Exacum tetragonum Roxb. [Gentianaceae].

environment. The book is also sumptuously provided with colour photographs for several species.

The diagnostic descriptions and identification keys provided for the genera and species reflect Bhat's characteristic attention to detail. He has picked such features in each species that set it clearly apart from others by means of these keys. The systematic account of the volume, likewise, begins with diagnostic keys to families.

While arranging the genera and families in the book, Bhat follows 'The Linear Angiosperm Phylogeny Group (LAPG) III: a linear sequence of the families in APG III' by Haston *et al*. (*Bot. J. Linn. Soc.*, 2009, **161**, 128–131). This is good thinking because the present-day taxonomists are driven to embrace the concept that affinities among taxa are best based on molecular and phylogenetic considerations.

At a time when nature conservation seems to be a losing battle, the endemic species emerge as the worst casualties. It therefore becomes imperative to take stock of these species from time to time. The book has just done so by devoting an exclusive paragraph dealing with plants endemic to South Kanara.

Thus this book is the outcome of a largest single person's collection of data and lifetime work of Bhat. It is truly an admirable scientific achievement that portrays the vast majority of flowering plants in Karnataka. It is a perfect and authentic presentation of the ground reality of the floristic diversity in 'South Kanara' that obviously serves as an immensely useful plant identification manual for botanists as well as many different groups of people interested in plants. The present resurgence of interest in conservation also adds to the need for a data book of information as this. The plant inventory apparently is so exhaustive and complete that we need never again suffer the disappointment of locating a species unaccounted for in Udupi and Dakshina Kannada districts. Data pertaining to specimens examined at the various herbaria for comparison and validation of identification would be value addition to this work. I conclude with a suggestion that this information be circulated in hardcopy or its electronic version be made accessible on the website of Karnataka flora (http://florakarnataka.ces.iisc.ernet.in) by arrangement with Herbarium JCB.

The text is followed by literature consulted, indices of scientific and common names. The book comes in an elegant design and is also reasonably priced.

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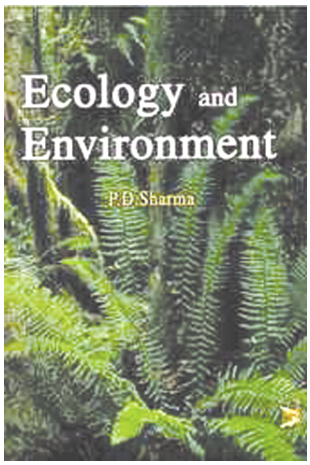

Ecology and Environment (12th Edition). P. D. Sharma. Rastogi Publications, 'Gangotri' Shivaji Road, Meerut 250 002, India. 2009. 612 pp. Price: US$ 50.

The word 'ecology' is derived from the Greek *oikos*, meaning 'house' or 'place to live'. Literally, ecology is the study of organisms 'at home'. Usually ecology is defined as 'a biological science which deals with complex interactions among organisms and between organisms and their environment'. We study ecology to learn how nature works. In ecology, 'niche' refers to the role an organism or species plays in its ecosystem. Ecology may be studied with particular reference to animals or plants or microorganisms. Synecology is the study of communities, and autecology is the study of species. The term 'environment' etymologically means surroundings. Thus, the environment is a complex of many factors (light, temperature, soil, water, biota, etc.) which surround an organism. Any external force, substance or condition which surrounds and affects the life of an organism in any way becomes a factor of its environment. These have been called as environmental or ecological factors and may be living (biotic) as well as non-living (abiotic). The sum of all these living and non-living factors makes the environment of an organism. In order for organisms to exist, they must respond or adjust to the conditions of their environment. An organism is any form of life, with cell as its basic unit. A population is a group of interacting individuals of the same species living in a specific physical place, the habitat. A community consists of all the populations of different species of plants, animals and microorganisms living together in an area. An ecosystem is an integrated system of communities of different species, interacting with one another and their non-living environment in an orderly manner. All the ecosystems of the Earth together make up the giant ecosystem, the biosphere. All these aspects and hierarchical levels of ecology are covered extremely well in this book.

The book under review has 23 chapters. Chapter 1 gives the history and scope of ecology, while chapter 2 deals with the various environmental factors. Chapters 3 and 4 deal with the edaphic factors soil and water regimes respectively. Chapter 5 deals with different kinds of interactions between organisms, while chapters 6 and 7 cover autecology, and population structure and dynamics respectively. Chapter 8 provides information on community characteristics, chapter 9 on ecosystem structure, chapter 10 on habitat ecology and chapter 11 on environmental challenges and sustainable development. Chapters 12–14 discuss air, water and land pollution respectively. Chapter 15 is devoted to radiation and toxicology. Chapter 16 deals with bioremediation of polluted environments and chapter 17 with global warming and climate change. Chapter 18 helps a student to understand degradation of natural resources and their conservation. Chapter 19 deals with biodiversity and wildlife

conservation and chapter 20 with conventional and non-conventional energy sources. Chapters 21–23 provide an overview of environmental monitoring, laws and education respectively. With the author's vast experience in the field of ecology, the book provides in a single volume a highly authentic, precise and reasonably illustrated information on different aspects of ecology and environment in the form of a reference source. Further, it is well supported through systematic drawings, selected tables and figures at appropriate places.

Addition of a glossary of technical terms used in the book will be useful, especially to beginners in the subject. Surely, this comprehensive treatise on ecology and environment will be a useful entity for students, teachers and research scientists dealing with ecology, environment, botany, zoology, microbiology, agriculture, forestry and life sciences. The printing, get-up and visual presentation of the book are quite good. Both the publisher and the author deserve praise for bringing out this useful book.

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