

to be published by the National Academy of Sciences and which, it is expected, will be available early this summer. The publications are now accessions of the Entomology Library, University of Minnesota, St. Paul.

3. Huang Ming-dau, Mai Siu-hui, Wu Wei-nan, Poo Chih-lung, "The bionomics of *Anastatus* sp. and its utilization for the control of lichee stinkbug, *Tessaratoma papillosa* Drury, "K'un Ch'ung Hsueh Pao (*Acta Entomol. Sinica*) 17, 362 (1974).

Pleasures of Entomology

Mites of Moths and Butterflies. ASHER E. TREAT. Comstock (Cornell University Press), Ithaca, N.Y., 1975. 362 pp., illus. \$35.

"The magic of the microscope is not that it makes little creatures larger, but that it makes a large one smaller. . . . The microscope takes us down from our proud and lonely immensity and makes us, for a time, fellow citizens with the great majority of living things."

Asher Treat then leads the mite-sized reader into a moth's ear and reveals sights blind mites can never see. But the book is not just a popularization. It is an impeccable work of science that reveals a search for understanding. It is not surprising to find this from a naturalist. Naturalists may well be the most contented scientists. In their enterprise there are no prizes to seek and no grand theory to create or pick apart, and they quietly search for insight and understanding in other worlds.

The book is designed for use by people who find mites on Lepidoptera, to provide them with "basic information . . . regarding the chief characteristics, biology, and known history (in relation to Lepidoptera) of each mite species thus far reported from these insects." There is an elegantly simple key to living mites that will usually permit a prompt determination of the group to which a mite belongs. The timid can look at a list that gives all the records of mites from each host species and, since all the mites are well illustrated, a glance at the sketches will make it easy to guess at the identity of the mite. The masochist has the choice of using a technical key for mounted specimens.

After making a presumptive identification, the text gives a full accounting of taxonomy and nomenclatural status, followed by detailed information on the biology. I know of no acarological writings that are as clear and easy to follow as Treat's. Tedious nomenclatural matters are covered with grace and clarity. Life histories and biology are explored with ingenuity and enthusiasm to define op-

portunities that should stimulate others.

In an early chapter Treat writes,

The search for mites on insect hosts is an adventure as exciting as any treasure hunt. Every insect, looked at closely enough to reveal a mite, is an exotic island whose bays and coves may harbor a lurking pirate or the tell-tale traces of some hidden thief. Date and locality labels on pinned specimens carry the imagination to olden times and far-off places. Collector's names evoke memories of old friends and thoughts of colleagues unknown

or perhaps forgotten. The thrill of discovery is always imminent and, once experienced, is ample reward for hours of unproductive search. As an old seeker after buried treasure, I can tell you what is needed for such a voyage of discovery and how to pursue the hunt.

This Treat has done beautifully. His book is one to emulate for both its science and its humanity.

RODGER MITCHELL

Department of Zoology,
Ohio State University, Columbus

Origins of a Neuroscience

Pioneers in Neuroendocrinology. JOSEPH MEITES, BERNARD T. DONOVAN, and SAMUEL McCANN, Eds. Plenum, New York, 1975. viii, 328 pp., illus. \$22.50. Perspectives in Neuroendocrine Research, vol. 1.

Neuroendocrinology, a relative newcomer to the established hybrid subcategories of neural science, is the study of relationships between the nervous and endocrine systems of biological information transfer. It deals with physiologic, anatomic, and biochemical approaches to such problems as hypothalamic regulation of the anterior and posterior pituitary, environmental influences on reproductive and metabolic phenomena, and the relationships between hormones, brain, and behavior. While neuroendocrinology has shared in the explosive growth of many scientific fields in the last quarter century, there has been a further impressive spurt in activity in the field during the 1970's, resulting from the isolation and synthesis of three of the highly elusive hypothalamic factors that control anterior pituitary function (the gonadotropin and thyrotropic-hormone releasing factors or hormones, and a growth-hormone inhibiting factor, somatostatin). Two international societies with their own scientific journals have recently been founded. In short, a new scientific miniestablishment is becoming institutionalized and has now called upon its founding fathers to preserve for posterity the circumstances surrounding the genesis of the field.

Pioneers in Neuroendocrinology is a collection of reminiscences by an assortment of distinguished neurophysiologists, endocrinologists, anatomists, and pharmacologists, who did early work relevant to the field. The term "pioneers" is apparently meant to designate

early explorers who opened pathways, not necessarily those who made the major discoveries. The book will nevertheless be used as a chronicle of neuroendocrine origins, and from this point of view the choice of contributors shows errors of both commission and omission. Of the 21 contributors, fewer than half remained, or in some cases ever were, in the mainstream of the development of neuroendocrinology, and behavioral endocrinology is represented only by Bard's tangentially related work on sexual reflexes. The editors wished initially to obtain personal accounts from some of the older investigators and intend to produce other, similar volumes in which the omissions should be corrected. Actually, some of the authors who did not make major contributions to the field (and some who did) play a role as representatives of colleagues who are no longer with us. The image of Markee is invoked by Hinsey, of Pincus by Hoagland, of Moore by Price, of Ernst Scharrer by Berta Scharrer, and of Harris by Jacobsohn.

The book will be of little interest to neophytes. For workers in this and related fields, however, it provides a palatable mixture of information on the origins and development of neuroendocrine concepts supplemented with some entertaining material on the lives of leading scientists in the first half of the century.

A book like this should be read continuously rather than piecemeal, so that recurrent themes will have full impact. One such theme is the overwhelming role of chance factors in the determination of scientific careers. The often cyclic nature of investigational activity is another theme that careful reading will reveal. For example, the role of biogenic amines was actively investigated at both