

Chapter 5

Fire Tolerant Plants of India

Sanjeev Kumar, Gireesh Tripathi, Neeraj, Hitesh Kumar Sahu, Sanjeev Kumar and Rajkumari Supriya Devi

Abstract: India's diverse landscape is home to a wide range of forest types and unique vegetation. However, these forests are vulnerable to fires, primarily due to human activities such as deforestation, agriculture, and other land-use practices. Other factors contributing to forest fires include fuel load, moisture content, presence of resins, and slope aspect. These factors can ignite and spread fires, posing a significant threat to India's forests. While no plants are completely resistant to fire, some species can tolerate certain types of fires due to their inherent characteristics. Plants with thick, hard bark, resilient seeds, tall canopies, and high moisture content can protect themselves from fire damage. This study aims to identify and document fire-tolerant plant species found in different forest and vegetation types across India. The research has compiled a list of 37 fire-tolerant plants, which can be used to inform forest fire management strategies and promote the conservation of these resilient species.

Kumar S, Department of Botany, Government College Bilaspur, Himachal Pradesh, India

Tripathi G, Department of Pharmacy, Shri Krishna University, NH Nagar Road Chhatnagar Madhya Pradesh, India

Neeraj, Government PG College Sector-1, Raichkula, Haryana, India

Sahu BK, Department of Botany, P.M. College of Excellence, Government College Vidisha, Madhya Pradesh, India

Kumar S, Biodiversity and Conservation Lab, Ambika Prasad Research Foundation, Odisha, India

Devi RS, Biodiversity and Conservation Lab, Ambika Prasad Research Foundation, Odisha, India
Email: supriya.ark91@gmail.com

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Keywords: Fire type, forest vegetation, fire resilient, high moisture, fuel load

INTRODUCTION

India's diverse landscape encompasses a wide range of forest types and unique vegetation, making it a heaven for biodiversity. However, these forests are susceptible to fires, primarily due to human activities such as deforestation,

Chapter VI

The Ancient Healer: Exploring the Medicinal Properties of *Terminalia arjuna* (Roxb. ex DC.) Wight & Arn.

Emdad Hossain¹, Gireesh Tripathi², Sanjeev Kumar³, Shivakumar P⁴,
Sweta Mishra⁵, Sanjeet Kumar⁵ and Bhagwati Prashad Sharma^{6*}

¹Department of Pharmaceutical Technology, Jadavpur University, Kolkata, West Bengal, India

²Department of Pharmacy, Shri Krishna University, Chhatrapur, Madhya Pradesh, India

³Department of Botany, Government College, Bilaspur, Himachal Pradesh, India

⁴Department of Zoology, Government Science College, Hassan, Karnataka, India

⁵Ambika Prasad Research Foundation, Odisha, India

⁶Department of Botany, Sidharth Government College Nadaun, Himachal Pradesh, India

*Email-Id: bp76sharma@gmail.com

DOI: <https://doi.org/10.5281/zenodo.14219543>



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ABSTRACT

Terminalia arjuna, commonly known as Arjuna, is a deciduous tree of the family Combretaceae, widely distributed across the Indian subcontinent. Renowned in traditional medicine, especially Ayurveda, it has been utilized for its cardioprotective, hepatoprotective, and antioxidant properties. The bark, rich in bioactive compounds such as flavonoids, tannins, glycosides, and triterpenoids, is a key therapeutic part of the plant. It is traditionally used to treat cardiovascular disorders, diabetes, ulcers, and respiratory ailments. Modern pharmacological studies corroborate its efficacy in improving cardiac function, reducing hypertension, and enhancing lipid metabolism. This study highlights the importance of *Terminalia arjuna* in traditional medicine and modern pharmacology and advocates for its sustainable utilization and further research to unlock its full potential.

Keywords: *Terminalia*, therapeutic potential, pharmacological uses, bioactive compounds



Chapter 6

Ethnobotanical knowledge of Gujjar tribe of Himachal Pradesh, India

Pragati Prasad Sharma¹, Vishal Chaudhary², Parveen Sankaran³ and Sanjeet Kumar⁴

¹Department of Botany, Sukhdev Government College, Nalagarh, Himachal Pradesh, India

²Department of Postgraduate Studies, K. J. Somaiya Institute of Postgraduate Studies, Vile Parle, Mumbai, India

³Department of Botany, Government College, Bilaspur, Himachal Pradesh, India

⁴Medical Research Foundation, Odisha, India

Email: pragati.prasad@gmail.com, vishal.chaudhary@gmail.com, parveen.sankaran@gmail.com, sanjeet.kumar@gmail.com

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ABSTRACT

Present study documented the traditional uses of various plants by the Gujjar tribe of Himachal Pradesh, India, for food and medicine. Field and literature survey was carried out during 2022-2025. Results revealed that the tribe utilizes a diverse range of plants, including fruits, leaves, roots, and seeds, to treat various ailments such as diabetes, asthma, skin infections, and digestive issues. Present study highlights the importance of preserving traditional knowledge of Gujjar tribe and the potential benefits of enumerated plants for human health and nutrition.

Keywords: Himachal Pradesh, indigenous knowledge, nutraceuticals, plants

INTRODUCTION

For centuries, rural and tribal communities have relied heavily on traditional knowledge of local plants as a fundamental part of their healthcare and food purposes (Kaur et al., 2025; Devi et al., 2025a; Sharma et al., 2025). In India, the diverse flora has been utilized by various ethnic groups as food and to treat a range of ailments, from common illnesses to chronic diseases (Devi et al., 2025b; Saini et al., 2025). The Gujjar tribe, a prominent tribal community in Himachal Pradesh, has a rich tradition of using plants for food and medicine, passed down through generations (Kaur et al., 2025a). The community reliance on traditional medicine is



Manju Jaidka
Tej N. Dhar
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