

BOOK REVIEWS

C o r n e r, E. J. H. A monograph of *Clavaria* and allied genera.  
Annals of Botany Memoirs No 1, xv &  
740 pp., 298 figs., 16 col. pl. 1950.  
Oxford University Press. Price £ 5.5.

This is, I believe, the most important single contribution in the field of *Hymenomyces* for years. The author was attracted to the group commonly known as *Clavariaceae* as early as 1925 when in England; he continued his studies when working on the staff at the Singapore Botanic Gardens and after his return to England. He got the conviction that before science could undertake a wholesale revision of the present classification of *Hymenomyces*, the larger constituent groups should be worked over, one at a time, and 'their particular kind of fruit-body described in terms of hyphal properties', and that to omit the tropical element would mean certain failure. Thus, the aims of this admirable volume become clear: a large number of species of "*Clavariaceae*" are described in an exemplary manner as to their hyphal structure after the living state, and about all that is known about the group and its species was compiled so that the often quite inadequate tropical library has to a large extent become superfluous.

This is one of the rare occasions on which we find that an author's field knowledge of a group is based rather on tropical than on European or North American material. The author combines with an exceptional tropical field experience, the insight of an agile mind and a great artistic skill for drawing. It might be regretted that he neglected the many and scattered poor specimens in the European and American herbaria that served as a basis for the already described species, but it is fair to point out that, as stated, this side was not his primary object and that it is unreasonable to ask for everything. The result is an imposing book that will serve as an absolutely indispensable guide for every future student of the group. We hope that it will be extensively used by collectors in the tropics, who now can pay attention to a group about which they can instruct themselves at their own will and according to their needs.

Following a highly interesting and certainly also thought-provoking description of the clavarioid fruit-body, is a section in which the separate genera are dealt with as to their structure and natural affinities. The next and largest section is a monographic treatment of the genera and their species in alphabetical order. In the first place the author describes the species he has studied himself, but all of the many species unknown to him from experience have also been incorporated. This latter category has been distributed over the recognized genera as well as could be expected from their quite often very poor descriptions whereas keys were prepared in which they have also been incorporated. Numerous most excellent text-figures add to the understanding of the structure and other microscopical details. The fifteen coloured plates will be of great help to the collector for learning what to look for.

It is not very well possible to point out all the merits and original ideas that went into this work. Let it suffice to mention that the

"Clavariaceae" are divided into a number of series which often are not considered related, or the mutual relations of which are not yet quite clear. Some very remarkable new genera are described and many of the genera accepted by some of the recent workers in this field are thoroughly modified. Many new species are described. Many unsolved questions are indicated.

This book will undoubtedly stimulate work in this group and it may be hoped that these attractive fungi will be chosen by an increasing number of amateurs, in the tropics and elsewhere, as a special branch to pay their attention to. They now get their opportunity.

M. A. Donk.

H e n r a r d, J. Th. Monograph of the Genus *Digitaria*.  
xx+999 pp.; with many figures.  
Leiden, Universitaire Pers. Price Fl. 60.- net.

This magisterial work is worthy of high praise. It embodies the result of critical work on *Digitaria* during many, many years. Since a considerable number of Malaysian species are treated here, the work is certainly of importance to students of the Malaysian flora and will, in general, undoubtedly stimulate further interest in and knowledge of this extremely difficult genus. There can hardly be an agrostologist, who would not find much that he never noticed before.

The main contents of the book are divided into two chapters. The first contains a critical revision of all described *Digitaria* species. This occupies 840 pages and includes more than 500 names, a large number of which, accepted by earlier writers, are reduced to varietal rank or shown to be synonyms. The species in this part are all treated on a uniform plan in alphabetic order, no matter their validity: *verbatim* citation of the original description, quotation of available literature the whereabouts of the type specimens, and various data from the type sheet, followed by critical observations and notes, concluding with the name the species has to bear in Henrard's opinion.

The chapter is also provided with numerous illustrations. They represent spikelets and fruits and are drawn from every type, studied by the author and brought together from numerous herbaria all over the world. They form an invaluable collection of skilfully executed figures indispensable for every student of the genus. The whole is a monument of critical research, patient investigation, and infinite labour.

The second chapter of 185 pages contains a systematic treatment of the genus. This is not executed in the usual way by giving a complete description with synonymy, distribution, and habitat. Here it takes the form of an extensive identification table, or elaborated key, beginning with a conspectus of subgenera, sections, and series. Here the author's wide knowledge and experience are displayed to full advantage. The mastery of the characters of so many described units and their arrangement in a workable scheme is one of the outstanding features of this monograph, which has only one drawback; the want of a general Index. If

this second part could be reprinted, issued separately and be provided with an Index, it would be a great convenience, even for those who may possess the whole work.

Dr Henrard has done for *Digitaria* what he formerly did for *Aristida*. He reduced chaos to order in producing one of the most important additions to the literature on grasses in several decades.

P. Jansen

Merrill, E. D.: Index Rafinesquianus The plant names published by C. S. Rafinesque, with reductions, and a consideration of his methods, objectives and attainments.

vi + 296 pp., 1949. The Arnold Arboretum of Harvard University, Jamaica Plain, Mass., U.S.A.

This beautifully bound and printed book consists of a Preface and Table of Contents (pp. ix), an Introduction (pp. 1-64), the Index to Rafinesquian names (pp. 65-244), and an Index to the whole work.

It cannot be my purpose to review the Index Rafinesquianus as regards its meaning to American botany, though, even on idly turning the pages of the Index proper, I was deeply impressed by this great achievement, a lasting and undeniable testimony of Merrill's extraordinary ability as a bibliographer, a research worker, and a botanist. This work alone would place any man among the leading authors on our science were it the work of a lifetime. Actually, it is but the crown on a long series of standard works, treasured possessions of those so fortunate as to own them.

The Introduction, however, is of importance to all students of taxonomy.

In some ways, it is a discussion of contemporary views on nomenclature and a statement and defence of Merrill's ideas. Apart from his strongest arguments — his results — Merrill's points are made in a spirited though detached manner which makes his reasoning all the more compelling. Now, in the light of what was decided at the recent Congress, his remarks are still more telling: they were, in a remarkable way, subscribed to by the large majority of international taxonomists.

Naturally, there is a tendency among botanists to consider Index Kewensis as the last word in matters of published names. It is a chastening experience to read that even a work of the quality and standing of the Kew Index contains no reference to nearly 4000 names published by Rafinesque and to a number of other names, indicated by Merrill. The lesson to be learnt from this is first of all that Index Kewensis should stimulate our bibliographic research, not stifle it and, secondly, that every taxonomist discovering unlisted names should supply these to the Editors of Index Kewensis.

The main contents of the Introduction is a successful effort to trace a scientist's psyche and the traits of his personality influencing his writings and research. This leads to a better understanding of his

results and so to a truer appreciation of his meanings. The introduction contains also many historical data, on early American herbaria, on erratic or even erring taxonomists, and the like. The introduction is very attractive as an example of lucid, essentially scientific thought and style. I have added it to my list of somewhat less than two dozens of masterly essays and works in the botanical literature of the world which every taxonomist must read and assimilate.

H. C. D. de Wit.

H o l t t u m, R. E. The Zingiberaceae of the Malay Peninsula.  
The Gardens' Bulletin Singapore B<sup>I</sup> (1950) 1-249; 33  
figs.

Professor Holttum's book on the *Zingiberaceae* has appeared as part of the Gardens' Bulletin. It will not fail to attract wide attention.

The *Zingiberaceae*, a family of rare beauty, have been rarely studied with some thoroughness, mostly, I think, on account of the difficulties arising from the near impossibility of preserving suitable herbarium specimens. Until now, taxonomists obliged to name Zingiberaceous specimens from Malaysia, were able only in a few cases to suggest a specific name and even a generic identification was sometimes little better than a guess.

Mr Holttum found J. Th. Valetton's work (a systematist working at Buitenzorg, 1892—1913), valuable as a basis for further research; in addition he could rely on the examination of living representatives of nearly all genera and annotated alcohol material assembled by Mr E. J. H. Corner (1930—1940).

The work begins by a careful investigation into the morphology of the family as a whole; rhizome, leaf-shoot (false-stem), inflorescence, and flowers. The systematy of the family is different from Schumann's (though his two subfamilies, *Zingiberoideae* and *Costoideae*, are accepted) because the *Zingiberoideae* are now divided into three tribes: *Hedychieae* (including *Zingiber*), *Globbeae*, and *Alpinieae*, the latter representing Schumann's *Zingibereae*, without *Zingiber*. I wonder whether the tribal name "*Hedychieae*" can be maintained in view of the recent changes in the Rules. The tribes are subdivided by characters of the inflorescence and bracts.

The phylogeny of *Zingiberaceae* is defined as a common origin with the *Liliiflorae*, monophyletic and, in support to Engler, 'from a tall rhizomatous plant of the aspect of *Dracaena*, with a branched terminal inflorescence having the ultimate branch-systems cymose, a plant of the tropical evergreen forest within the Malaysian region.

In the Malay Peninsula 150 species are recognized.

The genera are closely considered and described with great care; it is worthy of notice that Professor Holttum often recognizes several varieties within species, which were described originally as good species. The synonymy is indicative of numerous superfluous names in the family. The new species are comparatively few (*Globba 1*, *Zingiber 2*, *Hedychium*

1, *Scaphochlamys* 7, *Cenolophon* 1, *Plagiostachys* 1, *Achasma* 1, *Geostachys* 3; total 17 or 11 %). The name *Boesenbergia* O. K. is reinstated for *Gastrochilus* Wall.), and one new genus, *Haniffia*, is proposed. The number of new combinations is large, due to a better delimitation of formerly unduly extended genera. It would seem that Professor Holttum was inclined to admit in this family a wide species concept (while allowing varieties), and felt that the generic limits might be narrower than they were usually thought to be. The keys are clear and well constructed but will demand, in many instances, living material or reliable collector's notes. The descriptions are certainly not too long.

The botanists of the Malay Peninsula are to be congratulated to be able to add this masterly treatment to their libraries. It is a long desired revision and fills a gap in our taxonomic literature in a most satisfactory manner. The difficult task of independent critical and fundamental research into the *Zingiberaceae* resulted in many new views and appreciations and yet left traditional concepts to a large extent intact thus avoiding all unnecessary disturbance. A revision of the *Zingiberaceae* of the whole of Malaysia, done in this exemplary manner, now seems more urgent and more desirable than ever before.

H. C. D. de Wit.