

1996
Catalog

BIOLOGICAL AND AGRICULTURAL SCIENCES



Covering :

- ☆ Agriculture
- ☆ Biotechnology
- ☆ Botany
- ☆ Entomology
- ☆ Fishery
- ☆ Forestry
- ☆ Zoology

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Agriculture-Fertilizer Interface in Asia

Issues of Growth and Sustainability

Saleem Ahmed—East-West Center, Honolulu, USA

This book resulted from a study done by the East-West Center (Hawaii) at the behest of the U.S. Geological Survey, to project fertilizer demand using a new approach, instead of time tested methodologies—such as trend analysis, time-series data, and econometric modeling.

This alternative approach provided an independent check on existing projections. It also raised some new issues.

Contents

- ☐ Summary
- ☐ Agriculture in Asia
- ☐ Fertilizer Consumption
- ☐ Fertilizer Availability in the Surveyed Countries
- ☐ Agriculture-Fertilizer Interface: Some Policy Considerations
- ☐ *Appendix I*: Status of Agriculture among the Surveyed Countries
- ☐ *Appendix II*: Agricultural Production and Net Cropped Area in the Surveyed Countries, 1965-90
- ☐ *Appendix III*: Comparison of Actual Fertilizer Use with Calculated Values 1965-90
- ☐ *Literature Cited*
- ☐ *Subject Index*
- ☐ *Name Index*

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168 pages

\$ 48.00

Rice Tungro

A. Anjaneyulu—Central Rice Research Institute, Cuttack, India

M.K. Satapathy—International Rice Research Institute, Manila, Philippines

V.D. Shukla—Central Rainfed Upland Rice Research Station, Hazaribagh

Rice tungro is one of the few plant virus diseases which has attracted the attention in recent times. This monograph will be useful to all working on rice tungro as well as other plant pathologists, agriculture scientists, entomologists, plant virologists, extension workers, scientists of plant molecular biology and to students and teachers of plant pathology, general agriculture and botany.

Contents

♦ Introduction ♦ History and Distribution ♦ Symptoms ♦ Yield Losses
♦ Etiology and Serology ♦ Disease Detection and Diagnosis ♦ Molecular
Biology of Tungro Viruses ♦ Variability: Strains ♦ Physiology of Rice
Tungro Disease ♦ The Vector, *Nephotettix* spp. ♦ Transmission
♦ Virus-Vector Relationship ♦ Epidemiology and Disease Spread
♦ Disease Management ♦ Varietal Resistance ♦ Rice Waika ♦ A Note
for Farmers and Extension Workers ♦ Future Prospects ♦ *References*
♦ *Index*

Published: 1995

ISBN 1-886106-16-9

240 pages

\$ 76.00

Tropical Tuber Crops

Problems, Prospects and Future Strategies

Editors: *G.T. Kurup, M.S. Palaniswami, V.P. Potty, G. Padmaja,
S. Kabeerathumma, and S.V. Pillai*

- ☐ Biotechnology
- ☐ Crop Improvement
- ☐ Crop Production
- ☐ Social Sciences
- ☐ Processing and Utilisation
- ☐ Crop Protection
- ☐ Plenary Session

1996

ISBN 1-886106-37-1

c. 600 pages

In Press

Oilseeds in Asia-Pacific Region

Food and Agriculture Organization

Regional Office for Asia and the Pacific (Bangkok)

This book provides an insight into the various aspects of production, processing, storage, products, marketing and trade. The whole gamut of oilseed crops, including annuals and perennials, has been covered. Production problems are flagged, and potentials have been highlighted at the national and regional levels. Research and development needs have also been addressed with a view to increase further oilseed production in the Region.

The book will be useful to researchers, teachers, development officials and policy makers concerned with oilseed development in the Asia-Pacific Region.

Contents

□ Situation and Outlook for World Supply and Demand of Oils, Fats and Oilmeals □ Improved Agro-economic and Management Practices for Production of Annual Oilseed Crops in Asia-Pacific Region □ Recent Research and Technological Developments in Production of Perennial Oil Crops □ Status of Oilseed Research and Development in Bangladesh □ Research and Production for Oilcrops in China during Recent Years □ Improved Agro-economic and Management Practices for Annual Oilseed Crops in India □ Industrial Crops for Oilseed in Indonesia □ Oilseeds Production in Malaysia □ Oilseed Crops Research in Nepal □ Country Report on Edible Oils—Pakistan □ Recent Research and Technological Developments in Coconut □ Oilseed Production and Marketing in the Republic of Korea □ Status of Coconut in Sri Lanka □ Oil Crops in Thailand □ Past Trend, Current Situation and Future Prospects of Oilseed Production and Availability of Vegetable Oil in Vietnam □ Diversification of Oilseeds and their Byproducts Towards Food Uses in India □ Oilseeds Research and Development in Asia and the Pacific—Issues and Strategies

Published: 1995 (copyright: 1993)

ISBN 1-886106-38-X

216 pages

\$ 45.00

Soybean in Asia

Food and Agriculture Organization

Regional Office for Asia and the Pacific (Bangkok)

Globally soybeans are the most important source of vegetable oil and are an extremely important source of vegetable protein. Recent breakthroughs in varietal development for the tropics and in small-scale processing make soybeans an extremely promising crop to improve human and livestock nutrition, reduce poverty through establishment of appropriate rural processing technologies, and for the enhancement of sustainable cropping systems.

Contents

Part I: Country Reports

☐ Australia ☐ Bangladesh ☐ China ☐ India ☐ Indonesia ☐ Japan
☐ Malaysia ☐ Myanmar ☐ Nepal ☐ Pakistan ☐ Philippines ☐ Republic
of Korea ☐ Sri Lanka ☐ Thailand ☐ Vietnam

Part II: Institutional Reports

☐ AVRDC ☐ CGPRT Centre ☐ FAO ☐ INTSOY

Part III: Special Reports

☐ Oilseed Crops Development Project, Achievement on Soybean
Research and Development ☐ The History of Soybean in the Orient
☐ Soybean Processing, Utilization and Marketing in the Philippines
☐ Soybean Production, Utilization, Research and Development in
Taiwan ☐ Biotechnological Research on Soybean at Kasetsart
University

Published: 1995 (copyright: 1993)

ISBN 1-886106-51-7

220 pages

\$ 39.00

Sustainability of Rice-wheat Production Systems in Asia

Food and Agriculture Organization

Regional Office for Asia and the Pacific (Bangkok)

Rice-wheat production system is undoubtedly the most important cropping system in the world today. It covers approximately 22 million hectares and feeds around one billion people in continental Asia. In view of projected global deficit of about 45 million tones of rice and wheat by the year 2005, the importance of rice-wheat production systems can hardly be over emphasized.

Contents

□ Sustainability and productivity of Rice-wheat Systems in Asia-Pacific Region: Research & Technology Development Needs □ Sustainability Issues Related to Rice-wheat Production System in Asia □ Major Issues in Asian Rice-wheat Production System □ Areas, Locations, and ongoing Collaborative Research for the Rice-wheat Systems in Asia □ Rice-wheat Production System in Eastern India and Bangladesh: Recent Development and Economic Constraints □ Irrigations and Drainage for the Rice-wheat System: Management Aspects □ Rice-wheat Systems Research in South Asia: Ecoregional Emphasis and International Collaboration □ Support of the Rice-Wheat in Bangladesh □ Sustainability of the Rice-wheat Production Systems in Bhutan □ Rice-wheat Systems and Their Development in China □ Sustainability of Rice-wheat Systems in India □ Rice-wheat Production System in Myanmar Sustainability of Rice-wheat Systems in Nepal □ Rice-wheat Systems in Pakistan—The Sustainability Questions □ Rice-wheat Production Systems in Thailand

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ISBN 1-886106-50-9

216 pages

\$ 55.00

Production and Improvement of Crops for Drylands

Editor: *U.S. Gupta*—Ahmadu Bello University, Zaria, Nigeria

Contents

- ◆ Physiological Principles of Dryland Crop Production
Isaac Arnon and U.S. Gupta
- ◆ Drought Injury and Resistance of Crop Plants
Kenneth L. Larson and Russell E. Mullen
- ◆ Root Patterns, Their Functions and Improvement
U.S. Gupta, E.A. Hurd and E.D. Spratt
- ◆ Role of Mulches on Dryland Agriculture
Paul W. Unger
- ◆ Role of Humidity in Dryland Crop Production
U.S. Gupta
- ◆ Wind Effects and Their Amelioration in Crop Production
J.W. Sturrock
- ◆ Uses of Antitranspirants in Dryland Agriculture
U.S. Gupta and D.N. Tyagi
- ◆ Photorespiration
Andrew Goldsworthy
- ◆ Crop Improvement for Arid Environment
U.S. Gupta
- ◆ Author Index
- ◆ Subject Index

Published: 1995

ISBN 1-886106-17-7

462 pages

\$ 88.00

Sorghum Science

R.K. Maiti—Universidad Autonoma De Nuevo Leon, Monterrey, Mexico

Sorghum is one of the five important cereal crops of the world and used as food by millions in the semiarid tropics and also as animal feed in many developed countries. The sorghum grain has excellent yields in the semi-arid tropics under several biotic and abiotic constraints. A good knowledge of sorghum plants and their mechanisms of adaptation in harsh environments will help in the formulation of efficient breeding programs.

This book will serve as a guide to students, extension workers and also researchers in sorghum crop productivity. The author has attempted to use sorghum crop as a basis for synthesis of the growth and development of other cereal crops. The work done on this crop could be used as a guide for the study of other cereal crops.

Contents

- ◆ Introduction
- ◆ Seeds
- ◆ Germination and Seedling Establishment
- ◆ Leaf and Stem
- ◆ Panicle Development and Productivity
- ◆ Root Development and Growth
- ◆ Role of Climatic Factors on Sorghum Growth
- ◆ Mineral Nutrition of Sorghum
- ◆ Improvement of Crops: The Role of Morphophysiological Traits
- ◆ *Conclusions*
- ◆ Probable Plant Type Concept in Sorghum
- ◆ *General Comments*

1996

ISBN 1-886106-68-1

c. 300 pages

\$ 69.00

Land and Water Development for Agriculture in the Asia-Pacific Region

V.V.N. Murty—Asian Institute of Technology, Bangkok, Thailand

K. Takeuchi—FAO, Bangkok, Thailand

Contents

- ◆ Land and Water Development for Agriculture—Issues and Approaches
- ◆ Irrigation Systems Management for Sustainable Development
- ◆ Performance Evaluation of Irrigation Systems
- ◆ Groundwater Management and Water Lifting Devices for Irrigation
- ◆ Water Management Issues in Lowland Rice Cultivation
- ◆ Engineering Practices for Land and Water Management under Rainfed Agriculture
- ◆ Assessment and Mitigation of Droughts
- ◆ Environmental Issues in Water Resources Development and Management

1996

ISBN 1-886106-60-6

c. 200 pages

\$ 65.00

Advances in Coconut Research and Development

Editors: *M.K. Nair et al.*

The book is a compilation of the latest available information on coconut production, protection, process and development strategies and likely to be an invaluable reference book to any individual or organisation interested in coconut palm. The recommendations that emerged of the symposium, given at the end of book, are also likely to help in formulating future research and development strategies in coconut-growing countries.

Contents

- ◆ Genetic Resources
- ◆ Crop Improvement
- ◆ Biotechnology and Physiology
- ◆ Crop Management and Farming System
- ◆ Pest Management
- ◆ Disease Management
- ◆ Harvest and Post Harvest Technology
- ◆ Economics, Development Programmes and Transfer of Technology
- ◆ *Index of Contributors*

Published: 1993

ISBN 1-881570-27-4

776 pages

\$ 130.00

Fungicides in Plant Disease Control (3rd Ed.)

Y.L. Nene—Deputy Director General, ICRIASAT, Patancheru, India

P.N. Thapliyal—G.B. Pant University of Agriculture and Technology
Pantnagar, India

This book provides basic information on various fungicides and fungicide products and their application. It also describes the nature, mode of action, and use of fungicides which have found place in successful plant/crop disease control. The subject of systemic fungicides has been discussed in detail, with particular emphasis on management of fungicide resistance. The impressive and thorough descriptions are based on the information generated over the years and on the authors' own experiences in this field. References to the literature cited have been indicated throughout the text to obtain additional information. Chemicals used in plant disease control and their sources have been listed to serve as a reference directory.

Contents

♦ Introduction ♦ History ♦ Sulphur Fungicides ♦ Copper Fungicides
♦ Mercury Fungicides ♦ Quinone Fungicides ♦ Captan, Folpet, and
Captafol Dicarboximide Fungicides ♦ Systemic Fungicides ♦ Miscella-
neous Fungicides ♦ Evaluation of Fungicides

APPENDICES

♦ List of Chemicals Used in Plant Disease Control ♦ Sources of
Chemicals Listed in Appendix I(A) ♦ Soil-Disinfesting Chemicals and
Methods of Application ♦ Standardised Spray Nomenclature ♦ Standard
Laboratory Bordeaux Mixture ♦ Prescriptions for Crop Disease Control ♦
Index

Published: 1993

ISBN 1-881570-22-3

670 pages

\$ 75.00

Role of Biotechnology in Agriculture

Editors: *B.N. Prasad*—Tribhuban University, Kathmandu, Nepal

G.P.S. Ghimire—Tribhuban University, Kathmandu, Nepal

V.P. Agrawal—Tribhuban University, Kathmandu, Nepal

Will be of great interest and use to researchers and technologies working in various fields of Plant Biology and Agricultural Biotechnology.

☐ Biotechnology and Plant Sciences Opportunities for SAARC Countries
☐ Gene Cloning for Crop Improvement ☐ Pod-wall Metabolism in Relation to Dry Matter and Protein Accumulation in Developing Seeds of Chick-pea (*Cicer arietinum* L.) ☐ Micropropagation of Woody Taxa and Plant Productivity
☐ Productivity of Tea (*Camellia sinensis* (L.)) in Relation to Other Tropical Perennial Crops ☐ Chloroplasts Response to Low Water Potentials: Changes in Chlorophyll Fluorescence Yield and Emission of Chloroplasts as Affected by Low Leaf-water Potential ☐ Effect of GA_3 on Nitrogen Fixation in Some Forage Legumes of Nepal ☐ Effect of *Rhizobium* Inoculation on the Nodulation and Grain Yield of Soybean in Combination with Chemical Fertilisers ☐ Bioconversion of β -sitosterol into 17-ketosteroids by some Strains of *Arthrobacter*
☐ Regeneration of Plants from Leaf Explant in Orchid *Vanda teres* Lind
☐ Generation of Genetic Variability by the Chrysanthemum Tissue Culture Method ☐ *In vitro* Morphogenetic Studies in *Amaranthus paniculatus* L.
☐ Ecology and Agriculture ☐ Proline Accumulation in Some Halophytes in the Indian Desert ☐ Ecophysiological Effects of Some Heavy Metallic Pollutants on Two Aquatic Macrophytes ☐ Probable Direction of Evolution in the Genus *Anemone* L. (*Ranunculaceae*) ☐ Response of Improved Wheat Cultivars of Nepal to a Change in Environment ☐ Evaluation of Wheat Genotypes Adapted to Nepal ☐ Hormonal Role in the Sterility of Rice (*Oryza sativa* L.) ☐ A Study on the Productivity of *Amaranthus hypochondriacus* L. ☐ SO_2 Stress on Yield of *Avena sativa* L. ☐ Investigation on Physiology of Bulb Formation in Some Short-day Onion Varieties ☐ Influence on Night Temperature during Floret Differentiation on Microsporogenesis and Seed-setting in Sorghum (*Sorghum bicolor* (L.) Moench) ☐ Changes in Total Soluble Protein and Leghaemoglobin Content of the Nodules at Various Stages of Plant Growth in Relation to Flowering and Pod Formation in *Vigna sinensis* L. ☐ Cytological Studies on Nitrous-oxide Treated Red Clover (*Trifolium pretense* L.) ☐ Pollen Studies in *Cardamine* L. (*Cruciferae* Juss.)

Published: 1992 (Reprinted 1995)

ISBN 1-881570-12-6

252 pages

\$ 65.00

Mollicute Diseases of Plants

S.P. Raychaudhuri and D.K. Mitra

This monograph deals with some of the most challenging problems in the area of plant diseases management. The authors have chosen diseases which have defied easy solution over many years for detailed treatment. For every disease dealt with in the book, comprehensive information is given on the history and distribution of the disease, the causal agent, and methods of transmission and control. Will be valuable to all scholars and students engaged in plant protection research and disease management.

Contents

◆ Introduction ◆ Diseases of Rice, Maize and Sesamum ◆ Diseases of Vegetables ◆ Diseases of Sugar Cane ◆ Diseases of Fruit Trees
◆ Diseases of Coconut Palm ◆ Diseases of Ornamentals ◆ Diseases of Plantation Crops ◆ Control

Published: 1993

ISBN 1-881570-13-4

144 pages (16 B & W + 4 color plates)

\$ 56.00

Advances in Small Millets

Editors: *Kenneth Riley et al.*

Edited and updated papers presented by international experts at the International Seminar held in Zimbabwe, sponsored by IDRC and ICRISAT. Invaluable for agriculturists and researchers.

The book contains 42 papers and divided into eight sessions as follows:

- ◆ Country Reports from Africa
- ◆ Reports from Asian Countries and the World
- ◆ Production to Consumption—Concepts and Studies
- ◆ Processing Utilization and Marketing
- ◆ Diversity, Classification and Germplasm Resources
- ◆ Breeding and Diseases
- ◆ Farming Systems and Technology Transfer
- ◆ Networks

Published: 1994

ISBN 1-881570-07-X

575 pages

\$ 85.00

Plant Pathogens

The Nematodes

R.S. Singh and K. Sitaramaiah

This book provides upto-date and exhaustive information on the history, economics, identification, host response to infection, characteristics of feeding by specific groups of phytonematodes, their association with other plant pathogens, strategies for management of nematode populations in the field, and selected methods of study of nematodes. A useful reference and guide for those working in the field of plant pathology, nematology, entomology, plant protection and for extension workers.

Contents

♦ Introduction ♦ Morphology and Reproduction ♦ Developmental Stages and Aspects of Behaviour ♦ Host-parasite Relationships ♦ Movement, Spread and Distribution ♦ Ecological Relations ♦ Principles and Methods of Nematode Control ♦ Classification of Plant Parasitic Nematodes ♦ Family **Tylenchidae** (*Anguina* and *Ditylenchus*) ♦ Family **Heteroderidae** (*Heterodera* and *Globodera*) ♦ Family **Meloidogynidae** (*Meloidogyne* spp.) ♦ Family **Pratylenchidae** ♦ Family Tylenchulidae (*Tylenchulus*) ♦ Some Other Phytonematodes of Suborder Tylenchina ♦ Genus *Aphelenchoides* Fischer, 1894 ♦ Order **Dorylaimida** (*Longidorus*, *Xiphinema*, *Trichodorus*) ♦ Laboratory Methods in Nematology ♦ *Appendices* ♦ *Index*

Published: 1994

ISBN 1-881570-34-7

328 pages

\$ 35.00

TEXTBOOK.....We will be pleased to provide a copy, free of cost, for you to review the book. If you feel the book is not suitable for your teaching purpose, please return it in 60 days and you do not have to pay for it.

Trace Elements in Crop Production

P.C. Srivastava—G.B. Pant University of Agriculture and Technology,
Pantnagar, India

U.C. Gupta—Agriculture Canada, Charlottetown, Canada

Contents

- ◆ Trace elements: A concern
- ◆ Geochemistry and mineralogy of trace elements
- ◆ Trace elements in soil
- ◆ Transport of trace elements to plant roots
- ◆ Mechanisms of trace element uptake and translocation in plants
- ◆ Diagnosis of trace element disorders
- ◆ Trace element tolerance
- ◆ Essential trace elements in crop production
- ◆ Other trace elements of concern (toxic or beneficial to plants, animals and humans)

1996

ISBN 1-886106-62-2

c. 300 pages

\$ 82.00

Biofertilizers in Agriculture and Forestry (Third Revised Edition)

N.S. Subba Rao

This book provides a scientific yet, popular insight into crop and tree cultivation by organic inputs. The role of mycorrhizal Fungi in conjunction with *Frankia* (for some non-leguminous plants) and *Rhizobium* (for nodulated leguminous plants) to provide the much needed nitrogen and phosphorus to growing seedlings in the nursery stage has been increasingly realized, especially in afforestation practices aimed at recovering barren lands and sites spoiled by mining.

Contents

- ◆ Introduction
- ◆ Rhizobium Inoculant
- ◆ Azotobacter Inoculant
- ◆ *Azospirillum* Inoculant
- ◆ Blue-green Algal Inoculant
- ◆ Azolla
- ◆ Green Manure
- ◆ Phosphate-solubilizing Microorganisms
- ◆ Mycorrhizal Fungi
- ◆ Organic Matter and Composting
- ◆ Inoculants for Nodulated Leguminous Trees
- ◆ *Frankia* Inoculant for Some Non-leguminous Trees
- ◆ Outlook for the Future
- ◆ Appendix on Media/Stains
- ◆ Index

Published: 1993

ISBN 1-881570-29-0

256 pages

\$ 65.00

Soil Microorganisms and Plant Growth (3rd Edition)

N.S. Subba Rao

Contents

- ◆ Introduction
- ◆ Soil as the Natural Medium for the Growth of Plants
- ◆ Soil Microorganisms
- ◆ The Rhizosphere
- ◆ The Phyllosphere
- ◆ Nitrogen Fixation in Free-living and Associative Symbiotic Bacteria
- ◆ Nitrogen Fixation by Free-living Blue-green Algae
- ◆ Nitrogen Fixation by Symbiotic Blue-green Algae
- ◆ *Rhizobium* and Root Nodulation
- ◆ Nitrogen Fixation by Nodulated Plants other than Legumes
- ◆ Soil Microorganisms and Organic Matter
- ◆ Nitrification and Denitrification
- ◆ Microbial Products which Influence Plant Growth
- ◆ Soil Microorganisms, Plants and Soil Structure
- ◆ Soil Microorganisms and Sulphur, Phosphorus and Trace Element Nutrition of Plants
- ◆ Pesticides, Microorganisms and Plants
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Appendix

List of Contributors and Participants

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Editors: *V.S. Malik*—Philip Morris Research Center, Richmond, USA
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Editor-in-Chief: *Biswapati Mukherjee*

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- ◆ **Preservation of fresh products of fractionation:** • Preservation and use of fluid extract • Preservation of fibrous residue • Preservation of moist leaf protein coagulum • Preservation and use of deproteinised extract • General remarks
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- ◆ **Quality evaluation of leaf proteins:** • Protein quality evaluation • General remarks on quality evaluation of leaf proteins
- ◆ **Leaf protein studies of practical relevance:** • Trials with animals of economic importance • Trials for human food
- ◆ **Studies on forage and other uses of fibrous residue:** • Feed uses of fibrous residue • Other uses of fibrous residue • General remarks
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- ◆ **Practical prospects and suggestions for further research and development:** • Practical prospects • Research & Development suggestions
- ◆ *References* ◆ *Author and Subject Index*

Neem and Environment (2 Vols.)

Editor: *R.P. Singh*

Based on an international seminar held on 1993, New Delhi, these volumes comprised chapters contributed by renowned scientists from around the globe.

The chapters are divided into two volumes which comprise the following sections:

- ☐ Invited Lectures and General Papers
- ☐ Botany
- ☐ Neem Chemistry and Ecotypes
- ☐ Physiological and Behavioural Effects
- ☐ Field Evaluation
- ☐ Evaluation against Phytonematology
- ☐ Plant Disease Management
- ☐ Role in Increasing Fertilizer Nitrogen Efficiency
- ☐ Commercial Neem Insecticides
- ☐ Technological Development
- ☐ Propagation
- ☐ Other Insecticidal Plants
- ☐ Therapeutic Potential and Other Medical Application

Published: 1996

ISBN 1-886106-32-0 (set)

c. 1000 pages

\$ 149.00

Ayurvedic Drugs and Their Plant Sources

Editors: *V.V. Sivarajan and Indira Balachandran*

The most important objective of this book is to bring it to the attention of all concerned, that the disparity in choice of herbs as sources of medicines, is one of the most formidable problems in the way for standardization of Ayurvedic medicines.

This treatise, compiled mostly on the basis of current practice in Kerala (India), deals with more than 150 drugs and their plant sources. Besides the reported properties of the drugs, the plants are briefly described and illustrated as far as possible. This would help practitioners of Ayurveda to identify their plants scientifically and independently. The introductory part dealing with the various Ayurvedic concepts would give some idea about the rationale of the system and is meant for the uninitiated.

Contents

Introduction

☐ Ayurvedic Concept of Man and Nature ☐ Concept of Swasthya (health) and Roga (disease) ☐ Concept of Drug ☐ Ayurvedic Principle of Medication ☐ Review of Earlier Work ☐ Material and Methods

Drugs

☐ Over 150 drugs have been analysed separately

Indices

☐ Index to Latin Binomials ☐ Index to Sanskrit Names ☐ Index to Malayam Names ☐ Index to Illustrations

Published: 1994

ISBN 1-881570-21-5

590 pages

\$ 89.00

***In Vitro* Culture and Its Applications in Horticulture**

Coordinator: *H. Vidalie*

R. Augé, G. Beauchesne, Boccon Gibon, L. Decourtye, B. Digat, R. Jalouzot, R. Minter, J.Cl. Morand, J.P. Renoird, D.G. Strullu, and H. Vidalie

The work presents first of all the scientific aspects (basics, physiology) and technological aspects (set-up of a laboratory, achievement of cultures); this information is completed with mycorrhization and biotechnology. Then the authors develop the horticultural applications, emphasising genetic and hygiene aspects; finally, they tackle agronomic applications of *in vitro* culture, always pointing out the present constraints.

The book is expected to interest professionals in horticulture, educators, public and private researchers, and the endless ranks of horticultural workers.

Contents

- ☐ The History and Basics of *in vitro* Culture
- ☐ Physiological Phenomena Related to the Realisation of Cultures *in vitro*
- ☐ The Nutritional Requirements of Tissues Cultured in Aseptic Conditions
- ☐ The Technology of *in vitro* Culture
- ☐ Applications in Horticulture
- ☐ Biotechnologies in Horticulture: Possibilities and Perspectives
- ☐ The Genetic Aspect: Congruity or Non-Congruity of Plant Material Reproduced *in vitro*
- ☐ Mycorrhiza and *in vitro* Culture
- ☐ The Sanitary Aspect and Interactions with Microorganisms
- ☐ Practical Aspects and Perspectives
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- ☐ Bibliography

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1996

Civil Engineering & Geology

Effect of Unsteadiness and Stratification on Local Scour

R.J. Garde et al.

This book highlights the details of the carefully controlled set of experiments in the scour around bridge piers in clear-water and sediment transporting flows and induces derived conclusions. This report will be of immense use to engineers both in the design office as well as in field connected with construction of bridges for railways and highways.

1993/ ISBN 1-881570-25-8/ 116 pages/ \$ 52.00

Geophysical Characterization of Sites

Editor: Richard D. Woods

Volume prepared by the international society of Soil Mechanics and Foundation Engineering Technical Committee # 10, on the occasion of XII ICSMFE, 1994. This book introduces geotechnical and geoenvironmental engineers to the world to geophysical methods.

1993/ ISBN 1-881570-36-3/ 152 pages/ \$ 55.00[†]

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1996

Publication date: All volumes are in production. We expect to have these out starting, from the beginning of 1996.

Functional Dynamics of Phytophagous Insects

Editor: *T.N. Ananthakrishnan*

Contents

- Introduction: *T.N. Ananthakrishnan*
- Geographic Variation in Plant Allelochemicals of Significance to Insect Herbivores: *Kelly S. Johnson and J. Mark Scriber*
- Phytochemicals as Messengers Altering Behavior: *Dale M. Norris*
- Physiological Basis of Feeding and Oviposition Behavior in Moths: *Sonny B. Ramaswamy*
- Interacting Chemical Stimuli Mediating Oviposition by Lepidoptera: *J. Alan Renwick and Xinpei Huang*
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- Adaptational Integration between Gall-inducing Insects and Their Host Plants: *A. Raman*
- Host Specificity, Metapopulations and Conservation: *Drosophila magnaquinaria* as a Model: *Steven P. Courtney, Mary Holbert, Thomas A. Singleton, Travis T. Kibota and Deborah M. Brosnan*
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- Insect Species Index
- Plant Species Index

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312 pages

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Chemical Ecology of Phytophagous Insects

Editors: T.N. Ananthakrishnan and A. Raman

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- Changing Dimensions in the Chemical Ecology of Phytophagous Insects: Role of Infochemicals on the Behavioural Diversity
- Bioactivity of Some Plant Constituents/Derivatives on the Selected Behaviours of Chosen Insects
- Non-host Botanical Volatiles as Development and Reproduction-Modulating Agents in the Ecology of *Dysdercus koenigii* (Hemiptera: Pyrrhocoridae) and *Earias vittella* (Lepidoptera: Noctuidae)
- Plant Allelochemicals and Insect Control: An Antifeedent Approach
- Role of Allelochemicals in the Control of Phytophagous Insects
- Applied Potential of Insect Hormone Research: Perspectives and Prospects
- Phytochemicals on Reproductive Biology of Insects
- Chemical and Physical Factors Associated with Resistance in the Cultivars of Cotton and Okra to the Leafhopper, *Amrasca devastans* (Homoptera: Cicadellidae)
- Biotypes of the Brown Planthopper, *Nilaparvata lugens* (Homoptera: Delphacidae)—Host-influenced Biology and Behaviour
- Effects of Host-plant Quality on the Life Table and Energetics of Some Lepidoptera
- Self-organization and Chemically Mediated Aggregation of Adults in the White Grub *Holotrichia serrata* (Coleoptera: Melolonthidae)
- Chemical Ecology on Some Seed-feeding Hemiptera
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- Chemical Ecology of Pollination—An Overview
- Chemical Ecology of Gall Insect—Host Plant Interactions: Substances that Influence the Nutrition and Resistance of Insects and the Growth of Galls
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- Chemical Ecology in Relation to Forest Litter Dynamics
- Biotechnology and Host-plant Resistance: Benefits, Risks, Strategies for Development, and Deployment
- Transgenic Plants and Their Role in Chemical Ecology of Insects
- Synergistic Action of Plant Defense Chemicals and the Endotoxin of *Bacillus thuringiensis* in Relation to *Heliothis armigera* and *Spodoptera litura* (F.) (Lepidoptera: Noctuidae)
- Subject Index

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ISBN 1-881570-33-9

338 pages

\$ 78.00

Chemical Ecology in Thrips—Host Plant Interactions

T.N. Ananthakrishnan and R. Gopichandran

This book aims at identifying the biochemical parameters in thrips—host plant interactions. With increased inputs in our understanding of chemical ecology, this volume paves the way for an integrated approach to the study of thrips-host plant interactions, including host preferences and trophic diversity in terms of infestation mechanics and host plant tissue responses to thrips feeding injury.

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- ☐ Introduction
- ☐ The Environment of Thrips
- ☐ Infestation Diversity and Tissue Responses to Thrips Feeding
- ☐ Biochemical Profiles of Host Plants in Relation to Infestation
- ☐ Chemical Ecology of Anthophilous Thrips
- ☐ Resistance Mechanisms in Thrips—Host Plant Interactions
- ☐ Biochemical Profiles in Thrips Galls
- ☐ Techniques in the Study of Chemical Ecology of Thrips
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".....It will be indispensable to anyone working with thrips."

Environmental Entomology; Vol. 22, No. 6

Published: 1993
ISBN 1-881570-23-1
131 pages
\$ 56.00

Biological Control of Social Forest and Plantation Crops Insects

Editor: T.N. Ananthakrishnan

The immediate objective of this volume is to create an awareness of the insect pest-natural enemy complex of social forest plantations with the possibility of diversity in the species, and the possibility of identifying more natural enemy resources.

- ☐ Biological Control Resources in Social Forest Stands
- ☐ Biological Control of Bagworms (Lepidoptera: Psychidae) in Social Forest Stands
- ☐ Natural Enemies of Babul (*Acacia nilotica* ssp. *indica* (L.) Willd. ex Del, ssp. *indica* (Bth.) Brenan) Defoliators, *Selepa celtis* (Moore) and *Tephрина pulinda* (Walker)
- ☐ Kairomonal Influence in *Acacia nilotica* as Signals for Efficient parasitization by *Sinophorus psycheae* (Hymenoptera: Ichneumonidae) on the Bagworm *Eumeta cramerii* (Lepidoptera: Psychidae)
- ☐ Biological Control of the Introduced Psyllid, *Heteropsylla cubana* Crawford (Homoptera: Psyllidae) Infesting Subabul *Leucaena leucocephala*—Progress and Prospects
- ☐ Biological Control of the Teak Defoliator, *Hyblaea puera* Cramer (Lepidoptera: Hyblaeidae) Using Insect Parasitoids—Problems and Prospects
- ☐ Biological Control of Tea Pests
- ☐ Biological Control of Insects Pests of Cardamom
- ☐ Ants as Balancers in Nature for Pest Problems
- ☐ Ponerine Ants as Potential Predators of Termites Under Forest Ecosystem
- ☐ Reduviids as Predators: Their Role in Biological Control
- ☐ Potential of Spiders in the Biological Control of Social Forest Pests and Plantation Crops
- ☐ Genetic Diversity of *Trichogrammatidae* and its Implications in Biological Control
- ☐ Bioenergetics and Life Tables of Selected Parasitoids and a Predator
- ☐ Biological Control of Forest Pests and Weeds in India: Progress and Perspectives
- ☐ Insect Species Index ☐ Plant Species Index

Published: 1995

ISBN 1-886106-13-4

240 pages

\$ 72.00

Forest Litter Insect Communities

Biology and Chemical Ecology

T.N. Ananthakrishnan—Director, Entomology Research Institute,
Loyola College, Madras, India

Contents

- ◆ Introduction: Litter Dynamics and Role of Litter in Forest Ecology
- ◆ Dynamics of Litter Decomposition
- ◆ Nutritional Cycling Patterns in Some Tropical Forest Litter
- ◆ Microbial—Microarthropod Interactions in Litter
- ◆ Diversity of Litter Microarthropods: A Bioecological Assessment
- ◆ Predator Dynamics in the Litter Environment
- ◆ Resource Utilization: An Exercise in Chemical Ecology
- ◆ Chemical Ecology of Litter in Relation to Altitude
- ◆ Trophic Systems in Forest Litter Communities
- ◆ Forest Denudation and Guild Structure of the Litter Insects
- ◆ Basic Techniques in Litter Studies
- ◆ *References*

1996

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\$ 66.00

Indian Fruit Flies

Insecta: Diptera: Tephritidae

V.C. Kapoor

This book not only brings together all the research work done so far on the taxonomy, zoogeography, biology and control of Indian fruit flies but also highlights areas where research work is needed. This book will be invaluable to entomologists and horticulturalists.

Contents

- ☐ Introduction
- ☐ Taxonomy: Taxonomic Characters and Terminology; Classification; Key to Taxa; Catalogue on Indian Fruit Flies
- ☐ Zoogeography
- ☐ Economic Fruit Flies
- ☐ Control of Fruit Flies
- ☐ References
- ☐ List of Abbreviations
- ☐ General Index
- ☐ Taxonomic Index
- ☐ Index of Host Plants

Published: 1993

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236 pages

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Keys to the Insects of the European Part of the USSR

Editor: G.S. Medvedev—Institute of Zoology, Russian Academy of Sciences, St. Petersburg, Russia

Volume III—Hymenoptera

Part IV: Braconidae

Includes 20 subfamilies (Doryctinae, Rogadinae, Gnaptodontinae, Braconinae, Telengainae, Helconinae, Brachistinae, Euphorinae, Macrocentrinae, Xiphoselinae, Homolobinae, Orgilinae, Sigalphinae, Agathidinae, Ichneutinae, Cheloninae, Acaeliinae, Cardiochilinae, Microgasterinae, Miracinae), *Index of Latin Names of Braconids*, *Index of Latin Names of Hosts of Braconids and Addenda*

1995/ ISBN 1-886106-23-1/ 900 pages/ ...\$ 147.50

Part V: Braconidae and Aphidiidae

Includes 2 subfamilies (Opiinae and Alysiinae), Family Aphidiidae, *Index of Latin Names of Braconids*, *Index of Latin Names of Aphidiids*, *Index of Latin Names of Hosts of Braconids*, *Index of Latin Names of Aphid Hosts of Aphidiids and Addenda*

1995 / ISBN 1-886106-24-X/ c. 490 pages/ ...\$ 95.00

Vol. IV—Lepidoptera, Part III

Expected: 1996/ ISBN 1-886106-25-8/ c. 650 pages/ \$ 175.00

Indian Anophelines

B.N. Nagpal and V.P. Sharma

This monograph presents up-to-date information on adult anophelines, their differences with other genera at every stage, briefly distinguishing features of identification of 58 anopheline species, their biology (typeform available, species complex if any, sitting posture, resting habits, breeding habits, biting habits, feeding habits, flight range), susceptibility to insecticides, relation to disease, records of vector incriminations for human plasmodium, distribution and morphological variations. Also included are a bibliography and a glossary. The text is enhanced with detailed charts, maps showing distribution and several lucid illustrations.

A useful manual to entomologists and scientists working on malaria control.

Contents

- ☐ Introduction
- ☐ Morphological Description
- ☐ How to Use the Monograph for the Identification of Mosquitoes
- ☐ Genus *Anopheles*
 - Subgenus *Cellia*
 - Subgenus *Anopheles*
- ☐ References
- ☐ Glossary

Published: 1995
ISBN 1-886106-09-6
424 pages
\$ 88.00

This book provides the first authoritative source of information on India's *Anopheline* mosquitoes and details on identifying 58 species in 12 malaria epidemiological zones in India and the world. Well illustrated taxonomic descriptions are followed by data on the distribution, biology, susceptibility to insecticides, and incrimination as vectors.

Tropical Medicine and Hygiene News,
Vol. 44, June 95.

Condition of the World's Aquatic Habitats

Theme 1, Proceedings of the World Fisheries Congress, Athens, Greece

Editor: *N.B. ArmantROUT—U.S. Department of the Interior, Bureau of Land Management, Oregon, USA*

Contents

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The Role of Aquaculture in World Fisheries

Theme 6, Proceedings of the World Fisheries Congress, Athens, Greece

Editor: T.G. Heggberget—Norwegian Institute for Natural Research,
Trondheim, Norway

Contents

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Fisheries Resource Utilization and Policy

Theme 2, Proceedings of the World Fisheries Congress, Athens, Greece

Editor: *R.M. Meyer*

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□ Institutional Aspects of Fisheries Management □ Economic Information in U.S. Fisheries Policy: Gaps Between Theory, Information, and Capability □ Cooperation through International Treaties □ Participation of Fishers in Fisheries Management □ Subsistence and Artisanal Fisheries Policy: An International Assessment □ Population Dynamics and Stock Assessment of Small Yellow Croaker *Pseudosciaena Polyactis* in Korean Waters □ Ecological and Socio-economic Aspects of the Expansion of Nile Perch in Lake Victoria □ Implications of Multiple Use Management Strategies on Native Southwestern (USA) Fishes □ Fishing Activities and Strategies at Buzios Island (Brazil) □ Biological Resources of the Northwest Pacific and Their Fisheries Management □ A Review of the Bionomics, Population Dynamics, and Management of the Reeves Shad in the Yangtze River □ The Effectiveness of Joint U.S. Canada Management of Pacific Halibut □ Should Scientific Advice to Fisheries Managers be Provided by An Independent Research Agency? □ Fishery Research and Management: Virtues and Constraints of Symbiosis □ Verification and Standardization of Indigenous Fish Processing Technologies in the Bicol Region, Philippines □ Shrimp Bycatch Issues in the Gulf of California: Options for Changes □ Policy and Regulatory Measures to Control Incidental Mortality of Pacific Halibut in Groundfish Fisheries of the North Pacific Ocean □ Recent Progress in the Development of Selective Trawls for Demersal Fisheries □ Incidental Catches of Large Whales in Newfoundland and Labrador, and a Program to Minimize Whale Mortality and Damage to Fishing Gear □ A Review of Gear and Animal Characteristics Responsible for Incidental Catches of Cetaceans in Fishing Gear, along with Proposed Solutions □ Co-management and Legitimacy in Corporate Fishing Associations: The Case of the Confraries de Pescadors de Catalunya, Spain □ The Rise of Women in Fisheries Management: The Marisquadoras of Illa de Arousa, Galicia □ Exploring the Black Box: The Decision-making Process in French Mediterranean Fisheries □ Representational Management of Management of Representation?: The Place of Fishers in Atlantic Canadian Fisheries Management □ Foxes and Others in the Henhouse? Environmentalists and the Fishing Industry in the U.S. Regional Council System □ Creating User Group Vested Interest in Fishery Management Outcomes: A Case Study □ Industry and Government Negotiation: Communication and Change in New Zealand's Individual Transferable Quota System

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1996

International Development Projects

Theme 4, Proceedings of the World Fisheries Congress. Athens, Greece

Editor: *Richard A. Neal*—National Marine Fisheries Service, La Jolla, CA, USA

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Theme 3, Proceedings of the World Fisheries Congress, Athens, Greece

Editors: *David P. Philipp, John N. Epifanio. J. Ellen Marsden and Julie E. Claussen*

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Theme 5, Proceedings of the World Fisheries Congress, Athens, Greece

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The State of the World's Fisheries Resources

Plenary volume, Proceedings of the World Fisheries Congress, Athens, Greece

Editor: *Clyde W. Voigtlander*

This volume is based on the World Fisheries Congress held in Athens, Greece in May 1992. The Congress was divided into plenary sessions and thematic sessions. The overview volume comprises the plenary-session papers and the overviews of the six thematic sessions.

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Aquaculture Magazine, November/December 1994

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Editor: A. Alcock

(Updated overview by Dr. P.K. Talwar, in this the first reprint)

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K. Gopakumar

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Findlay E. Russell — University of Arizona, Tucson, USA

Rachakonda Nagabhushanam — Tulane University, New Orleans, USA

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Hyperiid Amphipods (Amphipoda, Hyperiidea) of the World Ocean

M.E. Vinogradov, A.F. Volkov, and T.N. Semenova

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Expected March 1996

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A Synthesis of Tropical Ecology and Conservation

Editors: *M. Balakrishnan, Reidar Borgström and Stein W. Bie*

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Food and Agriculture Organization

Regional Office for Asia and the Pacific (Bangkok)

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The following countries have been included in this study : • Bangladesh • China • India • Indonesia • Malaysia • Nepal • Pakistan • Philippines • Sri Lanka • Thailand • Vietnam

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R.K. Gupta—Central Soil & Water Conservation Research & Training, Dehradun, India

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- ☐ Willow ☐ Ziziphus ☐ *References*
- ☐ *Annexures*
 - a: List of MPTs in Different Regions of the World
 - b: List of MPTs Identified by ICRAF
- ☐ *Index*

Published: 1993
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580 pages
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Trees for Drylands

Editor: *Drake Hocking*—Steep Associates, Hants, U.K.

This book contributes to the new trend which must succeed loss of trees: that is, planting of more trees. Traditional forest areas in many places are being converted to other uses such as agriculture and industry. The need for tree products therefore has to be met from a kind of redistribution of trees: from large, continuous forests to small blocks, roadside strips and scattered individual trees.

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Editors: *Panjab Singh, P.S. Pathak and M.M. Roy*

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Editors: *Panjab Singh, P.S. Pathak and M.M. Roy*

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Editors: *S.P. Raychaudhuri*—Chairman-Medicinal and Aromatic Plants,
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Mammals of the Soviet Union

Vol. II, Part 3: Pinnipeds and Toothed Whales (Pinnipedia and odontoceli)

Editor: V.G. Heptner—Curator, Zoological Museum, Moscow State University, Moscow, Russia

The book is divided in two parts. Part I deals with the Order of Pinnepeds (Pinnipedia) and Part II the Order of Whales (Cetacea).

In Part I the authors have described walruses, sea lions (Steller's and California sea lions), fur seals, bearded seals, true or ringed seals (Caspian, Baikal, common seal Larga, harp or Greenland, ribbon, gray, monk and hooded seals).

Part II deals with dolphins (rough-toothed, spotted, blue-white, Malay, common, bottlenose, right whale—northern and southern, shorthead—Atlantic whitesided, whitebeaked, Pacific white-striped; broadsnout and Risso's dolphins) and whales (false killer whales; killer whales, pilot whales, dwarf killer whales, belugas or white whales, narwhal, sperm whales, dwarf sperm whales, Pacific beaked whales, goosebeak whales, and bottlenose whales).

For each species detailed information on diagnosis, description, taxonomy, geographic distribution, geographic variation, biology and economic importance is given. The book is richly illustrated (388 figures and 4 color plates) and has an exhaustive list of literature cited.

The book is aimed at wide readership, including students and specialists in nature conservation, marine biology and zoology.

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Wild Reindeer

E.E. Syroechkovskii

Various aspects of the ecology, biology, behavior, distribution, population and morphology of wild reindeer are discussed and scientific principles of their conservation and rational exploitation developed in this volume. The present status and utilization of pasture lands are examined. Principles of conservation of large migrating populations are individual herds of wild reindeer are demonstrated. The problem of restoring the range to its original level is also discussed.

The book is designed for the use of scientists and specialists engaged in nature conservation.

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Current Developments in Animal Virology

*Editors: Edward K. Wagner—University of California, Irvine, USA
S. Jameel—ICGSB, New Delhi, India*

The papers compiled in this volume were presented at the First ICGB-UCI Symposium on Animal Virology held at the International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi, India in February 1995.

The study of viruses has led to tremendous insights into fundamental biological processes. Current developments in animal virology provides information on the cutting edge of this area of research on subjects such as viral replication, gene expression, pathogenesis and the disease process, virus-host interactions, and viral vectors and vaccines. This volume carries 27 research papers from eminent scientists outlining recent developments on these fronts in the study of animal viruses. The major contributors to this volume are virologists from the program in Animal Virology at the University of California at Irvine and from the ICGEB laboratories in Trieste and New Delhi. The New Delhi and Irvine programs are also united by common interests and collaborative research.

- Section I : Replication
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