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E. I. Korenberg: Biokhorologicheskaya struktura vida. (Biochorologic structure of the species). Publ. House Nauka, Moskva 1979, 171 pp., 32 Figs., 13 Tables. Price 2 R.

The problems of biochorologic structure of the species undoubtedly belong to the very important theoretical problems of present biology. In addition, if a medically important species is involved, the data obtained are of paramount importance for practice as well. The author of the book belongs to leading Soviet specialists in the research of ticks and natural focality of diseases. On the example of the tick *Ixodes persulcatus* he compiled the results of his long-time experience as well as studies of other Soviet investigators, focused on the research of bionomy of this vector with regard to its spatial distribution and from population aspect. Thus, a treatise has been written which is exceptional both in the Soviet and the world ixodologic literature.

The first chapter deals with some general problems of zoologic cartography connected with the problem of the biochorologic structure of the species such as the "typologic" or "differential" approach applied in plotting the distribution of zoological objects on a chart and discusses the problems of data extrapolation. The subsequent chapter is devoted to a detailed

survey of the *I. persulcatus* range, but also contains data about the area of *I. ricinus* distribution and in view of both species the area of tick-borne encephalitis as well. In the third chapter the spatial structure of the taiga tick population and its portrayal on a large-scale chart are discussed. The author considers the population to be an elementary unit of the biochorologic structure of the species. Its spatial structure is given in the regular alternation of terrain sections characterized by a definite class of tick abundance. The structure itself is very dynamic, but its type is stable. The author mentions and defines the terms "micro-concentration", "group of microconcentrations", "nucleus of population" on the intrapopulation level. He describes in detail the methods used in determining the discrete distribution of ticks, citing concrete examples and also characterizes the distribution of virophorous ticks. The fourth chapter deals with the method of plotting the populations and groups of populations on medium-scale charts. In this case the principles of extrapolation use, elucidated in detail on the basis of the study results obtained in the

Udmurt ASSR, become an important factor. The subsequent chapter is concerned with the distribution of *I. persulcatus* plotted on small-scale charts. Here the terms "class of populations" and "regional complex of populations" are characterized and as suitable characters for their determination is considered to be the character of seasonal activity of adults and the total number of active specimens throughout the season on one km-line transect. The last but one chapter is concerned with the subdivision into districts of the taiga tick area of distribution and of the territory affected by the tick-borne encephalitis virus. The author differentiates and characterizes a total of 59 regional populational complexes divided into 5 large parts of the distribution area, but the latter are not considered to be units of the chorologic structure of the species. On the basis of the above mentioned subdivision of the vector's area of distribution also the subdivision of the territory affected by tick-borne encephalitis has been re-evaluated. Instead of 18 focal regions belonging to 4 groups of focal regions, the author differentiates and characterizes 69 focal regions forming 7 groups. The final part of the book deals with some theoretical questions of the relevant problems, the terminological questions and term definitions, classification, typification and district subdivision as well as methodology. A 28-page list of references, primarily Soviet literature, is a marked evidence of the wide range of aspects from which the relevant problems have been taken into consideration.

The reviewed volume has a number of priorities and assets. It is a first treatment of biochorologic structure of the species in parasitology in general. The conclusions are based on the analysis of an enormous body of concrete data; the statements are accompanied by sharply outlined charts, diagrams and tables; the used methods, which are also suitable for other parasitological objects, are described in detail and motivated; the results are new contributions to the theory of biochorologic structure of the species and subdivision of its area of distribution; a new subdivision into districts of the territory affected by tick-borne encephalitis is presented in view of the vector. The author does not avoid disputable problems, mentions different concepts of some phenomena and terms and using factual material presents arguments for his own concept. His interpretation of the material, confrontation and conclusions are based on a large number of literary sources. Thus, he provided a very praiseworthy work, important from the general biological aspect, stimulative for the studies on the distribution and bionomy of vectors and spatial structure of natural foci of diseases. The monograph indicates a wide scope of knowledge and erudition of its author and should be highly appreciated. Those, for whom it is primarily intended—biologists, medical zoologists, parasitologists as well as other specialists—will find in it many stimulative ideas, concrete facts and theoretical generalizations. The author is to be sincerely congratulated on providing this monograph.

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