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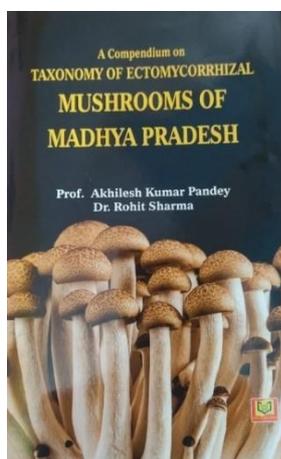
## BookReview

# A Compendium on Taxonomy of Ectomycorrhizal Mushrooms of Central India

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Title:A Compendium on Taxonomy of Ectomycorrhizal Mushrooms of Central India

Authors: Akhilesh Kumar Pandey and Rohit Sharma

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The "A Compendium on Taxonomy of Ectomycorrhizal Mushrooms of Central India" authored by Dr. Akhilesh Kumar Pandey, Vikram University, Ujjain, and Dr. Rohit Sharma, Centre for Biodiversity Exploration and Conservation (CBEC), is an exhaustive and meticulously detailed resource that offers invaluable insights into the diverse species of ectomycorrhizal fungi found in the central Indian region. This book is an essential read for mycologists, ecologists, and mushroom enthusiasts alike, as it covers a wide range of genera, including *Russula*, *Lactarius*, *Amanita*, *Boletus*, *Scleroderma*, and *Geaster*.

### Overview

The book begins with an introduction to the ecological significance of ectomycorrhizal mushrooms, highlighting their crucial role in forest ecosystems. These fungi form symbiotic relationships with tree roots, aiding in nutrient absorption and improving tree health. The

Compendium emphasizes the importance of conserving these fungi due to their ecological contributions and potential medicinal properties. The key genera covered are:

### *Russula*

*Russula* species are characterized by their brittle gills and vibrant colors. This genus is one of the most diverse among ectomycorrhizal fungi. The book provides detailed descriptions and illustrations of several *Russula* species found in Central India, including their morphological traits, habitat preferences, and ecological roles. Notable species include *Russula emetica*, known for its striking red cap and toxic properties, and *Russula cyanoxantha*, appreciated for its edibility and unique texture.

### *Lactarius*

*Lactarius* mushrooms are easily identified by the milky latex they exude when cut or damaged. The compendium covers a variety of *Lactarius* species, focusing on their distinctive latex production and cap coloration. Species such as *Lactarius deliciosus*, with its orange latex and sought-after culinary value, and *Lactarius indigo*, known for its striking blue color, are detailed extensively.

### *Amanita*

*Amanita* species are notable for their iconic appearance, often featuring a prominent cap with a volva at the base. This section delves into the *Amanita* genus, known for its range of edible to highly toxic species. The compendium discusses *Amanita muscaria*, recognizable by its red cap with white spots, and *Amanita phalloides*, infamous as the deadly "deathcap". Detailed descriptions,

Along with cautionary notes on identification, are provided to prevent accidental poisoning.

### **Boletus**

*Boletus* mushrooms typically have a spongy layer of pores instead of gills under the cap. The book covers various *Boletus* species, focusing on their robust bodies and ecological importance. *Boletus edulis*, commonly known as the porcini mushroom, is highlighted for its culinary value, while *Boletus satanas* is noted for its toxic properties.

### **Scleroderma**

*Scleroderma* fungi are earth balls with thick, tough skins and spore masses inside. This section provides insights into the less commonly known *Scleroderma* genus, detailing species such as *Scleroderma citrinum*, known for its ecological role in nutrient cycling and its potential toxicity.

### **Geaster**

*Geaster*, or earthstar fungi, have a star-like appearance when their outer layer splits open to release spores. The compendium includes descriptions of *Geaster* species, emphasizing their unique morphology and spore dispersal mechanisms. Species like *Geaster hygrometricus*, known for its hygroscopic behavior, are discussed in detail.

### **Illustrations and Identification Guides**

One of the standout features of this book is its comprehensive collection of illustrations and photographs. Each species is accompanied by high-quality images that highlight key identification characteristics, such as cap color, gill structure, and habitat. Additionally, the book includes detailed identification keys that make it easier for both novice and experienced mycologists to accurately identify the various species.

**Ecological and Cultural Significance** Beyond taxonomy and identification, the compendium delves into the ecological roles and cultural significance of ectomycorrhizal mushrooms in Central India. It discusses how these fungi contribute to forest health by forming symbiotic relationships with trees, enhancing nutrient uptake, and providing resistance to pathogens. The book also touches on the traditional uses of some species in local cultures, whether for culinary, medicinal, or ritualistic purposes.

### **Research and Conservation**

The final sections of the book focus on current research trends and conservation efforts. It highlights the need for continued study of ectomycorrhizal fungi, particularly in the face of deforestation and climate change, which threaten their habitats. The compendium calls for sustainable foraging practices and conservation strategies to preserve these vital fungal species for future generations.

### **Conclusion**

The "A Compendium on Taxonomy of Ectomycorrhizal Mushrooms of Central India" is an authoritative and comprehensive resource that provides a deep understanding of the region's fungal biodiversity. It serves as an indispensable guide for identifying and appreciating the rich variety of ectomycorrhizal fungi in Central India. Through its detailed descriptions, high-quality illustrations, and emphasis on ecological importance, this book is a valuable addition to the library of anyone interested in mycology, ecology, or environmental conservation.

### **References**

1. Pandey, A.K., Sharma, R. (2024). A Compendium on Taxonomy of Ectomycorrhizal Mushrooms of Central India. IndiaNetbooks Pvt. Ltd., New Delhi.