# NATURE SERIES. ON BRITISH WILD FLOWERS CONSIDERED IN RELATION TO INSECTS

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Nature Series. On British Wild Flowers Considered in Relation to Insects by Sir John Lubbock

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# SIR JOHN LUBBOCK

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FIG. 43.



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F1G. 47-



F1G. 48.

# NATURE SERIES.

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ON

# BRITISH WILD FLOWERS

CONSIDERED IN

## RELATION TO INSECTS.

BY

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VICE-CHANCELLOR BY THE UNIVERSITY OF LONDON.

WITH NUMEROUS ILLUSTRATIONS.

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## PREFACE.

IT is not without much diffidence that I venture on the present publication. For though as an entomologist I have necessarily been long familiar with our common wild plants, I had made no scrious study of Botany until recent researches brought prominently before us the intimate relations which exist between flowers and insects. My observations and notes on this subject were originally prepared with the view of encouraging in my children that love of natural history from which I myself have derived so much happiness, but it was suggested to me that a little book such as the present might perhaps be of use to others also.

Sprengel, in his admirable work, "Das entdeckte Geheimniss der Natur," published as long ago as the year 1793, was the first to show how much plants are dependent on the visits of insects, and to point out that the forms and colours of flowers are adapted to ensure, and profit by, those visits. His work, however, did not attract the attention which it deserved, and our knowledge of the subject made little progress until the publication of Mr. Darwin's researches, to which I shall continually have occasion to refer. Dr. Hermann Müller in his "Die Befruchtung der Blumen durch Insekten," has brought together the observations of previous writers, and added

to them an immense number of his own. Many other naturalists—for instance, Axell, Bennett, Delpino, Hildebrand, Hooker, F. Müller, and Ogle, have also published valuable memoirs on the subject, to which I shall frequently have occasion to refer; but to the works of Sprengel, Darwin, and Dr. H. Müller I am indebted in almost every page, and in spite of constant references, it is impossible for me adequately to acknowledge my obligations to them. In the systematic portion, I have followed Mr. Bentham's excellent "Handbook of the British Flora."

As far as possible, I have avoided the use of technical terms, but some were unavoidable; references for these will be found in the Index, and I have also given a Glossary of the technical terms most frequently employed.

I have to thank various friends who have been good enough to assist me, but especially Dr. Hooker and Mr. Eusk, who have been so very kind as to look through my proofs.

In conclusion, I must add that the subject is comparatively new, and many of the observations have not yet stood that ordeal of repetition which they will no doubt experience. While, therefore, I believe that the facts will be found to be in the main correct, the inferences drawn from them must, in many cases, be regarded rather as suggestions than as well established theories. The whole subject is one which is most interesting in itself, and will richly repay those who devote themselves to it.

HIGH ELMS, DOWN, KENT, September, 1874.

# CONTENTS.

										PALIN
LIST OF ILLUSTR	ATI	ons	1		33	200		្នះ	<u> </u>	xi
GLOSSARY .	÷	(8)	34	ŧ	×	99	0	*	-3	XV
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		(	HAI	TE	₹ I.					
INTRODUCTION	<b>5</b> 3	*	ξž	Q.	×	æ	0:	tó	(*)	1
		C	HAF	TER	k II.					
INTRODUCTION-	(Co.	ntin.	ued)		٠	•	(42)	27	ů.	23
		С	HAP	TER	111.					
		DIC	OT	YLE.	DOM	/S.	37			
THALAMIFLORÆ	į.	Ş.	i.	8			100			47

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		c	HAP	TEF	e iv.					PAGE
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