

Textbook Of Pollen Analysis

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Pollen and Spores - S N Agashe 2019-10-16

Palynology finds applications in various fields. Some of them are taxonomy, plant evolution, plant breeding programmes, biotechnology, microbiology of water, soil and air, the pharmaceutical industry, cosmetic industry, energy food industry, forensic science, aerobiology, allergy, epidemiology, meteorology, fossil fuel exploration and biodiversity.

Paleoethnobotany - Deborah M. Pearsall 2009-06

This new edition of the definitive work on doing paleoethnobotany follows the steady growth in the quantity and sophistication of paleoethnobotanical research. It features a rewritten chapter on phytolith analysis and a new chapter, Integrating Biological Data. It also includes new techniques, such as residue analysis, and new applications of old indicators, such as starch grains. An expanded examination of pollen analysis, more examples of environmental reconstruction, and a better balance of Old and New World examples increase the versatility of this holistic view of paleoethnobotany. Paleoethnobotany, Second Edition presents the diverse approaches and techniques that anthropologists and botanists use to study human-plant interactions. It shows why anthropologists must identify plant remains and understand the ecology of human-plant interactions. Additionally, it demonstrates why botanists need to view the plant world from a cultural perspective

and understand the strengths and weaknesses of the archaeological record.

Ancient Starch Research - Robin Torrence 2016-09-16

What role did plant resources have in the evolution of the human species? Why and how have plants been managed and transported to new environments? Where, how, and why were plants domesticated, and why do the patterns vary in different parts of the world? What is the relationship between the intensification of food production and the rise of complex societies? Numerous new studies are using starch granules discovered in archaeological contexts to answer these questions and improve our knowledge of past human behavior and environmental variation. Given the substantial body of successful research, the time has clearly come for a comprehensive description of ancient starch research and its potential for archaeologists. This book fills these roles by describing the fundamental principles underlying starch research, guiding researchers through the methodology, reviewing the results of significant case studies, and pointing the way to future avenues for research. The joint product of over two dozen archaeological scientists, Ancient Starch Research aims to bring the important new field of ancient starch analysis to the attention of a wider range of scholars and to provide them with the information needed to embark on their own research.

The Encyclopedia of Paleontology - Rhodes W. Fairbridge 1979
Scholarly work with lengthy entries followed by references for further reading. Many illustrations. Indexed.

A Textbook of Palynology (basic and Applied) - Bhattacharya K 2014

Forensic Botany - David W. Hall 2012-06-25

Forensic Botany: A Practical Guide is an accessible introduction to the way in which botanical evidence is identified, collected and analysed in criminal cases. Increasingly this form of evidence is becoming more important in forensic investigation and yet there are few trained botanists able to assist in such cases. This book is intended to show how useful simple collection methods and standard plant analysis can be in the course of such investigations and is written in a clear and accessible manner to enhance understanding of the subject for the non-specialist. Clearly structured throughout, this book combines well known collection techniques in a field oriented format that can be used for casework. Collection of evidence differs from formal plant collection in that most professional plant collectors are gathering entire plants or significant portions of a plant for permanent storage and reference. Evidence frequently consists of fragments, sometimes exceedingly tiny. Exemplars (examples of reference plants) are collections of plants made in the manner a botanist would collect them. These collections are necessary to link or exclude evidence to or from a scene. Various methods that allow easy collection, transportation, and preservation of evidence are detailed throughout the book. This book is written for those who have no formal background working with plants. It can be used as a practical guide for students taking forensic science courses, law enforcement training, legal courses, and as a template for plant collection at any scene where plants occur and where rules or laws are involved. Veterinarians, various environmental agencies, anthropologists, and archeologists are examples of disciplines that are more recently in need of plant evidence. Veterinarians are becoming more active in pursuing cases of animals that have been abused or are victims of illegal killing. Anthropologists and archeologists are often called to help with body recovery in outdoor

environments. Environmental agencies are increasingly forced to adopt rules for resource protection, are in need of a guide for procedures for plant evidence collection and application. The format of the book is designed to present the reader with all the information needed to conduct a botanical analysis of a crime scene; to highlight the forensic significance of the botanical evidence that may be present; how to collect that evidence in the correct manner and preserve and store that evidence appropriately- also shows how to conduct a laboratory analysis of the plants.

Illustrated Pollen Terminology - Heidemarie Halbritter 2018-10-10

This open access book offers a fully illustrated compendium of glossary terms and basic principles in the field of palynology, making it an indispensable tool for all palynologists. It is a revised and extended edition of "Pollen Terminology. An illustrated handbook," published in 2009. This second edition, titled "Illustrated Pollen Terminology" shares additional insights into new and stunning aspects of palynology. In this context, the general chapters have been critically revised, expanded and restructured. The chapter "Misinterpretations in Palynology" has been extended with new research data and additional ambiguous terms, e.g., polyads vs. massulae; the chapter "Methods in Palynology" has been extensively enhanced with illustrated protocols showing the majority of the methods and techniques used when studying recent and fossil pollen with LM, SEM and TEM. Moreover, additional information about the description and publication of pollen data is provided in the chapter "How to Describe and Illustrate Pollen Grains." Various other parts of the general chapters have now been updated and/or extended with more comprehensive textual passages and new illustrations. The chapter "Illustrated Pollen Terms" now features new and more appropriate examples of each term, including additional LM micrographs. Where necessary, the entries for selected pollen terms have been refined by rewording or adding definitions, illustrations, and new micrographs. Lastly, new terms are included, such as "suprasculpture" and the prefix "nano-" for ornamentation features. The chapter "Illustrated Pollen Terms" is the main part of this book and comprises more than 300 widely

used terms illustrated with over 1,000 high-quality images. It provides a detailed survey of the manifold ornamentation and structures of pollen, and offers essential insights into their stunning beauty.

Phytolith Analysis - Dolores R. Piperno 2014-06-28

This is a methodological guide to the use of plant opal phytolith analysis in paleoenvironmental and paleoecological reconstruction. It is the first book-length treatment of this promising technique, which has undergone rapid development within the past few years and is now beginning to be used with considerable success by paleobotanists who serve the archaeological and paleontological research communities. It will be mandatory reading for all paleobotanists, paleoecologists, and archaeological scientists.

Quaternary Palaeoecology - Harry John Betteley Birks 2004

Quaternary Palaeoecology, first published in 1980, discusses the methods and approaches by which Quaternary environments can be reconstructed from the fossil and sedimentary record. This knowledge is of great value as the Quaternary was a time of rapid ecological change, culminating in the present pattern and diversity of ecosystems. It is possible not only to relate these changes to fluctuating climates but also to infer what Man's early influence may have been. The authors describe how past flora and fauna can be reconstructed and how the numbers of fossils can be used to reconstruct past plant and animal populations and communities, and past environments. John Birks has researched in a variety of fields within Quaternary palaeoecology, including pollen analysis and vegetation history, environmental change, past climate reconstruction, and palaeolimnology. Since the 1980s he has introduced and developed numerical methods and quantitative approaches into palaeoecology and palaeolimnology. Besides research in Norway and the UK, he has also worked on palaeoecological problems in Svalbard, Sweden, Finland, Switzerland, Minnesota, and the Yukon. He serves on the editorial boards of several journals and has published widely on many aspects of Quaternary palaeoecology. He is currently Professor of Quantitative Palaeoecology at the University of Bergen, Norway, and University College London, UK. Hilary Birks researches on palaeoecology

and past climates primarily through the use of plant macrofossil analysis. She took up the study of plant macrofossils in Minnesota, USA in 1970, where she investigated the modern representation of plants in lake sediments by their fruits and seeds, and also worked on the palaeolimnological record of recent eutrophication and late-glacial palaeoecology. Since then she has extended her macrofossil studies to the late-glacial of Scotland and western Norway, the full-glacial of Beringia (Alaska) and recent changes in North African lakes brought about by human activities. She is Professor of Palaeoecology at the University of Bergen, Norway and teaches palaeoecology at the University of Bergen and University College London, UK.

Neolithic - Susan McCarter 2012-11-12

This excellent introductory textbook describes and explains the origins of modern culture- the dawn of agriculture in the Neolithic area. Written in an easy-to-read style, this lively and engaging book familiarises the reader with essential archaeological and genetic terms and concepts, explores the latest evidence from scientific analyses as varied as deep sea coring, pollen identification, radiometric dating and DNA research, condensing them into an up-to-date academic account, specifically written to be clear even the novice reader. Focusing primarily on sites in southwest Asia, Neolithic addresses questions such as: Which plants and animals were the first to be domesticated, and how? How did life change when people began farming? What were the first villages like? What do we know about the social, political and religious life of these newly founded societies? What happened to human health as a result of the Neolithic Revolution? Lavishly illustrated with almost a hundred images, this enjoyable book is an ideal introduction both for students of archaeology and for general readers interested in our past.

Allergy and Allergen Immunotherapy - A.B. Singh 2017-03-16

Allergy and Allergen Immunotherapy: New Mechanisms and Strategies is a valuable and comprehensive book that covers allergy and causative allergens and provides diagnostic and therapeutic aspects as well. With chapters from internationally recognized experts in the field, the book provides a balanced approach to enumerating pollen allergens as well as

allergy diagnosis and therapeutic management and safety assessment of genetically engineered food allergens. The book features a special section on allergic diseases and allergens from tropical countries, including such countries such as India, Sri Lanka, Iran, and South Korea, giving the book a global appeal. The book is broken in the following sections: Epidemiology, Pathophysiology, and Diagnosis of Allergy Aerobiology and Allergic Diseases Pollen Allergy in the Tropics and Temperate Regions Allergy in Children Food Allergy Evaluation Allergen Immunotherapy and Anti IgE The book deals not only on basics of allergy and allergen immunotherapy but also discusses indoor environments and safety considerations of genetically modified food allergens. The first of its kind volume from the Indian subcontinent that caters to the needs of clinicians, aerobiologists, environmentalists, and regulatory agencies as well, the volume will be of immense interest for clinicians and patients of allergy as well as diagnostic and therapeutic management of allergy in tropics.

Textbook of Pollen Analysis - Knut Fægri 1966

Environmental History of East Africa - Alan Charles Hamilton 1982

Paleoclimatology - Raymond S. Bradley 1999-02-22

Raymond S. Bradley provides his readers with a comprehensive and up-to-date review of all of the important methods used in paleoclimatic reconstruction, dating and paleoclimate modeling. Two comprehensive chapters on dating methods provide the foundation for all paleoclimatic studies and are followed by up-to-date coverage of ice core research, continental geological and biological records, pollen analysis, radiocarbon dating, tree rings and historical records. New methods using alkenones in marine sediments and coral studies are also described. Paleoclimatology, Second Edition, is an essential textbook for advanced undergraduate and postgraduate students studying climatology, paleoclimatology and paleoceanography worldwide, as well as a valuable reference for lecturers and researchers, appealing to archaeologists and scientists interested in environmental change. *

Contains two up-to-date chapters on dating methods * Consists of the latest coverage of ice core research, marine sediment and coral studies, continental geological and biological records, pollen analysis, tree rings, and historical records * Describes the newest methods using alkenones in marine sediments and long continental pollen records * Addresses all important methods used in paleoclimatic reconstruction * Includes an extensive chapter on the use of models in paleoclimatology * Extensive and up-to-date bibliography * Illustrated with numerous comprehensive figure captions

Vegetation history - B. Huntley 2012-12-06

The analysis of vegetation history is one of the prime objectives for vegetation scientists. In order to understand the recent composition of local floras and plant communities a second knowledge of species composition during recent millenia is essential. With the present concern over climate changes, due to human activities, an understanding of past vegetation distribution becomes even more important, since the correlation between climate and vegetation can often be used to predict possible impacts to crops and forests. I was very fortunate to receive the help of Drs. Webb and Huntley to compile this volume on vegetation history. They have collated an impressive set of papers which together give an account of the vegetation history of most of the continents during the late-Tertiary and Quaternary periods. There are, however, gaps in the coverage achieved, most notably Africa, and Asia apart from Japan. The information in this book will nonetheless certainly be used widely by vegetation scientists for the regions covered in the book and much of it has relevance to the areas not explicitly described. The authors of the individual chapters have done their best to cover recent topics of interest as well as established facts. It is intended that a separate volume will be produced in the near future covering the vegetation history of Africa and Asia. I thank the editors of It fits well into the this volume for their commendable achievement.

Applications of Non-Pollen Palynomorphs - F. Marret 2021-10-29

This long-awaited book about non-pollen palynomorphs (NPPs) aims to cover gaps in our knowledge of these abundant but understudied

palynological remains. NPPs, such as fungal spores, testate amoebae, dinoflagellate cysts, acritarchs and animal remains, are routinely recovered from palynological preparations of marine or terrestrial material, from Proterozoic to recent geological times. This book gives the reader a comprehensive overview of the different types of NPPs, with examples from diverse time periods and environments. It provides guidance on sample preparation to maximize the recovery of these NPPs, detailed information on their diversity and ecological affinity, clarification on the nomenclature and demonstrates their value as environmental indicators. This volume will become the reference guide for any student, academic or practitioner interested in everything else in their palynological preparations.

The Science of Crime Scenes - Max M. Houck 2017-07-07

The Science of Crime Scenes, Second Edition offers a science-based approach to crime scenes, emphasizing that understanding is more important than simply knowing. Without sacrificing technical details, the book adds significantly to the philosophy and theory of crime scene science. This new edition addresses the science behind the scenes and demonstrates the latest methods and technologies with updated figures and images. It covers the philosophy of the crime scene, the personnel involved at a scene (including the media), the detection of criminal traces and their reconstruction, and special crime scenes, such as mass disasters and terroristic events. Written by an international trio of authors with decades of crime scene experience, this book is the next generation of crime scene textbooks. This volume will serve both as a textbook for forensic programs, and as an excellent reference for forensic practitioners and crime scene technicians with science backgrounds. Includes in-depth coverage of disasters and mass murder, terror crime scenes and CBRN (Chemical, biological, radioactive and nuclear) - topics not covered in any other text Includes an instructor site with lecture slides, images and links to resources for teaching and training

Forensic Ecology Handbook - Julie Roberts 2012-10-11

The analysis of plants, insects, soil and other particulates from scenes of

crime can be vital in proving or excluding contact between a suspect and a scene, targeting search areas, and establishing a time and place of death. Forensic Ecology: A Practitioner's Guide provides a complete handbook covering all aspects of forensic ecology. Bringing together the forensic applications of anthropology, archaeology, entomology, palynology and sedimentology in one volume, this book provides an essential resource for practitioners in the field of forensic science, whether crime scene investigators, forensic science students or academics involved in the recovery and analysis of evidence from crime scenes. Forensic Ecology: A Practitioner's Guide includes information not only on the search, location, recovery and analysis of evidence, but includes sampling strategies for diatom analysis, pollen and soils samples and entomology and provides guides for good practice. Each chapter provides background information on each discipline and is structured according to pre-scene attendance (what questions should the scientist ask when receiving a call? What sort of preparation is required?), scene attendance (including protocols at the scene, sampling strategies, recording), scientific examination of analysis of the evidence up to the stages and guidelines for witness statement and presenting evidence in court. The book is written by specialists in all fields with a wealth of experience who are current forensic practitioners around the world. It provides an essential and accessible resource for students, academics, forensic practitioners and police officers everywhere.

Fahrenheit 451 - Ray Bradbury 2003-09-23

A totalitarian regime has ordered all books to be destroyed, but one of the book burners suddenly realizes their merit.

Textbook of Pollen Analysis - Knut Faegri 1964

Encyclopedia of Paleoclimatology and Ancient Environments -

Vivien Gornitz 2008-10-31

One of Springer's Major Reference Works, this book gives the reader a truly global perspective. It is the first major reference work in its field. Paleoclimate topics covered in the encyclopedia give the reader the

capability to place the observations of recent global warming in the context of longer-term natural climate fluctuations. Significant elements of the encyclopedia include recent developments in paleoclimate modeling, paleo-ocean circulation, as well as the influence of geological processes and biological feedbacks on global climate change. The encyclopedia gives the reader an entry point into the literature on these and many other groundbreaking topics.

Communities in Action - National Academies of Sciences, Engineering, and Medicine 2017-04-27

In the United States, some populations suffer from far greater disparities in health than others. Those disparities are caused not only by fundamental differences in health status across segments of the population, but also because of inequities in factors that impact health status, so-called determinants of health. Only part of an individual's health status depends on his or her behavior and choice; community-wide problems like poverty, unemployment, poor education, inadequate housing, poor public transportation, interpersonal violence, and decaying neighborhoods also contribute to health inequities, as well as the historic and ongoing interplay of structures, policies, and norms that shape lives. When these factors are not optimal in a community, it does not mean they are intractable: such inequities can be mitigated by social policies that can shape health in powerful ways. *Communities in Action: Pathways to Health Equity* seeks to delineate the causes of and the solutions to health inequities in the United States. This report focuses on what communities can do to promote health equity, what actions are needed by the many and varied stakeholders that are part of communities or support them, as well as the root causes and structural barriers that need to be overcome.

An Illustrated Guide to Pollen Analysis - P. D. Moore 1980-07-01

Paleopalynology - Alfred Traverse 2007-05-21

This book provides complete coverage of all aspects of the study of all fossil palynomorphs yet studied. It is a profusely illustrated treatment. The book serves both as a student text and general reference work.

Palynomorphs yield information about age, geological and biological environment, climate during deposition, and other significant factors about the enclosing rocks. Extant spores and pollen are treated first, preparing the student for more difficult work with fossil sporomorphs and other kinds of palynomorphs. An appendix describes laboratory methods. The glossary, bibliographies and index are useful tools for study of the literature.

Handbook for the Analysis of Micro-Particles in Archaeological Samples - Amanda G. Henry 2020-07-07

This handbook provides a resource for those already familiar with some kinds of micro-particles who wish to learn more about others, or for those just starting out in the study of microremains who wish to have a broad understanding about microscopic archaeology. Topics covered in this handbook include diatom microfossils, starch granules, pollen grains, phytoliths, natural fibers, volcanic glass, minerals, insect remains, and feathers. Archaeological investigations increasingly rely on specialist identification of microscopic remnants found in sites. These micro-particles can provide information about the site environment and human activities that may not be apparent from artifacts and materials preserved on the macro-scale, and have given us new, and often high-profile, information about our past. The investigation of this "invisible archaeology" - that is, invisible to the naked eye - is still somewhat new, and generally each kind of micro-particle is studied individually. Researchers become experts in a narrow range of micro-particle types, but may be less familiar with, or even completely unaware of, the multitude of other forms that are frequently encountered in archaeological samples. This handbook's accessible approach is suitable for those at the beginner level.

Forensic Science: Fundamentals & Investigations - Anthony J. Bertino 2015-02-28

With today's popular television programs about criminal justice and crime scene investigation and the surge of detective movies and books, students often have a passion for exploring forensic science. Now you can guide that excitement into a profitable learning experience with the

help of the innovative, new FORENSIC SCIENCE: FUNDAMENTALS AND INVESTIGATIONS, 2E. This dynamic, visually powerful text has been carefully crafted to ensure solid scientific content and an approach that delivers precisely what you need for your high school course. Now an established best-seller, FORENSIC SCIENCE: FUNDAMENTALS AND INVESTIGATIONS, 2E offers a truly experiential approach that engages students in active learning and emphasizes the application of integrated science in your course. Student materials combine math, chemistry, biology, physics, and earth science with content aligned to the National Science Education Standards, clearly identified by icons. This book balances extensive scientific concepts with hands-on classroom and lab activities, readings, intriguing case studies, and chapter-opening scenarios. The book's exclusive Gale Forensic Science eCollection™ database provides instant access to hundreds of journals and Internet resources that spark the interest of today's high school students. The new edition includes one new chapter on entomology and new capstone projects that integrate the concepts learned throughout the text. Comprehensive, time-saving teacher support and lab activities deliver exactly what you need to ensure that students receive a solid, integrated science education that keeps readers at all learning levels enthused about science. FORENSIC SCIENCE: FUNDAMENTALS AND INVESTIGATIONS, 2E sets the standard in high school forensic science . . . case closed. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Pollen Terminology - Michael Hesse 2009-01-14

Palynology is important in basic as well as in manifold applied sciences, as e.g. biology, medicine, forensics, earth history, climatology and food production. This volume is the first fully illustrated handbook of palynological principles and glossary terms, exclusively using LM and EM micrographs of superior quality. A comprehensive General Chapter on pollen morphology, anatomy, pollen development etc. based on the present knowledge in palynology introduces the reader in the world of pollen. The glossary part comprises more than 300 widely used terms

illustrated with over 1.000 high quality light and/or electron microscopic pictures to show the character range of a term. Terms are grouped by feature, e.g. ornamentation, where each term is illustrated on a separate page, definition and original citation included and where necessary, provided with a comprehensive explanatory comment. The term's use in LM, SEM or TEM and its assignment to anatomical, morphological and/or functional pollen features is indicated by icons and colour coding, respectively. This handbook is not only a valuable source for students and researchers but also for all persons interested in pollen and its aesthetic beauty.

Oxford Textbook of Nature and Public Health - Matilda van den Bosch 2018-01-05

Human beings have always been affected by their surroundings. There are various health benefits linked to being able to access to nature; including increased physical activity, stress recovery, and the stimulation of child cognitive development. The Oxford Textbook of Nature and Public Health provides a broad and inclusive picture of the relationship between our own health and the natural environment. All aspects of this unique relationship are covered, ranging from disease prevention through physical activity in green spaces to innovative ecosystem services, such as climate change adaptation by urban trees. Potential hazardous consequences are also discussed including natural disasters, vector-borne pathogens, and allergies. This book analyses the complexity of our human interaction with nature and includes sections for example epigenetics, stress physiology, and impact assessments. These topics are all interconnected and fundamental for reaching a full understanding of the role of nature in public health and wellbeing. Much of the recent literature on environmental health has primarily described potential threats from our natural surroundings. The Oxford Textbook of Nature and Public Health instead focuses on how nature can positively impact our health and wellbeing, and how much we risk losing by destroying it. The all-inclusive approach provides a comprehensive and complete coverage of the role of nature in public health, making this textbook invaluable reading for health professionals, students, and researchers

within public health, environmental health, and complementary medicine.

Plant Systematics - Michael G. Simpson 2011-08-09

Plant Systematics is a comprehensive and beautifully illustrated text, covering the most up-to-date and essential paradigms, concepts, and terms required for a basic understanding of plant systematics. This book contains numerous cladograms that illustrate the evolutionary relationships of major plant groups, with an emphasis on the adaptive significance of major evolutionary novelties. It provides descriptions and classifications of major groups of angiosperms, including over 90 flowering plant families; a comprehensive glossary of plant morphological terms, as well as appendices on botanical illustration and plant descriptions. Pedagogy includes review questions, exercises, and references that complement each chapter. This text is ideal for graduate and undergraduate students in botany, plant taxonomy, plant systematics, plant pathology, ecology as well as faculty and researchers in any of the plant sciences. * The Henry Allan Gleason Award of The New York Botanical Garden, awarded for "Outstanding recent publication in the field of plant taxonomy, plant ecology, or plant geography" (2006) * Contains numerous cladograms that illustrate the evolutionary relationships of major plant groups, with an emphasis on the adaptive significance of major evolutionary novelties * Provides descriptions and classifications of major groups of angiosperms, including over 90 flowering plant families * Includes a comprehensive glossary of plant morphological terms as well as appendices on botanical illustration and plant description

The Palynology of Archaeological Sites - G. W. Dimbleby 1985

An Introduction To Pollen Analysis - G. Erdtman 2013-04-16

AN INTRODUCTION TO POLLEN ANALYSIS by G. ERDTMAN.

FOREWORD: It has long been the custom among those making pollen surveys to expose microscope slides coated with a suitable adhesive and examine them for the pollen grains caught. The counts of the various species are tabulated each day and at the end of the season drawn into a

graph or pollen spectrum, as it is called, which gives a clear picture of the relative amounts of the different kinds of pollen which are floating in the air from day to day throughout the growing season. If done in the north temperate zone such a spectrum will show the pollen of the early flowering trees, at first a trickle, as the junipers, alders and hazels flower, then a deluge as the birches, oaks and pines and many other trees cast their pollen to the air. This is generally followed by a long stream of grass pollen, fluctuating from week to week as the various species come into flower, reach their zenith, then die out giving way to succeeding species. And toward the end of the summer pollens of the late flowering weeds make their appearance, nowadays in most places completely dominated by that of the ragweed. If the record is repeated the following year the spectrum will be nearly the same. The succession can be counted on to repeat itself with little change from year to year for many years to come, unless some cataclysm changes the surrounding vegetation which contributes to the pollen spectrum, for it is always a faithful representation of the surrounding vegetation...

Text-book of Modern Pollen Analysis - Knut Faegri 1950

Taxonomie und Nomenklatur, Palynologie, Pollenanalyse.

Current Paleoethnobotany - Christine A. Hastorf 1988

A full discussion of the major stages and problems of paleoethnobotanical research, from designing and testing equipment to quantification and interpretation. Combining case studies and theoretical discussions, the volume explores a wide range of issues relevant to collecting, analyzing, and interpreting plant remains to provide accurate information about past human societies. Contributors offer data on specific regions as well as more general background information on the basic techniques of paleoethnobotany for the nonspecialist. Cloth ed. (\$24.95) not seen. Annotation copyrighted by Book News, Inc., Portland, OR

Pollen and Pollen Tube Biology - Anja Geitmann 2021-06-26

This volume explores a collection of experimental techniques used to investigate different aspects of pollen development and function, including its role in reaching the ovule and delivering the two sperm

cells. The techniques discussed range from basic methodology to cultivate pollen in vitro to the sophisticated experiments involving micromanipulation, Lab-on-Chip technology, or high-end imaging. The chapters in this book cover topics such as pollen grain counting using a cell counter; restricted pollination for tracing individual pollen tubes in a pistil; obtaining mutant pollen for phenotypic analysis and pollen tube dual-staining; analyzing intracellular gradients in pollen tubes; and measuring exocytosis rate in Arabidopsis pollen tube using corrected fluorescence recovery after photoconversion (cFRAPc) technique. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Cutting-edge and thorough, *Pollen and Pollen Tube Biology: Methods and Protocols* is a valuable resource for novice and expert scientists interested in learning more about the field of plant reproduction.

Textbook of Pollen Analysis - Knut Faegri 2000

This book is a reprint of the fourth edition, published in 1989, of the *Textbook of Pollen Analysis* and is unique in its approach as it discusses both the practical and theoretical aspects of palynology. It uses palynological techniques as tools for solving problems in quaternary geology, ecology and archeology. This edition of this standard reference has the same objectives as the earlier ones but the objectives have been widened, particularly the archaeological. There are over 130 illustrations and the identification keys have been thoroughly revised and are now illustrated. "Will certainly benefit all in understanding the principles of pollen analysis. All students, palynologists and libraries should have it as a text book for reference." *Marine Geology* "Classic and much-used text book ... will remain an indispensable book for those interested in paleoecology and practicing pollen analysis." *The New Phycologist* "Unsurpassed in its restriction to basic principles, breadth of coverage, clarity of expression and emphasis on ecology." *Review of Paleobotany and Palynology*

Encyclopedia of Quaternary Science - 2006-11-24

The quaternary sciences constitute a dynamic, multidisciplinary field of research that has been growing in scientific and societal importance in recent years. This branch of the Earth sciences links ancient prehistory to modern environments. Quaternary terrestrial sediments contain the fossil remains of existing species of flora and fauna, and their immediate predecessors. Quaternary science plays an integral part in such important issues for modern society as groundwater resources and contamination, sea level change, geologic hazards (earthquakes, volcanic eruptions, tsunamis), and soil erosion. With over 360 articles and 2,600 pages, many in full-color, the *Encyclopedia of Quaternary Science* provides broad ranging, up-to-date articles on all of the major topics in the field. Written by a team of leading experts and under the guidance of an international editorial board, the articles are at a level that allows undergraduate students to understand the material, while providing active researchers with the latest information in the field. Also available online via ScienceDirect (2006) - featuring extensive browsing, searching, and internal cross-referencing between articles in the work, plus dynamic linking to journal articles and abstract databases, making navigation flexible and easy. For more information, pricing options and availability visit www.info.sciencedirect.com. 360 individual articles written by prominent international authorities, encompassing all important aspects of quaternary science Each entry provides comprehensive, in-depth treatment of an overview topic and presented in a functional, clear and uniform layout Reference section provides guidance for further research on the topic Article text supported by full-color photos, drawings, tables, and other visual material Writing level is suited to both the expert and non-expert

Pollen Morphology and Plant Taxonomy: Angiosperms - Gunnar Erdtman 1986

Tracking Environmental Change Using Lake Sediments - John P. Smol
2006-04-11

This third volume in the *Developments in Paleoenvironmental Research*

series deals with the major terrestrial, algal, and siliceous indicators used in paleolimnology. Other volumes deal with the acquisition and archiving of lake sediment cores, chronological techniques, and large-scale basin analysis methods (Volume 1), physical and geochemical parameters and methods (Volume 2), zoological techniques (Volume 4), and statistical and data handling methods (Volume 5). These monographs will provide sufficient detail and breadth to be useful handbooks for both seasoned practitioners as well as newcomers to the area of paleolimnology. Although the chapters in these volumes target mainly lacustrine settings, many of the techniques described can also be readily applied to fluvial, glacial, marine, estuarine, and peatland environments.

Tietz Textbook of Laboratory Medicine - E-Book - Nader Rifai 2022-02-03

Use THE definitive reference for laboratory medicine and clinical pathology! Tietz Textbook of Laboratory Medicine, 7th Edition provides the guidance necessary to select, perform, and evaluate the results of new and established laboratory tests. Comprehensive coverage includes the latest advances in topics such as clinical chemistry, genetic metabolic disorders, molecular diagnostics, hematology and coagulation, clinical microbiology, transfusion medicine, and clinical immunology. From a team of expert contributors led by Nader Rifai, this reference includes access to wide-ranging online resources on Expert Consult — featuring the comprehensive product with fully searchable text, regular content updates, animations, podcasts, over 1300 clinical case studies, lecture series, and more. Authoritative, current content helps you perform tests in a cost-effective, timely, and efficient manner; provides expertise in managing clinical laboratory needs; and shows how to be responsive to an ever-changing environment. Current guidelines help you select, perform, and evaluate the results of new and established

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Pollen Analysis - Peter D. Moore 1994-10-27

Pollen can be preserved for thousands of years in palaeontological and archaeological materials, thus providing a unique means of reconstructing the past. This is of particular interest to scientists given the current, intense interest in global climate change. Varying minutely in size and detail, each grain can be identified by light and electron microscopy. This volume, which will be valuable to both students and researchers alike, is a field and laboratory manual of pollen analysis that provides a wealth of information for the selection of sites, the collection and processing of samples, the identification of pollen (covering Northern Europe and North America), and the analysis and presentation of data. The bulk of the book consists of the most comprehensive pollen and spore key available. Used in conjunction with the excellent light and electron micrographs, this key is an important aid for any palynologist wishing to identify pollen grains.