

Book Review

Applied Myrmecology: A World Perspective. Vander Meer, Robert K., Klaus Jaffe, and Aragua Cedano [eds.]. Westview Press Studies in Insect Biology. Westview Press, Boulder, CO. 1990; 741 pp.; \$97.50. ISBN 0-8133-7785-4

Applied Myrmecology provides a foundation for future concerted research efforts on economic intrusions of the ecologically diverse and abundant ants. Selections range from neurotoxins and behavior to ecology. One learns of "el venticuatro", an ant whose sting produces "the worst 24 hours of one's life", that "hormiga loca" prefers nesting under black plastic bags left in the fields when plants are transferred from nurseries, and that Pharaoh's ants transmit human diseases.

A colloquium held in Caracas in 1988 generated the idea for the book. The succinct papers compiled by the editors bring together an array of data on "pest ants". The term "pest ant" is broadly used to encompass any ant species whose activities conflict with man's economic, medical or recreational interests. Some species, like the fire ant imported to the United States, and therefore of parochial interest there, are more thoroughly discussed in the text than others.

The "world" of the book is truncated, omitting the Far East, Russia and Eastern Europe in general. The majority of the papers are written by authors from North and South America; other contributions are from southern Africa, Australia and India.

Applied Myrmecology is presented in seven sections, each, except the first, with an overview of the chapters that follow. The first section, Ant Pests of the World, describes pest ants and their effects in southern Africa, India, Australia, the Hawaiian Islands, South America and the United States. Systematics and Morphology follows, with papers on the chemotaxonomy, venom and hydrocarbon profiles, and morphology of the imported fire ant, *Solenopsis invicta* Buren. Several topics on reproduction, among them oviposition and social control of reproduction, in *Solenopsis* and the leaf-cutting ants (*Atta*) comprise the third section. The Natural History and Biology section presents studies of the colonies of *S. invicta* and leaf-cutting ants, the biology of carpenter ants, a summary of the importance of the little fire ant (*Wasmannia auropunctata* (Rog.)), biological aspects of *Paratrechina fulva* (Mayr), and Tapinomini pests. The Behavioral and Chemical Ecology section contains papers on recognition of nestmates and the survival of other arthropods in nests of fire ants, foraging strategies in leaf-cutting ants and

Pharaoh's ant, exploitation of new territory by the Argentine ant, neurotoxins of the giant tropical ant, prey capture by the African weaver ant, and the biological activities of ant-derived alkaloids. The Applied Ecology section introduces the reader to several types of economic impact imposed by ants on crop production and other human endeavors. The last set of papers, Control, summarizes measures, from toxic chemicals and psychotropic substances to management techniques that may be undertaken to reduce or eliminate economic loss due to ant pests. There is also a Taxonomic Index.

The task of compiling a volume with 67 papers and 6 overviews was certainly heroic, particularly since many of the authors come from countries other than the United States. But English usage errors and misspellings of English words and scientific names, detract considerably from the book, and especially from the papers in which they occur. In the paper by Harada, the Key and the Figure legends do not agree with the drawings. There are cases of printing errors in several papers and in entries under References ("References Cited" in some parts of the book). The Taxonomic Index repeats text errors in the spelling of scientific names. The Index, as well as each paper, should have contained the full scientific names, including the authors, of the species of ants and other organisms under consideration. A glossary, and an appendix of line drawings of the major ant species in the book would have been useful and appropriate, especially for readers who are not myrmecologists.

Applied Myrmecology makes a significant stride toward generating a base for a discipline emphasizing ant pests and their control. The subject areas and the geographical idiosyncrasies are at present too disparate to be gracefully unified in one book, but individual contributions do provide both new and well-summarized existing data, and supply good references after 1940. The book serves as both background and challenge for further research by myrmecologists and other researchers in applied entomology. Readers will enjoy and be stimulated by these perspectives on pest ants. - **Arnold Van Pelt**, Moore Professor Emeritus, Greensboro College, 203 Howell Place, Greensboro, NC 27408.