V. A. Bibikova, L. N. Klassovsky: Peredacha chumy blokhami (Transmission of plague by fleas). *Publ. House Medicina, Moscow 1974, 188 pp. 12 Figs, 32 Tables. Price 1.10 rub.*

Plague still remains to be a disease to which human lives fall victims in some parts of our planet. The role of fleas in the spread of this infection was disclosed as early as at the end of the last century and the phenomenon specific for its transmission — the blockage of the vector's digestive system — was described by Bacot and Martin in 1914. Since then an enormous body of factual information on the mechanism of plague transmission by fleas has been accumulated by scientists from many countries, among whom the Soviet scientists took the foremost place. The authors of the book who are prominent specialists in these problems, have made it their objective to present all available knowledge in this field in a systematic survey based both on literature and their own long-term experiments.

The publication is divided into five chapters. The first chapter entitled "Basic data on the plague pathogen" examines the cultivation - morphological and fermentative properties of the plague pathogen, peculiarities of its nutrition, virulence and geographic and ecological variability. The following chapter (Some features of the structure and function of the digestive system of fleas) is mainly devoted to the anatomy of the flea 's digestive tract and to processes connected with blood sucking. The third chapter (Development of the population of plague bacilli in the flea organism) deals with the penetration of bacilli into the vector's organism, with the adaptation phase, aggregation and preservation of the plague pathogen and with its pathogenicity for fleas. The subsequent most extensive chapter provides an account of the mechanism of the transmission of the plague pathogen by fleas. It describes all possible modes of plague transmission by fleas, the blockage of the proventriculus as a specific transmitting mechanism, the factors which influence the formation of the blockage, together with the properties of the microbe itself and the infectivity of fleas with blockage. The final chapter (Influence of the flea organism on the formation of properties of the plague pathogen's populations) is devoted to phenotypical variability of the pathogen with regard to the host interchange, to the conditions inside the flea organism as a factor stabilizing properties of the pathogen's population and to the possible creation of bacterial populations with changed properties in the flea organism. Following a brief conclusion there is large list of literature comprising 358 references.

From the remarkable accounts of the transmission of plague pathogen by fleas it may be mentioned that microbes able to form a blockage possess certain properties: existence in R-form, pigmentation of colonies (P^1) on a synthetic medium with the hemin. The blockage is most frequently formed under conditions of a temperature optimum for the vector which is lower than that for the microbe. Conditions for the plague pathogen's existence in the rodent and flea organism differ considerably and it has been demonstrated that in these organisms the microbe differs in some properties of its antigenic structure. The flea organism influences the pathogen's population as a selective factor affecting e.g. such a property as virulence. The decisive factor in the evolution of plague pathogen was the formation of its transmission by vector.

The authors of the book presented a wealth of factual material in a well arranged way. It was the Soviet specialists who in many respects considerably contributed to the world knowledge on these problems. Nevertheless, many important questions, as pointed out in the conclusion, must be solved in future research.

The monograph of V. A. Bibikova and L. N. Klassovsky provides a rich source of information intended for a wide range of specialists — parasitologists, microbiologists, epidemiologists, zoologists, biologists. Its publication should be sincerely welcomed.

Dr. V. Černý, C.Sc.