

**I. N. Voinov: Virusologicheskiye aspekty meditsinskoy ornitologii. (Virological aspects of medical ornithology.)** Publ. House Vysheyschaya shkola, Minsk 1979, 128 pp., 13. Figs, 7 Tables. Price 1 R.

The fact that birds may be associated with some human diseases, has been known since the end of the last century. However, the studies on their role in the maintenance and dissemination of arboviruses began to develop intensively as late as the last decades. This publication sums up the most important results achieved in this field and presents a series of very concrete data obtained by the author in his laboratory. The first chapter, entitled "Birds as reservoirs of arboviruses in natural foci", contains data on the participation of birds in the circulation of various arboviruses in nature with special regard to the conditions in the USSR, where the following agents, ecologically connected with birds, were isolated so far: virus of tick-borne encephalitis, Omsk hemorrhagic fever, Powassan, Japanese encephalitis, West Nile, Tyuleniy, Okhotskiy, Baku, Zaliv Terpeniya, Sakhalin, Kaspiy, Paramushir, Uukuniemi, Kemerovo, Sindbis, Geta, Astra, Sokuluk and Tamdy. The chapter is supplemented with a survey of known bird arboviruses and their geographic distribution. The second chapter covers the transmission of arboviruses by birds. The transmission is possible by two routes: either by viroforous ticks or in the organism of the infected bird, primarily in latent form of infection. Of great importance here is periodic viremia. The author admits that latent infection is likely to be the main form of existence of arboviruses associated with birds and gives a number of examples which beyond any doubt confirm the arbovirus transmission during the migration period. On the other hand, the tick-transmission over great distances is less probable, but may be taken into account when the birds are tick-infested during migration. The third chapter is entitled "Possibilities in the formation of new natural foci of diseases due to the transportation of arboviruses by migratory birds". The chapter reviews the opinions of both

the advocates and adversaries of these possibilities. The author himself is of the opinion that during the evolution of landscape — either due to the influence of natural factors or under the impact of man's activities — the formation of new natural foci of diseases transmitted by birds is possible and supports his opinion by various examples. Important is the fact that bird arboviruses are far more frequently polyvectorial and polyhostal, so that under certain circumstances at least a temporary virus circulation may take place outside the range of the usual vector. Temperature, absence of suitable vectors and susceptible vertebrates and possibly competition of different pathogenic agents in the vector's organism are mentioned as factors limiting a regular formation of new natural foci due to arbovirus importation by birds. It is momentous that regular arbovirus importations by birds into local biocenoses result in the mixture of genetic material of different populations of an arbovirus and thus prevent the geographic divergence within its extensive range. The fourth chapter deals with the epidemiologic and epizootologic importance of arboviruses ecologically associated with birds. It appears that about 20% agents of this group may cause diseases in man or domestic animals. They are zoonoses with transmissible, peroral, cutaneous or aerogenous route of infection. Epidemiologically most dangerous are synanthropic species. Birds are also important in natural foci of diseases as selectors of virulent strains of arboviruses, because at high temperatures of their body the avirulent strains quickly succumb. The final supplement of the volume contains methodical directives for the organization of virological research of birds. The publication is well written and profusely documented with examples elucidating the discussed material. It will be of interest to parasitologists, virologists and ornithologists as well.

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