has been presented and the easily affordable price, this book belongs on the shelves of all those who have interest not only in the Western Ghats, but in any of the wonders of nature.

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Biodiversity of Ranthambhore Tiger Reserve, Rajasthan. V. Singh and A. K. Shrivastava. Scientific Publishers (India), Jodhpur. 2007. 415 pp. Price: Rs 2750.

This is an excellent compilation on the Ranthambhor Tiger Reserve, covering detailed floral and faunal diversity with exhaustive literature review. The book deals with 539 species of higher plants and 361 vertebrate animal species along with detailed information of topography, geology, climatic conditions, soil and water, which are also important to determine the composition of floral and faunal diversity and socio-economic aspects of inhabitants.

The Ranthambhore National Park sustains a healthy tiger population and populations of other threatened taxa like panther, marsh crocodiles, hyena, wolf, caracal, jungle cat, sloth bears, sambar, etc. and avian fauna and other wildlife, besides rich plant diversity. In fact, it is a gene-pool for posterity and an ecological island of the Indo-Malayan realm. The biodiversity of such a globally known Tiger Reserve has not been studied so far in detail. As such, the authorities involved in the conservation of the Reserve and the tigers in particular, have failed to formulate strategies in a scientific way due to lack of data. Keeping the above in view, the present study was undertaken.

One of the major contributions of this book is that for the first time, detailed taxonomic information of floral and faunal (vertebrates) diversity has been documented systematically, which has filled the vital gap in the available ecological information for the Reserve. Factors posing a threat to biodiversity have been discussed and threatened taxa have been identified and classified according to the IUCN criteria. The authors have also assessed the biosperspective value for the Reserve and documented the existing interaction between flora and fauna with their interdependency. They have supplemented the book with appropriative figures, photographs, tables, charts, maps, etc. For easy determination of taxa, keys have been provided from family to species level. The faunal wealth of the Reserve has been documented with help from the Zoological Survey of India, Jodhpur, published literature and forest authorities and officials of the Reserve. About 361 species belonging to 261 genera under 94 families (vertebrates) have been enumerated. The fauna has been classified up to infra-specific level. Valid zoological names have been adopted and their local and/or English names have been provided. Besides identification of threatened fauna and their categorization according to the IUCN criteria, the factors responsible for threat have also been identified and discussed. The authors have scientifically illustrated the flow of energy in the Reserve, which will play a vital role in the study of migration or depletion of fauna from the Reserve. The nomenclature has been updated along with important synonyms relevant to the flora of India and Rajasthan. Each species is described with diagnostic description based on the authors' observations covering phenological and ecological data. Local as well as botanical names provided in the book make it for useful a grass root-level worker, wildlife manager as well as expert ecologists and biologists.

One of the authors, V. Singh has served the Botanical Survey of India, Jodhpur for 32 years in different capacities. He is a noted taxonomist and has published many books and monographs, which are recognized world over. The other author, A. K. Shrivastava is a young field scientist involved in herbal formulation with SRISTI, Ahmedabad.

This is for the first time that a book comes out with details of biodiversity of the Ranthambhore Tiger Reserve and has documented all the biotic and abiotic components which are vital and also gives an in-depth understanding of the ecological importance in tiger conservation.

The book is highly recommended for policy makers, environmentalists, wildlife managers, botanists and researchers of biology, socio-economic and wildlife sciences. Being well written and easily readable, the book should also appeal to naturalists, ecotourists and lay readers.

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Visualizing the Structure of Science. B. Vargas-Quesada and F. de Moya-Anegón. Springer-Verlag, Berlin. 2007. 312 pp. Price: US$ 139.00.

Visualization of information in the field of documentation was suggested over 60 years ago by Vannevar Bush in his famous essay 'As we may think', in *The Atlantic Monthly*, and put into practice be Eugene Garfield in his 1964 essay on the use of citation data in writing the history of science. Since then it has been used to 'uncover' and divulge the essence and structure of science. Henry Small, a colleague of Garfield at the Institute for Scientific Information, and Belver Griffith, Drexel University, wrote two seminal papers on the structure of scientific literature in 1974, based on cocitation analysis by Small. A decade later Small and Garfield published another seminal paper on the 'Geography of science' and 'Disciplinary and national mapping'. Garfield was among the earliest to recognize the value of mapping in tracing the evolution of interdisciplinary areas of research, such as bioinformatics and nanotechnology. He talked about 'research fronts' (resulting from information fluxes among disciplines) as distinct from disciplines, and used metaphoric

terms such as 'atlas of science' and 'scientography' (geography of science). In the 1990s, Olle Persson, Umea University, came up with the ready-to-use open source software, BibExcel, which enabled even novices to dabble with mapping science. And yet information display is still in the adolescent stage of evolution in the context of its application to scientific domain analysis.

Recently, Garfield has come up with HistCite, a powerful tool to identify key papers and major developments in the evolution of a field or the work of an individual or institution, and Chamomei Chen, Drexel University, has developed Citebase, which uses cocitation mapping for comparing science maps year by year. Loet Leydesdorff, Amsterdam University, has developed an advanced visualization technique (dynamic animation) that can trace the evolution of the changing structure (or map) of science as a time series.

This book is an effort by Félix de Moya-Anegón and Benjamin Vargas-Quesada of the Grupo SCImago, University of Granada, Spain, to describe in sufficient detail the work that the SCImago group has carried out since the mid 1990s. They examine the deep-rooted association between visualization and analysis of knowledge domains and describe how to analyse knowledge domains through representation via social networks.

They use the vast publication and citation data available from the *Web of Science* and construct citation networks borrowing ideas from social network theory and graph theory. They apply PathFinder Network (PFNET) to prune the resulting maze of connections to get graphs that are largely free of superfluous relationships.

After a brief introduction to the idea of visualization and its importance in science and domain analysis, the authors devote a chapter to explain the concept of social network, social network analysis and scientography, a term coined by the late George Vladutz, to describe the action and effect of drawing charts of scientific output. The next chapter is devoted to tools and methods used prior to the arrival of scientography such as cluster analysis, multidimensional scaling, factor analysis, neural networks, PathFinder network, the Kamada–Kawai algorithm, the Fruchterman and Reingold algorithm, and scalable vector graphics.

Then comes the second part of the book, viz. analysis by the SCImago group of papers published in 2002 and indexed in *Web of Science*, downloaded on 2 August 2004. The chapter on materials used describes in detail the problems faced in using the *Web of Science* data, originally meant to help users identify literature relevant to their work, in scientometric applications. This and the following chapter on methodology are important not only to understand the work of the SCImago group, but also serve as a good introduction to anyone wanting to work in scientometrics in general and visualization in particular. Considerable space is devoted to explain the use of the PathFinder network. The authors demonstrate how the essential structure of science could be captured in a set of a few diagrams by means of the most significant citation links.

The authors present their results on the analysis of world science (in 2002) as a whole, and using factor analysis analyse the structure of different disciplines. Of the 218 categories into which knowledge is classified in *Journal Citation Reports* (*JCR*), biochemistry and molecular biology was the most central category in 2002; it was the category with the most shared sources and the top contributor to world scientific advancement. An observation that hardly anyone would doubt. The authors further demonstrate the power of their technique by comparing the scientographs of USA and the European Union and by mapping science in Spain. I enjoyed reading this chapter and in particular, the use of evocative terms such as 'vertebration of science'. Talking about the differences one might observe in the results obtained using the *JCR* categories and the Spanish ANEP taxonomy (of 25 classes), the authors make the insightful comment, 'We must recall that the relations revealed in the scientographs are no more than the reflection of the unconscious labour of hundreds of thousands of researchers coming to the surface through their citations. In contrast, the ANEP classification is a taxonomy elaborated by a handful of experts'.

The book ends with 68 pages of annexure and more than eight pages of references. The authors have profusely acknowledged the contributions made by others. On the downside, one would need a magnifying glass to view some of the scientographs, certainly a drawback for a book on visualization. The publishing fraternity often claims that it adds value to authors' manuscripts, but this book does not have an index!

On the whole, this is an excellent book that scientometricists around the world would find useful. The authors deserve our congratulations.

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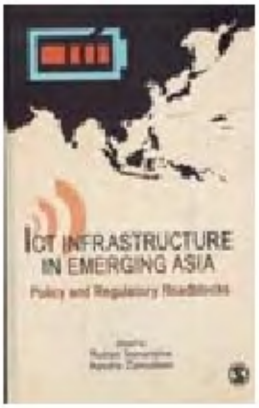

ICT Infrastructure in Emerging Asia: Policy and Regulatory Roadblocks. Rohan Samarajiva and Ayesha Zainuddin (eds). Sage Publications India Pvt Ltd, B1/I-1 Mohan Cooperative Industrial Area, Mathura Road, New Delhi 110 044. 2008. 333 pp. Price: Rs 595.

Need (or demand), affordability, technology, and regulation/policy have been the four primary drivers of telecom growth in any country. As all these drivers start falling in place, telecom grows rapidly. Telephony in India and most of the emerging Asia has been witnessing this exponential growth in recent years. There is hope that the Internet would get into a similar growth trajectory soon, though at least in India, the hope has been so far belied.

Telephone has always been known to connect people across cities and countries at a personal level. Somewhere in the seventies and eighties, as India became more and more integrated, people started migrating to different parts of the country in large numbers. This happened simultaneously with growth in road transport, larger focus on professional education (engineering, medical and