

---

# Biogeography And Taxonomy Of Honeybees

---

Honey Bee Colony Health  
The Biology of the Honey Bee  
The Dark European Honeybee  
The african Honey Bee  
Current Topics in Developmental Biology  
Genotyping  
Asian Beekeeping in the 21st Century  
Commercial Insects  
The Wisdom of the Hive  
Genetic Methods and Tools for Managing Crop Pests  
Diversity In The Genus Apis  
Beekeeping: A Compressive Guide to Bees and Beekeeping  
New World Tarantulas  
Honeybees of Asia  
Climate Change and the Economic Importance and Damages of Insects  
Species Concepts in Biology  
Pollination Ecology and the Rain Forest  
Asian Honey Bees  
Honeybee Democracy  
The Buzz about Bees  
Networks of Invasion: Empirical Evidence and Case Studies  
Hormones, Brain and Behavior Online  
The Lives of Bees  
Honey Bee Medicine for the Veterinary Practitioner  
Comparative Social Evolution  
Phylogenomics  
Pollination Biology  
Bees  
Advances in Insect Physiology  
Reproductive Technologies in Animals  
Breeding Techniques and Selection for Breeding of the Honeybee  
The Mediterranean region under climate change  
Natural Resources and Sustainability  
Biogeography and Taxonomy of Honeybees  
Origins of Biogeography  
Role of Giant Honeybees in Natural and Agricultural Systems  
Biodiversity and Chemotaxonomy  
Pollinators and Pollination  
The Drone Honey Bee  
Honeybees of Africa

*Biogeography  
And Taxonomy  
Of Honeybees*

Downloaded  
from  
[archive.imba.com](http://archive.imba.com)  
by guest

## **KRUEGER NOVAK**

*Honey Bee Colony Health*  
Springer

Networks of Invasion:

Networks of Invasion:

Empirical Evidence and  
Case Studies, Volume 57  
bridges a conceptual gap  
between ecological  
network studies and  
invasion biology studies.

This book contains  
chapters detailing  
pressing concerns  
regarding invasive species  
in food webs, but also  
extends the idea of  
networks of invasion to  
other systems, such as  
mutualistic networks or  
even the human  
microbiome. Chapters  
describe the tools, models  
and empirical methods  
adapted for tackling  
invasions in ecological  
networks, including  
sections on parasites and  
biological invasions,  
invasions in freshwater  
systems, and those in  
host-associated  
microbiome networks. In  
addition, the book  
provides interesting  
discussions on the  
importance of  
microorganisms and their  
relationship to  
macroorganisms. -  
Contains chapters  
detailing pressing

concerns regarding  
invasive species in food  
webs - Describes the  
tools, models and  
empirical methods  
adapted for tackling  
invasions in ecological  
networks - Deals with  
topical and important  
reviews on the  
physiology, populations  
and communities of plants  
and animals

### **The Biology of the Honey Bee**

CRC Press  
From the perspective of  
local scientists, this book  
provides insight into bees  
and bee management of  
Asia, with a special focus  
on honey bees. Asia is  
home to at least nine  
honey bee species,  
including the introduced  
European honey bee, *Apis  
mellifera*. Although *A.  
mellifera* and the native  
Asian honey bee, *Apis  
cerana*, are the most  
commonly employed  
species for commercial  
beekeeping, the  
remaining non-managed  
native honey bee species  
have important ecological  
and economic roles on the  
continent. Species  
distributions of most  
honey bee species  
overlap in Southeast Asia,  
thus promoting the  
potential for interspecies  
transmission of pests and  
parasites, as well as their  
spread to other parts of  
the world by human

translocation. Losses of  
managed *A. mellifera*  
colonies is of great  
concern around the world,  
including in Asia. Such  
global colony losses are  
believed to be caused, in  
part, by pests and  
parasites originating from  
Asia such as the mite  
*Varroa destructor*, the  
microsporidian *Nosema  
ceranae*, and several bee  
viruses. Taking advantage  
of the experience of  
leading regional bee  
researchers, this book  
provides insight into the  
current situation of bees  
and bee management in  
Asia. Recent introductions  
of honey bee parasites of  
Asian origin to other parts  
of the world ensures that  
the contents of this book  
are broadly relevant to  
bee scientists,  
researchers, government  
officials, and the general  
public around the world.  
*The Dark European  
Honeybee* CRC Press  
Insects are considered the  
largest group of animals  
on earth, as they  
represent more than one  
million documented  
species and about half of  
all species on a global  
scale. This makes this  
group of animals essential  
for global functioning and  
survival. Climate change  
is disrupting the  
distribution and  
abundance of insects and

will have serious repercussions for human well-being. Climate Change and the Economic Importance and Damages of Insects presents a set of scientific studies in the field of economic entomology in the context of climate change, which is a critical research area that affects human well-being. Covering key topics such as pollination, crops, and economic damages, this premier reference source is ideal for environmentalists, scientists, researchers, scholars, academicians, practitioners, instructors, and students.

**The african Honey Bee**  
Springer Nature

This book presents a revised history of early biogeography and investigates the split in taxonomic practice, between the classification of taxa and the classification of vegetation. It moves beyond the traditional belief that biogeography is born from a synthesis of Darwin and Wallace and focuses on the important pioneering work of earlier practitioners such as Zimmermann, Stromeier, de Candolle and Humboldt. Tracing the academic history of biogeography over the decades and centuries,

this book recounts the early schisms in phyto and zoogeography, the shedding of its bonds to taxonomy, its adoption of an ecological framework and its beginnings at the dawn of the 20th century. This book assesses the contributions of key figures such as Zimmermann, Humboldt and Wallace and reminds us of the forgotten influence of plant and animal geographers including Stromeier, Prichard and de Candolle, whose early attempts at classifying animal and plant geography would inform later progress."/p> The Origins of Biogeography is a science historiography aimed at biogeographers, who have little access to a detailed history of the practices of early plant and animal geographers. This book will also reveal how biological classification has shaped 18th and 19th century plant and animal geography and why it is relevant to the 21st biogeographer.

Current Topics in Developmental Biology IGI Global

A multi-authored work on the basic biology of Asian honeybees, written by expert specialists in the field, this book highlights phylogeny, classification,

mitochondrial and nuclear DNA, biogeography, genetics, physiology, pheromones, nesting, self-assembly processes, swarming, migration and absconding, reproduction, ecology, foraging and flight, dance languages, pollination, diseases/pests, colony defensiveness and natural enemies, honeybee mites, and interspecific interactions.

Comprehensively covering the widely dispersed literature published in European as well as Asian-language journals and books, "Honeybees of Asia" provides an essential foundation for future research.

**Genotyping** Elsevier Honeybees are as small as flies or as large as hornets, nesting in narrow cavities of trees and rocks or in the open on large limbs of trees 30 m above ground. They occur in tropical zones and in the forests of the Ural mountains, they survive seven months of winter and even longer periods of drought and heat. Historically, they lived through a extended time of stagnation in the tropics from the mid-Tertiary, but then experienced an explosive evolution during the Pleistocene, resulting in

the conquest of huge new territories and the origin of two dozen subspecies in *Apis mellifera*. This vast geographic and ecologic diversification of the genus *Apis* was accompanied by a rich morphological variation, less on the level of species than at the lowest rank, the subspecies level. Variation being exclusively of a quantitative kind at this first step of speciation, traditional descriptive methods of systematics proved to be unsatisfactory, and honeybee taxonomy finally ended up in a confusing multitude of inadequately described units. Effective methods of morphometric-statistical analysis of honeybee populations, centered on limited areas, have been developed during the last decades. Only the numerical characterization of the populations, together with the description of behavior, shows the true geographic variability and will end current generalizations and convenient stereotypes. *Asian Beekeeping in the 21st Century* Princeton University Press

From ancient cave paintings of honey bee nests to modern science's

richly diversified investigation of honey bee biology and its applications, the human imagination has long been captivated by the mysterious and highly sophisticated behavior of this paragon among insect societies. In the first broad treatment of honey bee biology to appear in decades, Mark Winston provides rare access to the world of this extraordinary insect. In a bright and engaging style, Winston probes the dynamics of the honey bee's social organization. He recreates for us the complex infrastructure of the nest, describes the highly specialized behavior of workers, queens, and drones, and examines in detail the remarkable ability of the honey bee colony to regulate its functions according to events within and outside the nest. Winston integrates into his discussion the results of recent studies, bringing into sharp focus topics of current bee research. These include the exquisite architecture of the nest and its relation to bee physiology; the intricate division of labor and the relevance of a temporal caste structure to efficient functioning of the colony; and, finally,

the life-death struggles of swarming, supersedure, and mating that mark the reproductive cycle of the honey bee. The *Biology of the Honey Bee* not only reviews the basic aspects of social behavior, ecology, anatomy, physiology, and genetics, it also summarizes major controversies in contemporary honey bee research, such as the importance of kin recognition in the evolution of social behavior and the role of the well-known dance language in honey bee communication. Thorough, well-illustrated, and lucidly written, this book will for many years be a valuable resource for scholars, students, and beekeepers alike.

*Commercial Insects*  
Springer Science & Business Media

A unique and personal insight into the ecology and evolution of pollinators, their relationships with flowers, and their conservation in a rapidly changing world. The pollination of flowers by insects, birds and other animals is a fundamentally important ecological function that supports both the natural world and human society. Without pollinators to facilitate the sexual

reproduction of plants, the world would be a biologically poorer place in which to live, there would be an impact on food security, and human health would suffer. Written by one of the world's leading pollination ecologists, this book provides an introduction to what pollinators are, how their interactions with flowers have evolved, and the fundamental ecology of these relationships. It explores the pollination of wild and agricultural plants in a variety of habitats and contexts, including urban, rural and agricultural environments. The author also provides practical advice on how individuals and organisations can study, and support, pollinators. As well as covering the natural history of pollinators and flowers, the author discusses their cultural importance, and the ways in which pollinator conservation has been portrayed from a political perspective. The book draws on field work experiences in South America, Africa, Australia, the Canary Islands and the UK. For over 30 years the author has spent his career researching how plants and pollinators evolve relationships, how

these interactions function ecologically, their importance for society, and how we can conserve them in a rapidly changing world. This book offers a unique and personal insight into the science of pollinators and pollination, aimed at anyone who is interested in understanding these fascinating and crucial ecological interactions.

**The Wisdom of the Hive** Harvard University Press

Darwin famously described special difficulties in explaining social evolution in insects. More than a century later, the evolution of sociality - defined broadly as cooperative group living - remains one of the most intriguing problems in biology. Providing a unique perspective on the study of social evolution, this volume synthesizes the features of animal social life across the principle taxonomic groups in which sociality has evolved. The chapters explore sociality in a range of species, from ants to primates, highlighting key natural and life history data and providing a comparative view across animal societies. In establishing a single framework for a common, trait-based

approach towards social synthesis, this volume will enable graduate students and investigators new to the field to systematically compare taxonomic groups and reinvigorate comparative approaches to studying animal social evolution.

Genetic Methods and Tools for Managing Crop Pests Bentham Science Publishers

This contributed volume aims at bringing together all the genetic engineering tools for managing various types of crop pests. The main focus of this book is to explore the application of these tools in pest management. Major pest groups covered in this book are insects, mites and nematodes. The first section covers all major genetic tools and molecular approaches. The second section deals with genetic tools for of beneficial containing three chapters involving honey bees, silkworms and natural enemies. Next section deals with genetic interactions against pests in diverse geographical regions with special focus on Africa, Vietnam and Sri Lanka. Sections four and five addresses diverse aspects as management of pests, genetic behavior, gene expression,

plasticity, pathways and interactions and options for mitigation of pests. It serves as a useful resource for professionals in the fields of entomology, agronomy, horticulture, ecology, and environmental sciences, as well as to agricultural producers and plant biotechnologists.

*Diversity In The Genus Apis* CRC Press

Despite being the biggest group of organisms inhabiting Earth in both diversity and sheer numbers, insects are barely commercialized. Most of the standard textbooks of applied entomology talk about insect pest management, and when it comes to commercial aspects of insects, only apiculture, sericulture, and lac culture are talked about. This book will help bring other commercial uses of insects and their economic potential to the fore. This will generate interest in further research on the commercial potential of insects, thereby harnessing a much-found resource. The book has the following salient features: 1. Encompasses all major aspects of beneficial and commercial insects. 2. Deals with edible insects and mass

culture of natural enemies and beneficial insects. 3. Emphasis on the mass cultivation of beneficial insects for obtaining yields. 4. Discusses stingless bees and their products. 5. Helps to solve the problem of food scarcity and improve food security.

[Beekeeping: A Comprehensive Guide to Bees and Beekeeping](#)  
Springer

Reproductive Technologies in Animals provides the most updated and comprehensive knowledge on the various aspects and applications of reproductive technologies in production animals as well as companion, wild, exotic, and laboratory animals and birds. The text synthesizes historical information and recent discoveries, while dealing with economical and geographical issues related to the implementation of the same technologies. It also presents the effects of reproductive technology implementation on animal welfare and the possible threat of pathogen transmission. *Reproductive Technologies in Animals* is an important resource for academics, researchers, professionals

in public and private animal business, and students at the undergraduate and graduate levels, as it gives a full and detailed first-hand analysis of all species subjected to the use of reproductive technologies. - Provides research from a team of scientists and researchers whose expertise spans all aspects of animal reproductive technologies - Addresses the use of reproductive technologies in a wide range of animal species - Offers a complete description and historical background for each species described - Discusses successes and failure as well as future challenges in reproductive technologies

**New World Tarantulas**  
Springer Nature

The Theraphosidae are the most famous and diverse mygalomorph spiders, and include some of the largest arachnids on earth. Their unique defense mechanisms, predatory tactics, reproductive strategies and ecological adaptations are displayed by a wide range of terrestrial, burrowing and arboreal species. These arachnids are familiar to the general public thanks to horror movies and a growing interest in



tarantulas as pets; however, scientific information on the group is scattered throughout the literature and not easily available. This book reviews all major aspects of New World Theraphosid tarantulas and provides in-depth information on their evolution, taxonomy, behavior, physiology, ecology, reproduction, conservation and biogeography. As a comprehensive guide to the biology of tarantulas, it will appeal to researchers, students and terrarium hobbyists alike.

*Honeybees of Asia*  
Springer Science & Business Media

Frank E. Zachos offers a comprehensive review of one of today's most important and contentious issues in biology: the species problem. After setting the stage with key background information on the topic, the book provides a brief history of species concepts from antiquity to the Modern Synthesis, followed by a discussion of the ontological status of species with a focus on the individuality thesis and potential means of reconciling it with other philosophical approaches. More than 30 different species concepts found in the literature are

presented in an annotated list, and the most important ones, including the Biological, Genetic, Evolutionary and different versions of the Phylogenetic Species Concept, are discussed in more detail. Specific questions addressed include the problem of asexual and prokaryotic species, intraspecific categories like subspecies and Evolutionarily Significant Units, and a potential solution to the species problem based on a hierarchical approach that distinguishes between ontological and operational species concepts. A full chapter is dedicated to the challenge of delimiting species by means of a discrete taxonomy in a continuous world of inherently fuzzy boundaries. Further, the book outlines the practical ramifications for ecology and evolutionary biology of how we define the species category, highlighting the danger of an apples and oranges problem if what we subsume under the same name ("species") is in actuality a variety of different entities. A succinct summary chapter, glossary and annotated list of references round out the

coverage, making the book essential reading for all biologists looking for an accessible introduction to the historical, philosophical and practical dimensions of the species problem.

[Climate Change and the Economic Importance and Damages of Insects](#) CRC Press

This book describes and illustrates the results of more than fifteen years of elegant experimental studies conducted by the author to investigate how a colony of bees is organized to gather its resources. The results of his research--including studies of the shaking signal, tremble dance, and waggle dance--offer the clearest, most detailed picture available of how a highly integrated animal society works.

**Species Concepts in Biology** Nova Science Publishers

A comprehensive review of the honeybees of Africa on a subspecies as well as by country basis. Includes an updated multivariate analysis of the subspecies based on the merger of the Ruttner database (Oberursel) and that of Hepburn & Radloff (Grahamstown) for nearly 20,000 bees. Special emphasis is placed on natural zones of

hybridisation and introgression of different populations; seasonal cycles of development in different ecological-climatological zones of the continent; swarming, migration and absconding; and an analysis of the bee flora of the continent. The text is supplemented by tables containing quantitative data on all aspects of honeybee biology, and by continental and regional maps.

Pollination Ecology and the Rain Forest Berkshire Publishing Group

How honeybees make collective decisions—and what we can learn from this amazing democratic process Honeybees make decisions collectively—and democratically. Every year, faced with the life-or-death problem of choosing and traveling to a new home, honeybees stake everything on a process that includes collective fact-finding, vigorous debate, and consensus building. In fact, as world-renowned animal behaviorist Thomas Seeley reveals, these incredible insects have much to teach us when it comes to collective wisdom and effective decision making. A remarkable and richly

illustrated account of scientific discovery, *Honeybee Democracy* brings together, for the first time, decades of Seeley's pioneering research to tell the amazing story of house hunting and democratic debate among the honeybees. In the late spring and early summer, as a bee colony becomes overcrowded, a third of the hive stays behind and rears a new queen, while a swarm of thousands departs with the old queen to produce a daughter colony. Seeley describes how these bees evaluate potential nest sites, advertise their discoveries to one another, engage in open deliberation, choose a final site, and navigate together—as a swirling cloud of bees—to their new home. Seeley investigates how evolution has honed the decision-making methods of honeybees over millions of years, and he considers similarities between the ways that bee swarms and primate brains process information. He concludes that what works well for bees can also work well for people: any decision-making group should consist of individuals with shared interests and

mutual respect, a leader's influence should be minimized, debate should be relied upon, diverse solutions should be sought, and the majority should be counted on for a dependable resolution. An impressive exploration of animal behavior, *Honeybee Democracy* shows that decision-making groups, whether honeybee or human, can be smarter than even the smartest individuals in them.

### **Asian Honey Bees**

Pelagic Publishing Ltd

A rare norovirus (NoV) genotype GII.17 has recently emerged and rapidly became predominant in most East Asian countries in the winters of 2014-2015. In this study, we report the diversity of NoV GII.17 in detail; a total of 646 GII.17 sequences obtained during 1978-2015 were analyzed and subjected to meta-analysis. At least five major recombinant GII.17 clusters were identified. Each recombinant variant group appeared to have emerged following the time order: GII.P4-GII.17 (1978-1990), GII.P16-GII.17 (2001-2004), GII.P13-GII.17 (2004-2010), GII.Pe-GII.17 (2012-2015) and GII.P3-GII.17 (2011-2015). The



newly emerged GII.P3-GII.17 variant, which exhibited significant sequence and structure variations, is evolving toward a unique lineage. Our results indicate that circulation of GII.17 appears to change every 3-5 years due to replacement by a newly emerged variant and that the evolution of GII.17 is sequentially promoted by inter-genotype recombination, which contributes to the exchange between non-GII.17 and GII.17 RdRp genes and drives the evolution of GII.17 capsid genes.

**Honeybee Democracy**  
Cambridge University Press

Plant classifications are based on morphological characters and it is difficult, particularly in small plants and grasses, to identify these below generic level on the basis of these characters using a dissecting microscope. Plant species have intra- and inter-specific variation in secondary metabolites which can be utilized as marker compounds for identification and classification of plants. Secondary metabolites are produced as a result of primary metabolism and the production of

these compounds not only involves several genes but also it is an energy dependent process. Hence these products cannot be considered as insignificant for the plant and the environment. Modern tools of molecular biology and secondary metabolites present in them can definitively decide about classification of plants. Absence of correct identification of plant is associated to many problems of resource utilization. Due to wide availability of these tools, interest has revived in systematics and correct classification of plants based on these parameters for their sustainable utilization and resource management. The purpose of this book is to assess the potential of phytochemical and molecular tools in the systematic and classification of plants. The topics covered include species concept, barcoding and phylogenetic analysis, chemotaxonomy use of polyketides, carotenes, cuticular wax, volatile oils, biodiversity of corals, metazoans, *Ruta* and *Echinocereus*. It provides comprehensive and broad subject-based reviews, useful for students, teachers, researchers,

and all others interested in the field. The field has been kept wide and general to accommodate the wide-ranging topics. This book will be useful to agriculturists, chemists, botanists, industrialists, and those involved in planning of crop plants. *The Buzz about Bees*  
Academic Press  
This book has been published by Allenvi (French National Alliance for Environmental Research) to coincide with the 22nd Conference of Parties to the United Nations Framework Convention on Climate Change (COP22) in Marrakesh. It is the outcome of work by academic researchers on both sides of the Mediterranean and provides a remarkable scientific review of the mechanisms of climate change and its impacts on the environment, the economy, health and Mediterranean societies. It will also be valuable in developing responses that draw on "scientific evidence" to address the issues of adaptation, resource conservation, solutions and risk prevention. Reflecting the full complexity of the Mediterranean environment, the book is a major scientific

contribution to the climate issue, where various scientific considerations converge to break down the boundaries between disciplines.

Related with Biogeography And Taxonomy Of Honeybees:

- John Boy Guide Service : [click here](#)