FLORIDA TREES; A HANDBOOK OF THE NATIVE AND NATURALIZED TREES OF FLORIDA

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A HANDBOOK OF THE
NATIVE AND NATURALIZED
TREES OF FLORIDA

BY

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PREFACE.

This handbook contains descriptions of all the trees known to the author to grow naturally in Florida.

The peculiar geographic position of Florida and the diversity of its surface, although apparently slight, results in a larger tree-flora than any other area of similar size in North America, at least north of the Tropic of Cancer; in fact, nearly one half of the trees known to occur naturally in North America north of Mexico and the West Indies, grow naturally in the relatively small area of the State of Florida.

The state consists primarily of two major divisions, the first a northern portion, a comparatively narrow strip of territory extending east and west for a distance of nearly four hundred miles. Here trees characteristic of temperate regions predominate. The second division consists of a large peninsula and accompanying islands, and the Florida Keys, extending southward into the eastern part of the Gulf of Mexico, for a distance of over four hundred miles, reaching almost to the Tropic of Cancer. In this portion of the state, trees of temperate regions gradually give place to those characteristic of subtropical regions; and these, in turn, on the Everglade Keys at the southern end of the peninsula, and on the Florida Keys, are replaced by trees of a strictly tropical character. However, this extraordinary arborcous flora is surprising when we take into account the simple topography and the slight diversity of climate in which it apparently was developed and in which it now thrives.

The major divisions already referred to may be subdivided into a score of geographic regions, but on the following pages in connection with the distribution of the species, the northern portion of the state, the first mentioned major division, is subdivided into eastern, middle, and western. The peninsula, with its accompanying islands, is subdivided into a northern portion and a southern portion. Two prominent minor divisions of the southern portion are frequently mentioned, namely, the Everglades, and the Everglade Keys, which are situated in the southern end of the Everglades. The Florida Keys, which support a number of trees not known elsewhere in the state, lie for the most part, south of the mainland of peninsular Florida. At the end of each paragraph devoted to the geographic distribution, the extralimital distribution of a species is indicated, thus "*Ga.*" and "*Ala.*" indicate that outside of the state of Florida the plant is found only in Georgia or Alabama; and "*Cent.*" means that the

plant has a wider distribution and occurs in other parts of the North American mainland, while "*W. I.*" is used to indicate that a plant occurs in the West Indies.

The collections upon which the following study is based are at the New York Botanical Garden, and it is through the exploration carried on in tropical Florida under the auspices of that institution that the record of tropical trees in Florida is now much more complete than heretofore.

J. K. SMALL.

THE NEW YORK BOTANICAL GARDEN,
April 30, 1913.

CONTENTS.

KEY TO THE ORDERS.

Ovules, and seeds, borne on the face of a bract or a scale: stigmas wanting. Class 1. GYMNOSPERMAE.

Ovules, and seeds, in a closed cavity (ovary): stigmas present. Class 2. ANGIOSPERMAE.

1. Gymnospermae.

Plants growing by lateral as well as by terminal buds, with scale-like, flat or needle-like leaves not circinate: embryo not prolonged into a spiral. Order PINALES.

2. Angiospermae.

Cotyledon 1: stem endogenous. Subclass 1. MONOCOTYLEDONES.

Cotyledons normally 2: stem exogenous (with rare exceptions). Subclass 2. DICOTYLEDONES.

1. MONOCOTYLEDONES.

Leaf-blades pinnately or palmately lobed, or compound: ovules solitary in each carpel-cavity. Order ARECALES.

Leaf-blades narrow, entire or essentially so, simple: ovules many in each carpel-cavity. Order LILIALES.

2. DICOTYLEDONES.

A. Corolla wanting, except in the pistillate flowers of *Juglans* (Juglandaceae).

Calyx wanting, at least in the staminate flowers, except sometimes in *Casuarina* (Casuarinaceae).

Leaves represented by appressed whorled scales: stems or branches loosely jointed. Order CASUARINALES.

Leaves not appressed scales: stems or branches not loosely jointed.

Fruit 1-seeded: seeds without tufts of hairs.

Pistillate flowers without a calyx: ovule erect and orthotropous. Order MYRICALES.

Pistillate flowers with a calyx: ovule pendulous and anatropous.

Leaf-blades simple. Oleaceae in Order OLEALES.

Leaf-blades compound: fruit a samara. Oleaceae in Order OLEALES.

Fruit many-seeded: seeds each with a tuft of hairs. Order SALICALES.

Calyx present at least in the staminate or in the perfect flowers.

Leaves represented by appressed whorled scales: branches loosely jointed. Order CASUARINALES.

Leaves not appressed scales: branches not loosely jointed.

Flowers, at least the staminate, in aments, or ament-like spikes.

Pistillate flowers separate at maturity: fruit a nut or an achene. Order FAGALES.

Pistillate flowers forming an aggregate fruit: fruits drupe-like. Artocarpeae in Order URTICALES.

Flowers at least the staminate, not in aments.

a. Ovary superior.

Gynoecium of 1 or several and distinct carpels: stigma and style solitary.

Carpel solitary.

Stamens borne under the gynoecium. Piperaceae in Order CHENOPODIALES.

Stamens borne on the hypanthium or adnate to the calyx-tube. Order THYMELEALES.

Carpels several. Families in Order RANALES.

Gynoecium of 2 or several united carpels: stigmas or styles 2 or several.

* Ovary, by abortion, 2-celled and 1-ruled.

Leaves with sheathing stipules (ocreae). Order POLYGONALES.

Leaves exstipulate, or if stipules are present they are not sheathing.

Trees.

Anthers opening by slits: ovary not seated in a hypanthium. Ulmaceae in Order URTICALES.

Anthers opening by hinged valves: ovary seated in an accrescent hypanthium. Lauraceae in Order THYMELEALES.

Vines. Order CHENOPODIALES.

** Ovary several-celled, or with several placentæ, several-ovuled.
Stamens hypogynous, inserted under the gynœcium in the perfect flowers, not on a disk in the pistillate flowers.
Gynœcium 3-carpellary, the carpels nearly distinct.
Buckthornaceæ in Order Malvales.
Gynœcium 2-4-carpellary, the carpels united.
Oleaceæ in Order Oleales.
Stamens perigynous or epigynous, inserted on the margin of a hypanthium or a disk.
Fruit a samara. Families in Order Sapindales.
Fruit not a samara. Order Rhamnales.
b. Ovary inferior.
Fruit a berry or a drupe or nut-like.
Calyx deciduous as a lid: stamens numerous.
Calycanthus in Order Myrtales.
Calyx of valvate or imbricate sepals: stamens few.
Ovules mostly on basal placentæ, sometimes pendulous: cotyledons not convolute: tree or root parasites.
Order Santalales.
Ovules not on basal placentæ: cotyledons convolute: not parasitic plants. Families in Order Myrtales.
Fruit a capsule. Order Myrtales.
B. Corolla present.
* Petals distinct, at least at the base.
Carpels solitary, or several and distinct, or united only at the base.
Stamens at the base of the receptacle, i. e., hypogynous. Order Ranales.
Stamens on the margin of a hypanthium.
Plants without secreting glands in the bark. Order Rosales.
Plants with secreting glands in the bark.
Saxifragaceæ in Order Geraniales.
Carpels several and united.
† Ovary superior.
† Stamens inserted at the base of the ovary or receptacle.
§ Stamens numerous.
Sepals imbricated.
Calyx deciduous. Order Papaverales.
Calyx persistent.
Leaves glandular or pellucid-punctate.
Rutaceæ in Order Geraniales.
Leaves not glandular.
Capparidaceæ in Order Papaverales.
Sepals valvate.
Stamens with distinct filaments.
Ovary 1-celled: placentæ parietal.
Capparidaceæ in Order Papaverales.
Ovary 2 several-celled: placentæ axile or central.
Families in Order Malvales.
Stamens with united filaments. Order Malvales.
§§ Stamens few, not over twice as many as the petals.
Stamens as many as the petals and opposite them.
Flowers monœcious. Euphorbiaceæ in Order Euphorbiales.
Flowers perfect.
Stamens as many as the petals and alternate with them, or more, sometimes twice as many.
Stamens 6: petals 4: sepals 2 or 4.
Families in Order Papaverales.
Stamens, petals and sepals of the same number, or stamens more, usually twice as many as the sepals or petals.
Ovary 1-celled.
Stigmas 2-cleft.
Anther with an inconspicuous connective.
Anther with the conspicuous connective produced beyond the sacs.
Papayaceæ in Order Passiflorales.
Stigmas entire.
Stamens with united filaments and no staminodia.
Families in Order Malvales.
Stamens with distinct filaments.
Families in Order Hypericales.
Ovary several-celled.
Stamens with wholly or partly united filaments.
Families in Order Geraniales.
Stamens with distinct filaments.
Anthers opening by pores.
Families in Order Ericales.
Anthers opening by slits.