BOOK REVIEW

INSECT BEHAVIOR. Philip S. Callahan, (USDA and Department of Entomology and Nematology, University of Florida, Gainesville) Four Winds Press, New York, N. Y., 1970. 155 p., illus. $4.95.

This dynamic little book will be useful to teachers and young experimenters (e.g., advanced high school seniors) interested in the application of physics and electronics to the study of insect behavior. The thesis is developed that basic understanding of insect behavior ultimately depends on knowledge and application of the laws of matter and energy, a concept referred to as "space-age" entomology.

Described and exemplified in short chapters are insect adaptations to physical forces in the environment, insect parts and systems, sexual-nonsocial reproductive behavior, attraction to host plants and feeding stimuli, migration and dispersal, defense mechanisms, effects of weather and climate on behavior, principals of flight explained by analogy of aerodynamics, and most significantly the author's theory of electromagnetic communication that under certain conditions, insect and perhaps plant host molecules generate specific combinations of wave frequencies which are detected and decoded in receptive insects by means of specialized organs (e.g., the eyes and antennae).

A chapter on insects and entomology in relation to human affairs is followed by descriptions of projects for collecting and studying the behavior of insects, with emphasis on the use of relatively simple electronic circuits and devices. A list of selected readings and glossary of terms round out the book.

The numerous and clearly presented illustrations derive mainly from the author's research and experiences. A provocative but thought-inducing aspect of the narrative is frequent injection of the author's ideas. This adds considerably to a deceptively simple and highly readable presentation.

ROBERT C. WILKINSON
Department of Entomology & Nematology
University of Florida, Gainesville