Book reviews


This is a field guide intended for the ‘lay’, but enthusiastic adventurer, rather than the professional botanist. It provides some general background to the physical habitat and the adaptations peculiar to mangrove trees that permit survival and growth in this habitat. This is followed by a short discussion on uses of mangroves, and threats and conservation issues. The introductory sections of the book are particularly relevant and informative to the enthusiastic amateur. The bulk of the book consists of descriptions of the individual species, with notes on distribution, uses and conservation status. Simple keys are provided to identify the individual species. As there are no mangrove species in common, the west (Atlantic) and east (Indian Ocean) coasts are treated separately. The authors make a clear distinction between mangrove species, as such (characterized by specific adaptations) and species associated with mangrove systems (often on the fresh water or dry land fringes).

This book is intended for the interested lay person, and perhaps, school pupils, and possibly junior undergraduate tertiary level students. As such, it is an excellent text, with the enthusiasm of the authors for their subject clearly apparent. It is well illustrated with line diagrams and distribution maps of the individual species, and has a number of very illustrative photographs of individual species and communities. The book is well written in non-technical language but is clear and largely factually correct without misleading oversimplifications. I have only two disagreements of a technical nature. (i) On p. 8 there is the statement that much salt disappears through evaporation or transpiration, whereas, in fact, salt is not volatile and will not disappear in this way. (ii) Throughout the text the authors refer to fruits of Rhizophora, Bruguiera and Ceriops spp. as ‘germinating’ on the tree. This depends on one’s definition of ‘germination’, which most physiologists would accept as radicle protrusion. In these mangrove species part of the seed (the hypocotyl) develops outside the fruit. There is a root meristem at the base of the elongated hypocotyl, and radicle protrusion (germination) will occur shortly after the seed is deposited on the soil. These seeds are certainly ‘recalcitrant’ in that they do not tolerate drying and must germinate and establish rapidly after shedding from the parent plant. Viviparity as such (truly germinating on the parent tree) is not a common feature, although it has been observed in Avicennia germinans in Brazil. However, these are minor points and do not seriously detract from what is otherwise a good book.

Overall this is an excellent field guide. It may be of limited use to South Africans because only three species stretch south of Kosi Bay, but it is a ‘must’ for any mangrove enthusiast. It will also be an invaluable resource for school, and possibly junior undergraduate teaching. Additionally, it could be useful reading for political decision-makers and their advisors, to provide some understanding of the importance of mangrove ecosystems. Indeed, the publishers might like to consider translating the book into French and Portuguese so that it could have wider readership.

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There can be very little doubt that current food shortages and the havoc that biofuel development is going to cause in world economies can be partly traced back to a very simple cause — the demise of Botanical training at Universities across the world. The impact of this has been pointed out in a recent Opinion Paper (Woodland, 2007). It is quite clear that students today no longer receive adequate training in the fundamentals required for grasping the intricacies of the Plant Sciences. Many aspects which should form the foundations of the discipline are simply glossed over or taught in a rudimentary fashion by lecturers with poor training in the fundamentals of the basic subject. In the Plant Sciences this is particularly true for Plant Anatomy — which should be one of the corner stones for all the more fashionable topics taught today.

For the above reasons it is very pleasing to see this book on the shelves of bookshops. It is very well written and illustrated and will be an excellent read for any student and many...
researches as a basic applied botany text. The addition of a CD-ROM, packed with useful study material and practicals on plant anatomy and basic material and practicals on plant anatomy and microscopy, greatly enhances the book. It ensures that the reader has valuable essential material at his/her disposal. Teachers will find this addition particularly valuable.

The authors are all experts in the fields of plant anatomy, ultrastructure, developmental and evolutionary plant anatomy. This well written text should be adopted by Teaching Institutions to ensure greater understanding of plants and how they work. I welcome the publication of this very timely publication.

Reference


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Physiology and Behaviour of Plants, Peter Scott, 2008, John Wiley & Sons Ltd., Chichester, U.K., Price: £32.50, Soft Cover, 305 pages, ISBN: 978-0-470-85025-1(PB), E-mail: cs-books@wiley.co.uk

Across the world the teaching of Botany, irrespective of discipline is declining and under threat. This despite the fact that due to food shortages, higher population density and threats of global warming the study of all facets of the subject should really be in demand and greatly encouraged. It is difficult to determine why the subject which should be nurtured and studied at great intensity is actually declining in all spheres and in all continents. Why is it that a subject absolutely essential for man’s health and survival is neglected or fails to capture the imagination of science students?

It is so that to a large extent this is due to the fact that Botanists have not marketed their discipline vigorously and with sufficient enthusiasm. There is little doubt that the teaching of Botany at School and University levels has become stale and uninspiring. Botany teachers need to “recapture” the field by showing students and scholars in an innovative way the beauty and importance of the plants which surround us. After all there are no organisms better suited to help us overcome our self-inflicted environmental disasters, provide solutions for food shortages, and to provide us with sufficient energy to sustain our livelihood in future.

This new book by Peter Scott comes as a breath of fresh air to the Scientific and Teaching scene. The book clearly is intended to change the mindset of scholars and teachers and to straddle the largest and most difficult of hurdles in the upliftment of Botany. That is to unleash a new desire to study plants. In his preface the author clearly indicates that we do not need yet another plant physiology textbook. He deliberately steered clear of in-depth discussion and molecular biology. Certainly he is well aware that if you can catch the attention of first and second year students to study plants you have won the battle. In my opinion he succeeded brilliantly in indicating how plant physiology is integrated in all facets of the plant sciences. His chosen topics are well chosen, well integrated, simply explained and beautifully illustrated.

The author is to be congratulated on his efforts. He clearly enjoyed putting this text together. I do believe that the adoption of this text for the teaching of Botany will create enthusiasm at Universities and Colleges for the Botanical Sciences. Let us hope that it will help Plant Biology to recapture its rightful place in Science. This book should be on the shelves of all Teaching Institutions.

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This book is best described as a handbook for the motivated ecologist. Frantzen reviews our current state-of-knowledge on plant epidemiology in an attempt to demonstrate that the roots and principles of epidemiology are akin to those underlying ecological theory. Not only does the author succeed in this effort, but in fact offers a concise description of the dynamics of many important and complex ecological processes. The book will benefit researchers and students in all fields of ecology, whether used as an aid to teaching, research, or agricultural planning and development.

The book comprises seven chapters, starting with a historical background to the study of disease ecology, then describing the biology of plant-pathogen interactions (including mono- and polycyclic infections), before integrating the fields of epidemiology and ecology. This sequence introduces the non-expert in plant pathology to sufficient background knowledge of the systems we are dealing with. After that, any ecologist will be