



Plant-Pollinator Interactions

FROM SPECIALIZATION TO GENERALIZATION

Edited by Nicholas M. Waser and Jeff Ollerton

Plant Pollinator Interactions From Specialization To Generalization

Edward Helderop



Plant Pollinator Interactions From Specialization To Generalization:

Plant-Pollinator Interactions Nickolas M. Waser, Jeff Ollerton, Just as flowering plants depend on their pollinators many birds insects and bats rely on plants for energy and nutrients This plant pollinator relationship is essential to the survival of natural and agricultural ecosystems *Plant Pollinator Interactions* portrays the intimate relationships of pollination over time and space and reveals patterns of interactions from individual to community levels showing how these patterns change at different spatial and temporal scales Nickolas M Waser and Jeff Ollerton bring together experts from around the world to offer a comprehensive analysis of pollination including the history of thinking about specialization and generalization and a comparison of pollination to other mutualisms An overview of current thinking and of future research priorities *Plant Pollinator Interactions* covers an important theme in evolutionary ecology with far reaching applications in conservation and agriculture This book will find an eager audience in specialists studying pollination and other mutualisms as well as with biologists who are interested in ecological evolutionary and behavioral aspects of the specialization and generalization of species

Functional Plant Ecology Francisco Pugnaire, Fernando Valladares, 2007-06-20 Following in the footsteps of the successful first edition *Functional Plant Ecology* Second Edition remains the most authoritative resource in this multidisciplinary field Extensively revised and updated this book investigates plant structure and behavior across the ecological spectrum It features the ecology and evolution of plant crowns and a

Major Evolutionary Transitions in Flowering Plant Reproduction Spencer C. H. Barrett, 2008-11-28 The first volume to address the study of evolutionary transitions in plants *Major Evolutionary Transitions in Flowering Plant Reproduction* brings together compelling work from the three areas of significant innovation in plant biology evolution and adaptation in flowers and pollination mating patterns and gender strategies and asexual reproduction and polyploidy Spencer C H Barrett assembles here a distinguished group of authors who address evolutionary transitions using comparative and phylogenetic approaches the tools of genomics population genetics and theoretical modeling and through studies in development and field experiments in ecology With special focus on evolutionary transitions and shifts in reproductive characters key elements of biological diversification and research in evolutionary biology *Major Evolutionary Transitions in Flowering Plant Reproduction* is the most up to date treatment of a fast moving area of evolutionary biology and ecology

Tropical Biology and Conservation Management - Volume V Kleber Del Claro, Paulo S. Oliveira, Victor Rico-Gray, 2009-05-11 This *Encyclopedia of Tropical Biology and Conservation Management* is a component of the global *Encyclopedia of Life Support Systems EOLSS* which is an integrated compendium of twenty one *Encyclopedias* Tropical environments cover the most part of still preserved natural areas of the Earth The greatest biodiversity as in terms of animals and plants as microorganisms is placed in these hot and rainy ecosystems spread up and below the Equator line Additionally the most part of food products with vegetal or animal origin that sustain nowadays human beings is direct or undirected dependent of tropical productivity Biodiversity should be looked

at and evaluated not only in terms of numbers of species but also in terms of the diversity of interactions among distinct organisms that it maintains. In this sense the complexity of web structure in tropical systems is a promise of future to nature preservation on Earth. In the chemicals of tropical plant and animals could be the cure to infinite number of diseases, new food sources, and who knows what more. Despite these facts, tropical areas have been exploited in an irresponsible way for more than 500 years due to the lack of an ecological conscience of men. Exactly in the same way we did with temperate areas and also tropical areas in the north of Equator line. Nowadays it is estimated that due to human exploitation, nation conflicts, and social problems, less than 8% of tropical nature inside continental areas is still now untouchable. The extension of damage in the tropical areas of oceans is unknown. Thus, so all knowledge we could accumulate about tropical systems will help us as in the preservations of these important and threatened ecosystems as in a future recuperation when it was possible. Only knowing the past and developing culture mainly that directed to peace to a better relationship among nations and responsible use and preservation of natural resources, human beings will have a long future on Earth. These volumes *Tropical Biology and Natural Resources* was divided in sessions to provide the reader the better comprehension possible of issue and also to enable future complementation and improvements in the encyclopedia. Like we work with life, we intended to transform this encyclopedia also in a life volume in what new information could be added in any time. As president of the encyclopedia and main editor, I opened the theme with an article titled *Tropical Biology and Natural resources: Historical Pathways and Perspectives* providing the reader an initial view of the origins of human knowledge about the tropical life and what we hope to the future. In the sequence, we have more than 100 chapters distributed in ten sessions: Tropical Ecology (TE), Tropical Botany (TB), Tropical Zoology (TZ), Savannah Ecosystems (SE), Desert Ecosystems (DE), Tropical Agriculture (TA), Natural History of Tropical Plants (NH), Human Impact on Tropical Ecosystems (HI), Tropical Phytopathology and Entomology (TPE), Case Studies (CS). This 11 volume set contains several chapters, each of size 5000-30000 words, with perspectives, applications, and extensive illustrations. It is the only publication of its kind, carrying state of the art knowledge in the fields of Tropical Biology and Conservation Management, and is aimed by virtue of the several applications at the following five major target audiences: University and College Students, Educators, Professional Practitioners, Research Personnel, and Policy Analysts, Managers, and Decision Makers, and NGOs.

Pollination and Floral Ecology Pat Willmer, 2011-07-25. Pollination and Floral Ecology is a very comprehensive reference work to all aspects of pollination biology. **New Zealand Journal of Ecology**, 2008

Écoscience, 2007 *Tropical Zoology*, 2007 Tropical Rain Forest Ecology, Diversity, and Conservation Jaboury Ghazoul, Douglas Sheil, 2024-03-14. Rain forests represent the world's richest repository of terrestrial biodiversity and play a major role in regulating the global climate. They support the livelihoods of a substantial proportion of the world's population and are the source of many internationally traded commodities. They remain, despite decades of conservation attention, increasingly vulnerable to degradation and clearance, with profound though often uncertain future costs to global society.

Understanding the ecology of these diverse biomes and peoples dependencies on them is fundamental to their future management and conservation Tropical Rain Forest Ecology Diversity and Conservation introduces and explores what rain forests are how they arose what they contain how they function and how humans use and impact them The book starts by introducing the variety of rain forest plants fungi microorganisms and animals emphasising the spectacular diversity that is the motivation for their conservation The central chapters describe the origins of rain forest communities the variety of rain forest formations and their ecology and dynamics The challenge of explaining the species richness of rain forest communities lies at the heart of ecological theory and forms a common theme throughout The book s final section considers historical and current interactions of humans and rain forests It explores biodiversity conservation as well as livelihood security for the many communities that are dependent on rain forests inextricable issues that represent urgent priorities for scientists conservationists and policy makers **The American Naturalist** ,2009 **Journal of Apicultural Research** ,2007

Encyclopedia of Evolutionary Biology ,2016-04-14 Encyclopedia of Evolutionary Biology Four Volume Set is the definitive go to reference in the field of evolutionary biology It provides a fully comprehensive review of the field in an easy to search structure Under the collective leadership of fifteen distinguished section editors it is comprised of articles written by leading experts in the field providing a full review of the current status of each topic The articles are up to date and fully illustrated with in text references that allow readers to easily access primary literature While all entries are authoritative and valuable to those with advanced understanding of evolutionary biology they are also intended to be accessible to both advanced undergraduate and graduate students Broad topics include the history of evolutionary biology population genetics quantitative genetics speciation life history evolution evolution of sex and mating systems evolutionary biogeography evolutionary developmental biology molecular and genome evolution coevolution phylogenetic methods microbial evolution diversification of plants and fungi diversification of animals and applied evolution Presents fully comprehensive content allowing easy access to fundamental information and links to primary research Contains concise articles by leading experts in the field that ensures current coverage of each topic Provides ancillary learning tools like tables illustrations and multimedia features to assist with the comprehension process **Diversity, Generalization, and Specialization in Plant-Pollinator Networks of Montane Meadows, Western Cascades, Oregon** Edward Helderop,2015 Despite the importance of plant pollinator interactions for ecological communities few long term observational studies have been conducted of plant pollinator networks Using four years of plant pollinator interaction data from 18 meadows in the Willamette National Forest Oregon this thesis examined how meadow size the amount of nearby meadow habitat weather degree days and soil moisture are related to the frequency of plant pollinator interactions Spatial and temporal turnover of plant and pollinator assemblages based on the Jaccard dissimilarity index were compared between meadows in a given year and within a meadow in different years The degree distributions of these plant pollinator networks were constructed and analyses were conducted

to determine the prevalence of generalization in the component species and the possible presence of modularity in some of the meadows Pollinator assemblages varied little in space pollinator communities were very similar in the 18 study meadows in a given year but pollinator communities differed dramatically between years In contrast plant assemblages had high turnover plants differed dramatically between nearby meadows in the same year and plant turnover was also high within meadows between years Network structures were dominated by species that were very well connected and they contained more well connected species than would occur in a randomly assembled network Plant and pollinator assemblages in interaction networks also were dominated by generalist species Some evidence of modularity occurred in small meadows in the network The results of this study are consistent with many published studies that have found that generalization in plant pollinator networks promotes their resilience over time in spite of the high component species turnover occurring between growing seasons These results provide little support for the hypothesis that pollinator networks in fragmented habitats are fragile and highly sensitive to the loss of individual species However the high spatial heterogeneity among the meadows in this study shown by dissimilarity in flowering plants and the high permeability of the forest separating the meadow habitats shown by the similarity among pollinators both contribute to the generalization and resilience of these networks Future work on plant pollinator networks should focus on naturally fragmented heterogeneous habitats and continue to observe long term changes in pollinator assemblages

Generalization in Plant Pollination Systems and Its Effect on Floral Evolution Within and Among Populations of Wild Radish (*Raphanus Raphanistrum*) Heather Farrah Sahli,2006 **Natural Areas Journal** ,2008 *Official Meeting Program* Ecological Society of America. Meeting,2006 Proceedings of the 23rd International Eucarpia Symposium Section Ornamentals Eucarpia. Ornamental Section. Symposium,2010 *Proceedings* ,2009 **Understanding Flowers and Flowering** Beverley Glover,2007-11-08 Evolution induction of flowering variation *Ecology* ,1996

Unveiling the Magic of Words: A Overview of "**Plant Pollinator Interactions From Specialization To Generalization**"

In some sort of defined by information and interconnectivity, the enchanting power of words has acquired unparalleled significance. Their ability to kindle emotions, provoke contemplation, and ignite transformative change is really awe-inspiring. Enter the realm of "**Plant Pollinator Interactions From Specialization To Generalization**," a mesmerizing literary masterpiece penned by way of a distinguished author, guiding readers on a profound journey to unravel the secrets and potential hidden within every word. In this critique, we shall delve into the book is central themes, examine its distinctive writing style, and assess its profound affect the souls of its readers.

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