

PREFACE

This volume has had a somewhat chequered history. No major work on the rust flora of the British Isles, other than Wilson and Bisby's *Checklist*, has appeared since W. B. Grove's volume in 1913. Prior to his death in 1938, Grove intended to write an addendum to his *British Rust Fungi*. For several years before the Second World War, Dr Malcolm Wilson worked on a revision of Grove's book, but the stress of wartime and heavy teaching commitments stopped the project. After 1947 Dr Wilson decided that, in fact, a new book was required and after his retiral in 1951 he devoted much of his time to this task. He worked largely on a partially revised typescript of Grove's volume which he had prepared. At the time of his death in 1960 he had completed some two-thirds of the accounts of species and had collected notes for the rest of the work.

In 1960 I undertook to complete the text. In the course of this I have also revised some parts and rechecked all the references. I have also thought it valuable to provide keys to some major rust groups—the genus *Phragmidium*, rusts of *Compositae*, *Gramineae* and *Carex*.

The scope of introductory matter has been difficult to decide. Malcolm Wilson had already decided to leave out a discussion on phylogeny which was prominent in Grove's text. The Introductory Chapter is designed solely to enable the student to have at hand an outline of soral structure and life cycles. For more detailed studies and accounts of physiological races, cytology, etc., he must seek elsewhere; there are enough topics in these subjects to fill a companion volume at least as large as this present one.

A few of the illustrations (all reproduced $\times 660$ unless otherwise stated) have been redrawn from other texts; the rest have been prepared from British collections in the herbarium of the Royal Botanic Garden, Edinburgh. The arrangement of genera follows our concept of a natural classification of these genera of temperate climate. Within large genera, e.g. *Puccinia* and *Uromyces*, the species are arranged according to the host family on which the teleutospore stage develops. This system is susceptible to criticism but for a flora of as restricted a geographical area as the British Isles it serves quite well; a rust flora of the north temperate hemisphere might be treated somewhat differently. The order of host families used is that in the second edition of Clapham, Tutin and Warburg's *Flora of the British Isles*. The nomenclature of native British hosts follows the same work except for a few more recent alterations.

The species concept we have tried to apply owes much to Ivar

Jørstad's work on rusts. We fully realise the extent to which rust taxonomy is susceptible to the taxonomy of their hosts, nevertheless the recognition at specific rank of morphologically distinct taxa, parasitising single host families, seems still to lead to the most workable species concept. Moreover, we recognise that, for example, the genera *Uromyces* and *Puccinia* are at many points unnatural but their proper revision cannot be undertaken in what is only a 'local' flora. It has also been necessary to restrict notes on subspecific categories to varieties and formae speciales, the intricacies of race structure and genetics of economically important rusts are outwith the content of this book.

In questions of nomenclature and synonymy *Enumeratio Uredinearum Scandinavicarum* by Hylander, Jørstad and Nannfeldt has been of great assistance. Only synonyms which have been used in works on British rusts have been listed. According to the latest *Code of Botanical Nomenclature* only names based on teleutospores are valid. Where I have felt it necessary to include an invalid name in synonymy I have enclosed it in square brackets or when a combination has been based on an invalid name the authority for the invalid name in square brackets. Also, when spore stages of a species have been well described abroad but have not been recorded in this country short descriptions have been included in square brackets with the hope of stimulating search for them by British mycologists. Although many ill-authenticated host records have been checked and discarded or definitely confirmed there is still a small hard core of doubtful host records. I have rather freely enclosed all host names for records, which I regard as not properly confirmed, in quotes.

This book could not have been written without the help and encouragement of many mycologists. In addition to a long succession of students and colleagues in Edinburgh, Malcolm Wilson was particularly indebted to E. A. Ellis, Esq., W. G. Bramley, Esq., Dr L. Ogilvie, the late G. R. Bisby, Kew, Mrs M. R. Gilson, Prof. E. A. Muskett, Belfast, Prof. J. Macdonald, St Andrews, and Dr Mary Noble, Edinburgh. My thanks are due to Dr R. W. G. Dennis, for advice and encouragement at Kew, to my assistant, Miss H. Prentice, for checking references and to many colleagues for advice and discussion. Dr C. E. Foister nobly undertook the preparation of the index. Dr H. R. Fletcher, Regius Keeper of the Royal Botanic Garden, Edinburgh, has encouraged the whole project. To the family of the late Malcom Wilson my deepest thanks are due for entrusting me with the completion of that fine mycologist's major work. The book will stand as a memorial to him.

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