# Book review

E. Kurstak (Ed.). Handbook of plant virus infections. Comparative diagnosis. Elsevier North-Holland Biomedical Press, Amsterdam/New York/Oxford. XIV + 943 pp. With tables and illustrations, references at the end of each contribution, 9 pages of general index. Cloth bound. Price US $ 192.75/Dfl. 395.00.

Since Brandes and Wetter (Virology 8: 99-115, 1959) made the first attempt to classify plant viruses according to particle dimensions, plant virologists have been working towards a classification system by using not only particle dimensions, but also many other intrinsic properties, of which, by using modern analytical methods, more and more data became available during the last two decades. At present 23 plant virus groups and two families have been approved by the International Committee on Taxonomy of Viruses. Seventeen of these groups have approved names, whereas the remaining 6 still are awaiting approval of their names.

In this book a review is given of the present status of how, and on which principles more than 400 plant viruses are grouped. Detailed data of both biological and intrinsic properties are collected from a vast amount of literature (c. 4000 references).

The book is divided into 27 chapters. Quite logically, Part I contains an introductory chapter (1) on the history, present status and future prospects of virus classification in general and on plant virus classification in particular. Part II consists of 14 chapters, each of which gives a survey of one of the groups of non-enveloped RNA plant viruses: Maize chlorotic dwarf virus (2), Tymoviruses (3), Tombusviruses (4), Southern bean mosaic virus (5), Tobacco necrosis and satellite viruses (6), Luteoviruses and yellow diseases (7), Comoviruses (8), Nepoviruses (9), Pea enation mosaic virus (10), Cucumoviruses (11), Bromoviruses (12), Ilarviruses (13), Alfalfa mosaic virus (14), and Reoviruses (15). Part III deals with the enveloped RNA plant viruses: Rhabdoviruses (16) and Tomato spotted wilt virus (17). Part IV is dealing with the various groups of elongated RNA plant viruses: Tobraviruses (18), Tobamoviruses (19), Hordeiviruses (20), Potexviruses (21), Carlaviruses (22), Potyviruses (23), and Closteroviruses (24). Part V consists of the groups of DNA plant viruses: Caulimoviruses (25) and Geminiviruses (26). Part VI is a chapter on viroids (27). The authors (40 in total) are all well-known specialists in the subjects of the various chapters.

The virus groups vary greatly with respect to the numbers of viruses they comprise. In some chapters only one virus is described (viz. Pea enation mosaic virus) whereas other chapters deal with large numbers of viruses which consequently have to be described (and compared) only briefly, e.g. Potyviruses (34 members and 41 possible members). This as well as the fact that not all groups have been studied equally extensive has resulted in an enormous pluriformity in the chapters as to their contents and composition and the terminology used. This is reflected in almost every respect and suggests that the authors had complete freedom in how to treat their subjects. To give a simple example: when the reader wants to be informed about progress made with respect to serology, he may find this under the headings: serology, serological tests, serological properties, serological procedures, serological diagnosis, serological methods, serological characteristics, serodetection, antigenic properties and serodiagnosis. The same variation is encountered in the composition of the chapters; a more rigid scheme might have facilitated the work of the users of the book. The present set-up is attractive, conceivable and acceptable as long as no discrepancies or inaccuracies occur. Going through the book, one will encounter a multitude of abbreviations of the vernacular names of plant viruses, which sometimes are difficult to trace, especially when they are not listed in an easily accessible table, as is done in some of the chapters. One might even suspect that some of the many abbreviations are used for different viruses. A check proved this to be true as in: PSV: Pea streak virus (9), Peanut stunt virus (11), and Pangola stunt virus (15); AMV: Alfalfa mosaic virus (14) and Arabis mosaic virus (19); CTV: Citrus

tristeza virus (24) and Curley top virus (25); CCMV: Cowpea chlorotic mottle virus (12), Cereal chlorotic mottle virus (16) and Cassava common mosaic virus (21).

The book is well printed and amply illustrated. A few printing errors were found, e.g. on p. 816 where the length of wheat yellow leaf virus is erroneously given as 700 nm instead of 1700 nm. On p. 848 is stated that the caulimovirus group has seven established members and two tentative ones, whereas in the corresponding table and the further text these figures are 6 and 3, respectively. The book concludes with an index of about 1000 entries. This index shows more printing errors than were encountered in the preceding 934 pages, and they are sometimes of a remarkable kind (Citrus exocortis viroid can be found as Ditrus exocortus viroid under D!). Nevertheless, it is of course an indispensable addendum of the book; it could have been more complete, we missed e.g. Potato virus X, the type member of the potexvirus group.

The book as a whole must be considered as extremely useful, giving a complete picture of the characteristics of about 400 of the best studied plant viruses and of how they are grouped.

In the preface Dr E. Kurstak states that virus infections reduce severely the production of food, especially in the developing countries. As one of the examples he mentions cocoa swollen shoot virus. He ends by hoping that this book will serve actively working virologists of developing countries. I am convinced that this is exactly what the book will do, despite its high price. If, indeed, it helps and encourages plant virologists of developing countries, the next edition of the book will certainly tell us more about viruses and virus diseases of tropical plants, as e.g. cocoa swollen shoot virus, which is now only mentioned in the preface.

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