

**A HANDY-BOOK TO THE COLLECTION  
AND PREPARATION OF FRESHWATER  
AND MARINE  
ALGÆ, DIATOMS, DESMIDS, FUNGI,  
LICHENS, MOSSES AND OTHER OF THE  
LOWER CRYPTOGAMIA**

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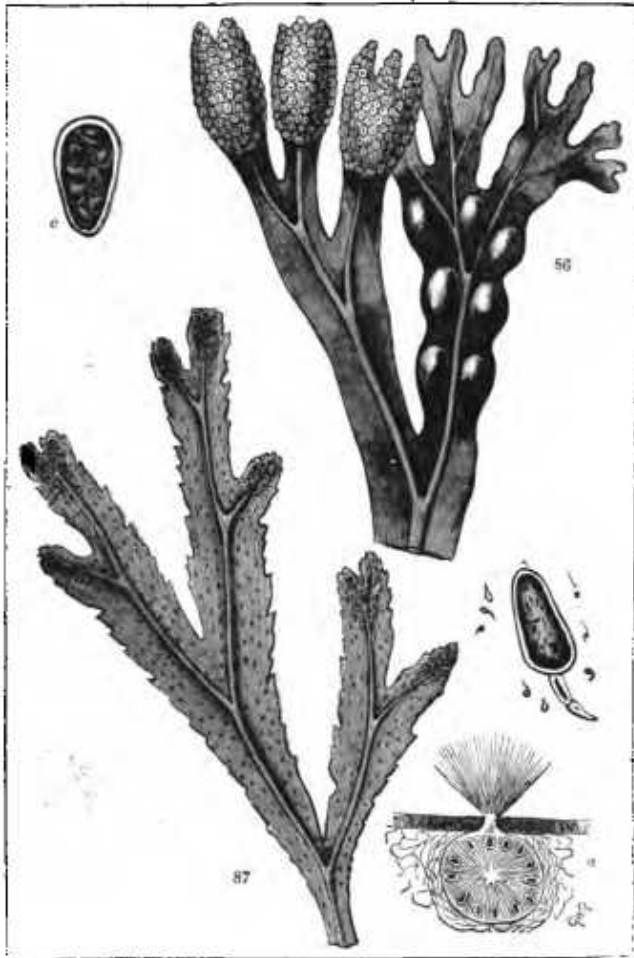
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86. *Fucus vesiculosus*.  
87. *Fucus serratus* a. fertile cell; b. zoospores; c. spores.

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WITH INSTRUCTIONS FOR

The Formation of an Herbarium

BY JOHANN NAVE

TRANSLATED AND EDITED BY

THE REV. W. W. SPICER, M.A.

Fellow of the Royal Microscopical Society



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1867

191. k. 31.

These are Thy glorious works, Parent of good,  
Almighty, Thine this universal frame,  
Thus wondrous fair; Thyself how wondrous then,  
Unspeakable! who sitt'st above these heav'ns  
To us invisible or dimly seen  
In these Thy lowest works; yet these declare  
Thy goodness beyond thought, and power divine.

MILTON.

LONDON  
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## PREFACE.

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OF the convenience and utility of an Herbarium to the Botanist, it is needless to say a word. The first instinct of the student of Natural History is to collect together specimens of the objects to which his attention is directed. Indeed before long he becomes aware of the positive necessity of having by him examples, on which he can readily lay his hand, for reference and comparison. Simple, however, as it appears to be to make an Herbarium, there is no point, respecting which the young naturalist (without experience and without a guide) more frequently violates the most important canons of science. The correct representation of the natural habit of the plant, and the best method of preserving it when found, are the rocks on which the beginner constantly makes shipwreck. Speaking generally, his errors arise from giving either too much or too little attention to the matter. In the first case he looks only to the beauty of the specimen, and its neat appearance in the cabinet. He takes care—too much care, indeed—to lay out the various parts in a manner to please the eye, but without any reference to their natural



position, or true relation to each other. In the other case, he is careless about the preservation of the plant, and neglects the commonest rules, whereby alone it can be saved from speedy destruction. The result, in both cases, is the same. His preparations are untrustworthy and well nigh useless—at any rate, can lay no claim to any scientific value.

The lower Cryptogamia especially, such as the Algæ and Fungi, require a somewhat complicated mode of treatment: so much so, indeed, that many a beginner is frightened from prosecuting his studies, disgusted by the continued failures, which, without a guide to lead him, it was next to impossible for him to escape. And yet so full of beauty and interest are these lowly orders—enchaining the mind and arresting the attention of all, who are deeply engaged in their study, that it seems hard, that any should be debarred from the enjoyment of so much pleasure by mere mechanical difficulties, which, after all, may be easily removed.

As cases of this kind have frequently come under my own observation, I have prepared the following pages with a view to place near the novice in botany an adviser, who may offer him, in a condensed form, some useful suggestions respecting the best methods of collecting and preparing plants for the Herbarium.

I have done this without the intention, or even the idea, of offering to the public anything essentially new, or better than what has been already published;

but because I know how troublesome and difficult it is for the tyro, in the commencement of his studies, to search through numerous works for a description of the method of preparation, which he may chance to need at the time. Here at least I can promise him, that he will find the most important facts contained *in nuce*, to the saving of both his time and patience. And this is the more necessary, because a novice's library is not usually too well stocked with books of reference; and, besides, he is not always in a situation to consult larger and more important works, bearing on the subjects treated of here.

Therefore I launch this little volume into the world, with the earnest wish that its perusal may be of service in lightening the labours and smoothing the path of more than one self-taught botanist.

JOH. NAVE.

The reader will observe, that the chapters into which the book is divided, are of very unequal proportions, and that the greatest prominence is given to the Algæ, which occupy quite one-half of the whole work. This is owing to the extraordinary variety of form and habit, which characterises this family, calling for numerous descriptions of methods of preparation which need not to be repeated.

J. N.

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