ROLF KEILBACH: DIE TIERISCHEN SCHÄDLINGE MITTELEUROPAS. *VEB Gustav Fischer, Jena, 1966, 784 pp., 480 figs., 6 plates*

This voluminous work presents in a series of seven chapters a consecutive account of the three principal groups of pests, i. e. pests of stored food, of human health and of plants. In the short introductory chapter the author surveys the terms used in the definition of parasitism, in the second chapter, basic terms and gradological definitions are given. The following chapter deals with the economic importance of pests and the damage caused by them. The fourth chapter discusses the charateristics of higher taxonomic units, to which these pests belong. The last three most comprehensive chapters give detailed accounts of the individual pests of stored food, of vectors transmitting infections to man and domestic animals and, finally, of pests in agriculture and forestry. The work is completed by a list of the literature used, by a list of manuals and determination keys and by a voluminous register.

The introductory chapters are very brief and contain only a selection of the most common terms used for the designation of pests and also a short list of gradological terms without references to the various gradological schools. Very short is also the chapter on the damage caused by the different pest species. It is regrettable the author did not use with certain modifications the information published some time ago by Zacher, Kemper, Metcalf and did not include some accessible information on the production of insecticides, which characterises a part of the losses, caused by insect pests. These data are most essential for determining the degree of importance of the pest and for deciding on control measures against them.

The survey of the higher systematic units contains brief characteristics of worms, mollusks, arthropods and vertebrates. In some groups, keys have been worked out for the classification of the genera or families, but not in arthropods. The text of descriptions of the individual systematic units is mostly not supported by detailed drawings or pictures, but mostly only by fragmentary schemes of the mouth organs, wings or feet, serving more for breaking up the text than for an indispensable supplement to the keys. In this part the vertebrates as pests have not been included.

The chapter on pests of stored food deals on 100 pages with store-house pests and is worked on the generally accepted scheme used also by other authors (Zacher a. o.). Numerous descriptions are accompanied by excellent photographs and very instructive illustrations. The arrangement of the extent of the descriptions could have been better balanced, e.g. a detailed description of the principal representative and only a brief description of the related species. More attention should have been paid to the extensive literature on pests of stored products as the most common experimental objects in the laboratory. For some species there are short instructions on the application of insecticides. A short chapter on the stereotypes of insecticide applications with references to these instructions throughout the text would have been most helpful.

The following 80 pages deal with parasites and vectors transmitting infections to man and animals. In this chapter mites, ticks and insects have been included, while references to the other animal groups have been either omitted or are very brief as in the case of mollusks, referred to as the intermediate hosts of trematodes.

The largest chapter, covering 360 pages, describes the pests of plants. It comprises all principal pests and a selection of the less important pests of field cultures, orchards and forests. Also in this chapter, the descriptions are not too uniform and the information from recent literature is too scarce.

In the extensive bibliography information was drawn from publications of central Europe by German, French, Czech, Polish and Russian authors in concordance with the geographical distribution of the pest in question, omitting, however, essential papers on cosmopolitan species published outside Europe. This lack of comprehensive information becomes even more evident in the list of determination works and compendia. In my opinion, the works by e.g. Brumpt "Précis de parasitologie", Busvine "Insect and Hygiene", Cotton „Pests of stored grain", Grassé "Traité de Zoologie", Mallis "Handbook of pest control", Metcalf and Flint "Destructive and useful insects", Neveu-Lemaire "Traité d'entomologie" and many others should have been included.

In evaluating Keilbach's manual we feel that the assignment of elaborating a survey of the three most important groups of pests is, in itself, such an enormous task that the extent of the work had to be limited and consequently, some essential information such as the question of parasitic protozoa, mollusks, worms a. o. had to be omitted. With regard to the number of insects treated it would not have been possible to work out determination keys for the multitude of organisms treated or to include all recent information published outside the distribution area of the investigated species. The reader will have to look up this information elsewhere. In my opinion, Keilbach's monograph will be especially useful for advanced readers with a certain knowledge of the described organisms, who need to brush up their knowledge on the bionomy of the species. For this type of use the publication „Die tierischen Schädlinge Mitteleuropas" should be greatly recommended.

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