

**An Introduction to Virus Vector Nematodes and their associated Viruses** By M.S.N. de A. Santos, I.M. de O. Abrantes, D.J.F. Brown and R.M. Lemos. 1997. 535 pp. Instituto do Ambiente e Vida, Universidade de Coimbra, Coimbra, Portugal. Price: approx. \$95, ISBN 972-97350-0-X

Nematode transmitted viruses cause serious damage to various crops around the world and the relationship between virus vector nematodes and associated plant viruses has been intriguing researchers, especially in Europe and the USA, since its discovery in the late 1950's. More than a handful of books on this topic have been published during the last decade, some of which rather seem updated editions of older ones. It is true, developments in this field are fairly slow, but also the implications of some findings have not been fully evaluated yet.

It is courageous to have a book published in 1997 based on the proceedings of a symposium in Portugal in 1990 and updated only as far as 1993. At the same time, this is one of the major shortcomings of the book. A large deal of the molecular biological developments in virology since 1990 is not presented, or euphemistically declared 'beyond the scope of this chapter'. Fortunately, this has not prevented the publication of the other information. At first sight, the book seems a nice introduction to vector nematology for virologists and vice versa, but it is not comprehensive enough to deserve this label. Nevertheless this book contains a treasure of information and detailed descriptions of methods for those new in the scientific disciplines involved, as well as for the more experienced workers in this field. An extensive subject index is added.

The two groups of vector nematodes (Longidoridae and Trichodoridae) and their viruses are presented in the first chapters, however without any information on their biology and ecology; just a little of the latter can be found in a chapter on control. Two elaborate chapters follow on sampling and extraction of the nematodes. An introductory chapter on general principles of nematode identification (too basic) precedes

essential chapters on identification of Longidorinae, *Xiphinema* (another Longidorid) and Trichodoridae. Unfortunately, the confusing controversy in the taxonomy of the *Xiphinema americanum* group is presented in three different chapters (1, 7 and 15), which is even more confusing. A reprint of an 'external' article on identification of *Xiphinema* - with exclusion of the *X. americanum* group- which is added as last chapter of the book could have been given a more prominent place with the '*X. americanum*' identification problems in a separate chapter. In this way, a great deal of overlap and unnecessary additional confusion on this subject might have been avoided.

A series of three chapters are devoted to nematode transmitted viruses, their symptomatology, (qualitative) sampling and detection and transmission procedures. These chapters contain a lot of useful practical details and methodology. The principles of some molecular methods are presented, but without any reference to application in nematode transmitted viruses. The chapter on control strategies for vector nematodes and their viruses is a good attempt to describe the complex of factors involved in virus infection and damage. It offers some info on host plant ranges, which is seriously lacking in other books on the subject. It is clear that the present knowledge of specific relations between vectors, virus strains and host plant cultivars and also the knowledge of the epidemiology (e.g. the significance of a low percentage seed transmission) is far from sufficient to devise rational risk assessment and control measures. The two forelast chapters describe the occurrence of Longidoridae and Trichodoridae in crops and natural habitats in Portugal and form a regionally useful extension to the previously published atlases of these nematodes for various countries in Europe.

Overall, an interesting, useful and reasonably priced reference book, despite the lack of recent facts, some other major and minor omissions and the *Xiphinema* confusion.

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