

A. I. Kharsun: Biokhimiya nasekomykh (Biochemistry of insects).

Publ. House Kartya Moldovenyaske, Kishinev 1976, 335 pp., 56 Figs. Price 1. 56 R.

A. I. Kharsun's book summarizes all hitherto known information on biochemistry of insects. This field has been more widely studied only in recent years, although insects are the most numerous and economically and medically most important component of many ecological land systems. During their evolution insects acquired special modes of metabolism. The peculiarities of the biochemistry of insects are used in their control by means of chemical substances with insecticidal properties and by biopreparations. This aspect of the biochemistry of insects is directly connected with modern control measures against parasitic groups and species of insects important both in public health and veterinary medicine.

The book is divided into several main sections. The first section deals with metabolism in insects and is subdivided into chapters concerned with water and mineral substances in the insect body, with proteins and their metabolism, with nucleic acids, biochemistry of carbohydrates and with lipides in insects. The chapter next to last in this section covers important substances excreted by insects into environment (called telergons), such as substances attracting the opposite sex, stimulators of sexual maturity and reproduction, substances determining the insect behaviour and defensive chemical substances. The last chapter deals with hormonal system of insects. The second section is devoted to functional biochemistry of insects. Its chapters concern biochemistry of organs and tissues of insects, biochemistry of cell and its organelles and the phenomenon of bioluminescence.

Insect control and consequently parasitology are particularly discussed in the third section of the book—biochemical principles of poison-

ing and pathogenesis. Chapter 11 is concerned with biochemical effects of most widely used groups of insecticides—organophosphates, carbamates and thiocyanates, sterilants of the aziridin type, repellents and attractants. Eight substances of the organophosphate group including widely used substances parathion, dimethoate and dichlorvos are discussed here. However, trichlorfon slightly toxic to vertebrates and used in veterinary insecticidal preparations is omitted. Of the carbamates three substances are mentioned, the most well known being sevin.

The subsequent Chapter 12 deals with the impact of biopreparations on insects, particularly with the mechanism of pathogenic effects and types of virus diseases of insects. Chapter 13 concerns chemical preparations for the protection of insects against causative agents, while the next chapter covers immunity in insects. The influence of missing nutritional substances in food upon metabolism in insects is discussed in the last chapter. A short survey of scientific discoveries in biochemistry and a bibliography of scientific discoveries in biochemistry and a bibliography of 695 references are appended.

A. I. Kharsun's book most adequately presents information on different aspects of biochemistry of insects and on the present position of the relevant research. It is of particular interest to parasitologists as it elucidates the impact of preparations used in pest control. The impressive bibliography is depreciated by incomplete references. Another fault are misspellings of some Latin names of insect species.

The reviewed book is a suitable source of information for the studies of biochemistry of insects, including the problem of regularities concerning the effects of insect control measures used at present.

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