

Research Article

Diversity patterns and community structure of Deulghata sacred forest, West Bengal, India

Mohit Lal Kumar and Hema Gupta (Joshi)*

Department of Botany, Visva-Bharati, Santiniketan- 731235, India

*Corresponding Author's E-mail: hemagupta.gupta123@gmail.com

(Received: May 18, 2021; Revised: August 09, 2021; Accepted: September 09, 2021)

ABSTRACT

Sacred groves are the patches of forest protected by local people through their cultural and religious beliefs. The objective of the present study is to analyze the vegetation structure and diversity of different strata (tree, shrub and herb) in Deulghata sacred forest of West Bengal. Vegetation data were obtained from five randomly oriented line transects during November 2017 to July 2018. Total 81 species including 25 trees, 7 shrubs, 46 herbs and 3 climbers were recorded. *Butea monosperma* was the dominant tree species (IVI - 97.23) here. Highest family importance value (FIV) was exhibited by Leguminosae (109.39). Anacardiaceae, Apocynaceae, Combretaceae and Sapotaceae were the least represented families each having single tree species with single individual. All but *Azadirachta indica* and *Bombax ceiba* had clumped distribution. Diversity was higher in herb layer than the other layers of vegetation. Diameter class 1 to 10 cm was the most preferred class showing the highest density of individuals while maximum basal area was covered by class 10.1 to 30cm. Tree layer occupied total basal area of 26.05 m²/ha and achieved complexity index of 43.58. Lack of seedlings for majority of the tree species is a matter of concern as regeneration is essential for continued existence. Therefore management intervention is needed for proper conservation.

Key words: Basal area, Diameter class, Diversity, Family importance value, Sacred groves, Vegetation structure

