M. A. Musaev, Ya. Ya. Elchiev, A. M. Surkova. G. G. Ibragimova: Biokhimicheskie aspekty parazito-khozyainnykh otnoscheniy pri koktsidiozakh domashnikh ptits (Biochemical aspects of parasite-host relationships in coccidioses of domestic birds).

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A group of workers of the Institute of Zoology, Academy of Sciences of the Azerbaidzhan SSR, headed by Prof. M. A. Musaev, is engaged in the study of the influence of coccidians on some biochemical reactions of the host. This monograph summarizes the results of their many-years' activity in this field. It comprises 10 chapters, conclusions and 12 pages of references. Some biochemical activities present in warmblooded animals are mentioned in a short introduction. The effect of parasitic coccidians on these activities is dealt with in further parts of the book. The introduction includes also a description of the experimental material and applied methods. As stated in the introduction, the book is based on three experimental lines studied by different authors, but the authors are no more given in further chapters. The second chapter, "A brief characterization of *Eimeria tenella* and *E. mitis*" contains literary data on morphological, biological and biochemical properties of two coccidian species of different pathogenicity. Their effects on the hosts are described in the present book. The survey of literature is concluded by the chapter "Biochemical changes in host organism during ciccidioses".

The main part of the book (114 pages) is devoted to experimental results and interpretations of the authors themselves. The chapter "Brief characterization of clinical and pathological-anatomical picture of the disease in chicken infected with *E. tenella* and *E. mitis*" enables the reader to make an idea about the material used by the authors. Biochemical changes in chickens of three age-groups (20-, 40- and 60-day-old) infected with either low dose of *E. mitis* oocysts or low and high doses of *E. tenella* oocysts are described in the following chapters. The changes are observed in defined periods of infection (3, 5, 7, 10 and 20 days after feeding with oocysts). In case of *E. tenella*, also changes occurring after three times repeated application of high oocysts dose are followed in chickens of all age-groups.

The chapter "Proteins of blood serum" deals with the changes in the levels of total proteins, albumins and α-, β-, and γ-fractions of globulins. The results obtained suggest the character of the immunization process in the host. The changes in levels of amino acids and lipoid substances in the blood of infected chickens are described in the chapters entitled "Free amino acids of blood serum", "Total blood fat", "Cholesterol of blood serum" and "Lecithin of blood serum". The following chapter, "Some nitrogenous components of liver tissue" includes quantitative estimation of total protein and residual nitrogen and nitrogen of free amino acids. The results allow the authors to assess quantitatively the changes in proteolytic and proteosynthetic activities in liver in the course of infection. The last of the chapters dealing with experimental results is "Activity of phosphatases in small intestine mucous membrane". The conclusion contains, in addition to discussion and interpretation of the results obtained, a table comparing clinical-pathological and biochemical symptoms of *E. tenella* and *E. mitis* infection in chickens. The results described in the present monograph and contributing to the general knowledge of this problem are pointed out in the table.

The book under review solves actual problems of the relations between the parasite and its host. Chickens infected with a strongly pathogenic species *E. tenella* and with *E. mitis*, which has a low pathogenicity, served as experimental models. Both these coccidian species infect the poultry. Of importance is the finding that *E. mitis*, which was previously regarded as a non-pathogenic species, causes pronounced changes in protein metabolism in liver which indicates a damage of parenchyma of this organ. Another important results concern the process of immunization, changes in small intestine functions etc. They are supported by numerous data of statistical importance and critically confronted with available literary sources. In contrast to the authors' opinions, the idea of the existence of toxins in pathogenic coccidians is not generally accepted (see J. F. Ryley, in: Pathogenic Processes in Parasitic Infections, A.E.R.Taylor and R. Muller, eds., Vol. 13, pp. 43—57, 1975, Blackwell Scientific Pqblications, Oxford). It is advisable to extend the methodical part. The book is certainly of a great scientific and practical value and is written in a brief and comprehensible manner. It will supply the reader with numerous citations of papers published by Soviet specialists engaged in the study of coccidians and the diseases caused by them.

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