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EL ALISO

A Series of Papers
on the
NATIVE PLANTS OF CALIFORNIA



VOL. I.

The New World Cypresses

By
CARL B. WOLF
and
WILLIS E. WAGENER

April 10, 1948

RANCHO SANTA ANA BOTANIC GARDEN
(Founded by Susanna Bixby Bryant)
Anaheim, California.

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

“THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION
HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects thereof.”

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Foreword

With this volume, which reports the results of the most ambitious single piece of work yet undertaken by the Rancho Santa Ana Botanic Garden, there begins a new publication "EL ALISO" (pronounced Ell Ah-lee'-so). It will be continued as volume II, whenever additional material is ready. All botanical and horticultural papers published by the Garden will be issued in this journal.

The name *Aliso* was that used by the Spanish Californians for the native Sycamore, *Platanus racemosa*, a common and beautiful tree in the canyons and along the water courses of the coastal drainage in the central and southern parts of the state. Indeed, one of the most common local place names throughout this area is "Aliso Canyon". On the Rancho Santa Ana the Sycamore has historical interest in that, when in 1875 John W. Bixby bought the property from the heirs of Bernardo Yorba, it was from a giant Sycamore that the boundary line was drawn. And when his daughter, Susanna Bixby Bryant, founded the Rancho Santa Ana Botanic Garden in his memory and built in 1928 the building now used for administration of the Garden, she had made as a panel above the large central fireplace in the main living room a spray of Sycamore, a tree of which she was very fond.

It is for this tree to which both history and sentiment turn as associated with the Rancho Santa Ana Botanic Garden, that the new journal is named. In so doing, it is realized that in other parts of the Spanish-speaking world the name *Aliso* refers to the Alder rather than the Sycamore, but it is in the Californian sense that it is used here.

PHILLIP A. MUNZ, Editor.

THE NEW WORLD CYPRESSES

PART I

Taxonomic and Distributional Studies of the New World Cypresses

by

CARL B. WOLF

PART II

Diseases of Cypresses

by

WILLIS W. WAGENER

PART III

Horticultural Studies and Experiments on the New World Cypresses

by

CARL B. WOLF



FIGURE 1. CUPRESSUS MACROCARPA—Monterey Cypress.

North grove, Point Lobos, Monterey Co., Calif. Coll. No. 6228 (*Prop. No. 2178*) is center tree with trunk showing and flat top; height about 18 m. Photo Nov. 7, 1934. Neg. No. 3468.

The New World Cupresses

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Preface

This paper dealing with the New World cypresses embodies the combined results of botanical and horticultural research carried on by Rancho Santa Ana Botanic Garden since its founding in 1927, and pathological work by Dr. W. W. Wagener since the same year. The project has been one peculiarly adapted to the scope of activities laid out in the articles of dedication of the Garden. No other institution has the facilities and geographic location which would have enabled it to conduct similar studies on the group. My own portions of the investigations have been made because I have long been fascinated by the peculiarities and complexities of cypresses and have enjoyed attempting to understand them. Perhaps the presentation of these experiences in written form will enable others to acquire an appreciation of these rare trees.

Of the sixteen entities recognized in this paper as comprising the genus *Cupressus* in the New World, only four received their names from European botanists. Of the remainder, all but two (*C. glabra* and *C. guadalupensis*) were named by botanists who have been considered Californians. There are many reasons for this, but the most important is that eleven kinds are found in the wild only in California, of which only two extend beyond its borders. Despite this concentration of entities in California, the California botanists have heretofore never made any serious attempt to evaluate the California cypresses in their relationships to the rest of the New World entities. On the other hand, persons from other areas who have written about the California cypresses have been handicapped by lack of first-hand knowledge and have so muddled the literature and species concepts that many published names in *Cupressus* mean practically everything and, therefore, mean practically nothing. In view of the fact that most cypresses have some little horticultural value, as well as botanical significance, it is indeed unfortunate that this chaotic condition has existed for so long.

It is of interest to point out that the Cypress Canker was discovered in 1927 on the Stanford University Campus and was referred to Dr. Wagener for investigation. That same year Mrs. Bryant founded Rancho Santa Ana Botanic Garden, and seeds of the Tecate Cypress (*Cupressus Forbesii*), a species apparently destined to serve as a substitute for the canker-doomed Monterey Cypress, were the first of the genus to be planted at the Garden.

Since then Rancho Santa Ana Botanic Garden and Dr. Wagener have both been seriously engaged in studies of *Cupressus* which, beginning in 1934, have been on a basis of mutual co-operation. Much of the work done by this Garden, either on the botanical or the horticultural phases of the genus, would be

of little significance were it not for the pathological work of Dr. Wagener.

Although the scope of the work of Rancho Santa Ana Botanic Garden has been rather specifically limited to an emphasis on California native plants, the work on *Cupressus* seemed to be of such significance that the Board of Trustees graciously permitted an enlargement of activity to include all of the New World species of the genus. Had it not been for the War, it is likely that field work would have been possible on the three species restricted to Mexico (*Cupressus guadalupensis*, *C. lusitanica* and *C. montana*).

My own interest in cypresses extends back for approximately twenty-three years when I was temporarily employed in Los Angeles by Mr. Theodore Payne, California native plant specialist and nurseryman. At that time I became familiar with the Monterey Cypress, the Italian Cypress, and the so-called Arizona Cypress (in reality the smooth Arizona Cypress, *C. glabra*). I saw my first wild cypresses at Fort Bragg, Mendocino County in the summer of 1927. During the next three years I made a special effort to study and collect several species of *Cupressus* in the wild, and largely through the influence of Dr. L. R. Abrams, I acquired an appreciation of the peculiar botanical and distributional problems which are present in this reliquian genus.

It was, therefore, only natural that when I came to Rancho Santa Ana Botanic Garden in 1930 I should almost immediately study the remaining California species in the field and bring back material to the Garden for propagation. My interest in cypresses has continued, and although the publication of this paper will bring most of my work on the group to a close, there are still a great many interesting problems on the botany and horticultural aspects of the genus which remain to be investigated. Some of these are outside of the field of my training, while others, especially of a horticultural nature, require many years of additional tests and observations before reliable data are obtainable.

Illustrations in the botanical and horticultural sections of this paper are my own unless otherwise indicated.

I am hopeful that the present paper on the New World cypresses will accomplish the following:

- 1). That it will provide a workable account of the botany and distribution of the group in which the major information which has accumulated in the past is properly evaluated and incorporated in one place.
- 2). That the information presented in the horticultural section will provide a gauge for measuring the merits of the nu-

merous species for horticulture and will also indicate which species are in need of further testing.

3). That the section by Dr. Wagener covering his studies of the Cypress Canker will not only constitute a distinct supplement to the knowledge of cypresses, but will also have an important bearing in the field of plant pathology.

No one can work on a problem of this sort over a long period of years without finding himself indebted to a great many people for help. I wish to express my gratitude to the following in particular for assistance, but if I have inadvertently omitted anyone who should be mentioned, I am truly sorry: The members of the Board of Trustees of the Garden, and the Founder, Mrs. Susanna Bixby Bryant, for their willingness to allow me to devote so much time and money to the Cypress Project and for their patience in permitting me to continue it over so many years; and the following whose assistance has been so varied that I shall not attempt to mention specifically the help which they have rendered:—Dr. L. R. Abrams, Dr. L. D. Bachelor, Dr. Rimo Bacigalupi, Dr. Lyman Benson, Mr. John F. Boylan, Mrs. Stella Brockway, Mr. Robert E. Burton, Mr. Hans F. Carlsen, Miss Annetta Carter, Mr. R. E. Caryl (deceased), Mrs. Rose Collom, Mrs. Lillian A. Connley, Dr. Leon Croizat, Mr. R. W. Cummins, Miss Alice Eastwood, Dr. Carl Epling, Mr. P. C. Everett, Mrs. R. S. Ferris, Mr. Guy L. Fleming, Mr. F. F. Gander, Dr. Lake S. Gill, Mr. Roy Hagen, Mr. Charles Hill (deceased), Mr. J. T. Howell, Mr. Charles Jensen, Dr. W. L. Jepson, Mr. E. R. Johnson, Dr. T. H. Kearney, Dr. Herbert L. Mason, Dr. W. R. Maxon, Mr. O. V. Matthews, Prof. H. E. McMin, Mr. Oscar Meier (deceased), Dr. E. D. Merrill, Dr. P. A. Munz, Dr. Doris Kildale Niles, Mrs. Elisabeth Crow Norland, Mr. Theodore Payne, Mr. R. H. Peebles, Prof. Alfred Rehder, Mr. Roy Sheldon, Dr. Forrest Shreve, Mr. B. D. Stark, Mr. Guy Steele, Mr. Bert Stephenson (deceased), William H. Stuck, Mr. Herbert Swim, Mr. C. C. Teague, Mr. D. J. Thompson, Mr. M. Van Rensselaer, Dr. W. W. Wagener, Mr. Harold Wahlberg, Mr. Eric Walther, Dr. D. D. Waynick (deceased), Dr. H. J. Webber, Dr. Ira L. Wiggins, Mr. R. A. Wilson, and Mrs. Dorothy Rhodes Wolf, my wife, who although not a botanist, has traveled with me into many of the most remote and inaccessible areas of California in search of cypresses and has shared the frequent discomforts pertaining thereto.

Rancho Santa Ana Botanic Garden
Anaheim, California
July 21, 1945

Carl B. Wolf