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Bergey's Manual® of Systematic Bacteriology - Don J. Brenner 2007-12-14
Includes a description of the Gammaproteobacteria (1203 pages, 222 figures, and 300 tables). This large taxon includes many well known medically and environmentally important groups. Especially notable are the Enterobacteriaceae, Aeromonas, Beggiatoa, Chromatium, Legionella, Nitrococcus, Oceanospirillum, Pseudomonas, Rickettsiella, Vibrio, Xanthomonas and 155 additional genera.
Bergey's Manual of Systematic Bacteriology - Aidan Parte 2012-06-23
Includes a revised taxonomic outline for the Actinobacteria or the high G+C Gram positives is based upon the SILVA project as well as a description of greater than 200 genera in 49 families. Includes many medically and industrially important taxa.
New Approaches to Prokaryotic Systematics - Michael Goodfellow 2014-11-24
Volume 41 of Methods in Microbiology is a methods book designed to highlight procedures that will revitalize the purposes and practices of prokaryotic systematics. This volume will notably show that genomics and computational biology are pivotal to the new direction of travel and will emphasise that new developments need to be built upon historical good practices, notably the continued use of the nomenclatural type concept and the requirement to deposit type strains in at least two service culture collections in different countries. Detailed protocols on cutting edge methods Prepared by leading international experts in the relevant fields
Bergey's Manual® of Systematic Bacteriology - David Hendricks Bergey 2001
Includes a description of the Alpha-, Beta-, Delta-, and Epsilonproteabacteria (1256 pages, 512 figures, and 371 tables). This large taxa include many well known medically and environmentally important groups. Especially notable are Acetobacter, Agrobacterium, Aquospirillum, Brucella, Burkholderia, Caulobacter, Desulfovibrio, Gluconobacter, Hyphomicrobium, Leptothrix, Myxococcus, Neisseria, Paracoccus, Propionibacter, Rhizobium, Rickettsia, Sphingomonas,

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Thiobacillus, Xanthobacter and 268 additional genera.

Bergey's Manual of Systematic Bacteriology - George Garrity 2005-08-25

Volume 2 "The Proteobacteria." (2004) Don J. Brenner, Noel R. Krieg, James T. Staley (Volume Editors), and George M. Garrity (Editor-in-Chief) with contributions from 339 colleagues. The volume provides descriptions of more than 2000 species in 538 genera that are assigned to the phylum Proteobacteria. This volume is subdivided into three parts. Part A, The Introductory Essays (332 pgs, 76 figures, 37 tables); Part B, The Gammaproteobacteria (1203 pages, 222 figures, and 300 tables); and Part C The Alpha-, Beta-, Delta-, and Epsilonproteobacteria (1256 pages, 512 figures, and 371 tables). The volume on the Proteobacteria culminates a four year effort by Bergey's Manual Trust and more than 150 internationally recognized authorities to provide a comprehensive view of the Proteobacteria, the largest prokaryotic phylum. At present, there are roughly 6250 named species of Bacteria, and the Proteobacteria represent the single largest phylum. It encompasses 72 families and includes descriptions of 425 genera and over 1875 named species. The Proteobacteria also represent the most metabolically and ecologically diverse group of bacteria and contains many of the clinically relevant species that are of significance in human, animal and plant health. As a result, this volume caters to the broadest audience, and the set is an essential reference for the microbiologist. The volume is subdivided into three sub-volumes: Introductory chapters (Part A), The Gammaproteobacteria (Part B), and the Alpha-, Beta-, Delta-, and Epsilonproteobacteria. (Part C). Most importantly, medically important species appear in both the B and C sub-volumes.

Non-thermal Plasma Techniques for Pollution Control: Electron beam and electrical discharge processing - Bernie M. Penetrante 1993

A History of the Work Concept - Agamenon R. E. Oliveira 2013-11-19

This book traces the history of the concept of work from its earliest stages and shows that its further formalization leads to equilibrium principle and to the principle of virtual works, and so pointing the way ahead for future research and applications. The idea that something remains constant in a machine operation is very old and has been expressed by many mathematicians and philosophers such as, for instance, Aristotle. Thus, a concept of energy developed. Another important idea in machine operation is Archimedes' lever principle. In modern times the concept of work is analyzed in the context of applied mechanics mainly in Lazare Carnot mechanics and the mechanics of the new generation of polytechnical engineers like Navier, Coriolis and Poncelet. In this context the word "work" is finally adopted. These engineers are also responsible for the incorporation of the concept of work into the discipline of economics when they endeavoured to combine the study of the work of machines and men together.

Gastrointestinal Microbiology - Arthur C. Ouwehand 2006-06-05

This reference supplies a comprehensive and current overview of every aspect of gastrointestinal microbiota. Expertly written chapters cover conventional and molecular techniques for the study of differing microbial populations, as well as the analysis of microbial activity and interaction with host bodies. Illustrative and up-to-date, this source

The Prokaryotes - Stanley Falkow 2006-10-10

The revised Third Edition of The Prokaryotes, acclaimed as a classic reference in the field, offers new and updated articles by experts from around the world on taxa of relevance to medicine, ecology and industry. Entries combine phylogenetic and systematic data with insights into genetics, physiology and application. Existing entries have been revised to incorporate rapid progress and technological innovation. The new edition improves on the lucid presentation, logical layout and abundance of illustrations that readers rely on, adding color illustration throughout. Expanded to seven volumes in its print form, the new edition adds a new, searchable online version.

Actinobacteria - Dharumadurai Dhanasekaran 2016-02-11

This book presents an introductory overview of Actinobacteria with three main divisions: taxonomic principles, bioprospecting, and agriculture and industrial utility, which covers isolation, cultivation methods, and

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identification of Actinobacteria and production and biotechnological potential of antibacterial compounds and enzymes from Actinobacteria. Moreover, this book also provides a comprehensive account on plant growth-promoting (PGP) and pollutant degrading ability of Actinobacteria and the exploitation of Actinobacteria as ecofriendly nanofactories for biosynthesis of nanoparticles, such as gold and silver. This book will be beneficial for the graduate students, teachers, researchers, biotechnologists, and other professionals, who are interested to fortify and expand their knowledge about Actinobacteria in the field of Microbiology, Biotechnology, Biomedical Science, Plant Science, Agriculture, Plant pathology, Environmental Science, etc.

Difco and BBL Manual - Mary Jo Zimbro 2009

Bergey's Manual of Systematic Bacteriology - David R. Boone 2012-01-13

Bacteriologists from all levels of expertise and within all specialties rely on this Manual as one of the most comprehensive and authoritative works. Since publication of the first edition of the Systematics, the field has undergone revolutionary changes, leading to a phylogenetic classification of prokaryotes based on sequencing of the small ribosomal subunit. The list of validly named species has more than doubled since publication of the first edition, and descriptions of over 2000 new and realigned species are included in this new edition along with more in-depth ecological information about individual taxa and extensive introductory essays by leading authorities in the field.

Biology of Microorganisms on Grapes, in Must and in Wine - Helmut König 2017-11-01

The second edition of the book begins with the description of the diversity of wine-related microorganisms, followed by an outline of their primary and energy metabolism. Subsequently, important aspects of the secondary metabolism are dealt with, since these activities have an impact on wine quality and off-flavour formation. Then chapters about stimulating and inhibitory growth factors follow. This knowledge is helpful for the growth management of different microbial species. The next chapters focus on the application of the consolidated findings of molecular biology and regulation the functioning of regulatory cellular networks, leading to a better understanding of the phenotypic behaviour of the microbes in general and especially of the starter cultures as well as of stimulatory and inhibitory cell-cell interactions during wine making. In the last part of the book, a compilation of modern methods complete the understanding of microbial processes during the conversion of must to wine.This broad range of topics about the biology of the microbes involved in the vinification process could be provided in one book only because of the input of many experts from different wine-growing countries.

Essentials of Veterinary Bacteriology and Mycology - Gordon R. Carter 1982

The Prokaryotes - Martin Dworkin 2006-12-13

With the launch of its first electronic edition, The Prokaryotes, the definitive reference on the biology of bacteria, enters an exciting new era of information delivery. Subscription-based access is available. The electronic version begins with an online implementation of the content found in the printed reference work, The Prokaryotes, Second Edition. The content is being fully updated over a five-year period until the work is completely revised. Thereafter, material will be continuously added to reflect developments in bacteriology. This online version features information retrieval functions and multimedia components.

Size Limits of Very Small Microorganisms - National Research Council 1999-09-13

How small can a free-living organism be? On the surface, this question is straightforward-in principle, the smallest cells can be identified and measured. But understanding what factors determine this lower limit, and addressing the host of other questions that follow on from this knowledge, require a fundamental understanding of the chemistry and ecology of cellular life. The recent report of evidence for life in a martian meteorite and the prospect of searching for biological signatures in intelligently chosen samples from Mars and elsewhere bring a new immediacy to such questions. How do we recognize the morphological or

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chemical remnants of life in rocks deposited 4 billion years ago on another planet? Are the empirical limits on cell size identified by observation on Earth applicable to life wherever it may occur, or is minimum size a function of the particular chemistry of an individual planetary surface? These questions formed the focus of a workshop on the size limits of very small organisms, organized by the Steering .Group for the Workshop on Size Limits of Very Small Microorganisms and held on October 22 and 23, 1998. Eighteen invited panelists, representing fields ranging from cell biology and molecular genetics to paleontology and mineralogy, joined with an almost equal number of other participants in a wide-ranging exploration of minimum cell size and the challenge of interpreting micro- and nano-scale features of sedimentary rocks found on Earth or elsewhere in the solar system. This document contains the proceedings of that workshop. It includes position papers presented by the individual panelists, arranged by panel, along with a summary, for each of the four sessions, of extensive roundtable discussions that involved the panelists as well as other workshop participants.

Coagulase-negative Staphylococci - Per-Anders Mårdh 1986

Bergey's Manual of Systematic Bacteriology - David Hendricks Bergey 1989

Bergey's Manual of Determinative Bacteriology - John G. Holt 1993

Based on the data contained in the four-volume Bergey's Manual of Systematic Bacteriology, BMDB-9 also includes new genera and species, new combinations, and new taxa published through the January 1992 issue of the IJSB. Users will find short general descriptions that encompass all organisms by Groups; shape and size, Gram reaction, other pertinent morphological features, motility and flagella, relations to oxygen, basic type of metabolism, carbon and energy sources, habitat and ecology. BMDB-9 also includes discussions of difficulties in identification, keys or tables to genera and species, genus descriptions, synonyms, other nomenclatural changes, and numerous illustrations.

The Prokaryotes - Albert Balows 2013-12-18

For many of us, these simple rewards are suf The purpose of this briefforeword is unchanged from the first edition; it is simply to make you, ficiently gratifying so that we have chosen to the reader, hungry for the scientific feast that spend our scientific lives studying these unusual follows. These four volumes on the prokaryotes creatures. In these endeavors many of the strat offer an expanded scientific menu that displays egies and tools as well as much of the philos the biochemical depth and remarkable physi ophy may be traced to the Delft School, passed ological and morphological diversity of prokar on to us by our teachers, Martinus Beijerinck, yote life. The size ofthe volumes might initially A. J. Kluyver, and C. B. van Niel, and in turn discourage the unprepared mind from being at passed on by us to our students. tracted to the study of prokaryote life, for this In this school, the principles of the selective, enrichment culture technique have been devel landmark assemblage thoroughly documents oped and diversified; they have been a major the wealth of present knowledge. But in con force in designing and applying new principles fronting the reader with the state of the art, the Handbook also defines where more work needs for the capture and isolation of microbes from to be done on well-studied bacteria as well as nature. For me, the "organism approach" has on unusual or poorly studied organisms. provided rewarding adventures.

Essentials of Veterinary Bacteriology and Mycology - Gordon R. Carter 1991

Diagnostic Bacteriology - Kimberly A. Bishop-Lilly 2018-08-12

This volume provides a comprehensive collection of protocols on molecular diagnostics of bacteria that will suit the needs of molecular biologists, clinical laboratorians, and physician scientists alike. Chapters detail common bacterial pathogens, protocols that can be applied to diverse or even unknown pathogens, digital PCR, next generation sequencing, and bioinformatic analyses. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials

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and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Diagnostic Bacteriology: Methods and Protocols delivers a wide range of assay types all on the cutting edge of diagnostic bacteriology.

Microbiology Laboratory Guidebook - United States. Food Safety and Inspection Service. Microbiology Division 1998

Actinobacteria - Jayachandra S. Yaradoddi 2022-02-09

Through this book, the readers will learn about the different aspects of Actinobacteria- beginning with its ecology and occurrence, to the ways of its adaptation to harsh climates, and finally to its practical applications. The book also presents methods of identifying and characterizing this diverse group of bacteria through advanced techniques like MALDI-TOF, 16S rRNA analysis, etc. Different chapters describe the various biotechnological applications of Actinobacteria, including bioremediation, secondary metabolite production, and in producing antibiotics, anti-cancer therapeutics. It also provides insights into the applications in agriculture and forestry by inhibiting plant pathogenic bacteria's growth.

Bergey's Manual of Systematic Bacteriology - Aidan Parte 2011-02-04

Includes a revised taxonomic outline for the phyla Bacteroidetes, Planctomycetes, Chlamydiae, Spirochetes, Fibrobacteres, Fusobacteria, Acidobacteria, Verrucomicrobia, Dictyoglomi, and Gemmatimonadetes based upon the SILVA project as well as a description of more than 153 genera in 29 families. Includes many medically important taxa.

Principles and Practice of Clinical Bacteriology - Stephen Gillespie 2006-05-12

Since the publication of the last edition of Principles and Practice of Clinical Bacteriology, our understanding of bacterial genetics and pathogenicity has been transformed due to the availability of whole genome sequences and new technologies such as proteomics and transcriptomics. The present, completely revised second edition of this greatly valued work has been developed to integrate this new knowledge in a clinically relevant manner. Principles and Practice of Clinical Bacteriology, Second Edition, provides the reader with invaluable information on the parasitology, pathogenesis, epidemiology and treatment strategies for each pathogen while offering a succinct outline of the best current methods for diagnosis of human bacterial diseases. With contributions from an international team of experts in the field, this book is an invaluable reference work for all clinical microbiologists, infectious disease physicians, public health physicians and trainees within these disciplines.

Bergey's Manual of Systematic Bacteriology - David R. Boone 2013-02-16

Bacteriologists from all levels of expertise and within all specialties rely on this Manual as one of the most comprehensive and authoritative works. Since publication of the first edition of the Systematics, the field has undergone revolutionary changes, leading to a phylogenetic classification of prokaryotes based on sequencing of the small ribosomal subunit. The list of validly named species has more than doubled since publication of the first edition, and descriptions of over 2000 new and realigned species are included in this new edition along with more in-depth ecological information about individual taxa and extensive introductory essays by leading authorities in the field.

Bergey's Manual of Systematic Bacteriology - Paul Vos 2011-01-28

One of the most authoritative works in bacterial taxonomy, this resource has been extensively revised. This five volume second edition has been reorganized along phylogenetic lines to reflect the current state of prokaryotic taxonomy. In addition to the detailed treatments provided for all of the validly named and well-known species of prokaryotes, this edition includes new ecological information and more extensive introductory chapters.

Bergey's Manual of Determinative Bacteriology - John G. Holt 1994

Covers the nature of bacterial identification schemes, the differentiation of procaryotic from eucaryotic microorganisms, and major categories and groups of bacteria.

Manual of Systematic Eyelid Surgery - J. R. O. Collin 1999-03

A Manual of Systematic Eyelid Surgery, Third Edition delivers clear,

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step-by-step descriptions and detailed line diagrams depicting many of the most commonly performed eyelid surgery procedures which the author finds most useful, including the newest aesthetic techniques.
Biology of Rhodococcus - Héctor M. Alvarez 2010-09-07
Rhodococcus, a metabolically versatile actinobacteria which is frequently found in the environment, has gained increasing interest due to its potential biotechnological applications. This Microbiology Monographs volume provides a thorough review of the various aspects of the biochemistry, physiology and genetics of the Genus Rhodococcus. Following an overview of its taxonomy, chapters cover the structural aspects of rhodococcal cellular envelope, genomes and plasmids, metabolic and catabolic pathways, such as those of aromatic compounds, steroids and nitriles, and desulfurization pathways, as well as the adaption to organic solvents. Further reviews discuss applications of Rhodococcus in the bioremediation of contaminated environments, in triacylglycerol accumulation, and in phytopathogenic strategies, as well as the potential of biosurfactants. A final chapter describes the sole pathogenic Rhodococcus member, R. equi.
Defensive Mutualism in Microbial Symbiosis - James F. White Jr. 2009-05-26
Anemones and fish, ants and acacia trees, fungus and trees, buffaloes and oxpeckers--each of these unlikely duos is an inimitable partnership in which the species' coexistence is mutually beneficial. More specifically, they represent examples of defensive mutualism, when one species receives protection against predators or parasites in exchange for offering shelter or food to its partner species. Explores the Diverse Range of Defensive Mutualisms Involving Microbial Symbionts The past 20 years, since this phenomenon first began receiving attention, have been marked by a deluge of research in a variety of organism kingdoms and much has been discovered about this intriguing behavior. Defensive Mutualism in Microbial Symbiosis includes basic ecological and biological information on defensive mutualisms, explores how they function, and evaluates how they have evolved. It also looks at the implications of symbiosis defensive compounds as a new frontier in bioexploration for drug and natural product discovery--the first book to explore this possibility. Chapters Written by Field Authorities The book expands the concept of defensive mutualisms to evaluate defense against environmental abiotic and biotic stresses. Addressing the topic of defensive mutualisms in microbial symbiosis across this wide spectrum, it includes chapters on defensive mutualistic associations involving multiple kingdoms of organisms in terrestrial and aquatic ecosystems--plant, animal, fungi, bacteria, and protozoans. Defensive Mutualism in Microbial Symbiosis unifies scattered findings into a single compendium, providing a valuable reference for field researchers and those in academia to assimilate and acquire a knowledgeable perspective on defensive mutualism, particularly those involving microbial partners.
Bergey's Manual of Determinative Bacteriology - American Society for Microbiology 1925

Jawetz Melnick & Adelbergs Medical Microbiology 27 E - Karen C. Carroll 2015-08-12
Understand the clinically important aspects of microbiology with this full-color review Includes more than 20 case studies The twenty-seventh edition of Jawetz, Melnick & Adelberg's Medical Microbiology delivers a concise, up-to-date overview of the roles microorganisms play in human health and illness. Linking fundamental principles with the diagnosis and treatment of microbial infections, this classic text has been updated throughout to reflect the tremendous expansion of medical knowledge afforded by molecular mechanisms, advances in our understanding of microbial pathogenesis, and the discovery of novel pathogens. Along with brief descriptions of each organism, you will find vital perspectives on pathogenesis, diagnostic laboratory tests, clinical findings, treatment, and epidemiology. The book also includes an entire chapter of case studies that focuses on differential diagnosis and management of microbial infections. Here's why Jawetz, Melnick & Adelberg's Medical Microbiology is essential for USMLE review: 650+ USMLE-style review questions 300+ informative tables and illustrations 23 case studies to sharpen you differential diagnosis and management skills An easy-to-

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access list of medically important microorganisms Coverage that reflects the latest techniques in laboratory and diagnostic technologies Full-color images and micrographs Chapter-ending summaries Chapter concept checks Jawetz, Melnick & Adelberg's Medical Microbiology introduces you to basic clinical microbiology through the fields of bacteriology, virology, mycology, and parasitology, giving you a thorough yet understandable review of the discipline.

Bacterial Systematics - N. A. Logan 2009-07-06

This is the first book on bacterial systematics at the undergraduate level. The first part explains why bacteria are classified and how they are named. It also covers the practice of classification, including evolutionary studies and identification. The applications of these methods are illustrated in the second part of the book, which describes progress in the classification and identification of the spirochaetes, helical and curved bacteria, Gram-negative aerobic, facultative and strictly anaerobic bacteria, Gram-positive cocci, rods and endospore formers, mycoplasmas, and actinomycetes, and outlines the importance of these organisms. The first book on this topic at undergraduate level Includes evolutionary studies and the Archaea Covers theory and practice of bacterial classification and identification User-friendly style and profuse illustrations

Genetics of Lactic Acid Bacteria - Brian J.B. Wood 2003-09-30

Beginning with an introduction to relevant genetic techniques, chapters cover all major groups of LAB, including the Bifidobacteria; plasmid biology, gene transfer, phage, and sugar metabolism; gene expression of various LAB; applications for genetically engineered LAB, including the emerging field of medical applications; and the legal and consumer issues that arise from such applications. This resource will set the benchmark for the state of knowledge of LAB genetics and should be of value to food scientists and other researchers working with LAB in its present and future capacities. Professionals using lactic acid bacteria (LAB) for research and/or as working organisms, whether in food and dairy fermentations or in the exciting new field of clinical delivery agents, will find this book invaluable. In addition, professors teaching under- and post-graduates in microbiology, and postgraduate research students will also find this an essential reference work.

Molecular Biology and Pathogenicity of Mycoplasmas - Shmuel Razin 2007-05-08

was the result of the efforts of Robert Cleverdon. The rapidly developing discipline of molecular biology and the rapidly expanding knowledge of the PPLO were brought together at this meeting. In addition to the PPLO specialists, the conference invited Julius Marmur to compare PPLO DNA to DNA of other organisms; David Garfinkel, who was one of the first to develop computer models of metabolism; Cyrus Levinthal to talk about coding; and Henry Quastler to discuss information theory constraints on very small cells. The conference was an announcement of the role of PPLO in the fundamental understanding of molecular biology. Looking back 40-some years to the Connecticut meeting, it was a rather bold enterprise. The meeting was international and inter-disciplinary and began a series of important collaborations with influences resonating down to the present. If I may be allowed a personal remark, it was where I first met Shmuel Razin, who has been a leading figure in the emerging mycoplasma research and a good friend. This present volume is in some ways the fulfillment of the promise of that early meeting. It is an example of the collaborative work of scientists in building an understanding of fundamental aspects of biology.

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