Ecological Importance Of Ferns Cambridge University Press

Current Advances in Fern Research
The Herbaceous Layer in Forests of Eastern North America
Plant Evolution
Landslide Ecology
Ecosystem Collapse and Recovery
An Introduction to Plant Structure and Development
Ferns: Growth, Diversity and Ecological Importance
The Biology of Vines
Ferns
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Monteverde
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Plant and Human Health, Volume 1
Working with Ferns
Vascular Plants as Epiphytes
Biology and Evolution of Ferns and Lycophytes
The Experimental Biology of Ferns
Conserving Biodiversity Outside Protected Areas
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Seedling Ecology and Evolution
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Ecological Regions of North America
Ferns
Green Plants
Ecology of Central European Forests
Nature's Lacework

MCDANIEL JOSIE

Current Advances in Fern Research IUCN
The book will describe the xylem structure of different plant groups, and will put the findings in a physiological and ecological context. For instance, when differences in vessel diameter are featured, then there will be an explanation why this matters for water transport efficiency and safety from cavitation. The focus is on the hydraulic function of xylem, although mechanical support and storage will also be covered. Featured plant groups include ferns (which only have primary xylem), conifers (tracheid-based xylem), lianas (extremely wide and long vessels), drought-adapted shrubs as well as the model systems poplar and grapevine. The book chapters will draw on the expertise and cutting edge research of a diversified group of internationally known researchers working in different anatomical and physiological sub-disciplines. Over the last two decades, much progress has been made in understanding how xylem structure relates to plant function. Implications for other timely topics such as drought-induced forest dieback or the regulation of plant biomass production will be discussed.
The Herbaceous Layer in Forests of Eastern North America University of Chicago Press
A plant anatomy textbook unlike any other on the market today. Carol A. Peterson described the first edition as 'the best book on the subject of plant anatomy since the texts of Esau'. Traditional plant anatomy texts include primarily descriptive aspects of structure, this book not only provides a comprehensive coverage of plant structure, but also introduces aspects of the mechanisms of development, especially the genetic and hormonal controls, and the roles of plasmodesmata and the cytoskeleton. The evolution of plant structure and the relationship between structure and function are also discussed throughout. Includes extensive bibliographies at the end of each chapter. It provides students with an introduction to many of the exciting, contemporary areas at the forefront of research in the development of plant structure and prepares them for future roles in teaching and research in plant anatomy.
Plant Evolution Springer
This well timed volume features a selection of chapters composed by experts in their respective fields. It covers a broad range of topics, from its fundamental biology to the fern’s population genetics and environmental and therapeutic applications.
Landslide Ecology Springer Science & Business Media
In his lectures my teacher Karl Mägdefrau used to say that one only becomes a real plant scientist when one enters a tropical rainforest. For me this initiation occurred in 1969 in northern Queensland, Australia, and was associated with the greatest excitement. On another level it received confirmation when I set out in 1983 together with some friends and colleagues for the first detailed ecophysiological studies of epiphytes in the wet tropics in situ in the island of Trinidad and later for similar work in Venezuela. This then promoted the idea of organizing a special symposium on "The evolution and ecophysiology of vascular plants as epiphytes" during the XIV International

Botanical Congress in luly 1987 in Berlin, and to ask some of the speakers to produce chapters for a small monograph on the interesting ecologically defined group of plants "epiphytes" as presented in this volume of "Ecological Studies". The enthusiasm of the participants of the symposium giving reports and adding to the discussion was most stimulating, and it appears that epiphytes might gain well-deserved, wider consideration in the future. The cooperation with the authors of this book was very pleasant and I appreciated the new contacts established with adepts of the "epiphyte community". The chapters were organized and arranged covering first more gen eral aspects with setting the scene in Chapter 1, the evolution of epi phytism in Chapter 2 and the role of CO - concentrating mechanisms in 2 Chapter 3.

Ecosystem Collapse and Recovery Springer

The most comprehensive existing volume of multidisciplinary research by top ecologists on the herbaceous layer of forests.

An Introduction to Plant Structure and Development Cambridge University Press

The study of organism evolution and diversity has long drawn the attention of scientists, particularly those working in the various branches of botany. As a result, there are numerous textbooks on the topic. Pteridophytes (Ferns) take up different percentages of the extant texts, and some textbooks even focus on only one subgroup, like the ferns. Currently, no book that comprehensively addresses every crucial aspect related to the development, diversity, and ecological significance of pteridophytes to the best of our knowledge. The authors are confident that the readers of this book will be fascinated by pteridophytes and the range of products they provides, including food, fibers, and ornaments etc. The chapters on the evolution of different plant parts will give the readers new insights into how to investigate more relationships that link the evolution's lingering. All aspects of biodiversity in pteridophytes are covered in the current book, including spore morphology, climate and ecological relationships, ethnobotanical significance, and nematode activity. The remaining two chapters focused on the discourse of these magnificent plants and the cultural relevance of pteridophytes in diverse agro-climatic zones worldwide.

Ferns: Growth, Diversity and Ecological Importance Nova Science Publishers

The Monteverde Cloud Forest Reserve has captured the worldwide attention of biologists, conservationists, and ecologists and has been the setting for extensive investigation over the past 30 years. Roughly 40,000 ecotourists visit the Cloud Forest each year, and it is often considered the archetypal high-altitude rain forest.This volume brings together some of the most prominent researchers of the region to provide a broad introduction to the biology of the Monteverde, and cloud forests in general. Collecting and synthesizing vital information about the ecosystem and its biota, the book also examines the positive and negative effects of human activity on both the forest and the surrounding communities. Ecologists, tropical biologists, and natural historians will find this volume an indispensable resource, as will all those who are fascinated by the magnificent wonders of the tropical forests.

The Biology of Vines Springer

In this compilation, the authors examine the possible effects of three aspects of global climate change (elevated atmospheric CO2, increasing temperatures, and changes in precipitation), focusing on how each of these may affect fern reproductive adaptation and success; especially with respect to: spore vitality and germination, gametophyte growth and reproductive success, and sporophyte growth and maturation. Next, the important aspects of Bracken chemical ecology are highlighted, beginning with a description of global distribution pattern of Bracken delineating its ubiquitous nature followed by its interplay with abiotic factors such as soil-nutrients and fire. The book also provides a review of modern studies based on chloroplast markers, BEAST analysis, and etc., including ecology of ferns throughout their history until recently. A study is presented that investigates the presence of allelochemical composition and content from the fern leaves of Acrostichum aureum, Stenochlaena palustris and Dicranopteris linearis using maceration extraction method for further analysis of allelochemicals. In closing, an overview of the most important taxa of Permian ferns of Angaraland and its adjacent regions is given, supported by evidence on some Carboniferous and Triassic ferns as well.

Ferns Cambridge University Press

Alfred Russel Wallace (1823 - 1913) was one of the late nineteenth century's most potent intellectual forces. His link to Darwin as co-discoverer of the principle of natural selection alone would have secured him a place in history, but he went on to complete work entitling him to recognition as the 'father' of modern biogeographical studies, as a pioneer in the field of astrobiology, and as an important contributor to subjects as far-ranging as glaciology, land reform, anthropology and ethnography, and epidemiology. Beyond this, many are coming to regard Wallace as the pre-eminent field biologist, collector, and naturalist of tropical regions. Add to that the fact that he was a vocal supporter of spiritualism, socialism, and the rights of the ordinary person, and it quickly becomes apparent that Wallace was a man of extraordinary breadth of attention. Yet his work in many of these areas is still not well known, and still less recognized is his relevance to current day research almost 100 years after his death. This rich collection of writings by more than twenty historians and scientists reviews and reflects on the work that made Wallace a famous man in his own time, and a figure of extraordinary influence and continuing interest today.

Ecology Benjamin-Cummings Publishing Company

Ferns, collectively, represent an ancient species of vascular plant which has a direct connection to the beginning of life on Earth. Today they are valued for their ornamental appeal, environmental benefit or as sources of health benefiting metabolites. Current pteridology, the study of fern, encompasses a wide range of research activities including, but not limited to, plant physiology, stress tolerance, genetics and genomics. The goal of this book is to compile the most relevant research done with ferns during the last decade. It is organized into four parts: I, Biology and Biotechnology; II, Evolution and Conservation; III, Metabolism and Genetic Resources, and IV, Environment. Each section reveals the utilization of ferns as a tool to explore challenges unique to plant

development and adaptation. This project represents our collective effort to raise the awareness of ferns as a model system to study higher plant functions. Among the distinctive features of our proposed book are: (i) a wide range of topics with contributing researchers from all around the world, and (ii) recent advances of theoretic and applied knowledge with implications to crop species of economic value.

Natural Selection and Beyond Springer Science & Business Media

"With their team of contemporary scholars, the editors present a thorough coverage of fundamental topics necessary for obtaining an up-to-date understanding of the biology of ferns and lycophytes. The book is organized into major topics that build from the individual and its biochemistry and structure, to genetics and populations, to interactions among individuals and the conservation of species, and concludes with perspectives on evolutionary history and classification. Each chapter is organized to review past work, explore current questions, and suggest productive directions for continued discoveries about these fascinating groups of organisms. Written for upper undergraduates, graduates and academic researchers, Biology and Evolution of Ferns and Lycophytes fills a major gap in biological, organism-level, evolutionary literature by providing a review of the biology and evolution of this important group of vascular land plants."--NHBS Environment Bookstore.

Flora of Peninsular Malaysia Oxford University Press

"With their team of contemporary scholars, the editors present a thorough coverage of fundamental topics necessary for obtaining an up-to-date understanding of the biology of ferns and lycophytes. The book is organized into major topics that build from the individual and its biochemistry and structure, to genetics and populations, to interactions among individuals and the conservation of species, and concludes with perspectives on evolutionary history and classification. Each chapter is organized to review past work, explore current questions, and suggest productive directions for continued discoveries about these fascinating groups of organisms. Written for upper undergraduates, graduates and academic researchers, Biology and Evolution of Ferns and Lycophytes fills a major gap in biological, organism-level, evolutionary literature by providing a review of the biology and evolution of

Monteverde Lothian Children's Books

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this important group of vascular land plants.

Ecology National Academies Press
Examines how ecosystems can collapse as a result of human activity, and the ecological processes underlying their subsequent recovery.

Plant and Human Health, Volume 1
Cambridge University Press
This volume represents a first attempt at holistically classifying and mapping ecological regions across all three countries of the North American continent. A common analytical methodology is used to examine North American ecology at multiple scales, from large continental ecosystems to subdivisions of these that correlate more detailed physical and biological settings with human activities on two levels of successively smaller units. The volume begins with an overview of North America from an ecological perspective, concepts of ecological regionalization. This is followed by descriptions of the 15 broad ecological regions, including information on physical and biological setting and human activities. The final section presents case studies in applications of the ecological characterization methodology to environmental issues. The appendix includes a list of common and scientific names of selected species characteristic of the ecological regions.

Working with Ferns Springer
Seedlings are highly sensitive to their environment. After seeds, they typically suffer the highest mortality of any life history stage. This book provides a comprehensive exploration of the seedling stage of the plant life cycle. It considers the importance of seedlings in plant communities; environmental factors with special impact on seedlings; the morphological and physiological diversity of seedlings including mycorrhizae; the relationship of the seedling with other life stages; seedling evolution; and seedlings in human altered ecosystems, including deserts, tropical rainforests, and habitat restoration projects. The diversity of seedlings is portrayed by including specialised groups like orchids, bromeliads, and parasitic and carnivorous plants. Discussions of physiology, morphology, evolution and ecology are brought together to focus on how and why seedlings are successful. This important text sets the stage for future research and is valuable to graduate students and researchers in plant ecology, botany, agriculture and conservation.

Vascular Plants as Epiphytes
Springer
Early anthropological evidence for plant use as medicine is 60,000 years old as reported from the Neanderthal grave in Iraq. The importance of plants as medicine is further supported by archeological evidence from Asia and the Middle East. Today, around 1.4 billion people in South Asia alone have no access to modern health care, and rely instead on traditional medicine to alleviate various symptoms. On a global basis, approximately 50 to 80 thousand plant species are used either natively or as pharmaceutical derivatives for life-threatening conditions that include diabetes, hypertension and cancers. As the demand for plant-based medicine rises, there is an unmet need to investigate the quality, safety and efficacy of these herbals by the “scientific methods”. Current research on drug discovery from medicinal plants involves a multifaceted approach combining botanical, phytochemical, analytical, and molecular techniques. For

instance, high throughput robotic screens have been developed by industry; it is now possible to carry out 50,000 tests per day in the search for compounds, which act on a key enzyme or a subset of receptors. This and other bioassays thus offer hope that one may eventually identify compounds for treating a variety of diseases or conditions. However, drug development from natural products is not without its problems. Frequent challenges encountered include the procurement of raw materials, the selection and implementation of appropriate high-throughput bioassays, and the scaling-up of preparative procedures. Research scientists should therefore arm themselves with the right tools and knowledge in order to harness the vast potentials of plant-based therapeutics. The main objective of Plant and Human Health is to serve as a comprehensive guide for this endeavor. Volume 1 highlights how humans from specific areas or cultures use indigenous plants. Despite technological developments, herbal drugs still occupy a preferential place in a majority of the population in the third world and have slowly taken roots as alternative medicine in the West. The integration of modern science with traditional uses of herbal drugs is important for our understanding of this ethnobotanical relationship. Volume 2 deals with the phytochemical and molecular characterization of herbal medicine. Specifically, it focuess on the secondary metabolic compounds, which afford protection against diseases. Lastly, Volume 3 discusses the physiological mechanisms by which the active ingredients of medicinal plants serve to improve human health. Together this three-volume collection intends to bridge the gap for herbalists, traditional and modern medical practitioners, and students and researchers in botany and horticulture.

Biology and Evolution of Ferns and Lycophytes Persephone Books

The central theme of Green Plants, first published in 2000, is the astonishing diversity of forms found in the plant kingdom, from the simplicity of prokaryotic algae to the myriad complexities of flowering plants. The book is arranged according to generally accepted classification schemes, beginning with algae (prokaryotic and eukaryotic) and moving through mosses, liverworts, fern allies, ferns and gymnosperms to flowering plants. Copiously illustrated throughout, it provides a concise account of all algae and land plants, with information on topics from cellular structure to life cycles and reproduction. The authors maintain a refreshingly cautious approach in discussions of possible phylogenetic relationships and include newly emerging information on features of plants known only as fossils. This edition has been completely updated to reflect current views on the origin of the major groups of plants, providing a resource for students of botany, and for researchers needing a comprehensive reference to the plant kingdom.

The Experimental Biology of Ferns Cambridge University Press

This 1992 book is a treatment of what was known about climbing plants, written by a group of experts.

Conserving Biodiversity Outside Protected Areas Cambridge University Press

This encyclopedia covers all aspects of ferns and their cultivation with over 2000 indexed entries.'

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