Book review

H. L. Barnett & Barry B. Hunter:

Illustrated Genera of Imperfect Fungi. 4^{th} Ed.

APS Press, St. Paul, Minnesota, USA, 1998, 218 p., ISBN 0–89054–192–2.
(The book is deposited in the library of the Society.)

The book "Illustrated Genera of Imperfect Fungi" by H. Barnett was for a long time a very useful manual of a large group of conidial fungi. Its third edition was published in 1972. In the new, fourth edition Barry B. Hunter has included several additions: a general introduction to the imperfect fungi, a simplified key to common fungal genera and 24 photos (mainly scanning electron micrographs).

The book is devided into an introductory section and two parts. The introductory chapter deals with the major group of imperfect fungi and their importance in the biosphere. It is followed by rather short chapters on cytological and morphological features and on factors affecting growth and sporulation.

The first part ("Physiology") is short, too. It covers methods of isolation, culture media, maintenance, nutrition and examples to illustrate some biological principles. The latter chapter is very interesting for student practices.

In the second part ("Taxonomy and identification"), the old Saccardoan system of four form orders is followed: *Moniliales, Sphaeropsidales, Melanconiales* and *Mycelia Sterilia*. Members of the *Mucorales* (*Zygomycetes*) are also included because of their similarity to some imperfect fungi. In this part separate keys of each of the five orders are presented. These keys are followed by the newer Hughes-Tubaki-Baron system of classification completed with an alternate key based on the mode of conidial formation and with scanning electron micrographs. The photos are practical and apposite. Unfortunately, the term "aleuriospore" is treated, for a long time widely used in various senses, but at present considered a confusing term. On the other hand, new terminology connected with this group of fungi (i.e. mitotic fungi, anamorph, teleomorph) is lacking.

The most important chapter of this book is "Description and illustration of genera". This part covers over 400 genera. In contrast to the 3^{rd} edition, some infrequent fungal genera were omitted. Each genus account includes a short morphological description, drawings and references. In this basic chapter, however, some shortcomings are visible. For example, an alphabetical ordering of genera (or another type of arrangement) within the individual orders (or other groups) would have been very useful. Some drawings are not too reliable, e.g. in the picture of *Aureobasidium* hyaline conidia are missing. Although data on teleomorphs are given in some genera (e.g. *Chromelosporium*, *Chalara* and *Sphaceliа*), they are missing in others (*Botryotrichum, Sporothrix, Scopulariopsis, Trichophyton* etc.). Several taxa are listed under old names, although they are not accepted today (e.g. *Cephalosporium* instead of *Acremonium*, *Monilia sitophila* instead of *Chrysonilia sitophila, Fusoma* — doubtful name). Very frustrating are the references. Literature references from 50^{th} to 70^{th} are prevailing. However, in the past twenty years an extensive development has been observed in this area. Many recent and even less recent references were omitted (monographs on *Acremonium* and *Verticillium, Penicillium, Aspergillus, Fusarium* etc.). Also some other errors can be found in the book: in *Penicillium* the same reference is mentioned as in *Aspergillus*, *Nodulisporium* is referred to as *Nodulosporium*, *Papulaspora* as *Papulospora*. The book is completed with a very useful glossary with examples of fungi.

Comparing this book with the similar "Genera of Hyphomycetes" by Carmichael et al., there are apparent differences in the extent of information and drawings, which are more detailed and successful in Genera of *Hyphomycetes*.

Despite the above mentioned criticism, the book is a practical identification guide and will provide significant basic information to all friends of microfungi. The unique combination of micromycetes belonging to different groups (*Zygomycetes*, mitotic forms of *Ascomycetes* and some *Basidiomycetes*, too) as well as listing both saprotrophs and parasites is very useful for users, because they are often specialized in a particular taxonomic or ecological group of fungi.

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