

Book reviews

Kenneth M. Smith: A textbook of plant virus diseases. Longman, London, third ed. 1972; 648 pp., 115 figs., 70 pp. of bibliography, index of host plants, subject index; cloth bound, dust jacket; price £ 10.00 net.

The amount of information on plant virus diseases and the causative viruses is developing almost explosively. Thus there is a great need for easily accessible surveys of data. In earlier years Smith's textbook (first edition, 1937; second edition, 1957) covered the field excellently. Since the 1957 edition a mass of new information has become available and the author has now tried to incorporate as much of this as possible in this latest revision of his textbook.

The diseases are arranged alphabetically according to the common names of the viruses. Synonyms are listed and concise descriptions are given of the causative viruses (transmission, properties in plant sap, and nature of the virus particles if such information is available); also differential and other hosts and the diseases caused, together with data on strains geographical distribution and means of control.

Unfortunately, artificial and natural hosts are not clearly distinguished. Mostly both are listed under 'diseases' or under 'diseases and host range'. Especially in the first case the listing of symptoms in artificial hosts may suggest natural occurrence in that host. Moreover, susceptible families and genera are arranged disorderly, making the tracing of information somewhat hard with polyphagous viruses like cucumber mosaic virus (p. 237).

In a work covering such an extensive field it is scarcely to be expected that research workers with special knowledge of particular groups would not find points with which they would not agree. For example, the reviewer, who has worked with several legume viruses, has noted that on p. 65 the (broad) bean leaf roll virus (described by Quantz and Völk, not Quanz and Volk) is mentioned as occurring only in West Germany, Belgium and Holland. It has also been officially reported to occur widely in England, France, Czechoslovakia, Spain, Iran, New Zealand and perhaps Australia. The very confusing name pea leafroll virus (p. 361) is evidently a direct translation from the German 'Virus des Blattrollens der Erbse' (Musil, 1966). Later, in a more detailed description, it was named 'pea leaf rolling mosaic virus' (Musil, 1970). The possibly identical pea seed-borne mosaic virus was described by Inouye (not Mouye).

Anemone mosaic, perhaps caused by turnip mosaic virus, but according to Hollings (1957) by a special anemone mosaic virus, is not mentioned on p. 559. It would seem that at a late stage a description of the anemone mosaic virus may have been omitted, since a photograph showing its local reaction in *Chenopodium amaranticolor* (Fig. 7c) is reproduced on p. 28.

A constant problem in plant virus work is which viruses are distinct entities and which are merely strains of some other virus. Our knowledge in this field is continually improving and no textbook can remain up-to-date in it. Nevertheless there are some established close relationships, or even possible identities, which have not been mentioned in Dr Smith's book, such as those between apple mosaic, rose mosaic and *Prunus* necrotic ringspot viruses, between *Agropyron* mosaic virus and wheat streak mosaic virus, and between pea mosaic virus and bean yellow mosaic virus.

Many illustrations are not very representative (e.g. Figs. 14A, B; 85 A, D; 115), others do not present any relevant information (Figs. 15, 50, 55), and the photographs have been very erratically distributed, often far from the text concerned.

The task of compiling a reference work of the size of this latest revision of Dr Smith's textbook is so great that omissions of the kind mentioned are scarcely surprising. Nevertheless, the book contains an immense amount of information assembled and arranged to facilitate rapid reference. There is no doubt that research workers will make frequent use of the book as providing a starting point for reading about any virus, new to them, with which they may have to work. The book will also be a valuable reference work for agricultural advisers, lecturers and students.

L. Bos

G. H. Boerema and M. M. J. Dorenbosch: The *Phoma* and *Ascochyta* species described by Wollenweber and Hochapfel in their study on fruitrotting. Studies in Mycology No 3; 50 pp., 4 plates (29 figs), 2 figs., 1 table, 153 refs., index; Centraal Bureau voor Schimmelcultures (CBS), Baarn, 1973.

H. A. van der Aa: Studies in *Phyllosticta*. Studies in Mycology No 5; 110 pp., 12 figs., 1 table, 134 refs., index; Centraal Bureau voor Schimmelcultures (CBS), Baarn 1973.

The genera *Phoma*, *Ascochyta* and *Phyllosticta* are important but difficult genera for plant pathologists. They are unnatural and poorly defined taxa comprising fungi of different relationships. Host specificity played an important role in the taxonomy of these fungi but now appears to be of less importance. Many species has been described, not all fit properly in these genera nor are correctly named. Hence it is very fortunate that two papers were recently published in the new CBS – series 'Studies in Mycology', significantly contributing to the urgently needed clarification of this confusing situation.

The paper by Boerema and Dorenbosch is a review of the species concept and nomenclature of 16 *Phoma* and *Ascochyta* species described from rotting fruits by Wollenweber and Hochapfel in 1936. It is based upon a profound study of fresh isolates, herbarium material and literature. The identity and nomenclature of these 16 species are discussed in the first part of the paper. In the second part the 13 species accepted by Boerema (*Phoma betae*, *P. cava*, *P. destructiva*, *P. exigua*, *P. fimeti*, *P. glomerata*, *P. lycopersici*, *P. macrostoma*, *P. pomorum*, *P. putaminum*, *Ascochyta fabae*, *A. pisi* and *Stagonospora samarorum*) are described. Characteristics for recognition on agar media are given, which are illustrated by good black and white photographs. A large fold-out table with differential criteria of the 10 accepted *Phoma* species at the back of the work is very handy and allows rapid consultation.

The monograph by Van der Aa delimits the genus *Phyllosticta*. In this genus over 2000 species have been described. Van der Aa delimits the genus to species sufficiently related to the type species *P. cruenta*. All other species are placed in other genera and will be described in a subsequent paper. The accepted species are distinguished by structure or form when growing on the natural substrate and in pure culture under well-defined conditions. The author accepts 46 *Phyllosticta* species. A key to these species and detailed descriptions are given. The genus *Phyllostictina* is considered synonymous with *Phyllosticta* and a checklist of all 84 *Phyllostictina* species described is added to the work. In the first chapter a general discussion on history, material and methods, and a description and delimitation of the genus and its perfect state (*Guignardia*) are given.

The authors are to be congratulated with their excellent contributions and encouraged to continue their useful work on making the above and related genera of the Sphaeropsidales better accessible.

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