Life Sciences

Until the nineteenth century, the various subjects now known as the life sciences were regarded either as arcane studies which had little impact on ordinary daily life, or as a genteel hobby for the leisured classes. The increasing academic rigour and systematisation brought to the study of botany, zoology and other disciplines, and their adoption in university curricula, are reflected in the books reissued in this series.

Algae

George Stephen West (1876–1919) was a prominent British botanist specialising in freshwater algae. In 1906 he became a lecturer in botany at the University of Birmingham and was later appointed the Mason Professor of Botany. This volume was first published in 1916 as the first of the Cambridge Botanical Handbooks series and provides a description of both marine and freshwater algae in the Myxophyceae, Peridinieae, Bacillarieae and Chlorophyceae classes. West describes the habitat, biological conditions, distribution, internal and external structures and life history of these algae in great detail, with a bibliography concluding each chapter. The book provided the first detailed description of the Myxophyceae (or blue-green) class of algae, and provides an insight into knowledge and classification of algae at the time of publication. A second volume containing a full taxonomic account of freshwater algae was planned, but not published owing to the author's death in 1919.
Cambridge University Press has long been a pioneer in the reissuing of out-of-print titles from its own backlist, producing digital reprints of books that are still sought after by scholars and students but could not be reprinted economically using traditional technology. The Cambridge Library Collection extends this activity to a wider range of books which are still of importance to researchers and professionals, either for the source material they contain, or as landmarks in the history of their academic discipline.

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Algae

Myxophyceae, Peridinieae, Bacillarieae, Chlorophyceae

G. S. West
CAMBRIDGE

Cambridge University Press
978-1-108-01322-2 - Algae: Myxophyceae, Peridinieae, Bacillarieae, Chlorophyceae
G. S. West
Frontmatter
More information

Cambridge Botanical Handbooks
Edited by A. C. Seward and A. G. Tansley

ALGÆ
VOLUME I

MYXOPHYCEÆ PERIDINIEÆ
BACILLARIEÆ CHLOROPHYCEÆ
ALGÆ

VOLUME I

MYXOPHYCEÆ, PERIDINIEÆ, BACILLARIEÆ, CHLOROPHYCEÆ, TOGETHER WITH A BRIEF SUMMARY OF THE OCCURRENCE AND DISTRIBUTION OF FRESHWATER ALGÆ

BY

MASON PROFESSOR OF BOTANY IN THE UNIVERSITY OF BIRMINGHAM

Cambridge:

at the University Press

1916
Cambridge Botanical Handbooks
Edited by A. C. Seward and A. G. Tansley

THE rapid development of certain branches of botanical science in recent years has emphasised the need of books by specialists on different groups of the vegetable kingdom. After acquiring a superficial knowledge of the larger groups, the student who desires to pursue the subject beyond the limits of a general text-book receives but little assistance from existing treatises, at least as regards recent researches into the morphology and natural history of plants. The enormous output of original papers renders the task of keeping abreast of current work increasingly difficult: the accumulation of facts necessitates a periodic review from a broad standpoint of the results of recent work, more especially as they affect the actual problems of evolution presented by the various classes of plants. It is with a view of meeting this want that the present series is designed.

Professor West's book dealing with certain groups of Algae is the first of the Handbooks to appear. The Volumes on Lichens, Fungi, and Gnetales by Miss Lorraine Smith, Dr Helen Gwynne-Vaughan, and Professor Pearson respectively are in an advanced state of preparation.

Botany School,
Cambridge.
August 1, 1916.
PREFACE

It is now twelve years since the publication of the author's 'Treatise on British Freshwater Algae' and several years since that work was sold out. Since the time of its publication great strides have been made in our knowledge of many groups of Algae and it is now proposed to replace the 'Treatise' by two works of which this is one. The present volume, contributed to the series of Cambridge Botanical Handbooks, is a biological account of all the Algae included in the Myxophyceae, Peridinieae, Bacillarieae and Chlorophyceae, both freshwater and marine, and therefore from the biological aspect more than covers the Algae dealt with in the 'Treatise.' The author has also in preparation a distinct work which will be a complete systematic account, with illustrations, of all the Freshwater Algae (with the exception of Desmids and Diatoms) which are known to occur in the British Islands. This is a task of some magnitude and will still take some time to complete.

An endeavour has been made to be impersonal throughout this volume, but the whole work must of necessity be largely the embodiment of the views of the author.

A chapter has been devoted to the Peridinieae because these organisms are important as 'producers' of organic substance, especially in the marine plankton, and they store starch and oil as food-reserves; moreover, no comprehensive modern account of the group has previously been published in an English text-book. It might be suggested that the Flagellata should have been included in this volume, since the majority of them are also 'producers,' but the immense additions in recent years to our knowledge of these organisms certainly necessitates a separate volume to do them justice.

The greater part of this work deals with the Green Algae. It is to this group that the author has devoted most of his investigations and a number of new details of classification are suggested. The treatment of this group is different from that of the Myxophyceae, Peridinieae and Bacillarieae, being sectional in character. Generalizations are well nigh impossible in such a large group containing so many diverse types, and to set forth an intelligible
Preface

and reliable account of the various forms in a manner which would not
confuse the student, sectional treatment was deemed essential. It must
always be remembered that in the Green Alge taxonomy is intimately bound
up with cytology and life-histories.

The bibliography of the various groups does not pretend to be complete,
but consists only of the works which have been cited in the text. It will,
however, be found to contain almost all the publications of importance which
the student may wish to consult.

There are 271 illustrations comprising 1284 lettered or numbered figures,
of which 681 are from original drawings by the author.

The author wishes to express thanks for permission to reproduce certain
figures to Professor N. Wille of Christiania, to Professor C. A. Kofoid of
Berkeley, California, to Dr F. Børjesen of Copenhagen, to Professor F. Oltmanns
of Freiburg, and to Mr E. N. Transeau of Columbus, Ohio; his best thanks
are also due to Mr W. B. Grove of Birmingham for kindly consenting to read
through the whole of the final proofs.

There has been considerable delay in the publication of this volume,
largely owing to a prolonged illness of the author in 1913–14 and partly
owing to conditions which have arisen as a result of the present calamitous
European upheaval.

G. S. WEST.

THE BOTANICAL LABORATORY,
THE UNIVERSITY,
BIRMINGHAM.
June, 1916.
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ERRATA

Page 96, line 36, for Mereschowsky read Mereschkowsky.

142, to description of fig. 94 should be added ‘from Oltmanns.’

163, line 18, for Schwarda read Schmarda.

168, in description of fig. 97 I and J, for Pteromonas angulosa (Carter) Lemm. read Pteromonas Takedana G. S. West.

169, line 5, for Chlamydomonas giganteus read Chl. gigantea.

194, line 33, for Diplosiphon read Diplosphaera.

206, line 25, for Ch. Nordstedtii read Ch. globosum.

217, in description of fig. 143 I, for P. glanduliferum read P. glanduliferum.

219, line 14, for ‘3 to 6 nuclei’ read ‘4 to 8 nuclei.’

425, line 23, for E. majus read E. major.