The Dictyostelids Princeton Legacy Library

Fungal Biology

To some potential readers of this book the description of Biological System atics as an art may seem outdated and frankly wrong. For most people art is subjective and unconstrained by universal laws. While one picture, play or poem may be internally consistent comparison between different art products is meaningless except by way of the individual artists. On the other hand modern Biological Systematics - particularly phenetics and cladistics - is offered as objective and ultimately governed by universal laws. This implies that classifications of different groups of organisms, being the products of systematics, should be comparable irrespective of

authorship. Throughout this book Minelli justifies his title by developing the theme that biological classifications are, in fact, very unequal in their expressions of the pattern and processes of the natural world. Specialists are imbibed with their own groups and tend to establish a consensus of what constitutes a species or a genus, or whether it should be desirable to recognize sub species, cultivars etc. Ornithologists freely recognize subspecies and rarely do bird genera contain more than 10 species. On the other hand some coleopterists and botanists work with genera with over 1500 species. This asymmetry may reflect a biological reality; it may express a working practicality, or simply an historical artefact (older erected genera often contain more species). Rarely are these phenomena questioned.

Encyclopedia of Rural America: A-M

Despite advances in modeling, such as graphical user interfaces, the use of GIS layers, and databases for developing input files, the approaches to modeling phosphorus (P) have not changed since their initial development in the 1980s. Current understanding of P processes has

evolved and this new information needs to be incorporated into the current models. Filling this need, Modeling Phosphorus in the Environment describes basic approaches to modeling P, how the current models implement these approaches, and ways to improve them. The book sets the scene with a review of general approaches to modeling runoff and erosion, P in runoff, leaching of P, stream processes that affect P, and an examination of the important issue of model uncertainty. It describes state-of-the-science watershed-scale P transport models including dynamic semi-disturbed models, models of intermediate complexity, and two lumped models. Phosphorus Indexes (PIs) represent one end of the modeling spectrum and the book takes a comprehensive look at PIs developed in each state, and illustrates some of the problems encountered when incorporating PIs into farm-scale manure management software. The book discusses monitoring data, which is critical for calibrating models, and concludes with suggestions for improving the modeling of P. From researching mechanisms to applying regulations, the uses of phosphorus models have increased as our knowledge of the effects of phosphorus in the environment has increased. Drawing on contributions from experts, the book gives you the tools to select the model that best fits your needs.

Myxomycetes

Cave organisms are the ‘monsters’ of the underground world and studying them invariably raises interesting questions about the ways evolution has equipped them to survive in permanent darkness and low-energy environments. Undertaking ecological studies in caves and other subterranean habitats is not only challenging because they are difficult to access, but also because the domain is so different from what we know from the surface, with no plants at the base of food chains and with a nearly constant microclimate year-round. The research presented here answers key questions such as how a constant environment can produce the enormous biodiversity seen below ground, what adaptations and peculiarities allow subterranean organisms to thrive, and how they are affected by the constraints of their environment. This book is divided into six main parts, which address: the habitats of cave animals; their complex diversity; the environmental factors that support that diversity; individual case studies of cave ecosystems; and of the conservation challenges they face; all of which culminate in proposals for future research directions. Given its breadth of coverage, it offers an essential reference guide for graduate

students and established researchers alike.

The Famine of Men

Modern Mycology is an established text that continues to provide a comprehensive introduction to fungi--a group of organisms distinct from all other forms of life. It will appeal to undergraduate students taking courses in microbiology, mycology and biology. This edition has been fully revised and updated to reflect the many exciting developments in the field; notably, those relating to understanding fungal cell biology and the application of fungal molecular genetics. The author maintains the tradition of clarity and accessibility set by previous editions, and the text is extensively illustrated with photographs and diagrams. In keeping with modern teaching methods, this textbook adopts a functional approach and emphasizes the behaviour, physiology, activities and practical significance of fungi. The book contains extensive sections on the fungal pathogens of plants, animals and humans; the roles of fungi in major environmental processes; and the use of fungi as biological control agents of pests and

pathogens. Essential reading for undergraduate students taking courses in microbiology and mycology. Fully revised and updated to reflect the many exciting new developments in the field, notably those relating to an understanding of fungal cell biology and the application of fungal molecular genetics. Adopts a functional approach in keeping with modern teaching methods. Maintains tradition of clarity and accessibility set by previous editions. Extensively illustrated with photographs (including colour) and diagrams.

Princetonians, 1769-1775

This volume, the second in a series of biographical sketches of students who attended the College of New Jersey (later Princeton University), brings the story of the College and its alumni to the beginning of the American Revolution. It records not only the contributions of the early sons of Nassau Hall to the formation of the Republic but also the role of the College itself as a major component in the evolution of the first national elite. Originally published in 1981. The Princeton Legacy Library uses the latest print-on-demand technology to again make available

previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Cave Biology

This richly illustrated book explores the fascinating and ubiquitous occurrence of spirals and vortices in human culture and in nature. Spiral forms have been used as elements in the arts for thousands of years, whereas their role in nature and science – from DNA and sea shells to galaxies – is still a topic of investigation in numerous fields. Following an introduction to the cultural history of spiral forms, the book presents contributions from leading experts, who describe the origins, mechanisms and dynamics of spirals and vortices in their special fields. As a whole the book provides a valuable source of information, while also taking the reader on an

aesthetic and scientific journey through the world of spiral forms.

Princetonians, 1791-1794

These volumes, the fourth and fifth, complete the series of biographical sketches of students at Princeton University (the College of New Jersey in colonial times). They cover pivotal years for both the nation and the College. In 1784, the war with England had just ended. Nassau Hall was still in a shambles following its bombardment, and the College was in financial distress. It gradually regained financial and academic strength, and the Class of 1794 graduated in the year of the death of President John Witherspoon, one of the most important early American educators. The introductory essay by John Murrin, editor of the series since 1981, explores the postwar context of the College. The two volumes contain biographies of 354 men who attended with the classes of 1784 through 1794 and two other students whose presence at the College in earlier years has only now been demonstrated. During these years Princeton accounted for about an eighth of all A.B. degrees granted in the United States. It was the young republic's most

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Handbook of Industrial Mycology

\"For each of the thirty-two currently recognized phyla, Invertebrates presents detailed classifications, revised taxonomic synopses, updated information on general biology and anatomy, and current phylogenetic hypotheses, organized with boxes and tables, and illustrated with abundant line drawings and new color photos. The chapters are organized around the \"new

animal phylogeny,\" while introductory chapters provide basic background information on the general biology of invertebrates. Two new coauthors have been added to the writing team, and twenty-two additional invertebrate zoologists have contributed to chapter revisions. This benchmark volume on our modern views of invertebrate biology should be in every zoologist's library\"--

Weedy Rices

This is the first scholarly reference work to cover all the major scientific themes and facets of the subject of seeds. It outlines the latest fundamental biological knowledge about seeds, together with the principles of agricultural seed processing, storage and sowing, the food and industrial uses of seeds, and the roles of seeds in history, economies and cultures. With contributions from 110 expert authors worldwide, the editors have created 560 authoritative articles, illustrated with plentiful tables, figures, black-and-white and color photographs, suggested further reading matter and 670 supplementary definitions. The contents are alphabetically arranged and cross-

referenced to connect related entries.

Modeling Phosphorus in the Environment

Discover the extraordinary woman behind one of the most famous images of motherhood in Western art Judged by the portrait Arrangement in Gray and Black No. 1 (1871), painted by her son James McNeill Whistler, Anna Whistler (1804-1881) appears to have been a pious, unassuming, domestic woman. This characterization, however, is far from the whole truth. Anna was born in the slaveholding South, raised principally in Brooklyn, New York, and resided for many years in both Russia and Great Britain, and her life was filled with adventure and excitement. The authors' unprecedented use of her private diaries and correspondence results in a crisp biographical rendering that reveals a resilient, vibrant, bright, and deeply engaged woman. In her writings, Anna made shrewd observations about the social, cultural, artistic, and political issues of her era, which was one of enormous and near-constant change. She knew and interacted with an astonishing array of people, from Russian peasants and American farmers to Robert E.

Lee and Giuseppe Mazzini. She also raised one of the finest artists of the nineteenth century. As her son made his way in the art world, Anna became his unofficial agent, promoting his work, managing his finances, and advising him on the best opportunities for success. That he, in turn, should immortalize her as a global celebrity and international icon of motherhood was only appropriate.

Fungi and their Role in Sustainable Development: Current Perspectives

'The Essential Tension' explores how agents that naturally compete come to act together as a group. The author argues that the controversial concept of multilevel selection is essential to biological evolution, a proposition set to stimulate new debate. The idea of one collective unit emerging from the cooperative interactions of its constituent (and mutually competitive) parts has its roots in the ancient world. More recently, it has illuminated studies of animal behavior, and played a controversial role in evolutionary biology. In Part I, the author explores the historical development of the idea of a collectivity in biological systems, from early speculations

on the sociology of human crowd behavior, through the mid-twentieth century debates over the role of group selection in evolution, to the notion of the selfish gene. Part II investigates the balance between competition and cooperation in a range of contemporary biological problems, from flocking and swarming to experimental evolution and the evolution of multicellularity. Part III addresses experimental studies of cooperation and competition, as well as controversial ideas such as the evolution of evolvability and Stephen Jay Gould's suggestion that "spandrels" at one level of selection serve as possible sources of variability for the next higher level. Finally, building on the foundation established in the preceding chapters, the author arrives at a provocative new proposition: as a result of the essential tension between competition and cooperation, multiple levels may be essential in order for evolutionary processes to occur at all.

Biological Systematics

A fundamental and groundbreaking reassessment of how we view and manage cancer When we think of the forces driving cancer, we don't necessarily think of evolution. But evolution and

cancer are closely linked because the historical processes that created life also created cancer. The Cheating Cell delves into this extraordinary relationship, and shows that by understanding cancer's evolutionary origins, researchers can come up with more effective, revolutionary treatments. Athena Aktipis goes back billions of years to explore when unicellular forms became multicellular organisms. Within these bodies of cooperating cells, cheating ones arose, overusing resources and replicating out of control, giving rise to cancer. Aktipis illustrates how evolution has paved the way for cancer's ubiquity, and why it will exist as long as multicellular life does. Even so, she argues, this doesn't mean we should give up on treating cancer—in fact, evolutionary approaches offer new and promising options for the disease's prevention and treatments that aim at long-term management rather than simple eradication. Looking across species—from sponges and cacti to dogs and elephants—we are discovering new mechanisms of tumor suppression and the many ways that multicellular life-forms have evolved to keep cancer under control. By accepting that cancer is a part of our biological past, present, and future—and that we cannot win a war against evolution—treatments can become smarter, more strategic, and more humane. Unifying the latest research from biology, ecology, medicine, and social science, The Cheating Cell challenges us to rethink cancer's fundamental nature and our relationship to

it.

Dictyostelium

Algal World has been carefully written and edited with an interdisciplinary appeal and aims to bring all aspects of Algae together in one volume. The 22 chapters are divided into two different parts which have been authored by eminent researchers from across the world. The first part, Biology of Algae, contains 10 chapters dealing with the general characteristics, classification and description of different groups such as Blue Green Algae, Green Algae, Brown Algae, Red Algae, Diatoms, Xanthophyceae, Dinophyceae, etc. In , it has two important chapters covering Algae in Extreme Environments and Life Histories and Growth Forms in Green Algae. The second part, Applied Phycology, contains 12 chapters dealing with the more applied aspects ranging from Algal Biotechnology, Biofuel, Phycoremediation, Bioactive Compounds, Biofertilizer, Fatty Acids, Harmful Algal Blooms, Industrial Applications of Seaweeds, Nanotechnology, Phylogenomics and Algal culture Techniques, etc.

Subject Guide to Books in Print

Visit the accompanying website from the author atwww.blackwellpublishing.com/deacon. Fungal Biology is the fully updated new edition of thisundergraduate text, covering all major areas of fungal biology andproviding insights into many topical areas. Provides insights into many topical areas such as fungalultrastructure and the mechanisms of fungal growth, importantfungal metabolites and the molecular techniques used to studyfungal populations. Focuses on the interactions of fungi that form the basis fordeveloping biological control agents, with several commercialexamples of the control of insect pests and plant diseases. Emphasises the functional biology of fungi, with examples fromrecent research. Includes a clear illustrative account of the features andsignificance of the main fungal groups.

The Dictyostelids

Kenneth Raper tells how dictyostelids are isolated, cultivated, and conserved in the laboratory;

how myxamoebae aggregate to form multicellular pseudoplasmodia; how fructifications arise by transformation of amoeboid cells into stalk cells and spores; and how similar cells can, under certain conditions, enter a sexual phase. For each known dictyostelid Professor Raper includes a complete description and photographic illustrations; one new species is described. Originally published in 1984. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Language and Logos in Boswell's Life of Johnson

In this deconstructionist interpretation of a major eighteenth-century work, William Dowling analyzes Boswell's Life of Johnson as a paradigm of antithetical structure in narrative, and

develops a grammar of discontinuity\" for interpreting other texts as well. Originally published in 1981. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

The Cheating Cell

V. 1. Organisms, nucleus, and cell cycle -- v. 2. Differentiation, metabolism, and methodology.

The Manuscript Collection of the Princeton University Library. An Introductory Survey

The essential one-volume reference to evolution The Princeton Guide to Evolution is a comprehensive, concise, and authoritative reference to the major subjects and key concepts in evolutionary biology, from genes to mass extinctions. Edited by a distinguished team of evolutionary biologists, with contributions from leading researchers, the guide contains some 100 clear, accurate, and up-to-date articles on the most important topics in seven major areas: phylogenetics and the history of life; selection and adaptation; evolutionary processes; genes, genomes, and phenotypes; speciation and macroevolution; evolution of behavior, society, and humans; and evolution and modern society. Complete with more than 100 illustrations (including eight pages in color), glossaries of key terms, suggestions for further reading on each topic, and an index, this is an essential volume for undergraduate and graduate students, scientists in related fields, and anyone else with a serious interest in evolution. Explains key topics in some 100 concise and authoritative articles written by a team of leading evolutionary biologists Contains more than 100 illustrations, including eight pages in color Each article includes an outline, glossary, bibliography, and cross-references Covers phylogenetics and the history of life; selection and adaptation; evolutionary processes; genes, genomes, and phenotypes; speciation and macroevolution; evolution of behavior, society, and humans; and

evolution and modern society

Soybeans

Systems biology is the study of the dynamic interactions of more than one component in a biological system in order to understand and predict the behavior of the system as a whole. Systems biology is a rapidly expanding discipline fuelled by the 'omics' era and new technological advances that have increased the precision of data. A focus on simple single cell organisms, such as bacteria, aids tractability and means that systems microbiology is a rapidly maturing science. Recommended for all microbiology laboratories, this book contains cutting-edge reviews by world-leading experts on the systems biology of microorganisms. As well as covering theoretical approaches and mathematical modeling, the book includes case studies on single microbial species of bacteria and archaea, and it explores the systems analysis of microbial phenomena, such as chemotaxis and phagocytosis. The topics covered include: the mathematical models for systems biology * systems biology of Escherichia coli metabolism *

bacterial chemotaxis * systems biology of infection * host-microbe interactions * phagocytosis * system-level study of metabolism in Mycobacterium tuberculosis * systems biology of Sulfolobus.

The Dictyostelids

Kenneth Raper tells how dictyostelids are isolated, cultivated, and conserved in the laboratory; how myxamoebae aggregate to form multicellular pseudoplasmodia; how fructifications arise by transformation of amoeboid cells into stalk cells and spores; and how similar cells can, under certain conditions, enter a sexual phase. For each known dictyostelid Professor Raper includes a complete description and photographic illustrations; one new species is described. Originally published in 1984. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These paperback editions preserve the original texts of these important books while presenting them in durable paperback editions. The goal of the Princeton Legacy Library

is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Princetonians, 1776-1783

This volume, the third in a series of biographical sketches of students at the College of New Jersey (now Princeton University), is an account of the College and its alumni during the troubled years of the Revolution. Originally published in 1981. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Modern Mycology

The Handbook of Fungal Biotechnology offers the newest developments from the frontiers of fungal biochemical and molecular processes and industrial and semi-industrial applications of fungi. This second edition highlights the need for the integration of a number of scientific disciplines and technologies in modern fungal biotechnology and reigns as

Spirals and Vortices

This book illustrates the multiple roles of fungi in everyday life. Fungi are the large group of organisms with tremendous diversity and economic importance. Their ability to produce commercially efficient useful products makes them the vulnerable sustainable tool for the future generation. This book describes a systems approach and provides a means to share the latest developments and advances about the benefits of fungi including their wide application, traditional uses, modern practices, along with designing of strategies to harness their potential. The chapters are organized with data, providing information related to different sustainable

aspects of fungi in agriculture, its cultivation and conservation strategies, industrial and environmental utilization, advanced bioconversion technologies and modern biotechnological interventions. Updated information and current opinion related to its application for sustainable agriculture, environment, and industries as futuristic tools have been presented and discussed in different chapters. The book also elucidates a comprehensive yet a representative description of the challenges associated with the sustained application of fungi to achieve the goals of sustainability.

Fundamentals of Microbiome Science

This book identifies all the species one is likely to encounter, with extensive information on their structural features, distribution, and ecological associations. Superbly illustrated, including keys, it is an introduction to their biology as well as a field guide. This book is only available through print on demand. All interior art is black and white.

Myxomycetes

Myxomycetes: Biology, Systematics, Biogeography and Ecology, Second Edition provides a complete collection of general and technical information on myxomycetes microorganisms. Its broad scope takes an integrated approach, considering a number of important aspects surrounding their genetics and molecular phylogeny. The book treats myxomycetes as a distinct group from fungi and includes molecular information that discusses systematics and evolutionary pathways. Written and developed by an international team of specialists, this second edition contains updated information on all aspects of myxomycetes. It incorporates relevant and new material on current barcoding developments, plasmodial network experimentation, and non-STEM disciplinary assimilation of myxomycete information. This book is a unique and authoritative resource for researchers in organismal biology and ecology disciplines, as well as students and academics in biology, ecology, microbiology, and similar subject areas. Written in a simple, concise and relatively non-technical style, allowing for a broad readership within biological, environmental and life science programs at academic and research institutions Contains the comprehensive body of information available on myxomycetes

under one cover, with contributions from the leading authorities in their respective areas of expertise Provides straightforward, compiled information about myxomycetes and the potential of this group for basic and applied research Offers completely updated material in every chapter, including new material on barcoding and Physarum polycephalum biological factors

Princetonians, 1784-1790

These volumes, the fourth and fifth, complete the series of biographical sketches of students at Princeton University (the College of New Jersey in colonial times). They cover pivotal years for both the nation and the College. In 1784, the war with England had just ended. Nassau Hall was still in a shambles following its bombardment, and the College was in financial distress. It gradually regained financial and academic strength, and the Class of 1794 graduated in the year of the death of President John Witherspoon, one of the most important early American educators. The introductory essay by John Murrin, editor of the series since 1981, explores the postwar context of the College. The two volumes contain biographies of 354 men who attended

with the classes of 1784 through 1794 and two other students whose presence at the College in earlier years has only now been demonstrated. During these years Princeton accounted for about an eighth of all A.B. degrees granted in the United States. It was the young republic's most \"national\" college, although it had nearly lost its New England constituency and was instead beginning to draw nearly 40 percent of its students from the South. Originally published in 1991. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These paperback editions preserve the original texts of these important books while presenting them in durable paperback editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

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vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Secondary Metabolism and Differentiation in Fungi

Drawing on literature reviews from ongoing unpublished research, research reports and symposia carried out on various aspects of the importance, ecology, biology and control of weedy rices, this publication also highlights global economic and environmental problems created by weedy rices, including red rice types.

Soil Protists

A critical examination of current knowledge and ideas on cave biology, with emphasis on evolution, ecology, and conservation.

The Algae World

Dr. Susan Rogulski knew instantly that the cells in the petri dish had been destroyed. And the destroyer was a virus. She was sure of that. And then she thought - how stupid that the two men peering over her shoulder wore no masks gloves or gowns.... In this story, told with the voices of young scientists and physicians, the discovery of the virus is only a beginning. A reader put it this way: I couldn't put this book down. If such a virus ever appears - and there is no reason that it couldn't, it would be discovered and studied exactly as Dr. Kessin describes. The consequences and the cool headed way the scientists tackle an unfolding catastrophe makes a superb story. A virus that affects men that can only be studied by women scientists? Who ever imagined that? I loved the characters - even the nasty ones. And I never predicted the end. The story intertwines scientists, a religious community, the Congress and the military and comes out in a surprising place.

Cell Biology of Physarum and Didymium: Organisms, nucleus, and cell cycle

Includes entries that document and explain the major themes, concepts, industries, concerns and everyday life of the people and land who make up rural America, ranging from the industrial sector and government policy to arts, humanities and social and family concerns.

The Essential Tension

Several excellent books have been published that address one or more aspects of the diverse field of industrial mycology, but none of them cover the entire process of fungal bioactive metabolites discovery. Until now. The Handbook of Industrial Mycology provides, in one volume, an overview of recent developments in industrial mycology with emphasis on the discovery of bioactive metabolites and, most importantly, their underlying biology and genetics. Two additional features distinguish this book from other books in the field: 1) most chapters are prepared using experimental data to illustrate theories and 2) the authors provide methodologies and experimental protocols in their chapters. Presenting a comprehensive overview of recent advances, the book provides a framework of basic methods, tools, and organizational principles

for channeling fungal germplasm into the academic, pharmaceutical, and enzyme discovery laboratories. It covers the complex range of processes involved in the discovery, characterization, and profiling of bioactive fungal metabolites. The book includes examples of several recently marketed fungal metabolites and explores the impact of fungi on applications in the pharmaceutical, food and beverage, agricultural, and agrochemical industries.

Cave Ecology

This comprehensive new soybean reference book disseminates key soybean information to “drive success for soybeans via 23 concise chapters covering all aspects of soybeans--from genetics, breeding and quality to post-harvest management, marketing and utilization (food and energy applications), U.S. domestic versus foreign practices and production methods. The most complete and authoritative book on soybeans Features internationally recognized authors in the 21-chapter book Offers sufficient depth to meet the needs of experts in the subject matter, as well as individuals with basic knowledge of the topic

Bugs, Birds, Bettongs and Bush

Dictyostelia are soil amoebae capable of extraordinary feats of survival, motility, chemotaxis, and development. Characterised by their ability to transform from a single-celled organism into an elaborate assemblage of thousands of synchronously-moving cells, Dictyostelids are often referred to as 'social amoebae', and have been the subjects of serious study since the 1930s. Research in this area has been instrumental in understanding many problems in cellular biology. Beginning with the history of Dictyostelids and discussing each stage of their development, this book considers the evolution of this unique organism, analyses the special properties of the Dictyostelid genome, and presents in detail the methods available, at the time of the book's original publication in 2001, to manipulate their genes. Representing the synthesis of such material and with an emphasis on combining classical experiments with modern molecular findings, this book will be essential for researchers and graduates in developmental and cellular biology.

The Princeton Guide to Evolution

Protists are by far the most diverse and abundant eukaryotes in soils. Nevertheless, very little is known about individual representatives, the diversity and community composition and ecological functioning of these important organisms. For instance, soil protists are commonly lumped into a single functional unit, i.e. bacterivores. This work tackles missing knowledge gaps on soil protists and common misconceptions using multi-methodological approaches including cultivation, microcosm experiments and environmental sequencing. In a first part, several new species and genera of amoeboid protists are described showing their immense unknown diversity. In the second part, the enormous complexity of soil protists communities is highlighted using cultivation- and sequence-based approaches. In the third part, the present of diverse mycophagous and nematophagous protists are shown in functional studies on cultivated taxa and their environmental importance supported by sequence-based approaches. This work is just a start for a promising future of soil Protistology that is likely to find other important roles of these diverse organisms.

Invertebrates

\"This book provides an accessible and authoritative guide to the fundamental principles of microbiome science, an exciting and fast-emerging new discipline that is reshaping many aspects of the life sciences. Resident microbes in healthy animals--including humans--can dictate many traits of the animal host. This animal microbiome is a second immune system conferring protection against pathogens; it can structure host metabolism in animals as diverse as reef corals and hibernating mammals; and it may influence animal behavior, from social recognition to emotional states. These microbial partners can also drive ecologically important traits, from thermal tolerance to diet, and have contributed to animal diversification over long evolutionary timescales\"--Publisher by publisher.

The Encyclopedia of Seeds

Systems Microbiology

Handbook of Fungal Biotechnology

The first source to unite secondary fungal metabolism and morphogenesis in one volume, Secondary Metabolism and Differentiation in Fungi treats biological systems as parts of a whole rather than as a series of individual elements, highlighting research in genetics, molecular biology, and ecology. Featuring the expertise of 19 international authorities, each chapter is a rich source of experimentation ideas. The book facilitates the application of novel techniques to existing problems in molecular mycology and explores potentials for major new research. This indispensable guide to a key scientific field benefits biologists, chemists, and other scientists.

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