FLORA OF MIAMI; BEING DESCRIPTIONS OF THE SEED-PLANTS GROWING NATURALLY ON THE EVERGLADE KEYS AND IN THE ADJACENT EVERGLADES, SOUTHERN PENINSULAR FLORIDA

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649585076

Flora of Miami; Being Descriptions of the Seed-Plants Growing Naturally on the Everglade Keys and in the Adjacent Everglades, Southern Peninsular Florida by John Kunkel Small

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

www.triestepublishing.com

JOHN KUNKEL SMALL

FLORA OF MIAMI; BEING DESCRIPTIONS OF THE SEED-PLANTS GROWING NATURALLY ON THE EVERGLADE KEYS AND IN THE ADJACENT EVERGLADES, SOUTHERN PENINSULAR FLORIDA

Trieste

FLORA OF MIAMI

BEING DESCRIPTIONS OF

THE SEED-PLANTS GROWING NATURALLY ON
THE EVERGLADE KEYS AND IN THE ADJACENT EVERGLADES
SOUTHERN PENINSULAR FLORIDA

BY

JOHN KUNKEL SMALL, PH.D., SC.D.
HEAD CURATOR OF THE MUSEUMS AND HERBARIUM OF THE NEW YORK BOTANICAL GARDEN

NEW YORK
PUBLISHED BY THE AUTHOR
1913
[Apr. 26]

See Britton in Bull. Torrey Club., 1914, xli, p. 11

PREFACE.

This handbook contains descriptions of the seed-plants growing naturally in the Miami Limestone Region. This area consists of a chain of limestone islands enclosed by the southern portion of the Everglades, except where some of the islands come in contact with the upper half of Bay Biscayne. The chain stretches, in crescent form, from somewhat north of the Miami River southwestward toward Cape Sable for a distance of about fifty-five miles. The islands, apparently, in ancient times formed a part of the Antilles. Their native vegetation is essentially of a tropical character, with strong relationships to the flora of Cuba and of the Bahamas. As far as the native flora is concerned the Everglade Keys represent a small tropical area isolated on the mainland of the United States.

The vegetation of the islands themselves is divided into two rather distinct plant-associations, namely, pineland and hammock, which are usually sharply differentiated from each other. These in turn are both rather abruptly marked off from the adjacent Everglades. With few exceptions the individual plant-species are distributed generally over the area under consideration. However, they are, in the majority of cases, confined to the one or the other of the plant-associations; consequently, on the following pages the local distribution of the species is indicated as "Pinelands," "Hammocks," "Everglades."

In addition to the area already described, two minor elements are included in our geographical range, the coastal sand-dunes of the narrow peninsula opposite Miami and also those of Virginia Key and Key Biscayne and the waters of Bay Biscayne itself.

As the plant-life of the Everglade Keys is closely related to that of the Florida Keys, when a species is common to both, the fact is indicated in this flora by "*F. K.*" (Florida Keys) following the habitat. The relationship of the plant-species of the Miami flora to the flora of the West Indies is also indicated; if a species grows on one or more of the West Indian islands, it is indicated by "*Ber.*" (Bermuda), "*Bah.*" (Bahamas), "*Cuba,*" and if it also occurs in other parts of the West Indies it is indicated by "*Ant.*" (Antilles).

The flowering and fruiting seasons are not indicated; the plants flower most abundantly in spring and summer, and produce fruit in due time, and although most or essentially all of the rainfall normally occurs from late spring to early fall, the relative high and even temperature of the other

half of the year and the generally close proximity of the water-table to the land-surface make a rather continuous flowering and fruiting season for all vegetation.

The specimens on which this flora is based are preserved in the herbarium of the New York Botanical Garden, and the exploration work which has made this study possible was carried out under the auspices of that institution. The botanical exploration of the West Indies, carried on at the same time by the New York Botanical Garden has rendered possible the detailed indication of the geographical distribution of the species.

J. K. SMALL.

THE NEW YORK BOTANICAL GARDEN,
April 26, 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 a single terminal bud, with pinnate leaves circinate in vernation: embryo prolonged into a spiral. Order CYCADALES.
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.

Perianth rudimentary or degenerate, the members often bristles or mere scales, not corolla-like, or wanting.
Flowers not in the axils of dry or chaffy bracts (scales or glumes).
Perianth of bristles or chaffy scales. Order PANDANALES.
Perianth fleshy or herbaceous, or wanting.
Fruit baccate: endosperm present. Order ARALES.
Fruit drupaceous: endosperm wanting. Order NAIADALES.
Flowers in the axils of dry or chaffy, usually imbricated, bracts (scales or glumes). Order POALES.
Perianth of 2 distinct series, the inner series usually corolloid.
Gynoecium of distinct carpels. Order ALISMALES.
Gynoecium of united carpels.
Endosperm mealy. Order XYRIDALES.
Endosperm fleshy, horny or cartilaginous.
A. Ovary, and fruit, superior.
a. Herbs, or rarely shrubs or trees, with simple leaves: ovules 2-many in each cavity of the ovary, or solitary only in the case of a few herbs
Inflorescence not a fleshy spadix. Order LILIALES.
Inflorescence a fleshy spadix subtended by a spathe. Order ARALES.
b. Trees or shrubs, with pinnately or palmately compound or lobed leaf-blades: ovules solitary in each cavity of the ovary.
Order ARECALES.
B. Ovary, and fruit, wholly inferior or half-inferior.
Endosperm present and usually copious.
Flowers regular: androecium not reduced. Order AMARYLLIDALES.
Flowers very irregular: androecium much reduced and modified.
Order SCITAMINALES.
Endosperm wanting.
Flowers regular, monoecious or dioecious: aquatic plants.
Order HYDROCHARITALES.
Flowers irregular, perfect: terrestrial or epiphytic plants.
Order ORCHIDALES.

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).
Herbs.
Flowers mainly perfect. Order PIPERALES.
Flowers monoecious or dioecious. Order EUPHORBIALES.
Trees or shrubs: flowers monoecious or dioecious, or polygamous.

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 aggregate fruits: fruit drupe-like. Artocarpaceae 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.
Style lateral and oblique. Petiveriaceae in Order CHENOPODIALES.
Style axile, erect.
Ovary neither enclosed nor seated in a hypanthium or a calyx-tube. Urticaceae in Order URTICALES.
Ovary enclosed in or seated in a hypanthium or a calyx-tube.
Stamens borne under the gynoecium. Allioniaceae in Order CHENOPODIALES.
Stamens borne on the hypanthium or adnate to the calyx-tube. Order THYMELEALES.
Carpels several.
Stamens inserted below the ovary. Families in Order RANALES.
Stamens inserted on the edge of a cup-shaped hypanthium. Rosaceae in Order ROSALES.
Gynoecium of 2 or several united carpels: stigmas or styles 2 or several.
* Ovary, by abortion, 1-celled and 1-ovuled.
Leaves with sheathing stipules (ocreae). Order POLYGONALES.
Leaves estipulate, or if stipules are present they are not sheathing.
Trees or shrubs.
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.
Herbs or vines.
Leaves with stipules. Families in Order CHENOPODIALES.
Leaves without stipules.
Stigmas entire. Order CHENOPODIALES.
Stigmas 2-cleft. Euphorbiaceae in Order EUPHORBIALES.
** Ovary several-celled, or with several placentae, several-ovuled.
Stamens hypogynous, inserted under the gynoecium in the perfect flowers, not on a disk in the pistillate flowers.
Herbs.
Flowers perfect.
Ovary several-celled. Families in Order CHENOPODIALES.
Ovary 1-2-celled.
Stamens not tetradynamous, 4–8; ovary 1-celled. Order CHENOPODIALES.
Stamens tetradynamous: ovary 2-celled. Brassicaceae in Order PAPAVERALES.
Flowers monoecious or dioecious. Euphorbiaceae in Order EUPHORBIALES.