, 3)							
Ceratiola ericoides Michx.; 43805			X				
Lyonia fruticosa (Michx.) G.S. Torr.; 43806		X	X				X
Vaccinium myrsinites Lam.; **Scarce;** 43960		X	X				X
EUPHORBIACEAE (5, 19)							
*Acalypha arvensis Poepp.; 43807, 44401							X
Acalypha gracilens A. Gray; 43869							X
*Acalypha setosa A. Rich.; **Scarce;** 44285, 44400							X
Caperonia castaneifolia (L.) A. St.-Hil.; **Scarce;** 44087							X
Cnidoscolus stimulosus (Michx.) Engelm. & A. Gray; **Scarce;** 43980		X	X				X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
EUPHORBIACEAE (5, 19) continued							
Croton glandulosus L. var. septentrionalis Müll. Arg. [Croton glandulosus L. var. glandulosus]; **Scarce;** 44168, 44414							X
Croton michauxii G.L. Webster; **Scarce;** 43928							X
Euphorbia blodgettii Engelm. ex Hitchc. [Chamaesyce blodgettii (Engelm. ex Hitchc.) Small]; 43782							X
Euphorbia cyathophora Murray [Poinsettia cyathophora (Murray) Bartling]; **Scarce;** 43783							X
*Euphorbia graminea Jacq.; 44072							X
Euphorbia heterophylla L. [Poinsettia heterophylla (L.) Klotzsch & Garcke]; 44132							X
Euphorbia hirta L. [Chamaesyce hirta (L.) Millsp.]; 44042		X					X
Euphorbia hypericifolia L. [Chamaesyce hypericifolia (L.) Millsp.]; **Scarce;** 44020		X					X
Euphorbia hyssopifolia L. [Chamaesyce hyssopifolia (L.) Small]; 44304		X,X^{R}					X
*Euphorbia lasiocarpa Klotzsch [Chamaesyce lasiocarpa (Klotzsch) Arthur]; **Scarce;** 43870							X
*Euphorbia milii Des Moul.; **Scarce;** 44522			X				
Euphorbia ophthalmica Pers. [Chamaesyce ophthalmica (Pers.) D.G. Burch]; 44073							X
¤Euphorbia polyphylla Engelm. ex Chapm.; 43871			X				X
Euphorbia prostrata Aiton [Chamaesyce prostrata (Aiton) Small]; 44043, 44402							X
FABACEAE (31, 42)							
*Abrus precatorius L.; 43784; FISC I		X		X			X
*Acacia auriculiformis A. Cunn. ex Benth.; **Scarce;** 44453, 44498; FISC I	X	X^{M}		X		X	X
Aeschynomene americana L.; **Scarce;** 44019							X
*Aeschynomene indica L.; **Scarce;** 43873							X
*Albizia lebbeck (L.) Benth.; **Scarce;** 44374; FISC I							X
*Alysicarpus ovalifolius (Schumach. & Thonn.) J. Léonard; **Scarce;** 43981, 44210							X
*Alysicarpus vaginalis (L.) DC.; **Scarce;** 44287							X
Apios americana Medik.; **Scarce;** 43874, 44193							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
FABACEAE (31, 42) continued							
*Arachis glabrata Benth.; **Scarce;** 43808							X
Centrosema virginianum (L.) Benth.; **Scarce;** 44021		X,X[R]					X
Chamaecrista fasciculata (Michx.) Greene; 44454		X	X,X[R]				X
Chamaecrista nictitans (L.) Moench var. aspera (Muhl. ex Elliott) H.S. Irwin & Barneby; 43929		X					X
*Clitoria ternatea L.; **Scarce;** 44169							X
*Crotalaria pallida Aiton; 44022							X
*Crotalaria retusa L.; **Scarce;** 44074, 44075							X
Crotalaria rotundifolia J.F. Gmel.; 44076, 44305		X					X
*Crotalaria spectabilis Roth; **Scarce;** 43930							X
Dalbergia ecastaphyllum (L.) Taub.; 43809		X	X	X	X[MN]	X	
Dalea sp.[8]; **Scarce;** 44225							X
*Delonix regia (Bojer ex Hook.) Raf.; **Scarce;** 43785							X
*Desmodium incanum (Sw.) DC.; 44306							X
*Desmodium tortuosum (Sw.) DC.; 43810, 44133		X					X
Galactia elliottii Nutt.; 43843, 44375		X	X[M]				X
Galactia volubilis (L.) Britton; 44403			X				X
*Grona triflora (L.) H. Ohashi & K. Ohashi [Desmodium triflorum (L.) DC.]; 44288							X
*Indigofera hirsuta L.; **Scarce;** 44455		X					X
*Indigofera spicata Forssk.; 43811							X
*Leucaena leucocephala (Lam.) de Wit; **Scarce;** 44170; FISC II		X[R]					
Lupinus diffusus Nutt.; **Scarce;** 43961			X				
*Macroptilium lathyroides (L.) Urb.; 43812, 43941; FISC II		X					X
*Melilotus albus Medik.; **Scarce;** 44307							X
*Millettia pinnata (L.) Panigrahi [Pongamia pinnata (L.) Pierre]; **Scarce;** 44701							X
Mimosa strigillosa Torr. & A. Gray; 44404							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
FABACEAE (31, 42) continued							
Rhynchosia minima (L.) DC.; **Scarce;** 44376							X
Senna obtusifolia (L.) H.S. Irwin & Barneby; **Scarce;** 44088							X
*Senna occidentalis (L.) Link; **Scarce;** 44089, 44211							X
*Senna pendula (Humb. & Bonpl. ex Willd.) H.S. Irwin & Barneby; 44308; FISC I	X			X,X[M]	X	X	X
Sesbania herbacea (Mill.) McVaugh; **Scarce;** 44090							X
Stylosanthes hamata (L.) Taub.; 44405							X
¤Tephrosia rugelii Shuttlew. ex B.L. Rob.; **Scarce;** 44248		X					
Vicia acutifolia Elliott; 44194	X[M]				X		X
Vigna luteola (Jacq.) Benth.; 44247						X	X
FAGACEAE (1, 6)							
Quercus chapmanii Sarg.; **Scarce;** 43962			X				
Quercus geminata Small; 43844		X	X				
Quercus laurifolia Michx.; 43900, 44077, 44091	X	X,X[R]					
Quercus minima (Sarg.) Small; 44523, 44524		X					X
Quercus myrtifolia Willd.; 43845	X	X	X				X
Quercus virginiana Mill.; 43875	X,X[M]	X,X[R]				X	X
GENTIANACEAE (1, 1)							
Sabatia brevifolia Raf.; **Scarce;** 43813			X				
GERANIACEAE (1, 1)							
Geranium carolinianum L.; **Scarce;** 44289							X
HALORAGACEAE (1, 1)							
Proserpinaca palustris L.; **Scarce;** 44545					X		
LAMIACEAE (6, 7)							
Callicarpa americana L. (the typical forma with pink fruits plus a white-fruited forma); 44456		X	X				X
Hyptis alata (Raf.) Shinners; **Scarce;** 44044					X		

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
LAMIACEAE (6, 7) continued							
Piloblephis rigida (W. Bartram ex Benth.) Raf.; 44309		X	X				X
Salvia coccinea Buc`hoz ex Etl.; **Scarce;** 43814							X
Salvia misella Kunth; **Scarce;** 43758							X
Teucrium canadense L.; 44045		X		X	X		
Trichostema dichotomum L.; **Scarce;** 43901			X				
LAURACEAE (2, 2)							
Cassytha filiformis L.; 43938		X	X		X,X^{R}		
Persea palustris (Raf.) Sarg.; 44212	X^{M}	X,X^{MN}		X,X^{R}	X		X
LENTIBULARIACEAE (1, 4)							
Utricularia foliosa L.; 44134					X		
Utricularia purpurea Walter; 44135					X		
Utricularia simulans Pilg.; **Scarce;** 44226		X					
Utricularia subulata L.; 44046		X					X
LINDERNIACEAE (2, 2)							
Lindernia grandiflora Nutt.; **Scarce;** 44651							X
*Torenia crustacea (L.) Cham. & Schltdl. [Lindernia crustacea (L.) F. Muell.]; 43904		X	X				X
LOGANIACEAE (2, 2)							
Mitreola petiolata (J.F. Gmel.) Torr. & A. Gray; **Scarce;** 44171							X
Spigelia anthelmia L.; **Scarce;** 44049							X
LYTHRACEAE (3, 5)							
Ammannia coccinea Rottb.; **Scarce;** 44649							X
Ammannia latifolia L.; **Scarce;** 44258					X		X
*Cuphea carthagenensis (Jacq.) J.F. Macbr.; **Scarce;** 44023							X
Lythrum alatum Pursh (typical forma with pink flowers plus a white-flowered forma); 44213				X,X^{R}	X		
Lythrum lineare L.; **Scarce;** 43964					X		

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
MAGNOLIACEAE (1, 1)							
Magnolia virginiana L.; 44310				X			X
MALVACEAE (7, 10)							
*Abelmoschus esculentus (L.) Moench [Hibiscus esculentus L.]; **Scarce;** 44264							X
Kosteletzkya pentacarpos (L.) Ledeb. [Kosteletzkya virginica (L.) C. Presl ex A. Gray]; **Scarce;** 44047				X	X,X^{R}		
Malvastrum corchorifolium (Desr.) Britton ex Small; **Scarce;** 43786							X
*Melochia corchorifolia L.; **Scarce;** 44092							X
Melochia spicata (L.) Fryxell; **Scarce;** 43876							X
*Sida cordifolia L.; 43982, 44381							X
Sida rhombifolia L.; **Scarce;** 43902		X					X
Sida ulmifolia Mill. [Sida acuta Burm. f., Sida antillensis Urb.]; 43787							X
*Talipariti tiliaceum (L.) Fryxell; 44510; FISC II							X
*Urena lobata L.; 43759; FISC I		X					X
MELASTOMATACEAE (1, 1)							
Rhexia nuttallii C.W. James; **Scarce;** 43877			X				
MELIACEAE (1, 1)							
Swietenia mahagoni (L.) Jacq.; 43788		X,X^{M}		X,X^{M}	X		X
MOLLUGINACEAE (1, 1)							
*Mollugo verticillata L.; **Scarce;** 43983							X
MORACEAE (1, 5)							
*Ficus altissima Blume; **Scarce;** 44265; FISC II	X^{MN}	X^{SW}					
Ficus aurea Nutt.; 44214	X	X		X,X^{R}	X	X	X
*Ficus benjamina L.; **Scarce;** 44499		X					
*Ficus elastica Roxb. ex Hornem.; **Scarce;** 44457		X^{R}					
*Ficus microcarpa L. f.; **Scarce;** 44172; FISC I		X		X^{M}			

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
MYRICACEAE (1, 1)							
Morella cerifera (L.) Small [Myrica cerifera L.]; 43789	X,X^{M}	X		X,X^{M}	X	X	
MYRSINACEAE (2, 2)							
*Ardisia elliptica Thunb.; 44215; FISC I	X	X		X	X	X	
Myrsine cubana A. DC. [Rapanea punctata (Lam.) Lundell]; 44216	X,X^{M}	X	X	X,X^{R},X^{M}	X	X	X
MYRTACEAE (5, 5)							
Eugenia axillaris (Sw.) Willd.; **Scarce;** 44526				X^{M}			
*Melaleuca quinquenervia (Cav.) S.T. Blake; 43847; FISC I		X	X,X^{M}	X,X^{M}	X	X	X
*Psidium cattleianum Sabine; 44525; FISC I							X
*Rhodomyrtus tomentosa (Aiton) Hassk.; 28169, 44339; FISC I	X,X^{P}	X,X^{SW}	X	X^{M}			X
*Syzygium cumini (L.) Skeels; 43878; FISC I		X					X
NYCTAGINACEAE (1, 1)							
Boerhavia diffusa L.; **Scarce;** 44024							X
NYMPHAEACEAE (1, 2)							
Nymphaea elegans Hook.; 43965				X	X		X
Nymphaea jamesoniana Planch.; 44458							X
OLEACEAE (1, 1)							
Fraxinus caroliniana Mill.; 43903				X			
ONAGRACEAE (2, 10)							
Ludwigia arcuata Walter; **Scarce;** 44765							X
Ludwigia curtissii Chapm.; **Scarce;** 44078		X					
Ludwigia erecta (L.) H. Hara; 43879, 44136							X
Ludwigia maritima R.M. Harper; 44385		X					X
Ludwigia microcarpa Michx.; **Scarce;** 43932, 43933		X					X
Ludwigia octovalvis (Jacq.) P.H. Raven; 43984				X	X	X	X
*Ludwigia peruviana (L.) H. Hara; 43760; FISC I					X		X
Ludwigia repens J.R. Forst.; **Scarce;** 43790				X			

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
ONAGRACEAE (2, 10) continued							
Oenothera laciniata Hill; **Scarce;** 44173							X
Oenothera simulans (Small) W.L. Wagner & Hoch [Gaura angustifolia Michx.]; 43815							X
OROBANCHACEAE (3, 3)							
Agalinis maritima (Raf.) Raf.; **Scarce;** 43880, 44415					X		
Buchnera americana L. (typical forma with purple flowers plus a white-flowered forma); **Scarce;** 44313							X
Seymeria pectinata Pursh; 43816			X				
OXALIDACEAE (1, 1)							
Oxalis corniculata L. sensu lato; 44290							X
PASSIFLORACEAE (1, 2)							
Passiflora pallens Poepp. ex Mast.; **Scarce;** 43985, 44025							X
Passiflora suberosa L.; **Scarce;** 43848		X					
PHYLLANTHACEAE (2, 4)							
*Bischofia javanica Blume; **Scarce;** 43979; FISC I		X					X
*Phyllanthus amarus Schumach. & Thonn.; 43872, 44286, 44333							X
*Phyllanthus tenellus Roxb.; 44026		X					X
*Phyllanthus urinaria L.; 43761		X					X
PHYTOLACCACEAE (1, 1)							
Phytolacca americana L.; **Scarce;** 44650							X
PLANTAGINACEAE (5, 5)							
Bacopa monnieri (L.) Pennell; white-flowered forma and blue-flowered forma; 44137				X	X	X	X
Linaria canadensis (L.) Chaz.; **Scarce;** 44604							X
Mecardonia procumbens (Mill.) Small; 43819							X
Scoparia dulcis L.; **Scarce;** 44314		X					X
Sophronanthe hispida Benth. ex Lindl. [Gratiola hispida (Benth. ex Lindl.) Pollard]; **Scarce;** 43881		X	X^R				

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
PLUMBAGINACEAE (1, 1)							
Plumbago zeylanica L. [Plumbago scandens L.]; **Scarce;** 44384							X
POLYGALACEAE (2, 4)							
Asemeia violacea (Aubl.) J.F.B. Pastore & J.R. Abbott [Polygala violacea Aubl.]; 44257							X
Polygala nana (Michx.) DC.; 43817			X				
¤Polygala rugelii Shuttlew. ex Chapm.; 44340		X					X
Polygala setacea Michx.; **Scarce;** 43818		X	X				
POLYGONACEAE (3, 4)							
Coccoloba uvifera (L.) L.; **Scarce;** 43905		X^{MN}					X
Persicaria hydropiperoides (Michx.) Small [Polygonum hydropiperoides Michx.]; **Scarce;** 44416				X			
Persicaria punctata (Elliott) Small [Polygonum punctatum Elliott]; **Scarce;** 43762						X	X
¤Polygonum polygamum Vent. var. brachystachyum (Meisn.) T.M. Schust. & Reveal [Polygonella polygama (Vent.) Engelm. & A. Gray var. brachystachya (Meisn.) Wunderlin]; 44195		X	X				X
PORTULACACEAE (1, 2)							
Portulaca oleracea L.; 44027							X
Portulaca pilosa L.; 44028							X
RHIZOPHORACEAE (1, 1)							
Rhizophora mangle L.; 43882					X	X,X^{R}	
RUBIACEAE (11, 15)							
Cephalanthus occidentalis L.; 43986		X		X			X
Chiococca parvifolia Wullschl. ex Griseb.; 43906		X		X	X		
Diodia virginiana L.; 43763							X
Edrastima uniflora (L.) Raf. [Hedyotis uniflora (L.) Lam., Oldenlandia uniflora L.]; 44228, 44386		X		X			X
Galium tinctorium L.; 44266						X	X
Houstonia procumbens (J.F. Gmel.) Standl.; **Scarce;** 44227		X					X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
RUBIACEAE (11, 15) continued							
*Oldenlandia corymbosa L. [Hedyotis corymbosa (L.) Lam.]; 44138, 44174		X					X
Psychotria nervosa Sw.; 44527	X			X			
Psychotria tenuifolia Sw. [Psychotria sulzneri Small]; **Scarce;** 44093		X^{R}		X			
Randia aculeata L.; **Scarce;** 44311	X^{MN}			X^{R}			
*Richardia brasiliensis Gomes; **Scarce;** 43934							X
*Richardia grandiflora (Cham. & Schltdl.) Steud.; 44291; FISC II							X
*Richardia scabra L.; **Scarce;** 44079							X
Spermacoce remota Lam. [Spermacoce assurgens Ruiz & Pav.]; 44292							X
*Spermacoce verticillata L.; 44312; FISC II		X	X	X			X
RUTACEAE (1, 1)							
Zanthoxylum fagara (L.) Sarg.; **Scarce;** 43966							X
SALICACEAE (1, 1)							
Salix caroliniana Michx.; **Scarce;** 44217				X,X^{R}	X		X
SAMOLACEAE (1, 2)							
Samolus ebracteatus Kunth; **Scarce;** 43935					X		X
Samolus valerandi L.; 44139					X		X
SAPINDACEAE (2, 2)							
Acer rubrum L.; **Scarce;** 43776		X		X,X^{R}	X		
*Cupaniopsis anacardioides (A. Rich.) Radlk.; **Scarce;** 43907; FISC I		X,X^{SW}					X
SAPOTACEAE (1, 2)							
Sideroxylon celastrinum (Kunth) T.D. Penn.; **Scarce;** 44218	X^{MN}			X^{M}	X		X
Sideroxylon reclinatum Michx. subsp. reclinatum; **Scarce;** 44267, 44501		X^{M}			X		
SOLANACEAE (2, 7)							
Physalis angustifolia Nutt.; **Scarce;** 44268							X
Physalis arenicola Kearney; **Scarce;** 44417							X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
SOLANACEAE (2, 7) continued							
Physalis pubescens L.; **Scarce;** 43967							X
Solanum americanum Mill.; 44140		X					X
Solanum donianum Walp.; 43791				X,X^{M}	X		
*Solanum lycopersicum L. [Lycopersicon esculentum Mill.]; **Scarce;** 44462							X
*Solanum viarum Dunal; **Scarce;** 44048; FISC I							X
TETRACHONDRACEAE (1, 1)							
Polypremum procumbens L.; 43820		X					X
TURNERACEAE (1, 1)							
*Turnera ulmifolia L.; **Scarce;** 44219							X
URTICACEAE (5, 5)							
Boehmeria cylindrica (L.) Sw.; 43939		X		X	X	X	
*Laportea aestuans (L.) Chew; **Scarce;** 31759, 44406							X
Parietaria floridana Nutt.; 43792							X
Pilea microphylla (L.) Liebm.; 44050							X
*Pouzolzia zeylanica (L.) Benn.; 43821, 44418				X			X
VERBENACEAE (4, 5)							
Citharexylum spinosum L.; **Scarce;** 44229					X^{R}		
*Lantana strigocamara R.W. Sanders [Lantana camara L.]; **Scarce;** 44766; FISC I							X
Phyla nodiflora (L.) Greene; 44051							X
*Stachytarpheta cayennensis (Rich.) Vahl [Stachytarpheta urticifolia Sims]; **Scarce;** 44407; FISC II							X
Stachytarpheta jamaicensis (L.) Vahl; 44080							X
VITACEAE (4, 5)							
Cissus verticillata (L.) Nicolson & C.E. Jarvis; 44141				X			X
Parthenocissus quinquefolia (L.) Planch.; 44315	X	X		X,X^{R}	X	X	X
Nekemias arborea (L.) J. Wen & Boggan [Ampelopsis arborea (L.) Koehne]; 44293		X		X			X

APPENDIX 1 continued

	Hardw	Pinefl	Scrub	Swamp	Marsh	Mangr	Rud
DICOTYLEDONS SENSU LATO (237, 344) continued							
VITACEAE (4, 5) continued							
Vitis cinerea (Engelm.) Engelm. ex Millardet; **Scarce;** 43987				X			X
Vitis rotundifolia Michx.; 44460	X	X	X	X,X^R	X		X
XIMENIACEAE (1, 1)							
Ximenia americana L.; 44459	X	X	X	X			X

ADDENDUM. We documented an additional species, *Fimbristylis caroliniana* (Lam.) Fernald, at the Garden after submission of the revised manuscript of this paper (*Wilder & McCombs 44767;* 13 Aug 2023). A small clump of the species grew on insolated ruderal land, therein.

APPENDIX 2 [1, 2]

List of infrageneric taxa (species and one subspecies) documented by the senior author and co-collectors, growing wild at the Naples Botanical Garden prior to, but not during, the present study. Following the name of each taxon is the corresponding family name, the five-digit Wilder & McCombs collection number(s) of voucher specimen(s) of that taxon, and the collection date(s). Listed, between brackets after the names of three taxa are synonyms thereof.

	Native	Endemic	Family	Voucher #	Date
Agave decipiens Baker	1	1	Agavaceae	28188	15 Feb 2008
Anemia adiantifolia (L.) Sw.	1		Schizaeaceae	44552	12 Apr 2008
Argemone mexicana L.	1		Papaveraceae	33309	17 Mar 2012
Casuarina cunninghamiana Miq.			Casuarinaceae	44561	14 Jan 2008
Celosia argentea L.			Amaranthaceae	31858	11 Nov 2010
Clerodendrum chinense (Osbeck) Mabb.			Lamiaceae	44564	29 Jan 2008
Descurainia pinnata (Walter) Britton	1		Brassicaceae	33254	14 Mar 2012
Eryngium baldwinii Spreng.	1		Apiaceae	44557	24 Mar 2008
Eupatorium rotundifolium L.	1		Asteraceae	32787	26 Aug 2011
Euphorbia maculata L.	1		Euphorbiaceae	32724, 32758, 32759, 32760	30 Jul 2011, 2 Aug 2011
Fatoua villosa (Thunb.) Nakai			Moraceae	29728	29 Apr 2009
Galinsoga quadriradiata Ruiz & Pav.			Asteraceae	30691, 35580, 35581	22 Jan 2010
Habenaria floribunda Lindl.	1		Orchidaceae	44550	22 Jan 2008
Heterotheca subaxillaris (Lam.) Britton & Rusby	1		Asteraceae	15517	11 Aug 2001
Hibiscus acetosella Welw. ex Hiern			Malvaceae	44566	26 Nov 2007

APPENDIX 2 continued

	Native	Endemic	Family	Voucher #	Date
Hieracium megacephalon Nash	1		Asteraceae	15518	11 Aug 2001
Ipomoea purpurea (L.) Roth			Convolvulaceae	32790, 32791, 32792, 32793, 32794, 32795	18 Aug 2011
Linum medium (Planch.) Britton	1		Linaceae	44556	6 Mar 2008
Malvaviscus penduliflorus DC.			Malvaceae	44560	1 Apr 2008
Mecardonia acuminata (Walter) Small subsp. peninsularis (Pennell) Rossow	1	1	Plantaginaceae	44562	10 Apr 2008
Medicago lupulina L.			Fabaceae	30695	2 Feb 2010
Mikania cordifolia (L. f.) Willd.	1		Asteraceae	44565	26 Nov 2007
Nephrolepis falcata (Cav.) C. Chr.			Nephrolepidaceae	27959, 27960, 27961	29 Jan 2008
Oxalis debilis Kunth			Oxalidaceae	44567	25 Feb 2008
Panicum hians Elliott [Steinchisma hians (Elliott) Nash]	1		Poaceae	15491	11 Aug 2001
Peperomia pellucida (L.) Kunth			Piperaceae	35198, 35199, 35200, 35201, 35202, 35203, 35204, 35205	5 Oct 2013
Physalis angulata L.	1		Solanaceae	35561	31 Jan 2014
Plantago virginica L.	1		Plantaginaceae	28071	24 Mar 2008
Portulaca grandiflora Hook.			Portulacaceae	32775, 32805	2 Aug 2011, 17 Aug 2011
Rhynchospora microcarpa Baldwin ex A. Gray	1		Cyperaceae	44553	23 Apr 2008
Ruppia maritima L.	1		Ruppiaceae	44555	7 Mar 2010
Sabatia stellaris Pursh	1		Gentianaceae	28132	9 Apr 2008
Schoenus nigricans L.	1		Cyperaceae	44551	6 Mar 2008
Sisyrinchium nashii E.P. Bicknell	1		Iridaceae	44568	29 Jan 2008
Sonchus oleraceus L.			Asteraceae	32039	14 Feb 2011
Symphyotrichum tenuifolium (L.) G.L. Nesom [Symphyotrichum bracei (Britton ex Small) G.L. Nesom]	1		Asteraceae	30690	22 Jan 2010
Triodanis perfoliata (L.) Nieuwl.	1		Campanulaceae	33303, 33304, 33305	14 Mar 2012
Veronica peregrina L.	1		Plantaginaceae	28072, 28073, 35562	24 Mar 2008, 31 Jan 2014
Wolffia columbiana H. Karst.	1		Lemnaceae	31943, 31944, 31947	25 Nov 2010

[1] We follow the nomenclature of Wunderlin et al. 2023, except for **a.** referring to *Panicum hians* Elliott (rather than *Steinchisma hians* [Elliott] Nash), and **b.** including *Wolffia columbiana* H. Karst. within the family Lemnaceae (rather than Araceae).

[2] Ms. Martha McCombs contributed importantly to SWF; hence, on the label of each herbarium sheet from SWF George Wilder's name and Martha McCombs' name precede the collection number of each specimen, a circumstance not duplicated in this appendix.

APPENDIX 3

THE STATUS OF *TRIPLASIS INTERMEDIA*

Previous workers disagreed whether the American genus *Triplasis* includes two species (*Triplasis americana* P. Beauv. and *Triplasis purpurea* (Walter) Chapm. [Hatch 2003] or three species (both species above plus *Triplasis intermedia* Nash [Small 1933]). Hitchcock and Chase (1950), Hatch (2003), Wunderlin and Hansen (2011), and Hall (2019) attributed solely *Triplasis americana* and *Triplasis purpurea* to Florida, whereas Small (1933) reported all three species therefrom.

Hatch (2003) distinguished between *T. americana* and *T. purpurea*, as follows: lengths of the lemma lobes 4.5–8 mm vs. about 1 mm, respectively; lengths of the lemma awns 5–11 mm vs. less than 2 mm, respectively; the lemma lobes tapering to acute tips vs. the lemma lobes rounded, respectively; and the culm internodes puberulent to pilose vs. the culm internodes glabrous, respectively. Wunderlin and Hansen (2011) distinguished between *T. americana* and *T. purpurea*, as follows: the lemma lobes long and subulate-pointed vs. short and blunt, respectively; the lengths of the lemma awns 4.4–8.3 mm vs. 1–3.1 mm, respectively; and the lemma awns much exceeding the lemma lobes vs. the lemma awns shorter than or barely exceeding the lemma lobes, respectively. Hall (2019) restated Wunderlin and Hansen's (2011) distinctions nearly verbatim.

For *Triplasis intermedia*, Small (1933) described the lemma awns as about 3mm long and the lemma lobes as narrow and not subulate-pointed. He indicated its range as Florida to Texas and South Carolina.

At the Garden, we identified a single clump as *T. intermedia* (*Wilder & McCombs 44325*). On 10 lemmas from three culms thereof, we measured the lengths of the lemma lobes as 1.0–1.3 mm and the lengths of the lemma awns as 1.5–2.4 mm. The ratios of awn length to lemma-lobe length varied from 1.45 to 1.92 (median ratio = 1.75). Nine lemmas exhibited tapered, rather than rounded or blunt lobes. On all three culms the lower culm internodes bore short to long transparent hairs.

Thus, the clump matched closely Small's (1933) description of *T. intermedia* but was structurally intermediate between *Triplasis americana* and *Triplasis purpurea*. Compared to those of the latter two species, within the clump the lengths of the measured lemma lobes and lemma awns resembled most closely those of *T. purpurea,* whereas the ratios of awn lengths to the lengths of the lemma lobes were intermediate between those of *T. americana* and *T. purpurea*. The mostly tapered lemma lobes and the pubescent lower internodes were indicative of *T. americana*.

Wilder et. al. (2019) had also previously reported and documented *T. intermedia* from central Florida (in Highlands County), and George Wilder and Martha McCombs had assembled additional herbarium specimens thereof in south Florida, in Collier Co. (outside of the Garden) and in Lee Co. (*Wilder & McCombs 17308, 19618, 19619, 19620,* and *21497*). Given the conflicting views concerning its existence, *T. intermedia* warrants additional study to clarify whether it is a discrete species, a variant of *T. americana* or *T. purpurea*, or a hybrid between those two species.

APPENDIX 4

VARIATION IN *SMILAX AURICULATA*

The ratio of the length of the inflorescence peduncle to the length of its subtending petiole-sheath axis (hereafter called the peduncle/petiole-sheath ratio) is important in certain taxonomic keys to *Smilax* species.[1] For *Smilax auriculata*, those keys characterize the peduncle as being less than 1.5 times as long as its subtending petiole-sheath axis (Holmes 2002; Wunderlin & Hansen 2011), as being "about as long as…or shorter" than its subtending petiole-sheath axis (Small 1933), or as "not exceeding its [subtending petiole-sheath axis]" (Godfrey & Wooten 1979; language between brackets is ours).[2] By contrast, Holmes (2002) indicated that three other North American *Smilax* species with distinctly woody stems manifest peduncles at least 1.5 times as long as their subtending petiole-sheath axes, viz., *Smilax bona-nox*, *Smilax californica* [3], and *Smilax tamnoides*.[4]

Despite the above characterizations of *S. auriculata*, certain workers have attributed to that species a small proportion of herbarium specimens which have some peduncles at least 1.5 times as long as their subtending petiole-sheath axes. Seven examples (all from USF) are listed: **1.** *A. Bishop & K. Alvarez PC0045,* Hardee Co., FL; **2.** *J.R. Campbell 204*, Polk Co., FL; **3.** *G.R. Cooley & L.J. Brass 6258a,* Hernando Co., FL; **4.** *B. Hansen & G. Robinson 8194*, Hardee Co., FL; **5**. *O. Lakela 28282,* Broward Co., FL; **6.** J. *Weber WC0068,* Manatee Co., FL; and **7.** *R.P. Wunderlin, B.F. Hansen, & J.C. Semple 8601,* Hardee Co., FL. (Wunderlin et al. 2023).

Likewise, before undertaking current research George Wilder had collected—and determined as *S. auriculata*—staminate specimens from Collier Seminole State Park (Collier Co., FL) manifesting some peduncle/petiole-sheath ratios considerably over 1.5 (*Wilder & McCombs 37176, 37177*).

Currently, at the Garden we have documented and identified as *S. auriculata* a staminate plant exhibiting some peduncle/petiole-sheath ratios as high as 2.1 to 2.7 (these ratios being represented, collectively, by the five peduncle/petiole-sheath pairs illustrated in Fig. 2; *Wilder & McCombs 44341*). That plant exhibits the following additional features that consistently or inconsistently characterize *S. auriculata* (Wilder 1920): **a.** The aboveground vegetative axes are distinctly woody. **b.** The higher-order aboveground

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[1] **For the foliage leaves of *S. auriculata,* we and Wilder (2020) name(d) the petiole and leaf sheath, jointly, the petiole-sheath axis. By contrast, for *Smilax* species in general the sources cited in this paragraph simply called the petiole and leaf sheath, collectively, the "petiole."**

[2] **Similarly, for *S. auriculata, S. rotundifolia, S. smallii,* and *S. walteri,* collectively, Duncan (1975) specified—in his key to *Smilax* species—that the peduncles are "less than 1.5 times as long as [the] petioles of the subtending leaves, or if longer, [that] the stems [are] without dark slender prickles or [the] leaves [are] without a marginal rib" (underlining and language between brackets are ours). *Smilax auriculata* lacks dark, slender prickles; however, in his separate description of *S. auriculata,* Duncan (1975) stated that a. the foliage leaves thereof may exhibit a marginal rib, and b. that "some individuals of this species are similar to forms of *S. bona-nox* and *S. tamnoides* but are readily separated by having shorter peduncle length [emphasis ours]."**

[3] **This species is localized within northern California, whereas the remaining two species range within and outside of Florida (Holmes 2002).**

[4] **Holmes [2002] and Wunderlin and Hansen [2011] disagreed about *S. havanensis,* stating, respectively, that the inflorescence peduncles, thereof, are less than 1.5 times as long as, and at least 1.5 times as long as the petioles of their subtending leaves.**

Fig. 2. An herbarium specimen of staminate *Smilax auriculata* collected at the study site. The five peduncle/peduncle sheath pairs, collectively, exhibit peduncle/petiole-sheath ratios of 2.1 to 2.7. Photo by Jay Staton (Jay Staton Photography).

axes are neither woolly nor scurfy and lack/essentially lack prickles. **c.** The prickles, where present, are stout basally and not bristle-like. On the higher-order axes the laminae of the foliage leaves **d.** are green (rather than glaucous), abaxially, **e.** are non-mottled, **f.** have glabrous, non-spinous surfaces, **g.** are generally lanceolate to ovate and sometimes inflated basally, **h.** are abruptly acuminate, **i.** manifest thickened or un-thickened, entire (rather than sinuate, erose, or spinous) margins, and **j.** each exhibit five comparably thickened longitudinal veins (a midvein, two lateral veins, and two almost marginal submarginal veins; Fig. 2).

Thus, the above-cited taxonomic keys to *Smilax* represent incompletely the variation in the peduncle/petiole-sheath ratios in *S. auriculata*. The additional variation discussed above **a.** could complicate future efforts to develop straightforward, morphologically more inclusive keys to *Smilax*, and **b.** supports Wilder's (2020) conclusion that *S. auriculata* is a highly variable species.

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