

VASCULAR PLANTS OF FORT DESOTO PARK, PINELLAS COUNTY, FLORIDA

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ABSTRACT. Fort DeSoto Park, administered by the Pinellas County Parks Department, consists of five islands or sand keys at the mouth of Tampa Bay and the south end of Boca Ciega Bay. The islands total about 900 acres with more than seven miles of waterfront, including three miles of sandy swimming beaches. Also, many camping sites in a subtropical hammock on two of the keys and additional picnic areas make the park a popular recreational site. This local botanical paradise is vegetated by subtropical hammocks, mixed slash-pine-Florida-rosemary scrub, sandy beaches, dunes, sand-shell plateaus, mangrove thickets, tidal salinas, fringing salt marshes, and submarine sea-grass meadows in the shallow bay waters. The annotated checklist of vascular plants, prepared originally for the use of park personnel and visitors, is based upon nearly 500 collections made by the author on nine or ten trips and other collections made by Olga Lakela and her associates at the University of South Florida, Tampa. Listed are 290 species (33 of them apparently introduced) belonging to 88 families (4 introduced) and 225 genera (26 introduced). Also listed in APPENDIX 1 are 45 additional species, 9 of them introduced, collected on adjacent keys and shores of Boca Ciega Bay and which might be expected also in the Park.

Fort DeSoto Park, Florida, administered by the Pinellas County Parks Department, consists of a cluster of five islands or sand keys (Mullet, St. Jean [Logwood], St. Christopher [Lignum Vitae], Madelaine [Hospital], and Cunningham Keys) lying at the southern tip of the Pinellas Peninsula mostly between Bunces Pass of Boca Ciega Bay and Tampa Bay just north of the shipping lane entering Tampa Bay for the Port of Tampa. The islands total about 900 acres with more than seven miles of waterfront, including three miles of sandy swimming beaches. In addition, the numerous excellent camping sites maintained in subtropical hammocks on St. Christopher Key and St. Jean Key and picnic areas on the north end of Mullet Key make the park a popular recreational site.

Fort DeSoto Park presumably was named for the Spanish conquistador, Hernando DeSoto, who is believed to have landed with his expedition on the south shore of Tampa Bay in 1539. It is probable that members of his expedition observed Mullet Key when they entered Tampa Bay. Col. Robert E. Lee visited Mullet Key in 1849 and recommended that it, Egmont, and Passage Keys be reserved for the coastal defense of Florida. During the Civil War, Mullet Key was garrisoned by the Union Army as a blockade headquarters for the area. In 1898 construction began on Fort DeSoto, which when completed and armed with eight 12-inch mortars, served for harbor defense though the guns never were fired against an enemy. In World War I, the fort was used as a Coast Artillery Training Center, and in World War II, the keys served as an Air Force Gunnery and Bombing Training Center. In 1948 Pinellas County, with great foresight, completed the purchase of Mullet Key and auxiliary islands

from the federal government to be dedicated as a park for recreational purposes. The road to the park was completed in 1962.

For the botanist, Fort DeSoto Park is a local paradise saved by the county from destruction by the developers. The keys are vegetated by subtropical hammocks, mangrove thickets, and part of Mullet Key by mixed slash-pine-Florida-rosemary sandy scrub. Sandy beaches, dunes, sand-shell plateaus behind the strand vegetation, tidal salinas, fringing salt marshes, and submarine sea-grass meadows offer an additional rich variety of habitats for the semitropical flora.

The following checklist of vascular plants, alphabetized within the classes and subclasses by families and genera, has been developed through repeated botanical collecting excursions to the Park since 1963 by myself (nine or ten trips) and by Olga Lakela (at least 5 trips) often with colleagues, as part of an effort to prepare a Flora of Maritime Pinellas County. Since my interest in botany developed in college in 1938, I have collected several thousand specimens in southern Pinellas County, including nearly 500 collection numbers in Fort DeSoto Park. These voucher specimens are mostly filed at the Rancho Santa Ana Botanic Garden, Claremont, California, the universities of South Florida, Florida, Florida State, Cornell, and Iowa.

In the list, a preceding asterisk indicates a plant believed to be introduced and naturalized, or at least persistent, in the Park. The growth habit of each species and the principal habitats in which each is found in the park are briefly cited. Since the keys are essentially composed of sand with some calcareous shell and surrounded by salt water, the prevailing sandiness and salinity of the substrate is usually not mentioned. Following

the habitats, the numerals represent the five keys: 1—Mullet, 2—St. Jean, 3—St. Christopher, 4—Madelaine, and 5—Cunningham. The last has received very little botanical attention. Because Dr. Lakela and I did most of our collecting between the months of September and June, the list is presumably still rather incomplete and needful of much more collecting, particularly during the summer months. Several dozen additional species were collected by Dr. Lakela and myself on Tierra Verde (Pine and Cabbage keys) and other keys and mainland shores in Boca Ciega Bay. Surely some of these also occur in Fort DeSoto Park. Hence, a list of these additional species has been appended to the Fort DeSoto Park list (APPENDIX 1).

In preparation of the checklist, three floras and two supplements to the second flora have been most helpful: "A Flora of Tropical Florida" by R. W. Long and O. Lakela (1971), "Guide to the Vascular Plants of Central Florida" by R. P. Wunderlin (1982), with two supplements by R. P. Wunderlin, B. F. Hansen, and D. W. Hall (1985, 1988), and "Checklist of the Vascular Plants of the Florida Suncoast" by R. P. Wunderlin, G. B. Fleming, and B. F. Hansen (1992).

ANNOTATED CHECKLIST

PSILOTAE—Whisk-ferns

PSILOTAACEAE—Whisk-fern Family

Pilotum nudum (L.) Beauv. Whisk-fern. Erect perennial in hammock-rosemary scrub transition on Mullet Key (1).

FILICAE—Ferns

ADIANTACEAE (incl. *Pteridaceae*, *Vittariaceae*)—Maidenhair Fern Family

Acrostichum danaeifolium Langsd. & Fisch. Giant Leather Fern. Coarse evergreen perennial of coastal marshes, 1.

Vittaria lineata (L.) J. Sm. Shoestring Fern. Evergreen perennial epiphyte in boots of cabbage palms, 1, 4.

BLECHNACEAE—Chain Fern Family

Blechnum serrulatum L. Rich. Swamp Fern. Perennial in moist hammocks and marshy area behind mangroves, 1, 2.

DAVALLIACEAE—Boston Fern Family

Nephrolepis exaltata (L.) Schott. Boston Fern. Perennial in moist hammock, 1.

DENNSTAEDTIACEAE—Hay-scented Fern Family

Pteridium aquilinum (L.) Kuhn ssp. *caudatum* (L.) Bonap. Bracken. Perennial in rosemary scrub, 1.

POLYPODIACEAE—Polypody Fern Family

Phlebodium aureum (L.) J. Smith. Golden Polypody. Perennial epiphyte in boots of cabbage palm, 1, 2.

Polypodium polypodioides (L.) Watt var. *michaux-*

ianum Weatherby. Resurrection Fern. Perennial epiphyte on live oaks, 1, 2, 4.

CONIFERAE—Conifers

CUPRESSACEAE—Cypress Family

Juniperus virginiana L. ssp. *silicicola* (Small) E. Murray (*J. silicicola* [Small] Bailey). Southern Red-cedar. Small tree in hammocks, 1, 2, 3, 4.

PINACEAE—Pine Family

Pinus elliottii Engelm. ssp. *densa* (Little & Dorman) E. Murray (*P. elliottii* var. *densa* Little & Dorman). Slash Pine. Sizable tree in open pineland or in association with Florida-rosemary scrub, 1, 2, 3.

ANGIOSPERMAE—Flowering Plants

DICOTYLEDONEAE—Dicotyledons

AIZOACEAE—Mesembryanthemum Family

Sesuvium portulacastrum (L.) L. Sea-purslane. Succulent prostrate perennial of shores and beaches, 1, 2, 3, 4.

AMARANTHACEAE—Pigweed Family

Amaranthus floridanus (S. Wats.) J. D. Sauer. Waterhemp. Tall robust annual in marshy depression, 1.

**Amaranthus viridis* L. Slender Pigweed. Annual weed of disturbed places, 1, 2.

Blutaparon vermiculare (L.) Mears. Beach-carpet, Saltweed. Succulent prostrate perennial of shores and salinas, 1, 2, 3, 4.

Gomphrena serrata L. Globe-amaranth. Annual weed of roadsides and other disturbed places, 1, 3.

Iresine diffusa Humb. & Bonpl. Bloodleaf. Erect perennial in hammocks, 1, 2, 4.

ANACARDIACEAE—Sumac Family

Rhus copallina L. ssp. *leucantha* (Jacq.) E. Murray. Southern Dwarf Sumac. Shrub in pinelands, 1, 2.

**Schinus terebinthifolius* Raddi. Brazilian Pepper. Pernicious weedy shrub in mangrove thickets and hammocks, 1, 2, 3, 4.

Toxicodendron radicans (L.) Kuntze ssp. *radicans*. Poison-ivy. Perennial vine in hammocks and on cabbage palms, 1, 2, 3, 4. On contact the foliage, stems, and roots of this vine cause dermatitis in susceptible people.

APIACEAE—Celery Family

Eryngium baldwinii Spreng. Button Snakeroot. Sprawling perennial of sand-shell plateaus and flats behind strand vegetation, 1.

Ptilimnium capillaceum (Michx.) Raf. Mock-bishop's-weed. Delicate erect annual of grassy open, disturbed area, 1.

APOCYNACEAE (incl. *Asclepiadoideae*).—Dogbane Family.

**Catheranthus roseus* (L.) G. Don. Periwinkle. Weedy subshrub of hammocks, 1.

Cynanchum angustifolium Pers. Vine-milkweed. Perennial twiner on marshy shores, 1.

Cynanchum scoparium Nutt. Perennial twiner on hammock margins, 1.

ASTERACEAE—Aster Family

Baccharis angustifolia Michx. False-willow. Slender shrub of salt marsh borders, 1.

Baccharis halimifolia L. Groundsel, Sea-myrtle. Robust shrub of thickets and hammock borders, 1, 2, 3, 4.

**Bidens alba* (L.) DC. Beggar-ticks, Spanish-needles. Weedy erect annual of disturbed places, 1, 2, 3, 4.

Borrchia frutescens (L.) DC. Sea-oxeye. Shrubby perennial of shores, 1, 2, 3, 4.

Cirsium horridulum Michx. Thistle. Spinescent biennial of sand-shell plateaus behind strand, 1.

Conyza canadensis (L.) Cronq. var. *pusilla* (Nutt.) Cronq. Dwarf Horseweed. Weedy annual of disturbed places, 1, 2, 4.

Coreopsis leavenworthii T. & G. Tickseed. Erect perennial abundant on sand-shell plateaus behind dunes, 1.

Eclipta prostrata (L.) L. (*E. alba* [L.] Hassk.) Sprawling weedy annual of moist places, 1.

Erechtites hieracifolia (L.) Raf. Fireweed. Weedy annual of disturbed places, 1, 2, 3, 4.

Erigeron quercifolius Lam. Southern Fleabane. Erect perennial of sand-shell plateau, 1.

Eupatorium capillifolium (Lam.) Small. Dog-fennel. Erect perennial of disturbed places, 1, 4.

Eupatorium jucundum Greene, (*Ageratina jucunda* [Greene] Clewell & Wooton). Erect perennial in hammocks, 1, 4.

Eupatorium mikanioides Chapm. Semaphore Thoroughwort. Erect perennial of salt marshes and flats behind mangroves, 1.

Eupatorium serotinum Michx. Late Flowering Thoroughwort. Erect perennial in moist disturbed places, 1, 4.

Euthamia caroliniana (L.) E. Greene (*E. tenuifolia* (Pursh) E. Greene). Narrow-leaved Goldenrod. Erect rhizomatous perennial in pineland, 1.

Flaveria floridana J.R. Johnston. Florida Yellowtop. Erect perennial of hammocks and other strand vegetation, 1, 2.

Gnaphalium purpureum L. var. *falcatum* (Lam.) T. & G. (*G. falcatum* L.) Cudweed. Weedy annual or biennial of disturbed places, 1.

Gnaphalium purpureum L. var. *spathulatum* (Lam.) Ahles. (*G. spatulatum* Lam.) Weedy annual or biennial of disturbed places, 1.

Haplopappus phyllocephalus DC. var. *megacephalus* (Nash) Waterf. Camphor-daisy. Husky perennial on flat between mangroves and hammock, 1.

Helianthus debilis Nutt. ssp. *vestitus* (E. E. Wats.) Heiser. Beach Sunflower. Decumbent annual of dunes and sand-shell plateaus behind dunes, 1.

Heterotheca subaxillaris (Lam.) Britt. & Rusby. Camphorweed. Weedy annual or short-lived perennial of disturbed ground, 1.

Hieracium gronovii L. Hawkweed. Erect scapose perennial in rosemary scrub, 1.

Iva frutescens L. Shrubby Marsh-elder. Shrub on shores, 1, 2, 4.

Iva imbricata Walt. Beach-elder. Succulent-leaved shrub of beaches and foredunes, 1, 2, 4.

Lactuca graminifolia Michx. Wild Lettuce. Erect biennial of open places, 1, 4.

Melanthera nivea (L.) Small. Erect perennial of hammocks and open areas, 1

Mikania batatifolia DC. Hempvine. Perennial vine in hammocks and marshy places, 1, 4.

Mikania cordifolia (L.f.) Willd. Climbing Hempweed. Climbing perennial in hammocks, 4.

Pluchea foetida (L.) Small. Marsh-fleabane. Erect perennial of marshy places, 1, 3.

Pluchea odorata (L.) Cass. Camphorweed. Erect perennial of saline shores and hammock margins, 1.

Pterocaulon pycnostachyum (Michx.) Ell. (*P. virgatum* [L.] DC. Rabbit-tobacco, Coastal Blackroot. Erect, tuber-bearing perennial in rosemary scrub, 1.

Sericocarpus bifolius (Walt.) Porter (*Aster tortifolius* Michx.) White-topped Aster. Erect perennial of drier hammocks, 1, 4.

Solidago odora Ait. var. *chapmanii* T. & G. Goldenrod. Perennial in hammocks, 1, 3, 4.

Solidago sempervirens L. var. *mexicana* (L.) Fern.. Seaside Goldenrod. Somewhat succulent, robust perennial of shores and dune plateaus, 1, 2, 4.

**Sonchus asper* (L.) Hill. Spiny-leaf Sow-thistle. Weedy annual of disturbed places, 4.

**Sonchus oleraceus* L. Common Sow-thistle. Weedy annual of disturbed places, 1, 2, 4.

Verbesina virginica L. Frostweed. Erect perennial in hammocks, 1, 4.

Vernonia gigantea (Walt.) Trel. Ironweed. Erect perennial in hammocks, 4.

**Youngia japonica* (L.) DC. Oriental Hawk's-beard. Weedy annual of disturbed places, 1, 2.

AVICENNIACEAE—Black-mangrove Family

Avicennia germinans (L.) L. Black-mangrove. Small tree or shrub in mangrove thickets and other shore vegetation, 1, 2, 3, 4.

BATACEAE—Saltwort Family

Batis maritima L. Saltwort. Sprawling, succulent subshrub in salinas, salt marshes, and borders of mangrove thickets, 1, 2, 3, 4.

BORAGINACEAE—Borage Family

Heliotropium curassavicum L. Seaside Heliotrope. Prostrate, succulent, short-lived perennial of shores and salinas, 1, 3, 4.

Heliotropium polyphyllum Lehmann. Sprawling perennial of dunes, plateaus, rosemary scrub, and hammock margins, 1.

BRASSICACEAE—Mustard Family

Cakile constricta Rodm. Sea-rocket. Succulent annual on dunes, 1.

Cakile lanceolata (Willd.) O. E. Schulz ssp. *pseudocincta* Rodm. Succulent annual of shores and dunes, 1.

Descurainia pinnata (Walt.) Britt. Tansy-mustard. Weedy annual of disturbed places, 1.

Lepidium virginicum L. Pepperwort. Weedy annual of disturbed places, 1, 2, 4.

BURSERACEAE—Torchwood Family

Bursera simaruba (L.) Sarg. Gumbo Limbo, West Indian-birch. Small tree formerly in north hammock on Pine Key (Tierra Verde) but bulldozed out by developers. Two specimens planted on St. Christopher Key (3) were severely impacted by frost in winter of 1983–4 but were still alive in 1987. It is still extant at the southern tip of Tierra Verde, where large trees are protected on private properties.

CACTACEAE—Cactus Family

Opuntia humifusa (Raf.) Raf. var. *ammophila* (Small) L. Benson. (*O. austrina* Small). Prickly-pear. Sprawling succulent perennial of open places, rarely epiphytic on live oak, 1, 2, 4.

Opuntia stricta Haw. var. *dillenii* (Ker) L. Benson. West Indian Prickly-pear. Succulent perennial of hammocks and sand-shell plateaus behind dunes, 1, 2, 4.

CAPPARACEAE—Caper Family

Capparis cynophallophora L. Jamaica Capertree. Shrub at inner edge of mangroves, 4.

***CASUARINACEAE**—Beefwood Family

**Casuarina equisetifolia* L. (*C. litorea* L.) Australian-pine, Beach She-oak. Tree widely planted and naturalized on beaches, 1, 2, 4.

CELASTRACEAE—Bittersweet Family

Maytenus phyllanthoides Benth. Leatherleaf. Leathery leaved shrub at inner margin of mangroves, 1.

CHENOPODIACEAE—Goosefoot Family

Atriplex pentandra (Jacq.) Standl. ssp. *arenaria* (Nutt.) Hall & Clem. Beach Orach. Sprawling silvery annual on sandy shores, 1, 4, 5.

**Chenopodium ambrosioides* L. Wormseed, Mexican-tea. Weedy perennial of disturbed places, 1, 2, 3.

Salicornia virginica L. Glasswort, Samphire. Succulent sprawling perennial of salt marshes and other saline margins, 1, 2, 3, 4.

Suaeda linearis (Ell.) Moq. Sea Blite. Succulent annual of salinas, beaches, and other saline margins, 1, 2, 3, 4.

CISTACEAE—Rockrose Family

Helianthemum corymbosum Michx. Sunrose, Frostweed. Erect perennial of rosemary scrub and hammock-scrub transition zone, 1, 4.

Lechea sessiliflora Raf. Pineland Pinweed. Perennial of open places, 4.

CLUSIACEAE—St. John's Wort Family

Hypericum hypericoides (L.) Crantz. St. Andrew's Cross. Shrubby perennial of scrub-hammock transition zone, 1, 3, 4.

COMBRETACEAE—Buttonwood Family

Conocarpus erectus L. (incl. var. *sericeus* Forst.). Buttonwood. Small tree or shrub of inner margin of mangroves, hammocks, dunes, and shores, 1, 2, 3, 4. The silvery-leaved variety is becoming popular in cultivation along Florida coasts.

Laguncularia racemosa (L.) Gaertn.f. White-mangrove. Small tree or shrub of mangrove thickets, 1, 2, 3, 4.

CONVOLVULACEAE—Morning Glory Family

Ipomoea imperati (Vahl) Grisebach (*I. stolonifera* [Cyr.] J. F. Gmel.) Seaside Morning Glory. Perennial trailer on beaches and foredunes, 1.

Ipomoea pes-caprae (L.) R. Br. ssp. *brasiliensis* (L.) Ooststr. Railroad Vine, Goat's-foot Morning Glory. Long perennial trailer on foredunes and sandy shores, 1.

Ipomoea sagittata Poir. Glades Morning Glory. Perennial twiner in old bomb crater with standing water, 1.

Ipomoea violacea L. (*I. macrantha* R. & S.) Moon Vine. Perennial climber in hammocks and thickets, 1, 2, 3, 4.

CUCURBITACEAE—Gourd Family

**Citrullus lanatus* (Thunb.) Mats. & Nakai. Water-

melon, Citron. Annual trailing vine volunteering in disturbed sandy places, 1, 4.

Melothria pendula L. Creeping-cucumber. Annual climber in moist thickets, 1 (plants sterile, no specimen taken).

EMPETRACEAE—Crowberry Family

Ceratiola ericoides Michx. Florida-rosemary. Characteristic shrub of rosemary white-sand scrub, 1.

EUPHORBIACEAE—Spurge Family

Chamaesyce blodgettii (Engelm.) Small. Spurge. Sprawling annual of open places, 1, 2.

Chamaesyce bombensis (Jacq.) Dugand. Sand-dune Spurge. Prostrate perennial of beaches and dunes, 1, 2, 4.

Chamaesyce hirta (L.) Millsp. Hairy Spurge. Decumbent weedy annual of open disturbed places, 1, 4.

Chamaesyce hyssopifolia (L.) Small. Eyebane. Erect weedy annual of disturbed places, 1.

Chamaesyce maculata (L.) Small. Milk-purslane. Weedy prostrate annual of disturbed places, 1, 4.

Chamaesyce mesembryanthemifolia (Jacq.) Dugand. Coastal Beach Sandmat. Succulent perennial of beaches and dunes, 1.

Chamaesyce ophthalmica (Pers.) Burch. Florida Hammock Sandmat. Weedy annual in grassy area, 4.

Cnidoscolus stimulosus (Michx.) Engelm. & Gray. Tread Softly, Spurge-nettle. Stinging white-flowered perennial of pinelands and sandy hammock margins, 1.

Croton glandulosus L. var. *floridanus* (Ferg.) R. W. Long. Erect annual of dunes and sand-shell plateaus, 1.

Croton punctatus Jacq. Beach-tea, Beach Croton, Silver-leaf Croton. Silvery short-lived perennial of dunes, 1.

Phyllanthus abnormis Baill. Drummond's Leaf-flower. Erect annual of dunes and sand-shell plateaus, 1.

Poinsettia cyathophora (Murr.) Kl. & Gke. (incl. *P. pinetorum* Small). Painted Leaf, Wild Poinsettia. Erect annual of open places, 1, 2, 4.

FABACEAE—Legume Family

**Alysicarpus ovalifolius* (Schum. & Thonn.) J. Leonard (*A. vaginalis* [L.] DC.) False-moneywort. Weedy annual or biennial of disturbed places, 1.

Caesalpinia bonduc (L.) Roxb. Gray Nicker. Straggling shrub on inner side of mangroves or on sand-shell plateaus, 1, 2, 3, 4.

Canavalia rosea (Sw.) DC. Bay Bean, Beach Bean. Sprawling perennial vine on beaches and dunes, 1, 2, 3, 4.

Centrosema virginianum (L.) Benth. Butterfly-pea. Climbing or trailing perennial of sand-shell plateaus, 1.

Chamaecrista aspera (Muhl.) Exell. [*Cassia nictitans* L. var. *aspera* [Muhl.] T. & G.] Partridge-pea. Erect annual of open places, 1, 4.

Chamaecrista fasciculata (Michx.) Greene (*Cassia chamaecrista* L.) Erect annual of open areas, 1.

**Crotalaria incana* L. Rattle-box. Weedy annual of disturbed sandy places, 1, 4.

Crotalaria rotundifolia Gmel. Rabbit-bells. Decumbent perennial of open places, 1.

Dalbergia ecastophyllum (L.) Taub. Coin Vine. Sprawling shrub of inner borders of mangrove thickets,

hammocks, and sandy plateaus or rounded shrub on dunes, 1, 2, 3, 4.

**Desmodium incanum* DC. Tick Trefoil. Weedy rhizomatous perennial of disturbed places, 1.

Desmodium lineatum (Michx.) DC. Trailing perennial of sand-shell plateaus, 1.

Desmodium tortuosum (SW.) DC. Erect annual of disturbed places, 1.

Erythrina herbacea L. Coralbeans, Red Cardinal, Cherokee Bean. Cardinal-flowered shrub of hammocks, 1, 2, 3, 4.

Galactia striata (Jacq.) Urban. Milk-pea. Viny perennial in hammocks, 2.

Galactia volubilis (L.) Britt. Viny perennial in hammocks, 1, 2, 3, 4.

**Indigofera hirsuta* Harv. Hairy Indigo. Perennial in disturbed places, 1.

Piscidia piscipula (L.) Sarg. Jamaica-dogwood. Hammock on S end of St. Jean (Dogwood) Key (2); presumably the source of the alternate name of this key. Also on 3.

Rhynchosia michauxii Vail. Dollarweed. Trailing perennial in pineland and open hammocks, 1, 4.

Sophora tomentosa L. Necklace Pod. Silvery shrub of dunes, sandy plateaus, hammocks, and inner margins of mangroves, 1, 2, 4.

Strophostylis umbellata (Muhl.) Britt. Sand-bean. Perennial trailer or climber of thicket margins and sandy roadsides, 1.

Vigna luteola (Jacq.) Benth. Cow-pea. Perennial trailer or climber of sandy strands, thickets, and roadsides, 1.

FAGACEAE—Oak Family

Quercus geminata Small. Scrub Live Oak. Evergreen shrub or small tree in hammocks and rosemary scrub, 1, 4.

Quercus virginiana Mill. Live Oak. Large spreading evergreen tree in hammocks, 1, 2, 3, 4, 5.

GENTIANACEAE—Gentian Family

Eustoma exaltatum (L.) Salisb. Catch-fly, Seaside Gentian. Erect succulent annual on beaches and sand-shell plateaus, 1.

GERANIACEAE—Geranium Family

Geranium carolinianum L. Cranesbill. Weedy annual in disturbed places, 1.

GOODENIACEAE—Goodenia Family

Scaevola plumieri (L.) Vahl. Beachberry. Succulent-leaved shrub on beaches and dunes, 1, 4.

HYDROCOTYLACEAE—Water Pennywort Family

Hydrocotyle umbellata L. Water Pennywort, Marsh Pennywort. Rhizomatous delicate perennial in depression with shallow fresh water, 1.

LAMIACEAE—Mint Family

Monarda punctata L. Horsemint, Spotted Bee-balm. Erect perennial on sand-shell plateaus, 1.

Salvia coccinea Buch. Scarlet Sage. Shrubby red-flowered annual in hammocks, 2, 3, 4.

Trichostema dichotomum L. Blue-curls. Erect annual or subshrubby perennial on sand-shell plateaus, 1, 4.

LAURACEAE—Laurel Family

Cassytha filiformis L. Love Vine, Woe Vine. Parasitic twiner on scrub live oak, shrubs, and other plants in hammocks and sand-shell plateaus, 1.

Persea borbonia (L.) Spreng. (incl. *P. littoralis* Small). Red Bay, Shore Bay. Small, evergreen tree in hammocks, 1, 2, 3, 4.

LYTHRACEAE—Loosestrife Family

Ammannia latifolia L. Toothcups. Succulent annual in moist depression, 1.

*MALPIGHIACEAE—Malpighia Family

**Galphimia glauca* (Cav.) Kuntze. Tropical shrub in hammock, S end of Dogwood Key (2), presumably planted.

MALVACEAE—Mallow Family

Gossypium hirsutum L. Wild Cotton. Shrub at inner margin of mangroves, 2, rare due to eradication efforts.

**Hibiscus tiliaceus* L. Mahoe. Small evergreen tree much planted and possibly volunteering, 2.

Kosteletskya virginica (L.) Presl. Saltmarsh Mallow. Perennial in moist depression, 1.

Sida acuta Burm. f. Teaweed, Broomweed. Weedy annual in disturbed places, 1, 4. Pantropical weed, possibly introduced.

MORACEAE—Mulberry Family

Ficus aurea Nutt. Strangler Fig. Small strangler tree usually starting life as epiphyte in boots of cabbage palms in hammocks and on dune plateaus, 1, 3, 4.

**Morus alba* L. (incl. *M. nigra* L.) Mulberry. Small fruiting tree established and possibly volunteering on Mullet Key (1).

MYRICACEAE—Bayberry Family

Myrica cerifera L. ssp. *cerifera*. Wax-myrtle. Shrub of hammocks and sandy plateaus, 1, 2, 3, 4, 5.

MYRSINACEAE—Myrsine Family

Ardisia escallonioides Schlecht. & Cham. Marlberry. Tropical shrub in hammocks, 1, 2, 3, 4.

Rapanea punctata (Lam.) Lundell. Myrsine. Tropical shrub in hammocks, 1, 2, 3, 4.

MYRTACEAE—Myrtle Family

Eugenia axillaris (Sw.) Willd. White Stopper. Tropical shrub with mephitic odor, common in hammocks, 1, 2, 3, 4.

Eugenia foetida Pers. Spanish Stopper. Tropical shrub possibly planted near campsite in hammock, 3, but certainly native on Longboat Key S of Tampa Bay.

**Psidium guajava* L. Guava. Tropical shrub commonly cultivated and occasionally naturalized, 4.

NYCTAGINACEAE—Four-o'clock Family

Boerhavia diffusa L. var. *diffusa*. Red Spiderline, Hogweed. Weedy perennial in disturbed places, 1, 2, 4.

*NYSSACEAE—Swamp-gum Family

**Nyssa sylvatica* Marsh. ssp. *biflora* (Walt.) E. Murray. Swamp Blue Gum. Small tree presumably planted near campsite in hammock, 3.

OLACACEAE—Tallow Wood Family

Ximenia americana L. Tallow Wood, Hog-plum, Spanish-plum. Shrub in hammocks, 3, 4.

OLEACEAE—Olive Family

Forestiera segregata (Jacq.) Krug & Urban ssp. *segregata*. Florida-privet. Tall shrub of mangrove borders and hammocks, 1, 2, 4.

ONAGRACEAE—Evening-primrose Family

Gaura angustifolia Michx. Southern Gaura. Erect

perennial on beaches, dunes, and sand-shell plateaus behind dunes, 1, 2, 4.

Ludwigia microcarpa Michx. Small-fruited Primrose-willow. Erect perennial in moist open places, 1, 4.

Oenothera humifusa Nutt. Seaside Evening-primrose. Decumbent perennial on dunes and sand-shell plateaus, 1, 2.

OXALIDACEAE—Wood Sorrel Family

Oxalis floridana Salisb. Lady's Sorrel. Tufted perennial in open places, 1, 2.

PASSIFLORACEAE—Passionflower Family

Passiflora suberosa L. Passionflower. Herbaceous twiner in hammocks and on sand-shell plateaus, 1, 2.

PHYTOLACCACEAE—Pokeweed Family

Phytolacca rigida Small. Pokeweed, Inkberry. Tall perennial in hammocks and disturbed places, 1, 2, 4.

Rivina humilis L. Bloodberry, Rouge Plant. Suffrutescent perennial in hammocks, 1, 2.

PLANTAGINACEAE—Plantain Family

Plantago virginica L. Southern Plantain. Scapose annual or biennial in open places, 1.

PLUMBAGINACEAE—Leadwort Family

Limonium carolinianum (Walt.) Britt. Sea-lavender, Marsh-rosemary. Scapose perennial on saline shores, 1, 4.

POLYGALACEAE—Milkwort Family

Polygala grandiflora Walt. var. *grandiflora*. Milkwort. Erect perennial on sand-shell plateau, 1.

POLYGONACEAE—Buckwheat Family

Coccoloba uvifera (L.) L. Sea-grape. Large rounded shrub of dunes, sand-shell plateaus, and hammocks, 1, 2, 3, 4.

PORTULACACEAE—Purslane Family

Portulaca oleracea L. Purslane, Pussley. Prostrate succulent annual in open places, 1, 2, 3, 4.

Portulaca pilosa L. Pink Purslane. Prostrate succulent annual of shores and disturbed places, 1, 2, 3, 4.

PRIMULACEAE—Primrose Family

Samolus ebracteatus Kunth. Water-pimpernel. Erect perennial in moist, brackish soil, 1, 5.

RHIZOPHORACEAE—Mangrove Family

Rhizophora mangle L. Red Mangrove. Large shrub or small tree forming pure thickets or mixed with *Avicennia* and *Laguncularia* on protected bay shores, 1, 2, 3, 4.

ROSACEAE—Rose Family

**Prunus caroliniana* (Mill.) Ait. Small tree planted near campsite in hammock, 3.

**Pyreantha koidzumii* (Hayata) Rehd. Firethorn. Shrub planted near campsite in hammock, 3.

Rubus trivialis Michx. Southern Dewberry. Trailing shrub in open hammock, 4.

RUBIACEAE—Madder Family

Borreria ocimoides (Burm. f.) DC. Erect annual in open places, 1, 4.

Chiococca alba (L.) A. Hitchc. Snowberry. Sprawling viny shrub of hammocks and sand-shell plateaus behind dunes, 1, 2, 4, 5.

Ernodea littoralis Sw. ssp. *littoralis*. Beach Creeper. Prostrate shrub of dunes, sand-shell plateaus, and hammocks, 1.

Galium hispidulum Michx. Coastal Bedstraw. Diffuse perennial of dunes, sand-shell plateaus, and hammocks, 1, 5.

Hedyotis corymbosa (L.) Lam. Flat-top Bluet. Annual on sandy flat behind beach, 1.

Hedyotis nigricans (Lam.) Fosb. var. *nigricans*. Diamond Flower. Tufted perennial of sand-shell plateaus and hammocks, 1, 4.

Hedyotis procumbens (J. F. Gmel.) Fosberg. Innocence. Prostrate perennial in open places, 1, 4.

Hedyotis uniflora (L.) Lam. Clustered Bluet. Diffuse annual in moist depression, 1.

**Ixora coccinea* L. Red Ixora. Showy red-flowered shrub planted near campsite in hammock, 3.

Richardia scabra L. Buttonweed. Annual weed in disturbed places, 1.

RUTACEAE—Citrus Family

**Severinia monophylla* (L.) Tenaka. Chinese Box-orange. Spinescent shrub planted near campsite in hammock, 3.

Zanthoxylum clava-herculis L. Hercules Club, Pepperwood. Tall shrub or small tree in open thickets and hammocks, 1.

SALICACEAE—Willow Family

Salix caroliniana Michx. Southern Willow. Tall shrub of marshy places, even in brackish soil, 1.

SAPINDACEAE—Soapberry Family

Dodonaea viscosa (L.) Jacq. Varnish Leaf. Large shrub of dunes and dune-hammock margins, 1.

SAPOTACEAE—Sapodilla Family

Bumelia celastrina Kunth. ssp. *celastrina*. Saffron-plum. Tall shrub of hammocks and inner margins of mangroves, 1, 2, 3, 4.

SCROPHULARIACEAE—Figwort Family

Agalinis maritima (Raf.) Raf. Saltmarsh False-foxglove. Succulent annual in moist brackish soil, 1.

Bacopa monnieri (L.) Pennell. Mud-carpet. Succulent prostrate perennial forming mats in brackish bottom of roadside ditch, 1.

Polypremum procumbens L. Rustweed. Prostrate perennial in sandy, often disturbed, places, 1, 4.

Scoparia dulcis L. Sweet-broom. Weedy annual in disturbed open places, 1, 4.

Seymeria pectinata Pursh. Robust, perhaps semi-parasitic, annual in open hammock, 4.

SOLANACEAE—Nightshade Family

Lycium carolinianum Walt. Christmasberry. Large shrub of hammocks and inner margins of mangroves, 1, 2.

**Lycopersicon esculentum* Mill. Tomato. Occasional volunteer annual in disturbed places, presumably not persisting, 1, 2.

Physalis angustifolia Nutt. (*P. viscosa* L. var. *elliottii* [Kunze] Waterfall). Ground-cherry. Sprawling perennial on sand-shell plateaus, 1, 2, 4.

Solanum americanum Mill. Nightshade. Weedy annual of hammocks and sand-shell plateaus, 1, 5.

STERCULIACEAE—Chocolate Family

Waltheria indica L. Basora Prieta. Subshrub in hammocks, 1, 4.

SURIANACEAE—Bay-cedar Family

Suriana maritima L. Bay-cedar. Tall evergreen shrub on dunes, 1.

URTICACEAE—Nettle Family

Parietaria praetermissa Hinton. Pellitory. Annual or short-lived perennial in moist disturbed place, 1.

VERBENACEAE—Verbena Family

Callicarpa americana L. Beautybush, Beautyberry, French-mulberry. Large shrub in hammocks, 1, 2, 3, 4.

Lantana camara L. Shrub-verbena. Weedy shrub in thickets, 1.

Lantana involucrata L. Small shrub of hammocks and sand-shell plateaus, 1.

Phyla nodiflora (L.) Greene. (*Lippia nodiflora* [L.] Michx.) Capeweed. Prostrate perennial of moist open, often brackish, places, 1, 2, 3, 4.

Verbena scabra Vahl. Harsh Vervain. Erect annual on open flat, 1.

**Vitex trifolia* L. f. Chastetree. Shrub planted and abundantly naturalized in hammocks, 2, 3.

VITACEAE—Grape Family

Ampelopsis arborea (L.) Koehne. Pepper Vine. Woody climber in thickets and moist hammocks, 2, 3.

Cissus trifoliata (L.) L. Marine-ivy. Succulent-leaved climber of hammocks and inner edge of mangroves, 1, 2.

Parthenocissus quinquefolia (L.) Plaunch. Virginia Creeper, Woodbine. Woody climber in hammocks and thickets, 1, 2.

Vitis aestivalis Michx. Summer Grape. Woody vine in hammocks, 1, 4.

Vitis rotundifolia Michx. var. *munsoniana* (C. Simpson) M. Moore. Scuppernong, Muscadine. Woody climber in hammocks, 4.

***ZYGOPHYLLACEAE**—Caltrop Family

**Tribulus terrestris* L. Caltrop, Puncture Vine. Weedy prostrate annual in parking areas, 1.

MONOCOTYLEDONEAE—Monocotyledons**AGAVACEAE**—Century Plant Family

Yucca aloifolia L. Spanish-bayonet. Large colonial shrub of dunes and other strand vegetation, 1, 2, 3, 4.

AMARYLLIDACEAE—Amaryllis Family

Hymenocallis latifolia (Mill.) Roem. Spider-lily. Bulbous perennial in shore thickets, 1, 2.

ARECACEAE—Palm Family

**Phoenix canariensis* Chaub. Canary Island Date Palm. Planted palm rarely volunteering on Mullet Key (1).

Sabal palmetto (Walt.) Lodd. Cabbage Palm. Abundant tree palm of hammocks, sandy shores, and sand-shell plateaus, 1, 2, 3, 4.

Serenoa repens (Bartr.) Small. Saw Palmetto. Colonial recumbent shrub of hammocks, pineland-rosemary scrub, dunes, and sand-shell plateaus behind strand, 1, 2, 3, 4.

BROMELIACEAE—Pineapple Family

Tillandsia recurvata (L.) L. Ball-moss. Abundant perennial epiphyte in hammocks, especially on *Quercus*, *Juniperus*, and *Conocarpus*, 1, 2, 3, 4.

Tillandsia usneoides (L.) L. Spanish-moss, Long-moss. Abundant perennial epiphyte in hammocks, especially on *Quercus*, *Juniperus*, and *Conocarpus*, 1, 2, 3, 4.

Tillandsia utriculata L. Wild-pine, Air Plant. Evergreen tank epiphyte on hammock trees, especially *Quercus*, *Juniperus*, and *Conocarpus*, 1, 2.

COMMELINACEAE—Spiderwort Family

Commelina diffusa Burm. f. Dayflower. Sprawling, mat-forming herb in moist open places, 1.

Commelina erecta L. var. *angustifolia* (Michx.) Fern. Erect slender herb in rosemary scrub, 1.

CYMODOCEACEAE—Manatee-grass Family

Halodule wrightii Aschers. Rhizomatous perennial sea-grass forming with *Syringodium* and *Thalassia* extensive marine meadows in the shallow waters of Boca Ciega and Tampa Bays around the keys, 1, 2, 3, 4, 5.

Syringodium filiforme Kütz. Manatee-grass. Rhizomatous perennial forming extensive marine meadows with *Halodule* and *Thalassia* in the shallow waters of Boca Ciega and Tampa Bays around the keys, 1.

CYPERACEAE—Sedge Family

Bulbostylis ciliatifolia (Ell.) Fern. var. *coarctata* (Ell.) Kral. Tufted perennial in rosemary scrub and other dry open places, 1.

Bulbostylis stenophylla (Ell.) Clarke. Tufted perennial in rosemary scrub, 1.

Cladium jamaicense Crantz. Sawgrass. Tall, robust perennial in marshy depression, 1.

Cyperus compressus L. Galingale. Tufted weedy annual in disturbed places, 1.

**Cyperus esculentus* L. Yellow Nut-grass. Rhizomatous perennial in disturbed places, 1.

Cyperus globulosus Aubl. Rhizomatous perennial in disturbed places, 4.

Cyperus ligularis L. Robust clumped perennial on beaches and flats behind mangroves, 1, 2, 3, 4.

Cyperus odoratus L. Erect perennial of shores and flats behind mangroves, 1, 2, 4, 5.

Cyperus planifolius L. C. Rich. Tufted perennial of rosemary scrub and flats behind mangroves, 1.

Cyperus polystachyos Rottb. var. *texasensis* (Torr.) Fern. Tufted annual on shores and moist sand-shell plateaus, 1, 2, 4.

Cyperus retrorsus Chapm. var. *retrorsus*. Rhizomatous perennial of hammocks, pinelands, rosemary scrub, and open flats, 1, 4.

**Cyperus rotundus* L. Nut-grass. Rhizomatous perennial on disturbed flats, 1.

Cyperus surinamensis Rottb. Tufted perennial in moist depression, 1.

Cyperus tetragonus Ell. Tall rhizomatous perennial in hammocks, 1, 3, 4.

Eleocharis geniculata (L.) R. & S. Spike-rush. Tufted herb in moist depression, 1.

Fimbristylis caroliniana (Lam.) Fern. Carolina Fimbry. Stolonerous tufted perennial on moist brackish flat behind strand vegetation, 1.

Fimbristylis cymosa R. Br. (*F. spathacea* Roth). Hurricane-grass. Cespitose perennial of brackish road shoulders and margins of shore thickets, 1, 5.

Fimbristylis spadicosa (L.) Vahl. (*F. castanea* [Michx.] Vahl). Marsh Fimbry. Rhizomatous wiry perennial of salt marshes, dune swales, and saline shores generally, 1.

Hemicarpha micrantha (Vahl) Pax. Tufted scapose annual in moist open places, 1.

Rhynchospora colorata (L.) Pfeiffer (*Dichromena colorata* (L.) Hitchc.) Star-rush, White-topped Sedge.

Rhizomatous, erect perennial in moist depression in hammock, 1.

Rhynchospora megalocarpa A. Gray. Beak-rush. Handsome rhizomatous perennial of hammock margins and rosemary scrub, 1, 2.

Rhynchospora plumosa Ell. Tufted perennial in rosemary scrub, 1.

Scleria triglomerata Michx. Nut-rush. Rhizomatous perennial in hammocks, 1, 2, 4.

HYDROCHARITACEAE—Frog's-bit Family

Halophila engelmannii Aschers. Sea-grass. Rhizomatous perennial of deeper marine water, found floating in Boca Ciega Bay but possibly brought in by tidal water from Gulf of Mexico.

Thalassia testudinum Banks & Soland. Turtle-grass. Rhizomatous perennial forming extensive marine meadows with *Halodule* and *Syringodium* in the shallow waters of Boca Ciega and Tampa Bays, 1, 2, 3, 4, 5.

ORCHIDACEAE—Orchid Family

Encyclia tampensis (Lindl.) Small. Butterfly Orchid. Evergreen perennial epiphyte on hammock trees, especially on *Quercus*, *Juniperus*, and *Conocarpus*, 1, 2, 4.

Habenaria floribunda Lindley (*H. odontopetala* Reichb. f.). Terrestrial tuberiferous orchid in rosemary scrub, 1.

POACEAE—Grass Family

Andropogon glomeratus (Walt.) B.S.P. Bushy Bluem-stem. Tall rhizomatous perennial in open areas, 1, 4.

Aristida purpurascens Poir. var. *purpurascens* Arrowfeather. Tufted perennial of rosemary scrub and dune plateaus, 1.

Cenchrus incertus M. A. Curtis (*C. longispinus* (Hack.) Fern. Coast Sandbur, Burgrass. Tufted annual or perennial from decumbent base in rosemary scrub, hammock margins, and open areas, as inner edge of dunes and flats behind strand vegetation, 1, 2, 4.

**Cynodon dactylon* (L.) Pers. Bermuda Grass. Rhizomatous perennial in disturbed open areas, 1.

Dichantheium aciculare (Desv.) Gould & Clark. Needle-leaf Witchgrass. Erect tufted perennial in rosemary scrub and hammocks, 1, 4.

Dichantheium commutatum (Schult.) Gould. Erect tufted perennial in hammocks, 4, 5.

Dichantheium ensifolium (Baldw.) Gould var. *ensifolium*. Sprawling to erect perennial in open, often moist, grassy places behind beaches, in rosemary scrub, and hammocks, 1.

Dichantheium portoricense (Lam.) B. F. Hansen & Wunderlin. Sprawling to erect perennial in rosemary scrub and open grassy places in hammocks, 1, 4, 5.

Digitaria ciliaris (Retz.) Koel. Southern Crabgrass. Tall annual in open grassy areas, 1, 4.

Digitaria villosa (Walt.) Pers. Shaggy Crabgrass. Cespitose perennial on roadside, 1, 4.

Distichlis spicata (L.) Greene?. Salt Grass. Observed as sterile plants in brackish places, 1, 2, but not collected; possibly confused with *Sporobolus virginicus*.

Echinochloa colona (L.) Link. Jungle-rice. Tufted annual in open disturbed places, 1.

**Eleusine indica* (L.) Gaertn. Goose Grass. Weedy annual in disturbed places, 2, 5.

Eragrostis ciliaris (L.) R. Br. Lovegrass. Weedy tufted annual in open disturbed places, 1, 2.

Eragrostis elliottii S. Wats. Elliott Lovegrass. Tall perennial on sand-shell plateaus, 1.

Eriochloa michauxii (Poir.) Hitchc. Tall tufted perennial on beach, 1.

Eustachys petraea (Sw.) Desv. Finger Grass. Perennial decumbent at base, in grassy open, often disturbed, places, 1, 2, 3, 4.

Muhlenbergia capillaris (Lam.) Trin. var. *filipes* (M. A. Curtis) Chapm. Tall cespitose perennial of beaches and hammocks, 1.

Panicum amarum Ell. Beachgrass. Tall rhizomatous perennial on beaches and dunes, 1.

Panicum dichotomiflorum Michx. var. *bartowense* (Scribn. & Merr.) Fern. Fall Panicum. Stout annual of moist margins and disturbed places, 1, 5.

Panicum virgatum L. Switchgrass. Tall rhizomatous perennial of shores and hammocks, 1, 4.

**Paspalum notatum* Flügge. Bahia Grass. Rhizomatous naturalized perennial in disturbed places, 1, 4.

Paspalum setaceum Michx. Thin Paspalum. Variable rhizomatous perennial in weedy, grassy places, 1, 2.

**Rhynchelytrum repens* (Willd.) C. E. Hubb. Natal-grass. Handsome perennial in open, grassy, disturbed places, 4, 5.

Setaria corrugata (Ell.) Schult. Coastal Foxtail. Slender annual from decumbent base, road margins and grassy openings, 1.

Setaria geniculata (Lam.) Beauv. Knotroot Foxtail. Wiry rhizomatous perennial in open grassy places, 1, 2.

Setaria macrosperma (Scribn. & Merr.) Schum. Coral Foxtail. Robust perennial of shores and hammock margins, 2, 4.

Spartina alterniflora Loisel. Cordgrass. Stout tufted perennial on saline shores, often inundated, 1, 4.

Spartina patens (Ait.) Muhl. Slender Cordgrass. Rhizomatous perennial on saline shores, 1.

Sporobolus domingensis (Trin.) Kunth. Coral Dropseed. Tufted perennial of sand-shell plateaus, flats behind mangroves, and hammock margins, 1, 2.

Sporobolus virginicus (L.) Kunth. Seashore Dropseed. Rhizomatous perennial on saline shores, 1, 2, 4.

Stenotaphrum secundatum (Walt.) Kuntze. St. Augustine Grass. Rhizomatous perennial in open grassy places, 2, 4.

Tridens flavus (L.) Hitchc. Tall Redtop. Tall husky perennial on grassy roadside, 5.

Triplasis purpurea (Walt.) Chapm. Sandgrass. Tufted annual on beaches, 1.

Tripsacum dactyloides (L.) L. Gama Grass. Robust rhizomatous perennial of hammocks and open places, 1, 2, 3, 4.

Uniola paniculata L. Sea-oats. Beautiful and robust rhizomatous colonial perennial on dunes, 1.

SMILACACEAE—Greenbrier Family

Smilax auriculata Walt. Greenbrier, Catbrier. Woody vine of hammocks and Sabal flats, 1, 2, 4, 5.

Smilax bona-nox L. Woody spinescent vine of hammocks, Sabal flats, and thickets, 1, 2, 3, 4.

TYPHACEAE—Cattail Family

Typha domingensis Pers. Southern Cattail. Tall colonial perennial in wet depression, 1.

XYRIDACEAE—Yellow-eyed-grass Family

Xyris brevifolia Michx. Yellow-eyed-grass. Tufted scapose herb in rosemary scrub, 1.

STATISTICAL SUMMARY

Listed in the annotated catalog are 290 species, including 257 indigenous and 33 apparently introduced, belonging to 88 families, 84 indigenous and 4 introduced, and 225 genera, 199 indigenous and 26 introduced. The six largest families are Asteraceae with 39 species, including 4 introduced; Poaceae with 36 species, 4 introduced; Cyperaceae with 23 species, 2 introduced; Fabaceae with 23 species, 2 introduced; Euphorbiaceae with 12 species, all indigenous; and Rubiaceae with 10 species, 1 introduced. The six largest genera are *Cyperus* with 11 species, including 2 introduced, *Chamaesyce* with all 7 species indigenous, and *Dichantherium*, *Eupatorium*, *Hedyotis*, and *Ipomoea* each with 4 indigenous species. Also listed in APPENDIX 1 are 45 additional species, 9 of them introduced, that were collected on adjacent keys and shores of Boca Ciega Bay and that might be expected to occur in the Park.

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APPENDIX 1

Additional Species on Keys in and Shores of Boca Ciega Bay, Possibly to be Found in Fort DeSoto Park

DICOTYLEDONEAE

AMARANTHACEAE—Pigweed Family

Amaranthus hybridus L. Common Pigweed. Erect annual in open disturbed places, Cabbage Key.

ASTERACEAE—Aster Family

Ambrosia artemisiifolia L. Common Ragweed. Weedy annual in open disturbed places, Long and Mud Keys; Gulfport.

Aster subulatus Michx. var. *ligulatus* Shinn. Aster. Erect annual in moist sand, Cabbage Key and Cat's Point (Maximo Point area).

Flaveria linearis Lag. Yellow Top. Erect subshrub of sandy shores, Sand and Long Keys; Gulfport.

Gaillardia pulchella Foug. Blanket Flower. Erect annual or short-lived perennial of sand-shell plateaus behind dunes, Long and Mud Keys.

Haplopappus divaricatus (Nutt.) A. Gray. Scratch-daisy. Erect weedy annual of sandy roadside, Cabbage Key.

Helenium amarum (Raf.) H. Rock. Bitterweed. Erect weedy annual on sand-shell plateau, Pine Key.

Pectis linearifolia Urban. Florida Fetid marigold. Erect annual on sandy roadside, Cabbage Key.

**Wedelia trilobata* (L.) Hitchc. Creeping-oxeye. Creeping perennial on sand-shell plateaus, Cabbage and Long Keys.

BORAGINACEAE—Borage Family

Heliotropium angiospermum Murray. Scorpion-tail. Erect annual on sand-shell plateaus, Pine and Mud Keys; Cat's Point.

CISTACEAE (Rockrose Family)

Lechea torreyi Leggett. Pinweed. Erect perennial in open sandy area, Cabbage Key.

CONVOLVULACEAE—Morning Glory Family

Ipomoea indica (Burm. f.) Merr. var. *acuminata* (Vahl) Fosb. Morning-glory. Twining herbaceous vine on sand-shell plateau, Mud Key.

Merremia dissecta (Jacq.) Hallier f. Noyou Vine. Twining herbaceous vine on sand-shell plateau, Cabbage Key; Gulfport.

*CRASSULACEAE—Stonecrop Family

**Kalanchoe pinnata* (Lam.) Pers. Life Plant. Erect succulent perennial in disturbed places, Cabbage Key.

CUCURBITACEAE (Gourd Family)

**Momordica charantia* L. Wild Balsam-apple. Climbing herbaceous vine in shore thickets, Gulfport.

EBENACEAE—Ebony Family

Diospyros virginiana L. Persimmon. Small tree in shore hammock, Maximo Point.

EUPHORBIACEAE—Spurge Family

Chamaesyce hypericifolia (L.) Small Tropical Spurge. Erect weedy annual on sand-shell plateau, Cabbage Key.

**Ricinus communis* L. Castor Bean. Weedy large shrub in disturbed place, Long Key.

FABACEAE—Legume Family

**Crotalaria ochroleuca* G. Don (*C. intermedia* Kotschy, misapplied). Rattlebox. Taprooted annual in open area, Cabbage Key.

**Crotalaria pallida* Ait. var. *obovata* (G. Don) Polhill. (*C. mucronata* Desv.) Smooth Rattlebox. Weedy annual in open disturbed area, Long Key.

GENTIANACEAE—Gentian Family

Sabatia stellaris Pursh. Marsh-pink. Erect annual on sand-shell plateau, Gulfport.

LOASACEAE—Loasa Family

Mentzelia floridana Nutt. Poor-man's Patches. Erect perennial with sticky leaves on sand-shell plateau, Long Key.

MALVACEAE—Mallow Family

Malvastrum corchorifolium (Desr.) Britt. False Mallow. Subshrubby herb on grassy shoreside of hammock, Maximo Point.

POLYGALACEAE—Milkwort Family

Polygala incarnata L. Wild-bachelor's Button. Slender erect annual on sand-shell plateaus, Pine and Long Keys.

POLYGONACEAE—Buckwheat Family

Rumex hastatulus Baldw. Hastate-leaved Dock. Erect taprooted annual on grassy bank behind mangroves, S of Treasure Island Causeway.

Rumex verticillatus L. Swamp Dock. Erect perennial on brackish shore, Gulfport.

RUBIACEAE—Madder Family

Psychotria nervosa Sw. Wild-coffee. Tropical shrub in shore hammock, Maximo Point.

RUTACEAE—Citrus Family

**Citrus aurantifolia* (Christm.) Swingle. Key Lime. Small tree in shore hammock, Maximo Point.

Zanthoxylum fagara (L.) Sarg. Wild-lime. Tropical shrub in shore hammocks, Long and Mud Keys; Maximo Point.

SCROPHULARIACEAE—Figwort Family

Buchnera americana L. Bluehearts. Erect perennial on sand-shell plateau, Gulfport.

MONOCOTYLEDONEAE**AGAVACEAE**—Century Plant Family

Agave neglecta Small. Wild Century Plant. Shrubby semisucculent rosette plant with tall scape, sand-shell plateaus, Long Key and Gulfport.

ARECACEAE—Palm Family

**Washingtonia robusta* Wendl. Mexican Fan Palm. Volunteering on sand-shell plateaus of Cabbage and Tarpon Keys.

BROMELIACEAE—Bromeliad Family

Tillandsia setacea Sw. Needleleaf Air Plant. Epiphytic perennial on *Juniperus* in shore hammock, Cat's Point.

CYPERACEAE—Sedge Family

Scirpus robustus Pursh. Saltmarsh Bulrush. Erect rhizomatous perennial in salt marshes, Cabbage Key, Gulfport, and Maximo Point.

Scleria cilata Michx. Fringed Nut-rush. Erect rhizomatous perennial on sand-shell plateau, Cabbage Key.

JUNCACEAE—Rush Family

Juncus roemerianus Scheele. Black Rush. Rhizomatous perennial in salt marshes, Gulfport and Maximo Point.

JUNCAGINACEAE—Arrowgrass Family

Triglochin striata R. & P. Arrowgrass. Erect perennial of wet, brackish shores and mangrove borders, Cat's Point and Gulfport.

ORCHIDACEAE—Orchid Family

Habenaria quinqueseta (Michx.) A. A. Eat.. Bulbiferous perennial in shaded moist thicket, Long Key.

POACEAE—Grass Family

Leptochloa uninervia (Presl) Hitchc. & Chase. Mexican Spangletop. Tufted annual of shores and hammock margins on Cabbage Key.

Monanthochloa littoralis Engelm. Shoregrass, Keygrass. Creeping wiry-stemmed perennial, tufted from rhizomes, in salina at Gulfport.

**Oplismenus setarius* (Lam.) R. & S. Woodsgrass, Basketgrass. Sprawling weedy matted grass, rooting at nodes, in moist hammocks at Maximo and Cat's Points.

Paspalum vaginatum Sw. Seashore Crowngrass. Rhizomatous perennial of brackish shores on sandy key nw of Mullet Key, Maximo and Cat's Points, and Gulfport.

Spartina spartinae (Trin.) Merr. Gulf Cordgrass. Rhizomatous perennial in salt marsh behind mangroves at Cat's Point.

RUPPIACEAE—Widgeon-grass Family

Ruppia maritima L. Widgeon-grass, Ditch-grass, Beaked Seatassel. Shallow water of Boca Ciega Bay on east side of Cabbage Key.