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**ALL TRANSITIONS FROM
PRIMITIVE TO ADVANCED
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Wasps Social Insects

Yoshiaki Itō



Wasps Social Insects:

Neotropical Social Wasps Fabio Prezoto, Fabio Santos Nascimento, Bruno Corrêa Barbosa, Alexandre Somavilla, 2020-11-07 This book provides updated information on this intriguing and exciting group of insects Neotropical Social Wasps These insects have a particular biology and their colonies are formed by a few cooperative females living in either small or massive structured nests where stinging individuals organize their activities and defend their offspring Topics include evolutionary aspects biogeography post embryonic development community behavior and ecology economic importance and research methods

The Social Insects Owain Westmacott Richards, 1961

The Evolution of Social Wasps James H. Hunt, 2007-03-27 Publisher description

American Social Insects Charles Duncan Michener, Mary H. Michener, 1951 Preface This book concerns the lives of those insects that live in colonies and whose activities center about the queen tended by her six footed subjects Included also are the various insects that are parasites and associates of our principal subjects the bees ants wasps and termites as well as those that shed light on the origin and evolution of the colonial habits of these insects We do not intend that this book should be considered a contribution to science we hope rather that it will be an introduction to the behavior of social insects that will prove interesting to many and perhaps stimulate a few to learn more about these fascinating creatures Any of the groups of social insects would provide a worthwhile lifetime project for anyone wishing to enjoy an interesting study and at the same time make a valuable contribution to knowledge It is scarcely necessary to point out that such a study might also serve a practical purpose for many social insects are of great importance to man we need mention only the pollination and nectar gathering of bees the dissemination of pestiferous insects by ants and the destruction of property by termites We wish to thank the many persons who have provided us with photographic illustrations Their names are mentioned elsewhere but the time and trouble required for each photograph can scarcely be acknowledged We wish also to mention those who stimulated us to write this book the late Clyde Fisher and Dr Mon A Cazier Mary H Michener Charles D Minchener Lawrence Kansas

The Social Insects William Morton Wheeler, 1928

The Insect Societies Edward O. Wilson, 1971 A study of insect sociology presenting individual investigations of wasps ants bees and termites and discussing caste behavior communication symbioses and other topics

Exploring the World of Social Insects Hilda Simon, 1962

American Social Insects Charles Duncan Michener, 1951

[Defensive Mechanisms in Social Insects](#) Henry R. Hermann, 1984

[Food Exploitation By Social Insects](#) Stefan Jarau, Michael Hrnčir, 2009-05-21

Omnipresent in virtually all terrestrial ecosystems and of undisputed ecological and economical importance the study of social insects is an area that continues to attract a vast number of researchers As a consequence a huge amount of information about their biology and ecology has accumulated Distilling this scattered information into a highly

Social Insects and the Environment C.A. Viraktamath, G.K. Veeresh, B. Mallik, 2023-10-09 This volume includes 370 papers presented by leading scientists at the 11th International Congress of IUSSI at Bangalore from August 5 11 1990 The papers

which have been classified into 30 sections relate to the symposia papers of the Congress. These cover various frontiers of research on social insects such as evolution of sociality, polygyny, social polymorphism, kin recognition, kin selection, foraging strategies, reproductive strategies, biogeography and phylogenetics of bees and ants, pollination ecology and management of pestiferous social insects. The most important feature about these papers in this publication is that the results are presented in a crisp, brief and precise manner. Because of the brevity, it has been possible to bring together in one publication almost all aspects of research on social insects from all parts of the world. The time between presentation of papers at a Congress and publication has been avoided by publishing this volume on the eve of the Congress, and this enables scientists to refer to the results immediately.

The Social Biology of Wasps Kenneth G. Ross, Robert W. Matthews, 2018-08-06. In this edited collection, 17 internationally known authorities bring together the results of recent research on the natural history, ecology, behavior, morphology and genetics of wasps as they pertain to the evolution of social behavior. The first part of the book opens with a review of the classification of the family Vespidae along with a revision of the subfamily Polistinae. Seven subsequent chapters deal with the natural history and social biology of each of the major taxa of social and presocial vespids. The second part of the book offers chapters on reproductive competition, worker polyethism, evolution of nest architecture, queen number and queen control, and of exocrine glands, population genetics, the nutritional basis of social evolution and the nest as the locus of social life. The final chapter is a comparative discussion of social behavior in the Sphecidae, the only family of wasps besides the Vespidae in which well developed social behavior is known. Providing a wealth of information about the biology of wasps, this comprehensive up-to-date volume will be an essential reference for entomologists, evolutionary biologists, behavioral ecologists, ethologists and zoologists. Contributors: James M. Carpenter, David P. Cowan, Holly A. Downing, Raghavendra Gadagkar, Albert Greene, James H. Hunt, Robert L. Jeanne, Makoto Matsuura, Robert W. Matthews, Hudson K. Reeve, Peter Frank Roseler, Kenneth G. Ross, J. Philip Spradbery, Christopher K. Starr, Stefano Turillazzi, John W. Wenzel, Mary Jane West Eberhard.

Pheromone Communication In Social Insects Robert K. Vander Meer, Michael D. Breed, Mark Winston, Karl E. Espelie, 2019-06-18. Bringing together for the first time prominent researchers in social insect pheromone communication, including nestmate recognition, this book looks at ants, wasps, bees and termites, highlighting areas of convergence and divergence among these groups and identifying areas that need further investigation. Presenting broad synthetic overviews as well as species-specific studies, the volume will be useful to natural scientists, ecologists and those interested in pest management as well as to anyone interested in the fascinating, chemically mediated behavioral interactions of social insects.

[Genomics, Physiology and Behaviour of Social Insects](#), 2015-03-26. *Physiology Behavior Genomics of Social Insects* provides comprehensive information on the social insect groups described, including new and unique reviews on emerging model social organisms. The book's interdisciplinary approach integrates behavior, genomics and physiology, providing readers with great insights into the present state of a rapidly expanding area of research. It also discusses areas where new research

tools will bring hope to longstanding problems Provides the latest research on the genomics behavior and physiology of social insects Presents diverse and authoritative syntheses on the relationship between genomics physiology and the fascinating behavior of social insects Takes an in depth look of the current state of social insect research and its future path Lives of Social Insects Peggy Pickering Larson, Mervin W. Larson, 1968 *Parasites in Social Insects* Paul Schmid-Hempel, 1998-11-22 In addition the author develops new insights especially in his examination of the intricate relationships between parasites and their social hosts through the rigorous use of evolutionary and ecological concepts The Social Insects Owain Westmacott Richards, 1953 **Wasps, Social and Solitary** George Williams Peckham, Elizabeth Gifford Peckham, 1905 **Ants, Bees, and Wasps** Lord Avebury, John Lubbock, 2009-06 This scarce antiquarian book is a facsimile reprint of the original Due to its age it may contain imperfections such as marks notations marginalia and flawed pages Because we believe this work is culturally important we have made it available as part of our commitment for protecting preserving and promoting the world s literature in affordable high quality modern editions that are true to the original work *Behaviour and Social Evolution of Wasps* Yoshiaki Itō, 1993 In this book Ito presents data on tropical wasps which suggest that kin selection has been overemphasized as an evolutionary explanation of sociality He concentrates on the Vespidae paper wasps and hornets a group much discussed by evolutionary biologists because it exhibits all stages of social evolution subsociality primitive eusociality and advanced eusociality The author reports field observations by himself and others in Central America Asia and Australia showing that multiple egg layers in a nest are not uncommon Because coexistence of many queens leads to lower relatedness among colony members than in single queen colonies he suggests that kin selection may not be the most powerful force determining observed social patterns Instead subsocial wasps may first have aggregated for defence purposes in habitats with a high risk of predation with mutualistic associations among many queens Through parental manipulation and then kin selection differentiation into within generation castes may have followed Of interest to all students of ecology evolution and behaviour this book beautifully illustrates the ability to combine wide ranging data with thoughtful questions the author s trademark

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