

RESEARCHES ON FUNGI

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Researches on Fungi by A. H. Reginald Buller

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A. H. REGINALD BULLER

**RESEARCHES
ON FUNGI**

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AN ACCOUNT OF THE PRODUCTION, LIBERATION,
AND DISPERSION OF THE SPORES OF HYMENO-
MYCETES TREATED BOTANICALLY
AND PHYSICALLY

ALSO SOME OBSERVATIONS UPON THE DISCHARGE AND
DISPERSION OF THE SPORES OF ASCOMYCETES
AND OF PILOBOLUS

BY

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WITH FIVE PLATES AND EIGHTY-THREE FIGURES IN THE TEXT

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TO

WILHELM PFEFFER

UNDER WHOSE STIMULATING GUIDANCE

THE AUTHOR ONCE HAD THE

PRIVILEGE OF STUDYING

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PREFACE

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THESE pages contain a contribution to the physiology, morphology, and physics of reproduction in the Hymenomycetes, and also a record of some observations upon the discharge of spores of Ascomycetes and of Pilobolus. Naturally many problems have been left unsolved, but I hope that the new data obtained will give an added interest to some of our commonest plants. The delicate adaptations of structure to function, as revealed by a study of the fruit-body of a Mushroom, a *Coprinus comatus*, or a Polyporus, have provided me with no small cause for wonderment and delight, and they seem well worthy of the attention of all those who desire to understand more fully the vegetable world by which they are surrounded. The value of the more purely physical work must be left to physicists to decide. However, as showing how closely the various branches of science may be knit together, it is not without interest that the first direct test of Stokes' Law for the fall of microscopic spheres in air has been carried out with the help of a lowly Cryptogam.

The research, which has occupied five years, was preceded and suggested by a systematic study of fungus species in the field, in which I was much assisted by Geo. Masee's *British Fungus Flora*, and M. C. Cooke's *Illustrations of British Fungi*. During the winters the experimental work was carried on in my own laboratory at the University of Manitoba, and during the summers in the Physics and Botanical laboratories at the University of Birmingham. I have much pleasure in expressing my best thanks to Professors Poynting and Hillhouse for the facilities accorded me. I also wish to acknowledge my indebtedness to Dr. Guy Barlow