JOURNAL
OF THE
Tennessee Academy of Science

VOL. XXXIII OCTOBER, 1958 No. 4

BIOLOGICAL STUDIES ON THE ARMYWORM, PSEUDALETIA UNIPUNCTA (HAWORTH), IN TENNESSEE (LEPIDOPTERA: NOCTUIDAE)[1,2]

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INTRODUCTION

The armyworm is the cutworm-like larva of a noctuid moth, known as *Pseudaletia unipuncta* (Haworth). Ordinarily this insect is present in only moderate numbers and does not attract

[1] Based on a thesis submitted to the University of Tennessee in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

[2] This paper is being published with the financial assistance of the Agricultural Experiment Station, University of Tennessee.

undue attention. However, at infrequent intervals of unpredictable duration, the species stages an invasion involving great hordes of ravaging worms which travel gregariously in columns or armies, hence, the common name, armyworm. For the most part, the species is a pest of small grains and other grasses.

Outbreaks of the armyworm are characterized by the suddenness with which they occur. Severe losses are frequently inflicted before the worms are detected and their disappearance from the scene is as sudden as their appearance. This sporadic behavior of the armyworm has resulted in a vague and inadequate understanding of its biology, for the tendency of workers has been to make observations only during destructive periods of great outbreak years, and to become complacent between seizures. Thus, the armyworm has a history of many Pearl Harbor-like attacks.

Of the impact of the armyworm, Slingerland (1896) says, "fully to realize the destructive capabilities of this insect one must see (no description will suffice) an army of the worms on the march and at work." Flint (1854) said of an early outbreak, "Millions of devouring worms threatening to cut off every green thing."

Although the armyworm had made intermittent attacks in Tennessee for almost one hundred years, no action was incited until after the devastating statewide outbreak of 1953 which resulted in damage estimated at ten million dollars. Following that outbreak, a research project was initiated by the University of Tennessee Agricultural Experiment Station in the hope of obtaining sufficient information to allow the early detection of incipient armyworm attacks. This would assure a more effective control of the species and the possible prevention of large-scale damage.

Although the pioneer work of Riley (1870, 1876, 1883) and others (see review of literature) gives much valuable information concerning the armyworm, a biological study of the species in the light of present information and under present conditions was urgently needed. It is the purpose of this work to present the principal results of such a study conducted by the writer over a two-season period (1956-57).

ACKNOWLEDGMENTS

The writer is especially indebted to his committee chairman, Dr. A. C. Cole, Jr., for his many valuable suggestions and guidance throughout this study. Appreciation is also expressed to the following personnel of the Department of Entomology, Tennessee Agricultural Experiment Station: Dr. Simon Marcovitch, for help in the delineation of the problem; Mr. W. W. Stanley, for photographic assistance; Mr. S. E. Bennett, for help