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Book Review

Oldfield, S., Rivers, M., 2023. Rare trees: The fascinating stories of the world's most threatened species. Timber Press, Inc. New York, NY. (399 pp. ISBN 978-1-60469-952-4).

Of interest to a wide audience of tree-enthusiasts, disciplinary specialists (botanists, foresters, arborists, ecologists), and the public-atlarge, Rare trees: The fascinating stores of the world's most threatened species is authored by Sara Oldfield and Malin Rivers and published in partnership with the Global Trees Campaign, a joint program of Fauna & Flora International and Botanic Gardens Conservation International. Comprised of 4 parts – 3 expansive chapters and a closing epilogue – the 399-page hardcover book is informative, illuminating, and perhaps most prevailing of all, filled with over 250 brilliantly picturesque photos of trees, flora, and vistas from around the world. Informational wording on the cover(s) states the objective of this book is to "give everyone who loves trees an armchair tour of unique specimens from around the globe" and that readers are invited to discover "the secrets and beauty of the world's rarest trees". In this effort, the authors have both succeeded in capturing that beauty for even the most casual reader and in producing an attractive, globally-researched work.

In the Introduction, the authors take the opportunity to impart a deep sense of importance of the ecosystem services and functions of trees in relation to the well-being of the planet; they also describe the importance of human impact on the environment, the unprecedented rate of ecological change that is occurring at present, and the impact of habitat destruction of the world's forests. Importantly, they outline efforts made by the International Union for the Conservation of Nature's (IUCN) 'Global Tree Assessment' – an initiative to catalogue and assess the conservation status of all tree species. The trees discussed in this book can be found on IUCN's 'Red List' of threatened plants and many may be classified as (i) critically endangered (ii) endangered or (iii) vulnerable.

Chapter I 'Trees and their ecosystems' consists of a total of 6 parts. This section discusses different forest types that include well-known 'Tropical rainforests' and 'Temperate & boreal forests'. It also includes descriptions of perhaps lesser-known 'Tropical cloud forests' that occur on islands or high elevations and rely on a critical supply of moisture provided by mist or fog, and 'Tropical dry forests' that though are found in tropical climates, unlike their rainforest-counterparts, receive little rainfall and occupy fertile soils.

Chapter II 'Trees and their uses' consists of a total of 5 parts, detailing topics like 'Medicines, poisons & perfumes', 'Precious timbers and music woods', 'Fruit and nut trees' and closes with 'Ornamental trees'. Building a finer focus on the broader introduction from Chapter I, this chapter details specific tree species in each section. Brazilian rosewood (Aniba rosaeodora) highly-valued for it's essential oils that constitute many perfumes, including the main ingredient in Chanel No 5, Cinnamon tree (Cinnamomum spp.) widely-prized for the production of one of the world's most important spices, and Dragon tree (Dracaena spp.)

known for its attractive, edible fruits are all highlighted in 'Medicines, poisons & perfumes' as having experienced widespread harvest and degradation in their native landscapes. African blackwood (Dalbergia melanoxylon) used to construct cosmopolitan instruments like clarinets, flutes and oboes, Bornean ironwood (Eusideroxylon zwageri) valued for the strength of its timber, and Mahogany (Swietenia spp.) hailed as a premier source for fine wood are all found in 'Precious timbers and music woods'. Of interest to urban foresters/arborists who often find themselves planting trees for their aesthetic appeal, Paperbark maple (Acer griseum), Dove tree (Davidia involucrata), Ginkgo (Ginkgo biloba), Franklin tree (Franklinia alatamaha), and Paulownia (Paulownia kawakamii) are included in the 'Ornamental trees' section. These species are classified as threatened in their native habitats and while it is generally hoped that ex-situ collections of these trees may aid greatly in their conservation, cultivated and commercially available specimens often originate from very few introductions and may lack genetic diversity. For those in the urban forestry/arboriculture sector, this also underscores the important – and often overlooked – role that tree planting in parks, conservation lands, and even private landscapes may have in relation to species preservation.

Chapter III 'Special tree groups and their uses' consists of a total of 8 parts that include 'Conifers', 'Magnolias', 'Ashes', 'Oaks', and 'Palms'. As with the previous chapter this section explores in more detail, specific tree species. Officially endangered species – and potentially well-recognized names – like Fraser fir (Abies fraseri), Monkey puzzle tree (Araucaria araucana), Whitebark pine (Pinus albicaulis), Giant redwood (Sequoiadendron giganteum), and Dawn redwood (Metasequoia glyptostroboides) are among the many trees that constitute the 'Conifers' section. The 'Oaks' section is comprised of a number of global species such as Brandegee oak (Quercus brandegeei) of Mexico, Xichou oak (Q. sichourensis) of China, Cork oak (Q. suber) of the Mediterranean, as well as Georgia oak (Q. georgiana) and Oglethorpe oak (Q. oglethorpensis) from the southern U.S.

The book's concluding section is an epilogue titled 'How you can contribute to a future for all trees'. This section of the book endeavors to reiterate and impart many important points previously discussed such as the significance of forest degradation, species extinction and habitation destruction, the importance of conservation and restoration efforts, and the unique role that botanic gardens/arboreta may play relative to plant and seed collections. The authors close with a call to continue the deliberate steps of global tree species protection – from conservation, to collaboration, to education.

Rare trees... offers a stunning visual presentation of 60 of the most fascinating, unusual, and threatened tree species on the planet and whether they are a novice or an expert, any tree enthusiast would find

this resource to be an enjoyable and worthwhile addition to their library.

CRediT authorship contribution statement

Richard W. Harper: Writing – original draft.

Declaration of Competing Interest

Enclosed please find the manuscript of a formal Book Review. I

would like to declare that there are no conflicts associated with this submission.

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