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## Micropropagation of Orchids, 2 Volume Set

**Wiley-Blackwell** This greatly expanded and updated edition of a classic reference work comprises two volumes offering a compendium of methods for multiplying orchids through micropropagation. A detailed collection of procedures and methods for multiplying orchids, including organ, tissue, and cell culture techniques in vitro Presents classic techniques that have been in the forefront of orchid propagation since they were first developed in 1949 Detailed procedures are appended with tables and complete recipes for a large number of culture media Includes many illustrations, chemical formulas, historical vignettes, and seldom seen illustrations of people, orchids, apparatus and tools "... an excellent resource like its predecessor, ...both informative and captivating, and served as a reminder of why we go to such extremes in our quest to propagate these plants." American Orchid Society, 2009 "...in the sense of its universal value and importance, this Second Edition will undoubtedly be considered a classic, if only because it will serve as a sole and invaluable resource on the subject." Plant Science Bulletin, 2009

# Orchid Species Culture

## Dendrobium

**Timber Press (OR)** The immense *Oncidium*/*Odontoglossum* alliance contains some of the most popular orchids grown. Finding reliable cultural information for more than just a handful of the most commonly available species, however, can be a real challenge. In this meticulously researched volume, aimed at serious orchidists, the authors have formulated recommendations for approximately 1300 species within this important group.

## The Orchid Genome

**Springer Nature** This book provides information on genome complexity and evolution, transcriptome analysis, miRNome, simple sequence repeats, genome relationships, molecular cytogenetics, polyploidy induction and application, flower and embryo development. Orchids account for a great part of the worldwide floriculture trade both as cut flowers and as potted plants and are assessed to comprise around 10% of global fresh cut flower trade. A better understanding of the basic botanical characteristics, flower regulation, molecular cytogenetics, karyotypes and DNA content of important orchids will aid in the efficient development of new cultivars. The book also describes the composition, expression and function of various microRNAs and simple sequence repeats. Information on their involvement in all aspects of plant growth and development will aid functional genomics studies.

# Plant Cell and Tissue Culture - A Tool in Biotechnology

## Basics and Application

**Springer Science & Business Media** This book provides a general introduction as well as a selected survey of key advances in the fascinating field of plant cell and tissue culture as a tool in biotechnology. After a detailed description of the various basic techniques employed in leading laboratories worldwide, follows an extended account of important

applications in, for example, plant propagation, secondary metabolite production and gene technology. Additionally, some chapters are devoted to historical developments in this domain, metabolic aspects, nutrition, growth regulators, differentiation and the development of culture systems. The book will prove useful to both newcomers and specialists, and even “old hands” in tissue culture should find some challenging ideas to think about.

## Proceeding of the 1st International Conference on Tropical Agriculture

Springer The proceeding of tropical agriculture is a proceeding of papers presented at the International Conference on Tropical Agriculture. Sustainability of agriculture production system is an important issue in the world, which includes all aspects of sustainable criteria, such as technical, socio-economic, and ecological aspects. This book covers sustainable tropical agriculture, sustainable tropical fisheries, sustainable tropical animal production, sustainable tropical forestry, tropical animal health, and Innovative and Emerging Food Technology and Management. The most common, challenging issues in plant, animal and fisheries production in the tropics are climate change, inefficiency production system, low technological innovation, decreasing environment quality, and the outbreak risk of pest and diseases. These issues are closely linked to the socio-economic condition of farmers as small-scale farms are dominant in this area. In addition, post-harvest technology is crucial to maintaining the high quality of products after on farm production. This volume provides the recent research and development on tropical agriculture production systems for plant, terrestrial animal and aquatic animal to establish sustainable agriculture production in the tropics.

## Orchids

## The Magazine of the American Orchid Society

# Commercial Orchids

Walter de Gruyter GmbH & Co KG Orchids account for a large share of global floriculture trade both as cut flowers and as potted plants, and are estimated to comprise around 10% of international fresh cut flower trade. The average value of fresh cut orchids and buds trade during 2007-2012 was US\$ 483 million. In 2012, there are more than 40 countries exporting orchids and 60 countries importing orchids around the world, with the total size of the global trade equaling US\$ 504 million. In India, about 1350 species belonging to 186 genera represent approximately 5.98% of the world orchid flora and 6.83% of the flowering plants in India. The publication on “Commercial Orchids” is presented in 15 interesting chapters vividly highlighting the global orchid industry, bio-diversity, conservation and bio-piracy of genetic resources, morphological and molecular characterization of valuable species, breeding approaches for improved genotypes, production of quality planting materials, physiology of tropical and temperate orchids, climate change and its impact on orchid productivity, production technology of commercial epiphytic orchids for cut flower, production technology of commercial terrestrial orchids for cut flower, orchids for pot culture, hanging baskets and tree mounting, medicinal and aromatic orchids, post-harvest management of cut flowers of commercial orchids, value addition and marketing.

## Complete Guide to Orchids

Spice up your home, patio, or garden with exotic blooms and delicious fragrances.

## Rare and Exotic Orchids

## Their Nature and Cultural Significance

Springer Comprising some 28,000 different species, orchids are by far the largest flowering plant family on Earth. Every year, new species are being uncovered in the wild or created by humans, and so this number has only continued to blossom. This book is intended for those who wish to learn about the multifaceted nature of this amazing plant. It covers many different aspects of orchid study, from its cultural history to its evolutionary development and from its

first discoveries to ongoing scientific research. No matter your specialty or level of orchid expertise, you can find in this book new and fascinating facts and stories that will make you gasp, laugh, and read on. Through the many exotic and beautiful pictures permeating these pages, you will come to know something of the infinite diversity of this plant family and at last learn why so many orchid growers and fanatics have embarked on this same endless path. "I was smitten with this book after reading the very first chapter on the history of Orchids...There are plenty of interesting facts to charm your orchid friends and impress even the most studied researcher... All in all a fabulous read that is well illustrated and with a reference section the likes of which I have never seen before with its vast and varied appendices on a slew of subjects. If you are looking for a book that is engaging and educational with lots of good humor thrown in, then this book is for you. I know that I will treasure my copy for years to come." -- Laura Newton, American Orchid Society Awards Registrar and Accredited Judge, ORCHIDS Magazine (May, 2018) "Joel L. Schiff brings to life not just the science surrounding orchids, but the human process of recognizing, cataloging, and appreciating them...It's this approach, combined with lovely close-up color photos throughout, which makes Rare and Exotic Orchids a recommendation not just for professionals or botany libraries, but for general-interest readers who will enjoy a highly accessible study that invites an in-depth interest in orchids and their importance to human affairs."-- Diane Donovan's Pick of the Month (April, 2018)

## The Accidental Gardener

Farzana Prior Gardening can be a very rewarding hobby, providing many with serenity, beauty and accomplishment. You don't need to be an expert gardener, nor do you need green fingers or thumbs. With a little love, some trial and error, and plenty of experimentation, you can create your ideal garden. In this book, the author shares many of the lessons she has learnt over the years as she became an accidental gardener.

## Orchid Biology: Recent Trends & Challenges

Springer Nature This book on "Orchid Biology: Recent Trends & Challenges" reviews the latest strategies for the preservation and conservation of orchid diversity and orchid germplasm. It is an outcome of the Proceedings of the International Symposium on "Biodiversity of Medicinal Plants & Orchids: Emerging Trends and Challenges" held on 9-11 February 2018 at Acharya Nagarjuna University, India. In addition, eminent orchid experts from around the globe

were invited to contribute to this book. All chapters were peer-reviewed by international experts. The Orchidaceae are one of the largest families of flowering plants, comprising over 700 genera and 22,500 species and contributing roughly 40 percent of monocotyledons. They also represent the second-largest flowering plant family in India, with 1,141 species in 166 genera, and contribute roughly 10% of Indian flora. Orchids comprise a unique group of plants and their flowers are among the most enchanting and exquisite creations of nature. Phylogenetically and taxonomically, the Orchidaceae are considered to be a highly evolved family among angiosperms. They show incredible diversity in terms of the shape, size and colour of their flowers, and are of great commercial importance in floriculture markets around the globe. Millions of cut flowers of *Cymbidium*, *Dendrobium*, *Cattleya*, *Paphiopedilum*, *Phalaenopsis*, *Vanda* etc., besides potted orchid plants, are sold in Western Countries and thus, the orchid cut flower industry has now become a multimillion-dollar business in Europe, the USA and South East Asia. Besides their ornamental value, orchids hold tremendous pharmaceutical potential. Root tubers of *Habenaria edgeworthii* form an important component of the 'Astavarga' group of drugs in Ayurvedic medicine. It is an established fact that tubers of some terrestrial orchids have been used to treat diarrhoea, dysentery, intestinal disorders, cough, cold and tuberculosis. Some orchids, particularly those belonging to the genera *Aerides*, *Arachnis*, *Cattleya*, *Cymbidium*, *Dendrobium*, *Epidendrum*, *Oncidium*, *Paphiopedilum*, *Phalaenopsis*, *Renanthera*, *Vanda* etc. have been extensively used to produce internationally acclaimed hybrids. Yet paradoxically, Indian orchids are victims of their own beauty and popularity. As a result, their natural populations have been declining rapidly because of unbridled commercial exploitation in India and abroad. In fact, some orchids are now at the verge of extinction, e.g. *Renanthera imschootiana*, *Diplomeris hirsuta*, *Paphiopedilum fairrieanum*, *Cypripedium elegans*, *Taeniophyllum andamanicum* etc. Given the global importance of orchids in terms of securing human health and wealth, this comprehensive compilation, prepared by international experts, is highly topical. Its content is divided into five main sections: (I) Cryopreservation & Biotechnology, (II) Orchid Biodiversity & Conservation, (III) Anatomy & Physiology, (IV) Pollination Biology and (V) Orchid Chemicals & Bioactive Compounds. All contributions were written by eminent orchid experts/professors from around the world, making the book a valuable reference guide for all researchers, teachers, orchid enthusiasts, orchid growers and students of biotechnology, botany, pharmaceutical sciences and ethnomedicine. It will be equally valuable for readers from the horticultural industry, especially the orchid industry, agricultural scientists and policymakers.

## Understanding Orchids

# An Uncomplicated Guide to Growing the World's Most Exotic Plants

**Houghton Mifflin Harcourt** A practical handbook for novice and experienced horticulturalists alike provides everything a gardener needs to know about these popular and exotic plants, offering more than two hundred full-color photographs, detailed descriptions, and easy-to-follow care and cultivation instructions for dozens of orchid species.

## The Genera and Species of Orchidaceous Plants

## Growing Orchids Under Lights

## Moth Orchid Mastery

# The Novice's Guide to Mastering Moth Orchid Culture in Less Than 1 Hour

**Have you miserably failed at growing Moth Orchids or Phalaenopsis? Can't get them to rebloom? LOOK NO FURTHER!** As the sensationally popular founder of Ohio Tropics, Raffaele has created this easy to understand eBook that covers all the critical topics for the complete novice to successfully grow Moth Orchids: purchasing your first orchid, light, watering, fertilizing, temperature, humidity, flowering, repotting and pests. It will completely demystify how to grow

these plants, and is written in a language that EVERYONE can understand! Even if you know nothing about houseplants or have a black thumb, you can read this book in about an hour and have a newfound confidence in easily growing Phalaenopsis orchids! Please note that this is NOT a picture book. There are links however to the author's blog site at [www.ohiotropics.com](http://www.ohiotropics.com) that illustrate many concepts visually and provide further reference. The author stands behind this book so much that you can contact Raffaele at any time after you read the book and he will answer all of your questions. Raffaele firmly believes that anyone can learn how to easily grow these plants after reading this easy to understand eBook. As the creator of [www.ohiotropics.com](http://www.ohiotropics.com), and founder and curator of the wildly popular @ohiotropics account on Instagram, Raffaele has taught houseplant care to tens of thousands of people. Take a look at some testimonials: "I have never been able to rebloom an orchid by simply following the tag on my store purchased orchids. A friend recommended Raffaele, and I immediately began scanning his blog for info on orchids. I now realize why my orchids were not reblooming. I ditched the ice cube watering system that is somehow still all over the web and began following Raffaele's instructions. Within weeks, I had a new flower spike! My plants are thriving, and I am a happy camper. Thank you, Ohio Tropics!" Jackie in Winchester, Virginia "Not only do I have a black thumb but I travel frequently and have a cat. I didn't think it was possible to grow anything in my house. Raffaele helped me to understand that orchids are not intimidating. In fact, they are quite robust and require very little attention. I would highly recommend his advice and this eBook. If I can get an orchid to re-bloom you can too!" Meredith in Cleveland, Ohio "As a Horticulturalist, I am truly inspired and impressed with Raffaele's remarkable plant blog at [www.ohiotropics.com](http://www.ohiotropics.com). Ohio Tropics has enriched the plant community through factual information, knowledge, and understanding of plant care, as well as providing a place they can go to learn something new." Marisa Reyes in Wisconsin "Ohio Tropics changed the way I water all of my plants, and they're happier for it! He's so helpful, positive, and fun to follow!" Bethany in Michigan

## Orchid Biotechnology II

World Scientific Orchid Biotechnology II presents a series of recent works on both basic and applied researches in biotechnology progress for Phalaenopsis and Oncidium orchids. These include the development of flower, ovule, gynostemium and perianth, the discovery of new orchid-infecting viruses and virus movement, secondary metabolites, technology of DNA endoduplication and genetic transformation, growth regulation by micronutrition and orchid mycorrhiza, and plant growth substances for flowering. The diversity and specialization in orchid floral morphology

have fascinated botanists and collectors for centuries. The orchid industry has been growing substantially in the past ten years worldwide. This book focuses on the recent advances in the research of orchid biotechnology from the past ten years in Taiwan. To advance the orchid industry, enhancement of basic research as well as advanced biotechnology will provide a good platform to improve flower quality and breeding of new varieties.

## Orchid Biotechnology Iii

**World Scientific** This book provides a first hand and complete information on orchid biotechnology for orchid lovers, graduate students, researchers and industry growers. It contains comprehensive genomics and transcriptomics data, and a thorough discussion of the molecular mechanism of orchid floral morphogenesis. The contributors to the book are all orchid enthusiasts with more than 20 years' experience in the field. With more than 25,000 species, orchids are the most species-rich of all angiosperm families. They show wide diversity of epiphytic and terrestrial growth forms and have successfully colonized almost every habitat on earth. Orchids are fantastic for their spectacular flowers with highly evolved petal, labellum, and fused androecium and gynoecium, gynostemium, to attract pollinators for effective pollination. In addition, orchids have attracted the interest of many evolutionary biologists due to their highly specialized evolution and adaptation strategies. **Orchid Biotechnology III** covers the most update knowledge of orchid biotechnology research on *Phalaenopsis*, *Oncidium*, *Cymbidium*, *Anoectohilus*, *Paphiopedilum*, and *Erycina pusilla*. It will provide graduate students, researchers, orchid lovers and breeders with an opportunity to understand the mechanism why the orchids are so mysterious and spectacular. Hopefully, this information will be helpful for breeders to enhance orchid breeding and create even more elegant and grace flowers.

## The Physiology of Tropical Orchids in Relation to the Industry

**World Scientific** Over the past ten years, the orchid industry is growing at a steady pace in the South East Asia and East Asia regions. In some Asian countries, orchids have become an essential export item. To maintain this progress, there is an urgent need for a book that is relevant to the region orchid growers in improving their cultivation and management skills, and to guide new students in understanding orchid physiology. This book provides a

comprehensive account of tropical orchid physiology relevant to commercial growers, research workers and graduate students. An integrated and unifying theme of tropical orchid physiology, with a clearly written factual text and illustration, is presented over nine chapters. Each chapter is designed to provide a comprehensive and up-to-date information on an aspect of orchid physiology. This book complements the existing scientific literature available to improve orchid cultivation and to set new research agenda especially in the tropics.

## Plant Cell and Tissue Culture

Springer Science & Business Media Plant Cell and Tissue Culture gives an exhaustive account of plant cell culture and genetic transformation, including detailed chapters on all major field and plantation crops. Part A presents a comprehensive coverage of all necessary laboratory techniques for the initiation, nutrition, maintenance and storage of plant cell and tissue cultures, including discussions on these topics, as well as on morphogenesis and regeneration, meristem and shoot tip culture, plant protoplasts, mutant cell lines, variation in tissue cultures, isogenic lines, fertilization control, cryopreservation, transformation, and the production of secondary metabolites. Part B then proceeds into detail on the specific in vitro culture of specific crops, including cereals, legumes, vegetables, potatoes, other roots and tubers, oilseeds, temperate fruits, tropical fruits, plantation crops, forest trees and ornamentals. Plant Cell and Tissue Culture is, and is likely to remain, the laboratory manual of choice, as well as a source of inspiration and a guide to all workers in the field.

## Orchids

## Status Survey and Conservation Action Plan

IUCN This action plan chronicles the threats faced by wild orchids, but more importantly to critical habitats that host extraordinarily high orchid diversity and endemism. It explores and recommends specific ways that national and local government, legislators, scientists and orchid conservationists as well as growers can all help to reverse present trends. The facts and viewpoints presented in this comprehensive document update and supplement the information available to conservation organizations and agencies through the world so that they can lobby their appropriate

government offices more effectively.

## Fundamentals of Orchid Biology

## Orchid Biotechnology

**World Scientific Publishing Company Incorporated** This book is an exposition of classical mechanics and relativity that addresses the question of whether it is possible to send probes to extrasolar systems. It examines largely well-understood physics to consider the possibility of exploring the nearby interstellar environment in a similar fashion to how the solar system has been explored. As such, this book is both a semipopularization of basic physics and an informal study of a likely future technological development. An auxilliary text on basic physics for students and laypersons as well as an illustration of the problems with interstellar exploration, this book is a must-read.

## Breeding Dendrobium Orchids in Hawaii

**University of Hawaii Press** Dendrobium orchids have been among Hawaii's most popular plants since *Dendrobium anosmum*, with its hanging pseudobulbs and delightfully fragrant flowers, was introduced from the Philippines in 1896. Four decades later the Islands' first *Dendrobium* hybrid was registered, and by the 1950s, coinciding with the advent of the University of Hawai'i's orchid research program, Hawaii was established as the center for *Dendrobium* hybridization. Dendrobiums have since become the single most valuable commercial flower in Hawaii, given their combined use for cut-flowers, leis, and blooming potted plants. *Breeding Dendrobium Orchids in Hawaii* summarizes for easy reference research on cytogenetics and breeding of dendrobiums conducted over the past 47 years, mainly at the University of Hawai'i. A lavishly illustrated section on species important to Hawaii's orchid industry is followed by a description of the origin of many popular hybrids. Throughout, information on cross-breeding, seed propagation, flower color and form, and controlling disease is presented in language readily understood by the layperson. A total of 175 color photographs showcase registered hybrids, cut-flower cultivars, potted plant cultivars, and novelties. The authors share valuable tips on counting *Dendrobium* orchid chromosomes, germinating seeds, and cloning plants and provide a comprehensive glossary. *Breeding Dendrobium Orchids in Hawaii* will be an essential reference for anyone

associated with orchids-growers, hobbyists, breeders, tissue culture propagators, plant geneticists, and horticultural scientists.

## Orchid Biology

### Reviews and Perspectives, VII

**Springer Science & Business Media A Personal Note** I decided to initiate **Orchid Biology: Reviews and Perspectives** in about 1972 and (alone or with co-authors) started to write some of the chapters and the appendix for the volume in 1974 during a visit to the Bogor Botanical Gardens in Indonesia. Professor H. C. D. de Wit of Holland was also in Bogor at that time and when we discovered a joint interest in Rumphius he agreed to write a chapter about him. I visited Bangkok on my way home from Bogor and while there spent time with Professor Thavorn Vajrabhaya. He readily agreed to write a chapter. The rest of the chapters were solicited by mail and I had the complete manuscript on my desk in 1975. With that in hand I started to look for a publisher. Most of the publishers I contacted were not interested. Fortunately Mr James Twiggs, at that time editor of Cornell University Press, grew orchids and liked the idea. He decided to publish **Orchid Biology: Reviews and Perspectives**, and volume I saw the light of day in 1977. I did not know if there would be a volume II but collected manuscripts for it anyway. Fortunately volume I did well enough to justify a second book, and the series was born. It is still alive at present - 20 years, seven volumes and three publishers later. I was in the first third of my career when volume I was published.

## Australian Orchid Review

## Orchids of French Guiana

**Gantner Publishing**

## Orchid Conservation

### Bloom-Again Orchids

## 50 Easy-Care Orchids that Flower Again and Again and Again

**Hachette UK** If you've always been intrigued by orchids but were nervous about caring for them, put your worries aside. **Bloom-Again Orchids** will turn you from a would-be orchid fan into the proud owner of healthy plants that will bloom year after year.

## Molecular Embryology of Flowering Plants

**Cambridge University Press** Provides an invaluable reference and source book on plant embryogenesis for cell and molecular biologists, and plant biotechnologists.

## Orchid Biology VIII

## Reviews and Perspectives

**Springer Science & Business Media** This is the eighth volume in a 25-year-old series that has become the cornerstone review publication of orchid science. It presents authoritative reviews on different areas of orchid science and historical accounts by major orchid authorities, providing information for botanists, orchid scientists, and growers.

## The Cape Orchids

### A Regional Monograph of the Orchids of the Cape Floristic Region

## Experimental Embryology of Vascular Plants

**Springer Science & Business Media** A long time ago botany used to be regarded as the *scientia amabilis*, the friendly science, eminently suitable for leisured amateurs. Since then, and particularly in this century, it has grown tremendously in its importance and in its intimate contacts with various other disciplines of science, some of which, like plant genetics and plant physiology, at one time indeed used to be included under the broad term botany. In spite of the fact that such subjects have expanded into major scientific fields of their own, botany, the mother science, continues to maintain its central place: this is because it deals with plants which constitute one of the most vital life-supporting systems of this planet. Furthermore, interacting and benefiting from advances made in other sciences, it has steadily progressed in a number of areas. Experimental embryology of vascular plants is one such field where spectacular advances have been made in recent years. The time is therefore particularly opportune for the publication of an authoritative book on the subject. It is very appropriate that the book has been planned and edited by Professor B. M. Johri, one of India's foremost botanists, whose contributions in embryology, plant morphology and morphogenesis are internationally known. He was closely associated over a number of years with Professor P. Maheshwari, the great botanist and embryologist, to whom the book is dedicated.

## The Best Orchids for Indoors

**Brooklyn Botanic Garden** From the Brooklyn Botanic Garden, a series The New York Times calls a "brilliant collection of gardening books." This manual is a goldmine of practical and inspirational information, and a great value too. Orchid

lovers will delight in this guide to indoor cultivation. Fitch, a member of the who's who of orchid specialists, presents the newest, most exciting, and most spectacular tropical varieties. Published in association with the American Orchid Society, this volume offers lots of helpful advice for making orchids thrive, as well as a comprehensive encyclopedia of different species. From the Brooklyn Botanic Garden series that The New York Times calls a "brilliant collection of gardening books."

## Plant Tissue Culture, Development, and Biotechnology

CRC Press Under the vast umbrella of Plant Sciences resides a plethora of highly specialized fields. Botanists, agronomists, horticulturists, geneticists, and physiologists each employ a different approach to the study of plants and each for a different end goal. Yet all will find themselves in the laboratory engaging in what can broadly be termed biotechnol

## Plant Cell Culture in Crop Improvement

Springer Science & Business Media The current and potential importance of plant tissue culture techniques in crop improvement is hard to overemphasize. There are few areas where these techniques will have more possible impact than in tropical agriculture, where the availability of high productivity varieties is sadly lacking in many species. The potential for the rapid, clonal propagation of elite individuals and the use of controlled multiline planting could have a major effect on crop yield and disease resistance in many areas of the world. This volume is a collection of papers presented at the Conference on "Crop Improvement Through Tissue Culture", held at the Bose Institute, Calcutta, India in December 1981. It attempts to bring together local research workers, familiar with the agricultural resources of the area and tissue culture and molecular level workers. It was the hope of the conference that the "cross fertilization" of ideas would lead to new approaches and activity in this area. The editors trust that this collection of papers will stimulate interest and research in the tissue culture and improvement of crop plants everywhere. v ACKNOWLEDGEMENTS The symposium from which the papers in this book are drawn was held at Bose Institute, Calcutta on December 6 to December 10, 1981.

## Orchids of Papua New Guinea

**Timber Press (OR) Papua New Guinea's variations of climate and habitat support a diverse orchid population. This book offers an introduction to the orchids of Papua New Guinea.'**

## The Classic Cattleyas

**Timber Press (OR) Cattleyas, first introduced in 1818, are the flowers whose form and color defined the essence of tropical orchids for generations to come. This helpful and informative book—for veteran orchid enthusiasts and beginners alike—describes each classic Cattleya species in fascinating detail and includes all that is required to appreciate and grow cattleyas successfully.**

## Orchid Propagation: From Laboratories to Greenhouses—Methods and Protocols

**Humana Press The orchid family is one of the largest families of flowering plants known for their beauty and economic importance. This work provides information in key areas of research that are important to both scientists and commercial growers alike. The main purposes of this book are to provide key practical areas of research, such as, germination, micropropagation, traditional and current techniques related to plant improvement; document methods that ensure survival of plants from laboratories to greenhouses; promote communication between scientists and growers, so that their combined expertise on these areas will lead to the successful growth of orchids in their natural habitats or commercial greenhouses. This book can serve as reference for laymen with an interest in orchid growing. This book is divided into 5 parts. The first part emphasizes propagation methods using seeds and related techniques that are important to plant conservation and improvement. Successes in asymbiotic and symbiotic seed germination are keys to orchid conservation and their propagation. The second part summarizes micropropagation methods, common media, and newer methods of micropropagation such as the bioreactor culture procedures. The third part focuses on techniques related to the manipulation of explants in an in vitro environment. The fourth part**

**covers cell biological methods and transformation techniques. Since the successes in a laboratory setting do not guarantee plant survival and propagation in greenhouses and in the natural environment, it discusses greenhouse propagation techniques that are essential to the survival of plants generated from a laboratory setting. The fifth part showcases recent successes on orchid propagation by documenting sample publications and how to present orchids in an artistic fashion for one's enjoyment.**

## The Genus Paphiopedilum

## Natural History and Cultivation

## The New Encyclopedia of Orchids

## 1500 Species in Cultivation

**Timber Press The Infinitely Varied Orchid Family provides a never-ending source of unusual plants in a range of shapes, colors, fragrances, and sizes. As the demand for interesting and unusual species increases, so too does the need for a comprehensive reference on how to grow them. This encyclopedia, written by respected botanist Isobyl la Croix, offers detailed descriptions of 1500 cultivated species in 350 genera from Acampe to Zygostates. More than 1000 photographs will aid enthusiasts in choosing new plants for their collections as well as provide accurate ID.**