

YE. S. KOGAY. THE ECOLOGY OF ANOPHELES HYRCANUS PALL. IN UZBEKHISTAN.

Fan Press, UzbekhSSR, Tashkent, 1968, 124 pp. 17 illus.

Although there is a vast Soviet literature on mosquitoes, it is very difficult to use: there are very few critical evaluations. The plan which Ye. N. Pavlovskiy put forward as long ago as the 1920s for the production of a large report on each of the *Anopheles* species found in the USSR has remained unimplemented. The gap has been filled in part by V. N. Beklemishev's outstanding monograph "The ecology of the malarial mosquito (*Anopheles maculipennis* Mgn.)", 1944. There have been no comprehensive studies on the other species of malarial mosquito.

Now we have a small book on the ecology of *Anopheles hyrcanus* (its author, Yelena Sergeevna Kogay, died prematurely in 1967). The book is based partly on data in the literature, but primarily on the author's original research in Uzbekistan. The first of the four chapters contains information on the geographical range of *A. hyrcanus*, especially in Soviet Central Asia (it is a pity that there is no map; the inclusion of a map would have made it possible to make the northern limit of the range more immediately intelligible). The second chapter is an account of information on larval ecology. There is a quite detailed account of the larval biotopes, including information on the vegetation and chemical nature of the water. Reference is made to the seasonal change of habitat characteristic of this species: during the hottest period of the year the larvae, instead of occurring in open, well-lit bodies of water, are found in concealed, shady waters. Consideration is given to the effect of temperature on the duration of metamorphosis.

The third chapter, which is entitled "Ecology of the adult mosquito", contains a great variety of material, especially the results of the author's research on such important questions as the gonotrophic cycle, the sources from which the mosquitoes derive blood meals, the seasonal variation in abundance and the diapause. Unlike *A. maculipennis*, *A. hyrcanus* is mainly exophilous. Observations were therefore made not only in settlements, but also under natural conditions. Very interesting information was obtained. The fourth chapter deals with the epidemiological importance of *A. hyrcanus* and with the control of mosquitoes of this species. The bibliography contains a fairly extensive list of publications in Russian (172 times) but only a few of the most important works in other languages.

On the whole, Ye. S. Kogay's book is a valuable contribution to mosquito literature. The book appears at an appropriate time. Even when malaria was prevalent in the USSR, *A. hyrcanus* was regarded as a vector of secondary importance. Nevertheless, under favorable conditions, mosquitoes of this species occur in vast numbers, for example on the flood plains of rivers such as the Dniester, the Dnieper, the Don and the Syr Dar'ya. In these areas *A. hyrcanus* is a significant element among the blood-sucking flies and it is in this context that it should be studied and that the biological principles of its control should be worked out.

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