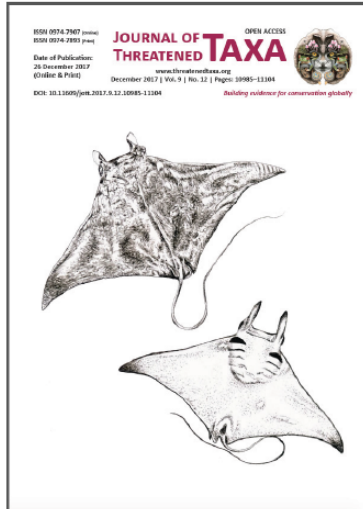


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BOOK REVIEW

BOOK REVIEW: A PHOTOGRAPHIC GUIDE -- ENDEMIC WOODY PLANTS OF THE WESTERN GHATS

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BOOK REVIEW: A PHOTOGRAPHIC GUIDE -- ENDEMIC WOODY PLANTS OF THE WESTERN GHATS

Jis Sebastian

Ph.D. Scholar, Saraswathi Narayanan College (Under Madurai Kamaraj University), Perungudi, Madurai, Tamil Nadu 625022, India
alkaeliza@gmail.com

The Western Ghats mountain ranges that extends 1600km along the west coast of India is not only a UNESCO World Heritage site but also one of the eight biodiverse regions in the world. The Ghats that traverse through six different states is a geomorphological phenomenon older than the Himalaya. This hotspot is a reserve of varied flora, fauna, landscape, edaphic and climatic conditions that give rise to many mighty rivers. It is assumed that forests of the Western Ghats hold 7,400 species of flowering plants along with innumerable fauna.

The altitude and temperature gradients with varying rainfall patterns and dry seasons together constitute a varied array of diversity from north to south of the Western Ghats. The ecology of these forest types, however, is still largely unknown, for instance, endemism. It, still, is hard to find scientific research that has been carried out on endemic plants and the mechanisms underlying endemism. This limits conservation strategies for which taxonomy, diversity, and ecology are essential components. It is, however, appreciable that there have been a few recent attempts to bring out a compiled taxonomic account on endemic flora. Flowering plants of the Western Ghats, India by T.S. Nayar and others published in 2014 in two volumes included 8,080 taxa and 7,402 species. Of the 5,588 indigenous species, 2,253 species are endemic to India and 1,273 species are exclusively confined to the Western Ghats (17%). These volumes detailed accepted names with references, synonyms, nature of habit and economic uses. The lack of color photographs, detailed nomenclature, descriptions, ecology, status, keys, and illustrations is a disappointment to the users of these books. Following this attempt, more such books are making way to the mainstream of field ecology. The very recent 'Rare, Endemic and Threatened (sic) plants of the Western Ghats' by a team of young researchers facilitated by MS Swaminathan Research Foundation is one such attempt.

It is noteworthy that there is no field guide available with details and photographs of the flora or endemic

woody plants of the region. Addressing this lacuna, Navendu Page has published a first of its kind – a photographic field guide on Endemic Woody plants of the Western Ghats. The book under review is a successful attempt to fill the gap in the ecology of endemic species in terms of distribution and conservation status. The book is a collection of beautiful images of 100 of the 350 endemic woody plants of the Western Ghats. The discussed species are more or less widely distributed or seen in narrow pockets. The plates are neatly arranged in an order of increasing importance, making it easy for any amateur or field enthusiast. Along with photographs of vegetative and reproductive stages, species description is crisp and clear pointing out similar species that may



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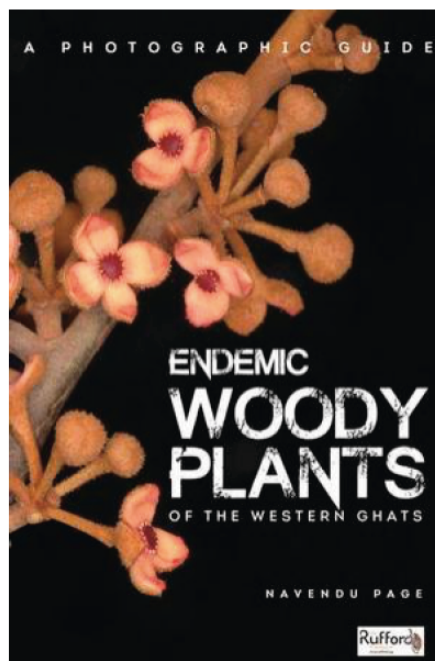
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A photographic Guide -- Endemic Woody Plants of the Western Ghats

Navendu Page

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look alike. The dimensions of leaf, flower and fruit are given to enhance the use of this field guide.

Further, what makes this book different is it uses a geographic distribution mapping except for data deficient species. This was done using two measures such as the extent of occurrence and area of occupancy. To create a more reliable distribution map, the author has used minimum convex polygon projections and ecological niche modeling using statistical tools. They provide occurrence and predicted the distribution of a species. The black spots denote occurrence, the green color represents less suitable areas in terms of climatic niche and red indicates high suitability and high probability of occurrence. This mapping is a big achievement in a scenario where distribution, occurrence and habitat of endemic plants are mostly unknown. The author clearly gives the preferable elevational gradient and area in square kilometers for extent and area.

The author claims that the assessment of species conservation status as a major achievement of his four year research carried out in the Western Ghats. He has used the same criteria and color schemes for conservation status set by the IUCN Red List of Threatened Species (Version 3.1) (Species Survival Commission 2012). The list includes 34 least concerned, five near threatened, 27 vulnerable, 23 endangered, one critically endangered and 10 data deficient endemic woody plants. Some species have been found doing better and therefore are down ranked in terms of conservation status. It is not clear whether this was due to errors in previous assessment or population improved with better conservation management. For instance, species such as *Kingiodendron pinnatum*, *Hopea parviflora* thought to be Endangered are now estimated as vulnerable and near threatened respectively. *Vateria indica* thought to be Critically Endangered is changed to least concern. Again, *Myristica malabarica*, a Vulnerable species is now assessed as least concern. Also, 93 species have been assigned a status for the first time. The author has done this with his estimates of geographic range size based on Criterion B ['severely fragmented', refers to the situation in which increased extinction risk to the

taxon results from the fact that most of its individuals are found in small and relatively isolated subpopulations (in certain circumstances this may be inferred from habitat information). These small subpopulations may go extinct, with a reduced probability of recolonization] in the IUCN status assessment to have a comparable stance with that of IUCN. In other cases, species were reassessed with reference to status assigned by IUCN 2000.

Further, scientific name, family, vernacular names in four languages, ecology, distribution, and conservation status are available from each plate. The reference list details the major sources from which information on species vernacular names, morphological description and IUCN status have been acquired. The book funded by RUFFORD is surely a handy reference with photographs to field ecologists, researchers, forest officials and naturalists. The general lack of knowledge among forest, wildlife researchers and officials about flora or plant taxonomy is a major concern today and therefore a book like Navendu Page's becomes more relevant and useful. An index of scientific names also makes reference easy for a researcher or professional. They are more helpful in the field, it seems, than a detailed key without photographs for the latter group.

There is, however, no easy glossary or identification key based on morphology to guide those who are unfamiliar with the flora and botanical dictionary. As compared to the endemic species of the Western Ghats, the species covered are less than 10%. I find the book very useful for field ecologists. I do hope that, in future, similar efforts from the author or others would contribute towards a complete field guide to ecology of endemics of the Western Ghats!

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