

Book Review

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Illustrated genera of smut fungi. Second edition.

APS PRESS, The American Phytopathological Society – St. Paul, Minnesota, 2002,
(I-XIV) 238 p., 98 figures containing 422 illustrations.

ISBN: 0-89054-297-X, price: 69 USD.

The first edition of this book was reviewed in CM 43/4, 1989 by Z. Pouzar. Last year this famous book was newly edited.

Comparing the present edition with that of 1987, it is evident that it has been significantly enlarged and actualised. The author is at present the most recognised specialist and expert on the taxonomy of smut fungi, as his numerous papers especially from the past years show. In this new edition he uses his lifelong experience and knowledge. He characterises the genera with the help of results of the latest studies and completes the description by objective tables. Compared with the previous edition that contained the description of 55 genera, this edition presents 89 genera, 77 of which are accepted and 12 are considered doubtful or have been excluded from the smut fungi.

The book consists of a substantially reworked and extended introduction and a principal part that contains descriptions and illustrations of smut fungi genera in alphabetical order.

Starting with a brief historical review of the classification of smut fungi, the author arrives to the present state of knowledge of this group of parasites. New characters obtained by the study of the ultrastructure of septal pore and host-parasite interaction zone are presented graphically and well-arranged. These characters and the results of molecular analyses of sequence NA are used to construct a phylogenetically based classification of smuts. An incorporation of smut fungi into the new system of classification of basidiomycetous fungi is presented. From the orders of the class Ustilaginomycetes only the smut fungi with teliospores are included in the book. However, the order Microbotryales belonging to the class Urediniomycetes is also presented in the book.

A separate chapter is dedicated to the special problems of classification and nomenclature that have arisen lately. Using the examples of individual groups of smut fungi the author points out that newly obtained data leading to the phylogenetically based classification are permanently accumulating. Several special keys to the genera of the groups under discussion are presented. They are based on the main differentiating characters of these genera. This classification will of course be further developed as new knowledge is obtained.

In the following chapter Vánky summarises the knowledge on specialisation of smuts to the host plants. Most species are parasites on grasses. The chapter enumerates the monocotyledonous and dicotyledonous plant families and the number of smut genera living on them.

Very important is the enlarged key to the genera of smut fungi. Also additional parts of the book as a glossary, abbreviations and a list of references are very helpful.

In the main part of the book, the reproductions of the author's own drawings unfortunately do not have the quality of the previous edition. On the other hand, some microphotographs in this edition were replaced by better ones. Completely new tables illustrating the description of newly included genera are presented.

The book is the best manual of smut fungi, and an essential work for mycologists, plant pathologists and students all over the world.

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