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The Journal of Plant Science Research - A UGC Care-Listed Journal

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Prof. Ashwani Kumar
University of Rajasthan,
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About the Journal

The Journal of Plant Science Research is a reputed peer reviewed International Journal which is published Tri-Annual. This Journal disseminates knowledge in all related fields of Plant Science Research such as Plant Physiology, Agriculture, Bio-Chemistry and Botany. It imparts the latest advances in the field of biotechnology and genetic engineering which is proved beneficial for the upcoming Geneticists, Plant Physiologists, Botanists, Biochemists and Biotechnologists. It regularly supplies the latest information on researchers, education, publication, and projects on Plant Science at national and international levels.

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Jour Pl Sci Res 39 (3) 31-38 2023

Phytosociological Study on Tree Species Diversity of Tribal Areas of Bichhua Tehsil, Chhindwara, Madhya Pradesh, India

Kavita Chahal¹, Naveen Kumar Chourasia², Babita Rana³, Megha Jha⁴ and Rajendra Prasad Yadav⁵

¹Government Model Science College, Jabalpur, Madhya Pradesh, India.

²Department of Zoology, Government College, Bichhua, Chhindwara, M.P., India.

³Department of Botany, Guru Nanak Khalsa College of Arts, Science and Commerce, Matunga, Mumbai, India.

⁴Department of Biotechnology, R&D, Pinnacle Biomedical Research Institute, Bhopal, M.P., India.

⁵Professor, Department of Geography, Government College, Bichhua, Chhindwara, M.P., India.

*Corresponding author email: babitarana2009@jshu.ac.in

Understanding and evaluating population structure and floristic vegetation characteristics are crucial steps to reveal information about the relationships between distinct species. In order to evaluate the density, frequency, and abundance of the tree of Bichhua Tehsil, district Chhindwara, Madhya Pradesh, India, a systematic sampling technique was utilized to gather vegetation data from the natural vegetation. According to the study, there are 27 widely varying tree species belonging to 18 families. The species with the highest Importance Value Index (35.36) was *Tectona grandis* L.f., followed by *Diospyros melanoxylon* Roxb. with a score of 22.77. The Shannon Diversity Index (H') comes out to be 3.244 reflecting the diversity of species in a given community and evenness is 0.98427. Such research would aid in identifying various levels of traditionally valued natural systems and planning for their better management with the ultimate goal of preserving biodiversity.

Keywords: Density, Frequency, Importance Value Index, Phytosociological, Shannon Diversity Index.

INTRODUCTION

The first step in protecting ecosystems is to classify the vegetation because plant biodiversity and ecosystem health are closely associated, particularly in mountainous areas. Biologists employ the phytosociological method of vegetation study as a major tool to understand the composition of communities, and to gather information that is useful for landscape design, environmental management, and conservation (Sharma, 2009; Theurillat et al., 2020).

Phytosociology, usually referred to as the study of the components of plant community interactions, is the study of the organization of plant communities. To understand how communities function and how the forest community is structured, one must be familiar with the structure and species makeup of the member groupings, and their distribution throughout a range of girth classes, patterns of dispersion, and other diversity markers (Dengler et al., 2008; Mallari

& Carmone, 2021). Phytosociology uses multilateral interactions between plants and environmental factors to interchange quantitative and qualitative characteristics of plant communities. The study of the traits, division, relationships, and dispersion of plant communities is necessary to preserve biodiversity and natural plant communities, as well as to understand past and present changes (Selva et al., 2007; Rout et al., 2018).

A survey of the literature reveals that only a few studies of Chhindwara have been the subject of in-depth phytosociological research (Rai, 2016; Nath et al., 2017; Vijendra and Kumar, 2017; Meshram and Khobragade, 2021; Bawistale et al., 2022). However, there have not been any reports of this circumstance in the Bichhua region. To support future management and protection of vegetation, the current investigation has tried to study the structure of plant communities, tree diversity, and vegetation in the Bichhua region.

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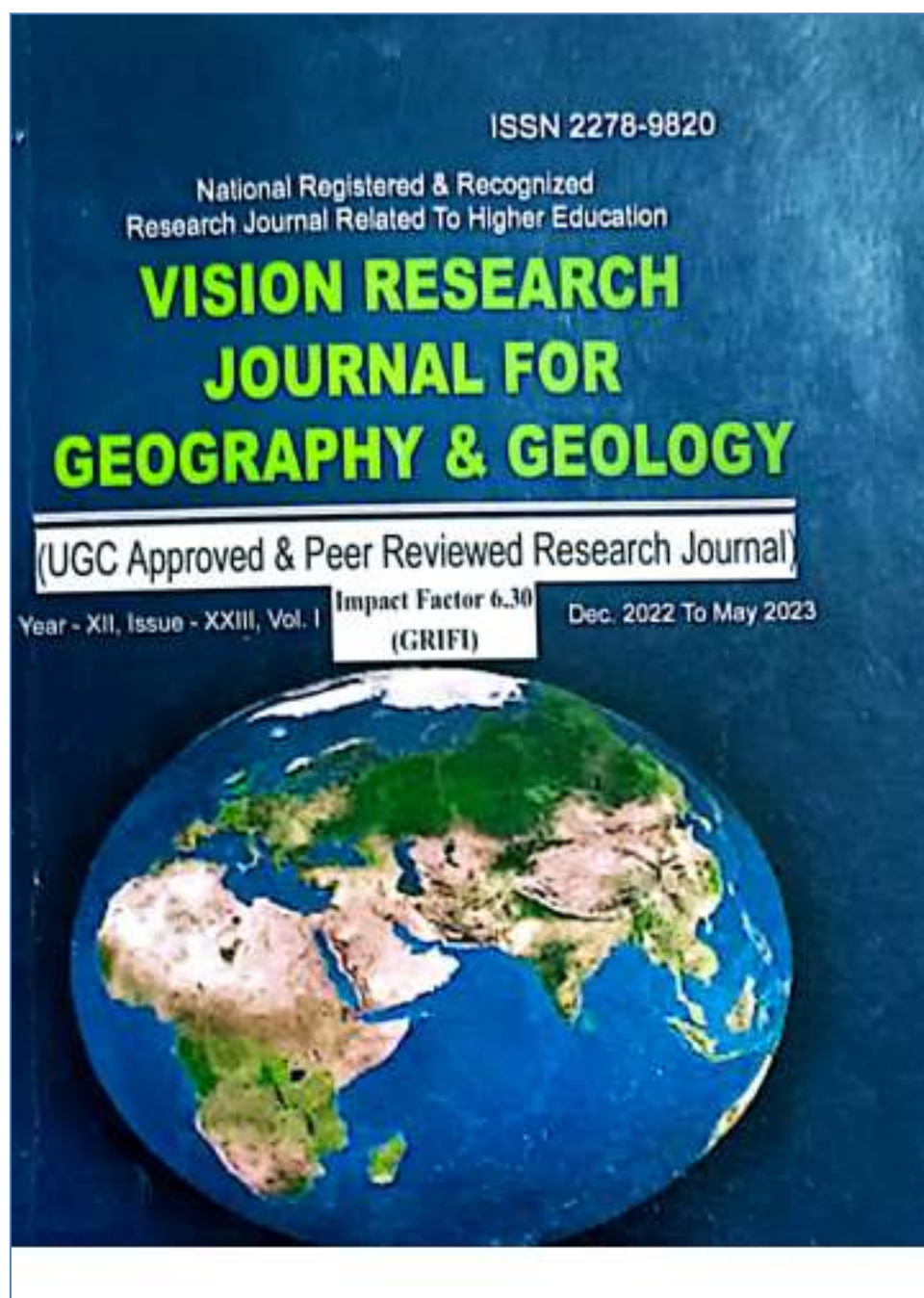
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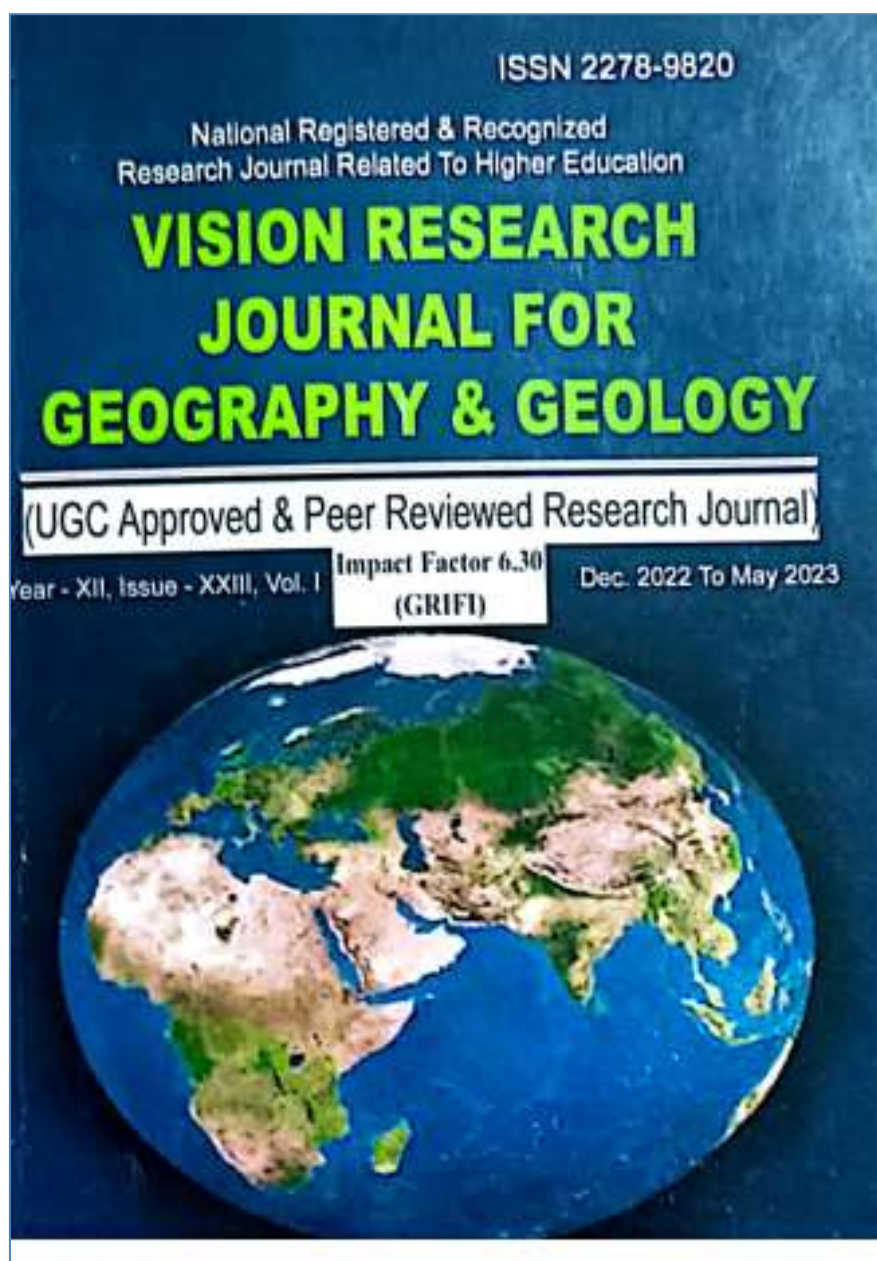


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