Reprinted from MYCOLOGIA, Vol. LXIV, No. 4, pp. 932–934, July–August, 1972
Printed in U. S. A.

Dematiaceous Hyphomycetes, by M. B. Ellis. 608 p., 419 fig. Commonwealth Mycological Institute, Kew, England. 1971. $15.60.

The uninformed might be expecting a 600-page condensation of the approximately 700 pages of Mycological Papers the author published in the period 1953–1968. The reality is quite otherwise, and most helpfully so. The earlier papers treated about 70 genera, some in essentially monographic form, others almost in passing in the form of novel species or combinations. The present volume quadruples to 295 the number of genera for which we now have this specialist's descriptions and illustrations, all introduced in a diagnostic key of 11 pages which, at first glance, is intimidating in its unrelenting progression. The initial feeling of awe diminishes on realization that most of the key terms are familiar ones and that new terms are defined and illustrated in the text.

The book is intended as an aid to the identification of a large number of common and quite a few uncommon hyphomycetes with dark conidia

or conidiogenous elements. The user will discover immediately that his Saccardoan sense of generic relationships is only of minor help if he attempts to make determinations by browsing through the text and illustrations, excellent as they are. Genera with helicoid conidia, for example, are scattered through the book, as also are those generally characterized as being synnematous. The arrangement of genera, as a matter of fact, is based to the greatest extent possible on interpretation of the fundamental nature of conidiogenous cells and of conidium ontogeny. An understanding of the author's introductory definitions of terms and a considerable degree of facility with his generic key therefore are essential to efficient use of the volume for identification purposes.

It should be noted in passing that this is only the second major handbook presentation we have of a large number of genera defined within a conidium-ontogeny classification (preceded by G. L. Barron's "The Genera of Hyphomycetes from Soil"). Hence a reading of the recently published "Taxonomy of Fungi Imperfecti" (ed. B. Kendrick, U. Toronto Press, 1971) is recommended highly, in that this latter volume, a record of conversations held in 1969 on criteria and terminology in classification (commonly referred to as the Kananaskis Conference), adds flesh and weight to the precise but skeletonized definitions used by Dr. Ellis.

Expansion beyond the genus level yields a vast array of species descriptions and illustrations. The degree of coverage of different genera varies considerably, but with reason. *Cercospora,* for example, is represented solely by its type species; this fixes the genus within the context of a classification based on conidium ontogeny but serves notice through references that a monograph of the genus exists and that current revisionary works are available. *Aspergillus* likewise is introduced into the classification primarily through a description of *A. niger.*

Genera which the author himself has treated elsewhere in semi-monographic form usually are represented by a selection of the species most commonly accessioned at the C.M.I. For example, the 64 species of *Sporidesmium* described and illustrated in Mycological Papers are represented here by a selection of twelve. In another approach to generic coverage 15 of the common species of *Cladosporium* are keyed and described, a welcome offering for a genus encumbered with 500 published names but for which no comprehensive monograph exists.

It would be a misconstruction of the author's purpose, certainly, if the volume were used as a definitive catalogue of the species he accepts in any but the smallest genera. The intent has been to illustrate the

included genera by the species most likely to be encountered or simply by the type or one or two representative species supported by citations of current authoritative work. The achievement of this purpose is remarkably effective.

Some specialists will feel inclined to debate the taxonomic meaningfulness of occasionally applying a consolidated form-genus concept to the several imperfect states of quite diverse ascomycete genera, e.g., *Cladosporium* states of species of *Amorphotheca* (Eurotiales), *Mycosphaerella* (Dothideales), and *Venturia* (Pleosporales). Regardless of utility in identification work, the evolving conidium-ontogeny approach to hyphomycete classification will be disappointing unless it manages in some way to be analytic enough as to reflect to a considerable degree the presumed natural relationships or distinctions among connected perfect states.

It is possible to locate a few typographical errors and rarely a questionable literature citation or a name of disputable legitimacy. However, it would be trivial to dwell on these here, although no specialist would or should omit looking for them at least within his own groups of concentration. At the same time, but with less trivial import, each individual having special competence with a genus included here would be doing our discipline a service by testing his material step by step against the author's generic keys, using each key term as it is defined in the text. In view of the generous coverage of the volume, this seems an appropriate point in the introduction of conidium-ontogeny classifications to enter into dialogue with one of the major proponents of the system if, in fact, good material comes to a bad end in his keys. If the presentation and definitions pass considerable critical examination, as expected, we will be approaching a new comprehensive classification of the Hyphomycetes, both well-reasoned and usable.

In summary, Dr. Ellis reveals to us in one package his observations on a major number of the genera and several hundred species selected from the many thousands of hyphomycetes he has identified authoritatively over the past 25 years. The conciseness of description and precision of illustration are models of usefulness. Although this is a magnum opus with overtones of finality, it is encouraging to note that the author already is continuing his series of shorter papers on the same group ("Dematiaceous Hyphomycetes. X." appeared during the preparation of this review) and that a system of serial numbers assigned to genera permits later observations to be keyed and considered in their appropriate places in the book.—EMORY G. SIMMONS.