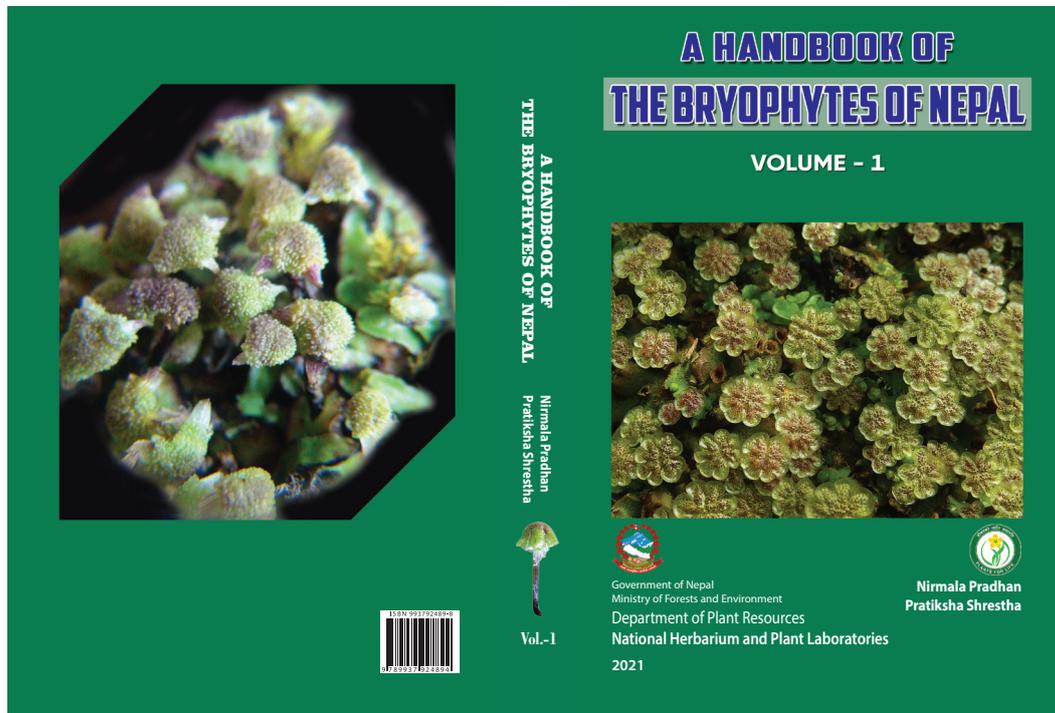


Book Review:

A Handbook of Bryophytes of Nepal Volume 1



**Author: Nirmala Pradhan
Pratiksha Shrestha**

Diverse ecosystems and habitats have created suitable environment for all kinds of plant diversity including bryophytes. With a long-term view to achieve environmental balance and economic prosperity the Department of Plant Resources (DPR) has been providing services mainly in four areas through the sustainable protection, promotion and utilization of plant genetic resources. First important work of DPR is keeping records of flowering and non-flowering plants found in Nepal and publishing it as part of Nepal Flora. Second activity is protecting rare, endangered, threatened and rare plants found in Nepal. Third is developing cultivation technology and transferring technology of herbs found in Nepal and fourth- is determining and certifying the quality of the essence of the herbs collected in Nepal.

Among these activities, publication of flowering and non flowering plants have been a continuous process since long time back for example publication like *A Handbook of flowering plants of Nepal*, *Gymnosperm of Nepal*, *Algae, Fern and fern allies of Nepal* 3 vols., and now this **A Handbook of Bryophytes of Nepal vol 1** is praiseworthy.

Nepal Himalaya offers many niche climates with its very high altitudinal variation within short geographical distance which gives high species diversity, which includes both flowering and non-flowering plants which we considerate as lower groups of flora. Although diversity of lower group of plants have also been expected to be higher in Nepal, research and explorations on these group of plants have not been done seriously and systematically as compared to the higher groups, among these bryophytes is one of the group.

Bryophytes are naturally growing native plants of Nepal, the best habitat of beautiful orchids, *Begonia* including ferns. Nepal proudly has high diversity of Bryophytes, but the bryophytes of Nepal have been

unknown for centuries and were greatly neglected due to unfamiliarity with its economic importance, although in Nepal, especially on the moist mountains, one can find richest assemblage of bryophyte flora. In this situation the publication of this book is a gift for all those who want to research or known about this group of plant.

The book has been Authored by: Nirmala Pradhan and Pratiksha Shrestha

And Published by: Government of Nepal, Ministry of Forests and Environment, Department of Plant Resources, and National Herbarium and Plant Laboratories Godawari, Lalitpur, Nepal

ISBN: 978-9937-9248-9-4, Date of Publication: 2021 312 pp, 1 table, 39 species of colour photographs.

Front cover of the book has the photo of *Marchantia emarginata* Reinw., Blume & Nees and in the Back cover there is the photo of *Asterella wallichiana* (Lehm. & Lindenb.) Grolle Most of the photos in the book is that of Nirmala Pradhan except for some which has been credited in the book.

This book is an attempt to document updated information especially on the taxonomy, diversity and distribution of the group of plants in Nepal. A Foreword is given by then Director General of the Department of Plant Resources with due acknowledgement to different Herbaria and persons involved while preparing the manuscript and have expressed to carry out the gap on less explored group of lower plants as they are also important plant resources of Nepal. The Preface is written by the authors with due acknowledgement to complete this book successfully. A brief summary of the book is also given in English and Nepali.

The book has clear and understandable contents, which starts with an Introduction that includes a brief note on world flora of bryophytes and its taxonomy but good compilation on the **Climatic Zones and Distribution of Bryophytes of Nepal** and about fossil records is given. Introduction is followed by compilation on **previous works on Himalayan bryophytes which** dates back to the 18th century collection done by Sir Buchanan-Hamilton and Nathalian Wallich and other collections and publications made till date.

This book is the outcome of extensive field studies made in various periods and consultations of published works of different researchers from Nepal and abroad. An alphabetical arrangement has been made with species name followed with the Phylum (Divisions), classes, subclasses, orders, suborders, families and subfamilies as per classification of Soderstrom et al. (2016) with a short description of each rank. The generic name in each family has been arranged alphabetically. Every species is provided with author's citation consulting the book by Brummitt and Powell (1992) and other references. The available common names and their associated habitats have also been mentioned. This book includes a total of 120 genera and 552 species, which are categorized into 54 families, 16 orders and 4 classes of the divisions of Anthocerotophyta and Marchantiophyta of Nepal which were recorded from the lowland area of 90 m to 5200 m of the Himalayas region of the country.

This recent revisions include 4 genera and 11 species of Anthocerotophyta (hornworts) and 116 genera and 541 species of Marchantiophyta (liverworts) under 52 families and 14 orders. This division is divided into three classes viz. Haplomitriopsida, Jungermanniopsida and Marchantiopsida. Haplomitriopsida is the least known class represented only by 2 genera and 2 species which are classified into 2 families.

Jungermanniopsida is the largest of the three classes of the division Marchantiophyta have included both the thalloid and leafy liverworts representing 92 genera and 477 species of 8 orders and 36 families. Among the recorded 8 orders, Jungermanniales is the largest known order with 301 species, 56 genera under 23 families. *Bazzania* (22 spp.), *Scapania* (30 spp.), *Jungermannia* (33 spp.), *Frullania* (32 spp.) and *Plagiochila* (60

spp.) are the prominent genera of the class Jungermanniopsida. Lejeuneaceae, mentioned in this book, is the largest recorded family of the order Porellales which includes 14 genera and 71 species.

Marchantiopsida is the second largest class after Jungermanniopsida which includes mainly the thalloid liverworts. This class has 22 genera and 62 species categorized into 4 orders and 14 families. Blassiaceae, Lunulariaceae and Sphaerocarpaceae are the least studied families of the class Marchantiopsida.

Interesting part of the book is that the book includes a list of the species recorded at different geographical regions of the country from the lowest altitude of 90 m to the highest of 5200 m of Nepal Himalayas.

Appendix Section (I-VI) provided at the end includes detail list of species diversity of hornworts and liverworts, taxonomic list of hornworts and liverworts with their distribution and elevation range, endemic species, type specimens, new records for Nepal and IUCN Red listed species of liverworts of Nepal.

According to the authors some photographs of the prominent species including information on rare and common species have also been included in the book. But my concern is that as bryophytes is one of the group of plant that have been highly neglected so far on aspects of surveys, inventories and scientific studies in Nepal and difficult to identify for the students and researcher, my suggestion is to include as much more photographs in the coming volumes so that not only seeing the list but will help to identify from the photo plates as well as there is no description of the species included

This book will be very useful to teachers, students and researchers who are engaged in research on Bryophytes of Nepal, as well as general public who are interested in this group of plant.

Last but not the least; I would like to congratulate the authors Prof. Dr. Nirjala Pradhan who is a bryophyte expert and Pratiksha Shrestha who has also contributed in this book. I would also like to congratulate and appreciate Department of Plant Resources, Kathmandu, and National Herbarium and Plant Laboratories Godawari, Lalitpur, Nepal for the publication for such a neglected group. All these publications have rightly address the slogan of today's celebration as all the publications is an outcome of the research and use of these resources for the development of any kind of fruitful outcome after the identification from these publications will be an innovation that will definitely put a step in the development of the country.

Prof. Dr. Sangeeta Rajbhandary

Central Department of Botany

Tribhuvan University

Kirtipur, Nepal

Email: s.rajbhandary3@gmail.com