

BOOK REVIEW

# Genus *Allium* L. of the Indian Region: A Field Guide for Germplasm Collection and Identification

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## Introduction

*Allium* L. is one of the largest monocotyledonous genus with more than 1,100 species known for food, flavor, medicinal and ornamental value. Indian gene centre has a rich diversity of cultivated and lesser-known wild *Allium* species with 35 to 40 taxa distributed in different eco-geographical regions of the country. Explorers face challenges in the correct identification of species during explorations. Hence, there is an utmost need of field keys for correct identification.

The book entitled genus *Allium* L. of the Indian Region: A Field Guide for Germplasm Collection and Identification" authored by Anjula Pandey, Pavan Kumar Malav, KM Rai and SP Ahlawat discusses in-depth procedures for the collection and identification of Indian *Alliums* and is comprised of six chapters. Chapter 1 furnishes an introduction to the genus *Allium* and its diversity globally and nationally with prospects and thrust areas of research. Chapter 2 highlights the methodology for the collection of germplasm, post-collection processing, identification tools and methods: consulting herbaria and online records, the study of micro-morphological characters for identification, and on-spot

documentation by photography. The chapter is well concluded by providing important key points to be noted during germplasm collection and identification. Chapter 3 provides intense knowledge on different field aids for collection and identification from conventional to recent digital tools (digital field book, GIS maps, digital library). Chapters 4 and 5 provide a user-friendly taxonomic key to the genus *Allium* L. in India and important guidelines for recording the data during germplasm collection and for identification. Chapter 5 is nicely illustrated by a diagrammatic sketch of important characters used for recording. Chapter 6 presents the description of selected taxa and their taxonomy, synonyms, habitat, flowering period, distribution (world and India) and biological status, mode of propagation, and field notes separately with beautiful representative images based on the detailed work undertaken at ICAR-NBPGR over the years. The images and detailed description of individual species viz., *Allium ampeloprasum* L., *A. auriculatum* Kunth, *A. carolinianum* DC., *A. cepa* var. *aggregatum* G. Don, *A. cepa* var. *cepa* L., *A. chinense* G. Don, *A. consanguineum* Kunth, *A. fasciculatum* Rendle, *A. fistulosum* L., *A. hookeri* Thwaites, *A. humile* Kunth, *A. negianum* A. Pandey, K.M. Rai, P.K. Malav & S. Rajkumar, *A. oreoprasum* Schrenk, *A. przewalskianum* Regel, *A. roylei* Stearn, *A. sativum* L., *A. schoenoprasum* L., *A. stracheyi* Baker, *A. tuberosum* Rottler ex Spreng., *A. wallichii* Kunth, etc. will facilitate the explorers/collectors for correct identification of the material on-spot. The authors have also enlightened their readers with a list of different species of indigenous *Allium* germplasm conserved in the field gene bank at ICAR-NBPGR, RS Bhowali, the only field gene bank in the country with 25 native species/taxa. Photo plates of few exotic species viz., *A. altaicum* Pall, *A. ascalonicum* L., *A. ledebourianum* Schult. & Schult. f., *A. oschaninii* O. Fedtsch., *A. ramosum* L., *A. senescens* L., and *A. obliquum* L. maintained in this field genebank have also been provided in the book.

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The authors have also highlighted the future concerns of *Allium* genetic resources collection and conservation. The book has also provided a glimpse of future thrust areas for the benefit of researchers to plan their future research in the important areas concerning genus *Allium*.

To abridge, the authors have put in splendid efforts to bring out a handy, user-friendly field guide for collecting and identifying the genus *Allium* L. of Indian Region. The authors must be congratulated on bringing this field guide in an organized manner into public domain for the benefit of students, research scholars, taxonomists, ecologists and explorers. The key characteristics for identification supported with good photographs in this book are unique. We believe that this first-of-its-kind pictorial field

guide would help researchers/collectors/botanists in the correct methodology for collecting and identifying *Allium* species on-spot in the field. Overall, this book is worthwhile reading for teachers/students/researchers/botanists/conservationists working on *Allium*. Finally, we take this opportunity to compliment the senior author of this book, Dr. Anjula Pandey, who immensely worked on the *Allium* genus for the past 9 years and associated young explorers in bringing out this book.

For more details: Pandey A, PK Malav, KM Rai and SP Ahlawat (eds) (2022) *Genus Allium L. of the Indian Region: A Field Guide for Germplasm Collection and Identification*. ICAR-National Bureau of Plant Genetic Resources, New Delhi, India, 109p + i-vi.