

stated to owe its popular name to the behaviour of the flowers which when displaced quickly return as though beckoned. In actual fact, the name is due to the flowers remaining in the position to which they are moved, indicative of a most unusual organisation in the region of attachment. Normally the flowers form four equally spaced vertical series; but one can displace them laterally at will and the flowers, at least for a time, 'stay put'.

This work is one indeed that will be cherished mainly for its illustrations, which are mostly of a high order of excellence.

E. J. SALISBURY

## MOSQUITO ECOLOGY

### The Natural History of Mosquitoes

By Marston Bates. Pp. xv+379+16 plates. (New York: The Macmillan Company; London: Macmillan and Co., Ltd., 1949.) 37s. 6d. net.

IT is a commonplace in biology that we know so much more about the ecology of animals when they are of economic importance. It was the enormous economic importance of the mosquitoes which led, thirty-five years ago, to the publication by Howard, Dyar and Knab of their monumental work on the mosquitoes of the Americas. Since that time there has been no such detailed review of existing knowledge on the general biology of mosquitoes. But a mass of fact and hypothesis has accumulated in the literature. The appearance of a really full "Natural History of Mosquitoes" by Dr. Marston Bates is therefore most welcome.

No one man can hope to have seen for himself all the complexities of mosquito life in all parts of the globe; but his work for the Rockefeller Foundation has taken Dr. Bates to Albania and Macedonia, to Egypt, the West Indies, Central America and Colombia, so that his readings of the literature are enlivened by original observations in widely varied environments. His book was written in the course of his day-to-day work at a remote station in South America; but any gaps (and they are not many) in his survey of the literature which this has made inevitable are more than compensated by the contact with the living mosquito in the jungle that can be felt throughout his writing.

One of the author's chief objects is to make knowledge of the behaviour of mosquitoes more readily available to students of general biological theory; but his well-balanced and scientific treatment of all aspects of mosquito ecology in all stages of their development, including their relation to the spread of disease, their distribution and the principles of their classification, will be of even greater value to students of mosquitoes themselves.

The discussion on the problems of species formation and biological races in the mosquitoes, and the opinions expressed on mosquito taxonomy and systematics, are as wise as they are interesting. While Dr. Bates rightly urges that this field of knowledge would benefit enormously if it were more often cultivated by the professional biologist, undisturbed by the distractions of the public-health department, yet he is a trifle unsympathetic towards the efforts of the physiologists, for example, to define the mechanisms of orientation; and he is inclined to dismiss as obscurantist jargon what is, in fact, a real contribution to understanding. He makes a plea for the use of the old word 'tropism'—an excellent word

in itself, but one which has been used in so many senses that, undefined, it means just nothing. He remarks that the location of a host by mosquitoes from a distance is entirely unexplained. But the visual orientation of mosquitoes in a wind as described by Kennedy (though not quoted in this book), coupled with a klinokinetic response to warm, humid and odorous air, will provide an entirely reasonable mechanism which could well be subjected to experimental test. It is the mechanism by which the *Lasiocampid* moth locates its mate a mile or so upwind. All that merely serves to show how right the author is in aiming at persuading the biologist to study the mosquito.

The book concludes with a useful chapter on techniques used in the study of mosquitoes, and a long selected bibliography of works published since 1913. It is well written and agreeably printed and produced.

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## SOCIAL STRATA IN A MID-WEST TOWN

### Elmtown's Youth

The Impact of Social Classes on Adolescents. By Prof. August B. Hollingshead. Pp. xi+480. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1949.) 30s. net.

IT is significant that at present, when some people believe English social classes to be deliquescing, there is increased study of them, both here and in the United States, where occasionally wishful thinking causes them to be regarded as insignificant.

The dust-cover of this book asserts that "class system" has an ugly sound; but it can have even uglier results. The book is by an associate professor of sociology at Yale University and his wife, who studied the impact of class-consciousness upon 753 adolescents belonging to 535 different families in "Elmtown"—a fictitious name for a small Mid-Western community—immediately before the effects of the Second World War were apparent locally. It expresses an attitude relatively new among sociologists, "who hitherto have almost ignored the subject"—that an adolescent's "storm and stress" arise less from "genes and hormones" than from the way in which a community regards his or her manner of growing up in it.

A thorough investigation, using many methods, especially interview-techniques, was made. People long resident in the community were used as judges of their fellows' prestige, status or class-position. They agreed that in this town there were five strata, though occasionally assigning a wife to one stratum and her husband to another.

The adolescents said "There are not supposed to be any classes, but there are". An impressive finding was that the youth-training institutes were essentially negative in their aims, deliberately segregating adolescents from the real world. Often this was overt, for example, in the Lutheran Church's provision of counter-attractions to the high-school dance. The social stratification of the religious sects and of the complicated technique of 'dating' are especially interesting to British readers, who would like to see a similar investigation of a British town of comparable size.

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