

Ecology, Biodiversity and Systematics

"**Ecology, Biodiversity, and Systematics**" digs deeply into the concepts of biodiversity, the principles of ecology and the delicate web of life. The book provides a complete picture of the mechanisms that support life on Earth, from the fundamental ideas of ecological interactions to the intricacies of global biodiversity. The book is an important resource for academics, students and anybody who is interested about the natural world because it incorporates the most recent research with real-life case studies. In addition, the book offers a plethora of recognition of the interconnectedness of ecology, biodiversity and systematics. The approach projected in the book is far-reaching, benefiting students, researchers and teachers. As the entire world is facing incessant challenges, the principles of care and empathy in education offer a powerful framework for nurturing the potential of every learner and creating a more compassionate and equitable world able to mitigate climate change and global warming impacts.

Asha Ramachandran M.Sc.,Ph.D is Assistant Professor at the Department of Botany, Government College Kottayam, Kerala, India. She has 13 years of teaching experience and published more than 10 scientific papers in international journals. She has authored 2 books and 4 book chapters. She is professionally affiliated with the Indian Botanical Society.



Ecology, Biodiversity, and Systematics

Asha Ramachandran (Ed.)

Scholars'
Press

Asha Ramachandran (Ed.)

**Ecology, Biodiversity and
Systematics**

Imprint

Any brand names and product names mentioned in this book are subject to trademark, brand or patent protection and are trademarks or registered trademarks of their respective holders. The use of brand names, product names, common names, trade names, product descriptions etc. even without a particular marking in this work is in no way to be construed to mean that such names may be regarded as unrestricted in respect of trademark and brand protection legislation and could thus be used by anyone.

Cover image: www.ingimage.com

Publisher:

Scholars' Press

is a trademark of

Dodo Books Indian Ocean Ltd. and OmniScriptum S.R.L publishing group

120 High Road, East Finchley, London, N2 9ED, United Kingdom

Str. Armeneasca 28/1, office 1, Chisinau MD-2012, Republic of Moldova,
Europe

Printed at: see last page

ISBN: 978-620-6-77281-1

Copyright © 2024 Dodo Books Indian Ocean Ltd. and OmniScriptum S.R.L
publishing group

FOR AUTHOR USE ONLY

CONTENTS

1. Ecological collapse: The twin crises of climate change and biodiversity loss 01
Asha Ramachandran and Bhagyalakshmi Mohan
2. Climate change and global warming: Drivers of emerging fungal diseases 13
Martin R. P Joseph
3. Space based study on the carbon sequestration in two areas in and around Ayiramthengu mangrove ecosystem: A remote sensing & GIS approach 29
Alok Sunil, Sumith Satheendran S. and Smitha Chandran S.
4. Potential riparian trees for a natural buffer design in Western Ghats rivers 38
Joby Paul and Rogimon P. Thomas
5. Phytic acid in plants: A review 54
Dinesh Raj R and Keerthy S. N
6. Nature and development of gametophytes in Ferns: A review 68
Abhilash K. S., Gayathri T. S., Alen Alex Philip and Leeja L.
7. Family Myrtaceae: A review 77
Geena George, Aswathy Jayan and Sebastian Antony
8. Sustainable development in environment conservation: Inclusive approach and exclusionary orders 88
Rogimon P. Thomas and Anju Lis Kurian

9. Phytochemistry, ethnomedicinal properties and pharmacology of *Acalypha fruticosa* Forssk. and *Justicia gendarussa* Burm f.: A review 106
Jayalekshmi C.V and Suresh V.
10. Climate change and zoonotic diseases: A looming threat to global health 120
Nitha B.
11. Rural tourism: A 'panacea' or 'paradox' for rural development 133
Xavier Kurian P.
12. A review on the role of anatomy in biosystematics of Ferns 147
Gayathri T. S., Abhilash K. S., Alen Alex Philip and Leeja L.
13. Substitutes of *Albizia lebbek* (L.) Benth. in Ayurveda, comparative analysis of properties and prospective for scientific validation: A review 167
Resmi A., Jithesh Krishnan R. and Fouzia Hilal
14. *Syzygium occidentale*: A potential nutraceutical endemic in Western Ghats of South India 181
Snehalatha V.R and Rasmi A.R
15. Micromorphology of pollinia and pollinaria in some genera of Orchidaceae 199
Alfred Joe, Sandhya Vincent Neelamkavil and Anto P.V.

Chapter 13

SUBSTITUTES OF ALBIZIA LEBBECK (L.) BENTH. IN AYURVEDA, COMPARATIVE ANALYSIS OF PROPERTIES AND PROSPECTIVE FOR SCIENTIFIC VALIDATION: A REVIEW

Resmi A.¹, Jithesh Krishnan R. and Fouzia Hilal³

ABSTRACT

Herbal medicines are important constituents of the traditional system of medicine, including Ayurveda. Albizia lebeck (L.) Benth., commonly known as Shirisha, is used in Ayurveda, Siddha, and the Yunani system of medicine. The plant is medicinally used in different countries of the world, including Africa, Australia, Bangladesh, China, India, Myanmar, Nepal, Nigeria, Philippines, Taiwan, and Tibet. The bark of the plant is used in the treatment of bronchitis, leprosy, paralysis, gum inflammation, and helminthic infection in Ayurveda. The anti-anaphylactic, antiasthmatic, antidiarrheal, antispermatogenic, and anxiolytic activities of the plant are scientifically proven. The bark of the plant is also studied for its antiallergic, anti-Alzheimer's, anticancer, antidiabetic, antimicrobial, antioxidant, antiparasitic, antiparkinsonian, antipyretic, antivenom, estrogenic and wound healing activities. The present scenario, in which many medicinal plants are disappearing rapidly, emphasises the need for finding plants with equal value and property. The use of substitutes ('Pratinidhi Dravyas') for the original drug is quoted in different Ayurveda classics, but the basis on which they are selected is not mentioned anywhere. Most of the drug

¹Department of Botany
SN College Punalur, Kerala

²Department of Botany
NSS College Pandalam, Kerala

³Department of Botany
MSM College, Kayamkulam, Kerala
*kjith77@gmail.com