

**CLASS BOOK OF BOTANY: BEING
OUTLINES OF THE STRUCTURE,
PHYSIOLOGY, AND CLASSIFICATION OF
PLANTS. WITH A FLORA OF ALL PARTS
OF THE UNITED STATES AND CANADA**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649466030

Class Book of Botany: Being Outlines of the Structure, Physiology, and Classification of Plants.
With a Flora of All Parts of the United States and Canada by Alphonso Wood

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

ALPHONSO WOOD

**CLASS BOOK OF BOTANY: BEING
OUTLINES OF THE STRUCTURE,
PHYSIOLOGY, AND CLASSIFICATION OF
PLANTS. WITH A FLORA OF ALL PARTS
OF THE UNITED STATES AND CANADA**

CLASS BOOK
OF
BOTANY.

BEING OUTLINES OF

THE STRUCTURE, PHYSIOLOGY AND CLASSIFICATION

OF

PLANTS.

WITH A FLORA

OF ALL PARTS OF

THE UNITED STATES

AND

CANADA.

BY ALPHONSO WOOD, A.M.

He speaks of trees, from the Cedar of Lebanon even unto the Hyssop that springeth out of the wall.—1 Kings, iv. 33.

Consider the lillies of the field—even Solomon, in all his glory was not arrayed like one of them.—MATTHEW, vi. 28, 29.

NEW YORK:
PUBLISHED BY A. S. BARNES & BURR.

TRUST: MOORE & NIMS. CINCINNATI: RICKET, MALLORY & CO. NEW ORLEANS:
H. D. M'GINNIS. MOBILE: RANDALL & WILLIAMS.

1860.

WOOD'S
CLASS BOOK
OF
BOTANY.
PART I., II., & III.

PUBLISHERS' NOTE.

In consequence of the urgent request of many Teachers, the Publishers have concluded to print—in *advance* of the completion of Professor Wood's Entire Work—the *first three parts*, which will be followed by the remaining portions as speedily as possible. Teachers introducing this part of the work, shall be furnished with the remainder in a bound Volume at a price bearing the same proportion, to the value of the whole Book when completed.

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57

P R E F A C E .

THE Class-Book of Botany was first offered to the student in 1845. It was originally prepared with immediate reference to the wants of the author's own pupils, with scarcely a hope of approval from the community beyond. The event, however, proved that the wants of his own pupils were precisely the same as those of myriads of others; and the use of the book, notwithstanding its numerous imperfections, soon became general.

The lapse of fifteen years has done much to develop not only the knowledge of our native Flora, but of the science of Botany in general; and materials for the revision of our whole work have indefinitely accumulated. In this revision, which seems to be demanded not less by the growing appreciation of scientific studies as a means of intellectual and moral discipline, than by the progress of the science itself, we have still confined ourselves to the limits of a *single volume*, and sternly resolved against any essential enlargement, except such as the increased territory of our Flora requires. This we have done with direct reference to the *convenience* and the *means* of the thousands of youths who will still enter upon this delightful pursuit, and make their text-book their *vade-mecum*. The labor expended in this condensation will be appreciated by few, and those few, while they justify the motives, will regret the necessity.

The limit of our Flora in this new series has been much extended. It now embraces the territory lying East of the Mississippi River with the exception of the Southern Peninsula of Florida, and South of the Great Lakes and the River St. Lawrence. The States bordering upon the western shores of the Mississippi, although not *strictly* included, are *essentially* so, as well as those provinces of Canada upon the northern shore of the St. Lawrence. This Class-Book is, therefore, now professedly adapted to the student's use from Quebec to New Orleans and from St. Pauls to St. Augustine.

The southern peninsula of Florida is neglected in consequence of the author's inability to visit that region hitherto. During his extended tour southward in 1857, the Seminole war rendered the route to the

Everglades unsafe, or at least undesirable. The species omitted are generally unknown northward of Key West. Students at Mecanopy, Ocala, to St. Augustine, will scarcely miss them; but should they do so, they will confer a grateful favor by contributing specimens of such to the author.

That every species of native plant in this extensive region is accurately defined, or even noticed, we cannot presume; yet this has been our aim; and as in the former series, so here, we have distrusted every source of information except that of our own personal inspection. Therefore, into nearly every section of this territory, from the St. Lawrence and the Lakes to the Gulf, and from the Sea-Coast to the Great River, the author has made repeated excursions in delighted converse with the vegetable world.

Together with the plants of spontaneous growth which constitute our proper Flora, we have included in our sketches also our exotic Flora; that is, all those plants which seem to us to have attained a general cultivation in this country, either as useful, curious, or ornamental. By this accession, learners in the city, as well as in the country, may be supplied with subjects for illustration and for practice in botanical analysis; and all with the means of acquainting themselves with the beautiful tenants of their own fields, gardens, and conservatories.

From the multiplication of species and genera we have studiously refrained, believing that our books already contain more than Nature will warrant. In the case of any doubtful specimen, which might have served as the basis of a new species, or possibly genus, (had this been our aim), we have always inclined rather to the extension of the limits of some kindred group for its reception, having less apprehension of error in this direction than in the opposite, with all due regard for the permanence of true species. The same principle has compelled us to disallow the claims of many reputed species of the best authors.

In the sequence of the Natural Orders, we have, in common with all recent American authors, mainly adopted the arrangement of De Candolle,—an arrangement seen, in part, in the 'Flora of the State of New York,' by Dr. Torrey. It commences with those Orders supposed to be of the higher rank in organization, and proceeds gradually to the lower, regarding the completeness of the flower and the distinctness of its parts as the general criterion of rank.

Tables of analysis by the dichotomal method were first in the Class-Book applied to the genera of plants, and introduced into general use. They are now regarded as indispensable, and have been adopted into their Floras by nearly every subsequent author. In the present new

series, we have greatly modified, extended, and improved this system, adapting it to the analysis of *Species* as well as of Orders and Genera. By means of this addition, our Flora is now adapted to *class exercises in analysis throughout, from the Grand division to the Species*—an improvement which will be duly appreciated by the practical teacher.

An analytical Key to the Orders, mainly artificial, more simple than any hitherto constructed by us, founded, as in the previous edition, almost solely upon characters taken from the flowers and leaves (not fruit), will readily conduct the student to that Order where any given flowering specimen may belong. Next, under the Order, a table of the utmost simplicity, analyzes the Genera, *mostly* in such a way as to do but little violence to their natural affinities. Lastly, under the Genus (when large enough to require it) another table conducts to the species in groups of twos or threes, which groups are instantly resolved by a brief *diagnosis in italics* catching the eye in some part of the description which follows.

The limited space allowed us in the Flora compels us to use very sparingly illustrative engravings in this part of our work, which occasions us less regret considering the copiousness of illustration in the scientific treatise in the former part. Those engravings are designed partly with reference to the Flora, where frequent references will be found. The few which we have adopted in the Flora, are prepared with reference to the deficiencies of the former part. In other words those which have no illustrative figure in the former treatise are generally furnished with one or more in the Flora. Throughout the work, these are mostly from original sketches and drawings on wood by the author's own hand. Others are copied from Lindley, Hensley, Peyer, &c.

In addition to those collaborators in Botany, whose invaluable aid is acknowledged in former editions, namely Dr. Edward E. Phelps, Dr. James W. Robbins, Dr. Joseph Barratt, Dr. Albert G. Skinner, Mr. I. A. Lapham, Dr. Truman Ricard, Dr. H. P. Sartwell, Dr. John Plummer, Dr. S. B. Mead, Mr. S. S. Olney, &c., we have now to mention with grateful acknowledgments other names of equal merit.

Dr. Josiah Hale of Alexandria, La., has sent us a suit of specimens, well high representing the entire Flora of that State.

Dr. A. W. Chapman of Apalachicola, Fla., presented us with many of the more rare plants of Florida, on the occasion of our recent visit to his own familiar walks.

Dr. H. A. Mettauer of Macon, Ga., has made contributions of great value from that district, and from the vicinity of Tallahassee and St. Marks, Fla., with many critical notices and observations on the Flora of those States.

Prof. William T. Feay, M.D., and Prof. Thomas G. Pond, both of Savannah, Ga., have sent almost the entire Flora of that State, with copious original notes and observations, such as result only from the most extensive and accurate investigation.

Miss Sarah Keen of Bainbridge, Ga. (now of Mariana, Fla.), has also sent an herbarium of beautiful specimens prepared by her own and her sister's hands. To her, as well as to the gentlemen last mentioned, the author is also indebted for every kind hospitality and encouragement during a protracted herborizing tour along our southern coasts.

Mr. William Wright of Bainbridge, and Prof. N. H. Stuart of Quincy, Florida (since deceased), also contributed to the consummation of our work by many facilities afforded us in our laborious researches in their respective precincts, and by the shelter of their hospitable mansions.

To Rev. Dr. Curtis of Hillsborough, N. C., and to Rev. Dr. Bachman of Charleston, S. C., we are indebted for the free use of their very complete herbaria, during our sojourn in their respective cities; and Mr. S. B. Buckley, recently of Yellow Springs, Ohio, has afforded us similar facilities through his rich collection.

Dr. Couzens generously supplied us with the plants of the State of Iowa. His name often appears in our pages.

Dr. George Engelmann, of St. Louis, has also favored us with the free use of his admirable monograph of the genus *Cuscuta*, and with many important notes in MS. on other difficult genera in our Flora, especially on the Euphorbiacæ. Our entire collection of specimens belonging to this Order was, by his kind permission, submitted to his inspection and determination.

The Rev. Chester Dewey, D.D., of Rochester, N. Y., the venerable pioneer in American Caricography, has placed us and our readers under renewed obligations by additional contributions to the genus *Carex*, rendering it complete for the extended territory of our present Flora.

Communications containing specimens, critical notices or corrections, or soliciting information, will always, as heretofore, be acceptable.

THESE HAUTE FEMALE COLLEGE (Indiana), May, 1860.