

Sustainable Development and Biodiversity

Volume 5

Series editor

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N. Parthasarathy
Editor

Biodiversity of Lianas

 Springer

Editor
N. Parthasarathy
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Preface

The scope of biodiversity is certainly vast. The concern on global environment has been increasing due to ever increasing deforestation rate and its consequent biodiversity loss. With burgeoning population, the conservation of biological diversity of our planet earth, sustainable use of bio-resources and their wiser management become crucial and a challenging task as well. Modernization, industrialization and further a complex array of environmental factors exert their effect on natural resources and their use patterns. Bio-resources constitute an important link in ecosystem food chain and their sustainable development needs to be addressed effectively both from the present use context and to conserve them for future generation.

Forests, particularly in the tropics, are known for high biodiversity, and among plants, of the various life-forms (trees, shrubs, climbers, herbs etc.), the lianas or the woody climbers form one of the fascinating groups, yet remain relatively under-researched, as compared to trees which provide structural framework for all other life-forms in a forest community. Lianas occur in all forests, but particularly diverse in tropical forests, and their density being high in dry tropics. After the classical work of Darwin (1867), deVries (1880) and Schenck (1892), in the recent two decades, studies on lianas have gained momentum and some notable publications on lianas have come out (Putz and Mooney 1991; Bongers et al. 2005; Acevedo–Rodriguez 2005; Schnitzer et al. 2015) besides individual research papers and few chapters on lianas included in books dealing with tropical forest ecology (Richards 1996; Whitmore 1991; Ghazoul and Sheil 2010 to mention a few).

Lianas play an important role in forest functioning, contribute substantially to forest aboveground biomass and render several ecosystem services (rewarding leaf, flower and fruit resources) to various faunal communities, and provide several goods of economic importance utilized by humans (from ropes, fruits to medicine). That being the importance of lianas in forest ecosystem, it calls for greater attention in sustainable resource use and wiser management of biodiversity and conservation for ecosystem well-being and human welfare.

This book is a compilation of research contribution on liana diversity and ecology comprising research articles (incorporating reviews and recent trends in the

subject), drawn from various parts of the world – from Canada, North America, South America, Africa, Europe, China, South and Southeast Asia and Australia. Many chapters address liana diversity in the context of geographical, climate and various other environmental attributes and finally emphasize biodiversity conservation, sustainable use of bioresources and future direction of research. The publication of this book aptly comes at a time when the world is witnessing increase in liana density, especially in the tropics, which is expected to impact forest structure and functioning, and in turn the bio-resources management in years to come.

I sincerely hope that this book on liana diversity and ecology will be useful to many readers – students, researchers, forest managers and conservation scientists. I gratefully acknowledge Professor K. G. Ramawat for the invitation to edit this book and the encouragement and suggestions provided at various stages in completing this work. I thank Springer International Publishing AG, Switzerland, for publishing this book. I thank all the chapter contributors of this book and all the reviewers who helped in the peer-review process of the chapters included in this book. I thank all the authorities of Pondicherry University for the facilities.

Puducherry, India

N. Parthasarathy

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