stein in his special and general theories of relativity. The basic concepts expected of undergraduate students are adequately covered. Advanced subjects such as nonlinear dynamics and special theory of relativity are also introduced to make the book appealing to students of advanced mechanics classes. The book would serve especially well in cases where mechanics is taught to students of core disciplines outside of engineering or physics.

Unfortunately the book fails to elucidate some important concepts due to lack of detail and clarity. Introductory sections to chapters are terse and could have been more descriptive, but instead read more like bulleted points made during class. Verma launches into the special theory of relativity without clearly establishing the limitations of Newtonian mechanics, the arguments by Mach[2] and the experiments by Michelson[3] and Morley that laid the foundation for the development of the theories of relativity. Referencing to websites, such as Wikipedia or tripod.com, instead of classic treatises is rather unfortunate. It is not a good idea to recommend websites in lieu of basic texts, especially because many such websites are not monitored for correctness, but also because often they can be discontinued with very little notice. Several minor issues could be addressed in future editions: for example, the quality of figures could be better (e.g. the gyroscope (p. 262) or the block diagram demonstrating the different areas of physics (p. 12)). In places, text is repeated almost verbatim (see pages 22 and 142) although the material could easily have been paraphrased. The history of mechanics is both interesting and important, but this book fails to do justice to the vast body of existing literature by contributors who helped shape many of our current ideas.

To sum up, the book by Verma is unambitious and seems catered to a small section of students. It cannot substitute classic texts[4–6], but may serve well in places where mechanics is taught to students from core disciplines other than physics or engineering. An expansion of the introductory sections of each chapter and more creative problem sets could make this book a lot more attractive to a larger body of students.

1. Halliday, D., Resnick, R. and Walker, J., *Fundamentals of Physics*, New York, Wiley, 2004, 7th edn.
2. Mach, E., The Science of Mechanics, a critical and historical account of its development, Internet Archive Edition, Chicago, The Open Court Publishing Co, 1919.
3. Michelson, A. A. and Morley, E. W., *Am. J. Soc.*, 1887, **34**, 333–345.
4. Rana, N. C. and Joag, P. S., *Classical Mechanics*, Tata McGraw-Hill Publishing Company Limited, New Delhi, 1991.
5. Goldstein, H., Poole, C. P. and Safko, J. L., *Classical Mechanics*, Addison Wesley, 2001, 3rd edn.
6. Feynman, R. P., Leighton, R. B. and Sands, M., *The Feynman Lectures on Physics*, Addison Wesley, 2005.
7. Kleppner, D. and Kolenkow, R. J., *An Introduction to Mechanics, Special Indian Edition*, The Tata McGraw-Hill Publishing Company Limited, New Delhi, 2007.

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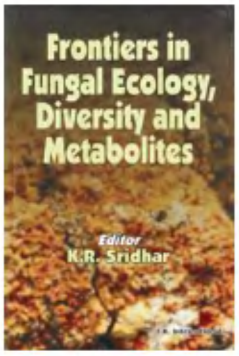

Frontiers in Fungal Ecology Diversity and Metabolites. K. R. Sridhar (ed.). I. K. International Publishing House Pvt. Ltd., S-25, Green Park Extension, Uphaar Cinema Market, New Delhi 110 016. 2009. XVI + 336 pp. Price: Rs 1195.

The book under review has aimed at emphasizing 'different aspects of contemporary research in mycology with a view to project the issues of ecology, diversity and metabolites'. The subject of ecology and diversity has been discussed in depth, ranging from freshwater hyphomycetes and mangrove fungi to arbuscular mycorrhizal forms and Antarctic lichens. Select fungal metabolites like toxins from *Fusarium*, peptaibols from *Trichoderma* and bioactive metabolites from endophytic fungi are discussed in five chapters. Molecular taxonomy and phylogenetic tools for fungal identification are two chapters covering recent trends in fungal taxonomy. General topics like forest pathology in India and fungal infections in humans as well as chapters on yeast metabolism related to monocarboxylate transport and biocatalysis are also included. A final chapter on emerging trends in mycology has been written by the editor. An overview of the contents of the different chapters indicates that the compilation of information has been well organized and presented in a manner in which it would be easily understood by the reader. The topics discussed are wide-ranging and individual in nature. As such, a glimpse into their salient points becomes necessary while reviewing this book. Two chapters on aquatic hyphomycetes bring out the ecology and distribution of these unique fungal spores inhabiting decomposing aquatic vegetation and also occurring in river foams and points out the need for a better understanding of the factors that regulate their natural distribution in the ecosystem. The chapter on mangrove fungi from the Indian peninsula lists a large number of taxa including new genera and species and discusses aspects related to litter decomposition as well as their potential as important sources of bioactive metabolites. The importance of marine fungi as a source of novel secondary metabolites including antibiotics, anticoagulants and enzyme inhibitors has been discussed. There is a need for better understanding of the *in vitro* physiology of marine fungi including increasing their growth rates and sporulation before they can be more widely harnessed for technological applications.

The Trichomycetes represent a unique group of zygomycetous fungi inhabiting the gut cuticles of insects, crustaceans and millipedes and their systematics and physiology have been discussed. The diversity and adaptive response of lichens in Antarctica indicates that lichens would potentially colonize all ice-free areas in Antarctica and the possibility of discovering new taxa is high. In a study of the rhizosphere of endemic tree species belonging to Myristicaceae, 57 species of arbuscular mycorrhizal fungi belonging to six genera have been identified and the negative influence of human interference on the survival of their diversity has been focused. Studies on the modified mangrove and coastal wetland ecosystem

termed Khazan Lands for arbuscular mycorrhizal fungi have indicated that their colonization of plants provides alternative mechanisms to satisfy the nutritive requirements of the plants and maintain physiological status in stressed and disturbed habitats. *Fusarium* mycotoxins are a potential health hazard caused by ingestion of contaminated grains and a study of Fumonisins from maize infected with *Fusarium moniliforme* having cancer-promoting properties has been presented. Taxonomic study of diverse species of *Fusarium* colonizing sorghum during post-harvest storage and producing mycotoxins is important and the need for the development of modern diagnostic techniques for strain and toxin identification emphasized. Indoleacetic acid production by ectomycorrhizal fungi colonizing tree species has an important role in the early initiation of mycorrhizal association with tree roots. The potential of diverse endophytic fungi associated with various plant species needs to be explored to a greater extent for discovering novel secondary metabolites of value. The chapters on forest pathology in India and fungal infections in humans are in the nature of descriptive surveys of important diseases associated with forest trees and human beings respectively.

A survey of the contents of various chapters will leave the reader well informed on the scope and potential of the various interesting topics related to fungi which are discussed. The list of references cited at the end of each chapter would enable the serious student of mycology to study the original papers to acquire more details on the subject. As stated by the editor in his concluding remarks, 'more efforts need to be channeled to understand the diverse fungal resources, their functions in the ecosystem and judicious harnessing of their potentialities and metabolites'. One passing thought which occur in my mind is that the book would have become even more valuable for students of fungal biotechnology if the applications of fungal biodiversity to the discovery of novel secondary metabolites and industrial enzymes would have found detailed discussion in an independent chapter. Also, methodologies for selective isolation of diverse fungi including the rarer and slow growing forms and the *in vitro* conservation of fungal germplasm for biotechnological innovations would have been useful additions. The book can be considered as a useful compilation of information particularly for those inclined to understand and take up serious investigations in areas related to fungal ecology and diversity.

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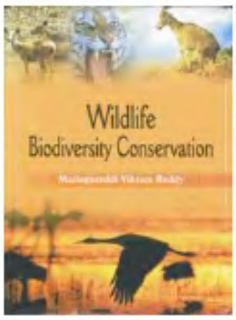

Wildlife Biodiversity Conservation. M. Vikram Reddy (ed.). Daya Publishing House, 1123/74, Deva Ram Park, Tri Nagar, Delhi 110 035. 2008. 390 pp. Price: Rs 1800. US$ 90.

India is one of the mega biodiversity hotspots in the world with rich and varied wildlife. However, growing human population has led to habitat fragmentation and destruction, increased pollution, poaching and so on, causing threat to wildlife in recent years. Hence, efforts are made to protect wildlife through the Wildlife Protection Act, declaration of National Parks and Wildlife Sanctuaries. However, information on geographical distribution and status of fauna and flora is essential for evolving conservation strategies. The book under review is a compendium of Proceedings of a National Seminar on Wildlife Biodiversity Conservation held at Pondichery University (13–15 October 2006). The book is divided into three sections, viz. Introduction, Biodiversity Conservation of Wildlife (Animals), and Biodiversity Conservation of Endangered Wildlife (Plants). The first section has four chapters. The first chapter is based on the 'Keynote' address and is supposed to provide information on soil biodiversity but gives only little information on this aspect. Instead, it deals with biodiversity in general, its depletion, threats to biodiversity and remedial measures. The chapter is poorly presented; it appears that at many places the 'power point presentations' (?) of the keynote address are perhaps incorporated without providing proper linkage to the succeeding lines. For instance, on page 4 'biodiversity vs cultural diversity' the lines under the sub-heading do not provide any link to subsequent matter. Tables 1.1 and 1.2 do not provide citations/references that would help readers to look for the original articles. The language is poor at many places. Chapter 2 highlights importance of taxonomy and taxonomists, financial support to programmes on biodiversity conservation and establishment of more institutes like Zoological/Botanical Survey of India. Mishra *et al.* (chapter 3) deal with protected areas with special reference to Kalakkad–Mundanthurai Tiger Reserve (KMTR) in southern Western Ghats in Tamil Nadu. The factors that promote or hamper meaningful participation by locals in biodiversity conservation are highlighted. Chapter 4 describes spatial distribution of wildlife with reference to habitat ecology.

Part 1 of the book has 5–21 chapters that deal with animal wild life. Chapter 5 gives a detailed account of the status and need for conservation of Indian ungulates (39 species with 23 genera). Viable population size of ungulates is important since the future of large carnivores depends upon them. Chapter 6 gives an account of mammalian diversity of Kerala while chapter 7 highlights seasonal pattern of crop damage by wild gaurs around Bhagavan Mahaveeer Wildlife Sanctuary and Mollem National Park in Goa. The authors report a relationship between dry months and crop damage especially that of sugarcane by wild gaurs and the need to provide pastures of grasslands to these herbivores within the boundaries of protected areas. This would solve crop damage and provide a solution to human and wildlife conflict. Rajgopal and Archunan (chapter 8) give an account of communication through scent markings (urine, pellets, pre-orbital gland secretions, etc.) and scratch markings in blackbucks. They suggest an association between particular types of scent markings with feeding or resting or breeding sites. Also, dominant blackbucks leave a higher number of markings advertising their superiority in the area. Chapter 9 describes the need for conser-