TREES: A HANDBOOK OF FOREST-BOTANY FOR THE WOODLANDS AND THE LABORATORY. VOLUME IV, FRUITS

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649488438

Trees: A Handbook of Forest-botany for the Woodlands and the Laboratory. Volume IV, Fruits by H. Marshall Ward

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

H. MARSHALL WARD

TREES: A HANDBOOK OF FOREST-BOTANY FOR THE WOODLANDS AND THE LABORATORY. VOLUME IV, FRUITS

Trieste

CAMBRIDGE BIOLOGICAL SERIES

i.

ξŤ.

•

82

TREES

VOLUME IV

CAMBRIDGE UNIVERSITY PRESS WAREHOUSE,

2

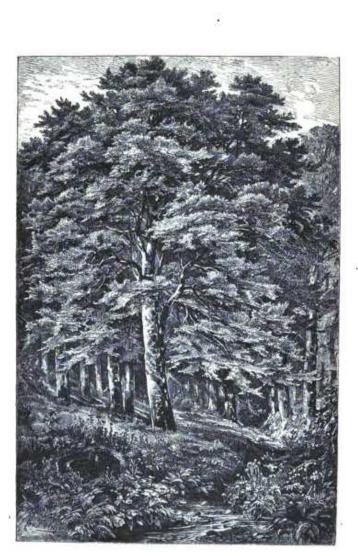
l

C. F. CLAY, MANAGER. London: FETTER LANE, E.C. Thinburgh: 100, PRINCES STREET.



ALSO London: H. K. LEWIS, 136, GOWER STREET, W.C. Reipsig: F. A. BROCKHAUS. Birlin: A. ASHER AND CO. State Soris: G. P. PUTNAM'S SONS. Bembay and Calcuta: MACMILLAN AND CO., LTD.

[All rights reserved]



Fagus sylvatica. Веесн (K).

TREES

A HANDBOOK OF FOREST-BOTANY FOR THE WOODLANDS AND THE LABORATORY

BY THE LATE

H. MARSHALL WARD, Sc.D., F.R.S., Fellow of Sidney Sussex College, Hon. Fellow of Christ's College, and Professor of Botany in the University of Cambridge

VOLUME IV

FRUITS

WITH ILLUSTRATIONS

CAMBRIDGE : at the University Press 1908

EDITOR'S PREFACE

IN seeing this volume through the press my aim has been to leave it as much as possible the Author's own work. The contents have therefore been left undisturbed as regards matters of opinion and terminology: the few and slight alterations made have been such as the Author would certainly have approved, and are not indicated by any square brackets. Only for the facile task of selecting appropriate illustrations must I accept responsibility.

The Author intended to write three volumes in addition to those already published, but unhappily was not spared to complete his full scheme. He, however, left behind sufficient manuscript to make up two volumes. The present volume will, therefore, be succeeded by a final one, which is now in the press.

Certain delay has occurred in publishing the volume owing to the fact that when the task was first suggested to me I was deeply occupied with work which could not be laid aside.

The sources of certain illustrations are acknowledged as in the preceding volumes. Additional figures have been obtained from: Baüme und Straücher des Waldes by Hempel and Wilhelm (H and W); Illustrirte Handbuch der Laubholzkunde by Schneider; Text-book of Botany by Strasburger and others (Stras); Natural History of Plants by Baillon (Bai); Botanik für Forstmänner by Döbner and Nobbe; Die Nadelhölzer by von Tubeuf. To Messrs Hölzel, Gustav Fischer, Macmillan, Lovell Reeve & Co., P. Parey, and Ulmer, the respective publishers of these, thanks are due for courteous permission to publish the illustrations in question.

It is also a pleasure to thank Mrs Marshall Ward for compiling the Index.

PERCY GROOM.

October, 1908.

CONTENTS

PART I, GENERAL

CHAPTE	B			PAGE
I.	THE FRUIT	•0	×	3
11.	CLASSIFICATION OF FRUITS	ŝ	8	11
III.	FRUITS OF LEGUMINOBAR AND ROSACEAE .	¥1		28
IV.	FRUITS OF RANUNCULACEAE, NYMPHAEACEAE, M	[AGN	10 -	
	LIACEAE, ANONACEAE, AND BERBERIDACEAE	ε.		39
V.	FRUITS OF RUBIACEAE	*	36	46
VI.	FRUITS OF CRUCIFERAE AND CAPPARIDACEAE			51
VII.	FRUITS OF URTICIPLOBAR		4	55

PART II. SPECIAL.

				-			- C - C - C							
I.	TA	TAXUS .		23.		S¥	23	36	52	3.0	÷.	\mathbf{x}	63	
II,	CONIFERAE AND ANGIOSPERMAE									<u>;</u> }	2	63		
	A.	Cor	TFER	AE.			19 9 01		2	•	8	2	63	
		(a)	Con	E-SCA	LES I	SPIRAL		*	æ	393	20		65	
		(b)	Con	E-SCA	LES	opposi	TE	÷		39	80	÷	78	
	B.	AN	GIOSPE	RMAR				22			5		78	
		(1)	DEY	FRUI	TS	a a			æ				81	
			(a)	DEHI	SCEN	т.				3.00	83		81	
			(b)	INDE	HISC	ENT	e)	30		100		38	95	
		(2)	FLE	BHY F	RUIT	з.	1243	$\hat{\mathbf{x}}$	37	1.	83	3	118	
		30.65	2*	SIMI	LE 1	RUITS		. A			2	4	118	33
			2**	MUI	TIPL	E OR	Agg	REGAT	E FF	UITS	٠		151	
APP	END	IX.	Box-	TREE		85			14	2.63			154	
IND	X		12			32		\$ 2	\mathbf{x}	343	2	(i	155	