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## BOOK REVIEW

SONENSHINE D.E. & MATHER T.N. (eds): *ECOLOGICAL DYNAMICS OF TICK-BORNE ZOONOSES*. Oxford University Press, New York and Oxford, 1994, XIII + 447 pp. ISBN 0-19-507313-4. Price GBP 110.–.

This co-operative monograph is devoted to ecological regularities of zoonotic infections transmitted by ixodoid ticks. It is written by a large team of American scientists together with specialists in the fields of epidemiology and ixodology from United Kingdom, Ireland, Czech Republic and Kenya.

But this book can be considered also as a special supplement for the two-volume monograph "Biology of Ticks" by D.E. Sonenshine published by Oxford University Press in 1991 and 1993. The close relationship between these publications is indicated by the similarity in the format of all three tomes.

The first part ("Principles", pp. 1–280) consists of an Introduction (Sonenshine) and seven chapters which give a broad and in-depth consideration of the general features of zoonotic tick-borne infections affecting human and domestic animal health, of vector-host-pathogen relationships and of

intrinsic and extrinsic factors determining the dynamics of these systems. All papers give an integrated view of three components of zoonoses, but four chapters emphasize epidemiological and epizootiological aspects of the problem, namely: "Competence of ticks as vectors of microbial agents, with an emphasis on *Borrelia burgdorferi*" (Chapter 3, Lane); "Vector-Host-Pathogen relationships: transmission dynamics of tick-borne infections" (Chapter 4, Mather and Ginsberg); "Geographic dissemination of tick-borne zoonoses" (Chapter 6, Korch) and "Modelling the ecological dynamics of tick-borne zoonoses" (Chapter 7, Kitron and A. Mannelli). Three other chapters are devoted mainly to ticks themselves as the main factors of transmission and dissemination of these infections, namely: "Population ecology of tick vectors: interaction, measurement and analysis" (Chapter 2, Wilson); "Micrometeorological and microhabitat factors affecting maintenance and dissemination of tick-borne diseases in the environment" (Chapter 5, Daniel and Dusbábek) and "Ecologically based strategies for controlling ticks" (Chapter 8, Schmidtmann).

The second part ("Representative Tick-Borne Diseases", pp. 281–437) presents data concerning special epidemiology and epizootiology of particular zoonotic infections with veterinary and medical importance, namely: "Dynamic associations of tick-borne diseases affecting animal health" (Chapter 9, Norval and Perry); "Changing ecology of Rocky Mountain spotted fever" (Chapter 10, Schriefer and Azad); "Lyme disease/Lyme borreliosis" (Chapter 11, Piesman and Gray); "Tick-borne encephalitis subgroup" (Chapter 12, Nuttall and Labuda) and "Ecology of Crimean-Congo hemorrhagic fever" (Chapter 13, Linthicum and Bailey).

The majority of chapters in this book are very up-to-date, informative (particularly the contributions of Korch Jr, Daniel & Dusbábek and Norval & Perry) and useful for those who are interested in zoonoses harmful to human and animal health, and particularly in Lyme disease, a relatively new and important borreliosis affecting mankind all over the world, particularly in the Holarctic. Of especial value in the first part of the book are the chapters by Kitron and Mannelli (on different modes of modelling tick population dynamics and of tick-borne diseases, particularly on procession, statistical and spatial models), and by Schmidtmann (on ecological strategies in tick control). Unfortunately the important chapter on tick population ecology (Wilson) is rather superficial, although it may be supplemented by the aforementioned volumes on tick biology by Sonenshine. Even the term "population" is not defined in this chapter.

The content and informative value of this book, as a whole, is much broader than that of the recently published "Ecology and Environmental Management of Lyme Disease" (Ginsberg, ed.), (see review by Needham et al., J. Med. Entomol., 1995, 32: 209–210). The quality of this edition is very high. Some criticism should be made concerning the absence of correspondence in the style of bibliography in different papers of this book, and of some extremely unfortunate misprints (for example, "*Babesia bigemmina*" instead of "*bigemina*" in the opening lines of the Preface, "*Ixodiphagus caucurteri*" instead of "*caucurtei*" on p. 36, "*Phipicephalus*" instead of "*Rhipicephalus*" on p. 355, "*Dermacento*" instead of "*Dermacentor*" on p. 359 and some others). Numerous references to "see below" or "described below" in the text of many chapters are unclear and indefinite, although the reader will be assisted by the detailed Index, pp. 439–447). Generally, citations are correct, but there

are some regrettable mistakes in the citations of author's names ("Xoloviev" instead of "Soloviev", p. 357; "Greskova" instead of "Gresikova", p. 361; "Shunikhin" instead of "Chunikhin", p. 365) and even in citation (data mentioned on p. 365 were obtained from "Parazitologija", and not from "Med. Parasitologia" as cited).

It appears strange that the data within the monograph on the Taiga tick [Taezhnyi kleshch *Ixodes persulcatus* Schulze (Acarina: Ixodidae): morfologiya, sistematika, ekologiya, meditsinskoe znachenie. N.A. Filippova (ed.) (Leningrad, Nauka), 1985, 416 pp.] were not used and investigations on biology and vector capacity of *Ixodes persulcatus* – the primary vector of the tick-borne encephalitis virus on the vast territory from the Baltic Sea to the Pacific Ocean – were not included in the book. The authors of the chapter upon Lyme disease appear in ignorance of the status of *I. persulcatus* as the most important vector of this borreliosis in the Baltic countries, Russia, China and Japan. No Chinese and Japanese authors were mentioned and this lacuna represents a serious omission for the potential readers from these countries.

One note is of particular importance. For any Russian reader it is rather strange that the efforts of prominent parasitologists and epidemiologists from Russia (particularly those of V.N. Beklemishev), well known for their achievements in the field of medical entomology and vector population ecology among arthropods, are not reflected in this volume. The only exceptions are the chapters by Daniel and Dusbábek, and that of Korch Jr who emphasise the theory of natural nidality of Arthropod-borne diseases by Pavlovsky and some other publications of Russian specialists. It is an impression that American authors are unaware of both Pavlovsky's concept (although his book was published in English nearly 30 years ago), and more recent publications from Russia on tick ecology, seasonality, methods of measurement of tick abundance and their role as vectors. Of course, it would be possible to avoid some noticed drawbacks if the editors invite Russian specialists to give contributions.

Nevertheless we consider this book to be of considerable value for both institutional and personal libraries. The few aforementioned defects do not detract from its significance and usefulness for acarologists, ecologists and specialists of medical and veterinarian professions concerned with diseases transmitted by ticks and those interested in vector control.

V.N. Belozarov & A.N. Alekseev